XPC User Guide

For the : SX58H7

Shuttle®

XPC Installation Guide

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This device complies to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

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2. This device must withstand any background interference including those that may cause undesired operation.

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Safety Information

Read the following precautions before setting up a Shuttle XPC.

CAUTION

Incorrectly replacing the battery may damage this computer. Replace only with the same or equivalent as recommended by Shuttle. Dispose of used batteries according to the manufacturer's instructions.

Laser compliance statement

The optical disc drive in this PC is a laser product.

The drive's classification label is located on the drive.

CLASS 1 LASER PRODUCT

CAUTION: INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.

Installation Notices

Do not place this device underneath heavy loads or in an unstable position.

Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.

Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.

Do not block the air vents to this device or impede the airflow in any way.

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1 Function Introduction

1.1 XPC Introduction

The Shuttle XPC is the original high-performance Small Form Factor (SFF) computer. Since the first model was introduced in 2001, the XPC has become the world's best-selling SFF computer brand.

Each Shuttle XPC is sold as a "barebone" computer ~ chassis, power supply and motherboard. The user must add his own processor, memory, drives and, as applicable, expansion cards. The XPC has been designed to be easily assembled and configured directly by the end user. Consumers can choose to buy preconfigured, ready-to-run XPC's as well ~ a list of Shuttle-authorized value-added resellers can be found at www.shuttle.com.

The Shuttle XPC owes its popularity to its unique combination of small-size, high-performance and near universal component compatibility. However, unlike ordinary desktop computers, Shuttle XPC's have been engineered as complete systems.

The XPC concept can be summarized as:

Use of high-performance, industry-standard components; Minimum size possible, while preserving component compatibility and system expansion; Focus on quality ~ a commitment to quality construction, materials and industrial design.

To meet the above requirements, Shuttle has created and patented dozens of new technologies, including the Integrated Cooling Engine (ICE), which extend and enhance the personal computing experience while reducing heat, noise and space requirements.

Thank you for choosing the Shuttle XPC!

■ 1.2 Model Specifications

Form Factor	● Shuttle Form Factor
PROCESSOR	● LGA1366, Intel® Core i7 family
CHIPSET	● North Bridge: Intel® X58 Chipset ● South Bridge: ICH10R
MEMORY	● 3+1 Triple channel unbuffered non-ECC DDR3 1066/1333/1600(OC) MHz DIMM Slots ● DIMM Supports up to 16GB system memory
AUDIO	● Realtek ALC888 ● Supports Analog 7.1 channel output ● Supports Digital S/PDIF out
ETHERNET	● Realtek 8111C (PCI-E Interface) ● IEEE 802.3u 100Base-T compliant ● 10Mb/s, 100Mb/s and 1000Mb/s operation ● Supports DOS Wake-On-LAN ● Dual LAN support Teaming
STORAGE INTERFACE	● South Bridge (2) eSATA connectors in back panel (1) eSATA connector in Front panel (3) On board SATA 3.0Gb/s connectors ● Jmicron (1) UltraDMA 133 IDE channel connector ● NCQ support

ON BOARD CONNECTORS

(1) ATA133 IDE connector	(3) SATA connectors	(2) Fan connectors
(2) Power connectors	(2) Front Panel headers	(1) AUX_IN header
(1) BIOS header	(2) 2x5 USB 2.0 headers	(2) PCI-E X16
(1) CIR header	(1) GPIO header	(1) Print Port
(1) eSATA power port	(1) PS/2 Keyboard & Mouse header	

POWER	● Input: 100Vac-240Vac, Support 80 PLUS Bronze ● Output: 500W
CHASSIS	● H, Dimension: 325(L) x 208(W) x 189(H) mm ● Bay: (2) 3.5" bays (internal) (1) 5.25" bay

The product's color and specification will depend upon the actually shipping product.

1.3 XPC Exterior Dissection

> Shuttle offers a variety of different XPC models loaded with various options. The illustration below will help familarize you with the included features in your new XPC.

1.3.1 XPC Front

F1. 5.25″ Bay
F2. Eject Button
F3. Power Switch
F4. Power LED
F5. HDD LED
F6. Bluetooth LED
F7. WIFI LED
F8. Reset Button
F9. eSATA Port
F10. USB2.0 Ports
F11. Headphone
F12. Mic in

1.3.2 XPC Back

B1. AC Power Socket
B2. eSATA Power Port
B3. eSATA Ports
B4. USB 2.0 Ports
B5. Front Out (L/R)
B6. Side Surr (L/R)
B7. Clear CMOS Button
B8. LAN Ports
B9. Line-In Port
B10. Center/Bass Port
B11. Surround Back (L/R) Port
B12. Wireless LAN Perforation
B13. Parallel Port & PS/2 Port Kit Perforation
B14. SPDIF Out Port

■ 1.4 Accessories

1. Power cord (1)

2. ATI CrossFireX bridge (1)

3. Cable tie (2), Cable clip (1), Adhesive tape (2), Screws

4. Front feet (2)

5. Heatsink compound (1)

6. eSATA expansion kit (1), IDE Cable (1)

7. Motherboard DVD (1)

8. XPC installation Manual (1)

9. Y Type SPDIF OUT Cable (Optional) PCR-SP3H60-S000

10. eSATA expansion upgrade kit (Optional) PCR-CO3100-K002

11. NVIDIA SLI bridge (Optional) PCR-OTSL10-3L00

> ⚠ Bundled Accessories may differ from specified. If there are items missing, please contact your local authorized Shuttle dealer.

■ 1.5 XPC Motherboard

■ 1.5.1 SX58H7 Motherboard Illustration

■ 1.5.2 Jumper Settings

Front Panel Connector

Header JP4 can be used to provide operation status signals to the front daughterboard. Note that this is an alternative header to the 50pins streamline header that also connects the motherboard to the front daughterboard. Header JP5 is used to connect cable to front panel connector mounted on front-panel or back-panel.

The front panel is where the hard drive activity lights, reset button, on/off button, computer power on light, USB connectors, eSATA connectors, and audio headers, are located.

