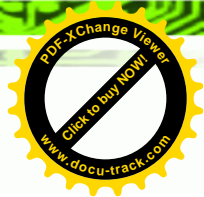


Chapter

**4**

# AMI BIOS Setup

---



## 4.1 Introduction

The BIOS is programmed onto the BIOS chip. The BIOS setup program allows changes to certain system settings. This chapter outlines the options that can be changed.

### 4.1.1 Starting Setup

The UEFI BIOS is activated when the computer is turned on. The setup program can be activated in one of two ways.

1. Press the **DELETE** or **F2** key as soon as the system is turned on or
2. Press the **DELETE** or **F2** key when the “**Press DELETE or F2 to enter SETUP**” message appears on the screen.

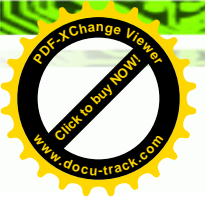
If the message disappears before the **DELETE** or **F2** key is pressed, restart the computer and try again.

### 4.1.2 Using Setup

Use the arrow keys to highlight items, press **ENTER** to select, use the PageUp and PageDown keys to change entries, press **F1** for help and press **Esc** to quit. Navigation keys are shown in the following table.

Key	Function
Up arrow	Move to the item above
Down arrow	Move to the item below
Left arrow	Move to the item on the left hand side
Right arrow	Move to the item on the right hand side
+	Increase the numeric value or make changes
-	Decrease the numeric value or make changes
Page up	Move to the next page
Page down	Move to the previous page





## UPC-V312-D525 Panel PC

Key	Function
Esc	Main Menu – Quit and do not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
F1	General help, only for Status Page Setup Menu and Option Page Setup Menu
F9	Load optimized defaults
F10	Save changes and Exit BIOS

**Table 4-1: BIOS Navigation Keys**

### 4.1.3 Getting Help

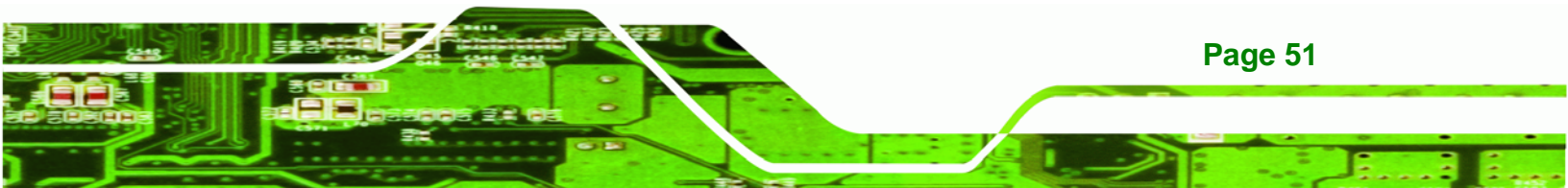
When **F1** is pressed a small help window describing the appropriate keys to use and the possible selections for the highlighted item appears. To exit the Help Window press **Esc** or the **F1** key again.

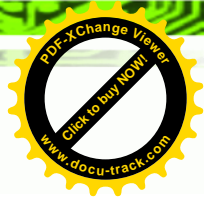
### 4.1.4 BIOS Menu Bar

The **menu bar** on top of the BIOS screen has the following main items:

- Main – Changes the basic system configuration.
- Advanced – Changes the advanced system settings.
- Chipset – Changes the chipset settings.
- Boot – Changes the system boot configuration.
- Save & Exit – Selects exit options and loads default settings

The following sections completely describe the configuration options found in the menu items at the top of the BIOS screen and listed above.





## 4.2 Main

The **Main** BIOS menu (**BIOS Menu 1**) appears when the **BIOS Setup** program is entered. The **Main** menu gives an overview of the basic system information.

Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.				
Main	Advanced	Chipset	Boot	Save & Exit
BIOS Information				Set the Time. Use Tab to switch between Time elements.
BIOS Vendor		American Megatrends		
Core Version		4.6.4.0 0.20		
Compliancy		UEFI 2.0		
Project Version		SC80AR13.ROM		
Build Date		08/03/2011 16:42:05		-----
IWDD Vender		ICP		←→: Select Screen
IWDD Version		SC80ER12.bin		↑ ↓: Select Item
System Date		[Tue 05/06/2008]		EnterSelect
System Time		[14:20:27]		+/-: Change Opt.
Access Level		Administrator		F1: General Help
				F2: Previous Values
				F3: Optimized Defaults
				F4: Save & Exit
				ESC: Exit
Version 2.02.1205. Copyright (C) 2010 American Megatrends, Inc.				

### BIOS Menu 1: Main

#### → BIOS Information

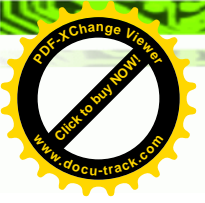
The **BIOS Information** lists a brief summary of the BIOS. The fields in **BIOS Information** cannot be changed. The items shown in the system overview include:

- **BIOS Vendor:** Installed BIOS vendor
- **Core Version:** Current BIOS version
- **Compliancy:** compliant UEFI specification version
- **Project Version:** the board version
- **Build Date:** Date the current BIOS version was made

#### → System Date [xx/xx/xx]

Use the **System Date** option to set the system date. Manually enter the day, month and year.





## UPC-V312-D525 Panel PC

### → System Time [xx:xx:xx]

Use the **System Time** option to set the system time. Manually enter the hours, minutes and seconds.

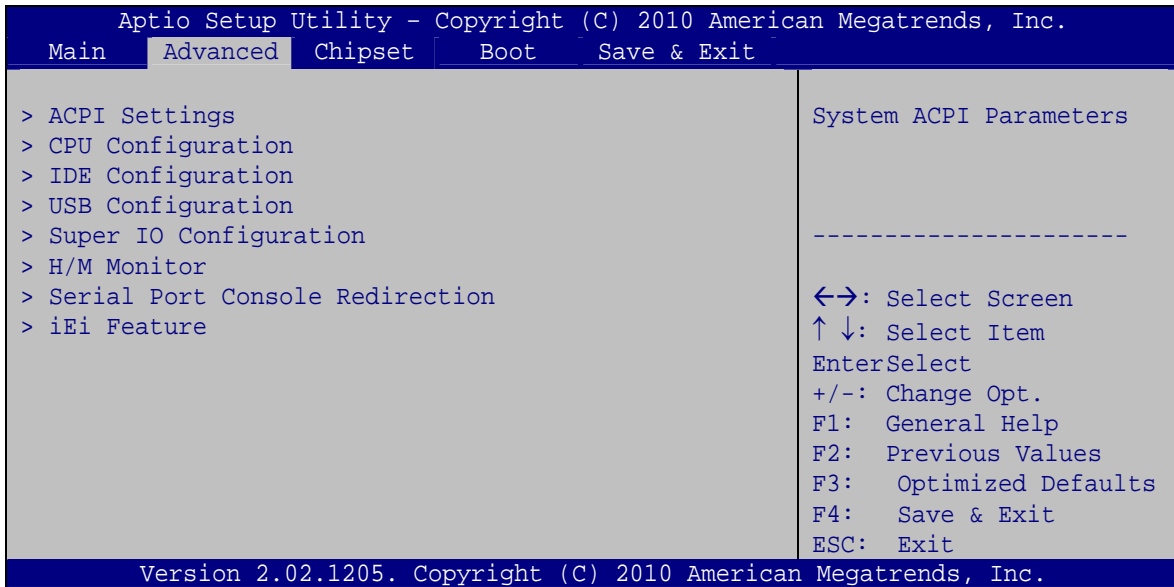
## 4.3 Advanced

Use the **Advanced** menu (**BIOS Menu 2**) to configure the CPU and peripheral devices through the following sub-menus:



### WARNING!

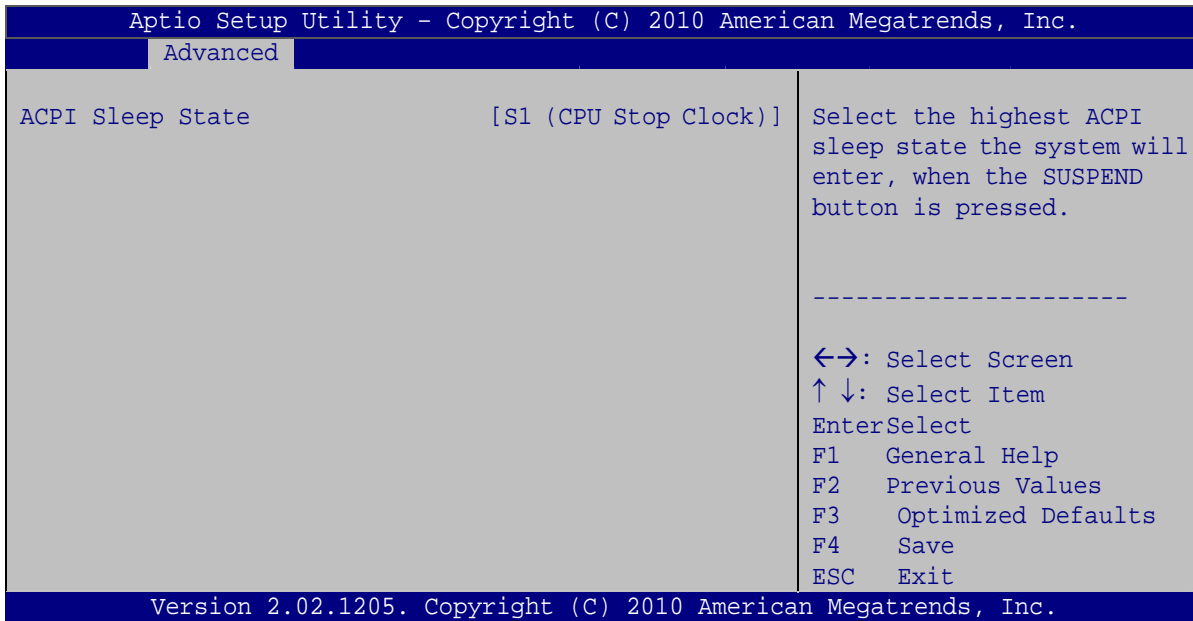
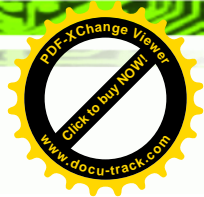
Setting the wrong values in the sections below may cause the system to malfunction. Make sure that the settings made are compatible with the hardware.



### BIOS Menu 2: Advanced

#### 4.3.1 ACPI Settings

The **ACPI Settings** menu (**BIOS Menu 3**) configures the Advanced Configuration and Power Interface (ACPI) options.

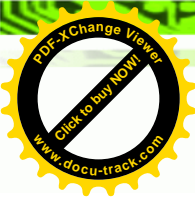


### BIOS Menu 3: ACPI Configuration

#### → ACPI Sleep State [S1 (CPU Stop Clock)]

Use the **ACPI Sleep State** option to specify the sleep state the system enters when it is not being used.

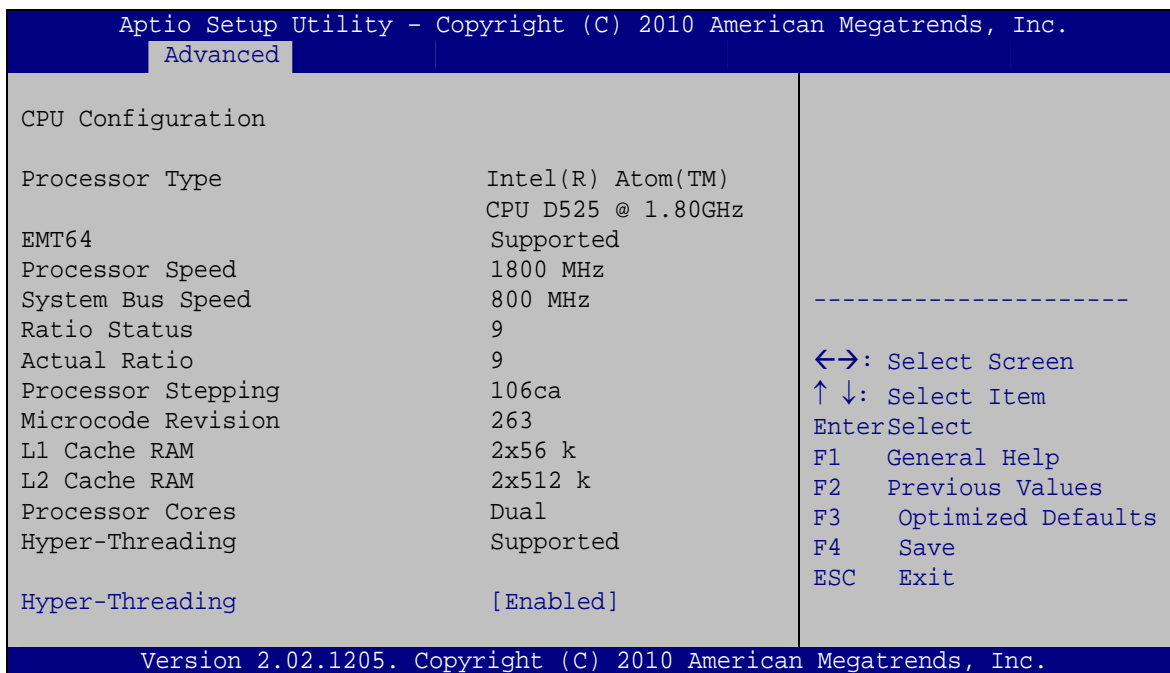
- **S1 (CPU Stop Clock)** **DEFAULT** The system enters S1(POS) sleep state. The system appears off. The CPU is stopped; RAM is refreshed; the system is running in a low power mode.
- **S3 (Suspend to RAM)** The caches are flushed and the CPU is powered off. Power to the RAM is maintained. The computer returns slower to a working state, but more power is saved.



## UPC-V312-D525 Panel PC

### 4.3.2 CPU Configuration

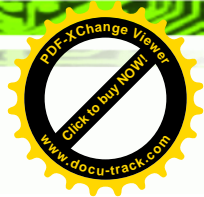
Use the **CPU Configuration** menu (**BIOS Menu 4**) to view detailed CPU specifications and configure the CPU.



#### BIOS Menu 4: CPU Configuration

The CPU Configuration menu (**BIOS Menu 4**) lists the following CPU details:

- Processor Type: Lists the brand name of the CPU being used
- EMT64: Indicates if EM64T is supported by the CPU.
- Processor Speed: Lists the CPU processing speed
- System Bus Speed: Lists the system bus speed
- Ratio Status: Lists the ratio status
- Actual Ratio: Lists the actual ratio
- Processor Stepping: Lists the CPU processing stepping
- Microcode Revision: Lists the microcode revision
- L1 Cache RAM: Lists the amount of storage space on the L1 Cache
- L2 Cache RAM: Lists the amount of storage space on the L2 Cache
- Processor Core: Lists the number of the processor cores
- Hyper-Threading: Indicates if Hyper-Threading is supported by the CPU.
- Hyper Threading Function [Enabled]

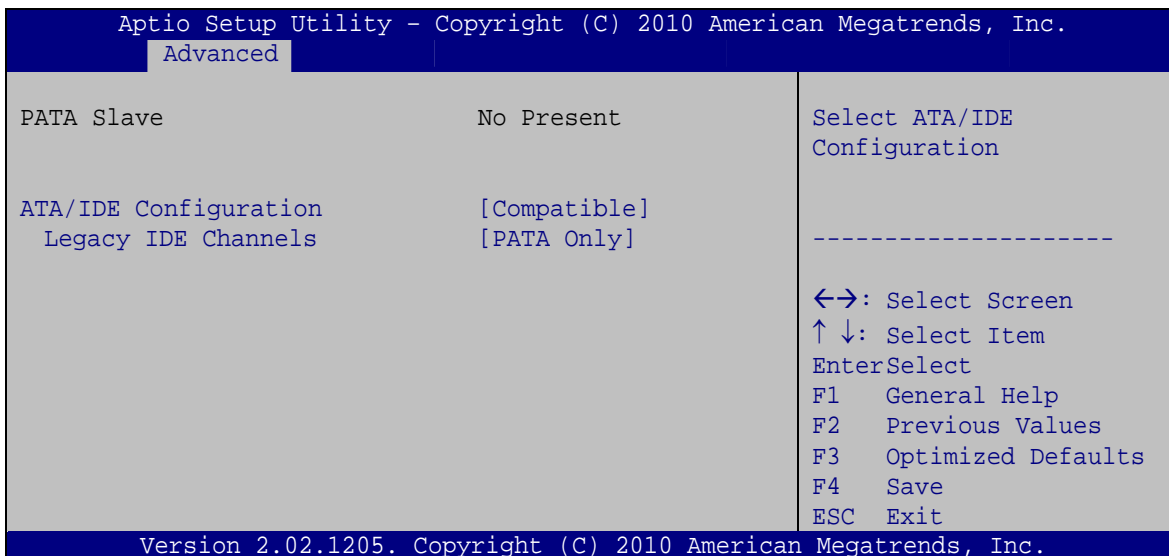


Use the Hyper Threading function to enable or disable the CPU hyper threading function.

- ➔ **Disabled**                      Disables the use of hyper threading technology
- ➔ **Enabled      DEFAULT**      Enables the use of hyper threading technology

### 4.3.3 IDE Configuration

Use the **IDE Configuration** menu (**BIOS Menu 5**) to change and/or set the configuration of the IDE or SATA devices installed in the system.



#### BIOS Menu 5: IDE Configuration

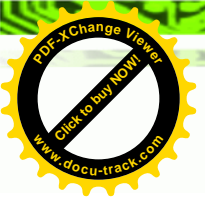
##### ➔ **ATA/IDE Configurations [Compatible]**

Use the **ATA/IDE Configurations** option to configure the ATA/IDE controller.

- ➔ **Disabled**                      Disables the on-board ATA/IDE controller.
- ➔ **Compatible      DEFAULT**      Configures the on-board ATA/IDE controller to be in compatible mode. In this mode, a SATA channel will replace one of the IDE channels. This mode supports up to 4 storage devices.







## UPC-V312-D525 Panel PC

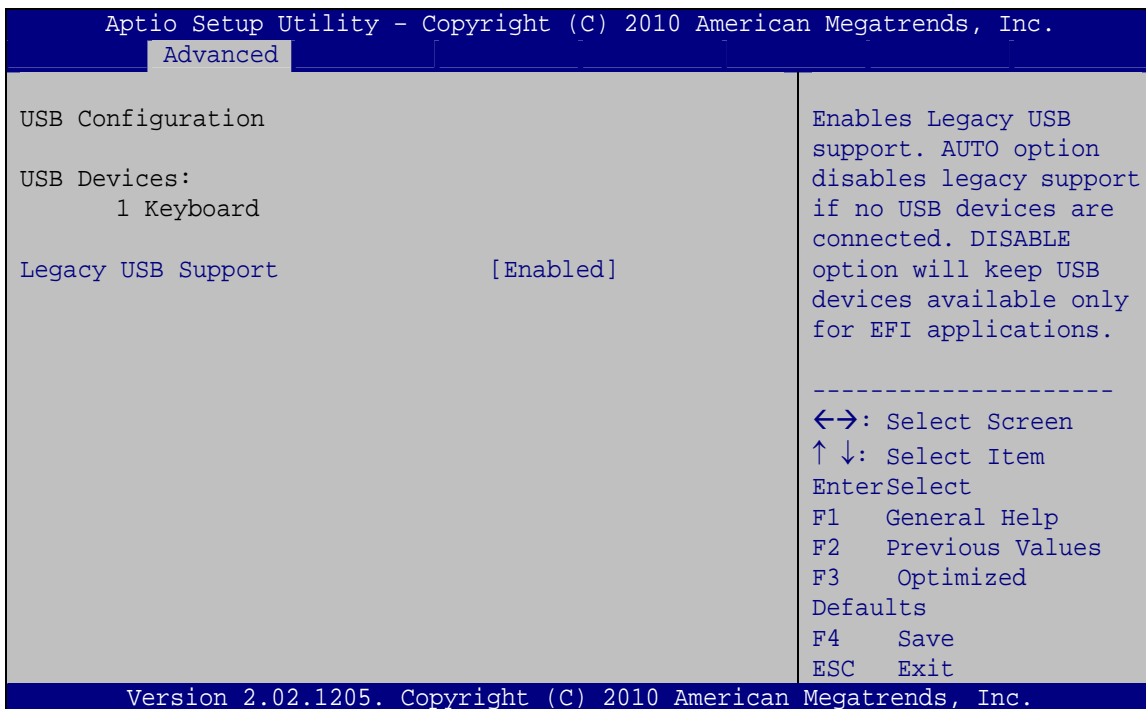
→ **Enhanced** Configures the on-board ATA/IDE controller to be in Enhanced mode. In this mode, IDE channels and SATA channels are separated. This mode supports up to 6 storage devices. Some legacy OS do not support this mode.

→ **Legacy IDE Channels [PATA Only]**

→ **PATA Only** Only the PATA drives are enabled.

### 4.3.4 USB Configuration

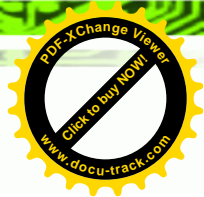
Use the **USB Configuration** menu (**BIOS Menu 6**) to read USB configuration information and configure the USB settings.



#### BIOS Menu 6: USB Configuration

→ **USB Devices**

The **USB Devices Enabled** field lists the USB devices that are enabled on the system



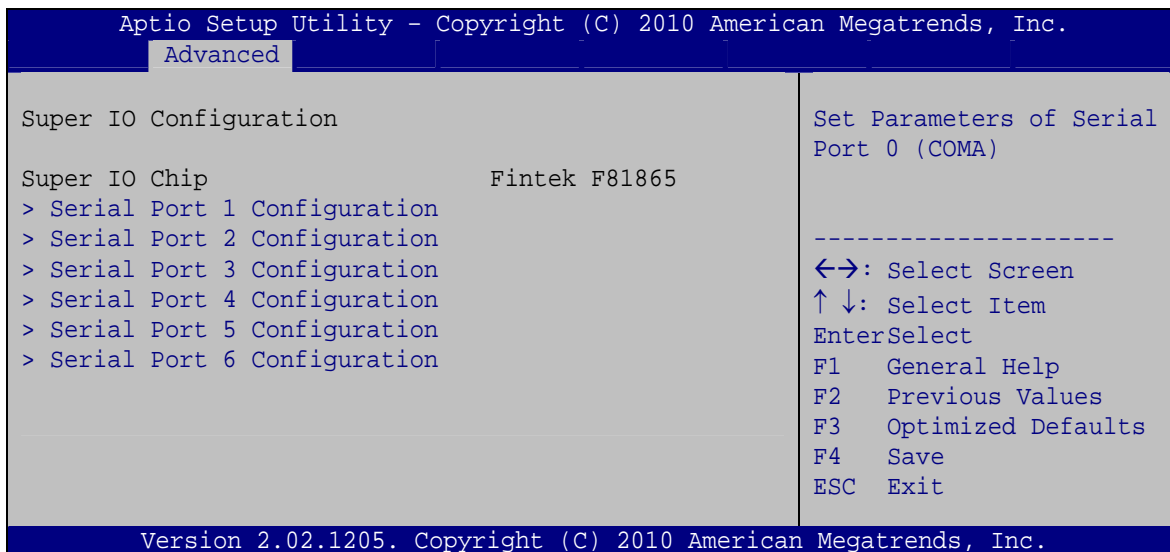
➔ Legacy USB Support [Enabled]

Use the Legacy USB Support BIOS option to enable USB mouse and USB keyboard support. Normally if this option is not enabled, any attached USB mouse or USB keyboard does not become available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB mouse or USB keyboard can control the system even when there is no USB driver loaded onto the system.

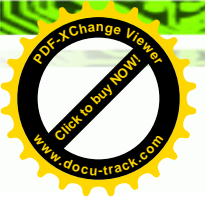
- ➔ Enabled      DEFAULT      Legacy USB support enabled
- ➔ Disabled      Legacy USB support disabled
- ➔ Auto      Legacy USB support disabled if no USB devices are connected

### 4.3.5 Super IO Configuration

Use the Super IO Configuration menu (BIOS Menu 7) to set or change the configurations for the FDD controllers, parallel ports and serial ports.



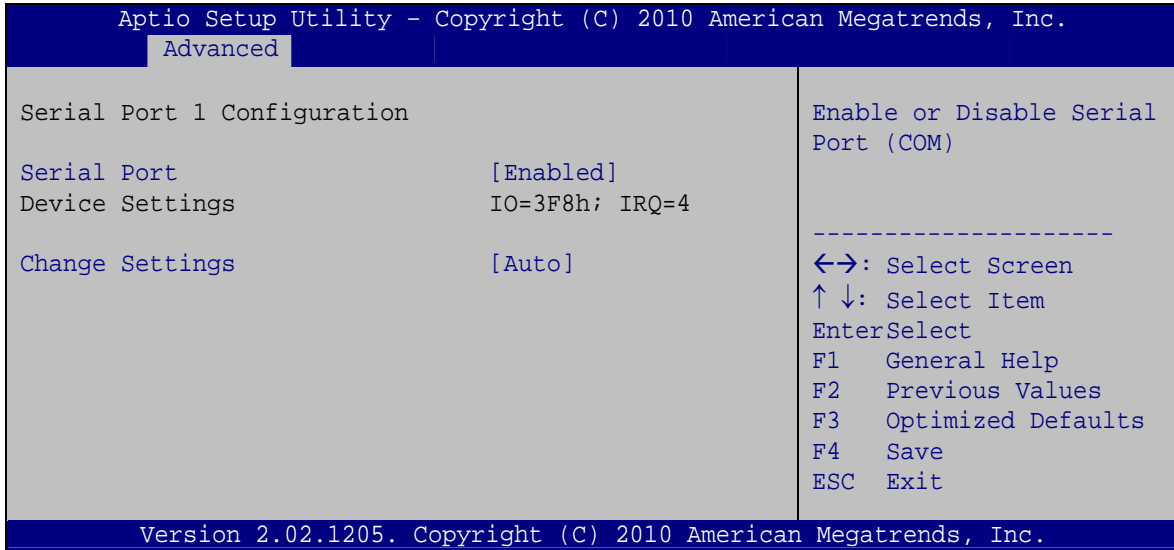
BIOS Menu 7: Super IO Configuration



## UPC-V312-D525 Panel PC

### 4.3.5.1 Serial Port n Configuration

Use the **Serial Port n Configuration** menu (**BIOS Menu 8**) to configure the serial port n.



**BIOS Menu 8: Serial Port n Configuration Menu**

#### 4.3.5.1.1 Serial Port 1 Configuration

##### ➔ Serial Port [Enabled]

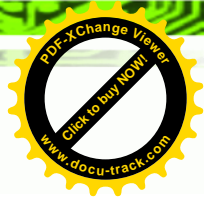
Use the **Serial Port** option to enable or disable the serial port.

- ➔ **Disabled** Disable the serial port
- ➔ **Enabled** **DEFAULT** Enable the serial port

##### ➔ Change Settings [Auto]

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

- ➔ **Auto** **DEFAULT** The serial port IO port address and interrupt address are automatically detected.



