

AI Suite 3 User Manual

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Installing Ai Suite 3

Ai Suite 3 is an all-in-one interface that integrates several ASUS utilities and allows users to launch and operate these utilities simultaneously.

To install AI Suite 3 on your computer:

1. Place the support DVD to the optical drive. The **Special** tab appears if your computer has enabled the Autorun feature.
2. Click **Utilities** tab > **AI Suite 3**.
3. Follow the onscreen instructions to complete the installation.
4. After the AI Suite 3 is installed, restart your computer.

Using AI Suite 3

You can launch the AI Suite 3 for the following Windows® operating systems:

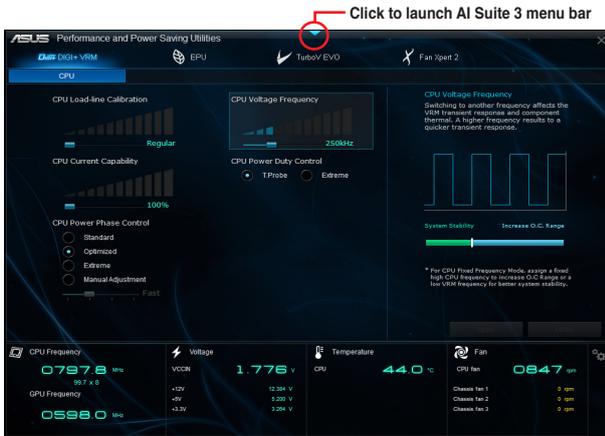
- For Windows® 7, click  on the notification area.
- For Windows® 8, click the AI Suite 3 app from the Start Screen.

When launched, the main screen of the AI Suite 3 appears. To go to the AI Suite 3 main menu bar, click  on the top edge of the screen.

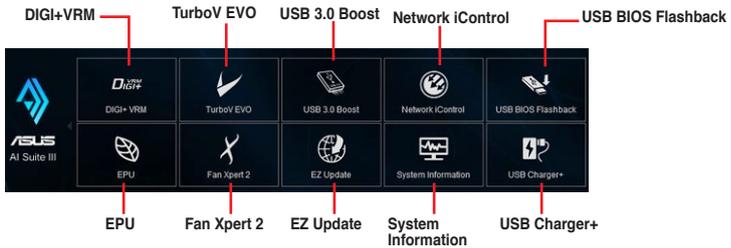


The main screen of the AI Suite 3 is for reference only and vary with models.

Main screen



AI Suite 3 main menu bar

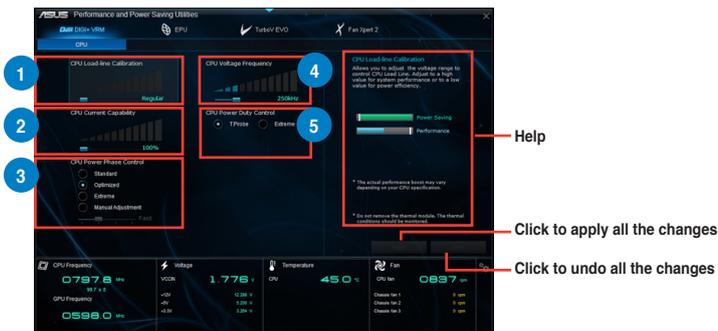


- The screenshots of AI Suite 3 in this user manual are for reference only. The actual screenshots vary with models.
- Refer to the software manual in the support DVD or visit the ASUS website at www.asus.com for detailed software configuration.

DIGI+ VRM

ASUS DIGI+ VRM 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.

To launch DIGI+VRM, click **DIGI+ VRM** on the AI Suite 3 main menu bar.



1

CPU Load-line Calibration

It allows you to adjust the voltage range to control the CPU Load-line. Adjust to a high value for system performance or to a low value for power efficiency.

2

CPU Current Capability

CPU Current Capability provides wider total power range for overclocking. A higher value brings a wider total power range and extends the overclocking frequency range simultaneously.

3

CPU Power Phase Control

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.

4

CPU Voltage Frequency

Switching frequency will affect the VRM transient response and component thermal. Higher frequency gets quicker transient response.

5

CPU Power Duty Control

CPU Power Duty Control adjusts the current of every VRM phase and the thermal of every phase component.



