



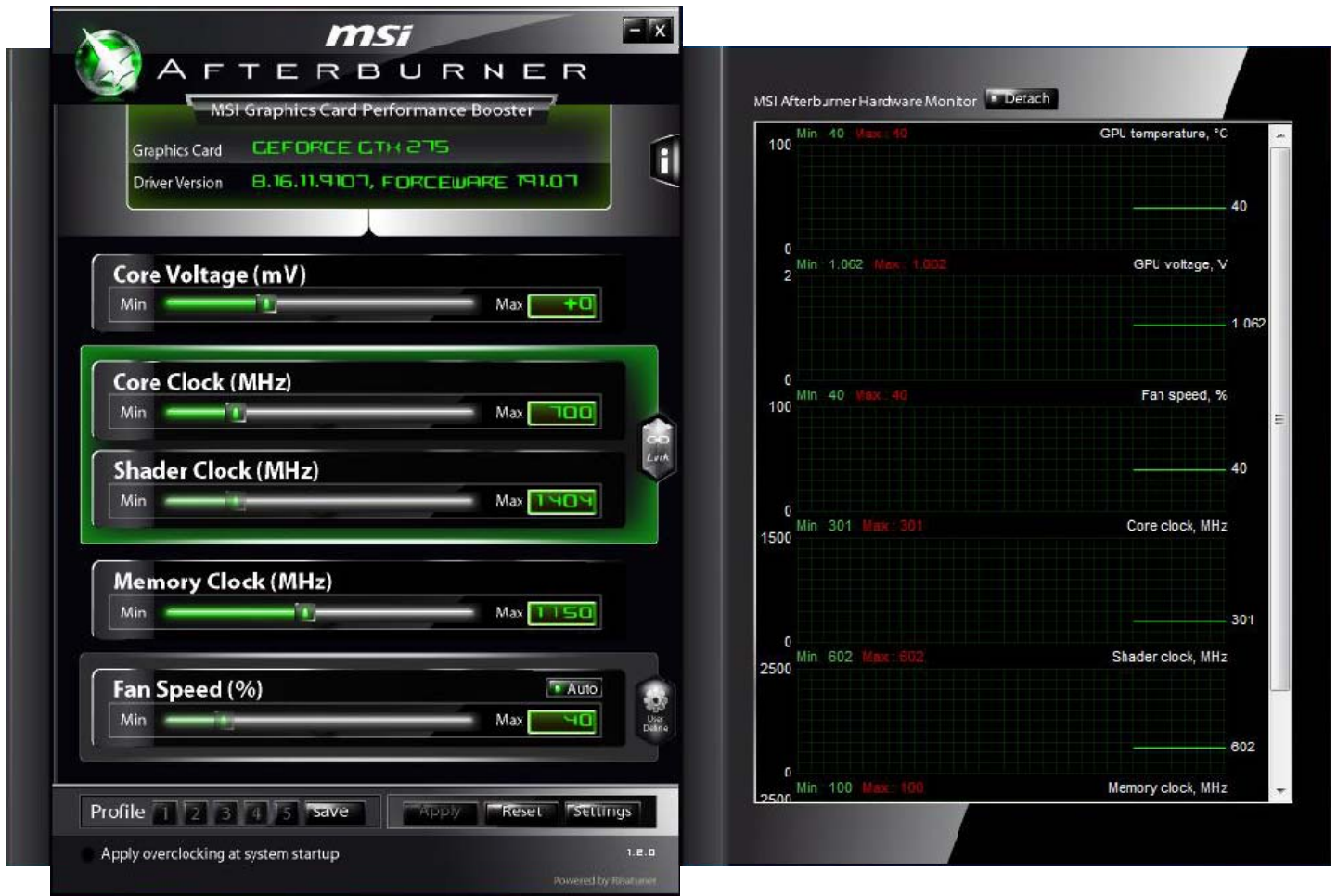
# MSI Afterburner User Manual

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# 1. Introduction

Co-development by msi and Rivetuner, MSI releases the ultimate graphics card utility "Afterburner." This utility enables all MSI graphics card users to boost performance and to monitor all kinds of critical information on the fly. Afterburner is a kind complete free utility which is compatible with almost all graphics cards.



## 2. Get MSI Afterburner

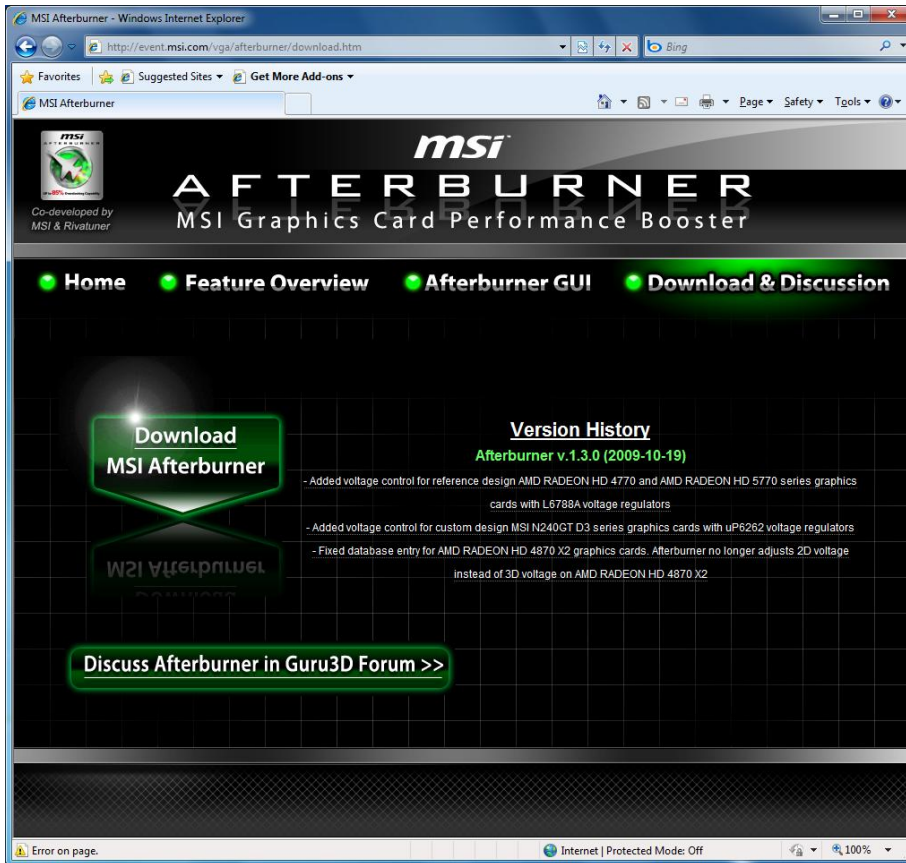
The MSI Afterburner CD will be bundled with every MSI graphics card. If you want a newer version, You can also visit the MSI Afterburner official website ( <http://event.msi.com/vga/afterburner/> ) to download it.



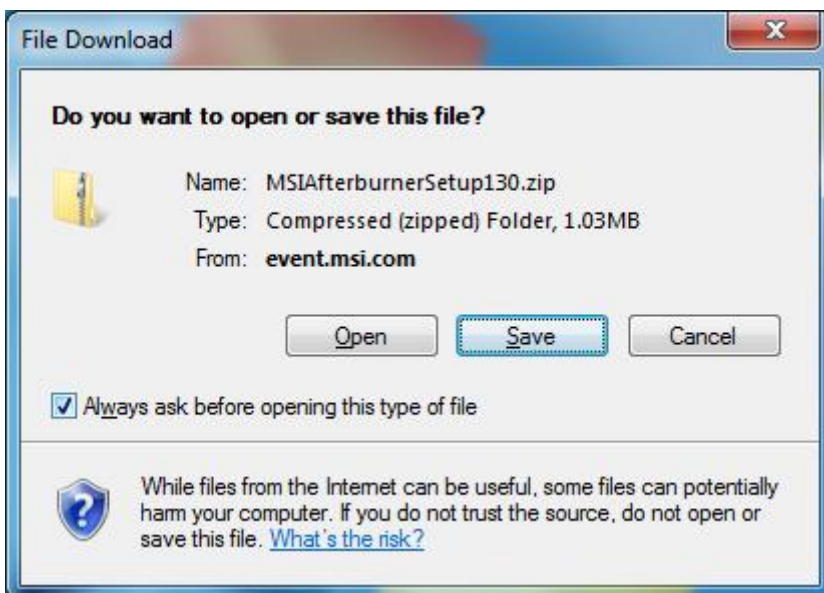
**Step 1:** Run your WWW browser software and visit the MSI Afterburner official website ( <http://event.msi.com/vga/afterburner/> ). Click <Go> to enter the main page.