- ➔ **IO=3F8h;**  
**IRQ=4**                      Serial Port I/O port address is 3F8h and the interrupt address is IRQ4
- ➔ **IO=3F8h;**  
**IRQ=3, 4**                      Serial Port I/O port address is 3F8h and the interrupt address is IRQ3, 4
- ➔ **IO=2F8h;**  
**IRQ=3, 4**                      Serial Port I/O port address is 2F8h and the interrupt address is IRQ3, 4

#### 4.3.5.1.2 Serial Port 2 Configuration

##### ➔ Serial Port [Enabled]

Use the **Serial Port** option to enable or disable the serial port.

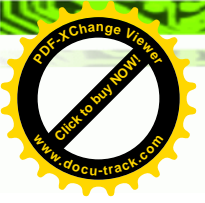
- ➔ **Disabled**                      Disable the serial port
- ➔ **Enabled**                      **DEFAULT**                      Enable the serial port

##### ➔ Change Settings [Auto]

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

- ➔ **Auto**                      **DEFAULT**                      The serial port IO port address and interrupt address are automatically detected.
- ➔ **IO=2F8h;**  
**IRQ=3**                      Serial Port I/O port address is 2F8h and the interrupt address is IRQ3
- ➔ **IO=3F8h;**  
**IRQ=3, 4**                      Serial Port I/O port address is 3F8h and the interrupt address is IRQ3, 4
- ➔ **IO=2F8h;**  
**IRQ=3, 4**                      Serial Port I/O port address is 2F8h and the interrupt address is IRQ3, 4





## UPC-V312-D525 Panel PC

### 4.3.5.1.3 Serial Port 3 Configuration

#### → Serial Port [Enabled]

Use the **Serial Port** option to enable or disable the serial port.

- **Disabled**                      Disable the serial port
- **Enabled**      **DEFAULT**      Enable the serial port

#### → Change Settings [Auto]

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

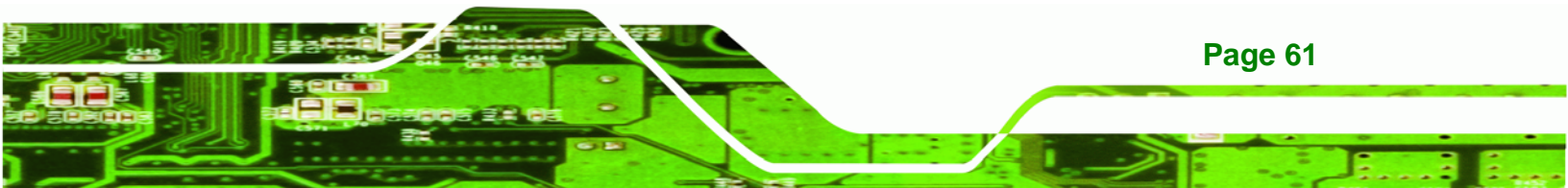
- **Auto**              **DEFAULT**      The serial port IO port address and interrupt address are automatically detected.
- **IO=3E8h;**  
**IRQ=11**                      Serial Port I/O port address is 3E8h and the interrupt address is IRQ11
- **IO=3E8h;**  
**IRQ=10, 11**                      Serial Port I/O port address is 3E8h and the interrupt address is IRQ10, 11
- **IO=2E8h;**  
**IRQ=10, 11**                      Serial Port I/O port address is 2E8h and the interrupt address is IRQ10, 11

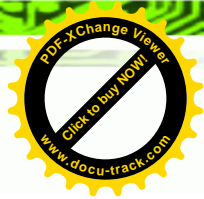
### 4.3.5.1.4 Serial Port 4 Configuration

#### → Serial Port [Enabled]

Use the **Serial Port** option to enable or disable the serial port.

- **Disabled**                      Disable the serial port
- **Enabled**      **DEFAULT**      Enable the serial port





→ **Change Settings [Auto]**

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

- **Auto**            **DEFAULT**            The serial port IO port address and interrupt address are automatically detected.
- **IO=2E8h;**  
**IRQ=10**                            Serial Port I/O port address is 2E8h and the interrupt address is IRQ10
- **IO=3E8h;**  
**IRQ=10, 11**                        Serial Port I/O port address is 3E8h and the interrupt address is IRQ10, 11
- **IO=2E8h;**  
**IRQ=10, 11**                        Serial Port I/O port address is 2E8h and the interrupt address is IRQ10, 11

**4.3.5.1.5 Serial Port 5 Configuration**

→ **Serial Port [Enabled]**

Use the **Serial Port** option to enable or disable the serial port.

- **Disabled**                            Disable the serial port
- **Enabled**            **DEFAULT**            Enable the serial port

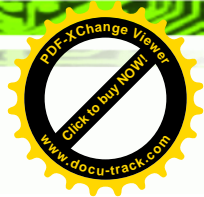
→ **Change Settings [Auto]**

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

- **Auto**            **DEFAULT**            The serial port IO port address and interrupt address are automatically detected.
- **IO=2E0h;**  
**IRQ=7**                            Serial Port I/O port address is 2E0h and the interrupt address is IRQ7







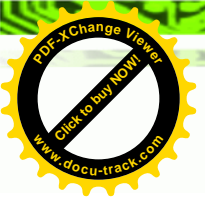
- |   |                                |                |   |
|---|--------------------------------|----------------|---|
| → | <b>Auto</b>                    | <b>DEFAULT</b> | The serial port IO port address and interrupt address are automatically detected. |
| → | <b>IO=2E0h;<br/>IRQ=10</b>     |                | Serial Port I/O port address is 2E0h and the interrupt address is IRQ10           |
| → | <b>IO=2C0h;<br/>IRQ=10, 11</b> |                | Serial Port I/O port address is 2C0h and the interrupt address is IRQ10, 11       |
| → | <b>IO=2C8h;<br/>IRQ=10, 11</b> |                | Serial Port I/O port address is 2C8h and the interrupt address is IRQ10, 11       |
| → | <b>IO=2D0h;<br/>IRQ=10, 11</b> |                | Serial Port I/O port address is 2D0h and the interrupt address is IRQ10, 11       |
| → | <b>IO=2D8h;<br/>IRQ=10, 11</b> |                | Serial Port I/O port address is 2D8h and the interrupt address is IRQ10, 11       |
| → | <b>IO=2E0h;<br/>IRQ=10, 11</b> |                | Serial Port I/O port address is 2E0h and the interrupt address is IRQ10, 11       |

#### 4.3.6 H/W Monitor

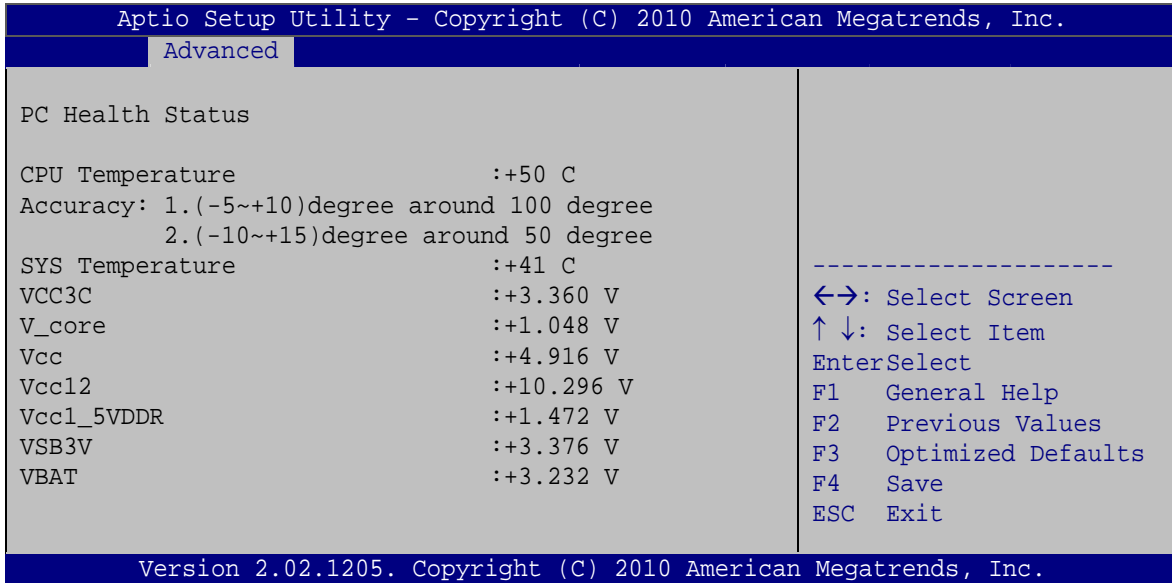
The H/W Monitor menu (**BIOS Menu 9**) shows the operating temperature, fan speeds and system voltages.







## UPC-V312-D525 Panel PC



### BIOS Menu 9: Hardware Health Configuration

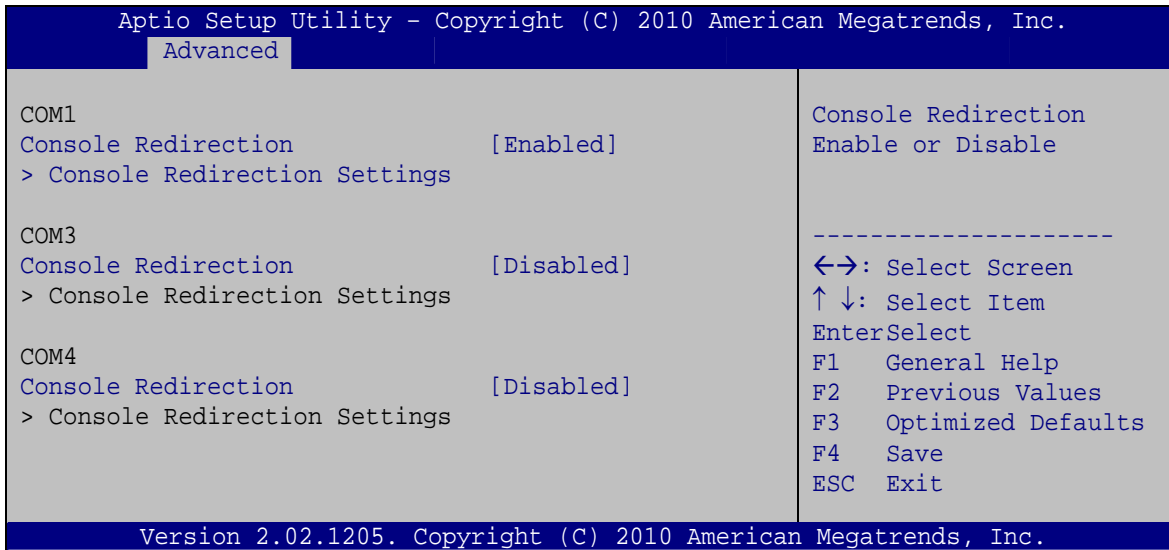
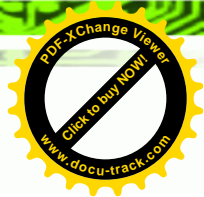
#### → PC Health Status

The following system parameters and values are shown. The system parameters that are monitored are:

- System Temperatures:
  - CPU Temperature
  - System Temperature
- Voltages:
  - VCC3V
  - V\_core
  - Vcc
  - Vcc12
  - Vcc1\_5VDDR
  - VSB3V
  - VBAT

### 4.3.7 Serial Port Console Redirection

The **Serial Port Console Redirection** menu (**BIOS Menu 10**) allows the console redirection options to be configured. Console redirection allows users to maintain a system remotely by re-directing keyboard input and text output through the serial port.



### BIOS Menu 10: Serial Port Console Redirection

#### → Console Redirection [Disabled]

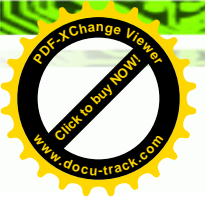
Use **Console Redirection** option to enable or disable the console redirection function.

- **Disabled**    **DEFAULT**    Disabled the console redirection function
- **Enabled**                    Enabled the console redirection function

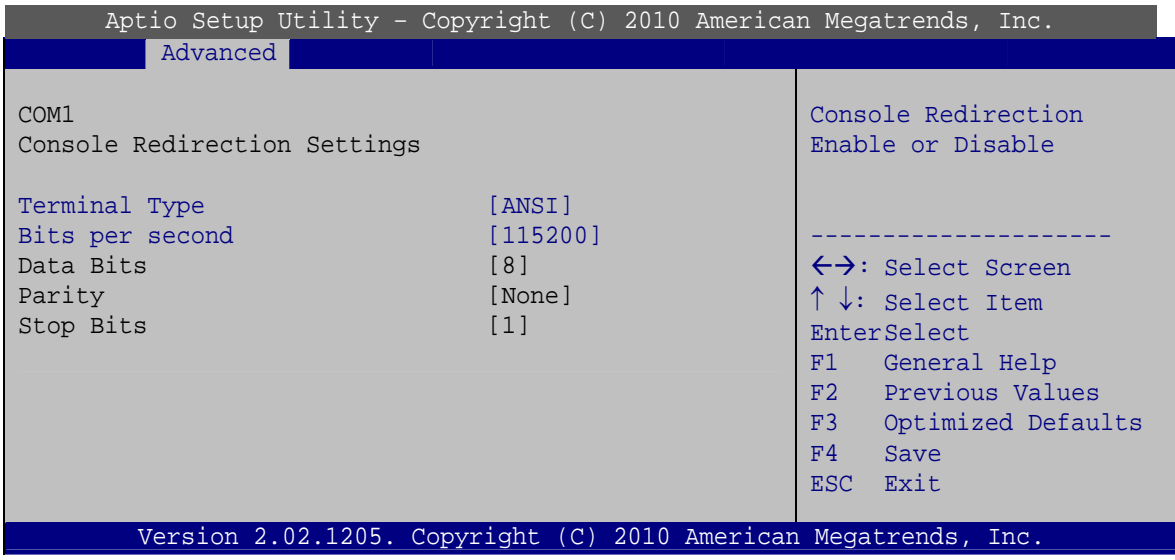
#### 4.3.7.1 Console Redirection Settings

Use the **Console Redirection Settings** menu (**BIOS Menu 11**) to configure console redirection settings of the specified serial port. This menu appears only when the Console Redirection is enabled.





# UPC-V312-D525 Panel PC



## BIOS Menu 11: Console Redirection Settings

### → Terminal Type [ANSI]

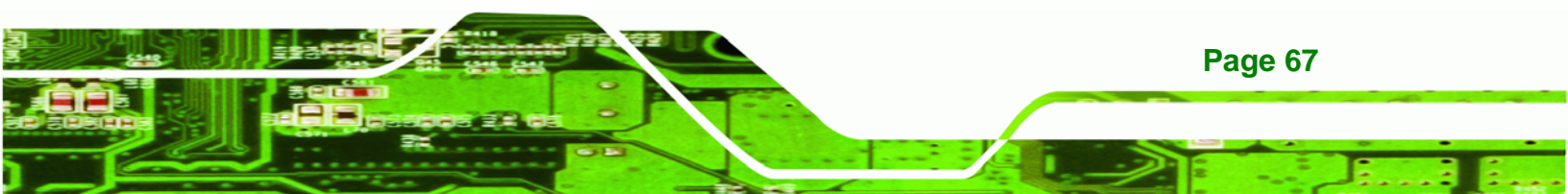
Use the **Terminal Type** option to specify the remote terminal type.

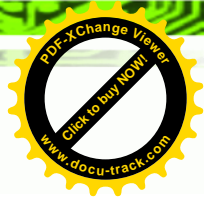
- **VT100**                                      The target terminal type is VT100
- **VT100+**                                    The target terminal type is VT100+
- **VT-UTF8**                                    The target terminal type is VT-UTF8
- **ANSI**                                      **DEFAULT**      The target terminal type is ANSI

### → Bits per second [115200]

Use the **Bits per second** option to select serial port transmission speed. The speed must match on the other side. Long or noisy lines may require lower speeds. The options include:

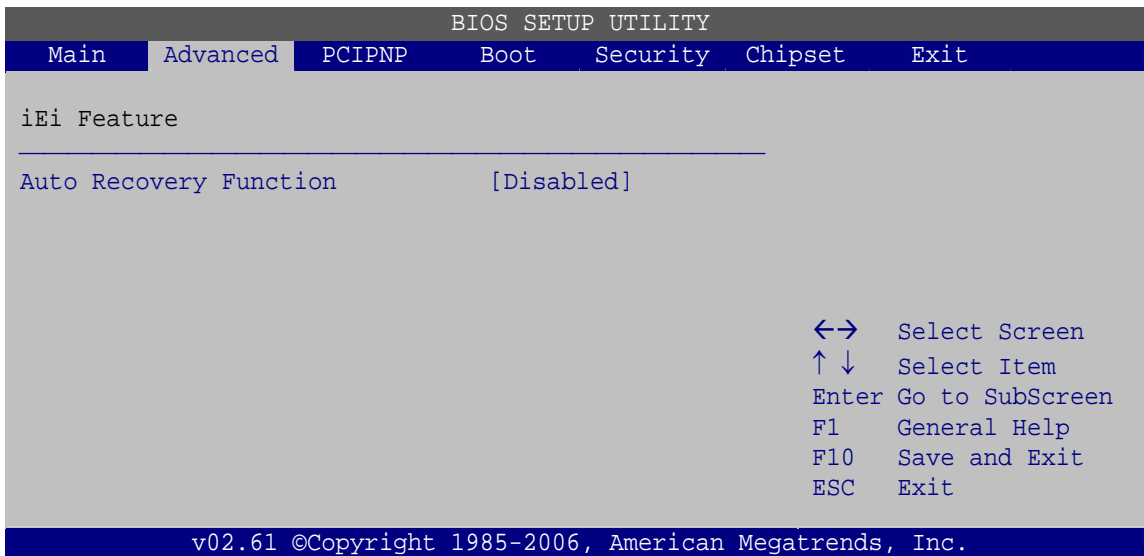
- 9600
- 19200
- 57600
- 115200      **DEFAULT**





### 4.3.8 IEI Feature

Use the **IEI Feature** menu (**BIOS Menu 12**) to configure One Key Recovery function.



#### BIOS Menu 12: IEI Feature

##### → Auto Recovery Function [Disabled]

Use the **Auto Recovery Function** BIOS option to enable or disable the auto recovery function of the IEI One Key Recovery.

- **Disabled**      **DEFAULT**      Auto recovery function disabled
- **Enabled**                      Auto recovery function enabled

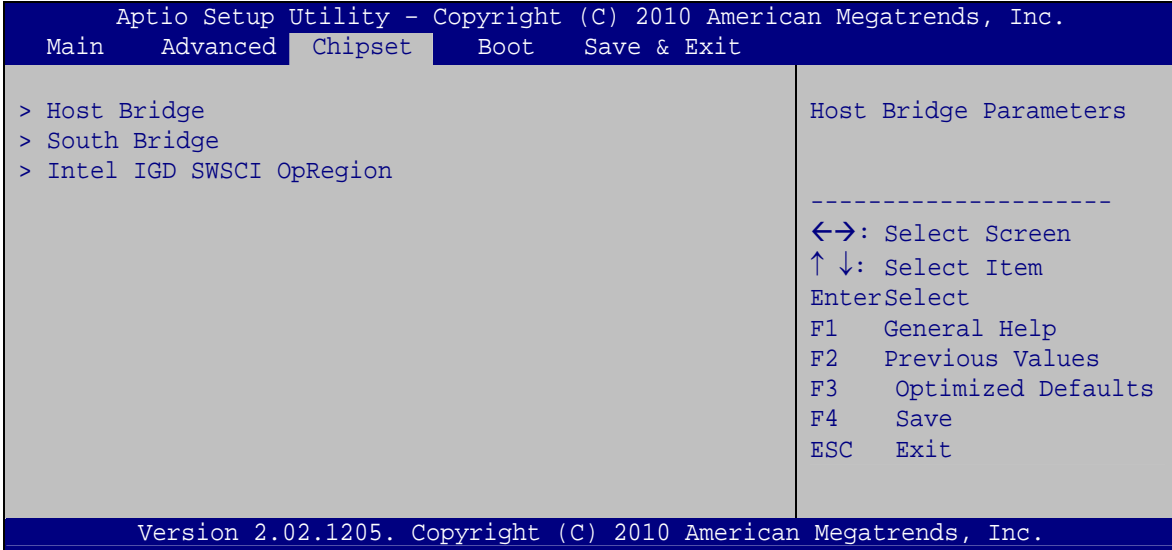
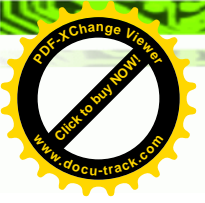
### 4.4 Chipset

Use the **Chipset** menu (**BIOS Menu 13**) to access the Northbridge and Southbridge configuration menus



#### **WARNING!**

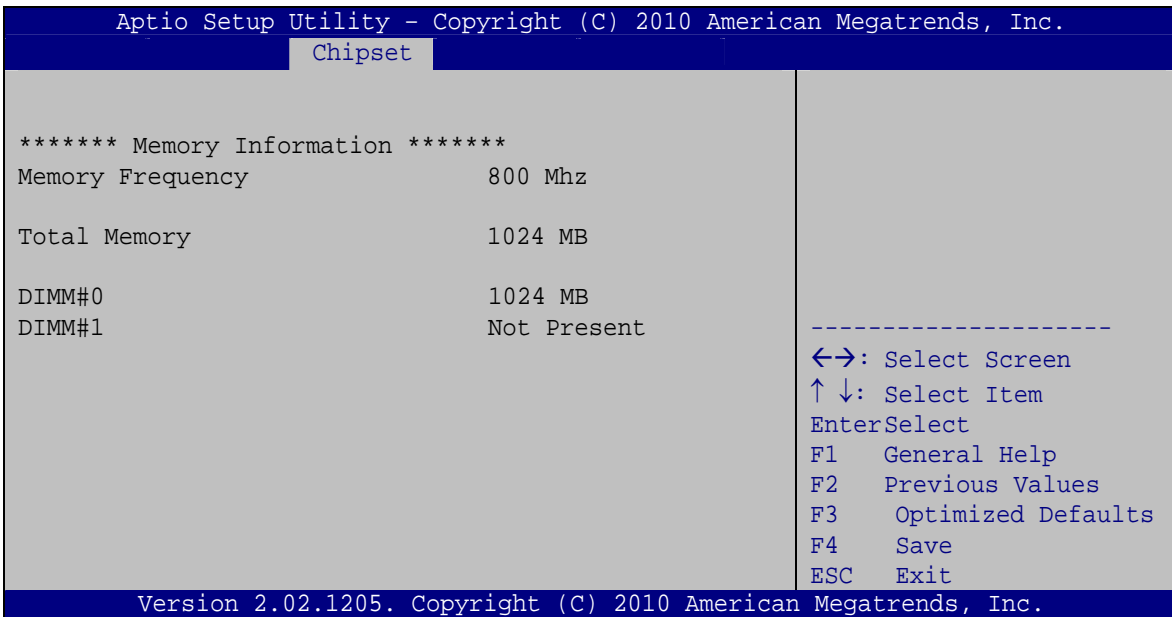
Setting the wrong values for the Chipset BIOS selections in the Chipset BIOS menu may cause the system to malfunction.



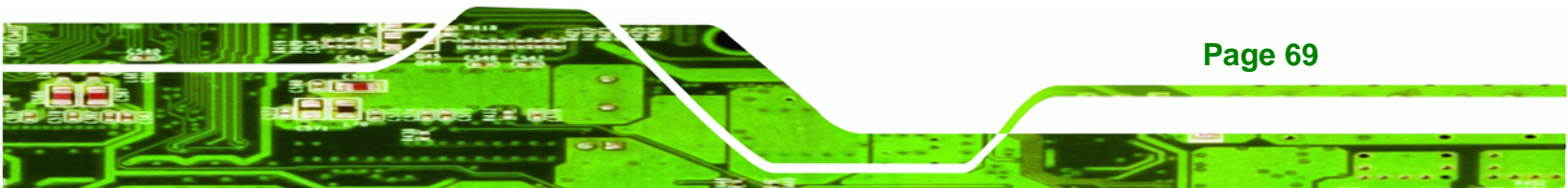
BIOS Menu 13: Chipset

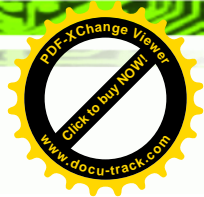
### 4.4.1 Host Bridge Configuration

Use the **Host Bridge Configuration** menu (**BIOS Menu 14**) to configure the Northbridge chipset.



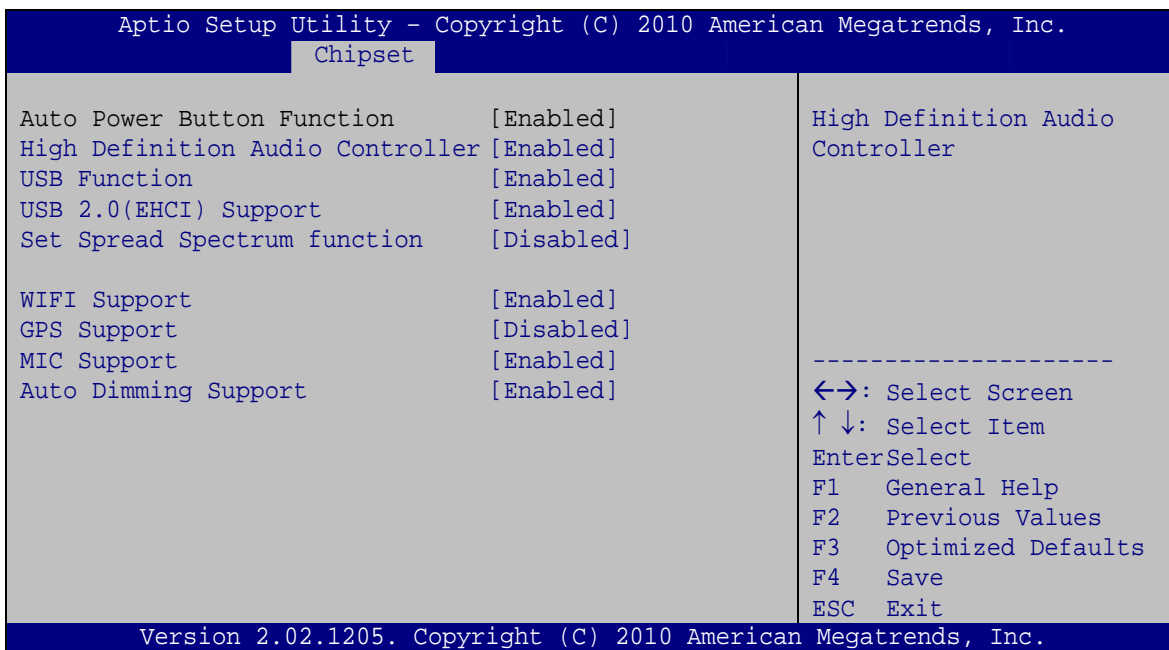
BIOS Menu 14: Host Bridge Chipset Configuration





### 4.4.2 South Bridge Configuration

Use the **South Bbridge Configuration** menu (**BIOS Menu 15**) to configure the Southbridge chipset.



