

ARMOR+ VH6001 Series

Beyond the past, Exceed the present, Surpass the competition.



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Chapter 1. Product Introduction Specification



Model

VH6001BWS

| Case Type | Super Tower |
|--------------------------|--|
| Dimension (W*D*H) | 600 x 245 x 625 mm 23.6 x 9.6 x 24.6 Inch |
| Net Weight | 17.82 kg (39.29 lb) |
| Side panel | Transparent window |
| Sliding motherboard tray | Yes |
| Cable management | Yes |
| Sliding hood | Yes |
| Adjustable PSU bridge | Yes |
| Material | Front door: Aluminum / Chassis: 1.0mm SECC |
| Color | Black |
| Cooling System | - Front (intake) : 120 x 120 x 25mm blue LED PWM fan, 1400rpm, 17dBA - Rear (exhaust) : 120 x 120 x 25mm blue LED PWM fan, 1400rpm, 17dBA - Side (intake) : 230 x 230 x 20mm blue LED fan, 800rpm, 15dBA - Bottom (intake) : Two 140 x 140 mm fans (optional) or Two 120 x 120 mm fans (optional) - VGA (intake) : 140 x 140 x 25mm fan (optional) or 120 x 120 x 25 mm fan (optional) |
| Motherboards | 9.6" x 9.6" (Micro ATX), 12" x 9.6" (ATX), 12" x 13" (Extend ATX) |
| Drive Bays | 6 -5.25" Drive Bay -3.5" Drive Bay -3.5" Drive Bay (Hidden) |
| Front I/O | e-SATA connector x 1, USB2.0 x 4, IEEE 1394 Firewire x 1, HD Audio |
| Expansion Slots | 10 |



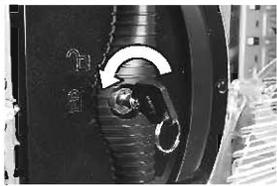
Chapter 2 Case Mechanical Operation

2.1 How to Open the Side Panel

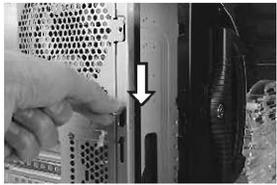
Open the transparent side panel



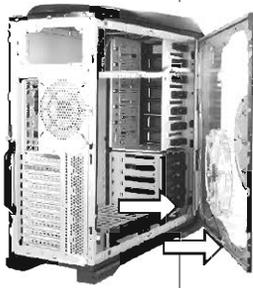
To remove the transparent side panel, please remove upper and bottom thumb screws on the back of the case.



Please find side panel key in the back of the case, and open the side panel. Make sure the side panel lock is opened.



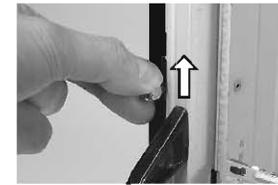
Push down the thumb screw to open the side panel.



Open the right-hand side panel



To remove the right-hand side panel, please remove upper and bottom thumb screws on the back of the case.



Pull up the thumb screw to open the side panel.



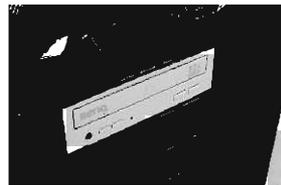
2.2 5.25" Device Installation



Remove the 5.25" drive bay cover as shown.

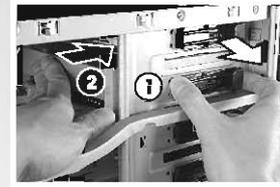


Put 5.25" device into the drive bay till the locked-position.



Notice:
It is possible to secure the 5.25" device by screws if not feel stable enough.

How to remove 5.25" device?



Pull the right-hand side of the lever to remove the 5.25" device.

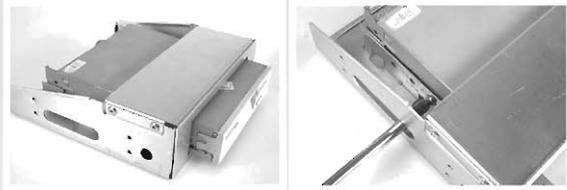
How to put back the 5.25" drive bay cover?



Install the 5.25" drive bay cover as shown.



2.3 3.5" Device Installation



Place 3.5" device on the tray and fasten it using the screws provided.



Slide the drive device into the bay and secure the tray by 5.25" slot-in kit.



Install the 5.25" to 3.5" adaptor cover provided in the tool box to the case as shown.



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2.4 HDD Installation



Remove the HDD tray by pressing the handle and pull the tray out.



Place HDD on the tray.



Secure HDD using the clips onto the HDD tray for both side.