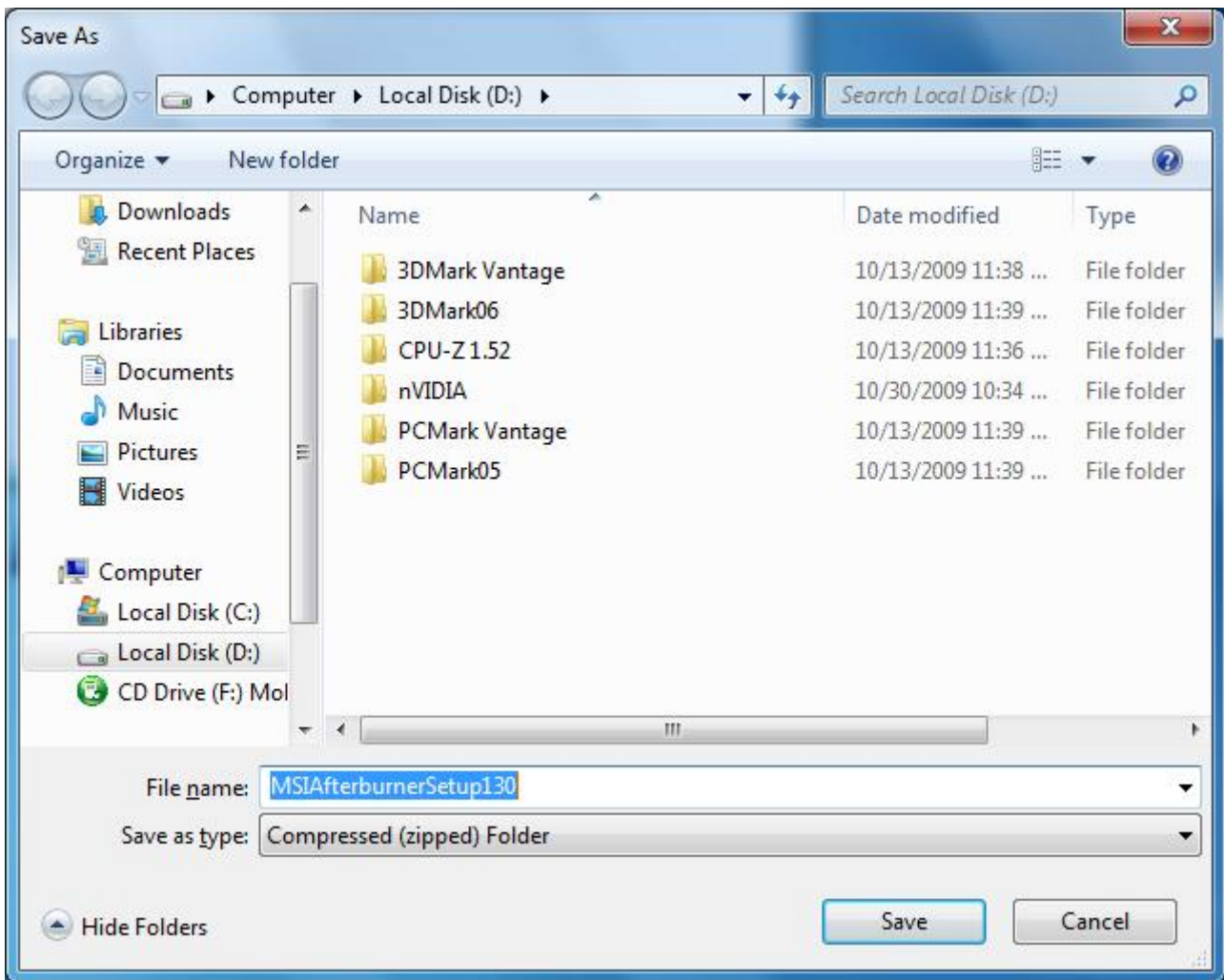
**Step 2:** After entering the main page, click the <Download & Discussion> button to enter the Download & Discussion Page.



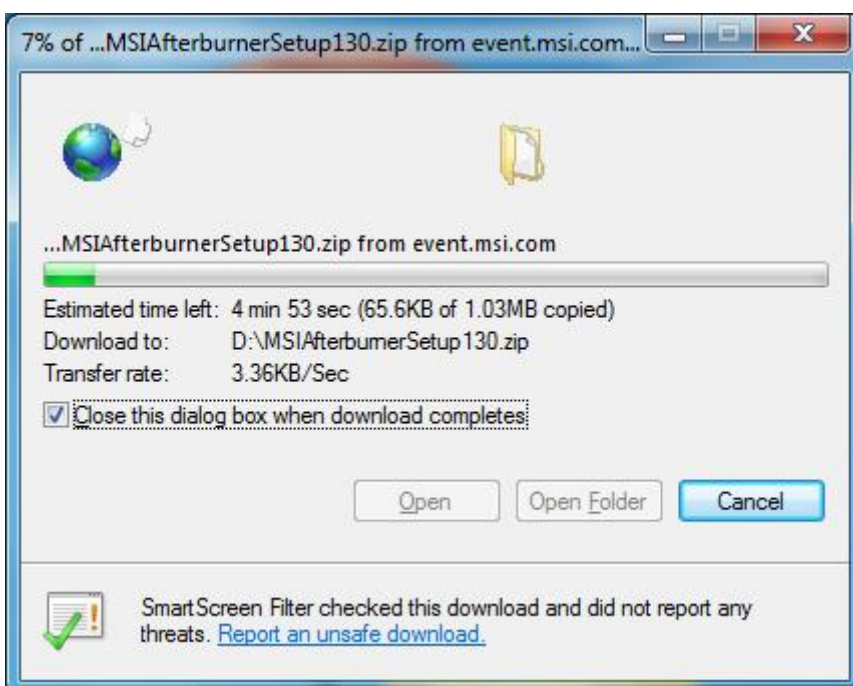
**Step 3:** In the Download & Discussion page, click the [Download MSI Afterburner](#) button to download the latest version of MSI Afterburner.



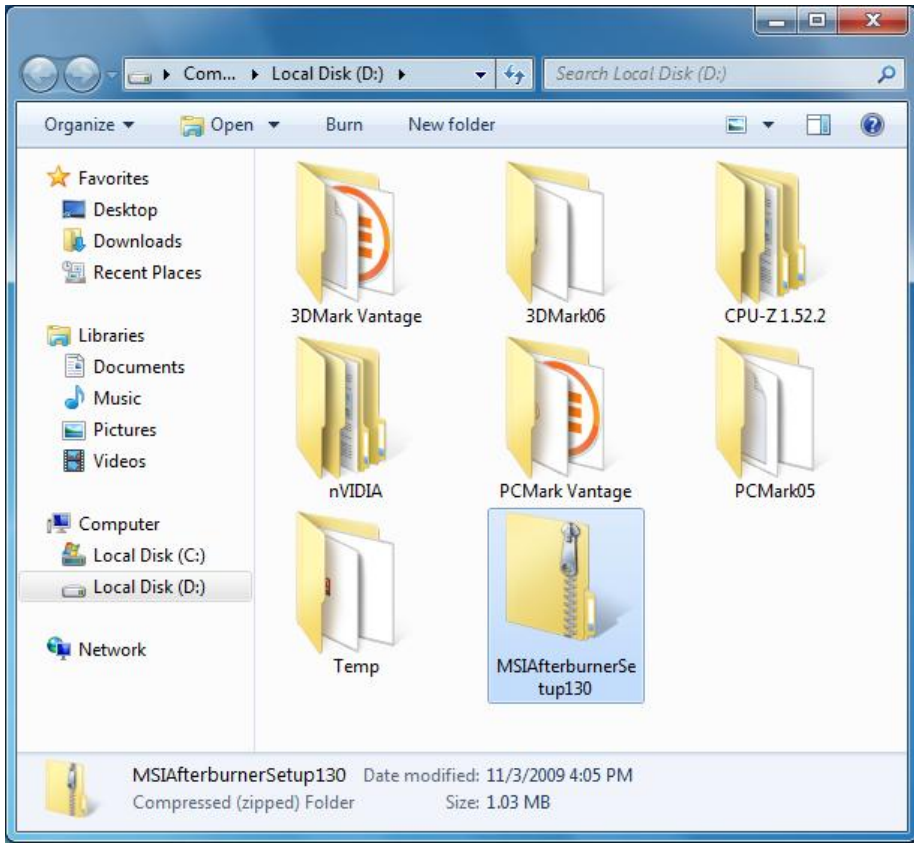
**Step 4:** When the download dialogue window appears, click the [save](#) button to download the MSI Afterburner zip file.



