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## AI Suite II

AI Suite II is an all-in-one interface that integrates several ASUS utilities and allows users to launch and operate these utilities simultaneously.

### Installing AI Suite II

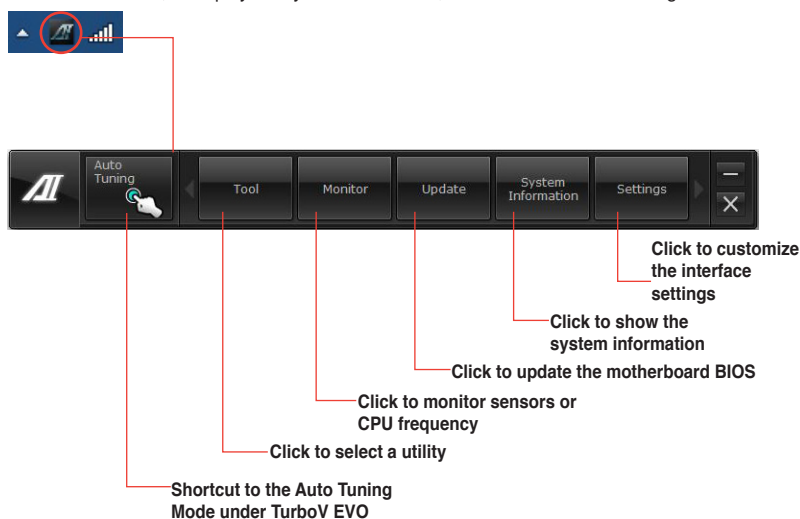
To install AI Suite II on your computer

1. Place the support DVD to the optical drive. The Drivers installation tab appears if your computer has enabled the Autorun feature.
2. Click on the Utilities tab, then click **AI Suite II**.
3. Follow the onscreen instructions to complete installation.

### Using AI Suite II

AI Suite II automatically starts when you enter the Windows® operating system (OS). The AI Suite II icon appears in the Windows® notification area. Click on the icon to open the AI Suite II main menu bar.

Click on each button to select and launch a utility, to monitor the system, to update the motherboard BIOS, to display the system information, and to customize the settings of AI Suite II.



- The **Auto Tuning** button appears only on models with the TurboV EVO function.
- The applications in the Tool menu vary with models.
- The screenshots of AI Suite II in this user manual are for reference only. The actual screenshots vary with models.
- Refer to the software manual in the support DVD or visit the ASUS website at [www.asus.com](http://www.asus.com) for detailed software configuration.

## TurboV EVO

ASUS TurboV EVO introduces **TurboV** that allows you to manually adjust the CPU frequency and related voltages as well as **Auto Tuning** function that offers automatic and easy overclocking and system level up. After installing AI Suite II from the motherboard support DVD, launch TurboV EVO by clicking **Tool > TurboV EVO** on the AI Suite II main menu bar.



Refer to the software manual in the support DVD or visit the ASUS website at [www.asus.com](http://www.asus.com) for detailed software configuration.

## TurboV

TurboV allows you to overclock the BCLK frequency, CPU voltage, IMC voltage, and DRAM Bus voltage in Windows® environment and takes effect in real-time without exiting and rebooting the OS.



Refer to the CPU documentation before adjusting CPU voltage settings. Setting a high voltage may damage the CPU permanently, and setting a low voltage may make the system unstable.



For system stability, all changes made in TurboV will not be saved to BIOS settings and will not be kept on the next system boot. Use the **Save Profile** function to save your customized overclocking settings and manually load the profile after Windows starts.

Click to select mode

Load profile

Target values

Current values

Click to show settings

Click to restore all start-up settings

Save the current settings as a new profile

Voltage Adjustment bars

Undoes all changes without applying

Applies all changes immediately

## Using Advanced Mode

Click on the **Advanced Mode** tab to adjust the advanced voltage settings.

Advanced mode Target values

Current values

Click to restore all start-up settings

Voltage Adjustment bars

Undoes all changes without applying

Applies all changes immediately

## CPU Ratio

Allows you to manually adjust the CPU ratio.



The first time you use **CPU Ratio**, go to **AI Tweaker > CPU Power Management** in BIOS and set the **Turbo Ratio** item to **[Maximum Turbo Ratio setting in OS]**.

1. Click on the **CPU Ratio** tab.
2. Drag the adjustment bar upwards or downwards to the desired value.
3. Click on **Apply** to make the change take effect.