#### BIOS Menu 15: South Bridge Chipset Configuration

##### → High Definition Audio Controller [Enabled]

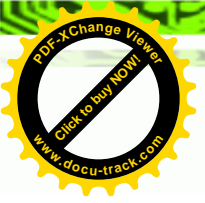
The **High Definition Audio Controller** option enables or disables the HD Audio controller.

- **Enabled** **DEFAULT** The onboard HD Audio controller is enabled
- **Disabled** The onboard HD Audio controller is disabled

##### → USB Function [Enabled]

Use the **USB Function** BIOS option to enable or disable USB function support.

- **Disabled** USB function support disabled
- **Enabled** **DEFAULT** USB function support enabled



## UPC-V312-D525 Panel PC

### → Set Spread Spectrum function [Disabled]

Use the **Set Spread Spectrum function** option to reduce the EMI. Excess EMI is generated when the system clock generator pulses have extreme values. Spreading the pulse spectrum modulates changes in the extreme values from spikes to flat curves, thus reducing the EMI. This benefit may in some cases be outweighed by problems with timing-critical devices, such as a clock-sensitive SCSI device.

- **Disabled**    **DEFAULT**    EMI not reduced
- **Enabled**                    EMI reduced

### → WIFI Support [Enabled]

Use the **WIFI Support** option to enable or disable the Wi-Fi function.

- **Enabled**    **DEFAULT**    Enables Wi-Fi function
- **Disabled**                    Disables Wi-Fi function

### → GPS Support [Disabled]

Use the **GPS Support** option to enable or disable the GPS function.

- **Enabled**                    Enables GPS function
- **Disabled**    **DEFAULT**    Disables GPS function

### → MIC Support [Enabled]

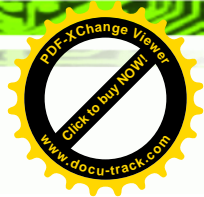
Use the **MIC Support** option to enable or disable the microphone.

- **Enabled**    **DEFAULT**    Enables microphone
- **Disabled**                    Disables microphone

### → Auto Dimming Support [Enabled]

Use the **Auto Dimming Support** option to enable or disable the auto dimming function.

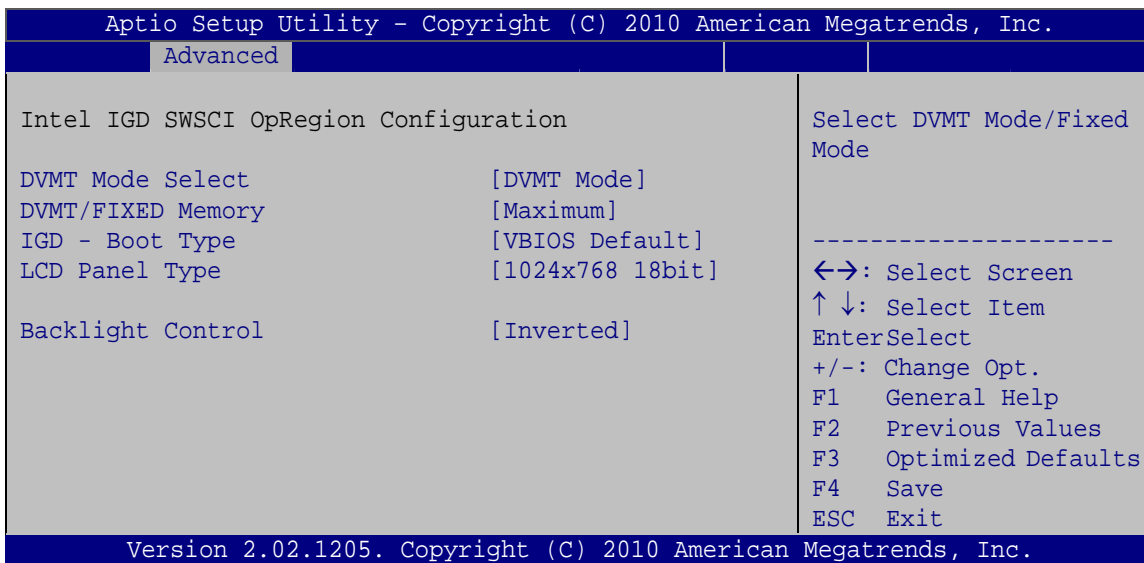
- **Enabled**    **DEFAULT**    Enables auto dimming function



➔ Disabled Disables auto dimming function

### 4.4.3 Intel IGD SWSCI OpRegion

Use the **Intel IGD SWSCI OpRegion** menu (**BIOS Menu 16**) to configure the video device connected to the system.



#### BIOS Menu 16: Intel IGD SWSCI OpRegion

##### ➔ DVMT Mode Select [DVMT Mode]

Use the **DVMT Mode Select** option to select the Intel Dynamic Video Memory Technology (DVMT) operating mode.

➔ **Fixed Mode** A fixed portion of graphics memory is reserved as graphics memory.

➔ **DVMT Mode** **DEFAULT** Graphics memory is dynamically allocated according to the system and graphics needs.

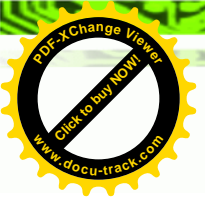
##### ➔ DVMT/FIXED Memory [Maximum]

Use the **DVMT/FIXED Memory** option to specify the maximum amount of memory that can be allocated as graphics memory. Configuration options are listed below.

- 128 MB







## UPC-V312-D525 Panel PC

- 256 MB
- Maximum **Default**

### → IGD - Boot Type [VBIOS Default]

Use the **IGD - Boot Type** option to select the display device used by the system when it boots. Configuration options are listed below.

- VBIOS Default **DEFAULT**
- CRT
- LFP
- CRT + LFP

### → LCD Panel Type [1024x768 18bit]

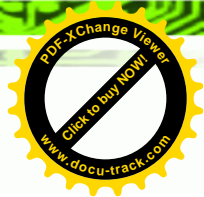
Use the **LCD Panel Type** option to select the type of flat panel connected to the system. Configuration option is listed below.

- 1024x768 18bit **DEFAULT**
- DVMT Mode Select [DVMT Mode]

### → Backlight Control [Inverted]

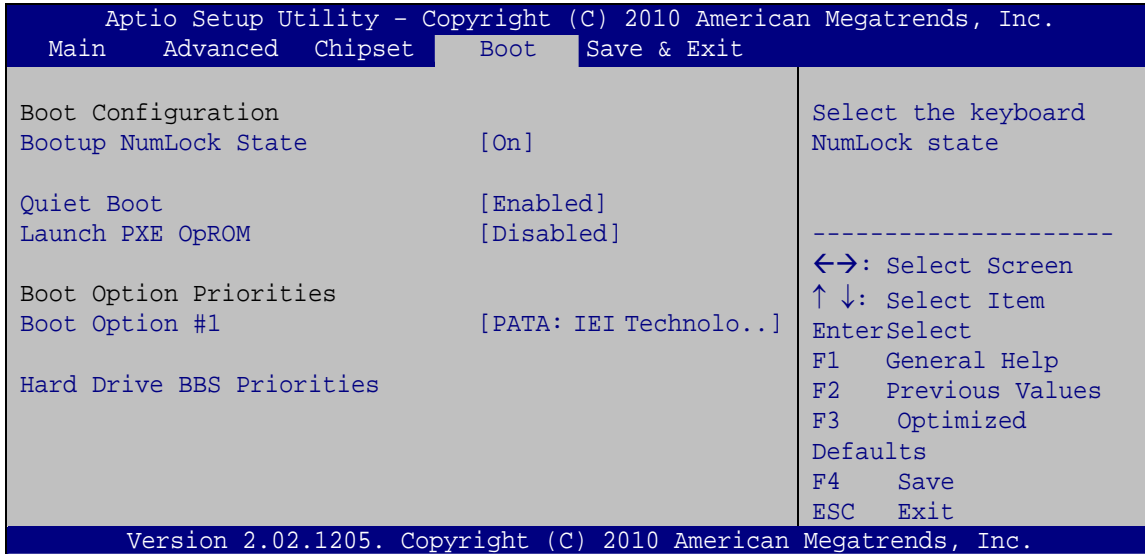
Use the **Backlight Control** option to select the backlight control mode.

- **Normal** Brightest at high voltage level
- **Inverted** **DEFAULT** Brightest at low voltage level



## 4.5 Boot

Use the **Boot** menu (**BIOS Menu 17**) to configure system boot options.



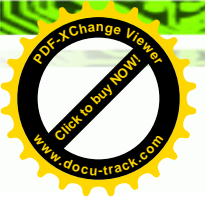
### BIOS Menu 17: Boot

#### → Bootup NumLock State [On]

Use the **Bootup NumLock State** BIOS option to specify if the number lock setting must be modified during boot up.

→ **On**                      **DEFAULT**                      Allows the Number Lock on the keyboard to be enabled automatically when the computer system boots up. This allows the immediate use of the 10-key numeric keypad located on the right side of the keyboard. To confirm this, the Number Lock LED light on the keyboard is lit.

→ **Off**    Does not enable the keyboard Number Lock automatically. To use the 10-keys on the keyboard, press the Number Lock key located on the upper left-hand corner of the 10-key pad. The Number Lock LED on the keyboard lights up when the Number Lock is engaged.



## UPC-V312-D525 Panel PC

### → Quiet Boot [Enabled]

Use the **Quiet Boot** BIOS option to select the screen display when the system boots.

- **Disabled** Normal POST messages displayed
- **Enabled** **DEFAULT** OEM Logo displayed instead of POST messages

### → Launch PXE OpROM [Disabled]

Use the **Launch PXE OpROM** option to enable or disable boot option for legacy network devices.

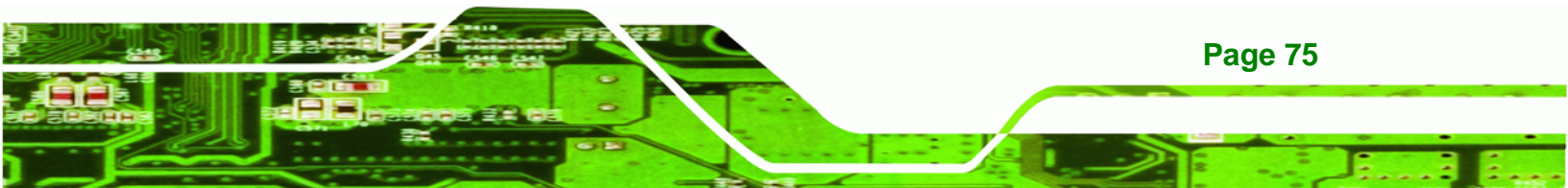
- **Disabled** **DEFAULT** Ignore all PXE Option ROMs
- **Enabled** Load PXE Option ROMs

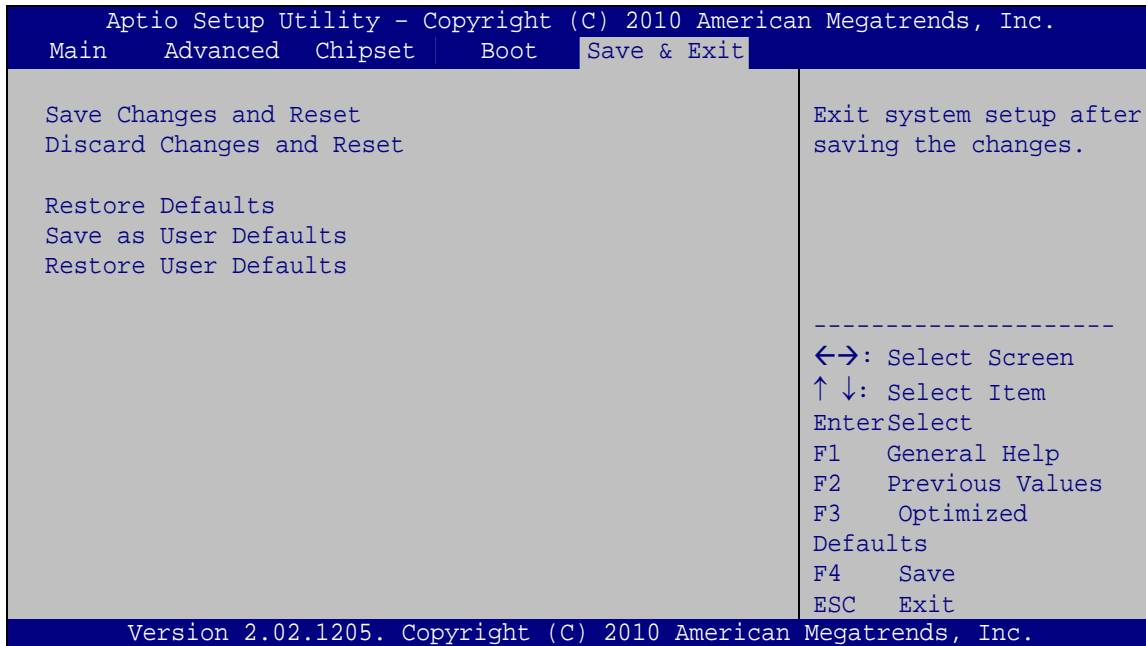
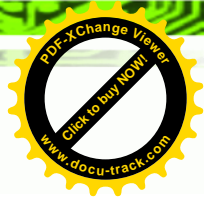
### → Boot Option #1 [PATA: IEI Technology Corp. ICF]

Use the **Boot Option #1** option to specify the boot sequence from the available devices.

## 4.6 Save & Exit

Use the **Save & Exit** menu (**BIOS Menu 18**) to load default BIOS values, optimal failsafe values and to save configuration changes.





**BIOS Menu 18: Save & Exit**

➔ **Save Changes and Reset**

Use the **Save Changes and Reset** option to save the changes made to the BIOS options and reset the system.

➔ **Discard Changes and Reset**

Use the **Discard Changes and Reset** option to exit the system without saving the changes made to the BIOS configuration setup program.

➔ **Restore Defaults**

Use the **Restore Defaults** option to load the optimal default values for each of the parameters on the Setup menus. **F3 key can be used for this operation.**

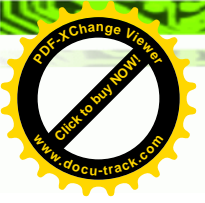
➔ **Save as User Defaults**

Use the **Save as User Defaults** option to save the changes done so far as user defaults.

➔ **Restore User Defaults**

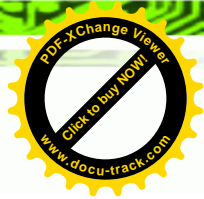
Use the **Restore User Defaults** option to restore the user defaults to all the setup options.





# UPC-V312-D525 Panel PC



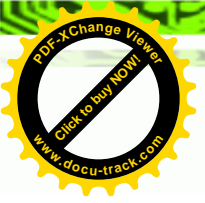


Chapter

5

# Software Drivers

---



## UPC-V312-D525 Panel PC

### 5.1 Available Software Drivers

---



#### NOTE:

The content of the CD may vary throughout the life cycle of the product and is subject to change without prior notice. Visit the IEI website or contact technical support for the latest updates.

---

The following drivers can be installed on the system:

- Chipset
- Graphic
- LAN
- Audio
- Touch Screen
- GPS
- CAN-bus interface

Installation instructions are given below.

### 5.2 Starting the Driver Program

To access the driver installation programs, please do the following.

**Step 1:** Insert the CD-ROM that came with the system into a CD-ROM drive attached to the system.

**Step 2:** Click **UPC-V312-D525**.

**Step 3:** A list of available drivers appears.

### 5.3 Chipset Driver Installation

To install the chipset driver, please do the following.

**Step 1:** Access the driver list. (See **Section 5.2**)

**Step 2:** Click “**Chipset**” and select the folder which corresponds to the operating system.

**Step 3:** Locate the setup file and double click on it.

**Step 4:** The setup files are extracted as shown in **Figure 5-1**.

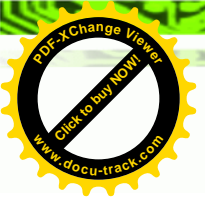


**Figure 5-1: Chipset Driver Screen**

**Step 5:** When the setup files are completely extracted the **Welcome Screen** in **Figure 5-2** appears.

**Step 6:** Click **Next** to continue.





## UPC-V312-D525 Panel PC



Figure 5-2: Chipset Driver Welcome Screen

**Step 7:** The license agreement in Figure 5-3 appears.

**Step 8:** Read the License Agreement.

**Step 9:** Click Yes to continue.



Figure 5-3: Chipset Driver License Agreement

**Step 10:** The Read Me file in Figure 5-4 appears.

**Step 11:** Click **Next** to continue.



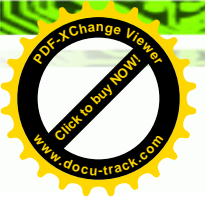
**Figure 5-4: Chipset Driver Read Me File**

**Step 12:** **Setup Operations** are performed as shown in **Figure 5-5**.

**Step 13:** Once the **Setup Operations** are complete, click **Next** to continue.



**Figure 5-5: Chipset Driver Setup Operations**



## UPC-V312-D525 Panel PC

**Step 14:** The **Finish** screen in **Figure 5-6** appears.

**Step 15:** Select “**Yes, I want to restart this computer now**” and click **Finish**.



**Figure 5-6: Chipset Driver Installation Finish Screen**

## 5.4 Graphics Driver Installation

To install the Graphics driver, please do the following.

**Step 1:** Access the driver list. (See **Section 5.2**)

**Step 2:** Click “**Graphic**” and select the folder which corresponds to the operating system.

**Step 3:** Double click the setup file.

**Step 4:** The **Read Me** file in **Figure 5-7** appears.

**Step 5:** Click **Next** to continue.

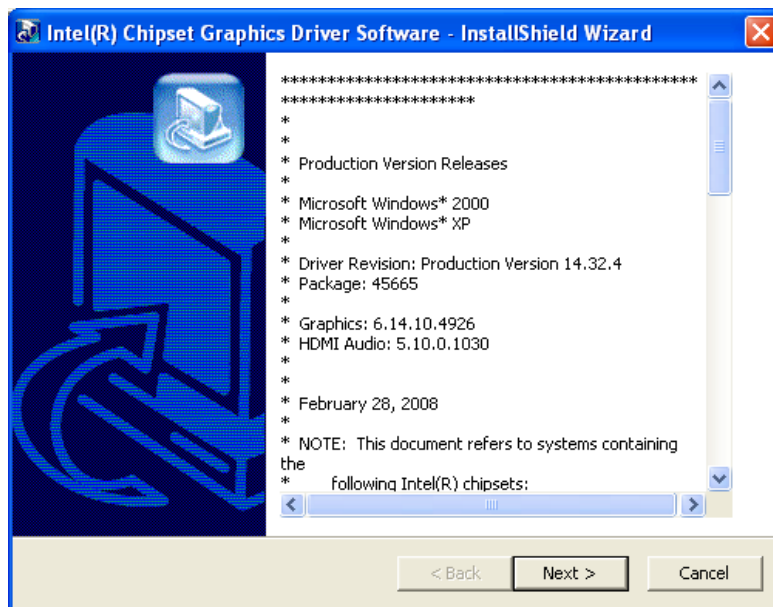


Figure 5-7: Graphics Driver Read Me File

**Step 6:** The installation files are extracted. See Figure 5-8.

**Step 7:** Click **Next** to continue.

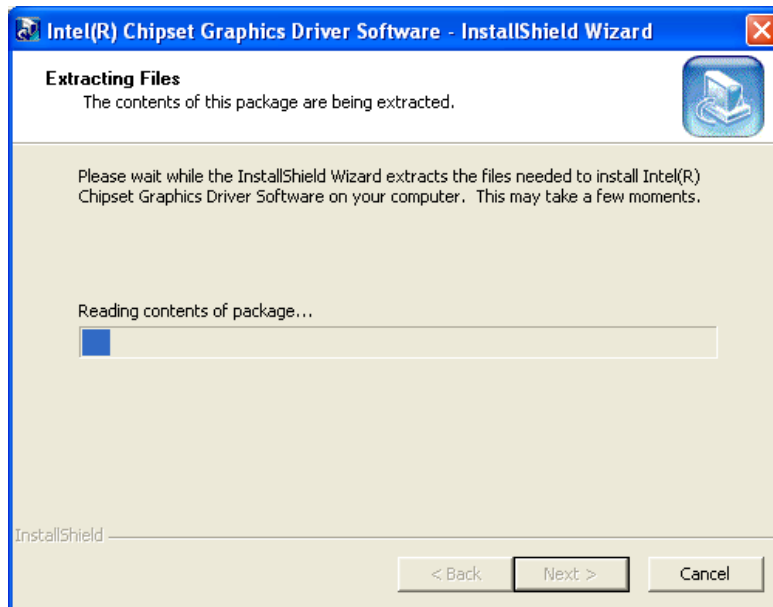


Figure 5-8: Graphics Driver Setup Files Extracted

**Step 8:** The **Welcome Screen** in Figure 5-9 appears.

**Step 9:** Click **Next** to continue.

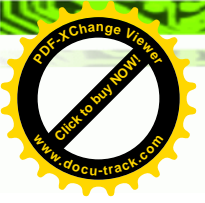


Figure 5-9: Graphics Driver Welcome Screen

**Step 10:** The License Agreement in Figure 5-10 appears.

**Step 11:** Click **Yes** to accept the agreement and continue.

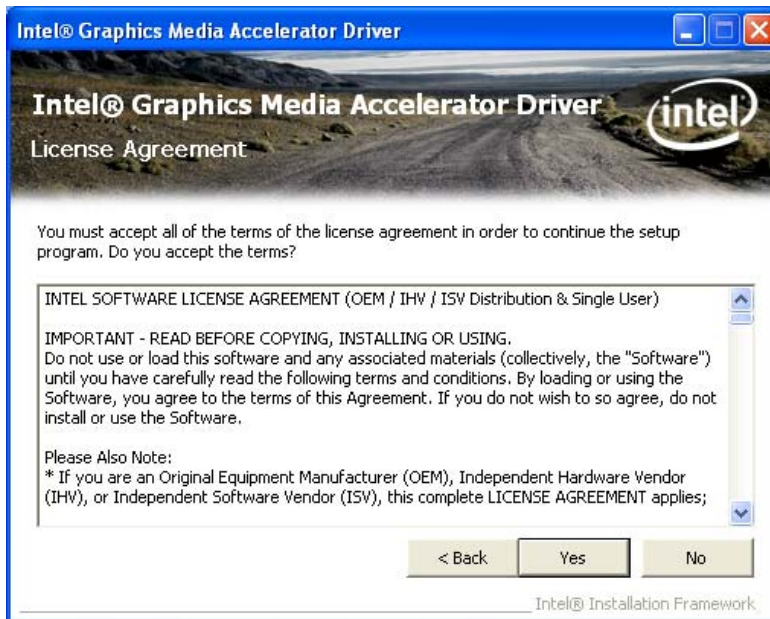


Figure 5-10: Graphics Driver License Agreement

**Step 12:** The Read Me file in Figure 5-11 appears.

**Step 13:** Click **Next** to continue.

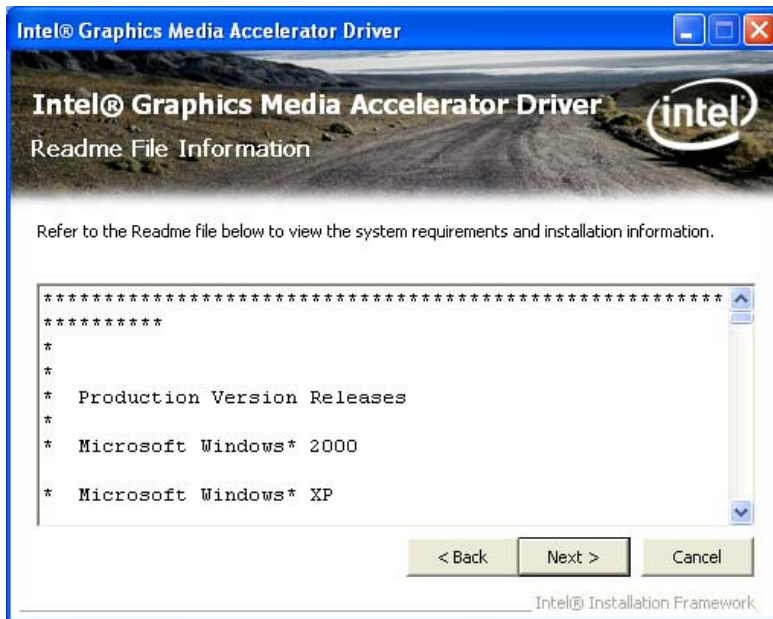


Figure 5-11: Graphics Driver Read Me File

**Step 14:** Setup Operations are performed as shown in Figure 5-12.

**Step 15:** Once the Setup Operations are complete, click Next to continue.



Figure 5-12: Graphics Driver Setup Operations

**Step 16:** The Finish screen in Figure 5-13 appears.

**Step 17:** Select “Yes, I want to restart this computer now” and click Finish.

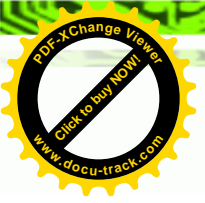


Figure 5-13: Graphics Driver Installation Finish Screen

## 5.5 LAN Driver Installation

To install the LAN driver, please do the following.

- Step 1:** Access the driver list. (See **Section 5.2**)
- Step 2:** Click “LAN” and select the **Realtek** folder
- Step 3:** Select the folder which corresponds to the operating system.
- Step 4:** Double click the setup file.
- Step 5:** The **Welcome** screen in **Figure 5-31** appears.

