User's Guide

EVGA P55 FTW Motherboard

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Before You Begin…

Parts NOT in the Kit

This kit contains all the hardware necessary to install and connect your new EVGA P55 FTW Motherboard. However, it does not contain the following items that must be purchased separately to make the motherboard functional.

- **Intel Socket 1156 Processor**
- **DDR3 System Memory**
- **Socket 1156 or Socket 775 Cooling fan**
- **PCI Express or PCI Graphics Card**
- **Power Supply**

EVGA assumes you have purchased all the necessary parts needed to allow for proper system functionality. For a full list of supported CPU's on this motherboard, please visit http://www.evga.com/support/motherboard/.

When replacing a motherboard in a system case, you will need to reinstall an operating system even though the current hard disk may already have an operating system.

EVGA P55 FTW Motherboard

Motherboard Specifications

- Size
  ATX form factor of 12 inch x 9.6 inch
- Processor support
  Intel Socket 1156 CPU's
- Operating systems:
  Supports Windows XP 32bit/64bit, Windows Vista 32bit/64bit, and Windows 7 32bit/64bit
- Intel P55 Express Chipset
- System Memory support
  Supports dual channel DDR3-1600+. Officially supports up to 16GBs of DDR3 memory.
- USB 2.0 Ports

  Supports hot plug

  Thirteen USB 2.0 ports (Seven rear panel ports, six onboard USB headers)

  Supports wake-up from S1 and S3 mode

  Supports USB 2.0 protocol up to a 480 Mbps transmission rate

- Six(6) onboard Serial ATA II
  - 300MBps data transfer rate
  - Six Serial ATA II connectors with support for RAID 0, RAID 1, RAID 10, and RAID 5
  - Supports hot plug and NCQ (Native Command Queuing)
- Dual Onboard LAN's
  - Integrated LAN port's
  - Supports 10/100/1000 Mb/sec Ethernet
- Onboard IEEE1394a (Firewire)
  - Support hot plug
  - Two IEEE1394a ports (One rear panel port, one onboard 1394 header) with a rate transmission of 400 Mbps
- Onboard Audio
  - Realtek High-Definition audio
  - Supports 8-channel audio
  - Supports S/PDIF output (Optical and COAX)
  - Supports Jack-Sensing function
- Green Function
  - Supports ACPI (Advanced Configuration and Power Interface)
  - Supports S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (Suspend to disk - depends on OS), and S5 (soft - off)
- Expansion Slots
  - Two PCI slots
  - One PCI Express x1 slot
  - Three PCI Express x4/x8/x16 slots
- e-SATA
  - Two e-SATA ports at rear panel
  - 300MBps data transfer rate

Hardware Installation

This section will guide you through the installation of the motherboard. The topics covered in this section are:

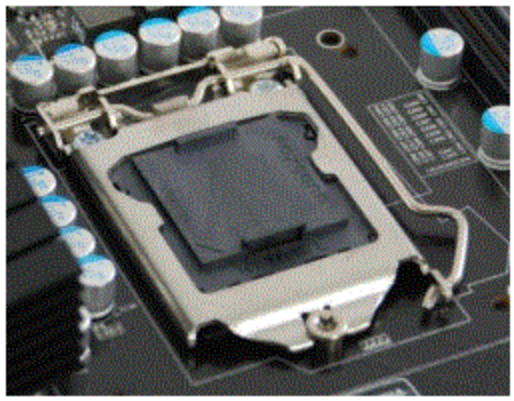
- Preparing the motherboard
- Installing the CPU
- Installing the CPU fan
- Installing the memory
- Installing the motherboard
- Connecting cables

Safety Instructions

To reduce the risk of fire, electric shocks, and injury, always follow basic safety precautions.

Remember to remove power off your computer by disconnecting the AC main source before removing or installing any equipment from/to the computer chassis.

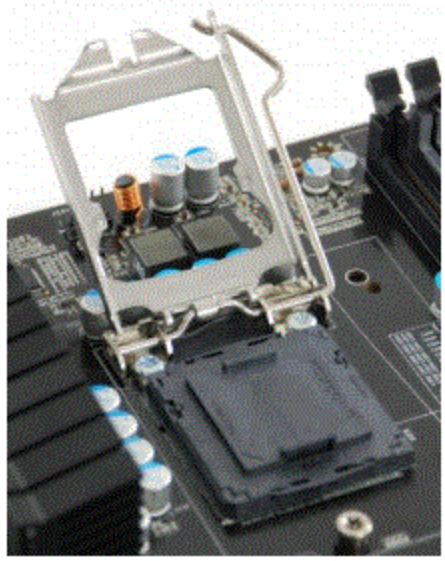
Installing the CPU



Be very careful when handling the CPU. Hold the processor only by the edges and do not touch the contacts on the motherboard or CPU. **Any physical damage to the motherbard pins will void the warranty.**

Use the following procedure to install the CPU onto the motherboard:

Unhook the socket lever by pushing *down* and *away* from the socket.



