Before You Begin...

Parts NOT in the Kit

This kit contains all the hardware necessary to install and connect your new EVGA
e-7050/610i GPU motherboard with integrated GeForce graphics processing. However, it
does not contain the following items that must be purchased separately to make the
motherboard fully functional.

- ❑ Intel microprocessor:
- ❑ Cooling fan and heat sink for the microprocessor
- ❑ System memory support
- ❑ Hard Disk Drive(s)
- ❑ Operating System
- ❑ Power Supply
- ❑ Graphics Card

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

Motherboard Specifications

- ❑ **Size**
  mATX form factor.
- ❑ **Microprocessor support**
  Intel Core 2 Extreme, Intel Core 2 Quad, Intel Core 2 Duo, Pentium EE, Pentium, and
  Celeron. (The e-7050/610i supports up to 1066MHz FSB CPU's)
- ❑ **Operating systems**
  Supports Windows XP and Windows Vista.
- ❑ **Contains an NVIDIA nForce MCP and integrated GeForce graphics**
- ❑ **System Memory**
  - Single-channel DDR2 667/533
  - Supports up to 4 GB DDR2 memory (2GB x 2)
- ❑ **USB 2.0 Ports**
  - Supports hot plug
  - Up to eight (4 onboard) USB 2.0 ports
  - Supports USB 2.0 protocol up to 480Mbps transmission rate

❑ **Onboard Serial ATA II**

- 3Gb/s data transfer rate
- Four Serial ATA II connectors
- Support for RAID 0, RAID 1
- Supports hot plug and NCQ (Native Command Queuing)

❑ **Onboard LAN**

- LAN interfaces built-in onboard
- 10/100 LAN

❑ **Onboard Audio**

- Supports 6-channel audio
- Supports Jack-Sensing function

❑ **PCI Express x16 Support**

- Supports 4 GB/sec (8 GB/sec concurrent) bandwidth

❑ **Onboard Video**

- Integrated video
- A VGA output is provided

❑ **Expansion Slots**

- Two PCI slots
- One PCI Express x1 slot
- One PCI Express x16 Graphics slot

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
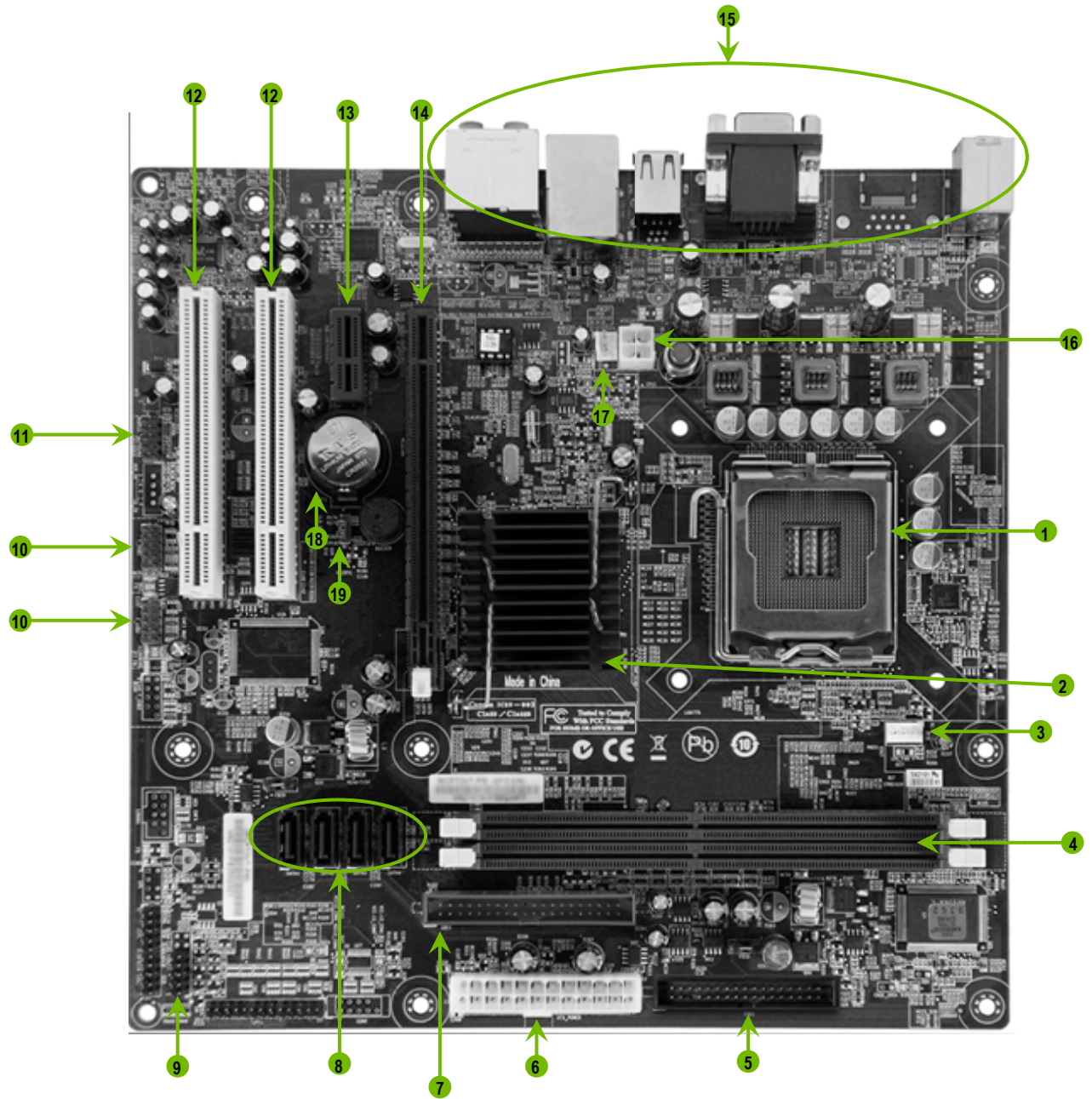- Connecting cables and setting switches