Pin Assignments (JP4):

1 = USBPWR	2 = USBPWR	3 = USBPWR	4 = USBPWR	5 = USBPWR
6 = USBPWR	7 = USBPWR	8 = USBPWR	9 = USBA +	10 = USBA-
11 = USBGND	12 = USBGND	13 = USBB +	14 = USBB-	15 = USBGND
16 = USBGND	17 = eSATATX +	18 = eSATATX-	19 = GND	20 = GND
21 = eSATARX +	22 = eSATARX-	23 = GND	24 = GND	25 = FMIC
26 = MIC_PWR	27 = SNESE0	28 = AUDIOGD	29 = LINE_IL	30 = AUDIOGD
31 = LINE_IR	32 = SENSE1	33 = AUDIOGD	34 = AUDIOGD	35 = LINE_OR
36 = LINE_FR	37 = AUDIOGD	38 = AUDIOGD	39 = LINE_OL	40 = LINE_FL
41 = AUDIOGD	42 = AUDIOGD	43 = HDPWR	44 = GLEDA	45 = HDLED
46 = GLEDB	47 = RST_SW	48 = PW_SW	49 = VCC	50 = VCC

Pin Assignments (JP5):

1 = HDLEDPWR	2 = GRNLEDA
3 = -HD_LED	4 = GRNLEDB
5 = BT_SEL	6 = -PWRSW
7 = GND	8 = GND
9 = NC	10 = KEY

HD-Audio Connector

Pin Assignments (JP1):

1 = ACZ_SDIN0	2 = ACZ_BIT_CLK
3 = ACZ_SDIN1	4 = ACZ_RST-
5 = ACZ_SDIN3	6 = ACZ_SYNC
7 = KEY	8 = ACZ_SDOUT
9 = GND	10 = GND

Extended USB Connector

These headers are used to connect auxillary USB devices to the motherboard. These headers are directional and will only allow USB cables to be connected in one direction.

Pin Assignments (USB1,USB2):

1 = USBPWR	2 = USBPWR
3 = USBPXN	4 = USBPXN
5 = USBPXP	6 = USBPXP
7 = GND	8 = GND
9 = Key	10 = NC

USB1/USB2

PS/2 Keyboard & Mouse Header

Header KBC1 can be used to connect PS/2 Keyboard & Mouse device.

Pin Assignments (KBC1):

1 = KDAT
2 = KCLK
3 = 5V_DUAL
4 = GND
5 = MDAT
6 = MCLK

KBC1

AUX-IN Connertor

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system. On the motherboard, locate the 4-pin Aux-In header, and connect the cable to this header.

Pin Assignments (AUX_IN1):

1 = AUX-IN – Left
2 = Ground
3 = Ground
4 = AUX-IN – Right

Fan Connector

The motherboard provides the onboard 12V cooling fan power connector to support CPU, Chassis or Chipset cooling fans.

CPU_FAN1/FAN2

Both cable wiring and type of plug may vary depending on the fan maker.

GPIO Header

GPIO Supports three
application-definable GPIO LEDs.

Pin Assignments (JP2):

1 = VCC
2 = KEY
3 = GND
4 = BLUETOOTH-GPIO
5 = WIFI-GPIO

SPDIF-In/Out Connector

Pin Assignments (SPDIF1):

1 = SPDIF_IN	2 = GND
3 = VCC	4 = GND
5 = VCC	6 = SPDIF_OUT

CIR Header

Pin Assignments (CIR1):

1 = PIN85_CIRRX
2 = 5V_DUAL
3 = GND

2 XPC Installation Guide

2.1 Installation

> ⚠ For safety reasons, please ensure that the power cord is disconnected before opening the case.

2.1.1 Remove the Cover

1. Unscrew 3 thumbscrews of the chassis cover.

2. Slide the cover backwards and upwards.

2.1.2 Remove the Rack

1. Unfasten the rack mount screws.

2. Remove the rack.

2.2 CPU and ICE Installation

2.2.1 Remove the ICE Module

1. Unfasten the ICE fan thumbscrews on the back of the chassis.
2. Unfasten the four ICE module attachment screws and unplug the fan connector.

Fan Connector

3. Remove the ICE module from the chassis and put it aside.

2.2.2 Install the CPU

> ⚠ This 1366 pin socket is fragile and easily damaged. Always use extreme care when installing a CPU and limit the number of times that you remove or change the CPU.
>
> Before installing the CPU, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage to the CPU.

Follow the steps below to correctly install the CPU into the motherboard CPU socket.

1. First unlock and raise the socket lever.

2. Press A with your thumb, then move it to the left B until it is released from the retention tab. Lift the metal load plate on the CPU socket.

3. Remove the protective socket cover from the CPU socket.

> ⚠ DO NOT touch socket contacts. To protect the CPU socket, always replace the protective socket cover when the CPU is not installed.

4. Orientate the CPU and socket, aligning the yellow triangle on the corner of the CPU with the triangle on the socket or you may align the CPU notches with the socket alignment keys. Make sure the CPU is perfectly horizontal, insert the CPU into the socket.

> ⚠ Please be aware of the CPU orientation, DO NOT force the CPU into the socket of prevent bending the pins on the socket and damaging the CPU!

5. Close the metal load plate, lower the CPU socket lever and lock in place.

6. Spread thermal paste evenly on the CPU surface.

> ⚠ Please do not apply excess amount of thermal paste.
> The thermal paste is toxic and inedible. If it gets into your eyes or touches your skin. ensure to wash it off immediately and seek professional medical help.

■ 2.2.3 Install the ICE Module

1. Place the ICE module on top of the CPU die and match the screws with the holes on the motherboard.

2. Screw the ICE module to the motherboard.
   Note to press down on the opposite diagonal corner while tightening each screw.

3. Connect the fan connector.

4. Fasten the Smart Fan to the chassis with the 4 thumbscrews.

■ 2.3 Memory module Installation

■ 2.3.1 Guidelines for Memory Configuration

Before installing DIMMs, read and follow these guidelines for memory configuration.

> ⚠ Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
> (Go to Shuttle's website for the latest memory support list.)
>
> Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.

This motherboard provides four DDR3 memory sockets and supports Dual/ Triple Channel Technology. After the memory is installed, the BIOS will automatically detect the specifications and capacity of the memory. Dual or Triple Channel memory mode may double or triple the original memory bandwidth.

You may install varying memory sizes, the system maps the total size of the lower-sized channel for the dual-channel or triple-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.

Single Channel Memory Configurations Table

Mode	Sockets			
	DIMM1 (Red)	DIMM2 (Red)	DIMM3 (Red)	DIMM4 (Yellow)
1 DIMM	DS/SS	--	--	--

(SS=Single-Sided, DS=Double-Sided, "--"=No Memory)

Dual Channel mode cannot be enabled if only one DDR3 memory module is installed. If only one DDR3 memory module is installed, be sure to install it in the DIMM1(Red) socket.