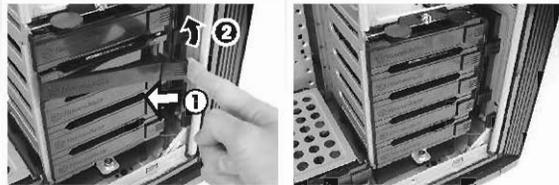
2.5 How to Remove the HDD Cage



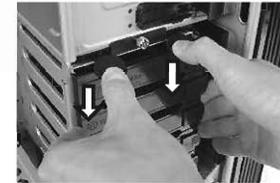
Slide the HDD tray back to the drive bay.



Unscrew the thumb screws of the cage.



Press the handle to lock the HDD tray.



Push the handle down and pull the cage out.



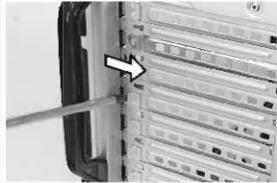
Organized HDD cable management.



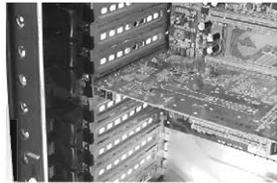
2.6 PCI Slot Tool-Free Usage



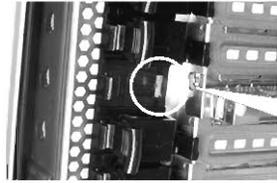
Release the plastic clip as shown.



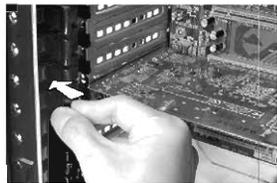
Take off the PCI bracket.



Locate Graphic Card to the motherboard through fixing it on the space of PCI bracket and insert it to the PCI slot.



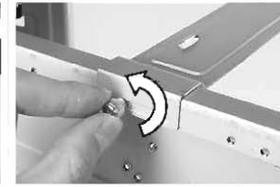
Notice:
Fix the pin into the hole.



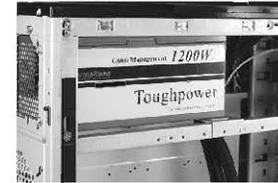
Push back the plastic clip to secure the Graphic Card.



2.7 Power Supply Installation



Take off both side panels and unscrew the thumb screws from both side of PSU supporting bridge.



Place power supply over the location as shown.

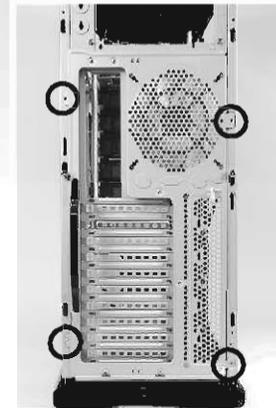


Fasten power supply by screws included.

2.8 Sliding Motherboard Tray



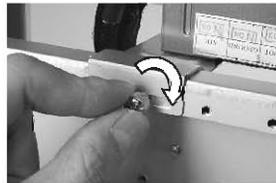
Adjust PSU supporting bridge to the appropriate position.



Remove the screws from the back of the chassis.



Fasten both side of PSU supporting bridge using the thumb screws.



Slide the motherboard tray towards the back of the case to remove it from the case.



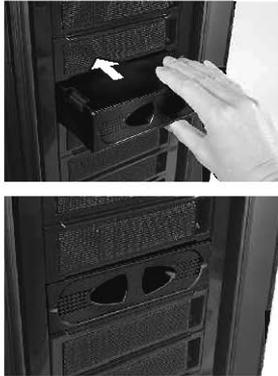
2.9 Accessory Storage

Top accessory storage



The top sliding hood allows easy access to the extra storage space for small tools and accessories.

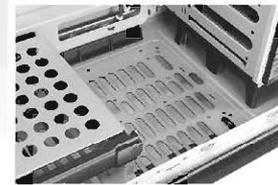
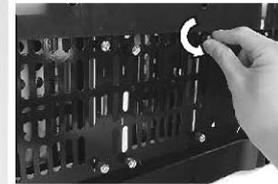
Storage draw (optional)



Please find the storage draw from the provided tool box. Then, put the storage draw into the drive bay till the locked-position.



2.10 Swappable HDD Module/ Fan Module (Optional)



Lay down your case and unscrew the thumbscrews to remove the HDD cage



Put a fan and secure it by screws and thumb nuts provided in the tool box.

Notice:
The direction of fan airflow should be as shown.

2.11 VGA Fan Installation (Optional)



Install 140mm fan to the fan holder provided in the tool box.



Secure the fan holder to the motherboard tray by screws.