CPU Ratio

Adjustment bar

Click to restore all start-up settings

Undoes all changes without applying

Applies all changes immediately



- Set the **CPU Ratio Setting** item in BIOS to **[Auto]** before using the CPU Ratio function in TurboV. Refer to Chapter 3 of your motherboard user manual for details.
- The CPU Ratio bars show the status of the CPU cores, which vary with your CPU model.

## CPU Strap

Allows you to manually adjust CPU Strap.

1. Click on the **CPU Strap** tab.
2. Click on the adjustment bar to the desired value. The graph on the right will change value accordingly.
3. Click on **Apply** to make the change take effect.

**CPU Strap**

**Adjustment bar**

Click to restore all start-up settings

Undoes all changes without applying  
Applies all changes immediately



- Applied settings in CPU Ratio affect CPU Strap results.
- The value on the CPU Strap diagram varies with your CPU model.

## Auto Tuning

ASUS TurboV EVO includes two auto tuning modes, providing the most flexible auto-tuning options.



- The overclocking result varies with the CPU model and the system configuration.
- To prevent overheating from damaging the motherboard, a better thermal environment is strongly recommended.

- **Fast Tuning:** fast CPU overclocking
- **Extreme Tuning:** extreme overclocking for CPU and memory

### Using Fast Tuning

1. Click the **Auto Tuning** tab and then click **Fast**.
2. Read through the warning messages and click **OK** to start auto-overclocking.

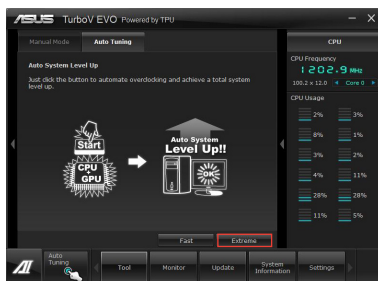


3. TurboV automatically overclocks the CPU, saves BIOS settings and restarts the system. After re-entering Windows, a message appears indicating auto tuning success. Click **OK** to exit.



### Using Extreme Tuning

1. Click the **Auto Tuning** tab and then click **Extreme**.
2. Read through the warning messages and click **OK** to start auto-overclocking.



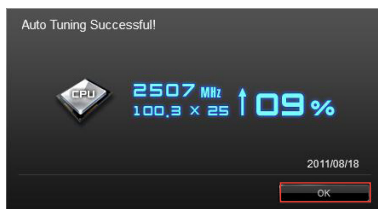
3. TurboV automatically overclocks the CPU and memory and restarts the system. After re-entering Windows, a message appears indicating the current overclocking result. To keep the result, click **Stop**.



4. If you did not click **Stop** in the previous step, TurboV automatically starts further system overclocking and stability test. An animation appears indicating the overclocking process. Click **Stop** if you want to cancel the Overclocking process.



5. TurboV automatically adjusts and saves BIOS settings and restarts the system. After re-entering Windows, a message appears indicating auto tuning success. Click **OK** to exit.

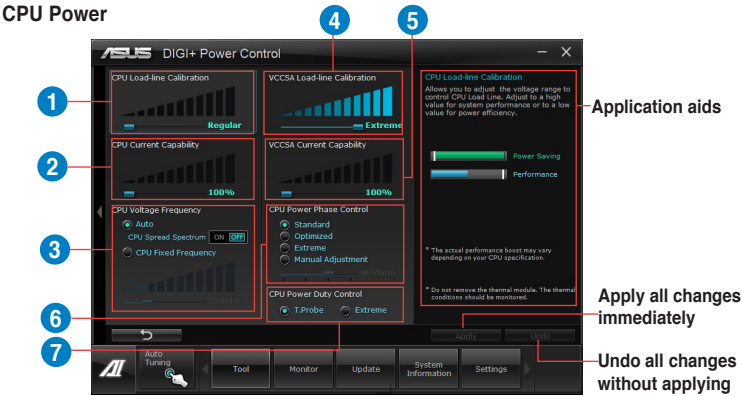


### New DIGI+ Power Control

New DIGI+ PowerControl allows you to adjust VRM voltage and frequency modulation to enhance reliability and stability. It also provides the highest power efficiency, generating less heat to longer component lifespan and minimize power loss.