Pull the socket lever back and the load plate will automatically lift. There is a protective socket cover within the CPU socket to protect the socket when there is no CPU installed.

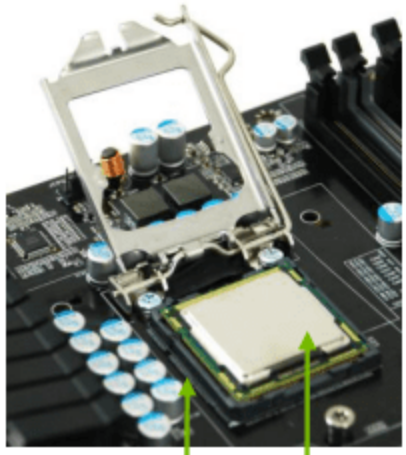
Remove the protective socket cover from the CPU Socket in a straight up motion.

Note: It is a good idea to save the cover so that whenever you remove the CPU you have a safe place to store it.

Align the notches in the processor with the notches on the socket.

Lower the processor straight down into the socket without tilting or sliding it into the socket

Note: Make sure the CPU is fully seated and level.

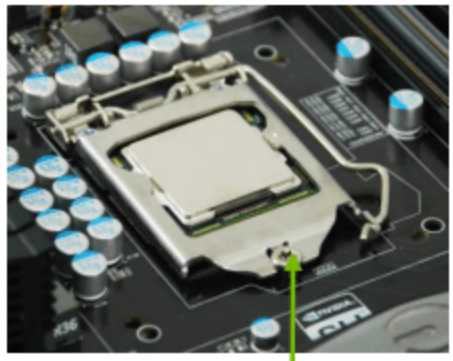


Align notches with notches on the CPU

Lower the load plate so it is resting on the CPU.

Pull back the socket lever again to ensure the load plate tip engages under the shoulder screw cap.

Carefully close and latch the lever.



Load plate tip under screw cap

Installing the CPU Fan

There are many different fan types that can be used with this motherboard. Follow the instruction that came with you fan assembly. Be sure that the fan orientation is correct for your chassis type and your fan assembly.

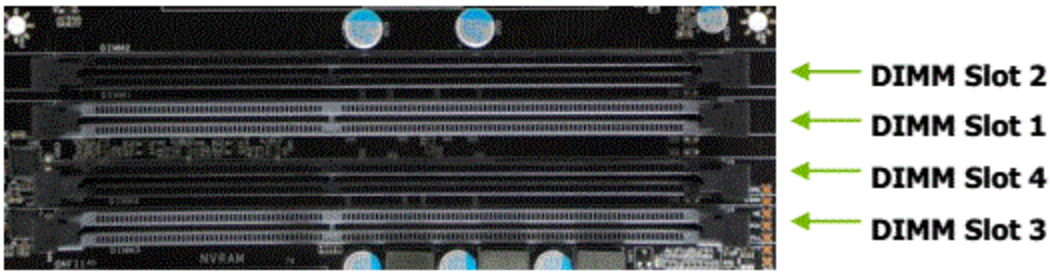
Please note that there are 2 sets of mounting holes, the holes surrounded in white are to be used for Socket 1156 heatsinks and are labeled. The other holes are to be used for Socket 775 heatsinks.

In most cases, the Socket 1156 mounting holes will be used.

Installing System Memory (DIMMs)

Your new motherboard has four 240-pin slots for DDR3 memory. These slots support 1GB, 2GB, 4GB DDR3 technologies. There must be at least one memory bank populated to ensure normal operation. Use the following the recommendations for installing memory.

- **One DIMM**: If using 1 DIMM (**Single Channel**), install into: **DIMM slot 1**.
- **Two DIMMs**: If using 2 DIMMs (**Dual Channel**), install into: **DIMM slots 1 and 3**.
- **Four DIMMS:** If using 4 DIMMs (**Dual Channel**), install into: **DIMM slots 2, 1, 4, and 3**.



Use the following procedure to install memory DIMMs. Note that there is only one gap near the center of the DIMM slot. This slot matches the slot on the memory DIMM to ensure the component is installed properly.

1. Unlock a DIMM slot by pressing the module clips outward.
2. Align the memory module to the DIMM slot, and insert the module vertically into the DIMM slot. The plastic clips at both sides of the DIMM slot automatically lock the DIMM into the connector.

Installing the Motherboard

The sequence of installing the motherboard into a system case depends on the chassis you are using and if you are replacing an existing motherboard or working with an empty system case. Determine if it would be easier to make all the connections prior to this step or to secure the motherboard and then make all the connections. It is normally easier to secure the motherboard first.

Use the following procedure to install the I/O shield and secure the motherboard into the chassis.

Installing the I/O Shield

The motherboard kit comes with an I/O shield that is used to block radio frequency transmissions, protects internal components from dust and foreign objects, and promotes correct airflow within the chassis.