Notice:

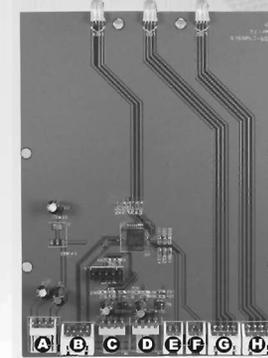
The direction of fan airflow should be as shown.



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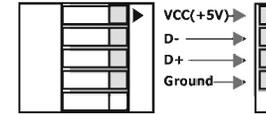
Chapter3 Case ESA Installation

3.1 Armor+ ESA PCB illustration



A. Power connector : Connect to the Power Supply.

B. USB connector : Connect to USB connector on the motherboard.



| Signal | Pin |
|----------|-------------|
| VCC(+5V) | 1(Red wire) |
| D- | 2 |
| D+ | 3 |
| Ground | 4 |

Please note that the pins of VCC & GND must be connected correctly or it may cause some damage.

C. PWM fan(1) : Connect to front(HDD) PWM fan.

D. PWM fan(2) : Connect to rear PWM fan.

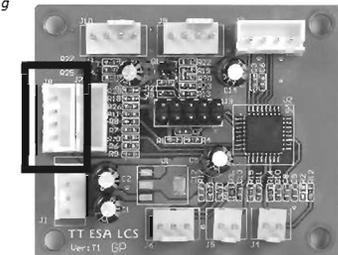
E. Temp sensor(1) : Connect to temperature sensor included.

F. Temp sensor(2) : Connect to temperature sensor included.

G. LCS LED : Connect to ESA water cooler LED connector marked in Figure 1.

It is not necessary to connect to LCS if you are not using ESA-compliant liquid cooling system.

H. PSU LED : Connect LED connector of Thermaltake ESA Power Supply to "H". Please note this USB cable is not included in this chassis.



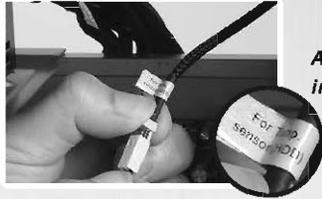
(Figure 1)

Important Notice:

Please make sure all connections to Armor+ ESA PCB are connected securely before going to next installation step.

Connect temperature sensor

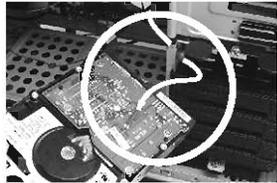
A. For Hard Disk



Attach the temp sensor included in the accessory box.



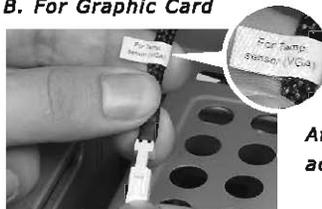
Cut a piece of the included thermal tape.



Place the sensor to hard drive. Secure the sensor with thermal tape as shown (when connecting the temp sensor, we strongly suggest to let the wire pass through the HDD cage). For hard drive installation, please refer to Page 7.

Caution:
Avoid excessive pressure to sensor.

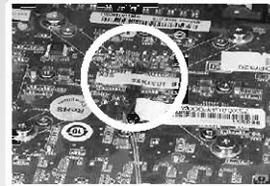
B. For Graphic Card



Attach the temp sensor included in the accessory box.



Cut a piece of the included thermal tape.



Place the sensor to Graphic Card. Secure the sensor with thermal tape.

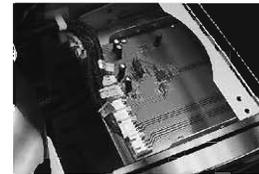
Caution:
Avoid excessive pressure to sensor.

3.2 Thermaltake ESA-compliant Water Cooler Installation (Optional)

When choosing Thermaltake ESA-compliant water cooler (P/N:CL-W0169), we suggest to follow the below instructions.



Unscrew 4 screws of the top accessory storage.



Remove the top accessory storage.



Move ESA PCB module to the 4th 5.25" drive bay.





Remove the top cable tie.



Slide LCS main unit into the top 3 5.25" drive bays till the locked-position.

Notice: For detailed Thermaltake ESA-compliant water cooler (CL-W0169) installation, please refer to water cooler's user manual.

3.3 Thermaltake ESA Software User Guide

Notice: The latest ESA software can be downloading on nvidia.com and will be shipped with motherboards.

ESA devices provides real-time monitor and control of Thermaltake PC Chassis • Thermaltake Power Supply and Thermaltake Water-cooling devices.

System Requirement:

- Supported Operating Systems
 - Microsoft Windows XP (32-bit & 64-bit)
 - Microsoft Windows Vista™
- Supported Motherboards:
 - NVIDIA nTune supports all nForce 680 Platform as well as nForce 780 Platform motherboards.