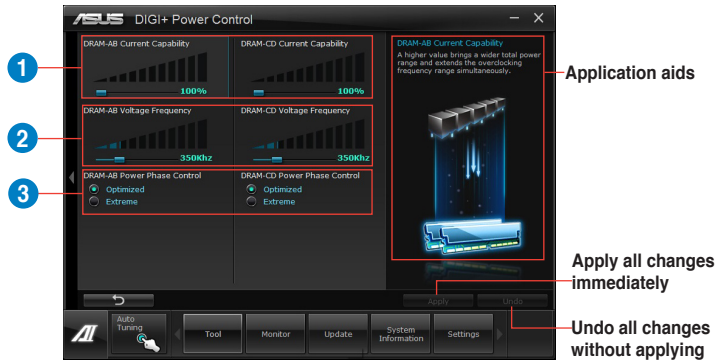
After installing AI Suite II from the motherboard support DVD, launch DIGI+ Power Control by clicking **Tool > DIGI+ Power Control** on the AI Suite II main menu bar.

Select **CPU Power** or **DRAM Power** to adjust the power control settings.



Function no.	Function description
1	<b>CPU Load-line Calibration</b> It allows you to adjust the voltage settings and control the system temperature. Higher load-line calibration could get higher voltage and good overclocking performance but increases the CPU and VRM thermal.
2	<b>CPU Current Capability</b> CPU Current Capability provides wider total power range for overclocking. A higher value setting gets higher VRM power consumption delivery.
3	<b>CPU Voltage Frequency</b> Switching frequency will affect the VRM transient response and component thermal. Higher frequency gets quicker transient response.
4	<b>VCCSA Load-line Calibration</b> The behavior of the DRAM Controller is decided by the VCCSA Load-line. Set to a higher value for system performance, or to a lower value for better thermal solution.
5	<b>VCCSA Current Capability</b> A higher value brings wider total DRAM Controller power range and extends the overclocking frequency range simultaneously.
6	<b>CPU Power Phase Control</b> Increase phase number under heavy system loading to get more transient and better thermal performance. Reduce phase number under light system loading to increase VRM efficiency.
7	<b>CPU Power Duty Control</b> CPU Power Duty Control adjusts the current of every VRM phase and the thermal of every phase component.

## DRAM Power



Function no.	Function description
1	<b>DRAM Current Capability</b> A higher value brings a wider total power range and extends the overclocking frequency range simultaneously.
2	<b>DRAM Voltage Frequency</b> Allows you to adjust the DRAM switching frequency for system stability or to increase OC Range.
3	<b>DRAM Power Phase Control</b> Set Manual Adjustment to faster phase response to increase system performance or to slower phase response to increase DRAM power efficiency.



- The actual performance boost may vary depending on your CPU specification.
- Do not remove the thermal module. The thermal conditions should be monitored.

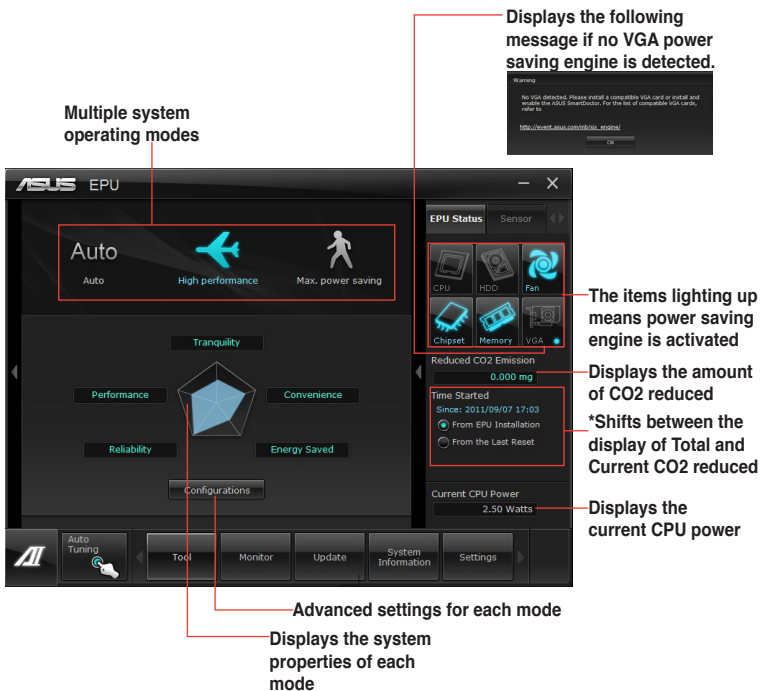


## EPU

EPU is an energy-efficient tool that satisfies different computing needs. This utility provides several modes that you can select to save system power. Selecting Auto mode will have the system shift modes automatically according to current system status. You can also customize each mode by configuring settings like CPU frequency, GPU frequency, vCore Voltage, and Fan Control.