Dual Channel Memory Configurations Table

Mode	Sockets			
	DIMM1 (Red)	DIMM2 (Red)	DIMM3 (Red)	DIMM4 (Yellow)
2 DIMMs	DS/SS	DS/SS	-	-

(SS=Single-Sided, DS=Double-Sided, "--"=No Memory)

When enabling Dual/ Triple Channel Technology, it is recommended that memory of the same capacity, brand, speed, and chips be used.

When enabling Dual Channel mode with two memory modules, be sure to install them in the DIMM1(Red) and DIMM2(Red) sockets.

Triple Channel Memory Configurations Table

Mode	Sockets			
	DIMM1 (Red)	DIMM2 (Red)	DIMM3 (Red)	DIMM4 (Yellow)
3 DIMMs	DS/SS	DS/SS	DS/SS	-
4 DIMMs	DS/SS	DS/SS	DS/SS	DS/SS

(SS=Single-Sided, DS=Double-Sided, "--"=No Memory)

When enabling Triple Channel mode with three memory modules, be sure to install them in the DIMM1(Red), DIMM2(Red) and DIMM3(Red) sockets.

When enabling Triple Channel mode with four memory modules, be sure to install them in the DIMM1(Red), DIMM2(Red), DIMM3(Red) and DIMM4(Yellow) sockets.

■ 2.3.2 Installing a Memory

> ⚠ Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

DDR3 and DDR2 DIMMs are not compatible to each other or DDR DIMMs. Be sure to install DDR3 DIMMs on this motherboard. Follow the steps below to correctly install your memory modules in the memory sockets.

1. Unlock the DIMM latch.

2. Align the memory module's cutout with the DIMM slot notch.
   Slide the memory module into the DIMM slot.

> ⚠ A DDR3 memory module has a cutout, so it can only fit in one direction.

3. Check that the latches are closed, and the memory module is firmly installed.

> ⚠ Repeat to install additional memory modules if required.

2.4 Peripheral Installation

2.4.1 Install the HDD

1. Loosen the purse lock and separate the HDD power cable.

2. Place the HDD in the rack and secure with screws from the side.

3. Place the rack in the chassis and refasten the rack.

> Please make sure to secure the screws on each side.

4. Place the power cables in the rack clip located on the underside of the rack mount.

5. Connect the Serial ATA and power cables to the HDD.

■ 2.4.2 Install an Optical Drive

1. Plug the IDE cable in the IDE1 header.

2. Slide the optical drive into the chassis.
3. Fasten the four side screws.

4. Plug the IDE cable and power cable into the optical drive.

■ 2.5 Accessories Installation

■ 2.5.1 Install PCI Express x16 Graphics Card

1. A PCI Express x16 graphics card will be used to demonstrate the installation procedure. Unfasten expansion slot bracket screws.

2. Remove the back panel bracket and put the bracket aside.

3. As shown Install the PCI Express x16 graphics card into the PCI Express x16 slot. Connect power cable to the graphics card.

> ⚠ The maximum size acceptable for graphics card is 230mm x 98mm x 18mm. Repeat to install additional PCI Express x16 graphics card if desired.

4. Secure the bracket.

■ 2.5.2 Install eSATA HDD

1. Take out the eSATA to SATA Cable and External SATA Power Cable from the accessory box.

eSATA to SATA Cable

External SATA Power Cable

2. Plug the eSATA to SATA cable to the eSATA port and plug the External SATA Power Cable to the eSATA power port.

3. Connect the eSATA to SATA Cable and External SATA Power Cable to the HDD.

■ 2.6 Final Touches

■ 2.6.1 Close the Chassis Cover

1. Replace the cover and refasten the thumbscrews.

■ 2.6.2 Install Front Feet

1. Take out the two front feet from the accessory box.
2. Screw the front feet to the base of the chassis.

Front feet

■ 2.6.3 Complete

2.7 XPC Accessories

Shuttle offers over 25 great upgrade and modding kits for your XPC. Visit our website at http://www.shuttle.com for more information or speak to your local retailer.

2.8 Tech Support

1. Shuttle Inc.
   http://global.shuttle.com/
2. Tech Support
   http://global.shuttle.com/support.jsp
3. Download
   http://global.shuttle.com/download.jsp
4. Barebone FAQ
   http://global.shuttle.com/support_faq.jsp
5. Barebone Support List
   http://global.shuttle.com/support_list.jsp

2.9 Technical Notes: Clear CMOS Button

This XPC comes enhanced with an easy-to-use Clear CMOS Button.
This button allows users to reset BIOS information to factory default settings.

1. Power down the XPC and remove the power cord.
2. Press the Clear CMOS Button by inserting a pointed object (e.g. a pen nib) into the clear CMOS hole. Keep it pressed for 5 seconds.
3. Reconnect the power cord and turn on the computer.

Remove the power cord before clearing CMOS.

■ 2.A Setup of ATI® CrossFireX™/NVIDIA® SLI™(Optional)

The ATI® CrossFireX™ and NVIDIA® SLI™ technologies offer blistering graphics performance with the ability to bridge two PCI Express x16 graphics cards! This section provides instructions on configuring an CrossFireX™/SLI™ system.

⚠ Using graphics cards of identical brand and chips is recommended.

■ 2.A.1 ATI® CrossFireX™ technology

Installing CrossFireX™ graphics cards

1. Prepare two CrossFireX-ready graphics cards.
2. Insert the two graphics card into the PCI Express x16 slots.
3. To set up a 2-Way ATI® CrossFireX™ system, as shown align and firmly insert the CrossFireX bridge connector to the goldfingers on each graphics card.

CrossFireX bridge

CrossFireX goldfingers

Enabling 2-Way ATI® CrossFireX™ technology

1. Connect a VGA or DVI cable to the graphics card.
2. After installing your graphics cards and the device drivers, enable the CrossFireX feature through the ATI Catalyst Control Center in Windows.
3. You can right-click the ATI icon in the windows notification area and select **Catalyst Control Center**.

4. The Catalyst Control Center Setup Assistant appears when the system detects the existence of dual graphics cards. Click **Go** to continue to the **Catalyst Control Center Advanced View** window.

