

User Guide

**EVGA Z97 Classified**

**Specs and Initial Installation**

**(Part 1)**

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# Before You Begin...

Welcome to a new class of high performance motherboards that boast 4<sup>th</sup> and 5<sup>th</sup> Generation Intel® Core™ Processor compatibility. The Z97 platform takes you to a new level of performance and efficiency. We have refined the GUI BIOS interface, reimagined power VRM that focuses on efficiency, added MPCIE support and loaded with features like 4-Way SLI, Creative Sound Core3D quad-core audio processor, Intel Gigabit LAN, native SATA 6G/USB 3.0 and more. All sitting on an 8 layer PCB to improve performance and efficiency.

Did we also mention that this motherboard is designed for the overclocker? Built from the ground up to give you all the essentials that you need for overclocking, with a GUI BIOS that is focused on functionality, ultra high quality components and robust PCI-E 3.0 and memory trace layout.

With these features and more, it is clear that the EVGA Z97 motherboards are engineered to exceed the best.

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## Parts NOT in the Kit

This kit contains all the hardware necessary to install and connect your new EVGA Z97 Classified Motherboard. However, it does NOT contain the following items that must be purchased separately in order to make the system fully functional and install an Operating System:

- ❑ **Intel -Socket 1150 Processor**
- ❑ **DDR3 System Memory**
- ❑ **CPU Cooling Device**
- ❑ **PCI Express Graphics Card**
- ❑ **Power Supply**
- ❑ **Hard Drive or SSD**
- ❑ **Keyboard / Mouse**
- ❑ **Monitor**
- ❑ **(Optional) Optical Drive**

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

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## Intentions of the Kit

This kit provides you with the motherboard and all connecting cables necessary to install the motherboard into a PC case.

When replacing a motherboard in a PC case, you will need to reinstall an operating system even though the current storage drive may already have one installed.

# Motherboard

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## Motherboard Specifications

- ❑ **Size:**
  - EATX form factor of 12 inches x 10.3 inches
- ❑ **Microprocessor support:**
  - Intel Socket 1150 Processor
- ❑ **Operating Systems:**
  - Supports Windows 8 / 7
- ❑ **Contains Intel Z97 chipset**
- ❑ **System Memory support:**
  - Supports Dual channel DDR3 up to 2666MHz+.
  - Officially supports up to 32GB of DDR3 memory.
- ❑ **USB 2.0 Ports:**
  - 6x from Intel Z97 PCH – 4x external, 2x internal
  - Supports hot plug
  - Supports wake-up from S1 and S3 mode
  - Supports USB 2.0 protocol up to a 480 Mbps transmission rate
- ❑ **USB 3.0 Ports:**
  - 6x from Intel Z97 PCH – 4x external, 2x internal
  - Supports transfer speeds up to 5Gbps
  - Backwards compatible USB 2.0 and USB 1.1 support
- ❑ **SATA Ports:**
  - Intel Z97 PCH Controller
  - 6x SATA 3/6G (600 MB/s) data transfer rate
    - Support for RAID 0, RAID 1, RAID 0+1, RAID 5, AND RAID 10
    - Supports hot plug
  - 2x SATA3/6G Marvell 88E9182
- ❑ **Onboard LAN:**
  - 1x Intel i217 Gigabit Ethernet PHY
  - 1x Intel i210 Gigabit Ethernet MAC
  - Supports 10/100/1000 Mb/sec Ethernet

❑ **Onboard Audio:**

Creative Core3D Quad-Core Audio Processor (CA0132)

Supports 6-channel (5.1) audio

Supports Optical Output

❑ **PCI-E 3.0 Support:**

Low power consumption and power management features

❑ **Power Functions:**

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:**

5x PCI-E 16x slot 2x16/8, 1x8, 1x8/4, 1x8

1x PCI-E 1x slot

1x Mini PCI-E/mSATA

❑ **2x Mini Display Ports (on I/O Panel)**

# Unpacking and Parts Descriptions

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## Equipment

The following accessories are included with the EVGA Z97 Classified Motherboard:



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### **The EVGA Z97 Classified Motherboard**

This PCI-E motherboard contains the Intel Z97 chipset.