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

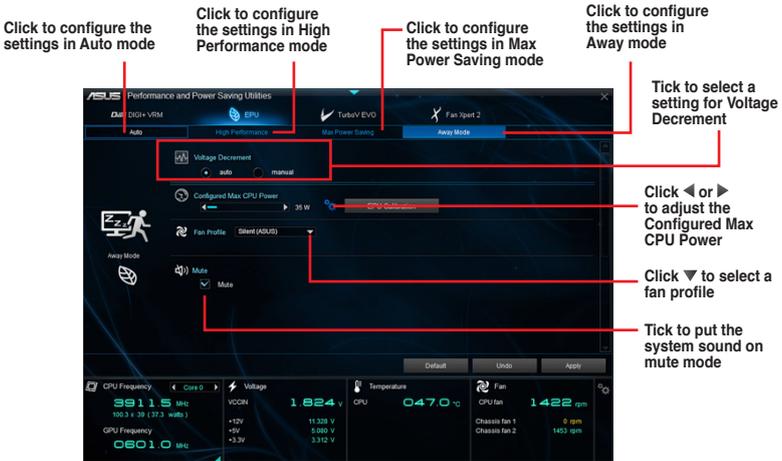


Visit the ASUS website at www.asus.com for detailed software configuration.

EPU

EPU is an energy-saving utility that allows you to adjust the CPU, GPU, and Fan Control settings to their power-saving conditions.

To launch EPU, click **EPU** on the AI Suite 3 main menu bar.



- When you enable Configured Max CPU Power for advanced energy saving condition, the CPU frequency may display 800 MHz in the Windows® OS information of your computer. However, the true CPU frequency varies depending on the wattage that you manually set. You can adjust the CPU wattage from the lowest base to your preferred default value.
- Configured Max CPU Power may decrease the total power delivery to the CPU and affects the CPU performance under system heavy load. To restore your system to its default settings, reboot your computer.

TurboV EVO

ASUS TurboV EVO allows you to manually adjust the CPU frequency, CPU Cache and Core frequencies, and related voltages for an enhanced system stability and boost performance. It also provides the Auto Tuning function that offers automatic and easy overclocking and system level up.

To launch TurboV EVO, click **TurboV EVO** on the AI Suite 3 main menu bar.



Visit the ASUS website at www.asus.com for detailed software configuration.



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 EVO 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.

Using TurboV EVO

CPU Frequency

The screenshot shows the ASUS TurboV EVO interface with the following annotations:

- Click to save the changes into a profile (points to the 'Save Profile' button)
- Click to load the saved profile (points to the 'Load Profile' button)
- Tick to enable Group Tuning (points to the 'Group Tuning' checkbox)
- Click < or > to adjust the CPU Ratio and CPU Cache Ratio (points to the CPU Ratio and CPU Cache Ratio sliders)
- Click < or > to select the number of cores to adjust (points to the core selection bar)
- Click to undo all the changes (points to the 'Undo' button)
- Click to apply all the changes (points to the 'Apply' button)

Voltage

Click ◀ or ▶ to adjust DRAM, CPU Analog I/O, PCH, and PCHVLX voltages

Click to save the changes into a profile

Click to load the saved profile

Drag ▲ to adjust CPU Core Voltage offset

Drag ▲ to adjust CPU Cache Voltage offset

Click to undo all the changes

Click to apply all the changes

Click ◀ or ▶ to adjust CPU System Agent, CPU Digital I/O, and CPU Input (VCCIN) voltages

GPU Boost

Click ◀ or ▶ to adjust the iGPU Max Ratio

Tick Adaptive or Manual to select the CPU Graphics Voltage mode

Drag ▲ to adjust CPU Graphics Voltage settings

Click to save the changes into a profile

Click to load the saved profile

Click to apply all the changes

Click to undo all the changes

Auto Tuning

Select the function to auto-tune

Click to automatically overclock and achieve a total system level up.

Fan Xpert 2

Fan Xpert 2 automatically detects and tweaks the fan speeds, and provides you with optimized fan settings based on the fans' specifications and positions.

To launch Fan Xpert 2, click **Fan Xpert 2** on the AI Suite 3 main menu bar.

The screenshot shows the ASUS Fan Xpert 2 main interface. At the top, there are tabs for 'CPU fan', 'Chassis fan', and 'System fan'. Below these are three graphs showing fan speed over time. At the bottom, there are four fan speed mode icons: 'Silent', 'Standard', 'Turbo', and 'Full Speed'. A 'Fan Tuning' button is on the far left, and 'Load' and 'Save' buttons are on the far right.

- Click a screen to select the type of fan that you want to customize
- Click to switch between CPU and chassis fan screens
- Click to maximize the fan speed
- Click to set the fan's speed to silent mode
- Click to set the balanced configuration between the fan's noise level and speed
- Click to increase the fan's speed for a high cooling capability

Customizing the fan settings

Smart Mode

Smart Mode allows you to customize the fans' rotation speeds and responsiveness based on your system's temperature.