5. In the Catalyst Control Center window, click **Graphics Settings** → **CrossFireX** → **Configure**.

6. From the graphics adapter list, select the graphics card to act as the display GPU.

7. Select **Enable CrossFireX**.

8. Click **OK** to exit the window.

■ 2.A.2 NVIDIA® SLI™ technology (Optional)

Installing SLI™ graphics cards

1. Prepare two SLI-ready graphics cards.
2. Insert the two graphics card into the PCI Express x16 slots.
3. To set up a 2-Way NVIDIA® SLI™ system, as shown align and firmly insert the SLI bridge(optional) connector to the goldfingers on each graphics card.
4. Connect power cables to the two graphics cards.

SLI bridge (optional)

SLI goldfingers

Enabling 2-Way NVIDIA® SLI™ technology

1. Right click on the empty space of the Windows desktop and select NVIDIA Control Panel.

   The **NVIDIA Control Panel** window appears (See Step 6).

2. If you can not see the NVIDIA Control Panel in Step (1), select **Personalize**.

3. From the **Personalization** window, select **Display Settings**.

4. From the Display Settings dialog box, click **Advanced Settings**.

5. Select the Nvidia GeForce tab, and then click **Start the NVIDIA Control Panel**.

6. From the NVIDIA Control Panel window, select **Set an SLI Configurations**. Click **Enable SLI** and set the display for viewing SLI rendered content. When done, click **Apply**.

■ 2.B S/PDIF Cable Installation for HDMI Graphic card only(Optional)

> ⚠ For safety reasons, please ensure that the power cord is disconnected before opening the case.

1. Unfasten the screws on the back panel and remove the cover.

   - ➢ Unfasten screws of the S/PDIF cable on the back panel
   - ➢ Remove the S/PDIF cable from mainboard

2. Unfasten the expansion slot bracket screws. Remove the back panel bracket and put the brackets aside.

> ⚠ To enable audio and video HDMI function, SPDIF-Out connector should be connect with cable and send the singal into SPDIF-In connector on graphic card.

3. Use the SPDIF cable that included in accessory box, connect one side to the SPDIF connector on the mainboard.
4. Connect other side of the SPDIF cable to SPDIF-In on graphic card.

(S/PDIF Cable)

(Please check the graphic card manual for the pin definition to connect the S/PDIF-in header correctly.)

5. Release 2 screws for the cable bracket, insert the S/PDIF cable into the cable bracket, and then hook up the cable holder and fasten the 2 screws for the cable bracket. Please follow the below picture.

6. Install the display card into the PCI-E slot and secure the bracket.

7. Attach the case and fasten the thumbscrews to complete the display card installation.

3 Driver and Software Installation

■ 3.1 Motherboard Driver DVD

> Note : The DVD contents attached in SX58H7 motherboard are subject to change without notice. The product's specifications will depend upon the actually shipping product.

The Motherboard Driver DVD contains all the motherboard drivers necessary to optimize the performance of this XPC in a Windows® OS. Install these drivers after installing Microsoft® Windows®.

Navigation Bar Description :

☞ Install Motherboard Drivers - Install Intel Chipset Driver
Install Realtek Audio Driver
Install Realtek LAN Driver
Install Intel IAA Driver

☞ Install Utilities -Install Adobe Reader 8.1
Install Symantec Norton 2008 Software
Install Bluetooth Driver
-Install Bluetooth Driver, Wireless/Bluetooth LED Driver
Install Wireless LAN Driver
-Install Wireless LAN Driver, Wireless/Bluetooth LED Driver

☞ User Manuals - SX58 Manual.

☞ Link to Shuttle Website - Link to shuttle website homepage.

☞ Browse this DVD - Allows you to see contents of this DVD.

3.1.1 Installing Motherboard Software

Insert the attached DVD into your DVD-ROM drive. The DVD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Motherboard Software Setup screen.

Click the “Install Motherboard Drivers“ bar. Individually install the following drivers.

- ☞ Install Intel Chipset Driver
- ☞ Install Realtek Audio Driver
- ☞ Install Realtek LAN Driver
- ☞ Install Intel IAA Driver
- ☞ Return to previous page

BIOS Settings

The SX58H7 BIOS ROM has a built-in Setup program that allows users to modify basic system configuration. This information is stored in battery-backed RAM so that it retains Setup information even if the system power is turned off.

The system BIOS manages and executes variety of hardware related functions including:

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

Enter the BIOS

To enter the BIOS (Basic Input / Output System) utility, follow these steps:

Step1. Power on the computer. The system will perform its POST (Power-On Self Test) routine checks.

Step2. Press the <Del> key immediately, or at the following message:
Press DEL to enter SETUP

> If you miss wordings mentioned in step2 (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the <RESET> switch located at the computer's front-panel. You may also reboot by simultaneously pressing the <Ctrl>,<Alt>, <Del> keys simultaneously.

Step3. When you enter the BIOS program, the CMOS Setup Utility will display the
Main Menu, as shown in the next section.

The Main Menu

Once you enter the AMI BIOS(tm) CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

```
CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.

▶ Standard BIOS Features                  ▶ Frequency/Voltage Functions
▶ Advanced BIOS Features                    Load Default Settings
▶ Integrated Peripherals                    Set Supervisor Password
▶ Power Management Features                 Set User Password
▶ PCI/PNP Resource Management               Save & Exit Setup
▶ Hardware Health Event Monitoring          Exit Without Saving

↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
           F7:Previous Values        F9:Default Settings

        Configure Time and Date.  Display System Information...

        v02.63 (C)Copyright 1985-2008, American Megatrends, Inc.
```

Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard BIOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

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

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Features

Use this menu to specify your power management settings.

PnP / PCI Resource Management

This entry appears if your system supports PnP / PCI.

Hardware Health Event Monitoring

This entry displays the current system temperature, Voltage, and FAN settings.

Frequency/Voltage Functions

Use this menu to specify your settings for frequency/voltage control.

Load Default Settings

Use this menu to load the BIOS default values that are factory-set for optimal system operation. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet users' needs.

Set Supervisor / User Password

Use this menu to change, set, or disable password protection. This allows you to limit access to the system and Setup, or only to Setup.

Save & Exit Setup

Save CMOS value changes in CMOS and exit from setup.

Exit Without Saving

Abandon all CMOS value changes and exit from setup.