Safety Instructions

To reduce the risk of fire, electric shock, and injury, always follows 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.
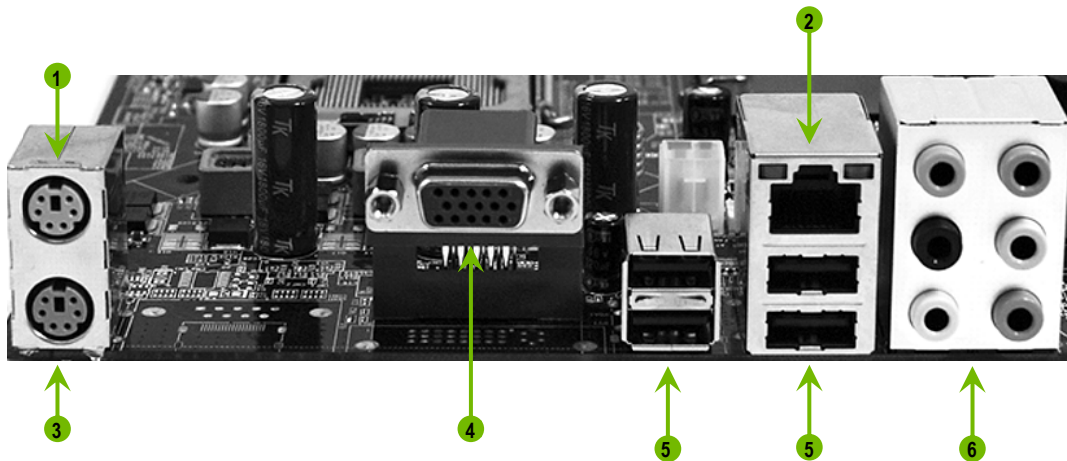
EVGA nForce Motherboard