### Launching EPU

After installing AI Suite II from the motherboard support DVD, launch EPU by clicking **Tool > EPU** on the AI Suite II main menu bar.



- \* Select **From EPU Installation** to show the CO2 that has been reduced since you installed EPU.
- \* Select **From the Last Reset** to show the total CO2 that has been reduced since you click the Clear button **Clear**.
- \* Refer to the software manual in the support DVD or visit the ASUS website at [www.asus.com](http://www.asus.com) for detailed software configuration.

## FAN Xpert+

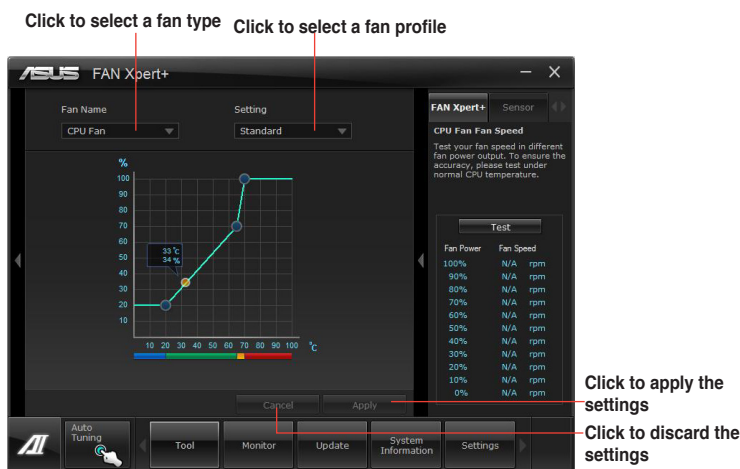
FAN Xpert+ intelligently allows you to adjust both the CPU and chassis fan speeds according to different ambient temperatures caused by different climate conditions in different geographic regions and your PC's system loading. The built-in variety of useful profiles offer flexible automatic and manual fan speed controls to achieve a quiet and cool environment.

### Launching FAN Xpert+

After installing AI Suite II from the motherboard support DVD, launch FAN Xpert+ by clicking **Tool > FAN Xpert+** on the AI Suite II main menu bar.

### Using FAN Xpert+

Click **Fan Name** to select a fan and then click **Setting** to select a preset mode for your selected fan.



### Fan setting

- **Disable:** disables the **FAN Xpert+** function.
- **Standard:** adjusts fan speed in a moderate pattern.
- **Silent:** minimizes fan speed for quiet fan operation.
- **Turbo:** maximizes the fan speed for the best cooling effect.
- **Intelligent:** automatically adjusts the CPU fan speed according to the ambient temperature.
- **Stable:** fixes the CPU fan speed to avoid noise caused by the unsteady fan rotation. However, the fan will speed up when the temperature exceeds 70°C.
- **User:** Allows you to configure the CPU fan profile under certain limitations.



Refer to the software manual in the support DVD or visit the ASUS website at [www.asus.com](http://www.asus.com) for detailed software configuration.

## Sensor Recorder

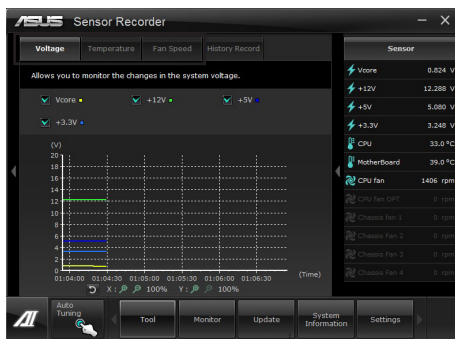
Sensor Recorder monitors the changes in the system voltage, temperature, and fan speed on a timeline. The History Record function allows you to designate specific time spans on record to keep track of the three system statuses for certain purposes.

## Launching Sensor Recorder

After installing AI Suite II from the motherboard support DVD, launch Sensor Recorder by clicking **Tool > Sensor Recorder** on the AI Suite II main menu bar.