Standard BIOS Features

The items in the Standard CMOS Setup Menu are divided into several categories. Each category includes none, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

```
CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                        Standard BIOS Features

 Date(mm:dd:yy)                [Mon 01/05/2009]        Help Item
 Time(hh:mm:ss)                [00:01:51]
                                                       Use [ENTER], [TAB]
 ► Serial ATA 1 Channel        [Not Detected]          or [SHIFT-TAB] to
 ► Serial ATA 2 Channel        [Not Detected]          select a field.
 ► Serial ATA 3 Channel        [Not Detected]
 ► Serial ATA 4 Channel        [Not Detected]          Use [+] or [-] to
 ► Serial ATA 5 Channel        [Not Detected]          configure system Date.
 ► Serial ATA 6 Channel        [Not Detected]
 ► IDE Master                  [Not Detected]
 ► IDE Slave                   [Not Detected]

 Total Memory:1016MB

 ↑↓←→:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
                  F7:Previous Values        F9:Default Settings
```

Date

<Month> <DD> <YYYY>

Set the system date. Note that the 'Day' automatically changes when you set the date.

Time

<HH : MM : SS>

The time is converted based on the 24-hour military-time clock.

For example, 5 p.m. is 17:00:00.

Serial ATA 1/2/3/4/5/6 Channel

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Total Memory

This item is automatically detected by the system at start up time.This is display-only field. You can't make change to this field.

****

SATA/IDE Adapters

The SATA/IDE adapters control the hard disk drive. Use a separate sub-menu to configure each hard disk drive.

LBA/Large Mode

Choose the access mode for this hard disk.

- The choice: Auto or Disabled.

S.M.A.R.T.

When disabled, HDD won't report errors automatically.

- The choice: Auto, Enabled, or Disabled

Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing, and security.

```
CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                    Advanced BIOS Features

 ► CPU Feature                    [Press Enter]        Help Item
 Boot Sector Virus Protection     [Disabled]
 Bios Write Protect               [Disabled]           Configure CPU.
 Quick Power On Self Test         [Enabled]
 Bootup Num-Lock                  [On]
 Security Option                  [Setup]
 Full Screen LOGO Show            [Enabled]
 1st Boot Device                  [USB:OTi UMSD]
 2nd Boot Device                  [SATA:4M-WDC WD2500]
 3rd Boot Device                  [Network:Realtek Bo]
 4th Boot Device                  [Network:Realtek Bo]
 ► Hard Disk Boot Priority        [Press Enter]
 ► Removable Drives               [Press Enter]

 ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
                F7:Previous Values        F9:Default Settings
```

CPU Feature

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Limit CPUID MaxVal

Set Limit CPUID MaxVal to 3,Should Be "Disabled" for WinXp.

➢ The Choice: Disabled or Enabled.

> ⚠ Some older O.S.'s (Win98,WinMe..) cannot handle a CPUID MaxVal greater than 3. Please choose "Enabled" if you use one of those O.S. If your O.S. is WinXP or Win2000, we suggest you "Disabled" the item.

C1E Function

When disabled, processor can't transitions to a lower core frequency and voltage.

➢ The Choice: Auto or Disabled.

Intel(R) TurboMode tech

This item allows user to enable TurboMode.

➢ The Choice: Enabled or Disabled

Intel(R) C-STATE tech

This item allows user to enable C2/C3/C4.

➢ The Choice: Enabled or Disabled.

Core Multi-Processing

This item allows you to enable/disable the Core Multi-Processing.

➢ The choice: Disabled or Enabled.

Boot Sector Virus Protection

This item allows you to enable/disable the Boot Sector Virus Protection.

➢ The choice: Disabled or Enabled.

Hard Disk Boot Priority

This item allows you to select Hard Disk Book Device Priority.

Bios Write Protect

This item allows you to enable or disable the Bios Write Protect. If you want to flash BIOS, you must set it [Disabled].

➢ The choice: Enabled or Disabled.

Quick Power On Self Test

This item speeds up Power-On Self Test (POST) after you power on the computer. If it is set to enabled, BIOS will shorten or skip some check items during POST.

➢ The choice: Enabled, or Disabled.

First/Second/Third Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

Bootup Num-Lock

This item allows user to enable Num-Lock after bootup.

Security Option

Select whether the password is required every time the system boots or only when you enter setup.

System The system will not boot and access to Setup will be denied if the correct password is not entered promptly.

Setup The system will boot, but access to Setup will be denied if the correct password is not entered promptly.

➢ The choice: System or Setup.

To disabled security, select PASSWORD SETTING at Main Menu, and then you will be asked to enter password.

Don't type anything and just press <Enter>; it will disable security. Once the security is disabled, the system will boot, and you can enter Setup freely.

Full Screen LOGO Show

This item allows you to enable/disable the Full Screen LOGO Show.

➢ The choice: Enabled or Disabled.

Integrated Peripherals

```
CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                        Integrated Peripherals

► OnChip IDE Device          [Press Enter]      Help Item
► Onboard Device             [Press Enter]
► SuperIO Device             [Press Enter]      Configure the IDE
► USB Device Setting         [Press Enter]      device(s).

↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
                F7:Previous Values        F9:Default Settings
```

OnChip IDE Device

Option are in its sub-menu.

Press < Enter > to enter the sub-menu of detailed options.

SATA Mode

This item allows you to set the SATA Mode.

➢ The choice: IDE , AHCI or RAID.

LEGACY Mode Support

Certain OS is not supported under Native mode.

➢ The choice: Enabled or Disabled.

Onboard Device

Option are in its sub-menu.

Press < Enter > to enter the sub-menu of detailed options.

High Definition Audio

This item allows you to set the High Definition Audio.

➢ The choice: Enabled or Disabled.

Onboard IDE Function

Decide whether to invoke the Onboard IDE Function.

➢ The choice: Enabled or Disabled.

Onboard Lan1 Function

Decide whether to invoke the Onboard Lan1 Function.

➢ The choice: Enabled or Disabled.

Onboard Lan2 Function

Decide whether to invoke the Onboard Lan2 Function.

➢ The choice: Enabled or Disabled.

Onboard Lan Boot ROM

Decide whether to invoke the Onboard Lan Boot ROM.

➢ The choice: Enabled or Disabled.

SuperIO Device

Option are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Onboard Parallel Port

This item allows you to determine onboard parallel port controller I/O address and interrupt request (IRQ).

➢ The choice: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, or Disabled.