The screenshot shows the 'Smart Mode' configuration screen. It features a graph of fan speed (%) vs. temperature (°C) with a blue curve. Below the graph are two sliders: 'Fan Spin-Up Time' (set to 2.0 sec) and 'Fan Spin-Down Time' (set to 2.0 sec). To the right is a table of fan speed profiles and a 'Fan Speed' graph. At the bottom, there are 'Back', 'Undo', and 'Apply' buttons.

Fan Speed	Fan Speed
100%	1200 rpm
90%	1000 rpm
80%	1000 rpm
70%	1000 rpm
60%	1000 rpm
50%	1000 rpm
40%	1000 rpm
30%	1000 rpm
20%	1000 rpm
10%	1000 rpm
0%	1000 rpm

- Click and drag to set the fan's rotation speed
- Click and drag the sliders to adjust the fan's responsiveness
- Click to go back to the previous screen
- Click to switch between the CPU and chassis fan screens
- Click to undo the changes
- Click to apply the changes

RPM Mode

RPM Mode allows you to set the fan speed when the CPU temperature is below 75°C.

Click and drag to adjust the fan's speed

Click to go back to the previous screen

Click to switch between the CPU and chassis fan screens

Fan Power	Fan Speed
100 %	1910 rpm
95 %	1900 rpm
90 %	1890 rpm
75 %	1800 rpm
60 %	1621 rpm
50 %	1500 rpm
40 %	1400 rpm
30 %	1300 rpm
20 %	1200 rpm
10 %	1100 rpm
0 %	1000 rpm

Maximum Speed: 1910 (RPM)
Minimum Speed: 1212 (RPM)
Controllable Range: 0% ~ 100%



- When the CPU temperature reaches 75° C, the fan will automatically run at full speed to protect the CPU.
- For motherboard models without the CPU fan detection latch, only 4-pin CPU fans are controllable in Fan Xpert 2.
- The Fan Xpert 2 may not be able to detect the fan speed if your fan is installed with an external control kit for rotation speed.
- Fan Xpert 2 does not support 2-pin fans. If you install a 2-pin fan, it can only run at its full speed.
- If the CPU or chassis fans have been changed, the Fan Auto Tuning process should be repeated.



DO NOT remove your fan during the Fan Auto Tuning process.

USB 3.0 Boost

USB 3.0 Boost technology supports UASP (USB Attached SCSI Protocol) that automatically speeds up the transfer rates of your USB storage devices.

To launch USB 3.0 Boost, click **USB 3.0 Boost** on the AI Suite 3 main menu bar.

Using USB 3.0 Boost

1. Connect a USB 3.0 device to the USB 3.0 port.
2. From the USB 3.0 Boost screen, click to select a USB device.
3. To enable UASP on your USB device, click **UASP**. To revert to its normal transfer rate, click **Normal**.



- Visit the ASUS website at www.asus.com for detailed software configuration.
- Use the USB 3.0 devices for high performance. The data transfer speed varies with USB devices.

Network iControl

Network iControl is a one-stop setup network control center that allows you to manage your network bandwidth and set the bandwidth priority for your running programs.

To launch Network iControl, click **Network iControl** on the AI Suite 3 main menu bar.



- Ensure to install the LAN drivers before using this utility.
- Network iControl can only support the onboard LAN.

EZ Start screen

Click to activate Network iControl

Click to select a profile

Tick to enable the selected profile

Click to apply the changes

EZ Profile screen

 to add to your network profile' points to the 'Current network program(s)' list."/>

Click to select a network profile

Click to set the program as High, Normal, or Low priority

Click to save the profile settings or rename the profile

Tick to assign a schedule of your network programs to avoid network congestions

Select a program from this list and click  to add to your network profile

USB BIOS Flashback

USB BIOS Flashback allows you to check and save the latest BIOS version to a USB storage device. Use this utility to quickly check for the latest available BIOS and set a schedule to when you can download for a newer version.

To launch USB BIOS Flashback, click **USB BIOS Flashback** on the AI Suite 3 main menu bar.



Scheduling the BIOS download

1. In the Download Setting field, tick **Schedule (days)** then select the number of days for the BIOS download schedule.
2. Click **Apply** to save the BIOS download schedule. Click **Cancel** to cancel the download schedule.