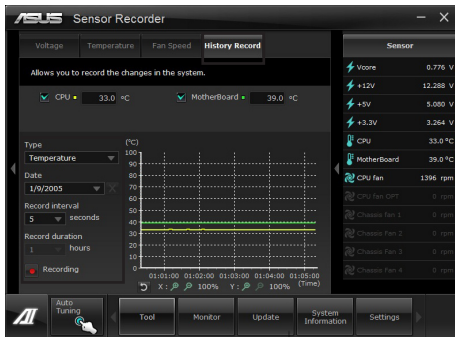
## Using Sensor Recorder

Click on **Voltage/ Temperature/ Fan Speed** tabs for the status you want to monitor. Colored lines will automatically appear on the diagram to indicate the immediate changes in the system status.



## Using History Record

1. Click on the **History Record** tab and adjust the settings on the left for **Type**, **Date**, **Record Interval**, and **Record Duration** according to need.
2. Colored lines will then appear on the diagram to indicate the changes in the requested status of the given time.
3. Click on **Recording** to record the history changes.



Click on **Monitor > Sensor** on the AI Suite II main menu bar and a highlight of the system statuses will appear on the right panel.

## Probe II

Probe II is a utility that monitors the computer's vital components, and detects and alerts you of any problem with these components. Probe II senses fan rotations, CPU temperature, and system voltages, among others. With this utility, you are assured that your computer is always at a healthy operating condition.

## Launching Probe II

After installing AI Suite II from the motherboard support DVD, launch Probe II by clicking **Tool > Probe II** on the AI Suite II main menu bar.

## Configuring Probe II

Click the **Voltage/Temperature/Fan Speed** tabs to activate the sensors or to adjust the sensor threshold values. The **Preference** tab allows you to customize the time interval of sensor alerts, or change the temperature unit.

The screenshot shows the ASUS Probe II utility window. It has a dark theme and several tabs: Voltage, Temperature, Fan Speed, Preference, and Alert Log. The Voltage tab is active, showing a table of sensors and their current values and thresholds. Below the table are buttons for 'Save', 'Load', 'Default', and 'Apply'. At the bottom of the window is a navigation bar with icons for AI Suite II, Auto Tuning, Tool, Monitor, Update, System Information, and Settings. Red lines with text annotations point to specific elements:

- Saves your configuration**: Points to the 'Save' button.
- Loads your saved configuration**: Points to the 'Load' button.
- Loads the default threshold values for each sensor**: Points to the 'Default' button.
- Applies your changes**: Points to the 'Apply' button.

Alert	Sensor	Current	Threshold
<input checked="" type="checkbox"/>	Vcore	0.784 V	1.551
<input checked="" type="checkbox"/>	+12V	12.288 V	13.801
<input checked="" type="checkbox"/>	+5V	5.040 V	5.501
<input checked="" type="checkbox"/>	+3.3V	3.264 V	3.631

Sensor	
Vcore	0.784 V
+12V	12.288 V
+5V	5.040 V
+3.3V	3.264 V
CPU	33.0 °C
MotherBoard	35.0 °C
CPU fan	1387 rpm
CPU fan OPT	0 rpm
Chassis fan 1	0 rpm
Chassis Fan 2	0 rpm
Chassis Fan 3	0 rpm
Chassis Fan 4	0 rpm



Refer to the software manual in the support DVD or visit the ASUS website at [www.asus.com](http://www.asus.com) for detailed software configuration.

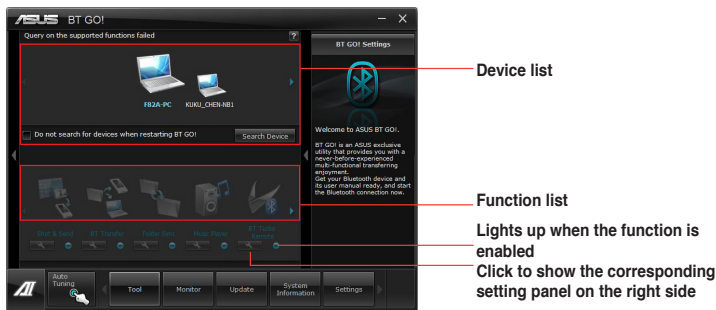
## BT GO!



ASUS BT GO! includes seven special functions, so users can sync and transfer files between PC and mobile devices, and even use them as a remote control to play music and other contents on PC. The onboard **Bluetooth v3.0+HS module/ Bluetooth module** enables smart connectivity to Bluetooth devices with no additional adapters.