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### **I/O Shield**

Installs in the system case to block radio frequency transmissions, protect internal components from dust, foreign objects, and aids in proper airflow within the chassis.



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### **4x SATA 3G/6G Data Cables**

Used to support the SATA protocol and each one connects a single drive to the motherboard.



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### **I/O Cover**

This optional cover attaches to the PCB and covers the I/O area



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### **Installation CD**

Contains drivers and software needed to setup the motherboard.



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### **User Manual**

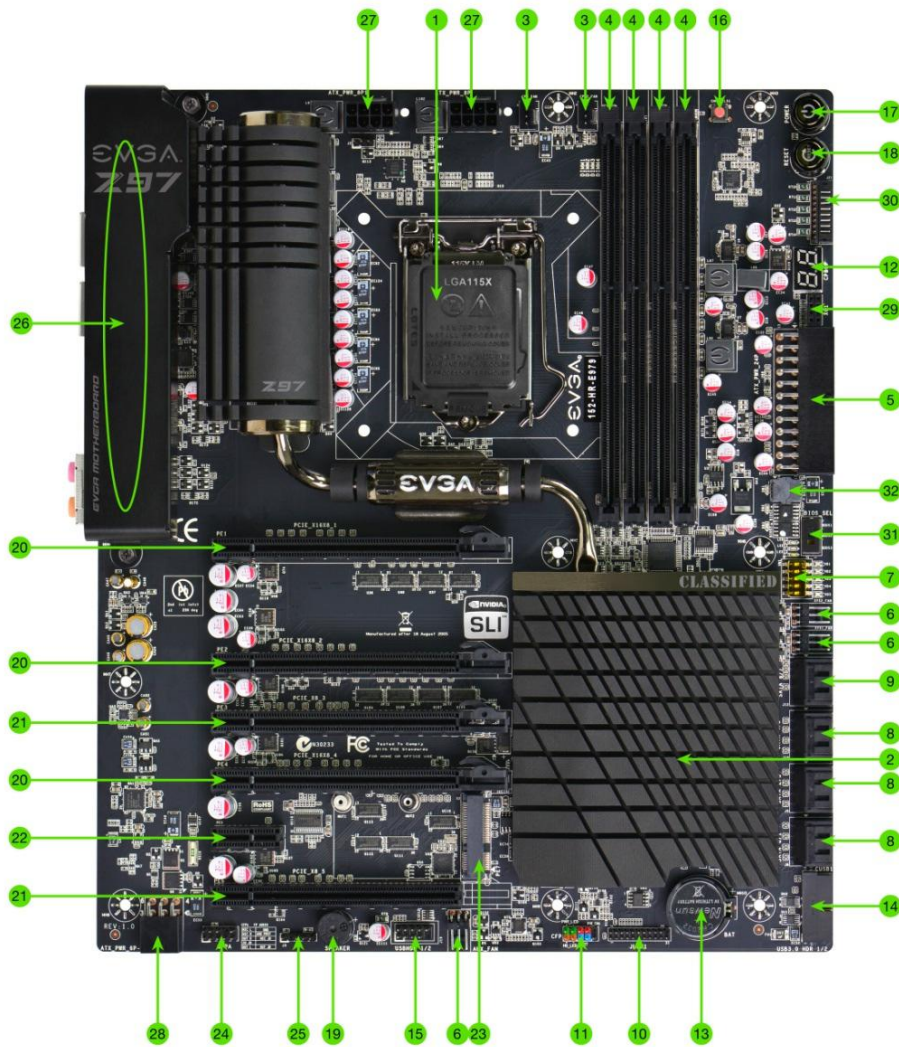
The user manual you are reading right now!

