User Guide

EVGA X58 Classified3 Motherboard
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Thank you for purchasing the EVGA X58 Classified3 Motherboard. This board is designed to take the already excellent performance of the EVGA lineup and push it into the future by adding support for SATA 6Gbps and USB 3.0. Also we have included EVBot support to facilitate your tweaking needs.

As always with this board you also get the added bonus of EVGA’s industry leading technical support in case you ever have any issues or questions.

Parts NOT in the Kit

This kit contains all the hardware necessary to install and connect your new EVGA X58 Classified3 motherboard. However, it does not contain the following items that must be purchased separately to make the motherboard functional.

- Intel Core i7 microprocessor
- Cooling fan for the microprocessor
- System memory support
- Graphics Card
- Power Supply

EVGA assumes you have purchased all the necessary parts needed to allow for proper system functionality.
Intentions of the Kit

This kit provides you with the motherboard and all connecting cables necessary to install the motherboard into a PC case. If you are building a PC, you will use most of the cables provided in the kit. If however, you are replacing a motherboard, you will not need many of the cables.

When replacing a motherboard in a PC case, you will need to reinstall an operating system even though the current drives have an operating system.
Thank you for buying the EVGA X58 CLASSIFIED3 Motherboard. This motherboard offers the tools and performance PC users’ demand. When combined with two or three SLI-Ready NVIDIA GeForce graphics cards, you get innovative NVIDIA SLI Technology for enhanced system performance.

Motherboard Specifications

- **Size**
  - EATX form factor of 12 inches x 13 inches
- **Microprocessor support**
  - Intel Core i7 processor
- **Operating systems:**
  - Supports Windows XP, Windows Vista, and Windows 7 32bit/64bit
- **Contains INTEL X58 and ICH10R chipset**
- **System Memory support**
  - Supports triple channel DDR3-1600+. Supports up to 24GBs DDR3 memory.
- **USB 2.0 Ports**
  - Supports hot plug
  - Twelve USB 2.0 ports (Eight rear panel ports, four onboard USB headers)
  - Supports wake-up from S1 and S3 mode
  - Supports USB 2.0 protocol up to a 480 Mbps transmission rate
- **USB 3.0 Ports**
  - Two USB 3.0 ports (on I/O panel)
  - Backwards compatible USB 2.0 and USB 3.0 support.
EVGA X58 CLASSIFIED3 Motherboard

- Supports transfer speeds up to 5Gbps
- Six (6) onboard SATA II Ports + 2 onboard SATA3 ports
  - 300MBps data transfer rate
  - Six SATA II connectors from south bridge with support for RAID 0, RAID 1, RAID 0+1, and RAID 5
- Two (2) SATA3 600MBps onboard ports from Marvell 88SE9128 Chipset
- Onboard LAN
  - Dual LAN interface built-in onboard
  - Supports 10/100/1000 Mbit/sec Ethernet
- Onboard 1394
  - Support hot plug
  - Two 1394a ports (one rear panel port, one onboard header) with rate of transmission at 400 Mbps
- Onboard Audio
  - Realtek High-Definition audio
  - Supports 8-channel audio
  - Supports Jack-Sensing function
- Four PCI Express Support
  - Four (4) PCI-E 2.0 x16 Slots
  - Supports 4 GB/sec (8 GB/sec concurrent) bandwidth
- 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
  - One PCI slot
  - One PCI Express x1 slot
  - Four PCI Express x16/x8 slots
Unpacking and Parts Descriptions

Unpacking

The EVGA X58 CLASSIFIED3 motherboard comes with all the necessary cables for adding a motherboard to a new chassis. If you are replacing a motherboard, you may not need many of these cables.

Be sure to inspect each piece of equipment shipped in the packing box. If anything is missing or damaged, contact your reseller.

All parts shipped in this kit are RoHS-compliant (lead-free) parts.

Equipment

The following accessories are included with EVGA X58 CLASSIFIED3 motherboard.

**The EVGA X58 CLASSIFIED3 Motherboard**

This motherboard contains the Intel X58 and ICH10R chipset and is SLI-ready for 2-way, Quad, 3-way, and 3-way SLI w/ PhysX configurations.

**Visual Guide**

Helps to quickly and visually guide you through the hardware installation of the motherboard.

**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.
<table>
<thead>
<tr>
<th><strong>Component</strong></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3 - 2-Port SATA Power Cables</strong></td>
<td>Allows a Molex power connector to adapt to a SATA power connector.</td>
</tr>
<tr>
<td><strong>1 - 2-Port USB and 1-Port 1394 bracket</strong></td>
<td>Provides one (1) additional IEEE1394a port to the back panel of the chassis and provides two additional USB ports to the back panel.</td>
</tr>
<tr>
<td><strong>6 - SATA Data Cables</strong></td>
<td>Used to support the SATA protocol and each one connects to a single drive to the motherboard.</td>
</tr>
<tr>
<td><strong>1 - IDE-ATA 133 HDD Cable</strong></td>
<td>Passes data between the IDE connection on the motherboard and IDE device.</td>
</tr>
<tr>
<td><strong>1 - 2-way SLI Bridge</strong></td>
<td>Bridges two (2) graphic cards together which allows for 2-Way SLI.</td>
</tr>
<tr>
<td><strong>1 – 3-way SLI Bridge</strong></td>
<td>Bridges three (3) graphic cards together which allows for 3-Way SLI.</td>
</tr>
<tr>
<td><strong>1 – 3-way SLI with PhysX™ Bridge</strong></td>
<td>Bridges three (3) graphic cards with Physics card together which allows for 3-Way SLI with PhysX™ technology.</td>
</tr>
<tr>
<td><strong>1 - Installation CD</strong></td>
<td>Contains drivers and software needed to setup the motherboard.</td>
</tr>
</tbody>
</table>
Intel X58 Express Chipset
Motherboard

The EVGA X58 CLASSIFIED3 Motherboard with the Intel X58 and ICH10R chipset is a SLI-ready motherboard. Figure 1 shows the motherboard and Figure 2 shows the back panel connectors.
1. CPU Socket 1366
2. Intel X58 Chipset
3. CPU Fan connector
4. DDR3 DIMM slots 1 – 6
5. Intel ICH10R Chipset
6. 24-pin ATX power connector
7. Fan connectors
8. PCIe x16 disable jumpers
9. IDE connector
10. Serial-ATA (SATA) connectors
11. P80P connector
12. Front panel connector
13. Debug LED Display
14. USB headers
15. CMOS battery
16. 1394a connector
17. CMOS clear button
18. Power button
19. Reset button
20. PC Speaker
21. PCI Express 2.0 slots
22. PCI slot
23. PCI Express x1 slot
24. Front panel Audio connector
25. Backpanel connectors (Figure 2)
26. 8-pin ATX_12V power connector
27. SATA3 600MBps Ports

Figure 1. EVGA X58 CLASSIFIED3 Motherboard Layout
1. PS/2 Keyboard Port
2. USB 2.0 ports (Eight)
3. CMOS Clear Button
4. EVBot Port
5. USB 3.0 Ports
6. 1394a (Firewire) port
7. Dual Lan Port with LEDs to indicate status.

<table>
<thead>
<tr>
<th>Activity LED Status</th>
<th>Description</th>
<th>Speed/Link LED Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>No data transmission</td>
<td>Yellow</td>
<td>1000 Mbps data rate</td>
</tr>
<tr>
<td>Blinking (Green)</td>
<td>Data transmission</td>
<td>Green</td>
<td>100 Mbps data rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off</td>
<td>10 Mbps data rate</td>
</tr>
</tbody>
</table>

8. **Audio Port**

<table>
<thead>
<tr>
<th>Color</th>
<th>Connector</th>
<th>Channel</th>
<th>Channel</th>
<th>Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Line-In</td>
<td>2-Channel</td>
<td>Line-In</td>
<td>6-Channel</td>
</tr>
<tr>
<td>Green</td>
<td>Line-Out</td>
<td>5-Channel</td>
<td>Front Speaker Out</td>
<td>8-Channel</td>
</tr>
<tr>
<td>Pink</td>
<td>Mic In</td>
<td>6-Channel</td>
<td>Mic In</td>
<td>Side Speaker Out</td>
</tr>
<tr>
<td>Orange</td>
<td></td>
<td>7-Channel</td>
<td>Center/Subwoofer</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td>8-Channel</td>
<td>Rear Speaker Out</td>
<td></td>
</tr>
<tr>
<td>Grey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2. Chassis Backpanel Connectors**
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 shock, and injury, always follow basic safety precautions.