Installing NVIDIA ESA softwares

- Before you begin, please make sure your hardware meets the "System Requirements" .
- Uninstall any previous versions of NVIDIA NV Monitor / Performance / System update before installing the latest version

Installation Instructions

- 1.Download the ESA software on nvidia.com and save to a temporary folder.
- 2.Double-click Setup from your temporary folder. The InstallShield Wizard starts, and directs you through the rest of the installation process.
- 3.At the Welcome window, click Next.
- 4.Read the license agreement, then click Yes if you agree to the terms.
- 5.At the choose destination location window, browse to locate the folder where you want to NVIDIA files installed, or just use the default location and click Next. At the InstallShield Wizard Complete window, you can choose to create Desktop shortcuts and Quick Launch shortcuts items, click Finish. .

After install the NV Monitor, Performance and System update, you can see three icons on the desktop of Windows system.



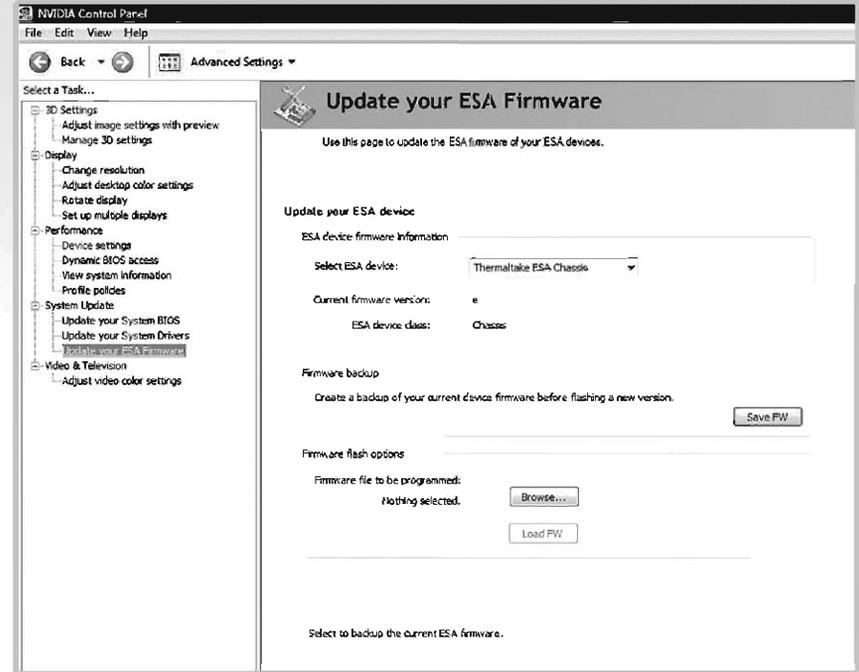
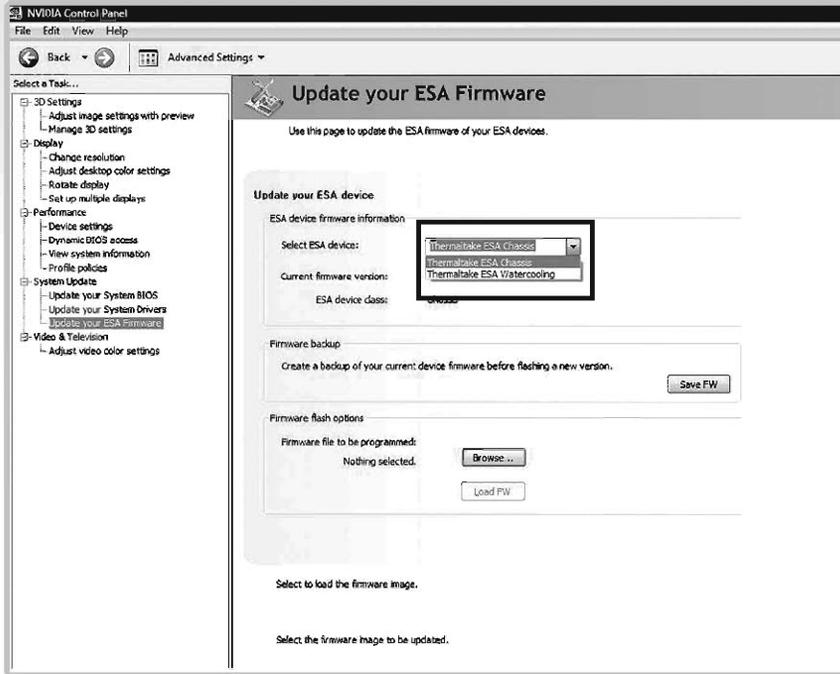
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System Update:

Please make sure your Thermaltake ESA devices with latest firmware.