**Step 5:** Select a folder to save MSI Afterburner zip file.



**Step 6:** The download progress starts. It will spend some time to download it.

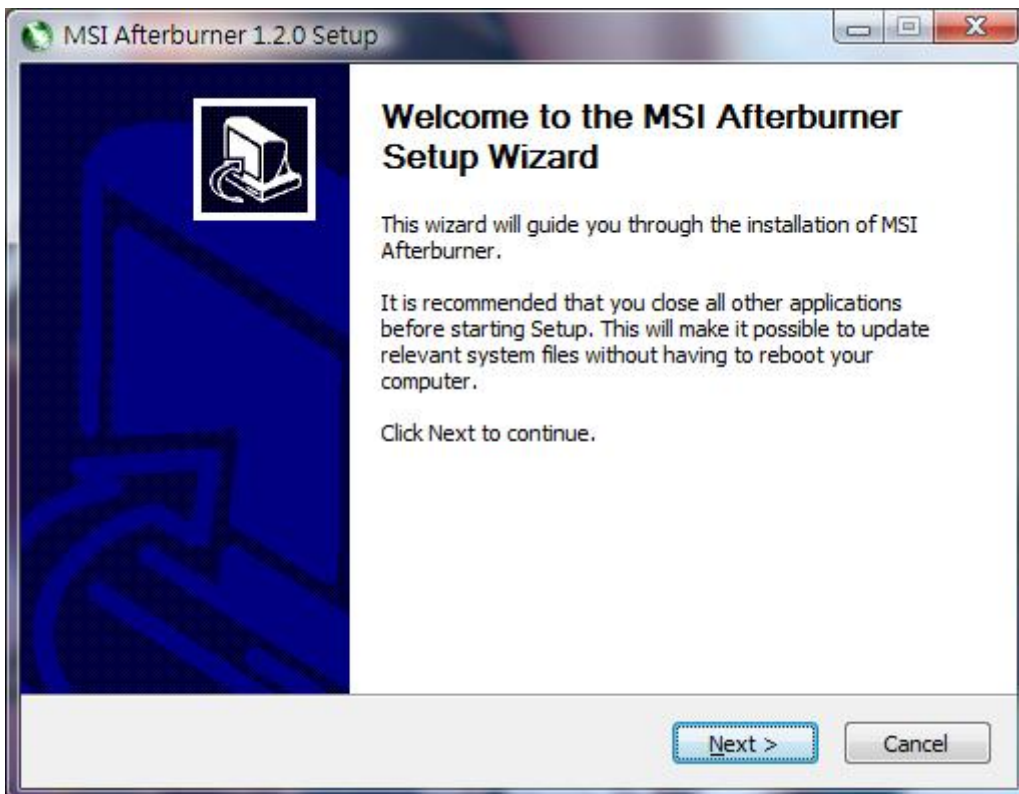


**Step 7:** After the download progress is complete, you will see the MSI Afterburner zip file in the folder you selected.