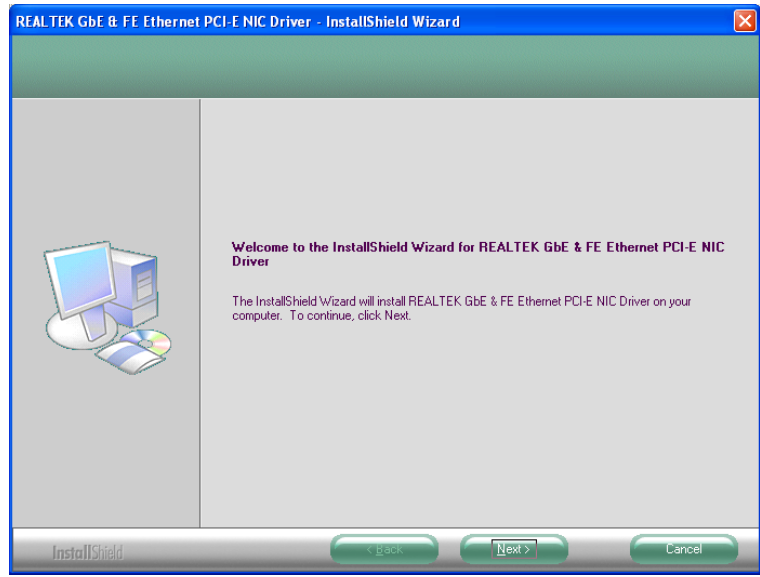


Figure 5-14: LAN Driver Welcome Screen

**Step 6:** Click **Next** to continue.

**Step 7:** The **Ready to Install** screen in **Figure 5-15** appears.

**Step 8:** Click **Next** to proceed with the installation.

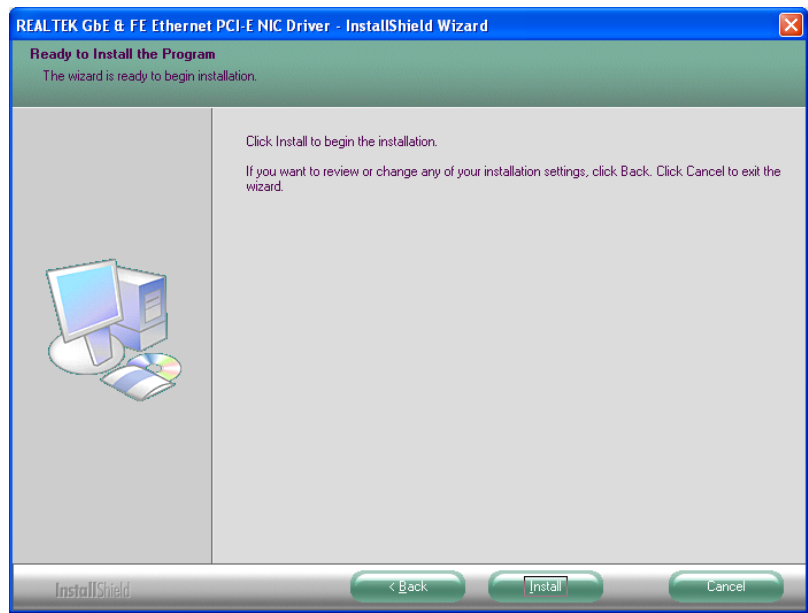
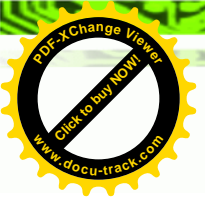


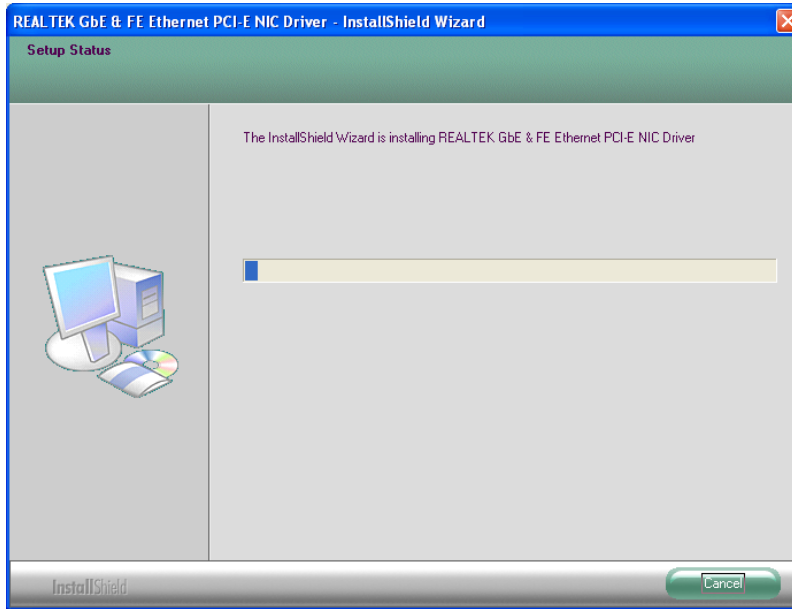
Figure 5-15: LAN Driver Welcome Screen

**Step 9:** The program begins to install.



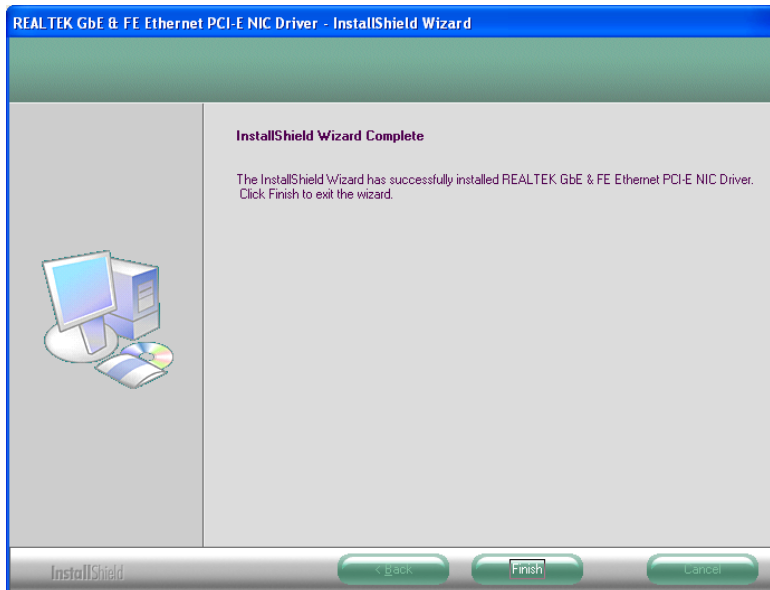


**Step 10:** The installation progress can be monitored in the progress bar shown in **Figure 5-16**.



**Figure 5-16: LAN Driver Installation**

**Step 11:** When the driver installation is complete, the screen in **Figure 5-17** appears.



**Figure 5-17: LAN Driver Installation Complete**

## 5.6 Audio Driver Installation

To install the audio driver, please do the following.

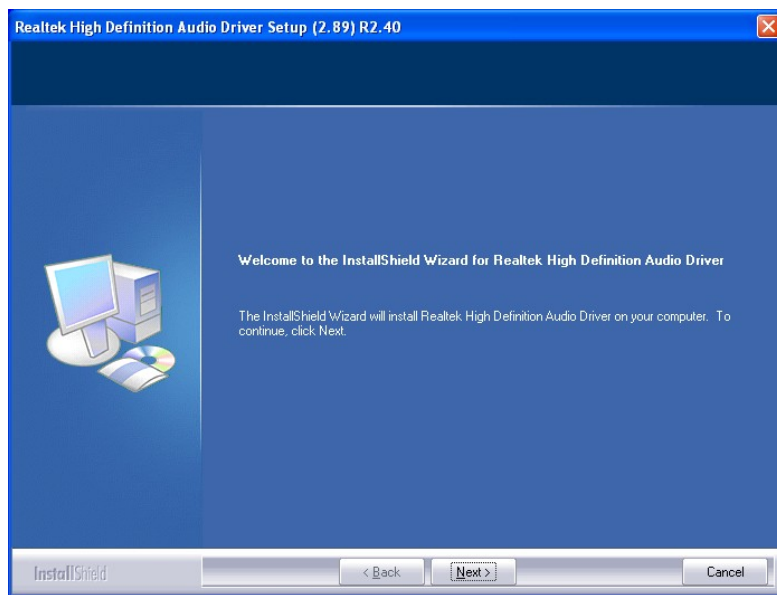
**Step 1:** Access the driver list. (See **Section 5.2**)

**Step 2:** Click “**Audio**”.

**Step 3:** Double click the setup file.

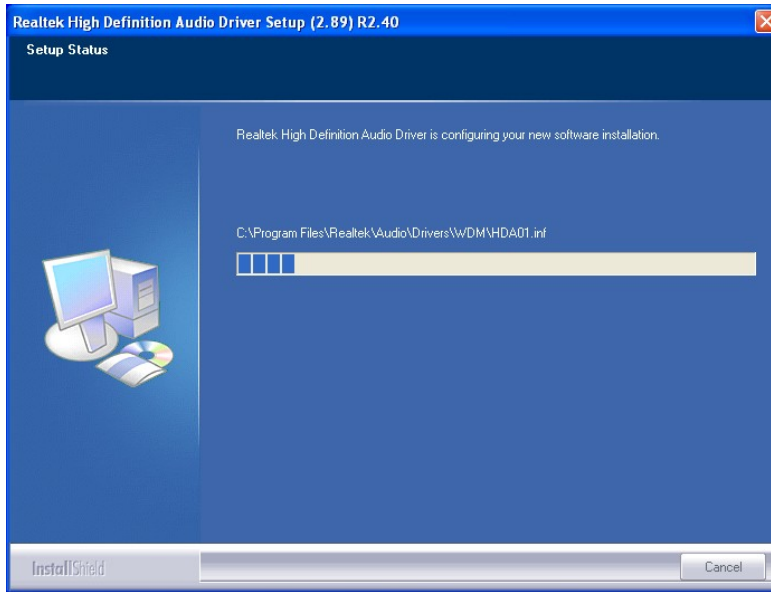
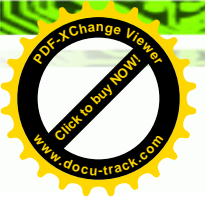
**Step 4:** The **Audio Driver Welcome Screen** in **Figure 5-18** appears.

**Step 5:** Click **Next** to continue.



**Figure 5-18: Audio Driver Welcome Screen**

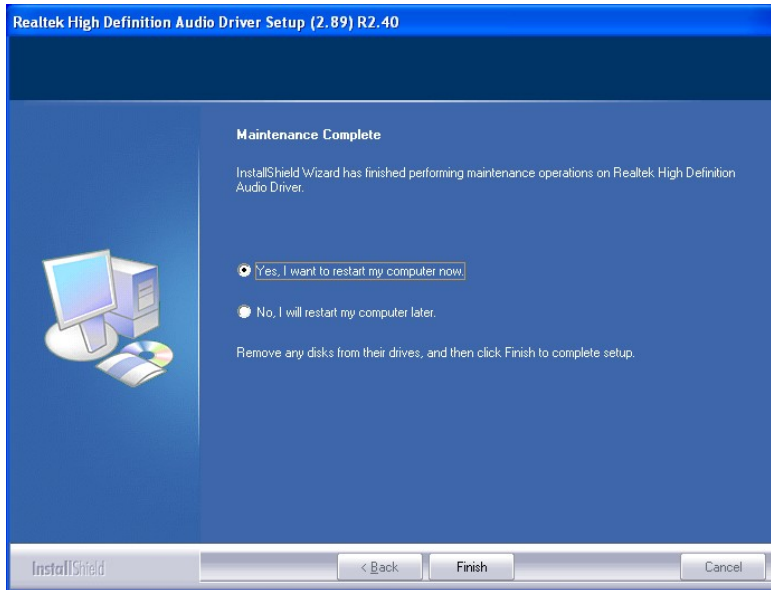
**Step 6:** The audio driver installation begins. See **Figure 5-19**.



**Figure 5-19: Audio Driver Installation**

**Step 7:** When the installation is complete, the screen in **Figure 5-20** appears.

**Step 8:** Select “Yes, I want to restart my computer now” and click **Finish**.



**Figure 5-20: AC'97 Driver Installation Complete**

## 5.7 Touch Screen Driver Installation

To install the touch panel software driver, please follow the steps below.

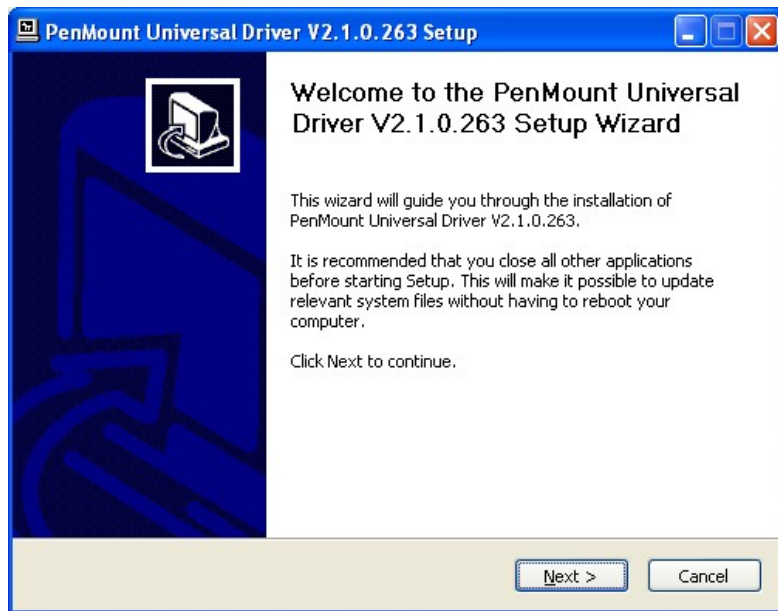
**Step 1:** Access the driver list. (See **Section 5.2**)

**Step 2:** Click “**Touch Screen.**”

**Step 3:** Locate the setup file and double click on it.

**Step 4:** A **Welcome Screen** appears (**Figure 5-21**).

**Step 5:** Click **NEXT** to continue.

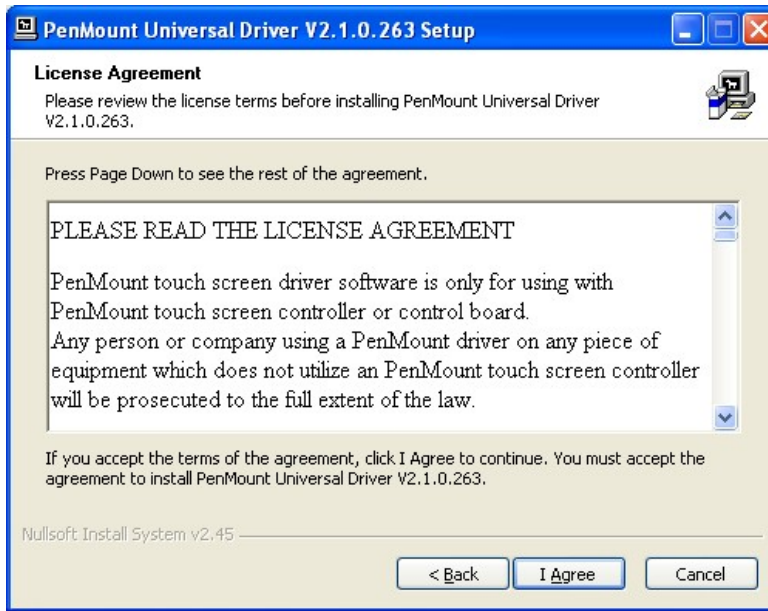


**Figure 5-21: Touch Screen Driver Welcome Screen**

**Step 6:** The **License Agreement** shown in **Figure 5-22** appears.

**Step 7:** Click **I AGREE** to accept and continue.

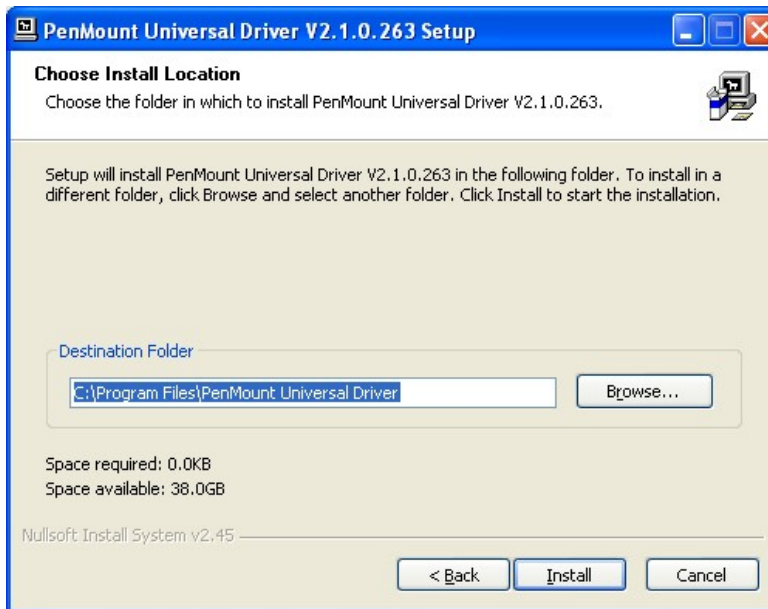
## UPC-V312-D525 Panel PC



**Figure 5-22: Touch Screen Driver License Agreement**

**Step 8:** Browse for an install location or use the one suggested (Figure 5-23).

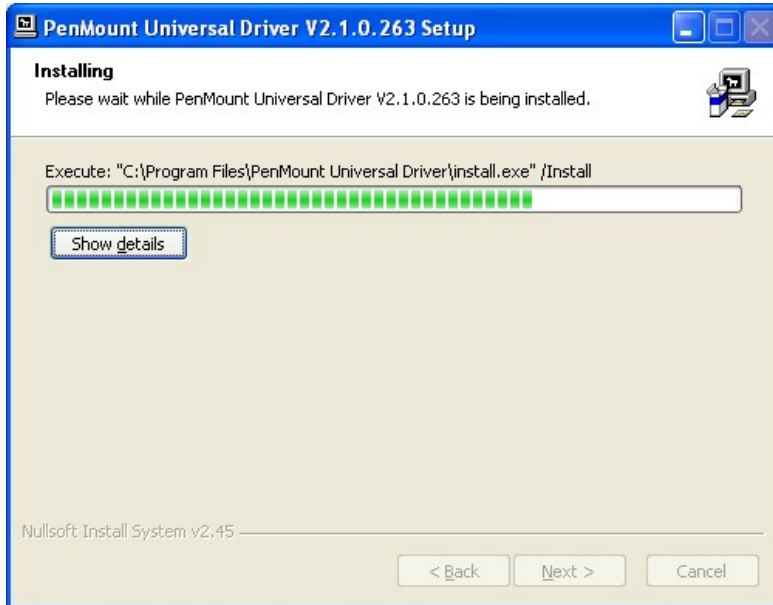
**Step 9:** Click **INSTALL** to continue.



**Figure 5-23: Touch Screen Driver Choose Install Location**

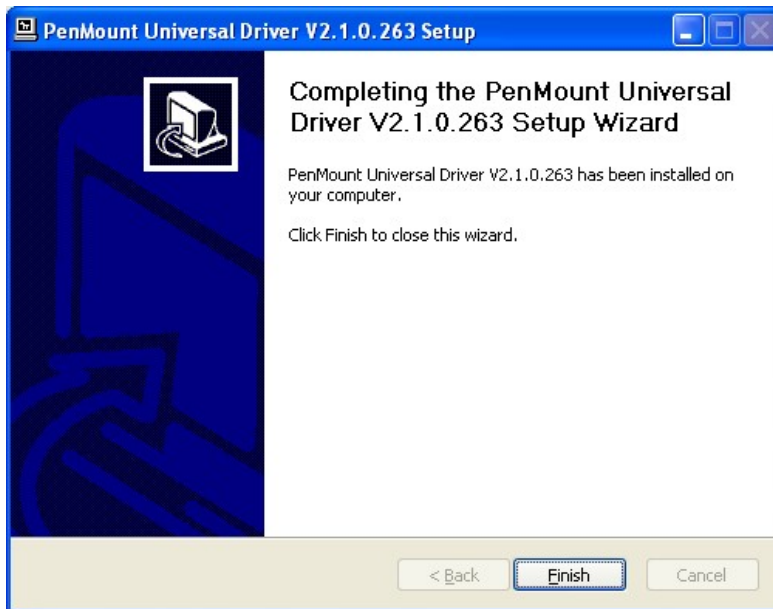
**Step 10:** The **Install** screen appears and displays the progress of the installation (Figure 5-24).

**Step 11:** Click **NEXT** to continue.

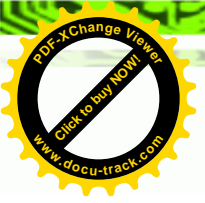


**Figure 5-24: Touch Screen Driver Installation Screen**

**Step 12:** When the installation is complete, click **FINISH** to exit setup. (Figure 5-25).



**Figure 5-25: Touch Screen Driver Update Complete**



## 5.7.1 Calibrating the Touch Screen

To calibrate the touch screen cursor with the motion of the touch screen pen (or finger), please follow the steps below:

**Step 1:** Make sure the touch screen driver is properly installed.

**Step 2:** Locate the PenMount Monitor icon in the bottom right corner of the screen.



Figure 5-26: PenMount Monitor Icon

**Step 3:** Click the icon. A pop up menu appears. See **Figure 5-27**.

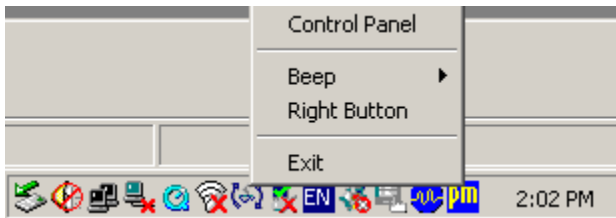


Figure 5-27: PenMount Monitor Popup Menu

**Step 4:** Click Control Panel in the pop up menu shown in **Figure 5-27**.

**Step 5:** The configuration screen in **Figure 5-28** appears.

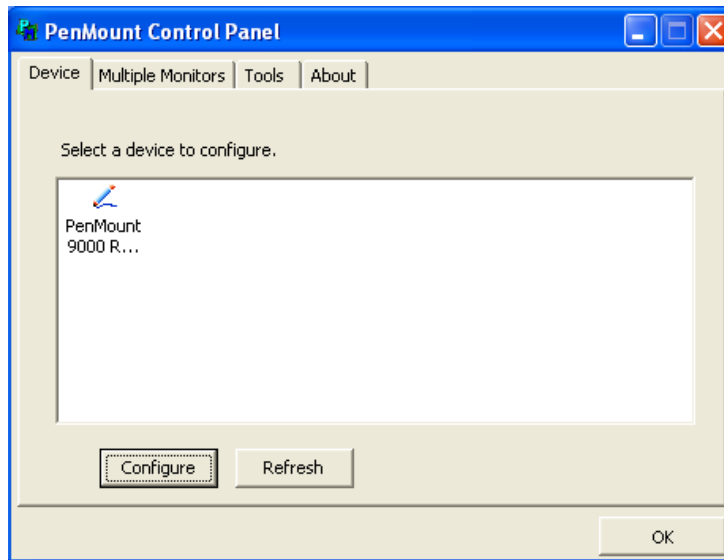


Figure 5-28: Configuration Screen

**Step 6:** Double click the PenMount 9000 icon as shown in **Figure 5-28**.

**Step 7:** The calibration initiation screen in **Figure 5-29** appears.

**Step 8:** Select the **Standard Calibration** button as shown in **Figure 5-29**.

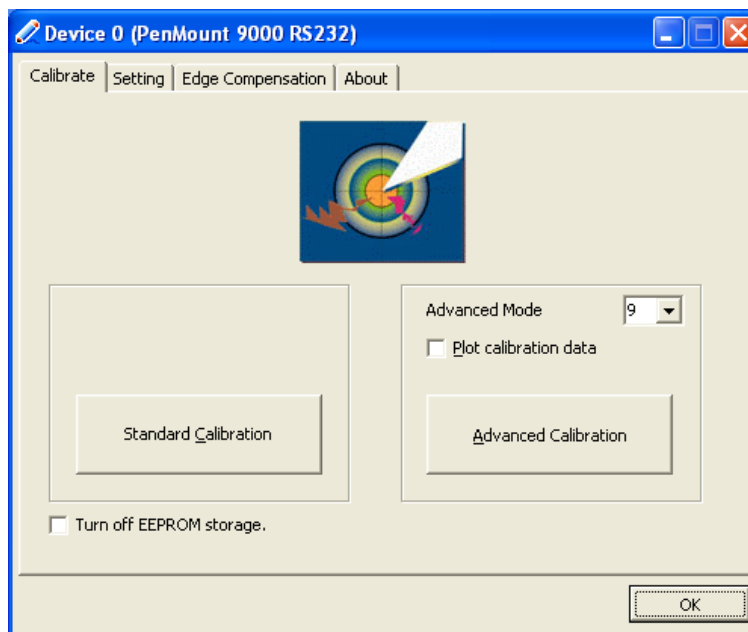
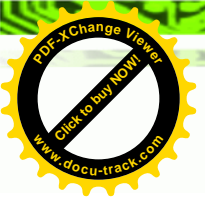


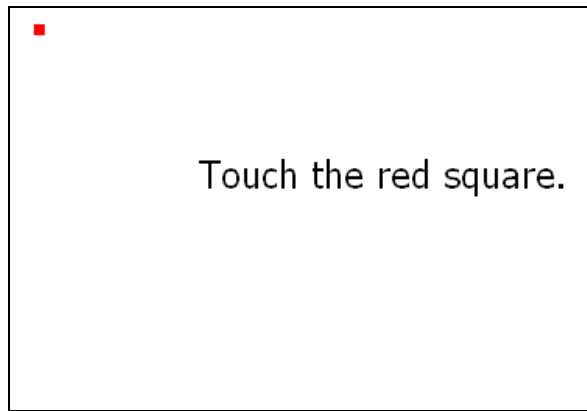
Figure 5-29: Calibration Initiation Screen

**Step 9:** The calibration screen in is shown. See **Figure 5-30**.





## UPC-V312-D525 Panel PC



**Figure 5-30: Calibration Screen**

**Step 10:** Follow the instructions. The user is asked touch the screen at five specified points after which the screen is calibrated.

### 5.8 GPS Driver Installation

To install the GPS driver, please do the following.