Parallel Port Mode

Select an operating mode for the onboard parallel (printer) port. Select Normal, Compatible, or SPP unless you are certain your hardware and software both support one of the other available modes.

➢ The choice: SPP, EPP, ECP, or ECP+EPP.

CIR Function

This item allows you to set the CIR Function.

➢ The choice: Enabled or Disabled.

USB Device Setting

Option are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

USB 2.0 Controller

Enable or Disable Universal Host Controller Interfacefor Universal Serial Bus.

➢ The choice: Enabled or Disabled.

USB Operation Mode

Auto decide USB device operation mode.

High speed: If USB device was high speed device, then it operated on high speed mode.If USB device was full/low speed device, then it operated on full/low speed mode.

Full/Low Speed: All of USB device operated on full/low speed mode.

➢ The choice: High speed or Full/Low Speed.

USB Storage Function

Enable or Disable Legacy support of USB Mass Storage.

➢ The choice: Enabled or Disabled.

Power Management Features

```
CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                    Power Management Features

ACPI Function                  [Enabled]          Help Item
ACPI Suspend Type              [S3 (STR)]
Run VGABIOS if S3 Resume       [No]               Select the ACPI
Wake-on-LAN(WOL)               [Disabled]         state used for
Resume by Alarm                [Disabled]         System Suspend.
Power on By PS2 Mouse          [Disabled]
Power on By PS2 Keyboard       [Disabled]
PWR-ON After PWR-Fail          [Off]

↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
           F7:Previous Values        F9:Default Settings
```

The Power Management Setup allows you to configure your system to most effectively saving energy while operating in a manner consistent with your own style of computer use.

ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

➢ Always "Enabled".

ACPI Suspend Type

This item allows you to select sleep state when suspend.

➢ The choice: S1(POS) or S3(STR).

Run VGABIOS if S3 Resume(Auto)

This item allows the system to initialize the VGA BIOS from S3(Suspend to RAM) sleep state.

➢ The choice: Auto, Yes or No.

Wake-on-LAN(WOL)

This item allows you to set the Wake-on-LAN(WOL).

➢ The choice: Enabled or Disabled.

Resume by Alarm

When this item enabled, your can set the date (day of the month) and time to turn on your system.

➢ The choice: Disabled or Enabled.

Date(of Month)

This item selects the alarm Date (day of the month).

➢ Key in a DEC number: Min = 0, Max = 31.

Time(hh : mm : ss)

This item selects the alarm Time.

[hh] ➢ Key in a DEC number: Min = 0, Max = 23.

[mm/ss] ➢ Key in a DEC number: Min = 0, Max = 59.

Power on By PS2 Mouse

This item allows you to set the the Mouse Power On function.

Only supports S4/S5.

➢ The choice: Disabled or Mouse Click.

Power on By PS2 Keyboard

This item allows you to set the Keyboard Power On function.

Only supports S4/S5.

➢ The choice: Disabled, password, Hot KEY, Any KEY.

KB Power ON Password

This item allows you to set the KB Power On Password.

➢ Press" Enter" to set Password.

Hot Key Power ON

This item allows you to set the Hot Key Power On.

➢ The choice: Ctrl-F1 ~ Ctrl-F12.

PWR-On After PWR-Fail

This item defines if the system will be rebooted after the power fails.

➢ The choice: Off or On.

PnP / PCI Resource Management

```
CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                    PCI/PNP Resource Management

PCI/VGA Palette Snoop        [Disabled]        Help Item

► IRQ Resources              [Press Enter]     ENABLED: informs the
                                               PCI devices that an
► DMA Resources              [Press Enter]     ISA graphics device
                                               is installed in the
                                               system so the card
                                               will function
                                               correctly.

↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
              F7:Previous Values        F9:Default Settings
```

This section describes the configuration of PCI bus system. PCI or Personal Computer Interconnection is a system which allows I/O devices to operate at the speed CPU itself keeps when CPU communicating with its own special components.

This section covers some very technical items, and it is strongly recommended that only experienced users should make any changes to the default settings.

PCI/VGA Palette Snoop

It determines whether the MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. If you have MPEG ISA/VESA VGA Cards and PCI/VGA Card worked, Enable this field. Otherwise, please Disable it.

➢ The choice: Enabled or Disabled.

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

IRQ3/4/5/7/9/10/11/14/15 assigned

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices is compliant with the original PC AT bus specification; PCI/ISA PnP for devices is compliant with the Plug-and-Play standard whether designed for PCI or ISA bus architecture.

➢ The choice: Available orReserved.

DMA Resources

DMA Channel 0/1/3/5/6/7 assigned

➢ The choice: Available or Reserved.

Hardware Health Event Monitoring

```
CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                    Hardware Health Event Monitoring

CPU Fan Control Mode          [Auto]                    Help Item
CPU FAN Mode Setting          [Smart FAN mode    ]
Panel LED Lightness Set       [ 10%]                    Options
-------------------------------------------------
CPU Temperature              :44°C/111°F                Auto
System Temperature           :46°C/114°F                Manual

CPU Fan Speed                :2177 RPM
Fan 2 Speed                  :3750 RPM

CPU Core                     :1.200 V
CPU VTT                      :1.136 V
DRAM                         :1.504 V
IOH                          :1.120 V
+3.3V                        :3.056 V
+5.00V                       :4.919 V
+12.0V                       :11.648 V
VBAT                         :3.312 V

↑↓←→:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
                F7:Previous Values        F9:Default Settings
```

CPU Fan Control Mode

Here you can set the CPU Fan Control Mode.

- The choice: Auto or Manual.

CPU Fan Auto Mode

Here you can set the CPU Fan Auto Mode.

- The choice: Smart Fan, Ultra-Low, Low, Mid, or Full.

Fan Speed Percentage

Here you can set the Fan Speed Percentage.

Ex. The full speed of CPU Fan is 4000 rpm.
Set 50% for CPU Fan speed is 2000 rpm.

- The choice: 20～100 %.

Over Temp Protection

Here you can set the Over Temp Protection.

Ex. Set 75°C means CPU Fan go to full speed when CPU temperature is 75°C or higher.

- The choice: 60°C～90°C.

Panel LED Lightness Set

Here you can set the Panel LED Lightness.

➢ The choice: 0% ~ 100 %.