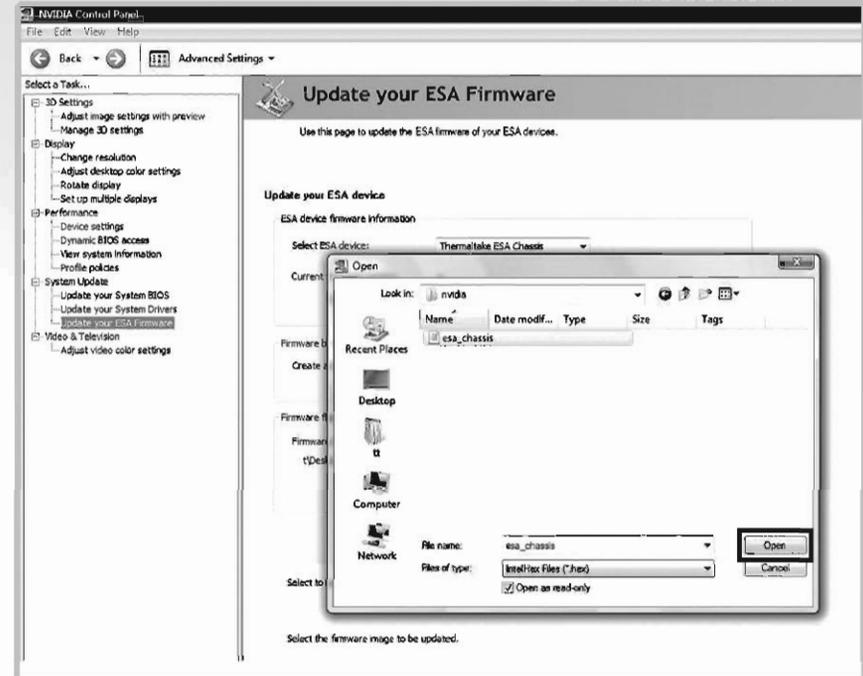
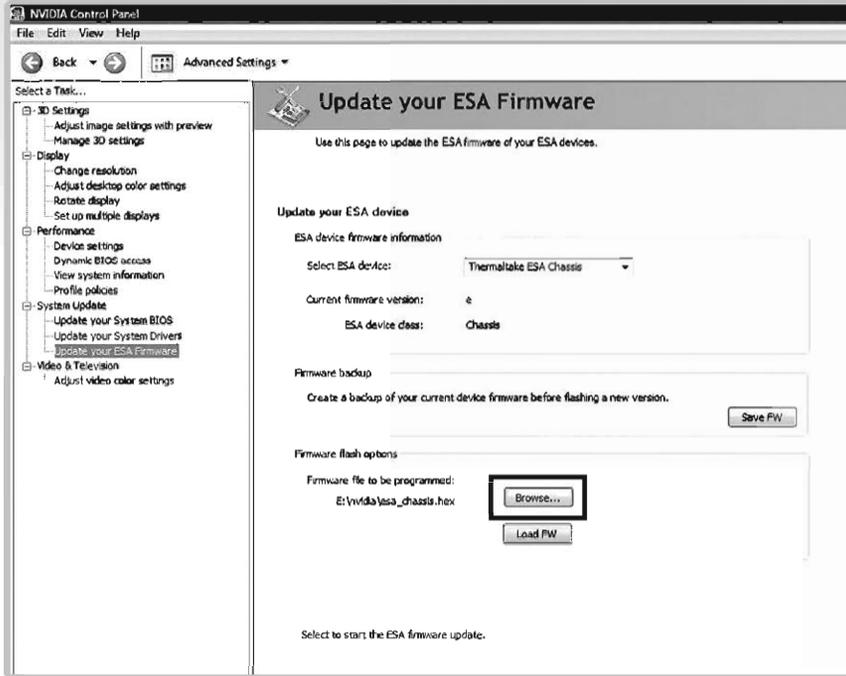
Step1:

You need to choose Thermaltake ESA Chassis.