**Step 1:** Access the driver list. (See **Section 5.2**)

**Step 2:** Click “**GPS**” and select the folder which corresponds to the operating system.

**Step 3:** Double click the setup file.

**Step 4:** The **Welcome Screen** in **Figure 5-31** appears.

**Step 5:** Click **Next** to continue.

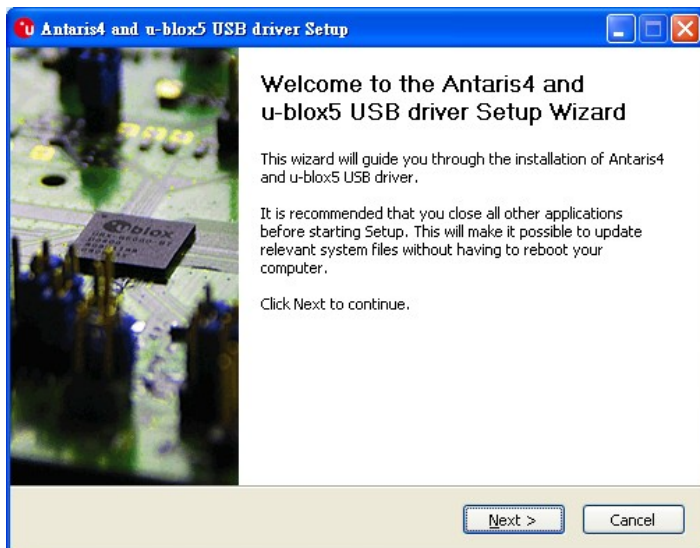


Figure 5-31: GPS Driver Welcome Screen

**Step 6:** The license agreement in Figure 5-32 appears.

**Step 7:** Read the License Agreement.

**Step 8:** Click I Agree to continue.

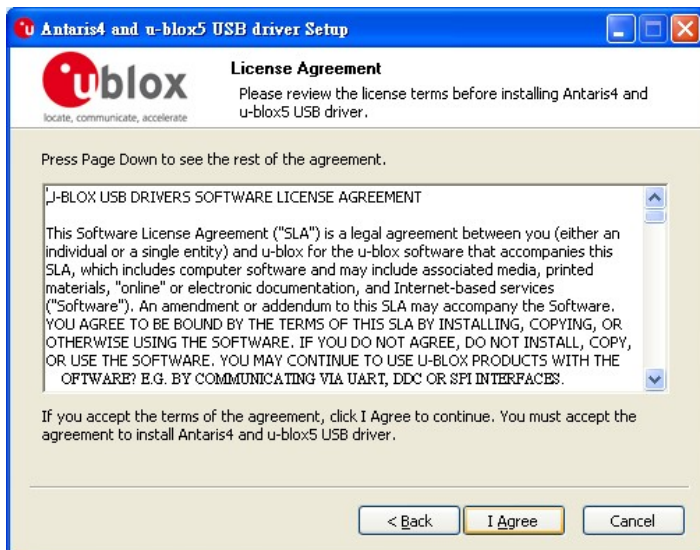


Figure 5-32: GPS Driver Choose Install Location

**Step 9:** The program begins to install.

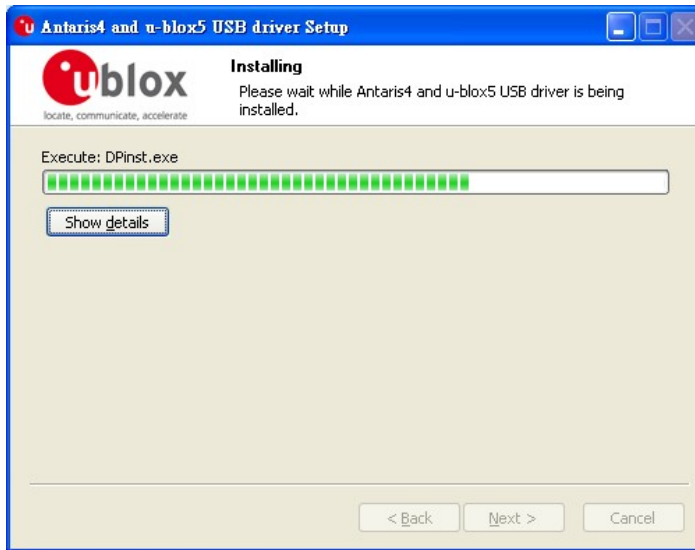
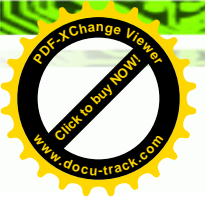


Figure 5-33: Installing GPS Driver

**Step 10:** When the driver installation is complete, the screen in **Figure 5-34** appears.

**Step 11:** Click **Finish** to save and exit.

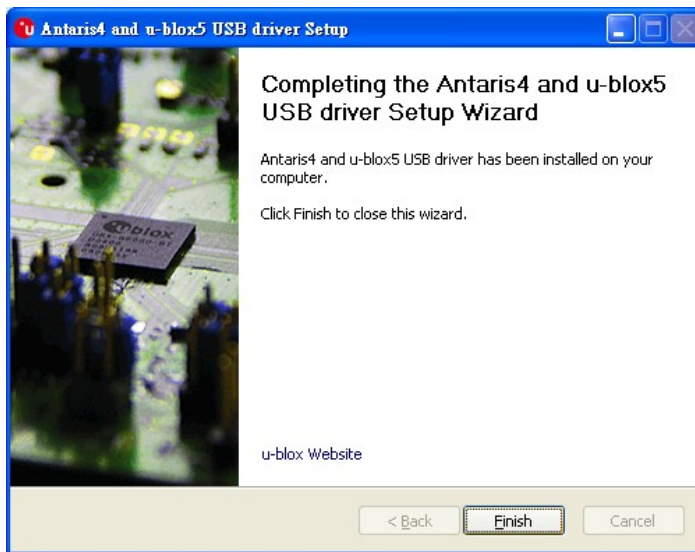


Figure 5-34: GPS Driver Installation Complete

## 5.9 CAN-bus Driver Installation

To install the CAN-bus driver, please follow the steps below.

**Step 1:** Open **Windows Control Panel (Figure 5-35)**.

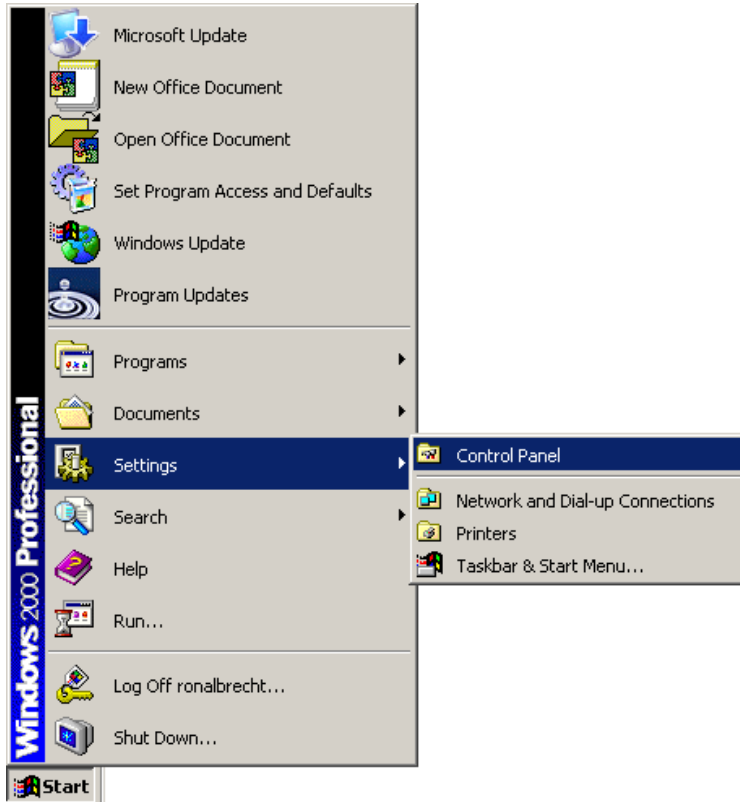


Figure 5-35: Windows Control Panel

**Step 2:** Double-click the **System** icon (Figure 5-36).

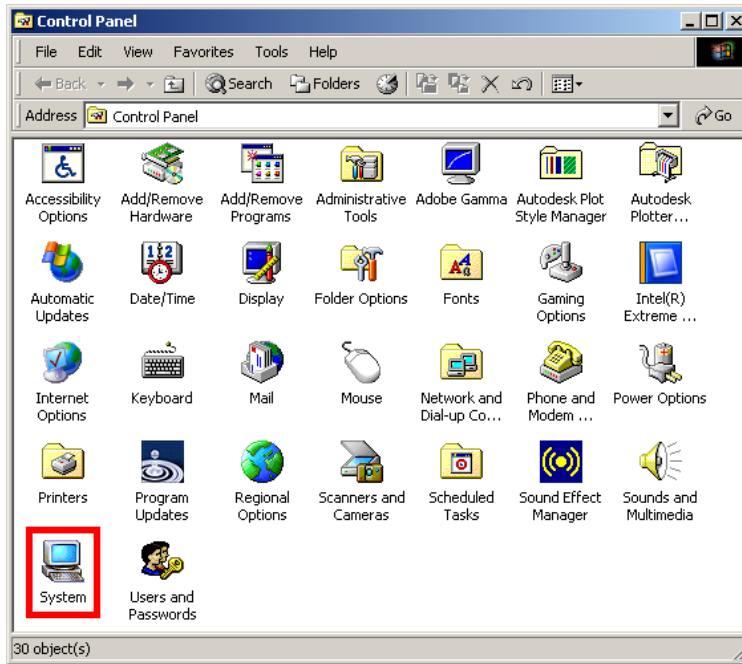
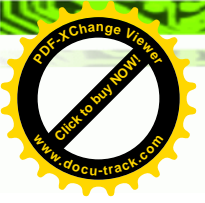
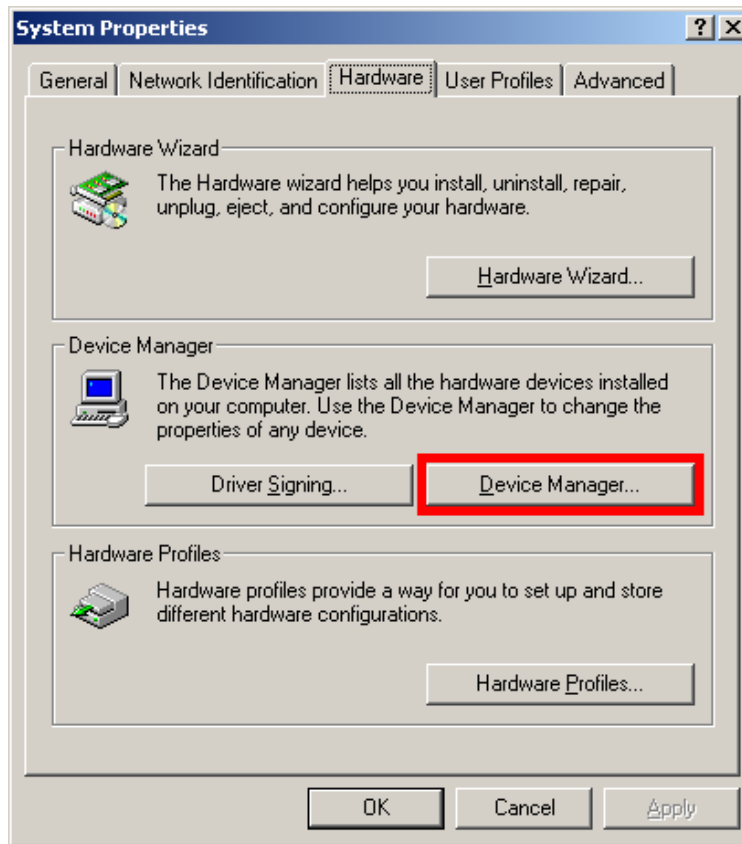


Figure 5-36: System Icon

**Step 3:** Click the **Device Manager** tab (Figure 5-37).



**Figure 5-37: Device Manager Tab**

- Step 4:** A list of system hardware devices appears.
- Step 5:** Double-click the listed device that has question marks next to it (this means Windows does not recognize the device).
- Step 6:** The **Device Driver Wizard** appears (**Figure 5-38**).

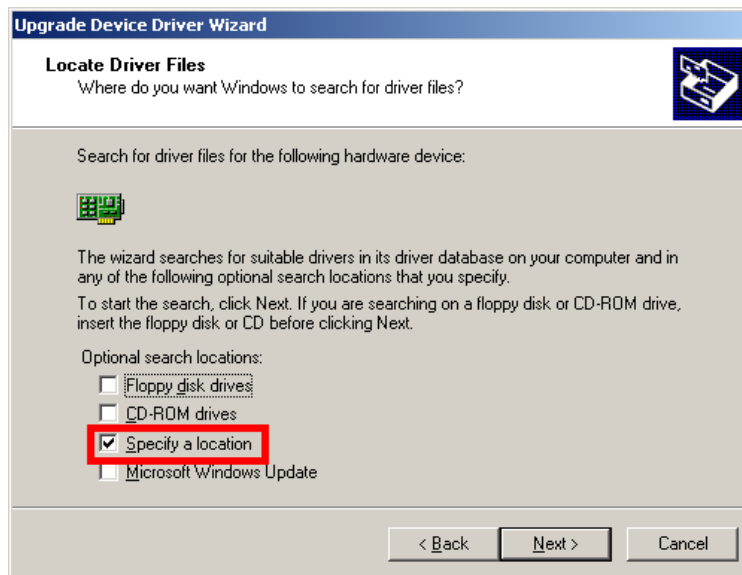
## UPC-V312-D525 Panel PC



**Figure 5-38: Search for Suitable Driver**

**Step 7:** Select “**Search for a suitable driver for my device (recommended)**,” and click **NEXT** to continue.

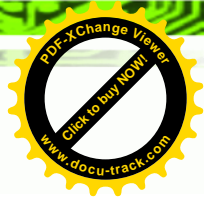
**Step 8:** Select “**Specify a Location**” in the **Locate Driver Files** window (Figure 5-39).



**Figure 5-39: Locate Driver Files**

**Step 9:** Click **NEXT** to continue.

**Step 10:** The **Locate File** window appears.

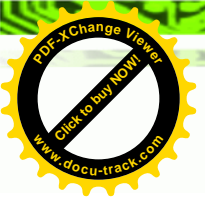


**Step 11:** Select the setup file under the “X:\CAN02\_Driver” directory in the **Locate File** window, where “X:\” is the system CD drive.

**Step 12:** Click **OPEN** and the driver is installed.





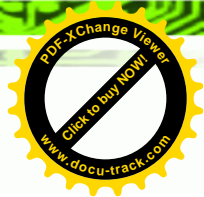


Appendix

A

# BIOS Configuration Options

---

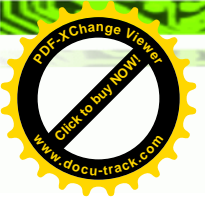


## A.1 BIOS Configuration Options

Below is a list of BIOS configuration options described in **Chapter 4**.

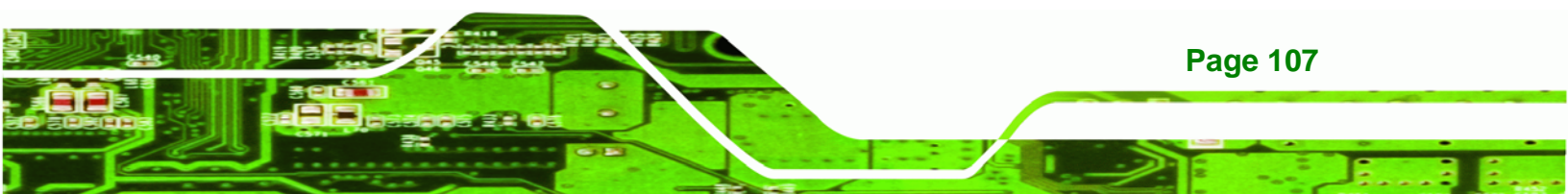
BIOS Information .....	52
System Date [xx/xx/xx] .....	52
System Time [xx:xx:xx] .....	53
ACPI Sleep State [S1 (CPU Stop Clock)] .....	54
ATA/IDE Configurations [Compatible] .....	56
Legacy IDE Channels [PATA Only] .....	57
USB Devices .....	57
Legacy USB Support [Enabled] .....	58
Serial Port [Enabled] .....	59
Change Settings [Auto] .....	59
Serial Port [Enabled] .....	60
Change Settings [Auto] .....	60
Serial Port [Enabled] .....	61
Change Settings [Auto] .....	61
Serial Port [Enabled] .....	61
Change Settings [Auto] .....	62
Serial Port [Enabled] .....	62
Change Settings [Auto] .....	62
Serial Port [Enabled] .....	63
Change Settings [Auto] .....	63
PC Health Status .....	65
Console Redirection [Disabled] .....	66
Terminal Type [ANSI] .....	67
Bits per second [115200] .....	67
Auto Recovery Function [Disabled] .....	68
High Definition Audio Controller [Enabled] .....	70
USB Function [Enabled] .....	70
Set Spread Spectrum function [Disabled] .....	71
WIFI Support [Enabled] .....	71
GPS Support [Disabled] .....	71
MIC Support [Enabled] .....	71

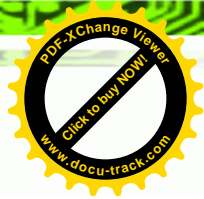




## UPC-V312-D525 Panel PC

Auto Dimming Support [Enabled] .....	71
DVMT Mode Select [DVMT Mode].....	72
DVMT/FIXED Memory [Maximum] .....	72
IGD - Boot Type [VBIOS Default].....	73
LCD Panel Type [1024x768 18bit].....	73
Backlight Control [Inverted].....	73
Bootup NumLock State [On].....	74
Quiet Boot [Enabled] .....	75
Launch PXE OpROM [Disabled].....	75
Boot Option #1 [PATA: IEI Technology Corp. ICF].....	75
Save Changes and Reset .....	76
Discard Changes and Reset .....	76
Restore Defaults .....	76
Save as User Defaults .....	76
Restore User Defaults .....	76



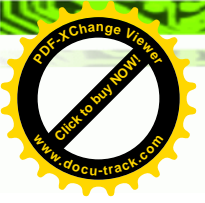


Appendix

**B**

# One Key Recovery

---



## UPC-V312-D525 Panel PC

### B.1 One Key Recovery Introduction

The IEI one key recovery is an easy-to-use front end for the Norton Ghost system backup and recovery tool. This tool provides quick and easy shortcuts for creating a backup and reverting to that backup or reverting to the factory default settings.



#### NOTE:

The latest One Key Recovery software provides an auto recovery function that allows a system running Microsoft Windows OS to automatically restore from the factory default image after encountering a Blue Screen of Death (BSOD) or a hang for around 10 minutes. Please refer to Section B.3 for the detailed setup procedure.

The IEI One Key Recovery tool menu is shown below.

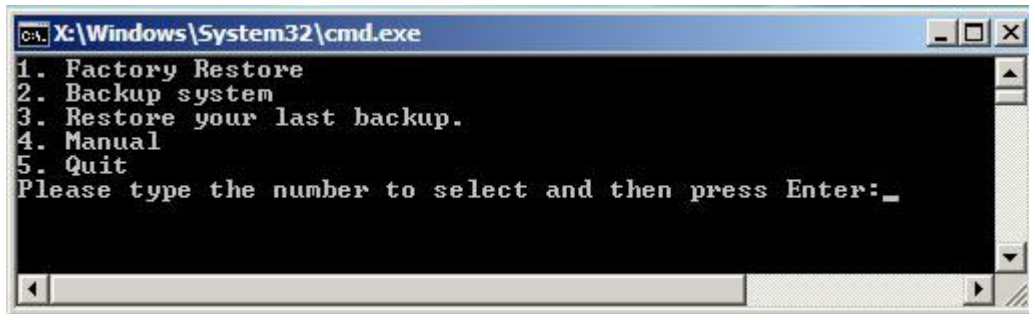
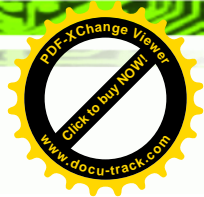


Figure B-1: IEI One Key Recovery Tool Menu

Prior to using the IEI One Key Recovery tool (as shown in **Figure B-1**) to backup or restore Windows system, five setup procedures are required.

1. Hardware and BIOS setup (see **Section B.2.1**)
2. Create partitions (see **Section B.2.2**)
3. Install operating system, drivers and system applications (see **Section B.2.3**)
4. Build the recovery partition (see **Section B.2.4**)
5. Create factory default image (see **Section B.2.5**)



After completing the five initial setup procedures as described above, users can access the recovery tool by pressing <F3> while booting up the system. The detailed information of each function is described in **Section B.5**.



**NOTE:**

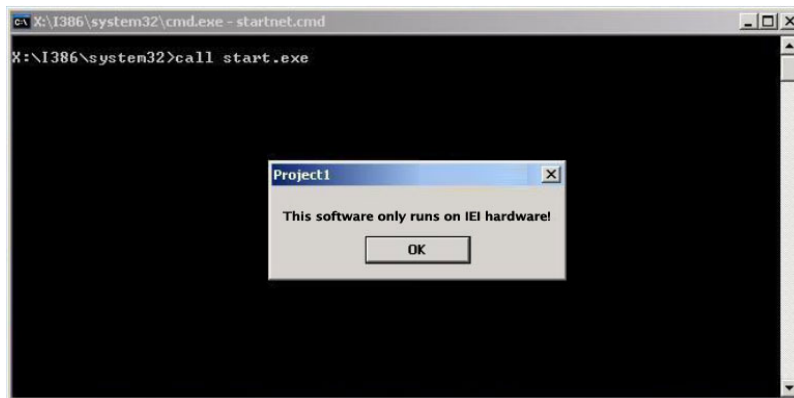
The initial setup procedures for Linux system are described in **Section B.3**.

### B.1.1 System Requirement



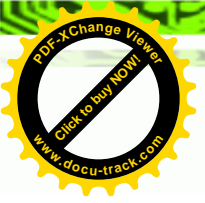
**NOTE:**

The recovery CD can only be used with IEI products. The software will fail to run and a warning message will appear when used on non-IEI hardware.



To create the system backup, the main storage device must be split into two partitions (three partitions for Linux). The first partition will be for the operating system, while the second partition will be invisible to the operating system and contain the backup made by the one key recovery software.

The partition created for recovery images must be big enough to contain both the factory default image and the user backup image. The size must be calculated before creating the



## UPC-V312-D525 Panel PC

partitions. Please take the following table as a reference when calculating the size of the partition.

	OS	OS Image after Ghost	Compression Ratio
<b>Windows® 7</b>	7 GB	5 GB	70%
<b>Windows® XPE</b>	776 MB	560 MB	70%
<b>Windows® CE 6.0</b>	36 MB	28 MB	77%



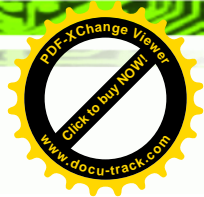
### NOTE:

Specialized tools are required to change the partition size if the operating system is already installed.

### B.1.2 Supported Operating System

The recovery CD is compatible with both Microsoft Windows and Linux operating systems (OS). The supported OS versions are listed below.

- Microsoft Windows
  - Windows XP (Service Pack 2 or 3 required)
  - Windows Vista
  - Windows 7
  - Windows CE 5.0
  - Windows CE 6.0
  - Windows XP Embedded
- Linux
  - Fedora Core 12 (Constantine)
  - Fedora Core 11 (Leonidas)
  - Fedora Core 10 (Cambridge)
  - Fedora Core 8 (Werewolf)
  - Fedora Core 7 (Moonshine)
  - RedHat RHEL-5.4
  - RedHat 9 (Ghirke)



- Ubuntu 8.10 (Intrepid)
- Ubuntu 7.10 (Gutsy)
- Ubuntu 6.10 (Edgy)
- Debian 5.0 (Lenny)
- Debian 4.0 (Etch)
- SuSe 11.2
- SuSe 10.3



**NOTE:**

Installing unsupported OS versions may cause the recovery tool to fail.

---

## B.2 Setup Procedure for Windows

Prior to using the recovery tool to backup or restore, a few setup procedures are required.

- Step 1:** Hardware and BIOS setup (see **Section B.2.1**)
- Step 2:** Create partitions (see **Section B.2.2**)
- Step 3:** Install operating system, drivers and system applications (see **Section B.2.3**)
- Step 4:** Build the recovery partition (see **Section B.2.4**) or build the auto recovery partition (see **Section B.3**)
- Step 5:** Create factory default image (see **Section B.2.5**)

The detailed descriptions are described in the following sections.

---

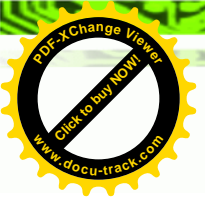


**NOTE:**

The setup procedures described below are for Microsoft Windows operating system users. For Linux, most of the setup procedures are the same except for several steps described in **Section B.3**.

---





## UPC-V312-D525 Panel PC

### B.2.1 Hardware and BIOS Setup

- Step 1:** Make sure the system is powered off and unplugged.
- Step 2:** Install a hard drive or SSD in the system. An unformatted and unpartitioned disk is recommended.
- Step 3:** Connect an optical disk drive to the system and insert the recovery CD.
- Step 4:** Turn on the system.
- Step 5:** Press the <DELETE> key as soon as the system is turned on to enter the BIOS.
- Step 6:** Select the connected optical disk drive as the 1<sup>st</sup> boot device. (**Boot → Boot Device Priority → 1<sup>st</sup> Boot Device**).
- Step 7:** Save changes and restart the computer. Continue to the next section for instructions on partitioning the internal storage.

### B.2.2 Create Partitions

To create the system backup, the main storage device must be split into two partitions (three partitions for Linux). The first partition will be for the operating system, while the second partition will be invisible to the operating system and contain the backup made by the one key recovery software.

- Step 1:** Put the recovery CD in the optical drive of the system.
- Step 2:** **Boot the system from recovery CD.** When prompted, press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient!

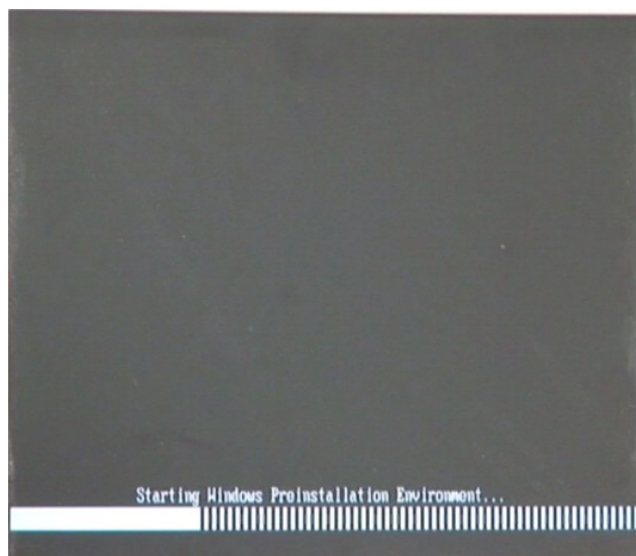


Figure B-2: Launching the Recovery Tool

**Step 3:** The recovery tool setup menu is shown as below.

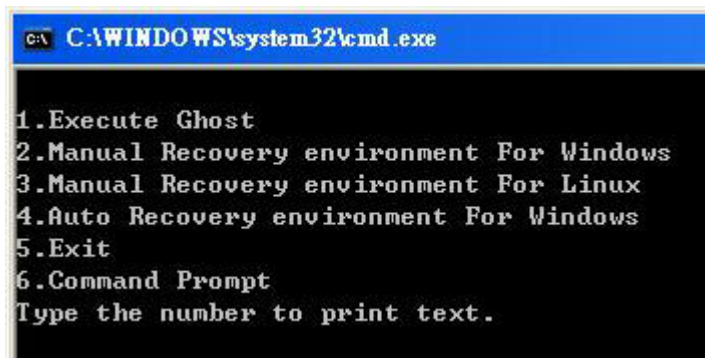
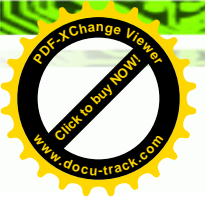


Figure B-3: Recovery Tool Setup Menu

**Step 4:** Press <6> then <Enter>.



```
C:\WINDOWS\system32\cmd.exe

1.Execute Ghost
2.Manual Recovery environment For Windows
3.Manual Recovery environment For Linux
4.Auto Recovery environment For Windows
5.Exit
6.Command Prompt
Type the number to print text.6
```

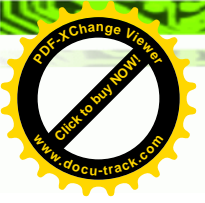
Figure B-4: Command Prompt

**Step 5:** The command prompt window appears. Type the following commands (marked in red) to create two partitions. One is for the OS installation; the other is for saving recovery files and images which will be an invisible partition. (Press <Enter> after entering each line below)

```
system32>diskpart
DISKPART>list vol
DISKPART>sel disk 0
DISKPART>create part pri size= ____
DISKPART>assign letter=N
DISKPART>create part pri size= ____
DISKPART>assign letter=F
DISKPART>exit
system32>format N: /fs:ntfs /q /y
system32>format F: /fs:ntfs /q /v:Recovery /y
system32>exit
```

```
X:\I386\SYSTEM32\CMD.EXE
X:\I386\SYSTEM32>diskpart → Starts the Microsoft disk partitioning tool.
Microsoft DiskPart version 5.2.3790.1830
Copyright (C) 1999-2001 Microsoft Corporation.
On computer: MININT-JUC
DISKPART> list vol → Show partition information
Volume ### Ltr Label Fs Type Size Status Info
-----
Volume 0 X CD_ROM CDFS DUD-ROM 405 MB Healthy Boot
Volume 1 D FAT32 Removeable 3854 MB Healthy
DISKPART> sel disk 0 → Select a disk
Disk 0 is now the selected disk.
DISKPART> create part pri size=2000 → Create partition 1 and assign a size.
This partition is for OS installation.
DiskPart succeeded in creating the specified partition.
DISKPART> assign letter=N → Assign partition 1 a code name (N).
DiskPart successfully assigned the drive letter or mount point.
DISKPART> create part pri size=1800 → Create partition 2 and assign a size.
This partition is for recovery images.
DiskPart succeeded in creating the specified partition.
DISKPART> assign letter=F → Assign partition 2 a code name (F).
DiskPart successfully assigned the drive letter or mount point.
DISKPART> exit → Exit diskpart
X:\I386\SYSTEM32>format n: /fs:ntfs /q /y → Format partition 1 (N) as NTFS format.
The type of the file system is RAW.
The new file system is NTFS.
QuickFormatting 2000M
Creating file system structures.
Format complete.
2048254 KB total disk space.
2035620 KB are available.
X:\I386\SYSTEM32>format f: /fs:ntfs /q /v:Recovery /y → Formate partition 2 (F) as NTFS formate and
name it as "Recovery".
The type of the file system is RAW.
The new file system is NTFS.
QuickFormatting 1804M
Creating file system structures.
Format complete.
1847474 KB total disk space.
1835860 KB are available.
X:\I386\SYSTEM32>exit → Exit Windows PE
```

Figure B-5: Partition Creation Commands



## UPC-V312-D525 Panel PC



### NOTE:

Use the following commands to check if the partitions were created successfully.

```
X:\I386\SYSTEM32>diskpart
Microsoft DiskPart version 5.2.3790.1830
Copyright (C) 1999-2001 Microsoft Corporation.
On computer: MININT-JUC

DISKPART> sel disk 0
Disk 0 is now the selected disk.

DISKPART> list part

   Partition ###   Type              Size              Offset
-----
   Partition 1     Primary           2000 MB           32 KB
   Partition 2     Primary           1804 MB          2000 MB

DISKPART> exit
```

**Step 6:** Press any key to exit the recovery tool and automatically reboot the system.

Please continue to the following procedure: Build the Recovery Partition.