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

The motherboard shipped in the box does not contain a CPU or memory. You need to purchase these to complete this installation.

Installing the CPU

Be very careful when handling the CPU. Make sure not to bend or break any pins inside the socket. Hold the processor only by the edges and do not touch the bottom of the processor.

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

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

2. Put your finger on the tail of the load plate and press the tail down.

3. Lift the load plate. There is a protective socket cover in the socket to protect the socket when there is no CPU installed.

4. Remove the protective socket cover from the CPU Socket.

Remove the processor from its protective cover, making sure you hold it only by the edges. It is a good idea to save the cover so that whenever you remove the CPU, you have a safe place to store it.
5. Align the notches in the processor with the notches on the socket.

6. Lower the processor straight down into the socket without tilting or sliding it into the socket. Make sure the CPU is fully seated and level in the socket.

7. Close the load plate over the CPU and press down while you close and engage the socket lever.

8. The CPU installation is complete.

Installing the CPU Fan

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

Your new motherboard has six 240-pin slots for DDR3 memory. These slots support 256 Mb, 512 Mb, 1 Gb, 2Gb, and 4Gb DDR3 technology. There must be at least one memory bank populated to ensure normal operation. Use the following the recommendations for installing memory. (See Figure 1 on page 16 for the location of the memory slots.)

- **One DIMM**: If using 1 DIMM (Single Channel), install into: DIMM slot 1.

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

- **Three DIMMs**: If using 3 DIMMs (Triple Channel), install into: DIMM slots 1, 3 and 5.

- **Six DIMMs**: If using more than 4 DIMMs, use: DIMM slots 2, 1, 4, and 3 then proceed to occupy the following DIMM slots in this order: 6 and 5.

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

1. Unlock a DIMM slot by pressing the module clips outward.
2. Align the DIMM 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 the chassis depends on the chassis you are using and if you are replacing an existing motherboard or working with an empty chassis. 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.

Be sure that the CPU fan assembly has enough clearance for the chassis covers to lock into place and for the expansion cards. Also make sure the CPU Fan assembly is aligned with the vents on the covers.

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. If the I/O shield does not fit into the chassis, you would need to obtain the proper size from the chassis supplier.
Securing the Motherboard into the Chassis

Most computer chassis 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.

1. Carefully place the motherboard onto the studs/spacers located inside the chassis.
2. Align the mounting holes with the studs/spacers.
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 minimum of nine screws.

Connecting Cables and Setting Switches

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

- **Power Connections**
  - 24-pin ATX power (PW1)
  - 8-pin ATX 12V power (PW12-1, PW12-2)
- **Internal Headers**
  - Front panel
  - IEEE 1394a
  - USB
  - Audio
- **IDE**
- SATA II & 3
- Chassis Fans
- USB 2.0
- Expansion slots
- CMOS Clear Button
- Jumper Settings

See Figure 1 on page 16 to locate the connectors and jumpers referenced in the following procedure.

**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.

![PW1 Motherboard Connector](image)

*Figure 3. PW1 Motherboard Connector*
Table 1. PW1 Pin Assignments

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin</th>
<th>Signal</th>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>1</td>
<td>+3.3V</td>
<td>13</td>
<td>+3.3V</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>+3.3V</td>
<td>14</td>
<td>-12V</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>GND</td>
<td>15</td>
<td>GND</td>
</tr>
<tr>
<td>12</td>
<td>4</td>
<td>+5V</td>
<td>16</td>
<td>PS_ON</td>
</tr>
<tr>
<td>12</td>
<td>5</td>
<td>GND</td>
<td>17</td>
<td>GND</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>+5V</td>
<td>18</td>
<td>GND</td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>GND</td>
<td>19</td>
<td>GND</td>
</tr>
<tr>
<td>12</td>
<td>8</td>
<td>PWOK</td>
<td>20</td>
<td>RSVD</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>+5V_AUX</td>
<td>21</td>
<td>+5V</td>
</tr>
<tr>
<td>12</td>
<td>10</td>
<td>+12V</td>
<td>22</td>
<td>+5V</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
<td>+12V</td>
<td>23</td>
<td>+5V</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>+3.3V</td>
<td>24</td>
<td>GND</td>
</tr>
</tbody>
</table>

8-pin ATX 12V Power (PW12-1, PW12-2)

PW12-1, PW12-2, the 8-pin ATX 12V power connections, are used to provide power to the CPU. Align the pins to the connector and press firmly until seated. You can plug in an extra one if your power supply comes with it. It is not necessary and the motherboard will function perfectly with just one connector in either socket.

Before you plug these two power connection, please make sure your power supply support two 8-pin ATX 12V differential output.
Connecting IDE Hard Disk Drives

The IDE connector supports Ultra ATA 133/100/66 IDE hard disk drives.

1. Connect the blue connector (the cable end with a single connector) to the motherboard.
2. Connect the black connector (the cable with the two closely spaced black and gray connectors) to the Ultra ATA master device.
3. Connect the gray connector to a slave device.

If you install two hard disk drives, you must configure the second drive as a slave device by setting its jumper accordingly. Refer to the hard disk documentation for the jumper settings.

If an ATA-66/100 disk drive and a disk drive using any other IDE transfer protocol are attached to the same cable, the maximum transfer rate between the drives may be reduced to that of the slowest drive.
Connecting SATA Cables

The SATA II connector is used to connect the SATA II device to the motherboard. These connectors support the thin SATA II cables for primary storage devices. The current SATA II interface allows up to 300MB/s data transfer rate.

There are eight (8) internal SATA connectors on this motherboard. Connection points SATA0 - SATA5, are controlled by the South Bridge Chipset. Connection points SATA8 - SATA9 are SATA3 ports and operate from the Marvell 88SE9128 chipset at a transfer rate up to 600MB/s.

Connect the locking cable end to the motherboard connector. Connect the end without the lock to the SATA Device.
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 turn on status, the LED is on. When the system is turn off status, the LED is off. When the system is S1, S3, S4 status, the LED will blink.

  Some chassis 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.

- **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

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HD_PWR</td>
</tr>
<tr>
<td>2</td>
<td>PWRLED</td>
</tr>
<tr>
<td>3</td>
<td>HD Active</td>
</tr>
<tr>
<td>4</td>
<td>STBY LED</td>
</tr>
<tr>
<td>5</td>
<td>Ground</td>
</tr>
<tr>
<td>6</td>
<td>PWR BTN</td>
</tr>
<tr>
<td>7</td>
<td>RST BTN</td>
</tr>
<tr>
<td>8</td>
<td>Ground</td>
</tr>
<tr>
<td>9</td>
<td>+5V</td>
</tr>
<tr>
<td>10</td>
<td>Empty</td>
</tr>
</tbody>
</table>
IEEE 1394a

The IEEE 1394a expansion cable bracket is provided in the box but if you do not require the additional external connections, you do not need to install it.

1. Secure the bracket to the rear panel of your chassis.
2. Connect the end of the IEEE 1394a cable to the IEEE 1394a connector on the motherboard.