# 3. Software Installation

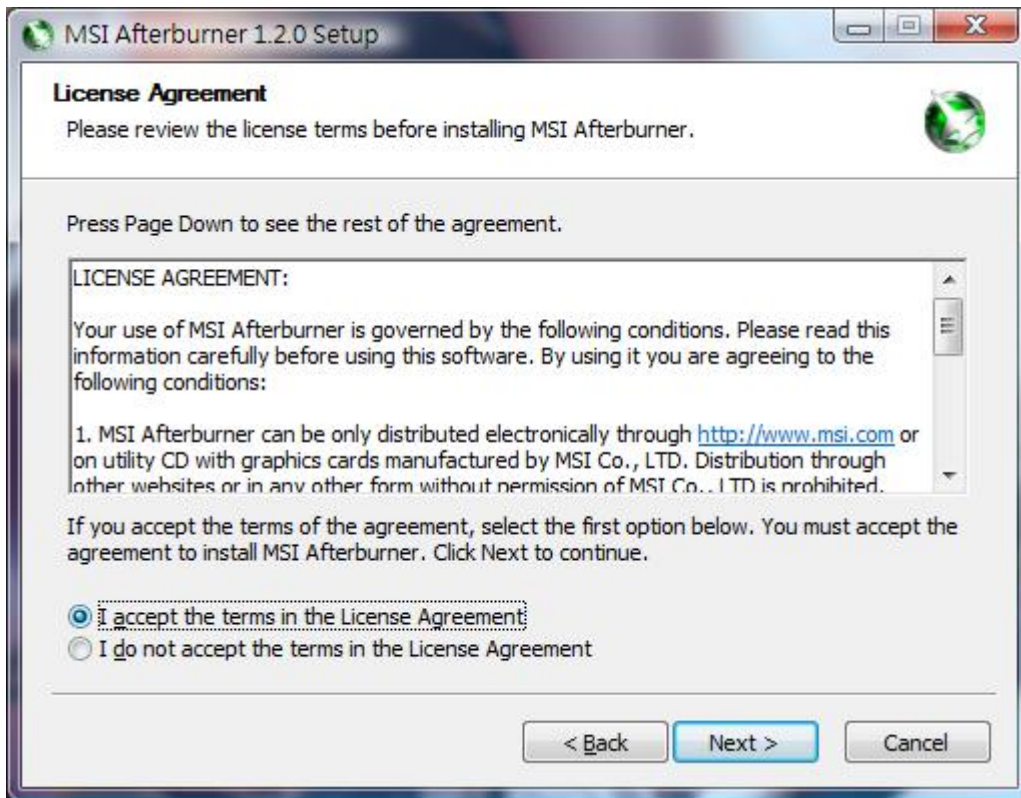


**Step 1:** Run the **.exe** file in the zip file.

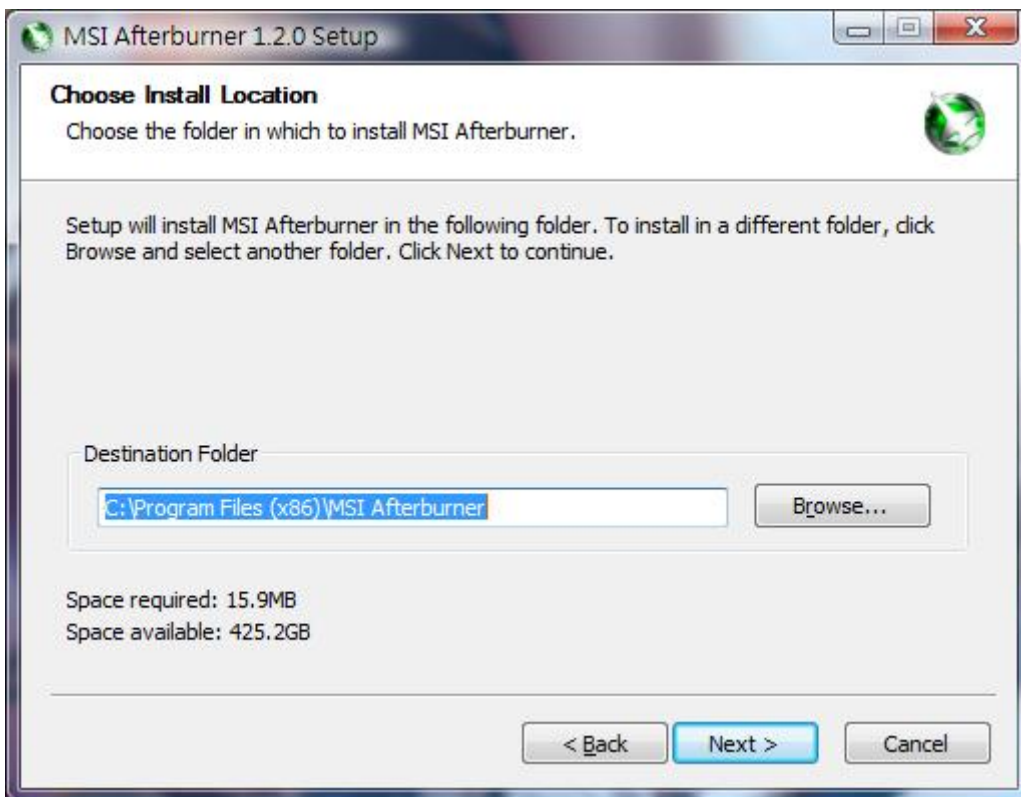


**Step 2:** Click **<Next>** to continue the installation, or click the **<Cancel>** button to cancel it.

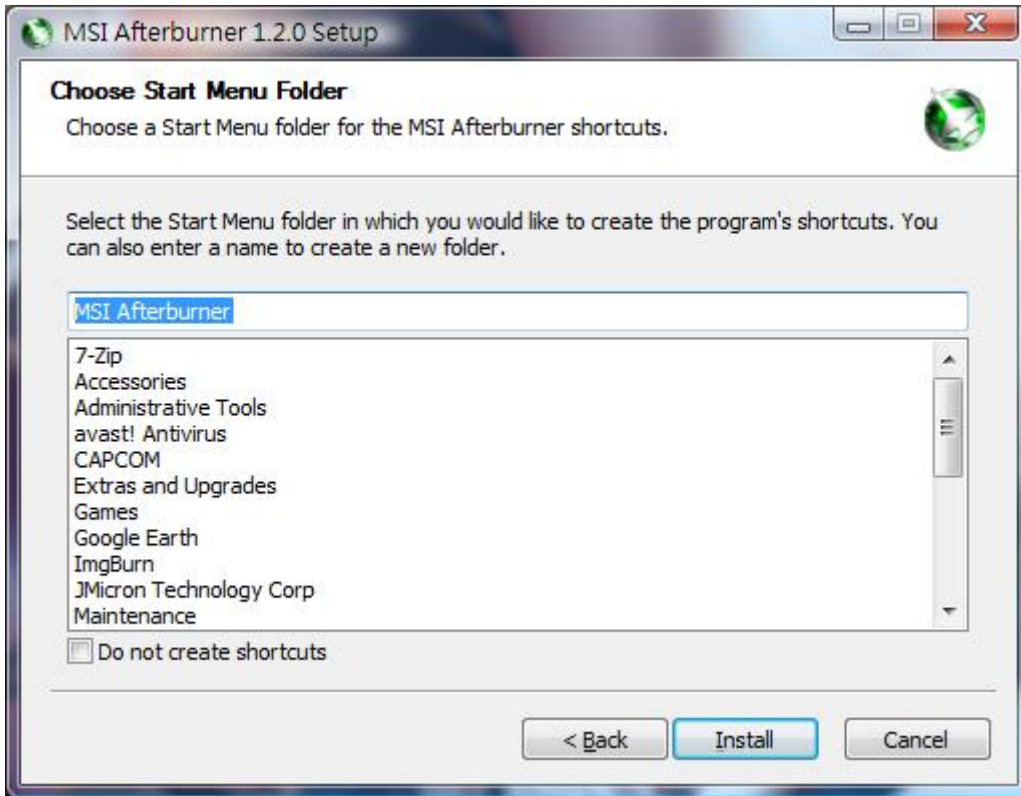




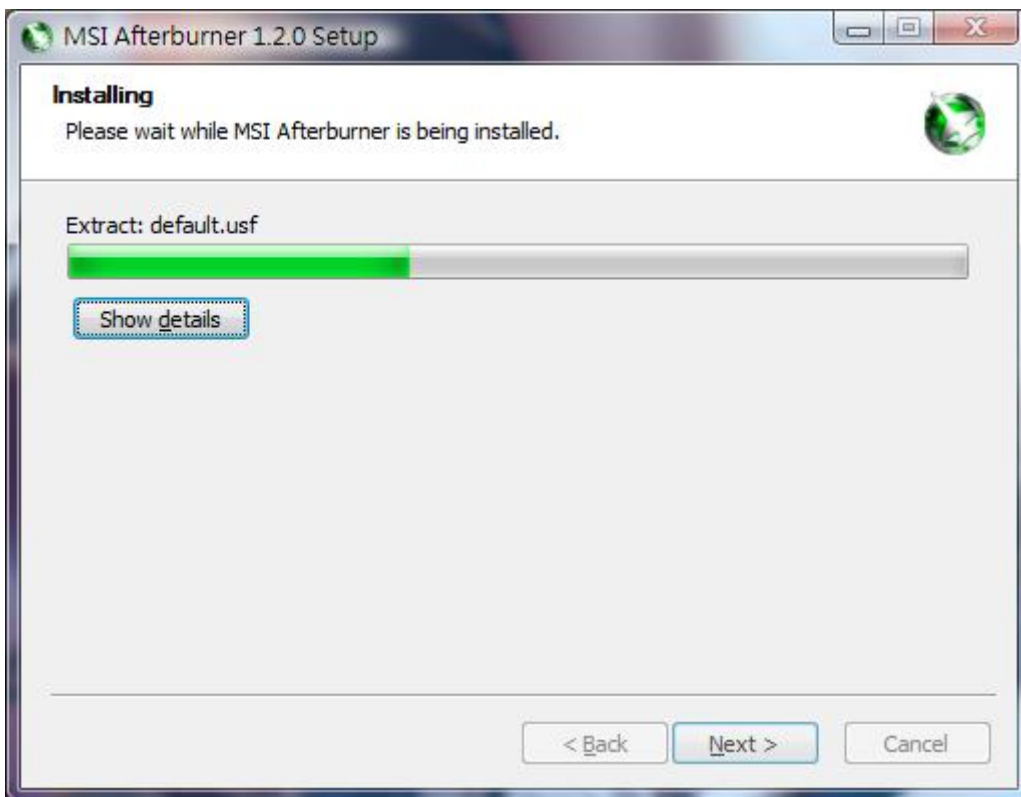
**Step 3:** If you agree with the License terms, choose the **<I accept the terms in the License Agreement>** and click the **<Next>** button to continue the installation.



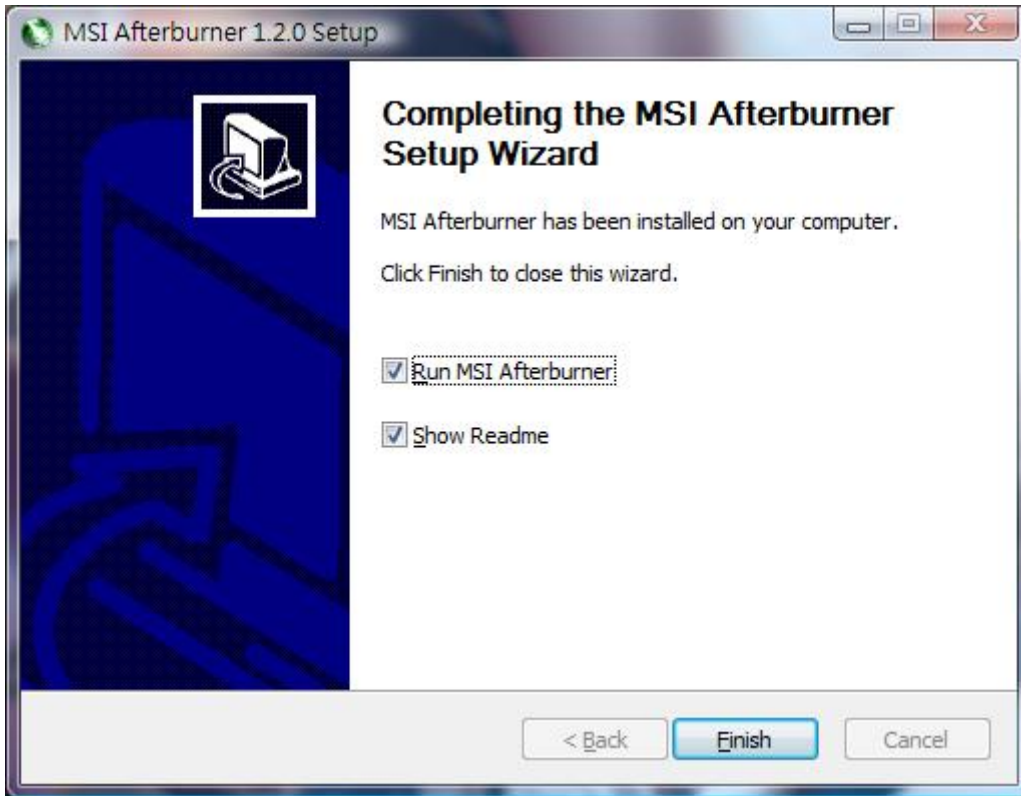
**Step 4:** Click **<Browse>** to select another folder to install the MSI Afterburner, or just click **<Next>** to accept the default value.



**Step 5:** Choose a Start Menu Folder for the MSI Afterburner shortcuts, or enter a name to create a new folder. The default folder is **MSI Afterburner**.



**Step 6:** After finishing these selections before, the MSI Afterburner setup program will start installing. Click **<Show details>** to see what the installation does in your system.



**Step 7:** When you see this page, it means the MSI Afterburner installation is complete. Click **<Finish>** to close the wizard. You can uncheck **Run the MSI Afterburner** and **Show Readme** if you really don't want to do these two things.

