User Guide

EVGA X99 Micro2
Specs and Initial Installation
(Part 1)

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Before You Begin…

EVGA welcomes you to the next generation of ground breaking performance, the X99 Micro2. The X99 platform redefines high performance with the introduction of the first ever quad channel DDR4 architecture fueled by Intel's Haswell-E/Broadwell-E CPU family for up to 64GB's of RAM running at a maximum memory speed up to 3200MHz+ (OC). Advanced 6 phase Digital VRM (IR3563B+IR3553) and a CPU socket with higher Gold content, all rested on a 8 layer Hybrid Black PCB to provide industry leading stability for all your applications.

Also, the board is not ONLY for overclocking, it is also fully featured to support a full suite of peripherals and functions available, 3 way SLI support @16x/16x/8x without the need for PLX chips, M.2, Intel Gigabit LAN, USB 3.1 type C, 10 Native SATA, isolated audio traces and much more!

Lastly, a motherboard is only as good as its BIOS, and we have revamped our GUI BIOS with a focus on overclocking, functionality, in a lean, straight forward package. And you should expect nothing less from a modern enthusiast BIOS.

With the features above and many more, EVGA is going to redefine motherboard performance.

Parts NOT in the Kit

This kit contains all the hardware necessary to install and connect your new EVGA X99 Micro2 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 2011-3 Processor**
- ❑ **DDR4 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

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

Motherboard Specifications

❑ **Size:**
mATX form factor of 9.6 inches x 9.6 inches (244x244mm)

❑ **Microprocessor support:**
Intel Socket 2011-3 Processor

❑ **Operating Systems:**
Supports Windows 8 / 7

❑ **Contains Intel X99 chipset**

❑ **System Memory support:**
Supports Quad channel DDR4 up to 3200MHz+ (OC).
Supports up to 64GB of DDR4 memory.

❑ **USB 2.0 Ports:**

6x from Intel X99 PCH – 4x external, 2x internal

Supports hot plug

Supports wake-up from S3 mode

Supports USB 2.0 protocol up to a 480 Mbps transmission rate

❑ **USB 3.0 Ports:**

6x from Intel X99 PCH – 4x external, 2x internal

Supports transfer speeds up to 5Gbps

Backwards compatible USB 2.0 and USB 1.1 support

❑ **USB 3.1 Ports:**

1x ASMedia ASM1142 (external) from PCH.

❑ **SATA Ports:**
Intel X99 PCH Controller
6x SATA 3/6G (600 MB/s) data transfer rate
  - Support for RAID 0, RAID 1, RAID 5, AND RAID 10
  - Supports hot plug
4x SATA3/6G AHCI Only

❑ **Onboard LAN:**

1x Intel i218 Gigabit Ethernet PHY

Supports 10/100/1000 Mb/sec Ethernet

❑ **Onboard Audio:**

Realtek Audio (ALC1150)

Supports 8-channel (7.1) 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), S3 (suspend to RAM), S4 (Suspend to disk - depends on OS), and S5 (soft - off)

❑ **Expansion Slots:**

3x PCI-E 16x slot 2x16, 1x8 (see page 9 for the exact lane breakdown, as this is subject to change based on the CPU used)

1x M.2

-M.2 Socket 3 (Key M), M.2 needs to be enabled in BIOS as it is shared with PE3. M.2 uses PCI-E 3.0 x4, with speeds up to 32 Gb/s.

-When used with a 40 lane Processor, the bottom PCI-e slot is reduced to x4 lanes.

-When used with a 28 lane Processor, the bottom PCI-e slot is disabled.

Unpacking and
Parts Descriptions

Equipment

The following accessories are included with the EVGA X99 Micro2 Motherboard:

The EVGA X99 Micro2 Motherboard

This PCI-E motherboard contains the Intel X99 chipset.

I/O Shield

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

4x SATA 6G Data Cables

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

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.

User Manual

The user manual you are reading right now!

Component Legend
Intel X99 Micro2 Motherboard

The EVGA X99 Micro2 Motherboard with the Intel X99 and PCH Chipset and its component breakdown is pictured below. Figure 1 shows the motherboard and Figure 2 shows the back panel connectors