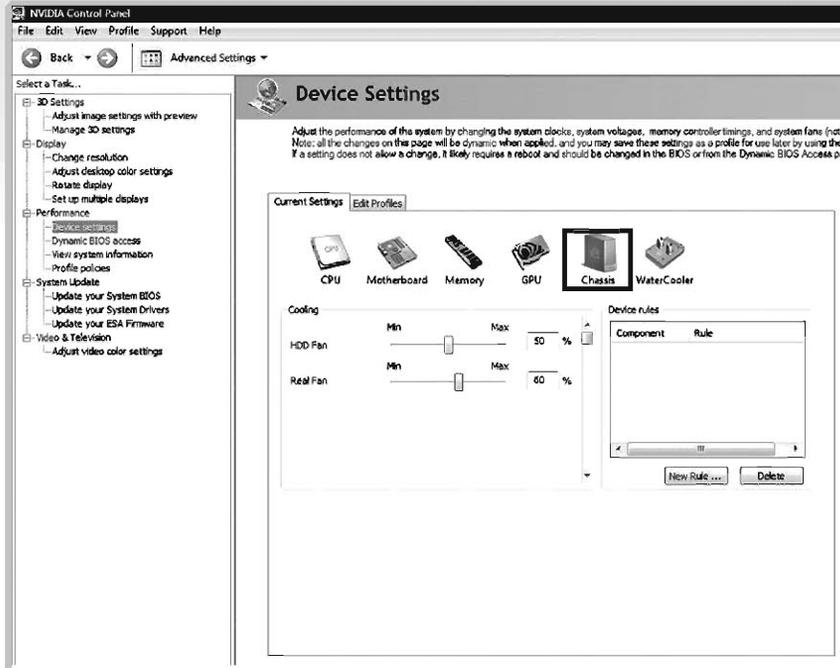


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Step 2:
You need to browse the folder where you put the ESA chassis firmware (for example) file and then open it.



In the NVIDIA Control Panel under performance item, you can use Device settings to choose Chassis (Figure 1). At each device's setting, you are able to adjust HDD Fan & Real Fan speed in percentage. All the adjustment will display in NVIDIA Monitor.



(Figure 1)



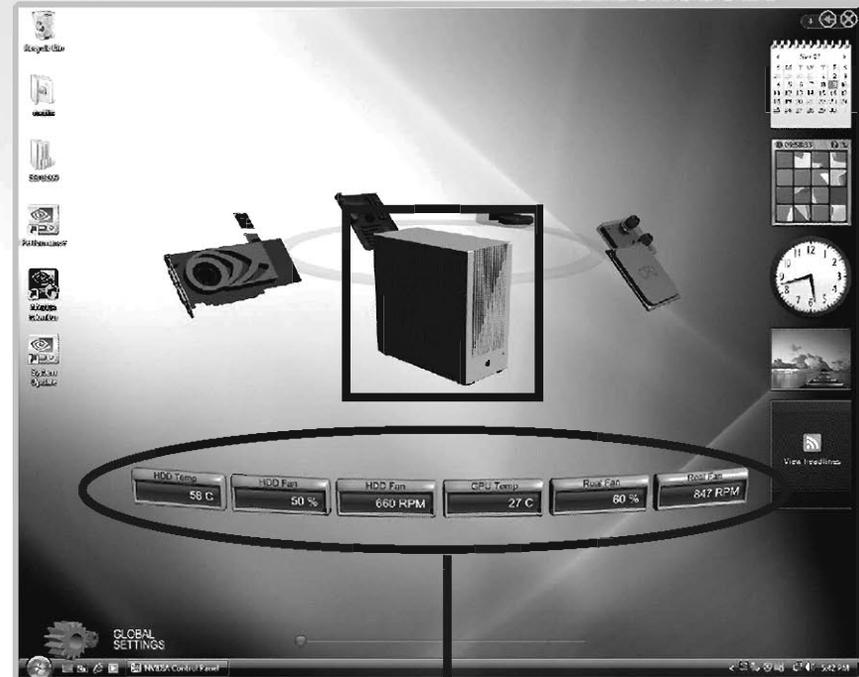
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NVIDIA Monitor

Once you implement the NVIDIA Monitor software, you are able to select which components that you want to check its status.

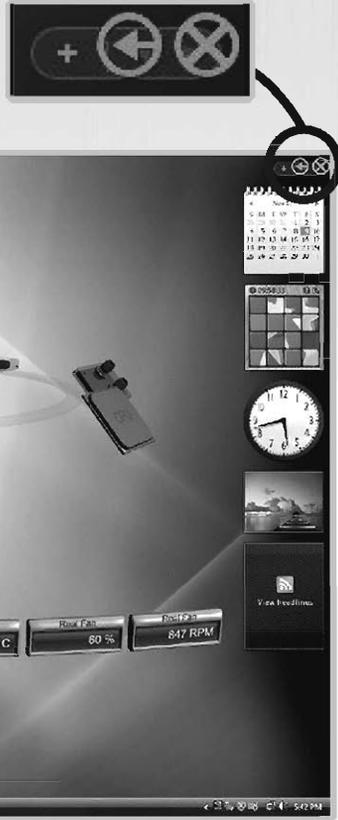
For the Thermaltake ESA chassis, you will see six icons with different functions.