Table 3. IEEE 1394a Connector Pins

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEEE 1394a Connector</td>
<td>1</td>
<td>TPA+</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>TPA-</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>GND</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>TPB+</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>TPB-</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>+12V</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>+12V</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Empty</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>GND</td>
</tr>
</tbody>
</table>
USB Headers

This motherboard contains eight (8) USB 2.0 ports that are exposed on the rear panel of the chassis (Figure 2). The motherboard also contains two 10-pin internal header connectors onboard that can be used to connect an optional external bracket containing two (2) USB 2.0 ports.

1. Secure the bracket to either the front or rear panel of your chassis.

2. Connect the end of the USB cable to the USB 2.0 headers on the motherboard.

Table 4. USB 2.0 Header Pins

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB 2.0 Header Connector</td>
<td>1</td>
<td>5V_DUAL</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>D-</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>D+</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Empty</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>5V_DUAL</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>D-</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>D+</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>GND</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>No Connect</td>
</tr>
</tbody>
</table>
Audio

The audio connector supports HD audio standard and provides two kinds of audio output choices: the Front Audio, the Rear Audio. The front Audio supports re-tasking function.

Table 5. Front Audio Connector

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Audio Connector</td>
<td>1</td>
<td>PORT1_L</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>AUD_GND</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>PORT1_R</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>PRECENCE_J</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>PORT2_R</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>SENSE1_RETURN</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>SENSE_SEND</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Empty</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>PORT2_L</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>SENSE2_RETURN</td>
</tr>
</tbody>
</table>
Fan Connections

There are five fan connections on the motherboard. The fan speed can be detected and viewed in the PC Health Status section of the CMOS Setup. The fans are automatically turned off after the system enters S3, S4 and S5 mode. Fan headers are rated for a maximum of 1 amp draw.

Note: the CPU fan cable can be either a 3-pin or a 4-pin connector. Connect a 3-pin connector to pins 1, 2, and 3 on the motherboard connector.
Expansion Slots

The EVGA X58 CLASSIFIED3 motherboard contains six (6) expansion slots, Five (5) PCI Express slots and one (1) PCI slot.

Slot Listing

1. PCIe x1 slot
2. PCIe x16/8 slot 2
3. PCIe x8 slot 3
4. PCI slot 1
5. PCIe x16/x8 slot 4
6. PCIe x8 slot 5
PCI Slot

The one PCI slot supports many expansion cards such as a LAN card, USB card, SCSI card and other cards that comply with PCI specifications. When installing a card into the PCI slot, be sure that it is fully seated. Secure the card’s metal bracket to the chassis back panel with the screw used to hold the blank cover.

PCI Express x1 Slot

There is one PCI Express x1 slot that is designed to accommodate less bandwidth-intensive cards, such as a modem or LAN card. The x1 slots provide 250 MB/sec bandwidth.

PCI Express x16 Slots

These four PCI Express x16/x8 slots are reserved for video cards, and x1/x4 devices. The bandwidth of the x16 slot is up to 4GB/sec (8GB/sec concurrent). The design of this motherboard supports three PCI-Express graphics cards using NVIDIA’s SLI technology with multiple displays.

When installing a PCI Express x16 card, be sure the retention clip snaps and locks the card into place. If the card is not seated properly, it could cause a short across the pins. Secure the card’s metal bracket to the chassis back panel with the screw used to hold the blank cover.
Onboard Buttons

These onboard buttons include RESET, POWER and Clear CMOS. These functions allow you to easily reset the system, turn on/off the system, or clear the CMOS.

Clear CMOS Button
The motherboard uses the CMOS to store all the set parameters. The CMOS can be cleared by pressing the Clear CMOS button either onboard or on the external I/O Panel.

RESET and POWER Button
These onboard buttons allow you to easily turn on/off the system. These buttons allow for easy debugging and testing of the system during troubleshooting situations.

The POWER button contains a LED that indicates the system’s status. When the system is powered on, the LED remains a solid green.

The RESET button contains a LED that indicates the activity status of the hard disk drives and will blink accordingly.
Post Port Debug LED and LED Status Indicators

Post Port Debug LED

Provides two-digit POST codes to show why the system may be failing to boot. It is useful during troubleshooting situations. This Debug LED will also display current CPU temperatures after the system has fully booted into the Operating System.

LED Status Indicators

These LEDs indicate the system’s status.

- **POWER LED (Green):**
  When the system is power on status, the LED is on.

- **DIMM LED (Yellow):**
  When the memory slot is functional, the LED is on.

- **STANDBY LED (Blue):**
  When the system is in standby mode, the LED is on.
Jumper Settings

PCIE Disable Jumper

For the ease of troubleshooting multiple video cards, or testing an individual video card's overclocking, EVGA has implemented four jumpers you can use to disable individual PCIE slots. You don’t need to remove any of your video cards but simply disable the slot the particular card is in.

Above you see the location of the 4 jumpers, right below the 24pin ATX Connector. In default shipping configurations, all slots are enabled with the jumpers in the left position. From top to bottom, PCIE slots 2,3,4,5 respectively. To disable a PCIE Slot, move the jumper over to the right position.

Example: Remove the Jumper cap of JPE2, PCIE Slot 2 is disabled while the rest are enabled. The PCIE Disable Function can also be extended onto the EVGA Control Panel (ECP).

Do this when the PC is turned off, NOT while it is running!
Voltage Measure Points

The motherboard is equipped with eight voltage measure point pads. You can use a meter to measure the voltage at each pad.
EVGA Control Panel  (On select models)

For the convenience of users, EVGA has designed an easy to access control panel:

To use the ECP, simply hook up the black ECP cable to the motherboard at this location, the bottom right corner:

The cable should fit into the area high-lighted in green. It doesn’t matter which end of the cable is used. The cable header is designed so that there is only one direction the cable can be connected to the header.
The other end of the cable should be connected to the ECP as shown:

**Before turning on the PC, please check to see that the CPU VCore, and Vtt Booster are in the Off position (clicked up).**
If you wish to access the PCIE Disable Function via the ECP, please follow these instructions.

Locate the PCIE disable jumpers below:

Remove the 4 jumpers.
Connect the PCIE cable with the red wires occupying the left most pins:

Please remember to do this when PC is not running.

Next, connect the other end of PCIE enable/disable cable onto the ECP as shown:
The red wires should be occupying the pins on the top row.

Now, access the Disable/Enable Function at the front of the Control Panel:

From right to left, the PCIE Disable will disable slots 2,3,4,5. When jumper is in top position, PCIE slot is enabled. When in bottom position PCIE slot is disabled.
**CPU VCore Booster**

For convenience of users when overclocking, the ECP houses 2 CPU VCore and 1 CPU Vtt Boosters for real-time boost of CPU VCore and Vtt. Each button boosts the vcore by +0.1v.

The red LED will light up when VCore booster is pressed. When one red LED is lit, VCore is boosted by +0.1v. When 2 red LEDs are lit, VCore is boosted by +0.2v. When all 3 red LEDs are lit, VCore is boosted by +0.2v and Vtt is boosted by +0.1v. To disable the VCore or Vtt boost, just press the respective button again and the voltage will go down to what you have set in the bios.
Above you see the EVGA X58 Classified3 housing a Creative X-Fi PCIE x1 Audio Card, 3 x GTX 285s in 3-way SLI and a 9800GT for dedicated PhysX.

There are 2 types of 3-way SLI Bridges bundled, the first is for hooking up PCIE slots 2,3,4. Another for hooking up PCIE slots 2,3,5 in 3-way SLI while using a fourth video card for PhysX.
Configuring the BIOS

This section discusses how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

This section includes the following information:

- Enter BIOS Setup
- Main Menu
- Standard CMOS Features
- Advanced BIOS Features
- Integrated Peripherals
- Power Management Setup
- PnP/PCI Configurations
- PC Health Status
- Frequency/Voltage Control
Enter BIOS Setup

The BIOS is the communication bridge between hardware and software. Correctly setting the BIOS parameters is critical to maintain optimal system performance.