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# Intel Z97 Classified Motherboard

The EVGA Z97 Classified Motherboard with the Intel Z97 and PCH Chipset. Figure 1 shows the motherboard and Figure 2 shows the back panel connectors

**FIGURE 1. Z97 Classified Motherboard Layout**





1. CPU Socket 1150	12. Debug LED / CPU Temp Monitor	23. Mini PCI-E/mSATA
2. Intel Z97 Southbridge	13. CMOS Battery	24. Front Panel Audio Connector
3. CPU Fan Header (1 amp PWM)	14. USB 3.0 Headers	25. EVGauge
4. DDR3 Memory DIMM Slots 1-4	15. USB 2.0 Headers	26. Back Panel Connectors (Figure 2)
5. 24-pin ATX power connector	16. CMOS Reset Button	27. 8 pin EPS Connector
6. Fan Headers (1 amp DC)	17. Power Button	28. Supplemental PCI-E 6pin Power
7. PCI-E Disable Dipswitches	18. Reset Button	29. GPU Link
8. Intel SATA 6G Ports	19. PC Speaker	30. Probe It Header
9. Marvell SATA 6G Ports	20. PCI-E Slot 16x/8x	31. BIOS Selector Switch
10. ECP Header	21. PCI-E Slot 8x	32. Removable BIOS Chip
11. Front Panel Connectors	22. PCI-E Slot 1x	

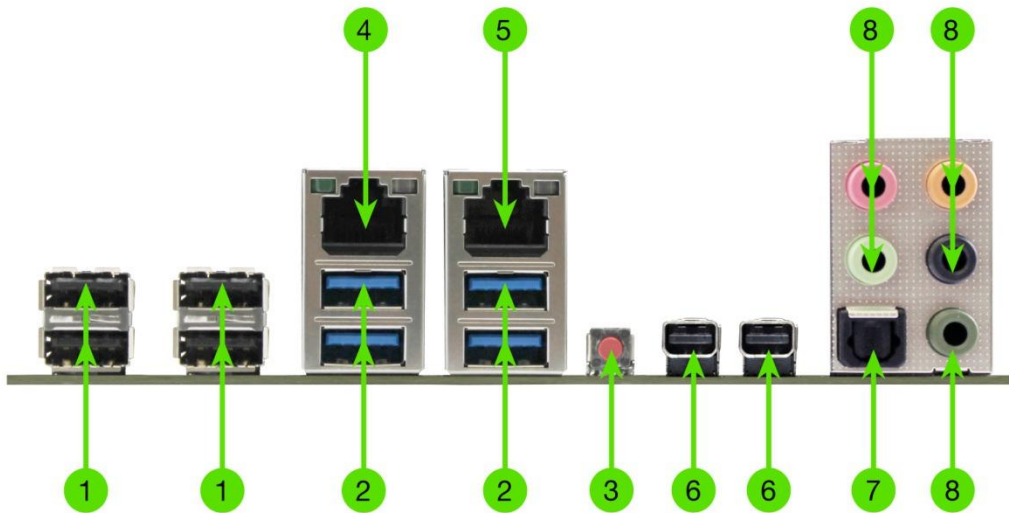
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## PCI-E Slot Breakdown

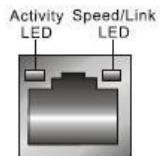
### PCI-E Lane Distribution

- ❑ PE1 – x16 (x8 if PE2 is used)
- ❑ PE2 – x16 (x8 if PE3 is used)
- ❑ PE3 – x8
- ❑ PE4 – x16 (x8 if PE6 is used)
- ❑ PE5 – x1
- ❑ PE6 – x8

**Figure 2. Chassis Rear Panel Connectors**



1. USB 2.0	4. Intel i210 NIC	7. Optical Out
2. USB 3.0	5. Intel i217 NIC	8. Analog Audio Output Jacks
3. BIOS/CMOS Reset	6. Mini Display Port	



Activity LED Status	Description
Off	No data transmission
Blinking (Green)	Data transmission

Speed/Link LED Status	Description
Yellow	1000 Mbps data rate
Green	100 Mbps data rate
Off	10 Mbps data rate