### B.2.3 Install Operating System, Drivers and Applications

Install the operating system onto the unlabelled partition. The partition labeled "Recovery" is for use by the system recovery tool and should not be used for installing the operating system or any applications.



### NOTE:

The operating system installation program may offer to reformat the chosen partition. DO NOT format the partition again. The partition has already been formatted and is ready for installing the new operating system.

To install the operating system, insert the operating system installation CD into the optical drive. Restart the computer and follow the installation instructions.

## B.2.4 Building the Recovery Partition

- Step 1:** Put the recover CD in the optical drive.
- Step 2:** Start the system.
- Step 3:** **Boot the system from the recovery CD.** When prompted, press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient!

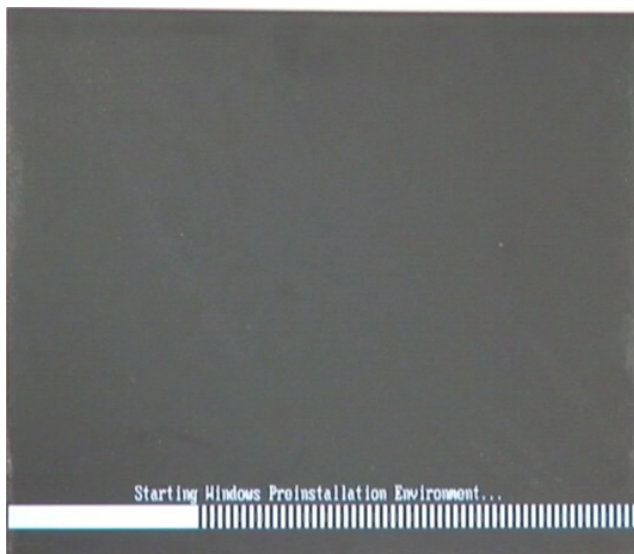


Figure B-6: Launching the Recovery Tool

- Step 4:** When the recovery tool setup menu appears, press <2> then <Enter>.

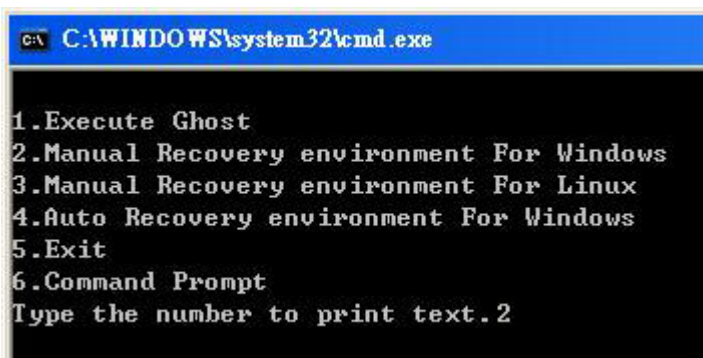
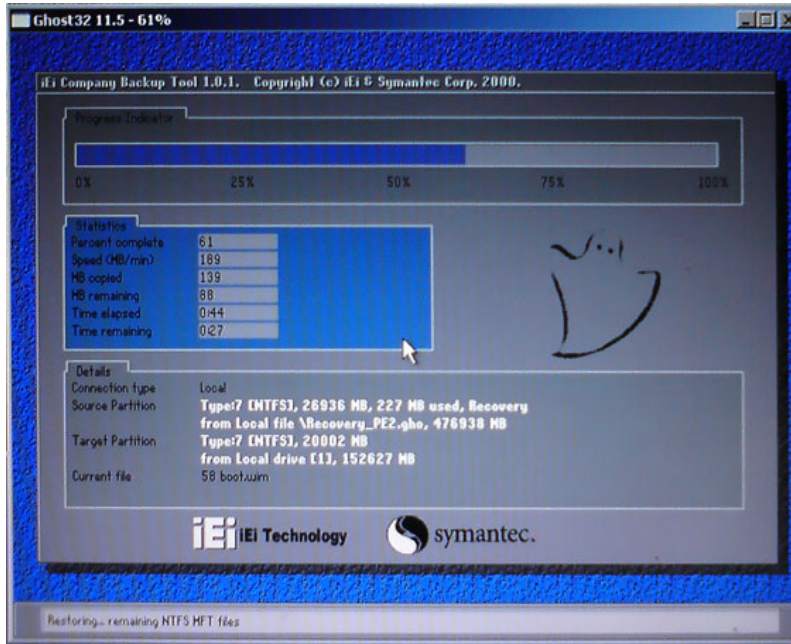


Figure B-7: Manual Recovery Environment for Windows

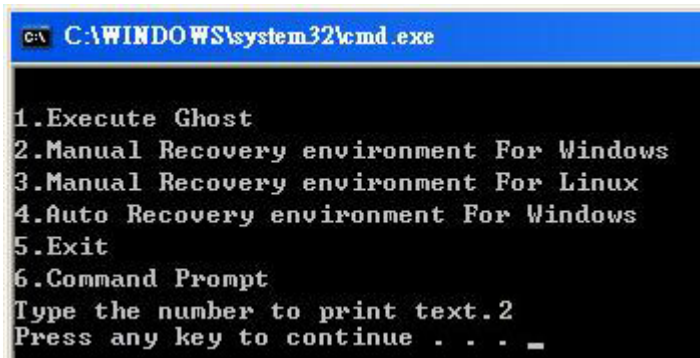
## UPC-V312-D525 Panel PC

**Step 5:** The Symantec Ghost window appears and starts configuring the system to build a recovery partition. In this process the partition created for recovery files in **Section B.2.2** is hidden and the recovery tool is saved in this partition.



**Figure B-8: Building the Recovery Partition**

**Step 6:** After completing the system configuration, press any key in the following window to reboot the system.



**Figure B-9: Press Any Key to Continue**

**Step 7:** Eject the recovery CD.

## B.2.5 Create Factory Default Image



### NOTE:

Before creating the factory default image, please configure the system to a factory default environment, including driver and application installations.

To create a factory default image, please follow the steps below.

**Step 1:** Turn on the system. When the following screen displays (**Figure B-10**), press the <F3> key to access the recovery tool. The message will display for 10 seconds, please press F3 before the system boots into the operating system.

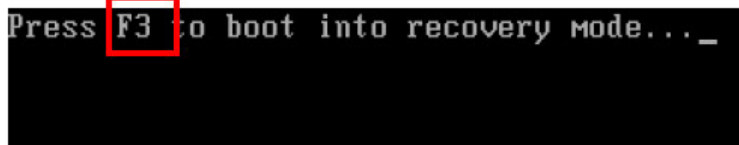


Figure B-10: Press F3 to Boot into Recovery Mode

**Step 2:** The recovery tool menu appears. Type <4> and press <Enter>. (**Figure B-11**)

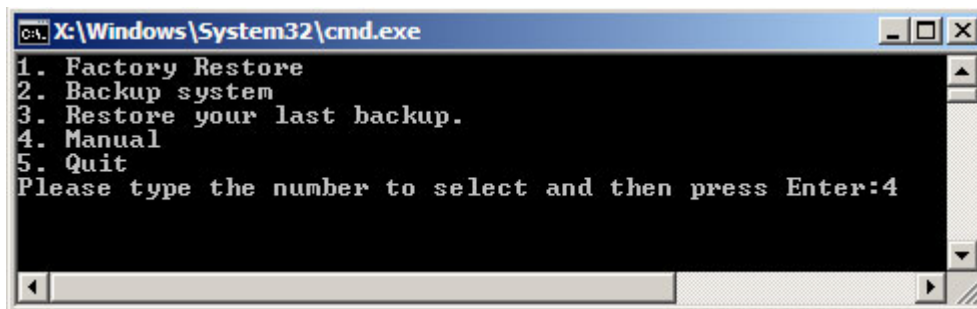


Figure B-11: Recovery Tool Menu

**Step 3:** The About Symantec Ghost window appears. Click **OK** button to continue.



## UPC-V312-D525 Panel PC

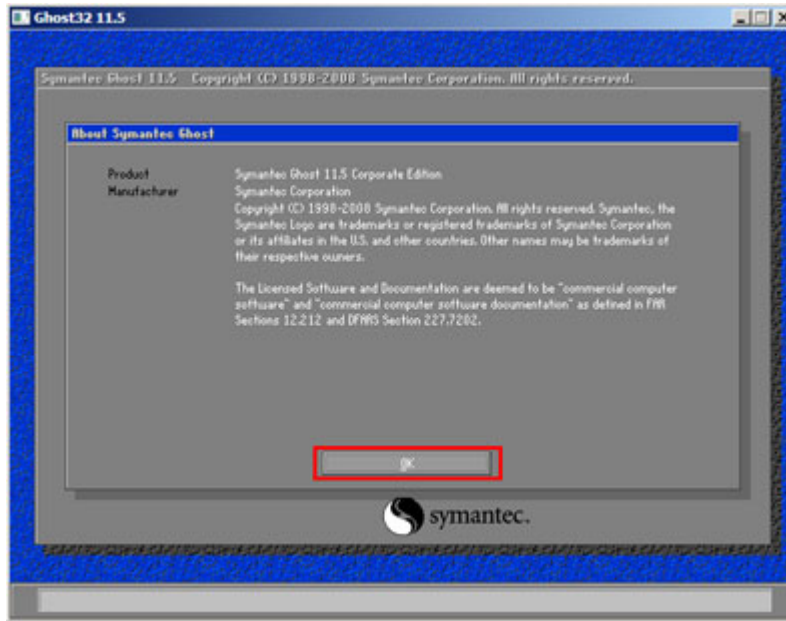


Figure B-12: About Symantec Ghost Window

**Step 4:** Use mouse to navigate to the option shown below (Figure B-13).

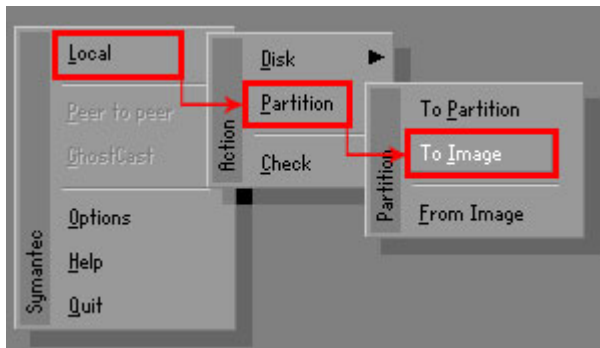


Figure B-13: Symantec Ghost Path

**Step 5:** Select the local source drive (Drive 1) as shown in Figure B-14. Then click OK.

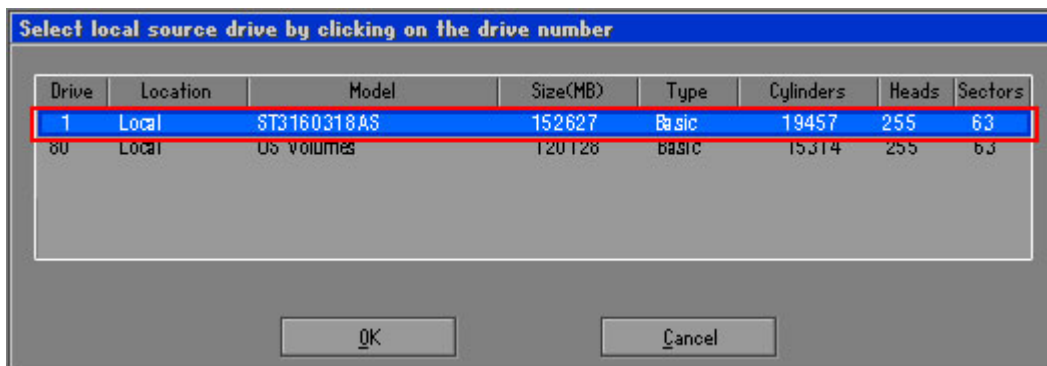


Figure B-14: Select a Local Source Drive

**Step 6:** Select a source partition (Part 1) from basic drive as shown in **Figure B-15**. Then click OK.

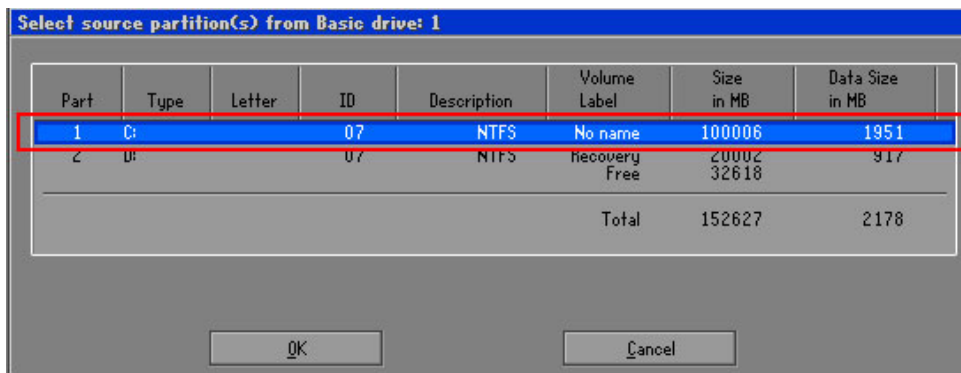


Figure B-15: Select a Source Partition from Basic Drive

**Step 7:** Select **1.2: [Recovery] NTFS drive** and enter a file name called **iei** (**Figure B-16**). Click **Save**. The factory default image will then be saved in the selected recovery drive and named **IEI.GHO**.



**WARNING:**

The file name of the factory default image must be **iei.GHO**.



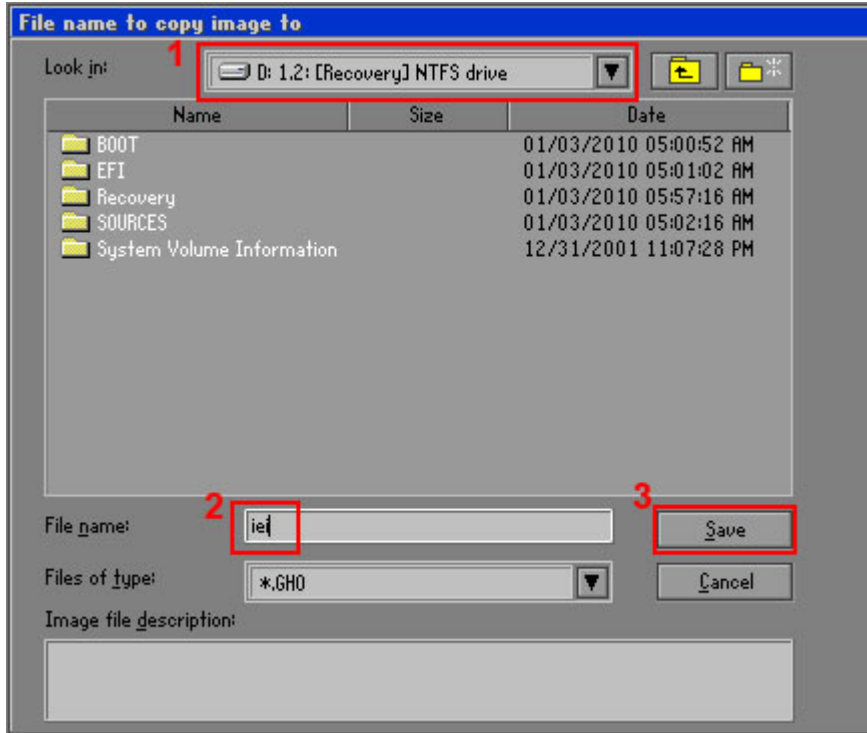
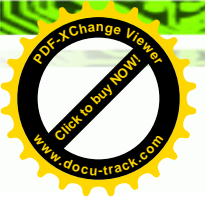


Figure B-16: File Name to Copy Image to

**Step 8:** When the Compress Image screen in **Figure B-17** prompts, click **High** to make the image file smaller.

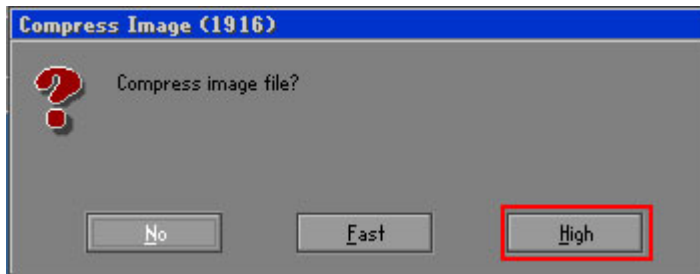
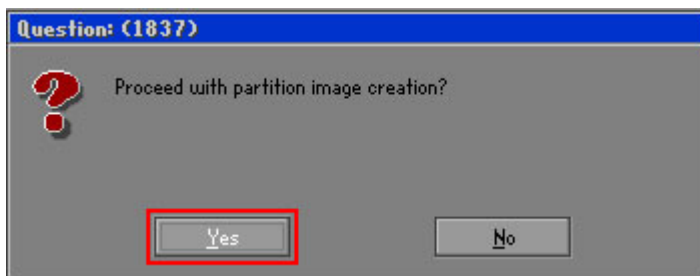


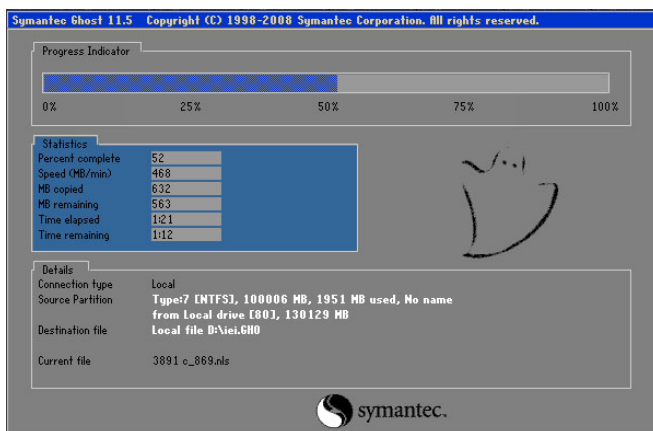
Figure B-17: Compress Image

**Step 9:** The Proceed with partition image creation window appears, click **Yes** to continue.



**Figure B-18: Image Creation Confirmation**

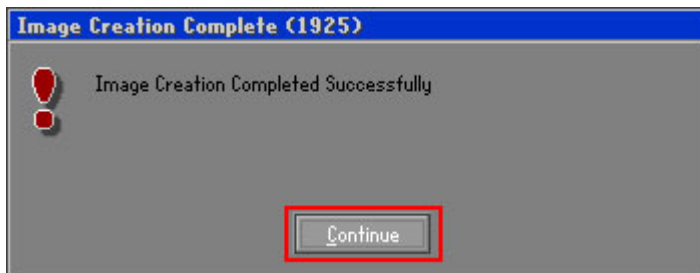
**Step 10:** The Symantec Ghost starts to create the factory default image (**Figure B-19**).



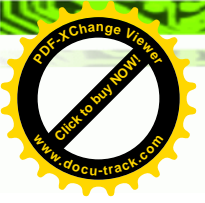
**Figure B-19: Image Creation Complete**

**Step 11:** When the image creation completes, a screen prompts as shown in **Figure B-20**.

Click **Continue** and close the Ghost window to exit the program.



**Figure B-20: Image Creation Complete**



## UPC-V312-D525 Panel PC

**Step 12:** The recovery tool main menu window is shown as below. Press any key to reboot the system.

```
C:\Windows\System32\cmd.exe
1. Factory Restore
2. Backup system
3. Restore your last backup.
4. Manual
5. Quit
Please type the number to select and then press Enter:4
Done!
Press any key to continue . . . _
```

Figure B-21: Press Any Key to Continue

### B.3 Auto Recovery Setup Procedure

The auto recovery function allows a system to automatically restore from the factory default image after encountering a Blue Screen of Death (BSoD) or a hang for around 10 minutes. To use the auto recovery function, follow the steps described in the following sections.



#### CAUTION:

The setup procedure may include a step to create a factory default image. It is suggested to configure the system to a factory default environment before the configuration, including driver and application installations.

**Step 1:** Follow the steps described in **Section B.2.1 ~ Section B.2.3** to setup BIOS, create partitions and install operating system.

**Step 2:** Install the auto recovery utility into the system by double clicking the **Utility/AUTORECOVERY-SETUP.exe** in the One Key Recovery CD. This utility **MUST** be installed in the system, otherwise, the system will automatically restore from the factory default image every ten (10) minutes.



Figure B-22: Auto Recovery Utility

**Step 3:** Reboot the system from the recovery CD. When prompted, press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient!

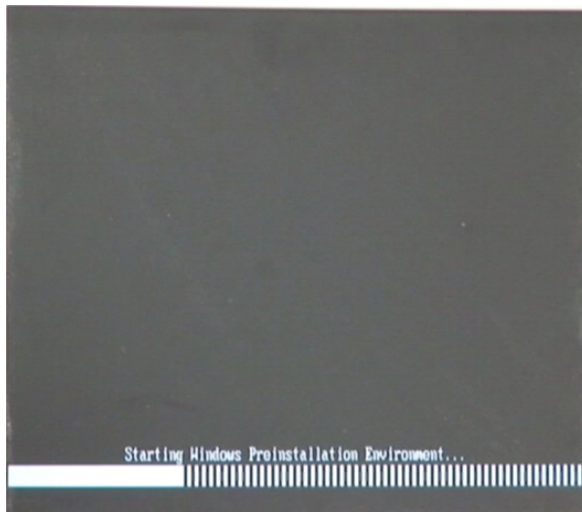


Figure B-23: Launching the Recovery Tool

**Step 4:** When the recovery tool setup menu appears, press <4> then <Enter>.

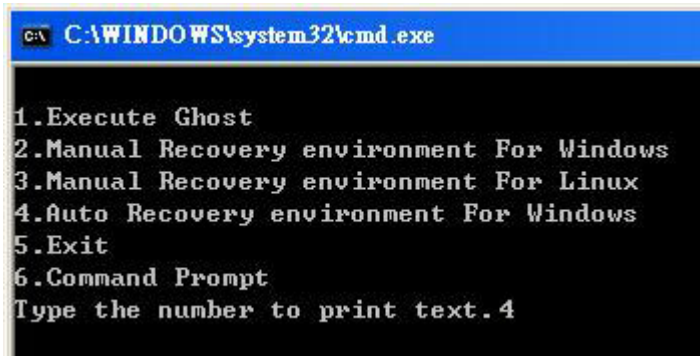
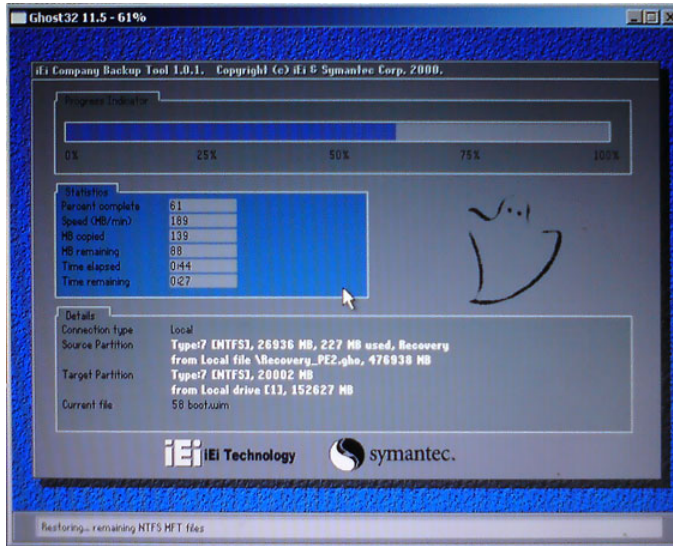


Figure B-24: Auto Recovery Environment for Windows

## UPC-V312-D525 Panel PC

**Step 5:** The Symantec Ghost window appears and starts configuring the system to build an auto recovery partition. In this process the partition created for recovery files in **Section B.2.2** is hidden and the auto recovery tool is saved in this partition.