Use the following procedure to verify/change BIOS settings.

1. Power on the computer.
2. Press the Del key when the following message briefly displays at the bottom of the screen during the Power On Self Test (POST).

   Press F1 to continue, DEL to enter Setup.

   Pressing Del takes you to the Phoenix-Award BIOS CMOS Setup Utility.

It is strongly recommended that you do not change the default BIOS settings. Changing some settings could damage your computer.

Main Menu

The main menu allows you to select from the list of setup functions and two exit choices. Use the Page Up and Page Down keys to scroll through the options or press Enter to display the associated submenu. Use the ↑↓ arrow keys to position the selector in the option you choose. To go back to the previous menu, press Esc.

Note that on the BIOS screens all data in white is for information only, data in yellow is changeable, data in blue is non-changeable, and data in a red box is highlighted for selection.
Figure 3. BIOS CMOS Setup Utility Main Menu

- **Standard CMOS Features**
  Use this menu to set up the basic system configuration.

- **Advanced BIOS Features**
  Use this menu to set up the advanced system features and boot sequence.

- **Integrated Peripherals**
  Use this menu to set up onboard peripherals such as IDE, RAID, USB, LAN, and MAC control.

- **Power Management Setup**
  Use this menu to configure power management, power on, and sleep features.

- **PnP/PCI Configurations**
  Use this menu to modify the system’s Plug-and-Play and PCI configurations.

- **PC Health Status**
  Use this menu to monitor the real-time system status of your PC, including temperature, voltages, and fan speed.
- **Frequency/Voltage Control**
  Use this menu to optimize system performance and configure clocks, voltages, memory timings, and more.

The following items on the CMOS Setup Utility main menu are commands rather than submenus:

- **Load Defaults**
  Load defaults system settings.

- **Set Supervisor Password/Set User Password**
  Use this command to set, change, and disable the password used to access the BIOS menu.

- **Save & Exit Setup**
  Use this command to save settings to CMOS and exit setup.

- **Exit Without Saving**
  Use this command to abandon all setting changes and exit setup.
Standard CMOS Features Menu

The Standard CMOS Features menu is used to configure the standard CMOS information, such as the date, time, HDD model, and so on. Use the **Page Up** and **Page Down** keys to scroll through the options or press **Enter** to display the sub-menu. Use the ↑↓ arrow keys to position the selector in the option you choose. To go back to the previous menu, press **Esc**.

The information shown in **Item Help** corresponds to the option highlighted.

![Standard CMOS Features Menu](image)

**Figure 4. Standard CMOS Features Menu**

Note that all data in **white** is for information only, data in **yellow** is changeable, data in **blue** is non-changeable, and data in a **red box** is highlighted for selection.
Date and Time

Using the arrow keys, position the cursor over the month, day, and year. Use the **Page Up** and **Page Down** keys to scroll through dates and times. Note that the weekday (Sun through Sat) cannot be changed. This field changes to correspond to the date you enter. Note that the hour value is shown in a 24-hour clock format. Time is represented as *hour : minute : second*.

![Date and Time](image)

SATA Channel

Use these functions to detect and configure the SATA channels. Select a channel and press **Enter** to display the SATA sub-menu.

![SATA Channel](image)
Press **Enter** to auto-detect SATA channels in the system. Once the channel is detected, the values for Capacity, Cylinder, Heads, Precomp, Landing Zone, and Sector are automatically filled in.

- **None**
  There are no HDD installed.

- **Auto**
  The system can auto-detect the hard disk when booting up.

- **Manual**
  When you set the channel to [Manual] and change Access Mode to [CHS], you can then enter the number of cylinders, heads, Precomp, landing zone, and sector. You can manually enter the values or you can press **Enter** to display a window that tells you the min and max values.

The BIOS supports the following HDD Access Modes:

- **CHS**
  For HDD less than 528 MB.

- **LBA**
  For HDD greater than 528 MB and supporting LBA (Logical Block Addressing).

- **Large**
  For HDD greater than 528 MB but not supporting LBA.

- **Auto**
  Recommended mode.
Halt On

Halt On determines whether or not the computer stops if an error is detected during power on. Use the Page Up and Page Down keys to scroll through the options or press Enter to display the Halt On sub-menu. Use the ↑ ↓ arrow keys to position the selector in the option you choose. Press Enter to accept the changes and return to the Standard CMOS Features menu.

- All Errors
  Whenever the BIOS detects a nonfatal error, the system stops and prompts you.

- No Errors
  System boot does not stop for any detected errors.

- All, But Keyboard
  System boot does not stop for keyboard errors, but does stop for all other errors.

Memory

These settings are display-only values that are determined by the BIOS POST (Power-On Self Test).

- Base Memory
  BIOS POST determines the amount of base (or conventional) memory installed in the system.

- Extended Memory
  BIOS determines how much extended memory is present during the POST.

- Total Memory
  This value represents the total memory of the system.
Advanced BIOS Features

Access the Advanced BIOS Features menu from the CMOS Utility Setup screen. Use the Page Up and Page Down keys to scroll through the options or press Enter to display the sub-menu. Use the ↑↓ arrow keys to position the selector in the option you choose. To go back to the previous menu, press Esc.

The options that have associated sub-menus are designated by a ▶, which precedes the option. Press Enter to display the sub-menus.

Note that all data in **white** is for information only, data in **yellow** is changeable, data in **blue** is non-changeable, and data in a **red box** is highlighted for selection.

---

Figure 5. Advanced BIOS Features Menu
Hard Disk Boot Priority

Use this option to select the priority for HDD startup. Press Enter to see the list of bootable devices in your system. Use the ↑↓ arrow keys to go to the various devices. Then use the + or − keys to move the device priority up or down in the list. To go back to the previous menu, press Esc.

1. Ch0. : ST3802110A
2. Bootable Add-in Cards

Use the + and − keys to move the priority of the device within the list.

First/Second/Third Boot Device

Use this option to set the priority sequence of the devices booted at power on. Use the Page Up and Page Down keys to scroll through the options or press Enter to display the sub-menu. Use the ↑↓ arrow keys to position the selector in the option you choose.

<table>
<thead>
<tr>
<th>First Boot Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removable ........ [↓]</td>
</tr>
<tr>
<td>Hard Disk .......... [ ]</td>
</tr>
<tr>
<td>CDROM ............ [ ]</td>
</tr>
<tr>
<td>Legacy LAN ........ [ ]</td>
</tr>
<tr>
<td>Realtek Boot Ag ... [ ]</td>
</tr>
<tr>
<td>Realtek Boot Ag ... [ ]</td>
</tr>
<tr>
<td>Disabled ........... [ ]</td>
</tr>
</tbody>
</table>

↑↓:Move ENTER:Accept ESC:Abort

Boot Other Device

With the option set to Enable, the system boots from some other device if the first/second/third boot devices fail.
Boot Up NumLock Status

This option allows you to select the power-on state of NumLock. Select **On** to activate the keyboard NumLock when the system is started. Select **Off** to disable the NumLock key.

Security Option

The Security Options allows you to require a password every time the system boots or only when you enter setup. Select **Setup** to require a password to gain access to the CMOS Setup screen. Select **System** to require a password to access the CMOS Setup screen and when the system boots.
Integrated Peripherals Menu

Select **Integrated Peripherals** from the CMOS Setup Utility menu and press **Enter** to display the Integrated Peripherals menu.

![Integrated Peripherals Menu](image)

**Figure 6. Integrated Peripherals Menu**
Onboard PATA/SATA Device

Press Enter to display the Onboard PATA/SATA Device menu.