### Launching BT GO!

After installing AI Suite II from the motherboard support DVD, launch **BT GO!** by clicking **Tool > BT GO!** on the AI Suite II main menu bar.

### Using BT GO!



- Click on  and  to scroll the device list and the function list.
- Click on any of the device icons to select the device as the connected BT device and **BT GO!** will automatically search for the supported functions for the selected device.
- Click any of the device / function icons to connect the selected device and enable / disable the selected function.

### Function introduction

**Shot & Send:** allows you to snap and transfer the screenshot to the connected BT device.

**BT Transfer:** allows you to share the files stored in the host BT device to another connected BT devices.

**Folder Sync:** allows you to sync or back up the selected folder between the selected BT devices and the computer.

**Personal Manager:** allows you to synchronize the personal contacts and calendar information between the BT device and the system.

**BT to Net:** allows the system to access the Internet via the network shared by the Bluetooth device.

**Music Player:** allows you to play the selected music files in the BT device through the computer's speakers.

**BT Turbo Remote:** provides a user-friendly interface that allows you to use your smartphone as the remote controller via the bluetooth connection for the **BT Turbo Key**, **Pocket Media**, and **Reset/Off** functions.



- Refer to the software manual in the support DVD or visit the ASUS website at [www.asus.com](http://www.asus.com) for detailed software configuration.
- The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by ASUSTek Computer Inc. is under license. Other trademarks and trade names are those of their respective owners.

## USB 3.0 Boost

The ASUS exclusive USB 3.0 Boost provides speed boost for USB 3.0 devices and the up-to-date support of USB Attached SCSI Protocol (UASP). With USB 3.0 Boost, you can accelerate the transfer speed of your USB 3.0 devices with ease.

## Launching USB 3.0 Boost

After installing AI Suite II from the motherboard support DVD, launch USB 3.0 Boost by clicking **Tool > USB 3.0 Boost** on the AI Suite II main menu bar.

## Configuring USB 3.0 Boost

1. Connect a USB 3.0 device to the USB 3.0 port.
2. USB 3.0 Boost automatically detects the property of the connected device and switches to **Turbo** mode or **UASP** mode (if UASP is supported by the connected device).
3. You can manually switch the USB 3.0 mode back to **Normal** mode at any time.



Refer to the software manual in the support DVD or visit the ASUS website at [www.asus.com](http://www.asus.com) for detailed software configuration.

## ASUS SSD Caching

This feature boosts system performance by using an installed SSD with no capacity limitations as a cache for frequently accessed data. Harness a combination of SSD-like performance and response and hard drive capacity with just one click. No rebooting is needed with instant activation for complete ease of use.

## Launching ASUS SSD Caching

After installing AI Suite II from the motherboard support DVD, launch ASUS SSD Caching by clicking **Tool > ASUS SSD Caching** on the AI Suite II main menu bar.

## Configuring ASUS SSD Caching

1. Connect one HDD and one SSD to the the Marvell® SATA ports (SATA6G\_E1/E2). ASUS SSD Caching automatically detects the HDD and SSD.
2. Click on **Caching Now!** to initialize the connected disks. Initialization status is shown on the program interface.
3. Caching function will be activated once initialization is complete.
4. Click on **Disable** when deactivating SSD caching.



- During initialization, you can proceed with doing any system operations. You can check the caching status later or wait for a pop-up message notifying that initialization is completed.
- For regular usage, the SATA6G\_E1/E2 connectors are recommended for data drives.
- After disabling SSD Caching, the SSD will become a non-configurable disk in Windows OS. To use the SSD again for normal functions, go to Disk Management to reconfigure the SSD.

## ASUS Update

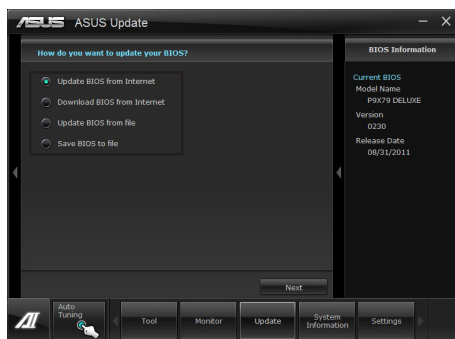
ASUS Update lays out the options for updating BIOS on your system. Update BIOS utility on your system or simply save the utility for later use just by following the directions on this convenient updating feature.