Downloading the updated BIOS



Before you start downloading, ensure that you have installed the USB storage device to your computer's USB port that supports USB BIOS Flashback. Refer to section **2.3.1 Rear I/O connection** of your user manual for more details.

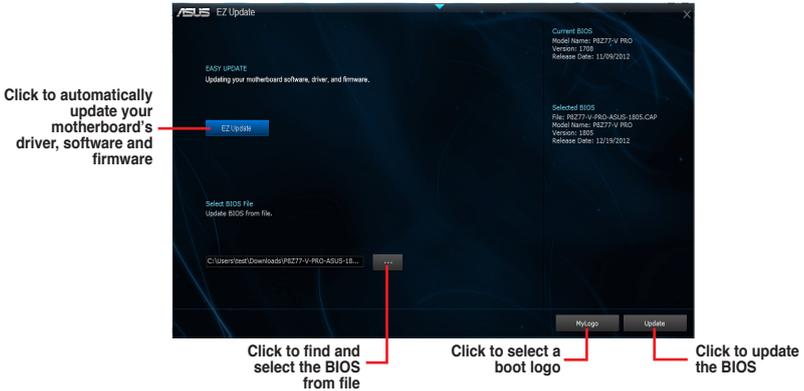
To download the updated BIOS:

1. From the USB BIOS Flashback screen, click **Check for New BIOS Update** to check for the latest BIOS version.
Wait for the system to check the latest BIOS version.
2. After the utility detects a new BIOS, click  from the Save to: field, select the USB flash drive, then click **Download**.
3. After the download is complete, click **OK**.

EZ Update

EZ Update is a utility that allows you to automatically update your motherboard's softwares, drivers and the BIOS version easily. With this utility, you can also manually update the saved BIOS and select a boot logo when the system goes into POST.

To launch EZ Update, click **EZ Update** on the AI Suite 3 main menu bar.



USB Charger+

USB Charger+ allows you to quick-charge your portable USB devices even if your computer is off, in sleep mode or hibernate mode.

To launch USB Charger+, click **USB Charger+** on the AI Suite 3 main menu bar.



The USB Charger+ will not work if the ErP-ready item in the BIOS is enabled.

The screenshot shows the ASUS USB Charger+ utility window. It features a dark background with the ASUS logo in the center. Below the logo, there are three categories: 'Others', 'Apple', and 'Kindle'. A green circle highlights the 'Others' category, and a red circle highlights the 'Kindle' category. To the right of the categories, there are two icons: a power button and a power button with a red 'X' over it. At the bottom, there is a dropdown menu labeled 'Fast Charging under system shutdown:' with 'ASUS' selected. At the bottom right, there are 'Cancel' and 'Apply' buttons. Red lines connect text labels to these elements:

- Indicates that the connected USB device is in charging mode (points to the green circle around 'Others')
- Click to detect the connected USB device (points to the red circle around 'Kindle')
- Click to fast-charge your USB device (points to the power button icon)
- Click to stop charging your USB device (points to the power button with a red 'X')
- Click to discard the settings (points to the 'Cancel' button)
- Click to apply the settings (points to the 'Apply' button)
- Click to select the type of USB device that you wish to charge when the system is off (points to the 'Fast Charging under system shutdown:' dropdown)



Ensure to connect your USB device into the USB port that supports this utility. Refer to your user manual for more details.

System Information

This utility allows you get the detailed information of the motherboard, CPU, and memory settings.

To launch System Information, click **System Information** on the AI Suite 3 main menu bar.

Viewing the motherboard information

From the System Information screen, click **MB** tab to view the motherboard's information.



Viewing the CPU information

From the System Information screen, click **CPU** tab to view the processor's information.



Viewing the SPD information

From the System Information screen, click **SPD** tab to view the memory's information.



ASUS System Information

HS CPU SPD

DIMM #1

Memory Information

Type: DDR3
Module Size: 4096 MB
Max Bandwidth: 800 MHz
Manufacturer: ADATA Technology
Part Number: 00002E0F
Serial Number: 00002E0F
Week/Year: 11 / 2012

Timings Table

	JEDEC #1	JEDEC #2	JEDEC #3	JEDEC #4	JEDEC #5
Frequency	381 MHz	457 MHz	533 MHz	609 MHz	685 MHz
CAS# Latency	5.0	6.0	7.0	8.0	9.0
RAS#to CAS#	5	6	7	8	9
RAS#to Precharge	5	6	7	8	9
tRAS	14	16	19	22	24
tRC	19	22	26	30	33
Voltage	1.5V	1.5V	1.5V	1.5V	1.5V