# 4. Overclocking Features



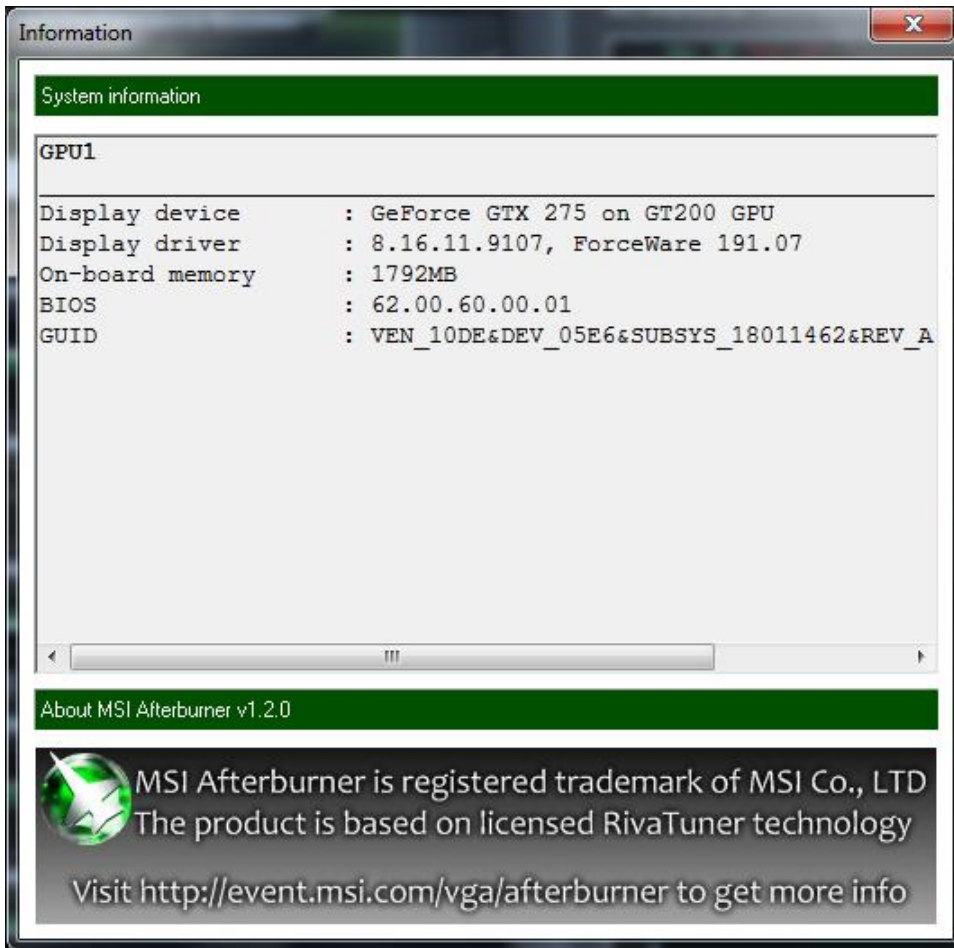
4-1.



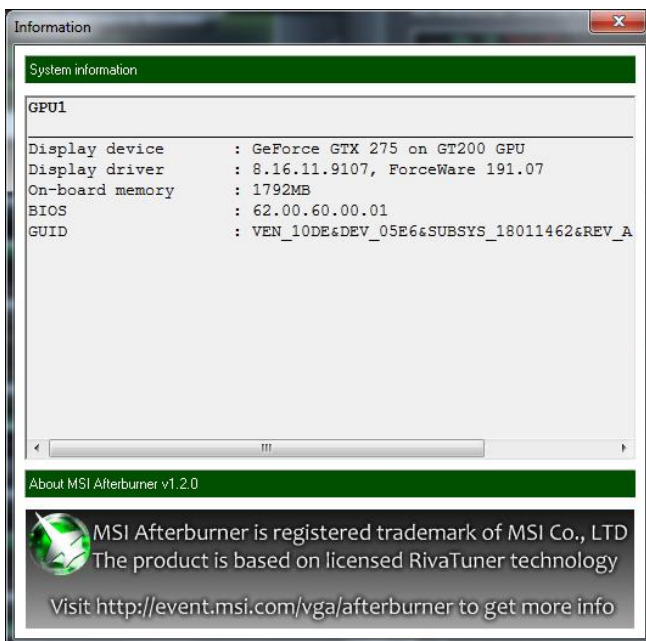
**Graphics Card** : Display master GPU graphics card model.

**Driver Version** : Display master GPU driver version.

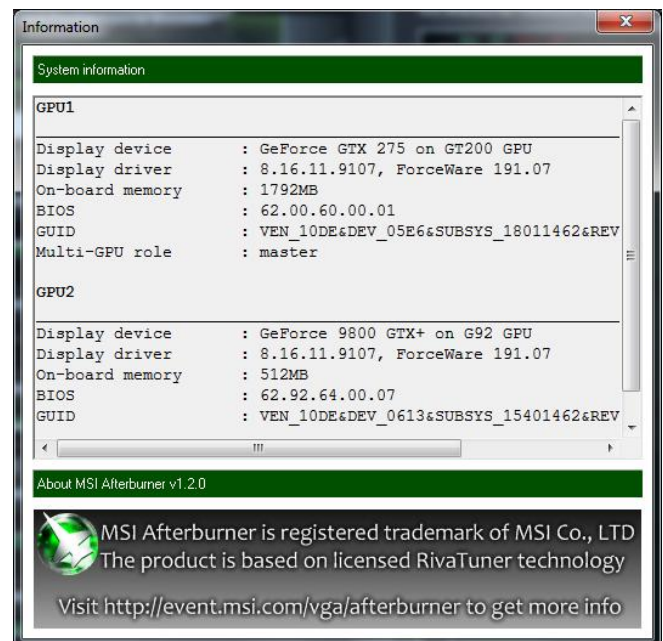
## 4-2.



**Information** : Display information about your graphics hardware and software. In a multi-GPU system, users will see the information listed as GPU1, GPU2.....and, etc. The difference is just as below:



System Information (Single GPU)



System Information (2 GPUs or above)

#### 4-3.



**Core Voltage (mV)** : Adjust master GPU core voltage. Depending on graphics card model the voltage can be represented either explicitly or as an offset added to base voltage. Signed values represented the offset whilst unsigned values represent absolute voltage. Drag the bar left/right to decrease/increase the GPU voltage; or input the custom value directly in the final column. You can try to adjust the GPU voltage to get higher overclocking capability.

**Hint 1:** When GPU settings synchronization mode is enabled in <General> tab in advanced properties, any changes applied to the master GPU are also applied to all similar GPUs in the system.

**Hint 2:** Voltage control is available on limited set of graphics card models equipped with programmable voltage regulation module. Please refer to documentation to get full list of graphics card models supporting voltage adjustments.

**Hint 3:** When the slider is focused, you may use cursor keys on your keyboard to finetune the clock.

**Hint 4:** You may click the adjacent edit field to directly type the in a desired clock.

#### 4-4.



**Core Clock (MHz)** : Adjust master GPU core clock. Drag the bar left/right to decrease/increase the master GPU clock, or input the custom value directly in the final column. When it is set higher/lower, it will increase/decrease the 3D performance, and the working temperature will be higher/lower.

**Hint 1:** When GPU settings synchronization mode is enabled in <General> tab in advanced properties, any changes applied to the master GPU are also applied to all similar GPUs in the system.

**Hint 2:** When adjusting core and shader clocks independently, please remember that the minimum shader to core clock ration is limited by hardware. Attempt to drive the ratio out of range may prevent the clocks from applying.

**Hint 3:** When the slider is focused, you may use cursor keys on your keyboard to finetune the clock.

**Hint 4:** You may click the adjacent edit field to directly type the in a desired clock.

#### 4-5.



**Shader Clock (MHz)** : Adjust master GPU shader clock. Drag the bar left/right to decrease/increase the GPU Shader Clock, or input the custom value directly in the final column (NVIDIA GPU only).


**Hint 1:** When GPU settings synchronization mode is enabled in <General> tab in advanced properties, any changes applied to the master GPU are also applied to all similar GPUs in the system.

**Hint 2:** Shader clock adjustment is available only on NVIDIA GeForce 8 or higher series graphics cards. ATI

graphics cards don't support independent shader clock adjustment.

**Hint 3:** When adjusting core and shader clocks independently please remember that the maximum allowed shader to core clock ratio is limited by hardware. Attempt to drive the ratio out of range may prevent the clocks from applying.



**Hint 4:** The  button must be unchecked to adjust shader clock independently of core clock.

**Hint 5:** When the slider is focused, you may use cursor keys on your keyboard to finetune the clock.

**Hint 6:** You may click the adjacent edit field to directly type the in a desired clock.

#### 4-6.



**Memory Clock (MHz) :** Adjust master GPU memory clock. Drag the bar left/right to decrease/increase the graphics memory's clock, or input the custom value directly in the final column.

**Hint 1:** When GPU settings synchronization mode is enabled in <General> tab in advanced properties, any changes applied to the master GPU are also applied to all similar GPUs in the system.