Users are able to monitor real-time HDD / GPU temperature and HDD / GPU Fan speed.



Switch between NVIDIA Monitor & NVIDIA Performance software

While you are using NVIDIA Monitor software, you may click the arrow to shrink it and adjust any value in NVIDIA Performance as you wish.



Once you finish the adjustment in NVIDIA Performance, you can double click the NVIDIA Monitor icon on tool bar or type Ctrl + ALT + C and see the change in NVIDIA Monitor.



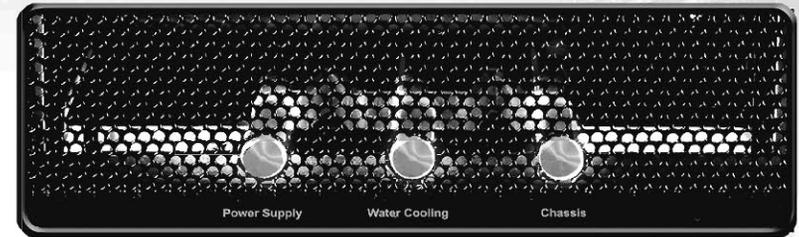
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Caution!!

All the latest ESA firmware posted at Thermaltake Website is for products sold and packaged by Thermaltake. Updating the ESA firmware only if you have problems and you are sure that the new firmware revision will solve your problems. Careless updating may result to more problems with the Thermaltake ESA Chassis, Thermaltake ESA Water Cooler and Thermaltake ESA Power Supply!

For the latest information, please visit www.thermaltake.com

3.4 Chassis LED Indication



- Green Light: Good
- Orange Light: Warning
- Red Light: Fail

Notice:

If Thermaltake ESA Power Supply and Water Cooler are not used, the Power Supply and Water Cooler LEDs will not be lighted.

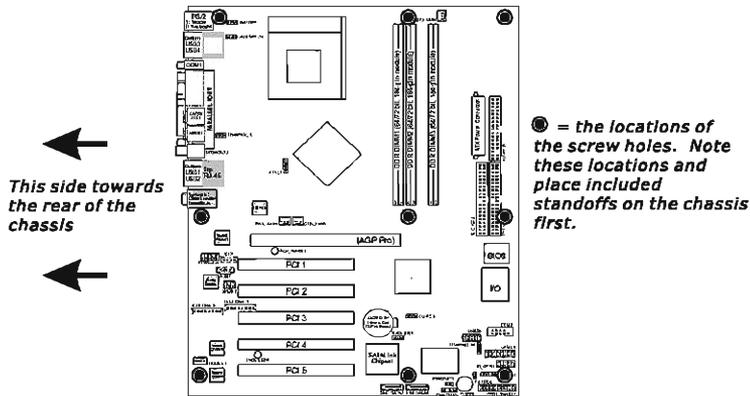
Chapter4 Motherboard & Leads Installation

4.1 Motherboard Installation

Each motherboard has different standoff layout. It is highly suggested that you refer to your motherboard's manual when installing motherboard into the Case. Armor⁺ is applicable with Extend ATX, ATX & Micro ATX motherboards. Your motherboard may require a special I/O Panel, which should be included with your motherboard.

Placement Direction:

When installing the motherboard, make sure you follow the direction provided by your motherboard manufacturer. On most standard motherboards, the edge with external ports goes to the rear part of the chassis. It is highly recommended that you install CPU, heat sink and modular components before fixing the motherboard inside the chassis.



Above illustration is a sample of what the motherboard's layout. For more detail screw hole placement, please refer to your motherboard manual.

4.2 Case LED connection

On the front of the case, you can find some LEDs and switch leads (POWER SW*1, POWER LED*1, H.D.D. LED*1, RESET SW*1) Please consult user manual of your motherboard manufacturer, then connect these leads to the panel header on the motherboard. These leads are usually labeled; if not, please trace them back to the case front to find out their source.