Before installing the motherboard, install the I/O shield from the *inside* of the chassis. Press the I/O shield into place and make sure it fits securely.

Securing the Motherboard into a System Case

Most system cases have a base with mounting studs or spacers to allow the motherboard to be secured to the chassis and help to prevent short circuits. If there are studs that do not align with a mounting hole on the motherboard, it is recommended that you remove that stud to prevent the possibility of a short circuit. In most cases, it is recommended to secure the motherboard using a minimum of nine (9) spacers and screws.

1. Carefully place the motherboard onto the stand offs located inside the chassis.
2. Align the mounting holes with the stand offs.
3. Align the connectors to the I/O shield.
4. Ensure that the fan assembly is aligned with the chassis vents according to the fan assembly instruction.
5. Secure the motherboard with a recommended minimum of nine (9) screws.

Connecting Cables

This section takes you through all the necessary connections on the motherboard. This will include:

- Power Connections
  24-pin ATX power (**PW1**)
  8-pin ATX 12V power (**PW12**)
- Internal Headers
  Front panel
  IEEE 1394a
  USB Headers
  Audio
- Serial ATA II
- USB 2.0
- Expansion slots
- CMOS Clear Button

24-pin ATX Power (PW1)

PW1 is the main power supply connector located along the edge of the board next to the DIMM slots. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.

Figure 1. PW1 Motherboard Connector

Table 1. PW1 Pin Assignments

Connector	Pin	Signal	Pin	Signal
	1	+3.3V	13	+3.3V
	2	+3.3V	14	-12V
	3	GND	15	GND
	4	+5V	16	PS_ON
	5	GND	17	GND
	6	+5V	18	GND
	7	GND	19	GND
	8	PWROK	20	RSVD
	9	+5V_AUX	21	+5V
	10	+12V	22	+5V
	11	+12V	23	+5V
	12	+3.3V	24	GND

8-pin ATX 12V Power (PW12)

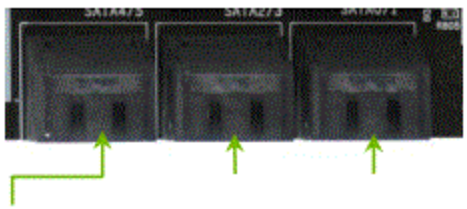
PW12, the 8-pin ATX 12V power connection, is used to provide power to the CPU. Align the pins to the connector and press firmly until seated.

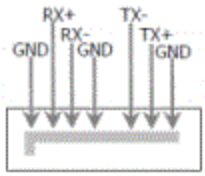
Connecting Serial ATA Cables

The Serial ATA II connector is used to connect the Serial ATA II device to the motherboard. These connectors support the thin Serial ATA II cables for

primary storage devices. The current Serial ATA II interface allows up to 300MB/s data transfer rate.

There are six (6) internal serial ATA connectors on this motherboard. These connections are designed to be angled to not interfere with any expansions cards. These connection points support RAID 0, RAID 1, and RAID 10 configurations.



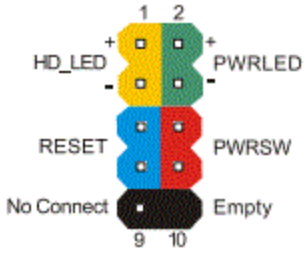


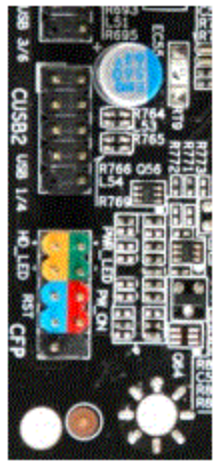
SATA 4 (bottom) SATA 2 (bottom) SATA 0 (bottom)
SATA 5 (top) SATA 3 (top) SATA 1 (top)

Connecting Internal Headers

Front Panel Header

The front panel header on this motherboard is one connector used to connect the following four cables.
(see Table 2 for pin definitions):





- **PWRLED**
  Attach the front panel power LED cable to these two pins of the connector. The Power LED indicates the system's status. When the system is turned on, the LED is on. When the system is turned off, the LED is off.

Note: Some system cases do not have all four cables. Be sure to match the name on the connectors to the corresponding pins.

- **PWRSW**
  Attach the power button cable from the case to these two pins. Pressing the power button on the front panel turns the system on and off rather than using the onboard button.

- **HD_LED**
  Attach the hard disk drive indicator LED cable to these two pins. The HDD indicator LED indicates the activity status of the hard disks.

- **RESET**
  Attach the Reset switch cable from the front panel of the case to these two pins. The system restarts when the **RESET** switch is pressed.

Table 2.Front Panel Header Pins

	Pin	Signal
HD_LED	1	HD_PWR
	3	HD Active
PWRLED	2	PWR LED
	4	STBY LED
RESET	5	Ground
	7	RST BTN
PWRSW	6	PWR BTN
	8	Ground
No Connect	9	+5V
Empty	10	Empty