<table>
<thead>
<tr>
<th>SATA Mode</th>
<th>[IDE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEGACY Mode Support</td>
<td>[Disabled]</td>
</tr>
<tr>
<td>SATA 3.0 Controller</td>
<td>[Enabled]</td>
</tr>
</tbody>
</table>

- **SATA Mode**
  - This allows you set the onboard Serial SATA mode.
  - **IDE**: Use the SATA hard disk drivers as Parallel ATA storage devices.
  - **RAID**: Create a RAID 0, 1, 10, 5
  - **AHCI**: Use the AHCI (Advanced Host Controller Interface) to enables advanced SATA features for improved performance with NCQ and Hot-plug features

- **LEGACY Mode Support**
  - This function allows the SATA controller to operate in LEGACY mode.
  - Selected Disabled if you install operating system that support Native mode.

- **SATA 3.0 Controller**
  - This function allows you to enable the Marvell SATA 3.0 Controller
Onboard Device

Press **Enter** to display the Onboard Device menu.

- **Realtek GigaLan (LAN1)**
  Use this function to set the onboard Realtek GigaLan function for LAN1. The options are Auto, Enabled and Disabled.

- **Realtek GigaLan (LAN2)**
  Use this function to set the onboard Realtek GigaLan function for LAN2. The options are Auto, Enabled and Disabled.

- **PE1 Slot (PCIE x1)**
  Use this function to set the PCI-e x1 Slot function. The options are Auto, Enabled and Disabled.

- **Realtek Lan PXE Boot ROM**
  This function allows you to enable or disable the onboard Realtek Lan PXE Boot ROM for booting from LAN.

- **TI 1394 Setting**
  This function allows you to enable or disable the IEEE1394 (Firewire) interface.

- **High Definition Audio**
  This item allows you enable or disable the chipset on-chip Audio.

- **P80 Show CPU Temp.**
  When this function is enabled the onboard Post Port LED will display the CPU temperature.
USB Device Settings

Press **Enter** to display the USB Device Settings menu.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB 3.0 Controller</td>
<td>[Enabled]</td>
</tr>
<tr>
<td>USB 1.0 Controller</td>
<td>[Enabled]</td>
</tr>
<tr>
<td>USB 2.0 Controller</td>
<td>[Enabled]</td>
</tr>
<tr>
<td>USB Operation Mode</td>
<td>[High Speed]</td>
</tr>
<tr>
<td>USB Keyboard Function</td>
<td>[Enabled]</td>
</tr>
<tr>
<td>USB Mouse Function</td>
<td>[Enabled]</td>
</tr>
<tr>
<td>USB Storage Function</td>
<td>[Enabled]</td>
</tr>
</tbody>
</table>

- **USB 3.0 Controller**
  Use this function to enable the USB 3.0 controller.

- **USB 1.0 Controller**
  Use this function to enable the USB 1.0 controller.

- **USB 2.0 Controller**
  Use this function to enable the USB 2.0 (EHCI) controller.

- **USB Operation Mode**
  Select the USB Operation Mode for USB device. Options are Full/Low Speed and High Speed.

- **USB Keyboard Function**
  Use this function to enable or disable support for USB keyboard under DOS.

- **USB Mouse Function**
  Use this function to enable or disable support for USB mouse under DOS.

- **USB Storage Function**
  Use this function to enable or disable legacy support of USB Mass Storage.
Power Management Setup Menu

Select **Power Management Setup** from the CMOS Setup Utility menu and press **Enter** to display the Power Management Setup menu.

![Power Management Setup Menu](image)

**Figure 7. Power Management Setup Menu**

**ACPI Function**

This function on the Power Management Setup menu allows you to enable or disable the ACPI function.
ACPI Suspend Type

This function on the Power Management Setup menu allows you to select an ACPI Suspend Type. Types to select from are \([\text{S1&}\text{S3}]\), \([\text{S1} (\text{POS})]\), and \([\text{S3} (\text{STR})]\).

Run VGABIOS if S3 Resume

This function on the Power Management Setup menu allows you determine whether or not to enable the system to run the VGA BIOS when resuming from S3(STR) or S1&S3. The Options are Auto, Yes and No.

Soft-Off by PWR-BTTN

This function on the Power Management Setup menu allows you to set Soft-Off by PBNT to \([\text{Instant-Off}]\) or \([\text{Delay 4 Sec}]\).

Wake-Up by PCI Card

This function on the Power Management Setup menu allows PCI Card to wake-up the system from Soft-off state.

USB KB Wake-Up From S3

This function on the Power Management Setup menu allows a USB keyboard device to wake-up the system from S3 state.

Resume by Alarm

This function on the Power Management Setup menu allows you to enable or disable the Power-on by alarm function. Set to \([\text{Disable}]\) to prevent power-on by alarm. When set to \([\text{Enable}]\), you can manually put in the day of the month and the time of the alarm.
To enter a day or time, use the **Page Up** and **Page Down** keys to scroll through numbers or enter the number using the keyboard number or the + and - keys.

**POWER ON Function**

This function on the Power Management Setup menu allows you to define the power-on function. Options for this function are:

- Disabled
- Keyboard

**Hot Key Power On**

Use this function with the above “POWER ON Function” to set a combination of keys that can be used to power on the system. Options for this function are:

- Ctrl-Esc
- Ctrl-F1
- Ctrl-Space
- Anykey

**PWRON After PWR-Fail**

This function enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

- Off: The system stays off after a power failure.
- On: The system stays on after a power failure.
PnP/PCI Configuration Menu

Select **PnP/PCI Configuration** from the CMOS Setup Utility menu and press **Enter** to display the PnP/PCI Configuration menu.

![PnP/PCI Configuration Menu](image)

**Figure 8. PnP/PCI Configuration Menu**

- **Init Display First**
  - [PCI Slot]

- **Resources Controlled By**
  - [Auto (ESCD)]

- **PCI/VGA Palette**
  - [Disabled]

- **INT Pin 1 Assignment**
  - [Auto]

- **INT Pin 2 Assignment**
  - [Auto]

- **INT Pin 3 Assignment**
  - [Auto]

- **INT Pin 4 Assignment**
  - [Auto]

- **INT Pin 5 Assignment**
  - [Auto]

- **INT Pin 6 Assignment**
  - [10]

- **INT Pin 7 Assignment**
  - [Auto]

- **INT Pin 8 Assignment**
  - [7]

- **Reserved RC For Bridge**
  - [Disabled]

- **Maximum Payload Size**
  - [128]

**Init Display First**

This function on the PnP/PCI Configuration menu allows you to define if the initial display is in the PCI slot or in the PCI Express slot. Options are [PCI Slot] and [PCIE].
Resources Controlled By

This function on the PnP/PCI Configuration menu allows you to define if the BIOS can automatically configure all the boot and plug-and-play compatible devices or if you can manually select IRQ, DMA, and memory base address fields. Select [Auto (ESCD)] if you want the BIOS to automatically populate these fields. If you select [Manual] so you can assign the resources, IRQ Resources is enabled for input.

Resources Controlled By [Auto (ESCD)]
* IRQ Resources Press Enter

Resources Controlled By [Manual]
IRQ Resources [Press Enter]

IRQ Resources

To enable this field for input, set Resources Controlled By to [Manual]. With this field enabled, press Enter to see options.

<table>
<thead>
<tr>
<th>IRQ</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>PCI Device</td>
</tr>
<tr>
<td>9</td>
<td>Reserved</td>
</tr>
<tr>
<td>10</td>
<td>PCI Device</td>
</tr>
<tr>
<td>11</td>
<td>PCI Device</td>
</tr>
<tr>
<td>12</td>
<td>PCI Device</td>
</tr>
<tr>
<td>14</td>
<td>PCI Device</td>
</tr>
<tr>
<td>15</td>
<td>PCI Device</td>
</tr>
</tbody>
</table>

Use Legacy ISA for devices compliant with the original PC AT Bus specification. Use PCI/ISA PnP for devices compliant with the plug-and-play standard, whether designed for PCI or ISA Bus architecture.