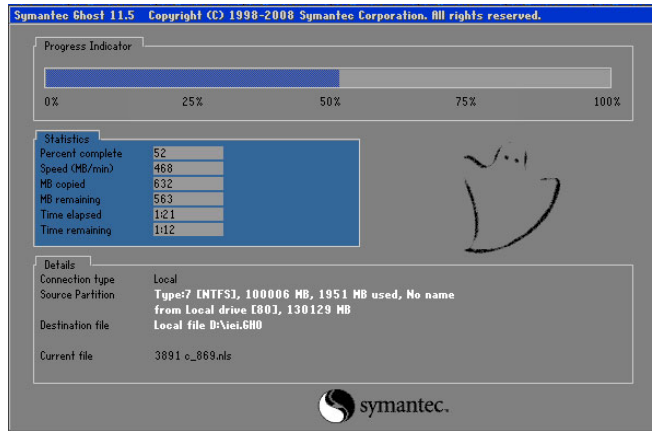
**Figure B-25: Building the Auto Recovery Partition**

**Step 6:** After completing the system configuration, the following message prompts to confirm whether to create a factory default image. Type **Y** to have the system create a factory default image automatically. Type **N** within 6 seconds to skip this process (The default option is YES). It is suggested to choose YES for this option.



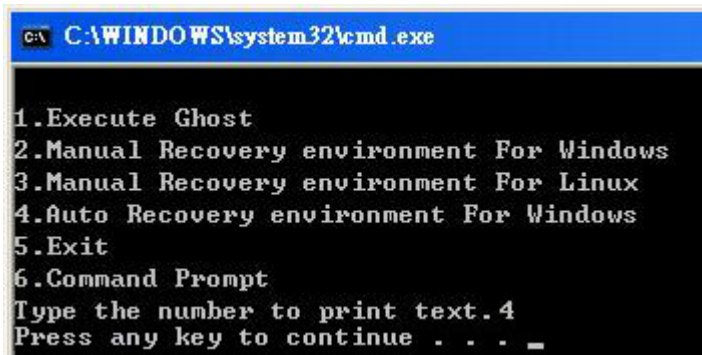
**Figure B-26: Factory Default Image Confirmation**

**Step 7:** The Symantec Ghost starts to create the factory default image (Figure B-27).



**Figure B-27: Image Creation Complete**

**Step 8:** After completing the system configuration, press any key in the following window to restart the system.



**Figure B-28: Press any key to continue**

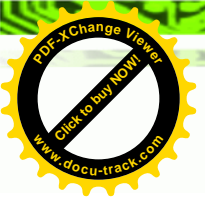
**Step 9:** Eject the One Key Recovery CD and restart the system.

**Step 10:** Press the <DELETE> key as soon as the system is turned on to enter the BIOS.

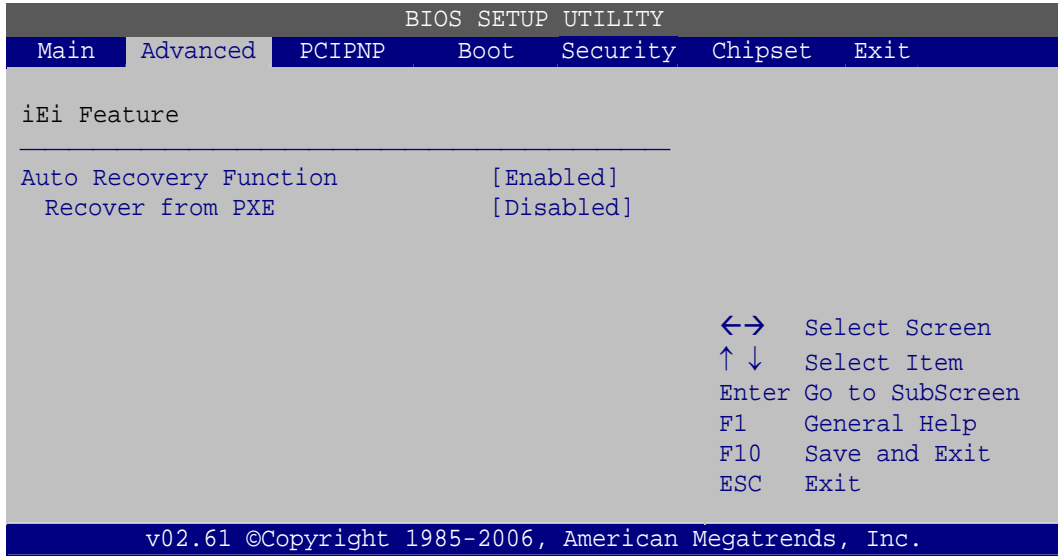
**Step 11:** Enable the Auto Recovery Function option (**Advanced** → **iEi Feature** → **Auto Recovery Function**).







## UPC-V312-D525 Panel PC



### BIOS Menu 19: IEI Feature

**Step 12:** Save changes and restart the system. If the system encounters a Blue Screen of Death (BSoD) or a hang for around 10 minutes, it will automatically restore from the factory default image.



### CAUTION:

The auto recovery function can only apply on a Microsoft Windows system running the following OS versions:

- Windows XP
- Windows Vista
- Windows 7

## B.4 Setup Procedure for Linux

The initial setup procedure for Linux system is mostly the same with the procedure for Microsoft Windows. Please follow the steps below to setup recovery tool for Linux OS.

**Step 1: Hardware and BIOS setup.** Refer to **Section B.2.1**.

**Step 2: Install Linux operating system.** Make sure to install GRUB (v0.97 or earlier) MBR type and Ext3 partition type. Leave enough space on the hard drive to create the recover partition later.



**NOTE:**

If the Linux OS is not installed with GRUB (v0.97 or earlier) and Ext3, the Symantec Ghost may not function properly.

While installing Linux OS, please create two partitions:

- Partition 1: /
- Partition 2: **SWAP**



**NOTE:**

Please reserve enough space for partition 3 for saving recovery images.

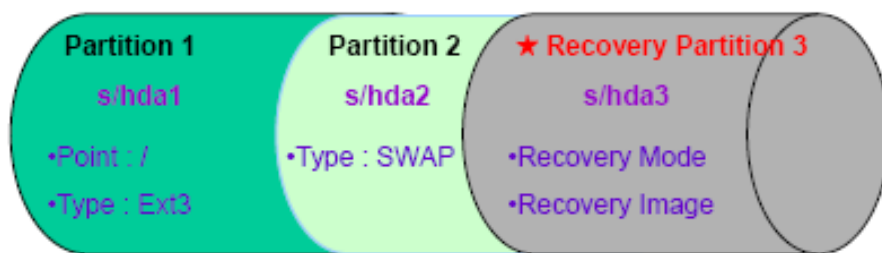
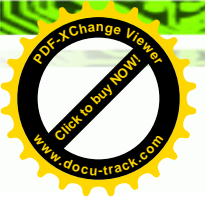


Figure B-29: Partitions for Linux

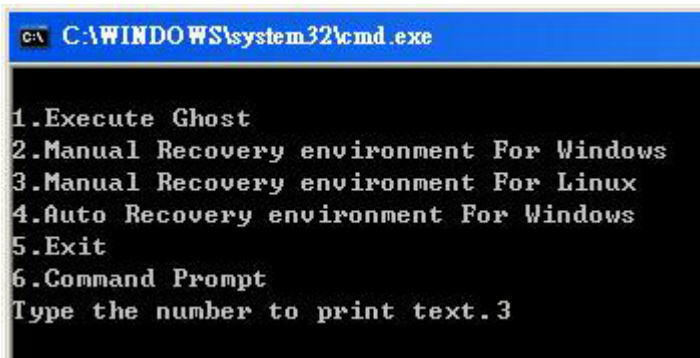
**Step 3: Create a recovery partition.** Insert the recovery CD into the optical disk drive. Follow **Step 1 ~ Step 3** described in **Section B.2.2**. Then type the following commands (marked in red) to create a partition for recovery images.

```
system32>>diskpart  
DISKPART>list vol  
DISKPART>sel disk 0
```



```
DISKPART>create part pri size= ____  
DISKPART>assign letter=N  
DISKPART>exit  
system32>format N: /fs:ntfs /q /v:Recovery /y  
system32>exit
```

**Step 4:** Build the recovery partition. Press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient. When the recovery tool setup menu appears, type <3> and press <Enter> (**Figure B-30**). The Symantec Ghost window appears and starts configuring the system to build a recovery partition. After completing the system configuration, press any key to reboot the system. Eject the recovery CD.



**Figure B-30: Manual Recovery Environment for Linux**

**Step 5:** Access the recovery tool main menu by modifying the “menu.lst”. To first access the recovery tool main menu, the menu.lst must be modified. In Linux, enter Administrator (root). When prompt appears, type:

```
cd /boot/grub  
vi menu.lst
```

```
Fedora release 9 (Sulphur)
Kernel 2.6.25-14.fc9.i686 on an i686 (tty2)

localhost login: root
Password:
[root@localhost ~]# cd /boot/grub/
[root@localhost grub]# vi menu.lst _
```

Figure B-31: Access menu.lst in Linux (Text Mode)

**Step 6:** Modify the menu.lst as shown below.

```
#boot=/dev/sda
default=0
timeout=10 ← Modify timeout=10
splashimage=(hd0,0)/grub/splash.xpm.gz
hiddenmenu
title Fedora (2.6.25-14.fc9.i686)
    root (hd0,0)
    kernel /vmlinuz-2.6.25-14.fc9.i686 ro root=UUID=10f1acda
    ac38b5c78910 rhgb quiet
    initrd /initrd-2.6.25-14.fc9.i686.img

title Recovery Partition
root (hd0,2) ← Type command
makeactive
chainloader +1
```

- **Type command:**  
**title Recovery Partition**  
**root (hd0,2)**  
**makeactive**  
**chainloader +1**

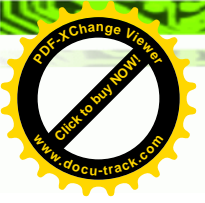
**Step 7:** The recovery tool menu appears. (Figure B-32)

```
1. Factory Restore
2. Backup system
3. Restore your last backup.
4. Manual
5. Quit
Please type the number to select and then press Enter:
```

Figure B-32: Recovery Tool Menu

**Step 8:** Create a factory default image. Follow **Step 2 ~ Step 12** described in **Section B.2.5** to create a factory default image.





## B.5 Recovery Tool Functions

After completing the initial setup procedures as described above, users can access the recovery tool by pressing <F3> while booting up the system. However, if the setup procedure in Section B.3 has been completed and the auto recovery function is enabled, the system will automatically restore from the factory default image without pressing the F3 key. The recovery tool main menu is shown below.

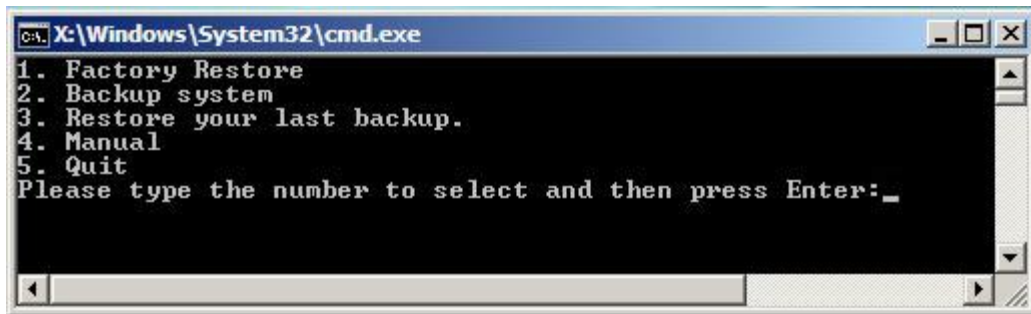


Figure B-33: Recovery Tool Main Menu

The recovery tool has several functions including:

1. **Factory Restore:** Restore the factory default image (iei.GHO) created in Section B.2.5.
2. **Backup system:** Create a system backup image (iei\_user.GHO) which will be saved in the hidden partition.
3. **Restore your last backup:** Restore the last system backup image
4. **Manual:** Enter the Symantec Ghost window to configure manually.
5. **Quit:** Exit the recovery tool and restart the system.



### WARNING:

Please do not turn off the system power during the process of system recovery or backup.



**WARNING:**

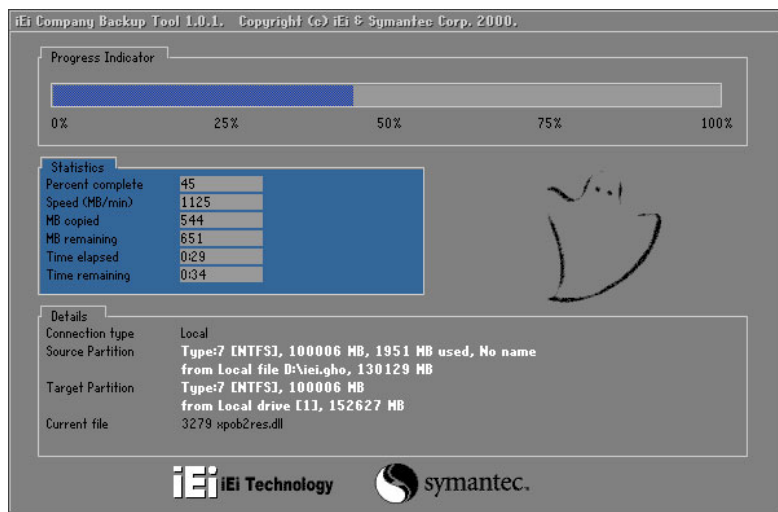
All data in the system will be deleted during the system recovery. Please backup the system files before restoring the system (either Factory Restore or Restore Backup).

### B.5.1 Factory Restore

To restore the factory default image, please follow the steps below.

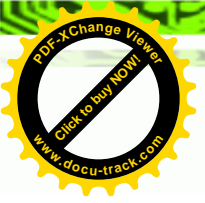
**Step 1:** Type <1> and press <Enter> in the main menu.

**Step 2:** The Symantec Ghost window appears and starts to restore the factory default. A factory default image called **iei.GHO** is created in the hidden Recovery partition.



**Figure B-34: Restore Factory Default**

**Step 3:** The screen shown in **Figure B-35** appears when completed. Press any key to reboot the system.



# UPC-V312-D525 Panel PC

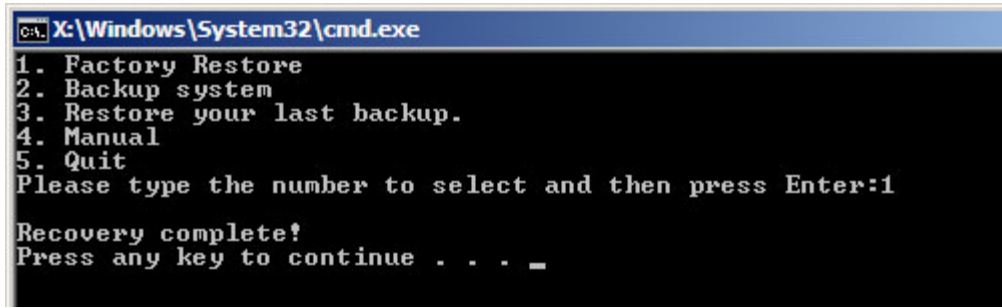


Figure B-35: Recovery Complete Window

## B.5.2 Backup System

To backup the system, please follow the steps below.

**Step 1:** Type <2> and press <Enter> in the main menu.

**Step 2:** The Symantec Ghost window appears and starts to backup the system. A backup image called `iei_user.GHO` is created in the hidden Recovery partition.

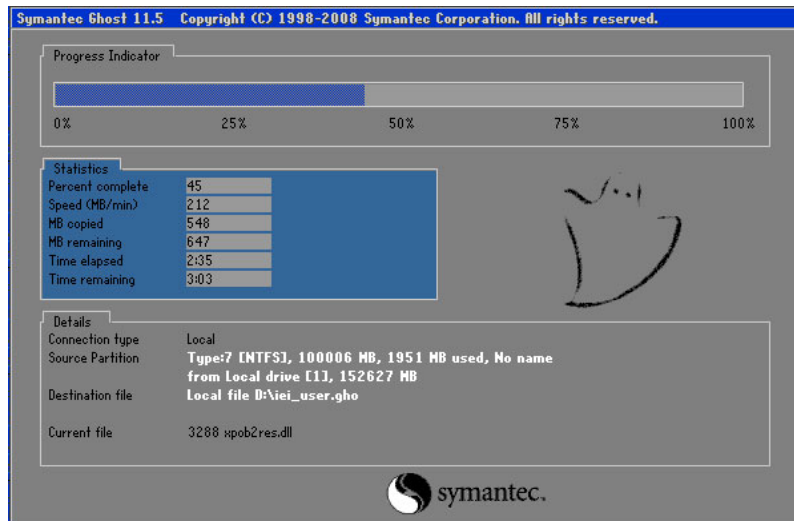


Figure B-36: Backup System

**Step 3:** The screen shown in **Figure B-37** appears when system backup is complete. Press any key to reboot the system.

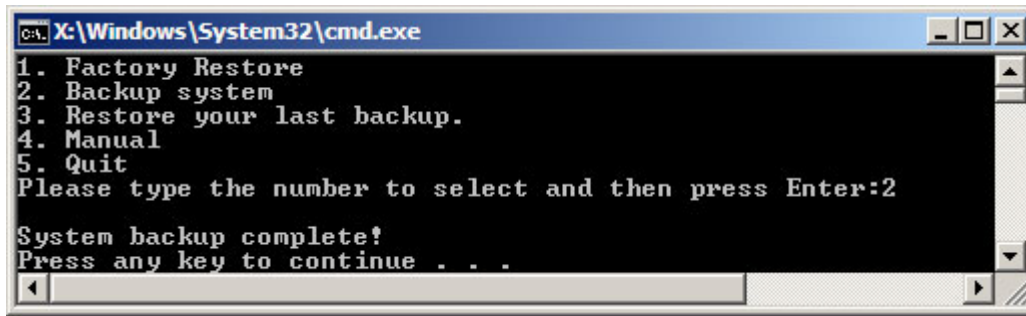


Figure B-37: System Backup Complete Window

### B.5.3 Restore Your Last Backup

To restore the last system backup, please follow the steps below.

**Step 1:** Type <3> and press <Enter> in the main menu.

**Step 2:** The Symantec Ghost window appears and starts to restore the last backup image (iei\_user.GHO).

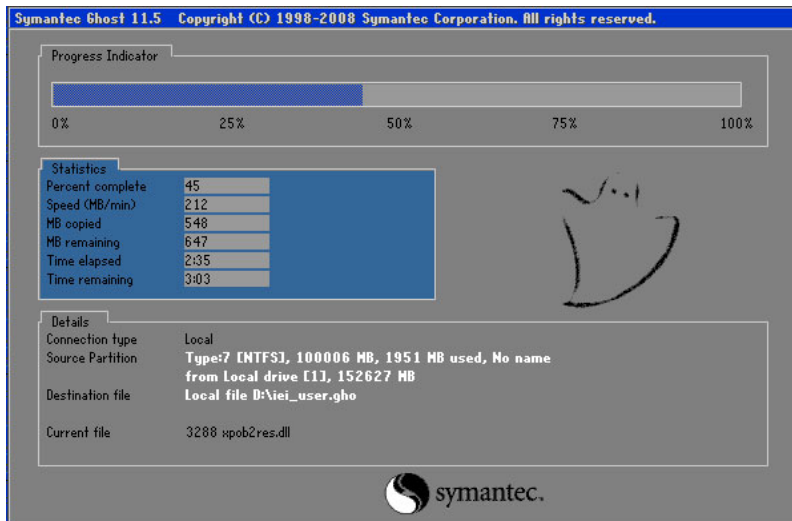
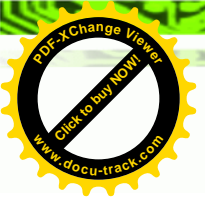


Figure B-38: Restore Backup

**Step 3:** The screen shown in **Figure B-39** appears when backup recovery is complete. Press any key to reboot the system.





## UPC-V312-D525 Panel PC

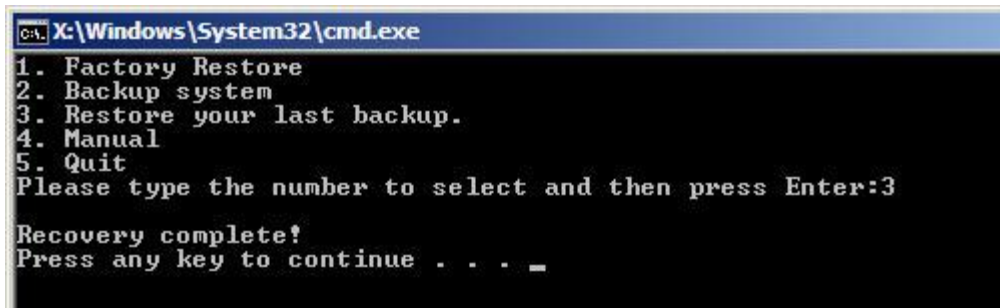


Figure B-39: Restore System Backup Complete Window

### B.5.4 Manual

To restore the last system backup, please follow the steps below.

**Step 1:** Type <4> and press <Enter> in the main menu.

**Step 2:** The Symantec Ghost window appears. Use the Ghost program to backup or recover the system manually.

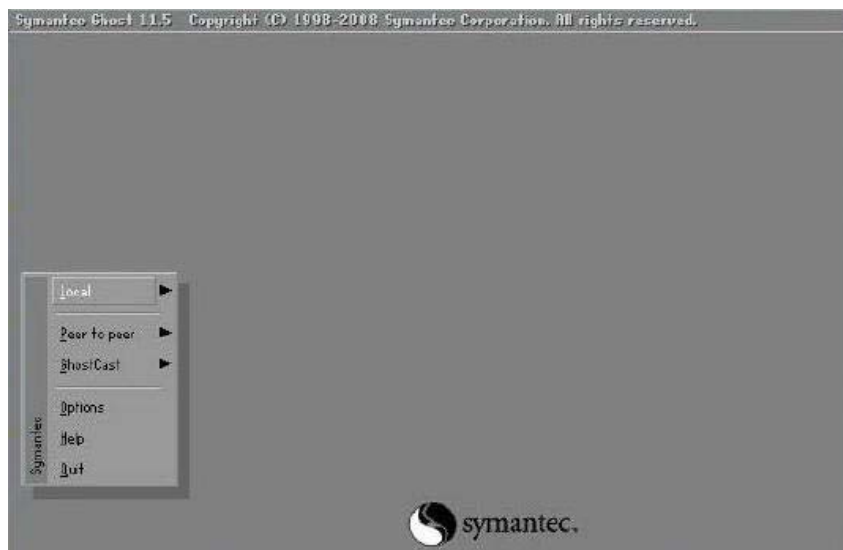
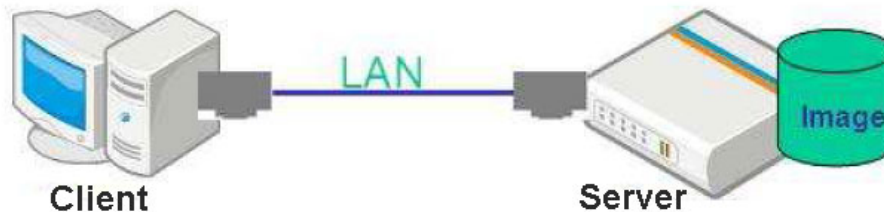


Figure B-40: Symantec Ghost Window

**Step 3:** When backup or recovery is completed, press any key to reboot the system.

## B.6 Restore Systems from a Linux Server through LAN

The One Key Recovery allows a client system to automatically restore to a factory default image saved in a Linux system (the server) through LAN connectivity after encountering a Blue Screen of Death (BSOD) or a hang for around 10 minutes. To be able to use this function, the client system and the Linux system MUST reside in the same domain.



### NOTE:

The supported client OS includes:

- Windows 2000
- Windows XP
- Windows Vista
- Windows 7
- Windows CE
- Windows XP Embedded

Prior to restoring client systems from a Linux server, a few setup procedures are required.

**Step 1:** Configure DHCP server settings

**Step 2:** Configure TFTP settings

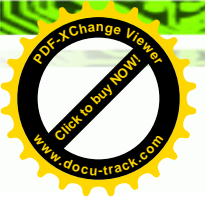
**Step 3:** Configure One Key Recovery server settings

**Step 4:** Start DHCP, TFTP and HTTP

**Step 5:** Create a shared directory

**Step 6:** Setup a client system for auto recovery

The detailed descriptions are described in the following sections. In this document, two types of Linux OS are used as examples to explain the configuration process – CentOS 5.5 (Kernel 2.6.18) and Debian 5.0.7 (Kernel 2.6.26).



## UPC-V312-D525 Panel PC

### B.6.1 Configure DHCP Server Settings

**Step 1:** Install the DHCP

`#yum install dhcp` (CentOS, commands marked in red)

`#apt-get install dhcp3-server` (Debian, commands marked in blue)

**Step 2:** Confirm the operating system default settings: dhcpd.conf.

#### CentOS

Use the following command to show the DHCP server sample location:

`#vi /etc/dhcpd.conf`

The DHCP server sample location is shown as below:

```
# DHCP Server Configuration file.
# see /usr/share/doc/dhcp*/dhcpd.conf.sample
```

Use the following command to copy the DHCP server sample to etc/dhcpd.conf:

`#cp /usr/share/doc/dhcp-3.0.5/dhcpd.conf.sample /etc/dhcpd.conf`

`#vi /etc/dhcpd.conf`

```
ddns-update-style interim;
ignore client-updates;

subnet 192.168.0.0 netmask 255.255.255.0 {
# --- default gateway
    option routers                192.168.0.2;
    option subnet-mask            255.255.255.0;

    option nis-domain             "domain.org";
    option domain-name            "domain.org";
    option domain-name-servers   192.168.0.1;
    next-server 192.168.0.6;
    filename "pxelinux.0";
    option time-offset            -18000; # Eastern Standard Time
    option ntp-servers            192.168.1.1;
}
```

#### Debian

`#vi /etc/dhcpd.conf`

Edit “/etc/dhcpd.conf” for your environment. For example, add

`next-server PXE server IP address;`

filename "pxelinux.0";

```
ddns-update-style interim;
ignore client-updates;

subnet 192.168.0.0 netmask 255.255.255.0 {
# --- default gateway
    option routers                192.168.0.2;
    option subnet-mask            255.255.255.0;

    option nis-domain             "domain.org";
    option domain-name            "domain.org";
    option domain-name-servers   192.168.0.1;
    next-server 192.168.0.6;
    filename "pxelinux.0";
    option time-offset            -18000; # Eastern Standard Time
    option ntp-servers            192.168.1.1;
}
```

## B.6.2 Configure TFTP Settings

**Step 1:** Install the tftp, httpd and syslinux.

```
#yum install tftp-server httpd syslinux (CentOS)
```

```
#apt-get install tftpd-hpa xinetd syslinux (Debian)
```

**Step 2:** Enable the TFTP server by editing the "/etc/xinetd.d/tftp" file and make it use the remap file. The "-vvv" is optional but it could definitely help on getting more information while running the remap file. For example:

### CentOS

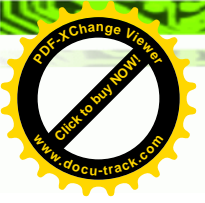
```
#vi /etc/xinetd.d/tftp
```

Modify:

```
disable = no
```

```
server_args = -s /tftpboot -m /tftpboot/tftpd.remap -vvv_
```

```
socket_type      = dgram
protocol         = udp
wait            = yes
user            = root
server          = /usr/sbin/in.tftpd
server_args     = -s /tftpboot -m /tftpboot/tftpd.remap -vvv
disable         = no
per_source      = 11
cps             = 100 2
flags           = IPv4
```



## UPC-V312-D525 Panel PC

### Debian

Replace the TFTP settings from “inetd” to “xinetd” and annotate the “inetd” by adding “#”.