CPU Temperature
System Temperature
CPU Fan Speed
Fan 2 Speed
CPU Core
CPU VTT
DRAM
IOH
+3.3V
+5.00V
+12.0V
VBAT

Before manually modifying the CPU fan setting, please make sure fan connectors are plug ged into the correct fan conne ctor on the motherboard.

Warning: It is strongly recommended to disable 'Smart Fan' if you use an alternative fan to the default.

Frequency/Voltage Functions

```
CMOS Setup Utility - Copyright (C) 1985-2009, American Megatrends, Inc.
                    Frequency/Voltage Functions

User Habit Function            [Enabled]          Help Item
▶ User Habit Auto Set          [Press Enter]
Spread Spectrum                [Enabled]          Options
CPU PSI                        [Disabled]

                                                  Default
 ****** Main Over Clocking Set ******              Manual
OC Function                    [Manual ]          DOC
CPU Clock Ratio                [60]               X.M.P.
BCLK                           [133]
DRAM Ratio                     [Auto]
Selected DRAM Frequency:DDR3-1066
Uncore Clock Ratio             [Auto]
QPI Link Data Rate             [Auto]
PCIEX Clock Set                [100]

 ******** Memory Timing Set *********
DRAM_tCL                       [Auto]
DRAM_tRCD                      [Auto]
DRAM_tRP                       [Auto]
DRAM_tRAS                      [Auto]
DRAM_tRRD                      [Auto]
DRAM_tWR                       [Auto]
DRAM_tWTR                      [Auto]
DRAM_tRTP                      [Auto]
DRAM_tRFC                      [Auto]

 ************** Voltage *************
CPU Voltage                    [Auto]
CPU VTT Voltage                [Auto]
CPU PLL Voltage                [Auto]
DRAM Voltage                   [Auto]
DIMM A Reference Voltage       [Auto]
DIMM B Reference Voltage       [Auto]
DIMM C Reference Voltage       [Auto]
IOH Voltage                    [Auto]
IOH PLL Voltage                [Auto]
ICH Voltage(1.5V)              [Auto]
ICH Voltage(1.1V)              [Auto]
```

User Habit Auto Set

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Spread Spectrum

This item allows you to set Spread Spectrum.

➢ The choice: The Choice: Disabled or Enabled.

CPU PSI

This item allows user to enable/disable CPU Power Saving Fuction.

➢ The choice: Enabled or Disabled.

********** Main Over Clocking Set **********

OC Function

Intel XMP provides a simple and robust high performance profiles, DDR3 based memory solution.

➢ The choice: Default, Manual, DOC or XMP.

eXtreme Memory Profile

➢ The choice: The choice: Disabled, Profile1 or Profile2

⚠ If DRAM support, Profile1 and Profile2 appear.

CPU DOC Set

This item allows you to set CPU DOC Set.

➢ The choice: 3%, 5%, 7%, 10%, 15% or 20% .

CPU DOC Sensitivity

This item allows user to adjust the sensitivity of DOC.

➢ The choice: Low, Medium, High or Aggressive.

CPU Clock Ratio

This item allows the user to adjust CPU Clock Ratio.

➢ The Choice: 12X～60X.

BCLK

This item allows the user to adjust Base Clock.

Min: 100 Max: 250

➢ Key in a DEC number: (Between Min and Max.)

DRAM Ratio

This item allows you to enable or disable the DRAM Clock Ratio.

➢ The choice: Auto, 3, 4 , 5 or 6.

DRAM Frequency

This item Show DRAM frequency.

Uncore Clock Ratio

This item allows you to enable/disable Uncore Clock Ratio

- The Choice: Auto, 6 ~ 15.

QPI Link Data Rate

This item allows you to enable/disable QPI Link Data Rate.

- The choice: Auto, 4.800GT, 5.866GT, or 6.400GT.

PCIEX Clock Set

This item allows you to set PCIEX Clock Set.

- The choice: 100MHz ~ 150MHz.

******** Memory Timing Set *********

DRAM_tCL

This item allows you to set DRAM_tCL.

- The choice: Auto,5, 6, 7, 8, 9 or 10.

DRAM_tRCD

This item allows you to set DRAM_tRCD.

- The choice: Auto,5, 6, 7, 8, 9 or 10.

DRAM_tRP

This item allows you to set DRAM_tRP.

- The choice: Auto,5, 6, 7, 8, 9 or 10.

DRAM_tRAS

This item allows you to set DRAM_tRAS.

- The choice: Auto or 14 ~ 28.

DRAM_tRRD

This item allows you to set DRAM_tRRD.

- The Choice: Auto,5 ~ 11.

DRAM_tWR

This item allows you to set DRAM_tWR.

- The Choice: Auto, 3 ~ 15.

DRAM_tWTR

This item allows you to set DRAM_tWTR.

- The Choice: Auto,4 ~ 15.

DRAM_tRTP

This item allows you to set DRAM_tRTP.

➢ The Choice: Auto,4～13.

DRAM_tRFC

This item allows you to set DRAM_tRFC.

➢ The Choice: Auto, 40, 41, 42, 43～100.

********** Voltage **********

⚠ Over voltage may destroy the devices like CPU, DRAM or Chipset!!

CPU Voltage

This item allows you to set CPU Voltage.

➢ The choice: Auto,0.825V～1.800V.

CPU VTT Voltage

This item allows you to set CPU VTT Voltage.

➢ The choice: Default ,1.125V～1.800V.

CPU PLL Voltage

This item allows you to set CPU PLL Voltage.

➢ The Choice: Default ,1.8255V～2.000V.

DRAM Voltage

This item allows you to set DRAM Voltage.

➢ The choice:1.525V～1.900V.

DIMM A Reference Voltage

This item allows you to set DIMM A Reference Voltage.

➢ The choice: -157.5mv～＋200mv.

DIMM B Reference Voltage

This item allows you to set DIMM B Reference Voltage.

➢ The choice: -157.5mv～＋200mv.

DIMM C Reference Voltage

This item allows you to set DIMM C Reference Voltage.

➢ The choice: -157.5mv～＋200mv.

IOH Voltage

This item allows you to set IOH PLL Voltage.

➢ The choice: 1.125V～2.000V.

IOH PLL Voltage

This item allows you to set IOH Voltage .

➢ The choice: Auto, 1.825V ～ 2.000.

ICH Voltage (1.5V)

This item allows you to set ICH Voltage(1.5V) .

➢ The choice: 1.525V～2.000V.