PCI/VGA Palette Snoop

This item is designed to overcome problems that may be caused by some nonstandard VGA cards.
INT Pin 1/2/3/4/5/6/7/8 Assignment

This function on the PnP/PCI Configuration menu allows you to set the INT Pin 1/2/3/4/5/6/7/8 Assignment.

Maximum Payload Size

This function on the PnP/PCI Configuration menu allows you to set the maximum TLP payload size (in bytes) for the PCI Express devices. Use the Page Up and Page Down keys to scroll through sizes or enter the number using the keyboard numbers or use the + and − keys to go up and down the list of sizes.
PC Health Status Menu

Select **PC Health Status** from the CMOS Setup Utility menu and press **Enter** to display the PC Health Status menu.

![SmartFan Function](image)

**Figure 9. PC Health Status Menu**

All of the values shown in **Blue** are dynamic and change as the speed and voltages of the various components change with system usage.
SmartFan Function

Press `Enter` to display the SmartFan Function menu.

Use this menu to control the speed of the various fans on the motherboard. Set CPU fan speed to `[SmartFan]` when you want the speed of the fans automatically controlled based on temperature. To set the fan speed to a constant rate, select `[Manual]` and then enter the speed from 0% to 100%.

Set the desired speed for the Power and Chassis fans from 0% to 100%. The system defaults to 100%.
Frequency/Voltage Control Menu

Select **Frequency/Voltage Control** from the CMOS Setup Utility menu and press **Enter** to display the Frequency/Voltage Control menu.

![Frequency/Voltage Control Menu](image)

**Figure 10. Frequency/Voltage Control Menu**

**Extreme Cooling**

When using Subzero cooling you may need to enable this function to make sure the system can run stable.
Memory Feature

Select Memory Feature from the Frequency/Voltage Control menu and press Enter to display the Memory Feature menu.

Figure 11. Memory Feature Menu

- **Memory Control Setting**
  This function is allows you to select the Memory Control Setting.

- **Memory Frequency**
  This function is allows you to select the Memory Frequency.

- **Channel Interleave Setting**
  This function is allows you to select the Channel Interleave Setting. The options are 1 way, 2 way, 3 way, 4 way, 5 way and 6 way.
Rank Interleave Setting
This function is allows you to select the Rank Interleave Setting. The options are 1 way, 2 way and 4 way.

Memory Parameters Settings
Use this menu to set optimal timings or to manually enter timings. Note that you should set the value to Optimal to use the manufacturers’ recommended values.

Memory Low Gap
This function enables support for future add-on devices. It is recommended to leave this at the default setting.

Voltage Control

Select **Voltage Control** from the Frequency/Voltage Control menu and press **Enter** to display the Voltage Control menu.

```
<table>
<thead>
<tr>
<th>EVGA VDroop control</th>
<th>[With VDroop]</th>
<th>Item Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU VCore</td>
<td>[Auto] 1.26875V</td>
<td></td>
</tr>
<tr>
<td>CPU VTT Voltage</td>
<td>[Auto] +0mv</td>
<td></td>
</tr>
<tr>
<td>CPU PLL Vcore</td>
<td>[Auto] 1.800V</td>
<td></td>
</tr>
<tr>
<td>IOH PLL Vcore</td>
<td>[Auto] 1.800V</td>
<td></td>
</tr>
<tr>
<td>QPI PLL Vcore</td>
<td>[Auto] 1.100V</td>
<td></td>
</tr>
<tr>
<td>DIMM Voltage</td>
<td>[Auto] 1.500V</td>
<td></td>
</tr>
<tr>
<td>DIMM DQ Vref</td>
<td>[+0mV] +0mv</td>
<td></td>
</tr>
<tr>
<td>IOH Vcore</td>
<td>[Auto] 1.100V</td>
<td></td>
</tr>
<tr>
<td>IOH/ICH I/O Voltage</td>
<td>[Auto] 1.500V</td>
<td></td>
</tr>
<tr>
<td>ICH Vcore</td>
<td>[Auto] 1.050V</td>
<td></td>
</tr>
<tr>
<td>VTT FWM Frequency</td>
<td>[250 KHz] 250 KHz</td>
<td></td>
</tr>
<tr>
<td>CPU FWM Frequency</td>
<td>[800 KHz] 800 KHz</td>
<td></td>
</tr>
<tr>
<td>CPU Impedance</td>
<td>[Auto] Auto</td>
<td></td>
</tr>
<tr>
<td>QPI Signal Compensation</td>
<td>[Auto] Auto</td>
<td></td>
</tr>
</tbody>
</table>

User should exercise caution when over-voltageing as it can cause system instability or even void warranties and damage components.
```

↑↓←→:Move  Enter:Select  +/-:PU/PD:Value  F10:Save  ESC:Exit  F1:General Help  F5:Previous Values  F7:Defaults
Figure 12. Voltage Control Menu

- **EVGA VDroop control**
  EVGA VDroop control is a safety measure by motherboards to protect the CPU. Select to [With VDroop] to calibrate CPU VDroop or select to [Without VDroop] to disable this function.

- **CPU Vcore**
  Use the **Page Up** and **Page Down** keys to scroll through the voltages or select [**Auto**] to automatically set the voltage level for the CPU Core.

- **CPU VTT Voltage**
  Use the **Page Up** and **Page Down** keys to scroll through the voltages or select [**Auto**] to automatically set the voltage level for the CPU VTT Voltage.

- **CPU PLL VCore**
  Use the **Page Up** and **Page Down** keys to scroll through the voltages or select [**Auto**] to automatically set the voltage level for the CPU PLL Vcore.

- **IOH PLL VCore**
  Use the **Page Up** and **Page Down** keys to scroll through the voltages or select [**Auto**] to automatically set the voltage level for the IOH PLL Vcore.

- **QPI PLL VCore**
  Use the **Page Up** and **Page Down** keys to scroll through the voltages or select [**Auto**] to automatically set the voltage level for the QPI PLL Vcore.

- **DIMM Voltage**
  Use the **Page Up** and **Page Down** keys to scroll through the voltages or select [**Auto**] to automatically set the voltage level for the DIMM Voltage.

- **DIMM DQ Vref**
  Use the **Page Up** and **Page Down** keys to scroll through the voltages or select [**Auto**] to automatically set the voltage level for the DIMM Voltage.

- **IOH VCore**
  This function defines the core voltage level for the Intel IOH chip. Use the **Page Up** and **Page Down** keys to select a voltage or select [**Auto**] to automatically set the voltage.

- **IOH/ICH I/O Voltage**
  This function defines the voltage level for the Intel IOH/ICH I/O Voltage chip. Use the **Page Up** and **Page Down** keys to select a voltage or select [**Auto**] to automatically set the voltage.
- **ICH VCore**
  This function defines the core voltage level for the Intel ICH chip. Use the **Page Up** and **Page Down** keys to select a voltage or select [Auto] to automatically set the voltage.

- **VTT PWM Frequency**
  This item allows you to select the VTT PWM Frequency.

- **CPU PWM Frequency**
  This item allows you to select the CPU PWM Frequency.

- **CPU Impedance**
  This item allows you to select the CPU Impedance.

- **QPI Signal Compensation**
  This item allows you to select the QPI Signal Compensation.
CPU Feature

Select **CPU Feature** from the Frequency/Voltage Control menu and press **Enter** to display the CPU Feature menu.

![CPU Feature Menu]

- **Intel SpeedStep**
  Use this function to enable the Intel SpeedStep technology (EIST). The options are Enabled and Disabled.

- **Turbo Mode Function**
  Use this function to enable the Intel Turbo Mode Function. The options are Enabled and Disabled.

- **CxE Function**
  This function allows you to select the lowest C state supported according as CPU and MB. The options are Auto, Disabled, C1, C1E, C3 and C6.

Figure 13. CPU Feature Menu
- **Execute Disable Bit**
  When this function is disabled, it forces the XD feature flag to always return to zero (0).