`#vi /etc/inetd.conf`

Modify: `#tftp dgram udp wait root /usr/sbin.....` (as shown below)

```
#:BOOT: TFTP service is provided primarily for booting. Most sites
#      run this only on machines acting as "boot servers."
#tftp  dgram  udp    wait  root  /usr/sbin/in.tftpd /usr/sbin/in.tftpd -s
      /var/lib/tftpboot
```

`#vi /etc/xinetd.d/tftp`

```
socket_type      = dgram
protocol         = udp
wait             = yes
user             = root
server           = /usr/sbin/in.tftpd
server_args      = -s /tftpboot -m /tftpboot/tftpd.remap -vvv
disable          = no
per_source       = 11
cps              = 100 2
flags            = IPv4
```

### B.6.3 Configure One Key Recovery Server Settings

**Step 1:** Copy the **Utility/RECOVERYR10.TAR.BZ2** package from the One Key Recovery CD to the system (server side).



**Step 2:** Extract the recovery package to /.

```
#cp RecoveryR10.tar.bz2 /
#cd /
#tar -xvzf RecoveryR10.tar.bz2
```

**Step 3:** Copy “pxelinux.0” from “syslinux” and install to “/tftpboot”.

```
#cp /usr/lib/syslinux/pxelinux.0 /tftpboot/
```

## B.6.4 Start the DHCP, TFTP and HTTP

Start the DHCP, TFTP and HTTP. For example:

### CentOS

```
#service xinetd restart
```

```
#service httpd restart
```

```
#service dhcpd restart
```

### Debian

```
#/etc/init.d/xinetd reload
```

```
#/etc/init.d/xinetd restart
```

```
#/etc/init.d/dhcp3-server restart
```

## B.6.5 Create Shared Directory

**Step 1:** Install the samba.

```
#yum install samba
```

**Step 2:** Create a shared directory for the factory default image.

```
#mkdir /share
```

```
#cd /share
```

```
#mkdir /image
```

```
#cp iei.gho /image
```



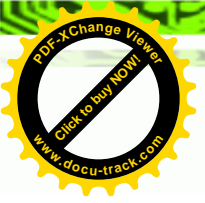
### **WARNING:**

The file name of the factory default image must be **iei.gho**.

---

**Step 3:** Confirm the operating system default settings: smb.conf.

```
#vi /etc/samba/smb.conf
```



## UPC-V312-D525 Panel PC

Modify:

[image]

```
comment = One Key Recovery
```

```
path = /share/image
```

```
browseable = yes
```

```
writable = yes
```

```
public = yes
```

```
create mask = 0644
```

```
directory mask = 0755
```

**Step 4:** Edit “/etc/samba/smb.conf” for your environment. For example:

```
# "security = user" is always a good idea. This will require a Unix account
# in this server for every user accessing the server. See
# /usr/share/doc/samba-doc/html/docs/Samba3-HOWTO/ServerType.html
# in the samba-doc package for details.
security = share
```

```
[image]
comment = One Key Recovery
path = /share/image
browseable = yes
writable = yes
public = yes
create mask = 0644
directory mask = 0755
```

**Step 5:** Modify the hostname

```
#vi /etc/hostname
```

Modify: RecoveryServer

```
RecoveryServer
```

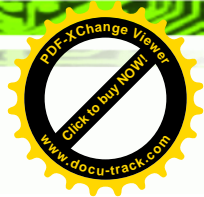
### B.6.6 Setup a Client System for Auto Recovery

**Step 1:** Configure the following BIOS options of the client system.

Advanced → iEi Feature → Auto Recovery Function → **Enabled**

Advanced → iEi Feature → Recover from PXE → **Enabled**

Boot → Launch PXE OpROM → **Enabled**



**Step 2:** Continue to configure the **Boot Option Priorities** BIOS option of the client system:

Boot Option #1 → remain the default setting to boot from the original OS.

Boot Option #2 → select the boot from LAN option.

**Step 3:** Save changes and exit BIOS menu.

Exit → **Save Changes and Exit**

**Step 4:** Install the auto recovery utility into the system by double clicking the **Utility/AUTORECOVERY-SETUP.exe** in the One Key Recovery CD. This utility **MUST** be installed in the system, otherwise, the system will automatically restore from the factory default image every ten (10) minutes.

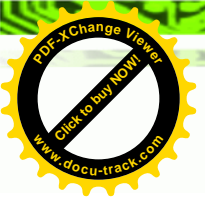


**Step 5:** Restart the client system from LAN. If the system encounters a Blue Screen of Death (BSoD) or a hang for around 10 minutes, it will automatically restore from the factory default image. The following screens will show when the system starts auto recovering.

```
Realtek PCIe GBE Family Controller Series v2.35 (06/14/10)
CLIENT MAC ADDR: 00 18 7D 13 E6 89  GUID: 00020003-0004-0005-0006-0007000000
DHCP . . /
```







# UPC-V312-D525 Panel PC

```

My IP address seems to be C0A80009 192.168.0.9
ip=192.168.0.9:192.168.0.8:192.168.0.2:255.255.255.0
TFTP prefix:
Trying to load: pxelinux.cfg/00020003-0004-0005-0006-000700080009
Trying to load: pxelinux.cfg/01-00-10-7d-13-e6-89
Trying to load: pxelinux.cfg/C0A80009
Trying to load: pxelinux.cfg/C0A8000
Trying to load: pxelinux.cfg/C0A800
Trying to load: pxelinux.cfg/C0A80
Trying to load: pxelinux.cfg/C0A8
Trying to load: pxelinux.cfg/C0A
Trying to load: pxelinux.cfg/C0
Trying to load: pxelinux.cfg/C
Trying to load: pxelinux.cfg/default
boot:

```

```

Windows is loading files...

IP: 192.168.0.8, File: \Boot\WinPE.wim

```

Symantec Ghost 11.5 Copyright (C) 1998-2008 Symantec Corporation. All rights reserved.

Progress Indicator

0% 25% 50% 75% 100%

Statistics	
Percent complete	52
Speed (MB/min)	468
MB copied	632
MB remaining	563
Time elapsed	1:21
Time remaining	1:12

Details

Connection type	Local
Source Partition	Type:7 [NTFS], 100006 MB, 1951 MB used, No name from Local drive [80], 130129 MB
Destination file	Local file D:\iei.GHO
Current file	3891 e_869.nls

symantec.



## NOTE:

A firewall or a SELinux is not in use in the whole setup process. If there is a firewall or a SELinux protecting the system, modify the configuration information to accommodate them.

## B.7 Other Information

### B.7.1 Using AHCI Mode or ALi M5283 / VIA VT6421A Controller

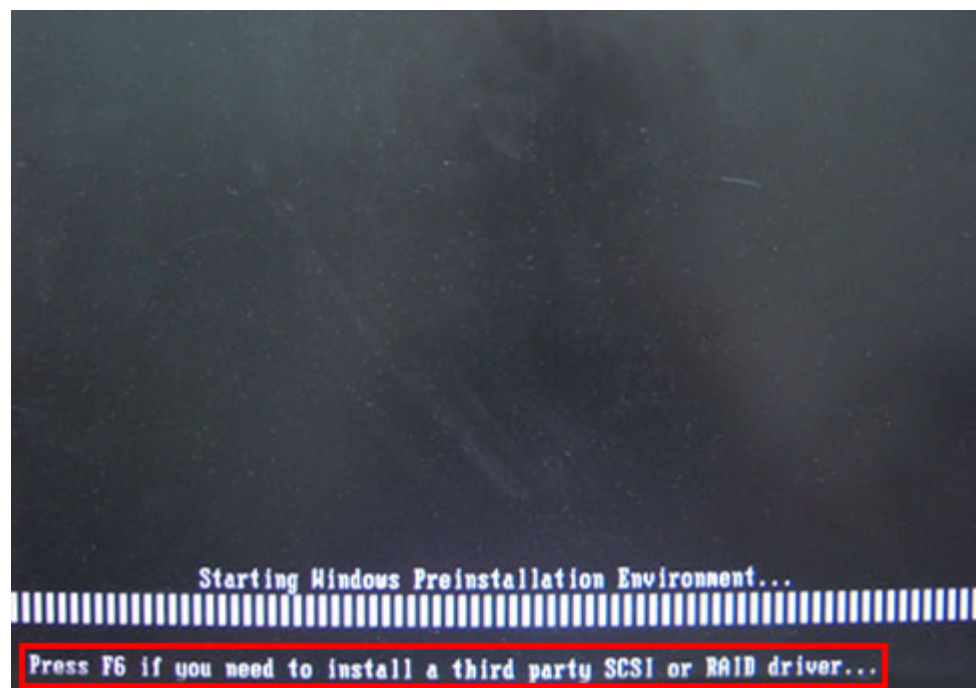
When the system uses AHCI mode or some specific SATA controllers such as ALi M5283 or VIA VT6421A, the SATA RAID/AHCI driver must be installed before using one key recovery. Please follow the steps below to install the SATA RAID/AHCI driver.

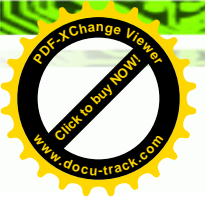
**Step 1:** Copy the SATA RAID/AHCI driver to a floppy disk and insert the floppy disk into a USB floppy disk drive. The SATA RAID/AHCI driver must be especially designed for the on-board SATA controller.

**Step 2:** Connect the USB floppy disk drive to the system.

**Step 3:** Insert the One Key Recovery CD into the system and boot the system from the CD.

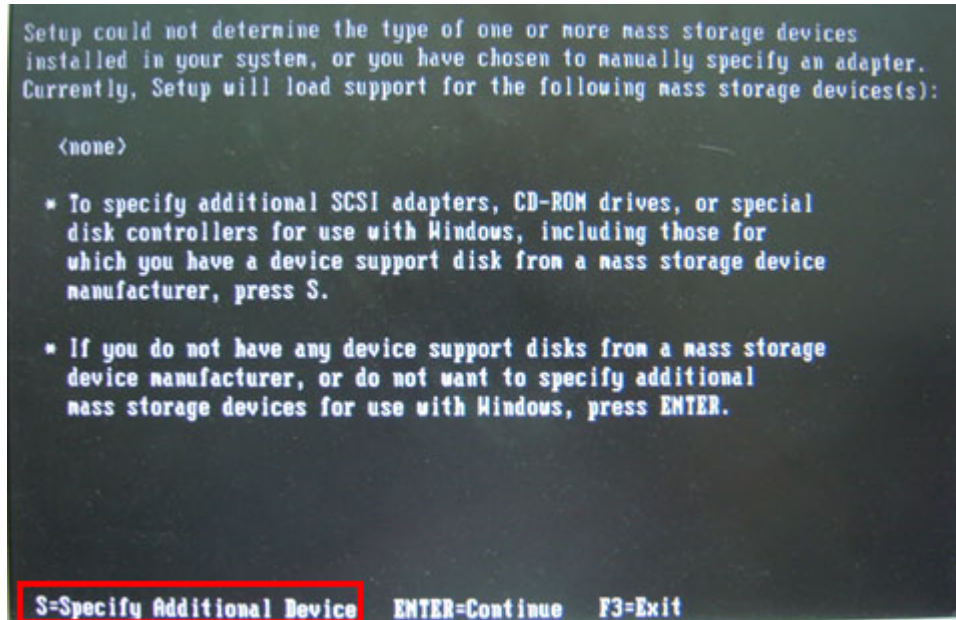
**Step 4:** When launching the recovery tool, press <F6>.



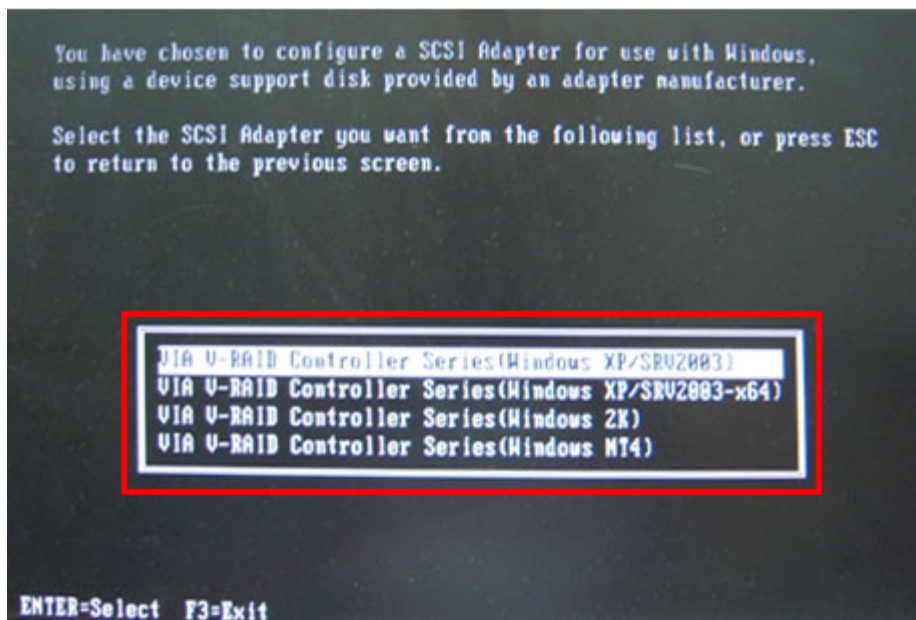


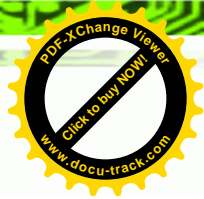
## UPC-V312-D525 Panel PC

**Step 5:** When the following window appears, press <S> to select “Specify Additional Device”.



**Step 6:** In the following window, select a SATA controller mode used in the system. Then press <Enter>. The user can now start using the SATA HDD.



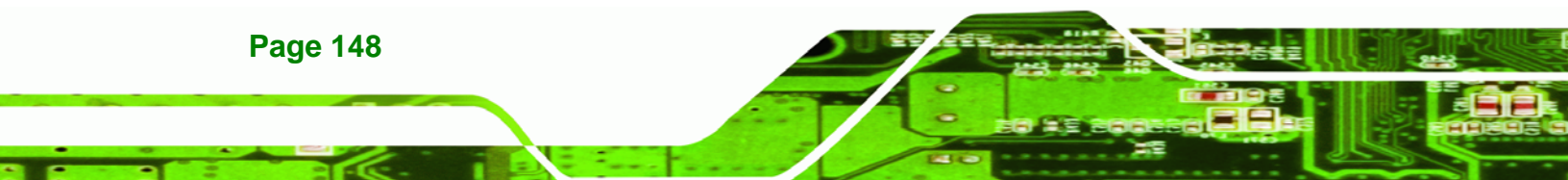


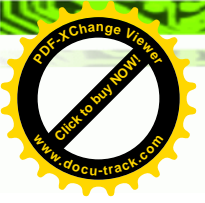
**Step 7:** After pressing <Enter>, the system will get into the recovery tool setup menu. Continue to follow the setup procedure from **Step 4** in **Section B.2.2 Create Partitions** to finish the whole setup process.

### B.7.2 System Memory Requirement

To be able to access the recovery tool by pressing <F3> while booting up the system, please make sure to have enough system memory. The minimum memory requirement is listed below.

- Using Award BIOS: 128 MB system memory
- Using AMI BIOS: 512 MB system memory.



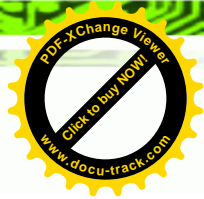


Appendix

C

# Safety Precautions

---



**WARNING:**

The precautions outlined in this chapter should be strictly followed. Failure to follow these precautions may result in permanent damage to the EP series.

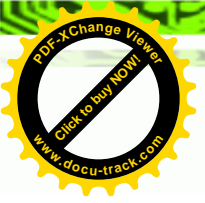
## C.1 Safety Precautions

Please follow the safety precautions outlined in the sections that follow:

### C.1.1 General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

- **Follow the electrostatic precautions** outlined below whenever the EP series is opened.
- **Make sure the power is turned off and the power cord is disconnected** whenever the EP series is being installed, moved or modified.
- **Do not apply voltage levels that exceed the specified voltage range.** Doing so may cause fire and/or an electrical shock.
- **Electric shocks can occur** if the EP series chassis is opened when the EP series is running.
- **Do not drop or insert any objects** into the ventilation openings of the EP series.
- **If considerable amounts of dust, water, or fluids enter the EP series**, turn off the power supply immediately, unplug the power cord, and contact the EP series vendor.
- **DO NOT:**
  - Drop the EP series against a hard surface.
  - Strike or exert excessive force onto the LCD panel.
  - Touch any of the LCD panels with a sharp object
  - In a site where the ambient temperature exceeds the rated temperature



## UPC-V312-D525 Panel PC

### C.1.2 Anti-static Precautions

---



#### WARNING:

Failure to take ESD precautions during the installation of the EP series may result in permanent damage to the EP series and severe injury to the user.

---

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the EP series. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the EP series is opened and any of the electrical components are handled, the following anti-static precautions are strictly adhered to.

- **Wear an anti-static wristband:** Wearing a simple anti-static wristband can help to prevent ESD from damaging any electrical component.
- **Self-grounding:** Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
- **Use an anti-static pad:** When configuring or working with an electrical component, place it on an anti-static pad. This reduces the possibility of ESD damage.
- **Only handle the edges of the electrical component:** When handling the electrical component, hold the electrical component by its edges.

### C.1.3 Product Disposal

---



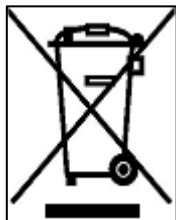
#### CAUTION:

Risk of explosion if battery is replaced by an incorrect type. Only certified engineers should replace the on-board battery.

Dispose of used batteries according to instructions and local regulations.

---

- Outside the European Union - If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union:



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

## C.2 Maintenance and Cleaning Precautions

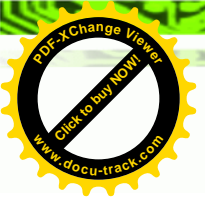
When maintaining or cleaning the EP series, please follow the guidelines below.

### C.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the EP series, please read the details below.

- Except for the LCD panel, never spray or squirt liquids directly onto any other components. To clean the LCD panel, gently wipe it with a piece of soft dry cloth or a slightly moistened cloth.
- The interior of the EP series does not require cleaning. Keep fluids away from the EP series interior.
- Be cautious of all small removable components when vacuuming the EP series.
- Turn the EP series off before cleaning the EP series.
- Never drop any objects or liquids through the openings of the EP series.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the EP series.
- Avoid eating, drinking and smoking within vicinity of the EP series.



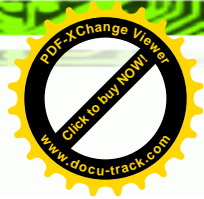


## UPC-V312-D525 Panel PC

### C.2.2 Cleaning Tools

Some components in the EP series may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the EP series.

- **Cloth** – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the EP series.
- **Water or rubbing alcohol** – A cloth moistened with water or rubbing alcohol can be used to clean the EP series.
- **Using solvents** – The use of solvents is not recommended when cleaning the EP series as they may damage the plastic parts.
- **Vacuum cleaner** – Using a vacuum specifically designed for computers is one of the best methods of cleaning the EP series. Dust and dirt can restrict the airflow in the EP series and cause its circuitry to corrode.
- **Cotton swabs** - Cotton swaps moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- **Foam swabs** - Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.

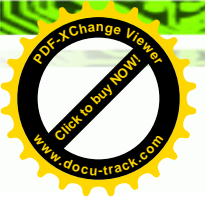


Appendix

D

# Watchdog Timer

---



## UPC-V312-D525 Panel PC



### NOTE:

The following discussion applies to DOS environment. IEI support is contacted or the IEI website visited for specific drivers for more sophisticated operating systems, e.g., Windows and Linux.

The Watchdog Timer is provided to ensure that standalone systems can always recover from catastrophic conditions that cause the CPU to crash. This condition may have occurred by external EMI or a software bug. When the CPU stops working correctly, Watchdog Timer either performs a hardware reset (cold boot) or a Non-Maskable Interrupt (NMI) to bring the system back to a known state.

A BIOS function call (INT 15H) is used to control the Watchdog Timer:

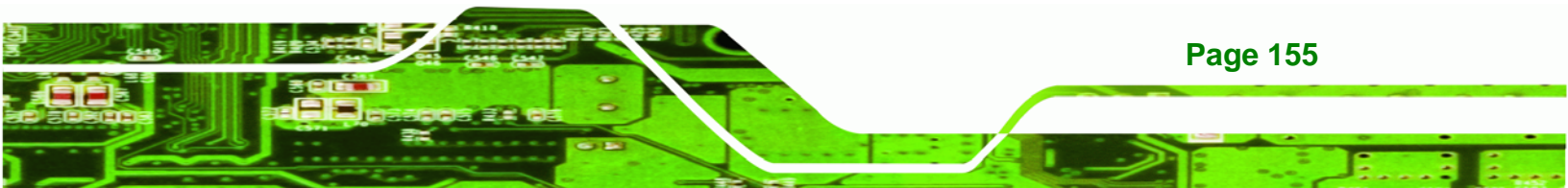
#### INT 15H:

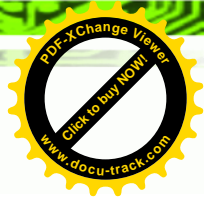
AH – 6FH Sub-function:	
AL – 2:	Sets the Watchdog Timer's period.
BL:	Time-out value (Its unit-second is dependent on the item "Watchdog Timer unit select" in CMOS setup).

**Table D-1: AH-6FH Sub-function**

Call sub-function 2 to set the time-out period of Watchdog Timer first. If the time-out value is not zero, the Watchdog Timer starts counting down. While the timer value reaches zero, the system resets. To ensure that this reset condition does not occur, calling sub-function 2 must periodically refresh the Watchdog Timer. However, the Watchdog timer is disabled if the time-out value is set to zero.

A tolerance of at least 10% must be maintained to avoid unknown routines within the operating system (DOS), such as disk I/O that can be very time-consuming.





**NOTE:**

When exiting a program it is necessary to disable the Watchdog Timer, otherwise the system resets.

**Example program:**

**; INITIAL TIMER PERIOD COUNTER**

;

W\_LOOP:

```

MOV    AX, 6F02H    ;setting the time-out value
MOV    BX, 05      ;time-out value is 5 seconds
INT    15H

```

;

**; ADD THE APPLICATION PROGRAM HERE**

;

```

CMP    EXIT_AP, 1    ;is the application over?
JNE    W_LOOP      ;No, restart the application

```

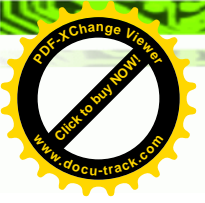
```

MOV    AX, 6F02H    ;disable Watchdog Timer
MOV    BX, 0        ;
INT    15H

```

;

**; EXIT ;**

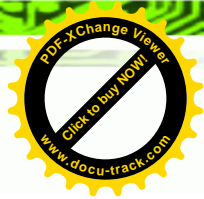


Appendix

E

# Hazardous Materials Disclosure

---

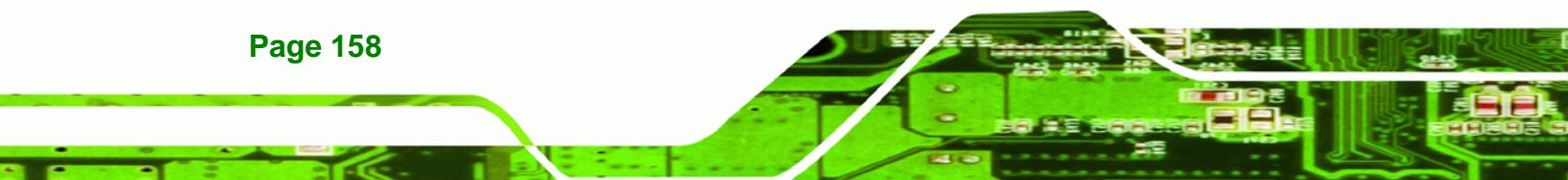


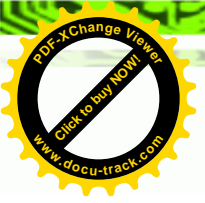
## **E.1 Hazardous Material Disclosure Table for IPB Products Certified as RoHS Compliant Under 2002/95/EC Without Mercury**

The details provided in this appendix are to ensure that the product is compliant with the Peoples Republic of China (China) RoHS standards. The table below acknowledges the presences of small quantities of certain materials in the product, and is applicable to China RoHS only.

A label will be placed on each product to indicate the estimated “Environmentally Friendly Use Period” (EFUP). This is an estimate of the number of years that these substances would “not leak out or undergo abrupt change.” This product may contain replaceable sub-assemblies/components which have a shorter EFUP such as batteries and lamps. These components will be separately marked.

Please refer to the table on the next page.





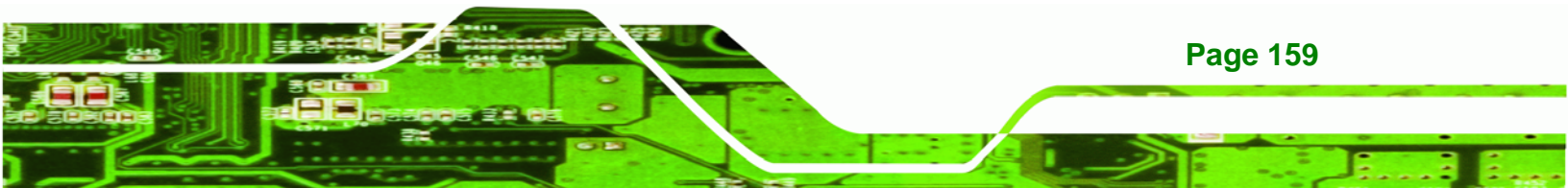
# UPC-V312-D525 Panel PC

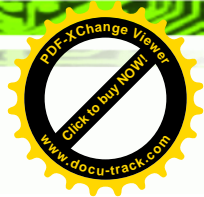


Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Housing	X	O	O	O	O	X
Display	X	O	O	O	O	X
Printed Circuit Board	X	O	O	O	O	X
Metal Fasteners	X	O	O	O	O	O
Cable Assembly	X	O	O	O	O	X
Fan Assembly	X	O	O	O	O	X
Power Supply Assemblies	X	O	O	O	O	X
Battery	O	O	O	O	O	O

O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in SJ/T11363-2006

X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in SJ/T11363-2006





此附件旨在确保本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有“环境友好使用期限”的标签，此期限是估算这些物质“不会有泄漏或突变”的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	X	O	O	O	O	X
显示	X	O	O	O	O	X
印刷电路板	X	O	O	O	O	X
金属螺帽	X	O	O	O	O	O
电缆组装	X	O	O	O	O	X
风扇组装	X	O	O	O	O	X
电力供应组装	X	O	O	O	O	X
电池	O	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。  
X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。