- **POWER LED**
connects to your M/B at the PLED
- **POWER SW**
connects to the PWR connector on the motherboard.
- **H.D.D LED**
connects to the 2-pin labeled HDD LED connector
- **RESET SW**
connects to the RSW connector on the motherboard

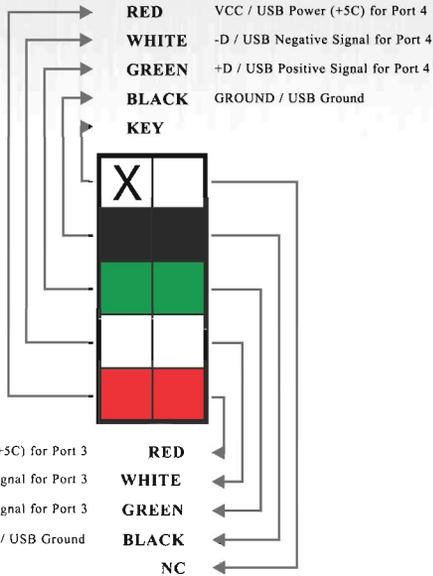


4.3 USB 2.0 & IEEE 1394 Firewire Connection

USB connection

Please consult your motherboard manual to find out the section of "USB connection".

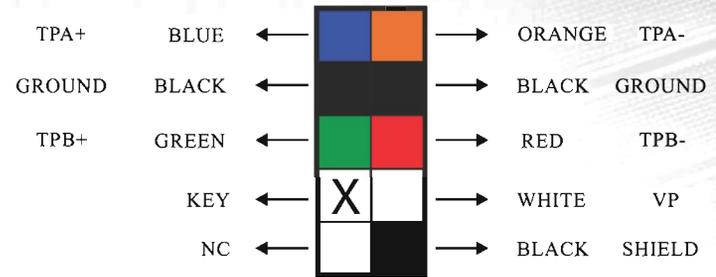
USB Function



IEEE1394 Firewire connection

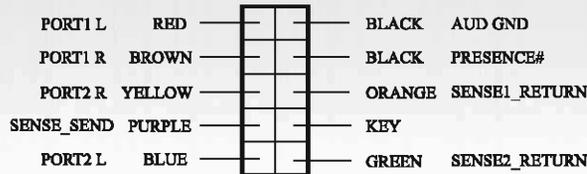
Please consult your motherboard manual to find out the section of "IEEE1394 Firewire connection".

1394 Function

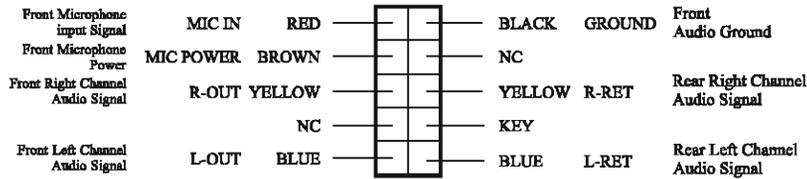


4.4 Audio Connection

- Please refer to the following illustration of Audio connector and your motherboard user manual.
- Please select the motherboard which used AC'97 or HD Audio (Azalia), (be aware of that your audio supports AC'97 or HD Audio (Azalia)) or it will damage your device(s).
- On some motherboards, the connectors for Audio are not the same as the drawing below. Please check with your motherboard manual before installing.



AUDIO AZALIA Function



AUDIO AC'97 Function

4.5 eSATA connection



Connect this to your motherboard at SATA.



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Chapter5 Other

5.1 Toughpower ESA power supply series (optional)

The Thermaltake ESA Power Supply series specification supports NVIDIA ESA Technology. It also meets latest Intel & AMD dual & Quad core processors and NVIDIA & AMD high performance graphic cards; it offers plenty of functions, which mainly include:

1. ESA power supply is capable for temperature sensing, current sensing, voltage sensing, and status LED support.
2. ESA power supply will also report operating conditions so that users can monitor and control temperature, current, and voltage regulation.
3. Automatic Fan Speed Control: All ESA power supplies can detect the inside heat and automatically adjust the fan speed to provide adequate airflow.
4. Ultra Silent: Ball bearing fans with high reliability 140mm cooling fan and super low acoustic noise under all load condition.
5. Modularized Cable Management: To eliminate clutter and improve airflow inside the case.

The functions can assure all Thermaltake ESA Power Supply meets the balance in noise control and heat exhausted. All power supply provides complete protection function as follow:

1. Over power protection.
2. Short circuit protection on all output.
3. Over voltage protection / Under voltage protection.
4. Over current protection.
5. Over temperature protection.

Besides, Thermaltake enables the quality assurance of all ESA power supply: 100% HI-POT and ATE Function Test, 100% Burn-In and AC Input cycled on/off under high temperature condition. Furthermore, it has been approved by UL, CUL, TUV, CB, FCC, CE, and BSMI.

There are three main products line of Thermaltake PSU which divided into Toughpower, Purepower (Include Purepower RX) and TR2 (Include TR2 RX) series. Please refer to http://www.thermaltake.com/product/Power/power_index.asp



Toughpower 850W

P/N:W0178