- **Virtualization Technology**
  When this function is enabled, it allows a VMM to utilize the additional hardware capabilities provided by Intel Virtualization Technology.

***** Logical Processor Setting *****

- **Intel HT Technology**
  This function is allows you to enable the Intel HT Technology. The options are Enabled and Disabled.

- **Active Processor Cores**
  This function active number of cores to enable in each processor package. The options are All, 1 and 2.

***** QPI Controller Setting *****

- **QPI Controller Setting**
  This function is allows you to enable the QPI (QuickPath Interconnect) Controller Setting. The options are Enabled and Disabled.

- **QPI Link Fast Mode**
  This function is allows you to enable the QPI Link Fast Mode. The options are Enabled and Disabled.

- **QPI Frequency Selection**
  This function is allows you to select the QPI Frequency. The options are Auto, 4.800 GT/s, 5.866 GT/s and 6.400 GT/s.

**CPU Clock Ratio**

This value changes the CPU Frequency value depending on the value you choose. Use the Page Up and Page Down keys to scroll through the options. The options are from 12 X through 60 X.
CPU Host Frequency (Mhz)

This item allows you to select the CPU Host Frequency. This value changes the CPU Frequency value depending on the value you choose.

CPU Uncore Frequency (Mhz)

This item allows you to select the CPU Uncore Frequency.

Spread Spectrum

This item reduces the EMI generated. The options are Disabled and Enabled.

PCIE Frequency (Mhz)

This item allows you to select the PCI Express Frequency.

Save Profile

This function saves the system voltages and timing settings that were defined in the menu. There are several profile options that can be loaded.

Load Profile

This function loads the system voltages and timing settings that were defined in the menu. You can set up to several profile settings. The default setting is Auto for all settings. Press Enter to see the options.
Installing Drivers and Software

It is important to remember that before installing the driver CD that is shipped in the kit, you need to load your operating system. The motherboard supports Windows XP/Vista/Win 7 32 & 64 Bit.

The kit comes with a CD that contains utilities and drivers.

The CD that has been shipped with your EVGA X58 CLASSIFIED3 motherboard contains the following software and drivers:

- Chipset Drivers
- Audio drivers
- RAID drivers
- LAN Drivers
- Matrix Storage
- Marvell SATA 3.0 Drivers
- NEC USB 3.0 Drivers
- EVGA E-LEET
- Adobe Acrobat Reader
- User’s Manual
Windows XP/Vista/Win 7 Drivers Install

1. Insert the Intel X58 Express installation CD for the motherboard included in the kit.

2. The CD will autorun, install the drivers and utilities listed on the install screen.

   If the CD does not run, go to My Computer and click on the CD to open.
Appendix A. POST Codes

This section provides the Award POST Codes (Table 6).