FIGURE 1. X99 Micro2 Motherboard Layout
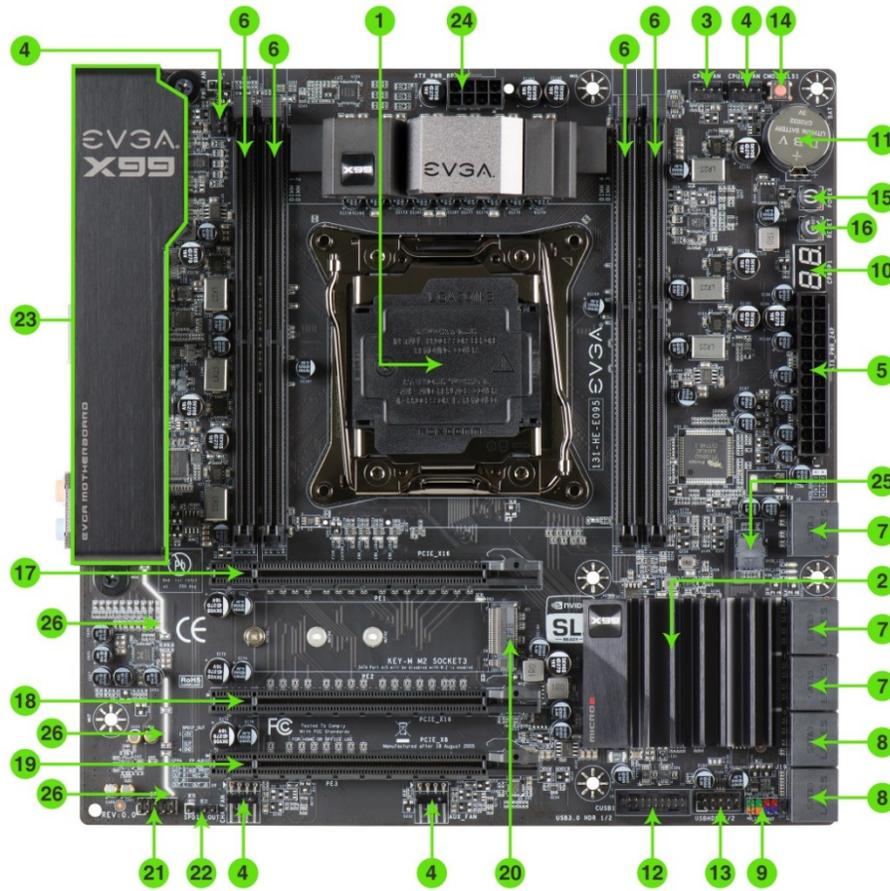
1. CPU Socket 2011-3	10. Debug LED / CPU Temp Monitor	19. PCI-E Slot 8x/4x
2. Intel X99 PCH	11. CMOS Battery	20. M.2 (Key-M)
3. CPU Fan Header (1 amp PWM)	12. USB 3.0 Headers	21. Front Panel Audio Connector
4. CPU2, PWR, AUX,CHA fan headers (1 amp PWM/DC)	13. USB 2.0 Headers	22. S/PDIF Out
5. 24-pin ATX power connector	14. CMOS Reset Button	23. Back Panel Connectors (Figure 2)
6. DDR4 Memory DIMM Slots 1-4	15. Power Button	24. 8 pin EPS Connector
7. Intel SATA 6G RAID Ports	16. Reset Button	25. Removable BIOS Chip
8. Intel SATA 6G AHCI Ports	17. PCI-E Slot 16x	26. Shielded/backlit audio traces
9. Front Panel Connectors	18. PCI-E Slot 16x/8x	

PCI-E Slot Breakdown

## PCI-E Lane Distribution (40 Lane Processor)

- ❑ PE1 – x16
- ❑ PE2 – x16
- ❑ PE3 – x8
  - o x4 if the M.2 slot is used.

PCI-E Lane Distribution (28 Lane Processor)

- ❑ PE1 – x16
- ❑ PE2 – x8
- ❑ PE3 – x4
  - o Disabled if the M.2 slot is used.

Rear I/O Legend

Figure 2. Chassis Rear Panel Connectors
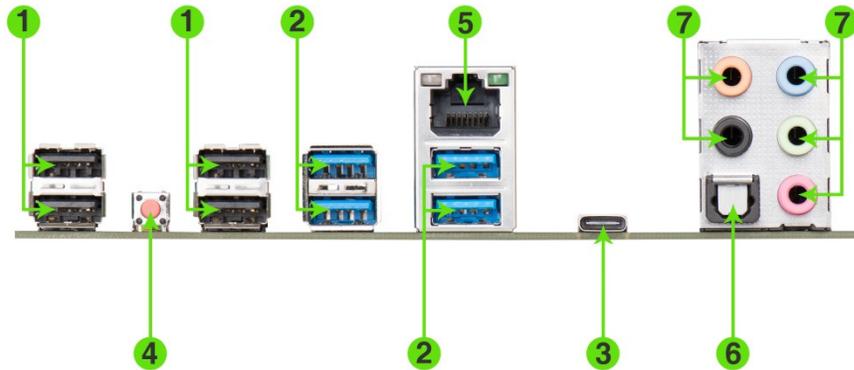
1. USB 2.0	4. BIOS/CMOS Reset	7. Analog Audio Output Jacks
2. USB 3.0	5. Intel i218 NIC	
3. USB 3.1	6. Optical Out	
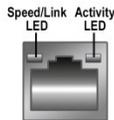
Speed/Link LED Status	Description
Yellow	1000 Mbps data rate
Green	100 Mbps data rate
Off	10 Mbps data rate

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

Analog Audio Port Breakdown	2/2.1 Channel	4.0/4.1 Channel	5.1 (6 Channel)	7.1 (8 Channel)
Blue	Line in	Line In	Line in	* Side channel
Green	Line Out/ Speaker Out	Front Speaker/ Speaker+Sub Out	Front Speaker/ Speaker+Sub Out	Front Speaker/ Speaker+Sub Out
Pink	Mic In	Mic In	Mic In	Mic In
Black		Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Orange			Center/Voice channel	Center/Voice channel

* Only used in 7.1 and is changed via Realtek Software from within Windows.

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:

❑   Unhook the left socket lever by pushing down and towards the socket.

❑   Unhook the right socket lever by pushing down and towards the socket.

❑   Gently press the left socket lever and the load plate will lift from the socket.

❑   Open the load plate and make sure not to damage any of the pins inside of 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.

❑ Press the right socket lever down to lock into place.

❑ Carefully lock the left 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 X99 Micro2 has (4) 288-pin slots for DDR4 memory. These slots support 4GB, 8GB and 16GB DDR4 DIMMs. There must be at least one memory slot populated to ensure normal operation.

The Intel X99 chipset supports quad channel memory; supports a maximum of 64GB of DDR4 and up to 3200MHz+ (OC) in quad channel configuration. It is required to populate slot 1 first

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 clip on the top of the RAM slot.

❑ 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-E and Broadwell-E CPUs runs at a default frequency of 2133MHz. To achieve memory speeds above 2133MHz+ 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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