The EVGA nForce motherboard with the 600 series MCP processor is a PCI Express motherboard with an onboard GeForce graphics card. Figure 1 shows the 7150/630i motherboard and Figures 2 shows the back panel connectors.
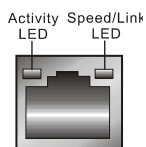
1. CPU Socket	10. USB 2.0 Header	19. Clear CMOS Jumper
2. NVIDIA MCP with Passive Cooling	11. Front Panel Audio Header	
3. 4-Pin CPU Fan Connector	12. PCI Slots	
4. DDR2 DIMM Memory Slots	13. PCI-E x1 Slot	
5. FDD Connector	14. PCI-E x16 Slot	
6. 24-Pin ATX Power Connector	15. Back Panel Connectors	
7. IDE HDD Connector	16. 4-Pin CPU Power Connector	
8. SATA Ports	17. 3-Pin System Fan Connector	
9. Front Panel Header	18. Motherboard CMOS Battery	

Figure 1. e-7010/610i   Motherboard Layout

Note: Actual motherboard may vary from pictures

1. PS/2 Keyboard Port
2. LAN Port with LEDs to indicate status:

Activity LED Status	Description	Speed/Link LED Status	Description
Off	No data transmission		
Blinking (Green)	Data transmission	Green	100 Mbps data rate
		Off	10 Mbps data rate

3. PS/2 Mouse Port
4. e-7050 Integrated Graphics VGA Output
5. USB 2.0 ports (Four)
6.

Audio Port	2-Channel	6-Channel
Green	Line-Out	Front Speaker Out
Pink	Mic In	Mic In
Orange		Center/Subwoofer
Black		Rear Speaker Out
Grey		

Figure 1. Chassis Back Panel Connectors
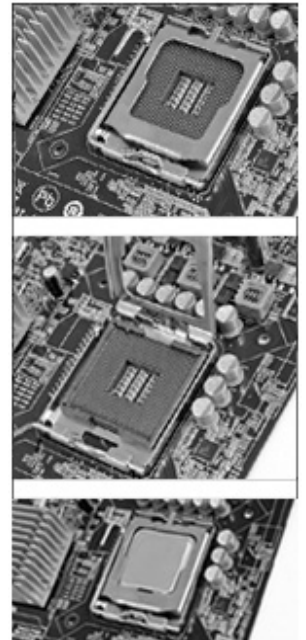
Preparing the Motherboard

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.

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. Lift the load plate. There is a protective socket cover on the load plate to protect the socket when there is no CPU installed.
3. Remove the protective socket cover from the load plate.
4. 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 with out tilting or sliding it into the socket

    > **Note:** 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.

Align notches with notches on the CPU

Installing the CPU heat sink/fan

There are many different heat sink 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 System Memory (DIMMs)

Your new motherboard has two 1.8V 240-pin slots for DDR2 memory. These slots support 256 MB, 512 MB, 1 GB, and 2 GB DDR2 technologies. There must be at least one memory bank populated to ensure normal operation.

*Any of the two DIMM slots may be used as primary if only using one memory module.

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

Installing the Motherboard

The sequence of installing the motherboard into 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.

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

> **Note:** 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, 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 a System Case

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.

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 six screws.

Power Connections

This motherboard requires an ATX power supply. Make sure your power supply can provide enough wattage to power all the components you will be installing.
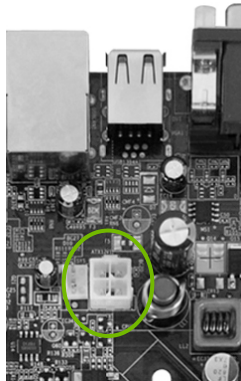
24-pin ATX Power (PWR1)

PWR1 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.

PWR1 connector
Plug power cable
from system power
supply to PWR1

8-pin ATX 12V Power (PWR2)

PWR2, the 4-Pin ATX 12V power connection, is used to provide power to the CPU. Align the pins to the connector and press firmly until seated. The connection is notched and will only fit in one way.
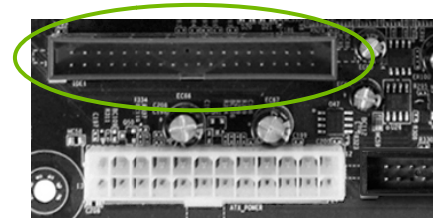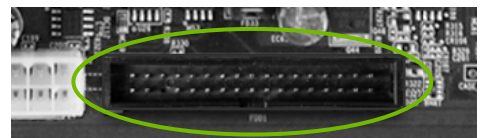
FDD Connector

The motherboard supports a standard 360K, 720K, 1.2M, 1.44m, and a 2.88M floppy disk drive (FDD).