## Launching ASUS Update

After installing AI Suite II from the motherboard support DVD, launch ASUS Update by clicking **Update> ASUS Update** on the AI Suite II main menu bar.

## Using ASUS Update

Select the way you would like to do with the BIOS utility. Click on **Next** and follow the instructions to complete your request.



- **Update BIOS from Internet**  
Download the latest BIOS utility from the ASUS service website ([www.asus.com](http://www.asus.com)) and follow the suggested procedures to update the BIOS version on your system.
- **Download BIOS from Internet**  
Download the latest BIOS utility from the ASUS service website ([www.asus.com](http://www.asus.com)) and save for later use.
- **Update BIOS from file**  
Use the BIOS utility demanded from a source file to update the BIOS version on your system.
- **Save BIOS to file**  
Back up the current BIOS utility on your system to another file or USB disk to save for later use.



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There may be risks of system crash when updating BIOS. Backing up the original BIOS utility is recommended before updating.

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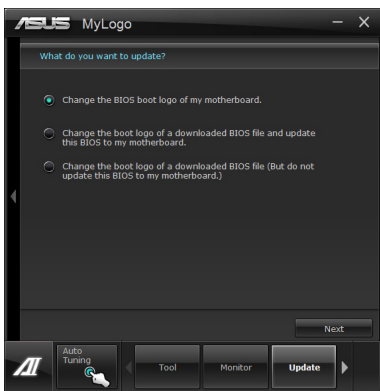


## MyLogo2

This MyLogo utility lets you customize the boot logo. The boot logo is the image that appears on screen during the Power-On-Self-Tests (POST). Personalize your computer from the very beginning!

## Launching ASUS Update

After installing AI Suite II from the motherboard support DVD, launch MyLogo by clicking **Update> MyLogo** on the AI Suite II main menu bar.

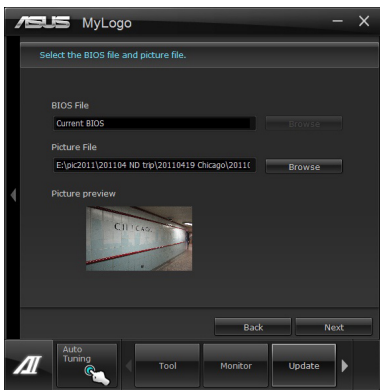


## Using MyLogo

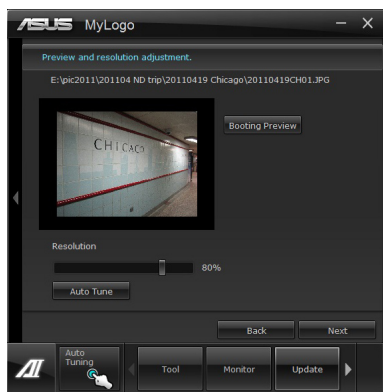
Select the way you would like to do update your boot logo. Then click Next and follow the given instructions.

### Change the BIOS boot logo of my motherboard

1. Under Current BIOS, click **Browse** and choose the desired image for your boot logo. Then click on Next.

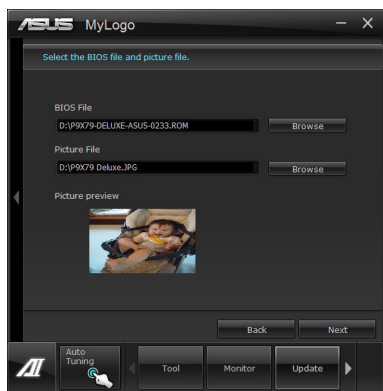


2. Click on **Auto Tune** to adjust image size compatibility or adjust the resolution bar.
3. You can click on Booting Preview to preview the boot image. Then click Next.
4. Click on **Flash** to start updating the image to the boot logo.
5. Click on Yes to reboot or you can also see the new logo next time you restart your computer.



### Change the boot logo of a downloaded BIOS file and update (or do not update) this BIOS to the motherboard

1. At BIOS File, **Browse** to download the requested BIOS file to your system. This utility will help you detect the compatibility of the BIOS version.
2. Then at Picture File, Browse to select the desired image for boot logo. Click Next.
3. Follow steps 2-5 in **Change the BIOS boot logo of my motherboard** to complete logo update.



The fullscreen logo application in BIOS utility must be enabled for MyLogo to take effect.