ICH Voltage (1.1V)

This item allows you to set ICH Voltage(1.1V) .

➢ The choice: 1.125V～2.000V.

Load Default Settings

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Default Settings (Y/N) ? N

Pressing 'Y' loads the default values that are factory-set for optimal performance system operation.

Set Supervisor/User Password

Steps to set supervisor/user password are described as follows:

New Password Setting:

1. While pressing <Enter> to set a password, a dialog box appears to ask you enter a password.
2. Key in a new password. The password can not exceed eight characters.
3. System will request you to confirm the new password again.
4. When completed, new code takes effect.

No Password Setting:

5. If you want to delete the password, just press the <Enter> key instead of typinga new password. Follow the procedure as ablve.

If You Forget Password:

6. If you forget your password, you must turn off the system and clear CMOS. Please refer to the tech notes at the end of section two for more information.

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

SAVE to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus of CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit Without Saving (Y/N)? N

This allows you to exit from Setup without storing in CMOS any change. The previous selections remain in effect. This exits from the Setup utility and restarts your computer.

TROUBLESHOOTING SOP

- Objective: To improve abilities for Shuttle's customer to troubleshoot and decrease NTF (No Trouble Found) return repair goods
- Tools: CPU, VGA card, DDR Memory, Power Supply Unit.
- Type of situation: 1. System boot failure
  2. System unstable
  3. System incompatibility

➢ System won't boot

When receive a system or motherboard from end user that can not boot. Technician will need to identify the components that can be added on this system/motherboard. You may find the specifications inside the manual, CD driver or on our website.

Web link: http://global.shuttle.com/product_type.jsp?PCI=19

Step 1 Please unplug the power cord on the power supply to clear the CMOS jumper. Clear CMOS jumper will reset previous BIOS setting to the default. Change CPU,memory modules, VGA card and power supply unit for testing.

Explanation:

Why change memory module(s)?

End user has inserted a memory module(s) which is already damaged. Chip on memory module(s) were not met by the specification of the chipset.

Example:

1. Some memory module like DDR3 1066/1333/1600(OC), user may need to add extra voltage in the BIOS in order to provide sufficient voltage for DDR3.

Why change VGA card?

1. When defected VGA card has inserted into the system/motherboard.
2. When VGA card is inserted into a system/motherboard does not support its interface.

If the system/motherboard continues fail to boot after following above procedure, please contact with your local retailer.

➢ System running unstable

If the system incompatible the following may occur:

1. Overheating

2. System compatibility issue (Software, Operating system)

3. Add on components out of system/motherboard specification (Hardware)

Suggestion:

1. Unplug the power cord from the system and clear CMOS jumper.
   Update the BIOS to newest version. Updating BIOS may fix the previous bug or enhance stability of system.

2. Add thermal greases on top of CPU die to improve the heat conduction.

3. Change other hardware such as processor, memory module(s), VGA card or power supply unit to eliminate the chance of any hardware failure and compatibility problem

4. In order to eliminate the chance of any software or operating system problem. Please backup the data in the current system on separate storage device. Format the harddrive and reinstall the operating system and driver.

5. Try cross testing, by swapping components system/motherboard.

➢ System incompatibility

There are four common system incompatibility issues, they are caused by add on device(s), driver, BIOS and hardware design. All system/motherboard may function normally until certain system actions are called upon causing conflict.

What causes CPU to become incompatible?

A processor with same speed could have difference on the sSpec#, Bus Speed, Mfg. Tech/Micron, Stepping, Cache Size and packaging type. System could show different result with differences on their performance due to the variables mentioned above. This may show a variant of inaccurate information on processor.

Example:

- Processor like AMD AM2, it has the memory control build into the processor. The compatibility issue may be different pending the version of processor.
- Processor like Intel 45nm , may have compatibility issue if the PWM on the system/motherboard does not support subject's type of processor.
- Motherboard unable to recognize incompatible processor inserted.
- BIOS did not provide efficiency of voltage to the system processor.
- Did not show the correct sign on string in the POST screen and the Cache size.

What will cause memory module incompatible?

Most of system incompatibility is cause by memory module(s). In situations like this systems may freeze while user installs system OS, running a program, or fail on the benchmark test.

Example of memory incompatibility:

- Uncompetitive memory timing or inefficiency of voltage.
- Insert different combination of memory.
- Oxidize of on golden figure of the memory modules.

What dimension of DDR2/DDR3 memory module can fit XPC?

Please check our internet website <http://global.shuttle.com/support_faq_detail.jsp?PI=766&PFI=1775> for details.

What will cause VGA card incompatibility?

VGA card incompatible may cause some functions to fail, for example system won't boot.

Example of AGP incompatibility:

- VGA card did not plug-in its extend power.
- If drivers are not installed or installed improperly, then you may not use the standby functions such as S3, S4

What size of VGA card could be fit in XPC?

Please check our internet website <http://global.shuttle.com/support_faq_detail.jsp?PI=766&PFI=1669> for details.

What will cause USB device incompatibility?

USB device did not provide efficiency of power, or driver installation incomplete.

Example of USB device incompatible:

- Shows unknown device in hardware manager due to missing driver.
- USB device that is out of standard specification may cause clock jitters with irregularly.

What will cause SATA/RAID incompatibility?

In order to install SATA for system, RAID driver is the essential part of the whole process. Without RAID driver, system may not detect the SATA harddrive.

Harddrive/CD-ROM/DVD-ROM:

When system do not detect IDE device, system will shows incorrect harddrive size

Audio:

No sound from system when drive did not install.

PCI:

When IRQ is in conflict, there could be a chance that PCI devices will fail in function.

Conclusion:

Always make sure you have the right components insert to system.

You may always find the specification of your system/motherboard from the manual, our website (product page) or download it from web link:

http://global.shuttle.com/download.jsp

BIOS update process (DOS & windows) :

How to making a bootable disk to flash BIOS?

Please check our internet website <http://global.shuttle.com/support_faq_detail.jsp?PCI=%20&PI=766&PFI=968> for details

产品中有毒有害物质或元素的名称及含量

部件名称及型号	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr^{6+})	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
主机板	X	O	O	O	O	O
机　壳	X	O	O	O	O	O
线　材	O	O	O	O	O	O
电源供应器	O	O	O	O	O	O
散热模组	X	O	O	O	O	O
包　材	O	O	O	O	O	O

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X：表示该有毒有害物至少在该部件某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。