**Hint 2:** When the slider is focused, you may use cursor keys on your keyboard to finetune the clock.

**Hint 3:** You may click the adjacent edit field to directly type the in a desired clock.

#### 4-7.



**Fan Speed (%) :** Allow control of master GPU fan speed to be automatic or manual. The default value is **Auto**. After disabling it, drag the bar left/right to decrease/increase the graphics card's cooling fan speed, or input the custom value directly in the final column. When the fan speed is set lower, the graphics card will work more quietly, but the working temperature will be higher. When the fan speed is set higher, the graphics card's working temperature will be lower, but the fan noise will be increased.

**Hint 1:** When GPU settings synchronization mode is enabled in <General> tab in advanced properties, any changes applied to the master GPU are also applied to all similar GPUs in the system.


**Hint 2:** Fan speed control is not available if graphics card is not equipped with fan controller chip and (or) controllable cooling system.

**Hint 3:**  button must be unchecked in order to control the fan directly.


**Hint 4:** When the slider is focused, you may use cursor keys on your keyboard to finetune the clock.

**Hint 5:** You may click the adjacent edit field to directly type the in a desired clock.



**User Define:** Click  to enable user defined software automatic fan control mode. In this mode







software will periodically detect GPU temperature and sets new fan speed according to the fan speed curve, defined in the <fan> tab in advanced properties.

**Hint 1:** You can still use  to switch between automatic and manual fan speed control modes even if the user defined automatic software fan control mode is enabled.

#### 4-8.








**Profile Slot 1 ~ 5 :** Save current applied voltage, clock and fan control settings to Profile Slot 1 ~ 5.

**Hint 1:** You may click  button, then click each profile slot button (, , , , and )

while it is flashing to save current applied settings to the profile slot you select. Profile Slots of all GPUs installed in the system are saved synchronically.

**Hint 2:** You may save/delete a profile by right clicking each profile slot button. Profile Slots of all GPUs installed in the system are saved synchronically.

**Hint 3:** You may save/delete a profile to profile slot 1 / 2 / 3 / 4 / 5 by pressing <Ctrl> + <1> / <Ctrl> + <2> / <Ctrl> + <3> / <Ctrl> + <4> / <Ctrl> + <5> on the keyboard. Profile Slots of all GPUs installed in the system are saved synchronically.

**Hint 4:** You may load master GPU profile from profile slot 1, 2, 3, 4, or 5 by clicking (, , , , or ) button, or by pressing <1>, <2>, <3>, <4>, or <5> key on your keyboard.

**Hint 5:** You may load and automatically apply the profiles via tray menu or even assign global hotkeys for each profile slot via advanced properties window.

**Hint 6:** You may use automatic profiles management function and assign different profiles for 2D and 3D applications via the <Profiles> tab in

#### 4-9.



**Apply overclocking at system startup :** When it is enabled, it allows applying current voltage, clock and fan control settings at Windows startup.

**Hint 1:** You may press and hold <Ctrl> key immediately after logging in to Windows to bypass applying the settings.

#### 4-10.



**Apply :** Applies current settings to the master GPU.

**Hint 1:** When GPU settings synchronization mode is enabled in <General> tab in advanced properties, any changes applied to the master GPU are also applied to all similar GPUs installed in the system.

**Hint 2:** Always apply to the changes you've made before switching to a new master GPU. Any unapplied GPU settings are lost on new master GPU selection.



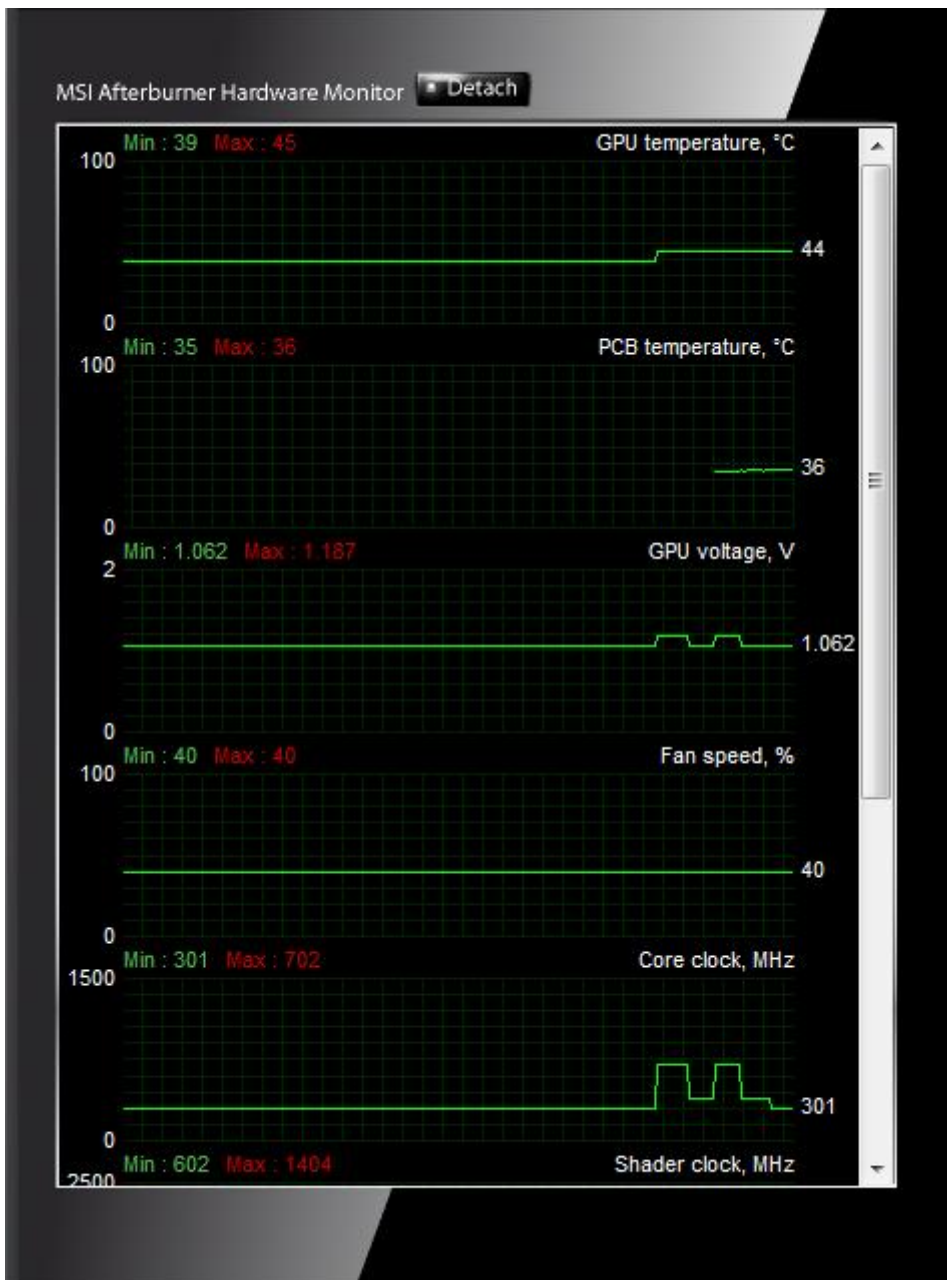
**Reset** : Resets master GPU to default settings.

**Hint 1**: When GPU settings synchronization mode is enabled in <General> tab in advanced properties, any changes applied to the master GPU are also applied to all similar GPUs installed in the system.

**Hint 2**: You may press <Ctrl> + <D> keys to reset master GPU to default settings from your keyboard.

**Settings** : Displays advanced properties.

# 5. Monitoring Window



**Monitoring Window** : It displays history graph for your GPU temperatures and other hardware health parameters. If you click the **Detach** button, it will separate from the main window, and become a standalone monitoring window. It will be like the example below:

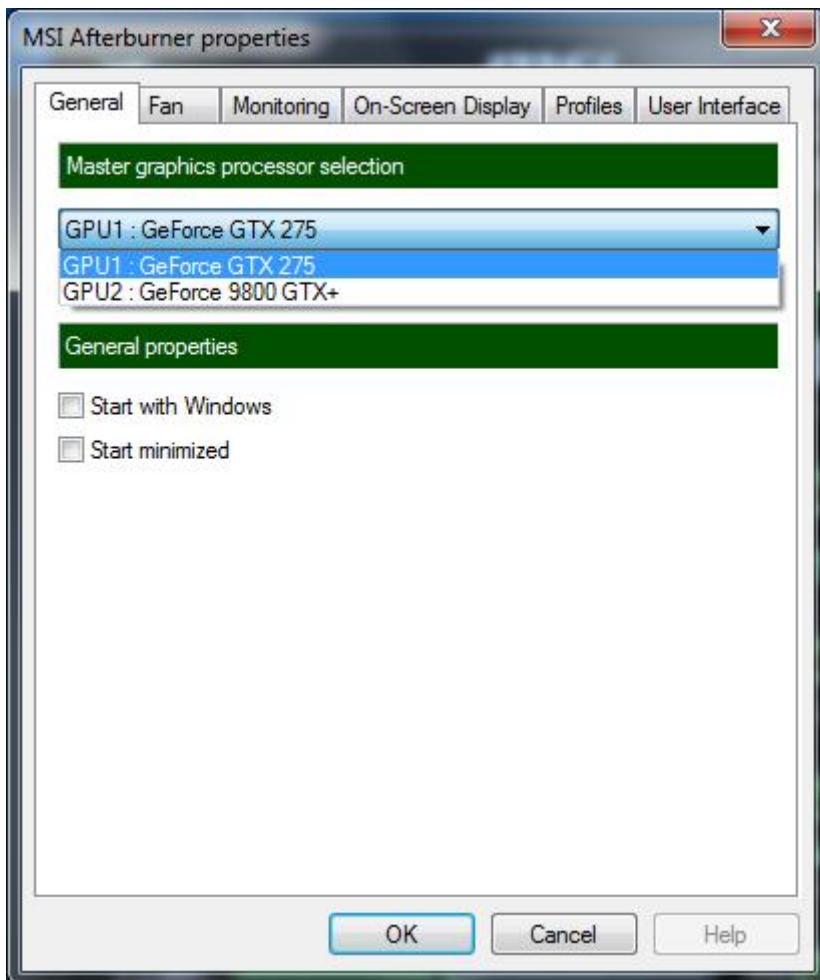


→ Click the **Detach** button →



# 6. Advanced Properties

## 6-1. General



### Master graphics processor selection

Through the dropdown list, users choose the master graphics processor to adjust the overclocking configuration and monitoring its temperatures and other hardware health parameters.

**Synchronize settings for similar graphics processors** : Synchronize your settings for similar graphics processors. It is useful for a system with multi-GPU technology such as CrossFire/SLI to synchronize its overclocking settings to all GPUs.

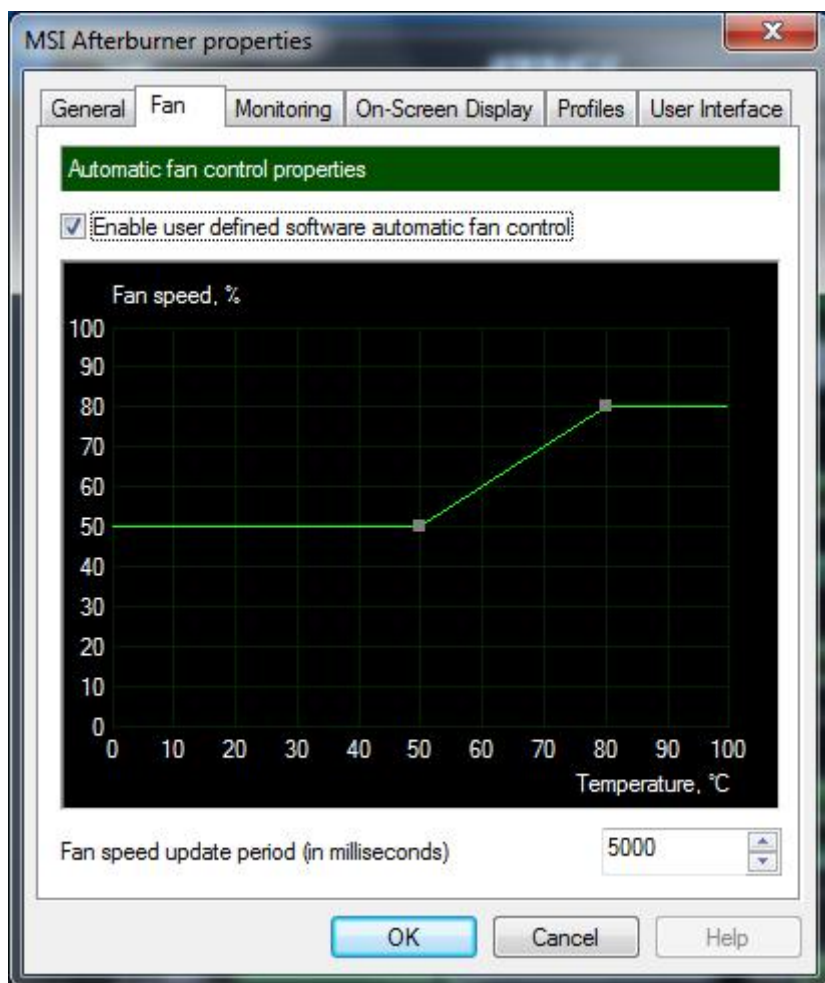
### General properties

**Start with Windows** : After logging in to the Windows, start up the Afterburner.

**Start minimized** : After logging in to the Windows, start up the Afterburner and minimize it to the system

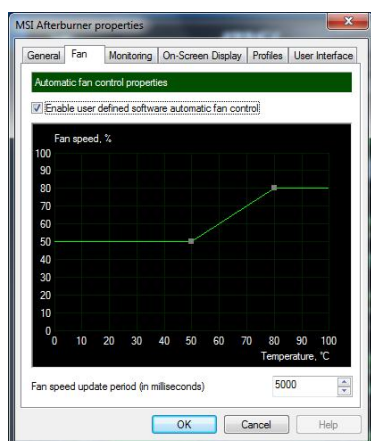
tray.

## 6-2. Fan

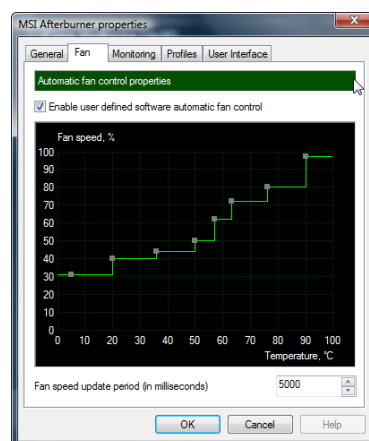


### Automatic fan control properties

**Enable user defined software automatic fan control** : After checking it, the Fan speed curve will be shown, and users can customize the fan speed settings by adding and adjusting new fan-speed/temperature node, just as the example below:



→ adding new checkpoints →



**Hint 1:** You may perform the following actions while editing the curve –

**Hint 1-1:** Click the curve to add new node in the cursor position. It is allowed to add up to 8 nodes.

**Hint 1-2:** Click existing node to select it and drag it with mouse cursor to adjust the curve. Selected node position can be also fine tuned from the keyboard with cursor keys.

**Hint 1-3:** Press <Del> to delete the selected node.

**Hint 1-4:** Press <Ctrl> + <D> to reset the curve to default state.

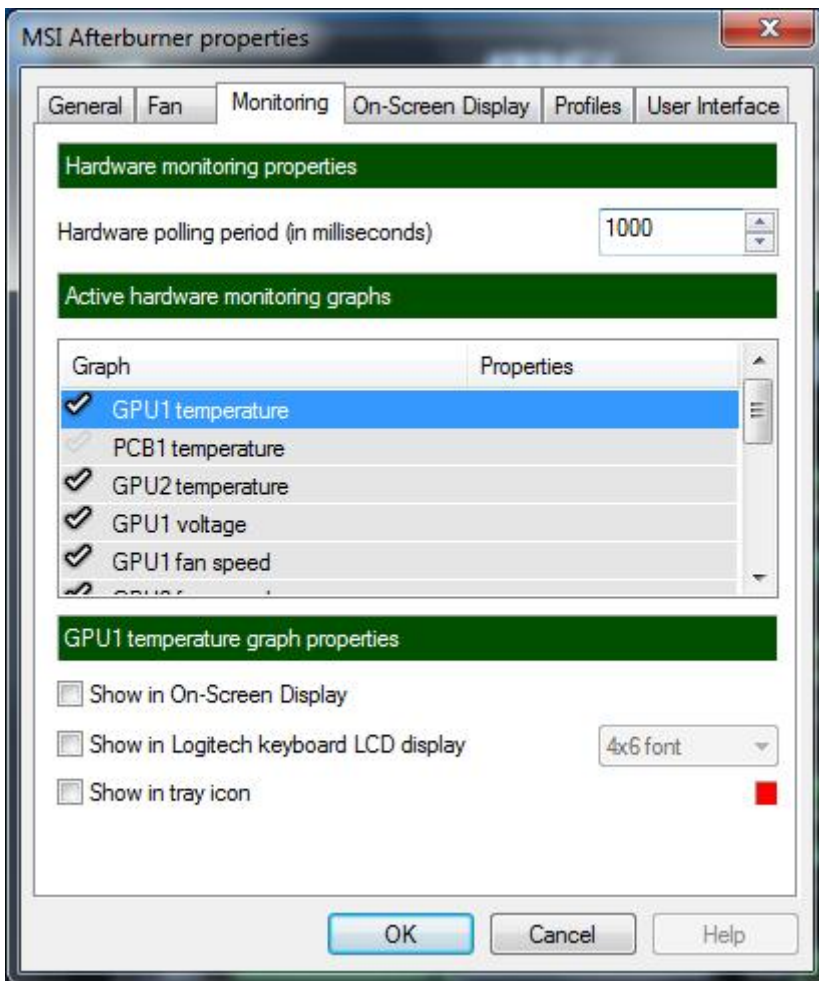
**Hint 1-5:** Double click the edit area to switch between liner and step curve modes.