Table 6. Award POST Code

<table>
<thead>
<tr>
<th>Award POST Codes</th>
<th>Code</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>01</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>02</td>
<td>Jumps to E000 segment</td>
<td>Execution of POST routines in E000</td>
</tr>
<tr>
<td></td>
<td>03</td>
<td>Early SuperI/O</td>
<td>Init Early Initialized the super I/O</td>
</tr>
<tr>
<td></td>
<td>04</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>05</td>
<td>Blank video</td>
<td>Reset Video controller</td>
</tr>
<tr>
<td></td>
<td>06</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>07</td>
<td>Init KBC</td>
<td>Keyboard controller init</td>
</tr>
<tr>
<td></td>
<td>08</td>
<td>KB test</td>
<td>Test the Keyboard</td>
</tr>
<tr>
<td></td>
<td>09</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0A</td>
<td>Mouse Init</td>
<td>Initialized the mouse</td>
</tr>
<tr>
<td></td>
<td>0B</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0C</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0D</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0E</td>
<td>CheckSum Check</td>
<td>Check the integrity of the ROM,BIOS and message</td>
</tr>
<tr>
<td></td>
<td>0F</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Autodetect EEPROM</td>
<td>Check Flash type and copy flash write/erase routines</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Test CMOS</td>
<td>Test and Reset CMOS</td>
</tr>
<tr>
<td>Code</td>
<td>Name</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Load Chipset</td>
<td>Load Chipset Defaults</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Init Clock</td>
<td>Initialize onboard clock generator</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Init CPU</td>
<td>CPU ID and initialize L1/L2 cache</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B</td>
<td>Setup Interrupt Vector Table</td>
<td>Initialize first 120 interrupt vectors with SPURIOUS_INT_HDLR and initialize INT 00h-1Fh according to INT_TBL</td>
<td></td>
</tr>
<tr>
<td>1C</td>
<td>CMOS Battery Check</td>
<td>Test CMOS and check Battery Fail</td>
<td></td>
</tr>
<tr>
<td>1D</td>
<td>Early PM</td>
<td>Early PM initialization</td>
<td></td>
</tr>
<tr>
<td>1E</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1F</td>
<td>Re-initial KB</td>
<td>Load keyboard matrix</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>HPM init</td>
<td>Init Heuristic Power Management (HPM)</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Program chipset</td>
<td>Early Programming of chipset registers</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Init PNP</td>
<td>Init PNP</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Shadow VBIOS</td>
<td>Shadow system/video BIOS</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Clock Gen</td>
<td>Init onboard clock generator and sensor</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Setup BDA</td>
<td>Setup BIOS DATA AREA (BDA)</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>CPU Speed detect</td>
<td>Chipset programming and CPU Speed detect</td>
<td></td>
</tr>
<tr>
<td>2A</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2B</td>
<td>Init video</td>
<td>Initialize Video</td>
<td></td>
</tr>
<tr>
<td>2C</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2D</td>
<td>Video memory</td>
<td>Test Video Memory and display Logos</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Name</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2E</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2F</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Early keyboard reset</td>
<td>Early Keyboard Reset</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Test DMA Controller 0</td>
<td>Test DMA channel 0</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Test DMA Controller 1</td>
<td>Test DMA channel 1</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Test DMA Page Registers</td>
<td>Test DMA Page Registers</td>
<td></td>
</tr>
<tr>
<td>3A</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3B</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3C</td>
<td>Test Timer</td>
<td>Test 8254 Timer 0 Counter 2.</td>
<td></td>
</tr>
<tr>
<td>3D</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3E</td>
<td>Test 8259-1 Mask</td>
<td>Verify 8259 Channel 1 masked interrupts by alternately turning off and on the interrupt lines.</td>
<td></td>
</tr>
<tr>
<td>3F</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Test 8259-2 Mask</td>
<td>Verify 8259 Channel 2 masked interrupts by alternately turning off and on the interrupt lines.</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Test Stuck Interrupt</td>
<td>Turn off interrupts then verify no 8259's interrupt mask register is on. Test 8259 Force an interrupt and verify the interrupt occurred.</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Reinit serial</td>
<td>Reinitialize Preboot agent serial port</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Name</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>port</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>EISA Test</td>
<td>If EISA non-volatile memory checksum is good, execute EISA initialization. If not, execute ISA tests and clear EISA mode flag.</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Size Memory</td>
<td>Size base memory from 256K to 640K and extended memory above 1MB.</td>
<td></td>
</tr>
<tr>
<td>4A</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4B</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4C</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4D</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4E</td>
<td>Init APIC</td>
<td>Initialize APIC and set MTRR</td>
<td></td>
</tr>
<tr>
<td>4F</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>USB init</td>
<td>Initialize USB controller</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Memory Test</td>
<td>Test all memory of memory above 1MB using Virtual 8086 mode, page mode and clear the memory</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>CPU display</td>
<td>Detect CPU speed and display CPU vendor specific version string and turn on all necessary CPU features</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>PnP Init Display</td>
<td>PnP logo and PnP early init</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Setup Virus</td>
<td>Setup virus protect according to Protect Setup</td>
<td></td>
</tr>
<tr>
<td>5A</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5B</td>
<td>Awdflash Load</td>
<td>If required, will auto load Awdflash.exe in POST</td>
<td></td>
</tr>
<tr>
<td>5C</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5D</td>
<td>Onboard I/O</td>
<td>Init Initializing onboard superIO</td>
<td></td>
</tr>
<tr>
<td>5E</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Name</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------------</td>
<td>-------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>5F</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Setup enable</td>
<td>Display setup message and enable setup functions</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Initialize Mouse</td>
<td>Detect if mouse is present, initialize mouse, install interrupt vectors.</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>PS2 Mouse special</td>
<td>Special treatment to PS2 Mouse port</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Reserved</td>
<td></td>
<td></td>
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<tr>
<td>67</td>
<td>ACPI init</td>
<td>ACPI sub-system initializing</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Reserved</td>
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<td></td>
</tr>
<tr>
<td>69</td>
<td>Init Cache</td>
<td>Initialize cache controller</td>
<td></td>
</tr>
<tr>
<td>6A</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6B</td>
<td>Setup</td>
<td>Enter setup check and autoconfiguration check up</td>
<td></td>
</tr>
<tr>
<td>6C</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6D</td>
<td>Initialize Floppy</td>
<td>Initialize floppy disk drive</td>
<td></td>
</tr>
<tr>
<td>6E</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6F</td>
<td>FDD install</td>
<td>Install FDD and setup BIOS data area parameters</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>Initialize Hard Drive</td>
<td>Initialize hard drive controller</td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Detect HDD</td>
<td>IDE device detection</td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>Detect serial ports</td>
<td>Initialize serial ports.</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>Reserved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>Reserved</td>
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</table>
### Award POST Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Description</th>
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<tbody>
<tr>
<td>7A</td>
<td>Detect parallel ports</td>
<td>Initialize parallel ports.</td>
</tr>
<tr>
<td>7B</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>7C</td>
<td>HDD Write Protect</td>
<td>HDD check for write protection</td>
</tr>
<tr>
<td>7D</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>7E</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>7F</td>
<td>POST error check</td>
<td>Check POST error and display them and ask for user intervention</td>
</tr>
<tr>
<td>80</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>Security Check</td>
<td>Ask password security.</td>
</tr>
<tr>
<td>83</td>
<td>Write CMOS</td>
<td>Write all CMOS values back to RAM and clear screen.</td>
</tr>
<tr>
<td>84</td>
<td>Display PNP</td>
<td>Display PNP devices</td>
</tr>
<tr>
<td>85</td>
<td>USB Final Init</td>
<td>Final USB initialization</td>
</tr>
<tr>
<td>86</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>Setup ACPI tables</td>
<td>Setup ACPI tables</td>
</tr>
<tr>
<td>8A</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>8B</td>
<td>Option ROM Detect</td>
<td>Scan for Option ROMs</td>
</tr>
<tr>
<td>8C</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>8D</td>
<td>Enable Parity Check</td>
<td>Enable Parity Check</td>
</tr>
<tr>
<td>8E</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>8F</td>
<td>IRQ12 Enable</td>
<td>Enable IRQ12 if mouse present</td>
</tr>
<tr>
<td>90</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>Boot Medium</td>
<td>Detect and store boot partition head and cylinders</td>
</tr>
</tbody>
</table>
## Award POST Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read</td>
<td>Read</td>
<td>values in RAM</td>
</tr>
<tr>
<td>94</td>
<td>Final Init</td>
<td>Final init for last micro details before boot</td>
</tr>
<tr>
<td>95</td>
<td>NumLock</td>
<td>Set NumLock status according to Setup</td>
</tr>
<tr>
<td>96</td>
<td>Boot Attempt</td>
<td>Set low stack Boot via INT 19h.</td>
</tr>
<tr>
<td>C0</td>
<td>Base CPU test</td>
<td>Read/Write CPU registers</td>
</tr>
<tr>
<td>C1</td>
<td>Memory Presence</td>
<td>Base memory detect</td>
</tr>
<tr>
<td>C2</td>
<td>Early Memory</td>
<td>Board Initialization</td>
</tr>
<tr>
<td>C3</td>
<td>Extend Memory</td>
<td>Turn on extended memory, cache initialization</td>
</tr>
<tr>
<td>C4</td>
<td>Special Display</td>
<td>First display initialization</td>
</tr>
<tr>
<td>C5</td>
<td>Early Shadow</td>
<td>Early shadow enable for fast boot</td>
</tr>
<tr>
<td>C6</td>
<td>Cache presence</td>
<td>External cache size detection</td>
</tr>
<tr>
<td>CF</td>
<td>CMOS Check</td>
<td>CMOS checkup</td>
</tr>
<tr>
<td>B0</td>
<td>Spurious</td>
<td>If interrupt occurs in protected mode.</td>
</tr>
<tr>
<td>B1</td>
<td>Unclaimed NMI</td>
<td>If unmasked NMI occurs, display Press F1 to disable NMI, F2 reboot.</td>
</tr>
<tr>
<td>BF</td>
<td>Program MCP</td>
<td>To program chipset from defaults values</td>
</tr>
<tr>
<td>E1-EF</td>
<td>Setup Pages</td>
<td>E1- Page 1, E2 - Page 2, etc.</td>
</tr>
<tr>
<td>FF</td>
<td>Boot</td>
<td></td>
</tr>
</tbody>
</table>
EVGA Glossary of Terms

ACPI - Advanced Configuration and Power Interface
AFR – Alternate Frame Rendering
APIC - Advanced Programmable Interrupt Controller
BIOS - Basic Input Output System
CD-ROM - Compact Disc Read-Only Memory
CMOS - Complementary Metal-Oxide Semiconductor
CPU – Central Processing Unit
D-ICE – Dry Ice Cooling
DDR2 - Double Data Rate 2
DDR3 - Double Data Rate 3
DIMM - Dual In-line Memory Module
DRAM - Dynamic random access memory
DVD - Digital Versatile Disc
DVI – Digital Video Interface
FDC - Floppy Disk Controller
FSB – Front Side Bus
FTW – For The Win!
GHz – Gigahertz
GPU – Graphics Processing Unit
HDD - Hard Disk Drive
HDMI - High-Definition Multimedia Interface
HDR – High Dynamic Range Lighting
HPET - High Precision Event Timer
HT – Hyper-Threadin
g
HSF - Heat Sink Fan
I/O - Input/Output
IDE - Integrated Drive Electronics
IEEE - Institute of Electrical and Electronics Engineers
IGP - Integrated Graphics Processors
IRQ - Interrupt Request
JBOD - Just a Bunch of Disks
JEDEC - Joint Electron Device Engineering Council
LAN - Local Area Network
LCD - Liquid Crystal Display
LGA – Land Grid Array
LN2 – Liquid Nitrogen Cooling
MAC - Media Access Control
MCP - Media and Communications Processor
MHz – Megahertz
NB – Northbridge
NCQ - Native Command Queuing
NIC - Network Interface Card
NTFS - New Technology File System
OEM - Original Equipment Manufacturer
PATA - Parallel Advanced Technology Attachment
PCB - Printed Circuit Board
PCI - Peripheral Component Interconnect
PCIe - Peripheral Component Interconnect Express
PCI-x - Peripheral Component Interconnect Extended
POST – Power on Self Test
PWM – Pulse Width Modulation
QDR - Quad Data Rate
QPI – Quick Path Interconnect
RAID - Redundant Array of Inexpensive Disks
RGB - Red Green Blue
SATA - Serial Advanced Technology Attachment
SB - Southbridge
SCSI - Small Computer System Interface
SFR – Split Frame Rendering
SLI - Scalable Link Interface
SPD - Serial Presence Detect
SPDIF - Sony/Philips Digital Interconnect Format
SPP - System Platform Processors
TCP/IP - Transmission Control Protocol/Internet Protocol
USB - Universal Serial Bus
VDroop - V-core Voltage Drop
VGA - Video Graphics Array