Analog Audio Port Breakdown	2/2.1 (Channel)	4.0/4.1 (Channel)	5.1 (6 Channel)
Blue	Line in	Line In	Line in
Green	Line Out/ Speaker Out	Front Speaker/ Speaker+Sub Out	Front Speaker/ Speaker+Sub Out
Pink	Mic In	Mic In	Mic In
Black		Rear Speaker Out	Rear Speaker Out
Orange			Center/Voice channel

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# Preparing the Motherboard

## Installing the CPU

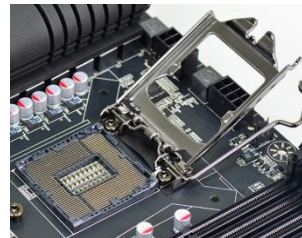
Be very careful when handling the CPU. Hold the processor only by the edges and do not touch the bottom of the processor.

**Note:** Use extreme caution when working with the CPU, not to damage any pins in the CPU socket on the motherboard!



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

- ❑ Remove the plastic protective socket cover by pulling it straight up. Be sure not to damage any of the pins inside the socket.
- ❑ Unhook the socket lever by pushing down and away from the socket.
- ❑ Pull the socket lever back and the load plate will lift.
- ❑ Open the load plate and make sure not to damage any of the pins inside the socket.

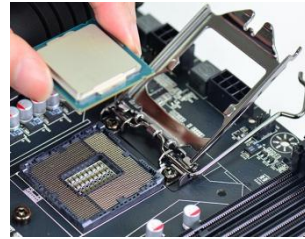


**Note:** After removing the CPU socket cover, it is recommended to store it in case you ever need to transport your motherboard. If you ever remove the CPU, it is highly recommended to reinstall the socket cover.

- ❑ Align the notches on the CPU to the notches in the socket.
- ❑ Lower the processor straight down into the socket.

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

- ❑ Lower the load plate so it is resting on the CPU.
- ❑ Carefully lock the lever back into place.



## Installing the CPU Cooling Device

There are many different cooling devices that can be used with this motherboard. Follow the instructions that come with your cooling assembly.

## Installing System Memory (DIMMs)

Your Z97 Classified has (4) 240-pin slots for DDR3 memory. These slots support 2GB, 4GB and 8GB DDR3 DIMMs. There must be at least one memory slot populated to ensure normal operation.

The Intel Z97 chipset supports dual channel memory; supports a maximum of 32GB of DDR3 and up to 2666MHz+ in dual channel configuration. It is required to populate slot 1 first. The board will not boot if slot 1 is not populated.



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

- ❑ Unlock a DIMM slot by pressing the module clips on both sides outward.
- ❑ Align the memory module to the DIMM slot, and insert the module vertically into the DIMM slot, pressing straight down to seat the module. The plastic clips at top side of the DIMM slot automatically lock the DIMM into the connector.

**Note:** The memory controller on most Haswell and Broadwell CPUs runs at a default frequency of 1600MHz. To achieve memory speeds above 1600+ may require manual setting of the memory timings, frequency and voltages and/or overclocking of the CPU.

Refer to the memory manufacturer specifications for the recommended memory timings. For overclocking support you can visit our forums: <http://forums.evga.com/>

# Compliance Information

## FCC Compliance Information

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1) Increase the separation between the equipment and signal source, or (2) connect the equipment to an outlet on a circuit different from that to which the signal source is connected. Consult the dealer or an experienced computer technician for help. The use of shielded cables for connection of peripheral devices to the PC systems is required to ensure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## CE Compliance Information

Generic Radiation Interference Standard for Information Technology Equipment. (EN 55022: 2006, Class B), (EN 61000-3-2: 2006), (EN 61000-3-3: 1995 + A1: 2001 + A2: 2005). Warning: This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measure. Generic Immunity Standard for Information Technology Equipment. (EN 55024: 1998 + A1: 2001 + A2: 2003).

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