Connecting IDE Hard Disk Drives

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

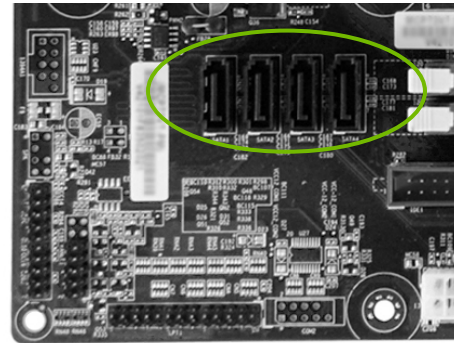Connect the cable end with a single connector to the motherboard.

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.

Connecting Serial ATA Cables

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

There are four serial ATA connectors on the motherboard. These connectors support RAID 0, RAID 1.
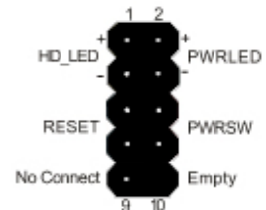
Connecting Internal Headers

Please refer to #9 of in the table of Figure 1. e-7010/610i Motherboard Layout for the location of the Front Panel Headers.

Front Panel Header

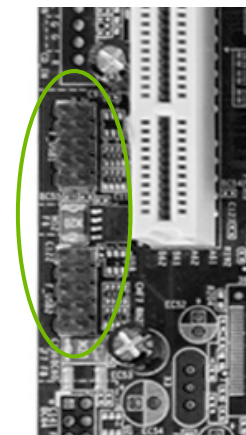The front panel header on this motherboard is one connector used to connect the following four cables:

❑ **PWRLED**
Attach the front panel power LED cable to the PWR LED connector. The Power LED indicates the system's status.

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

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

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

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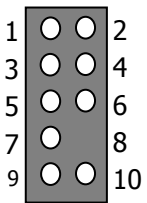
USB Headers

The motherboard contains 10-pin internal USB header connector(s). These can be used for a front panel USB connection or USB bracket.

Audio

The audio connector supports the HD audio standard. Most cases come with a 10 pin standard block which will align and plug directly in to the header. In some cases there will be individual plugs which will need to be plugged in.
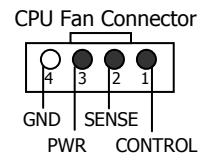
Table 1.   Front Audio Connector

Connector	Pin	Signal
Front Audio Connector	1	PORT1_L - Analog Port 1 - left channel (Microphone)
	2	AUD_GND - Ground
	3	PORT1_R – Analog Port 1 – right channel (Microphone)
	4	PRESENCE# - Active signal that indicates FP audio is present
	5	PORT2_R – Analog Port 2 - right channel (Headphone)
	6	SENSE1_RETURN – Jack detection return for front panel (Jack1)
	7	SENSE_SEND – Jack detection sense line
	8	Empty
	9	PORT2_L – Analog port 2 – left channel (Headphone)
	10	SENSE2_RETURN – Jack detection return for front panel (Jack2)

Fan Connections

There are two types fan connections, the system fan and the CPU fan. The fan speed can be detected and viewed in the PC Health Status section of the CMOS Setup. Both fans are automatically turned off after the system enters S3, S4 and S5 mode.

Note that 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.

CPU Fan Connector

4 3 2 1

GND   SENSE
PWR   CONTROL

Expansion Slots

The EVGA nForce motherboard contains four expansion slots, two PCI Express slots and two PCI slots.

PCI Slots

The two PCI slots support 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 slot provides 250 MB/sec bandwidth.

PCI Express x16 Slot

The PCI Express x16 slot is reserved for a graphics card. The bandwidth of the x16 slot is up to 4GB/sec (8GB/sec concurrent). 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.

Install your Operating System

Boot up your machine, setup any hardware configurations within the BIOS setup if needed. Boot from your OS disk. Once your operating system is installed use the provided driver disk to install the appropriate drivers.