**Hint 2:** The software automatic fan speed curve is a global setting for all GPUs installed in the system, and is not affected by the profiles.

**Hint 3:** If the graphics card is not equipped with a fan controller chip and(or) a controllable cooling system, the fan speed control will not be available.

**Fan speed update period (in milliseconds) :** When the value is set increased/decreased, the responding time of Fan speed in the Monitoring Window will be slower/faster. The default value is **5000**, and the max/min value will be **60000/100**.

## 6-3. Monitoring



### Hardware monitoring properties

**Hardware polling period (in milliseconds)** : When the value is set increased/decreased, the responding time of monitoring window will be slower/faster. The default value is 1000, and the max/min value will be 60000/100.

### Active hardware monitoring graphs

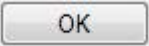
Check each item like “GPU1 temperature”, it will be shown in the Monitoring Window. If you want to hide it, you can uncheck it.

### GPU1 temperature graph properties

**Show in On-Screen Display** : Check this to display GPU1 temperature on the upper left side of the screen when the 3D game/application is running.

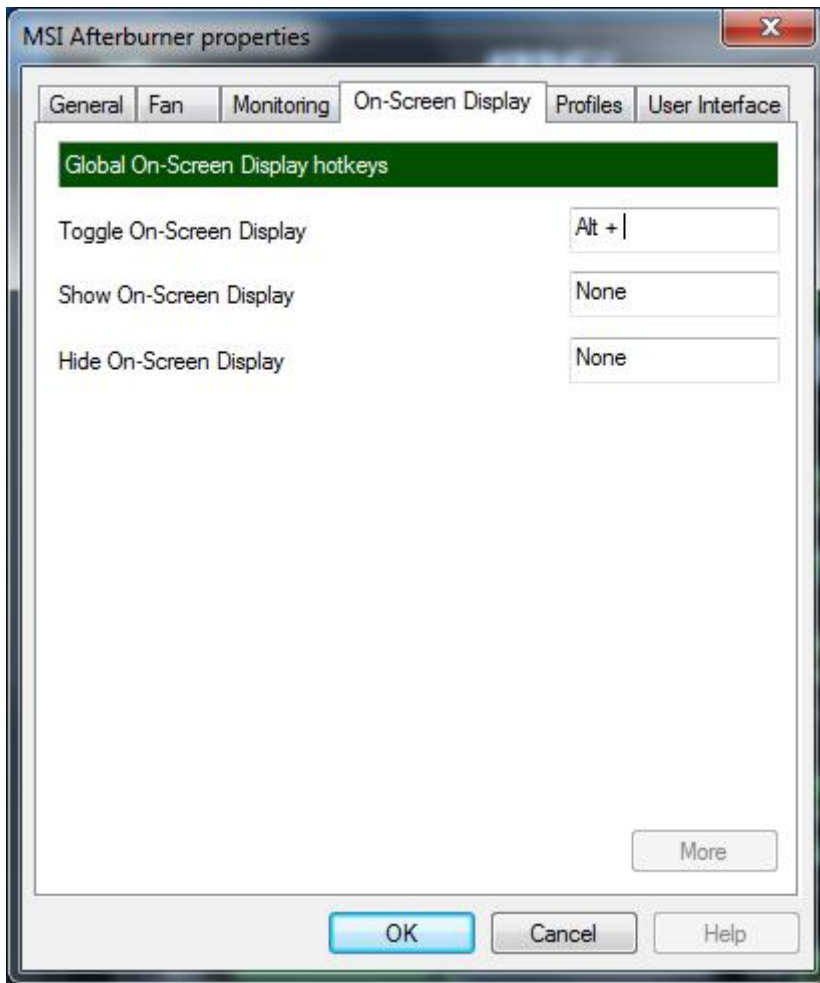
**Show in Logitech keyboard LCD display** : Check this option to display GPU1 temperature in the Logitech keyboard LCD display.

**Show in tray icon** : Check this to show GPU1 temperature in the task bar.

After the settings are done, press  to apply the settings and close the MSI Afterburner properties' window.

## 6-4. On-Screen Display

+

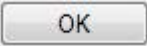


### Global On-Screen Display hotkeys

**Toggle On-Screen Display** : Set a hotkey combination to toggle On-Screen Display information when the 3D application is running.

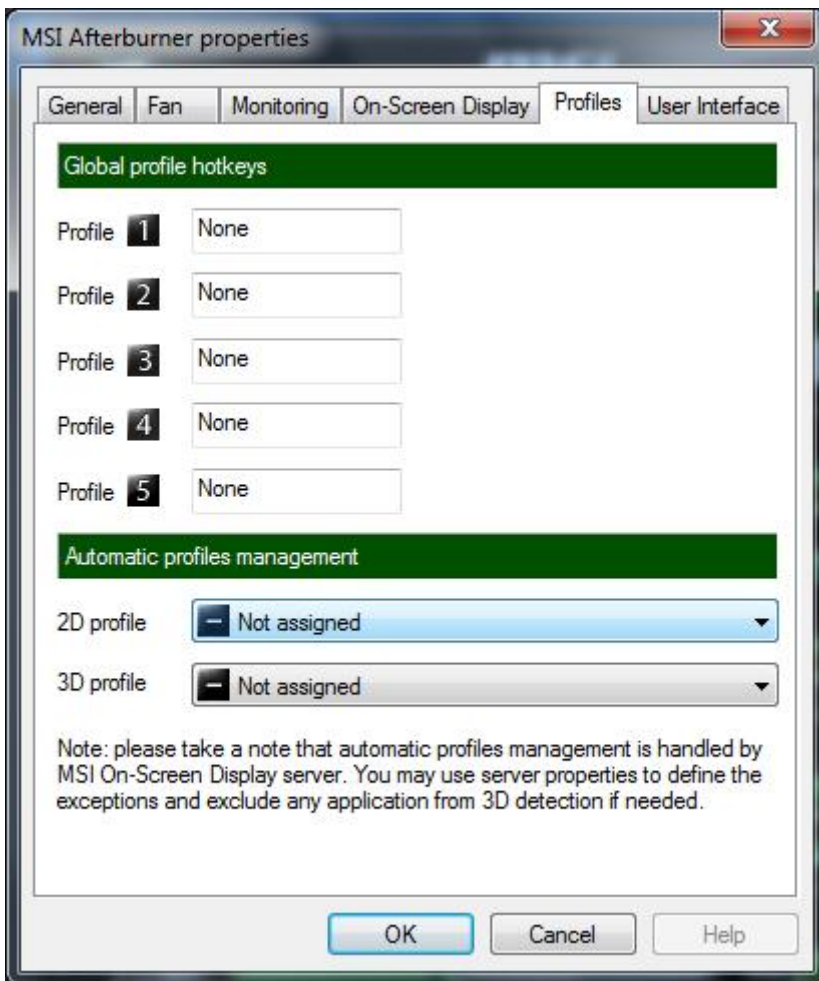
**Show On-Screen Display** : Set a hotkey combination to show On-Screen Display information when the 3D application is running.

**Hide On-Screen Display** : Set a hotkey combination to hide On-Screen Display information when the 3D application is running.

After the selection is done, click  to apply the settings and close the MSI Afterburner properties' window.



## 6-5. Profiles



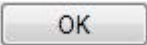
### Global profile hotkeys

**Profile 1 ~ Profile 5** : Set the hot keys for the Profile 1 to Profile 5 individually, users can set their own key combinations for quickly switching the profile.

### Automatic profiles management

**2D profile** : Choose one among Profile 1 ~ Profile 5, Afterburner will automatically apply it when the system is in the 2D mode, such as Internet surfing or text editing.

**3D profile** : Choose one among Profile 1 ~ Profile 5, Afterburner will automatically apply it when the system is in the 3D mode, such as playing games or using CAD software.

After the selection is done, click  to apply the settings and close the MSI Afterburner properties' window.


## 6-6. User Interface



### User interface help system properties

**Show user interface tooltips** : Show tooltips when users put the cursor on the feature items.

### User interface skinning properties

Through the dropdown list in the bottom, users can select the Skin type they want, and the skin's preview will be shown. The default is **MSI Afterburner skin**. After the selection, click  to apply the settings and close the MSI Afterburner properties' window.