User's Guide

EVGA nForce 730a Motherboard

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Before You Begin…

Parts NOT in the Kit

This kit contains all the hardware necessary to install and connect your new EVGA nForce 730a motherboard. However, it does not contain the following items that must be purchased separately to make the motherboard functional.

- **AMD Microprocessor**
- **Cooling fan for the Microprocessor**
- **System Memory**
- **Graphics Card**
- **Power Supply**

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

Intentions of the Kit

This kit provides you with the motherboard and all connecting cables necessary to install the motherboard into a system 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 system case, you will need to reinstall an operating system even though the current drives have an operating system.

EVGA nForce 730a Motherboard

Thank you for purchasing the EVGA nForce 730i Motherboard, with integrated GeForce Graphics, this motherboard offers the tools and performance PC users' demand.

Motherboard Specifications

- Size
  ATX form factor of 12 inch x 9.5 inch
- AMD Socket AM2/AM2+ (940-pin) support
  - AMD Phenom /Athlon 64 FX/Athlon 64 X2/Athlon 64/Sempron
  - Support Hyper Transport Bus 5.2GT/s (HT 3.0)
- Operating systems:
  Supports Windows XP 32bit/64bit and Windows Vista 32bit/64bit
- Contains NVIDIA GeForce 8200/nForce 730a Chipset
  Support Hybrid SLI technology to enhance Add-on Graphic card performance by nVidia Software settings for Windows Vista only
- Integrated VGA
  - Integrated NVIDIA GeForce® Series DirectX 10 graphics processor, 300MHz RAMDAC for display resolutions up to 1920x1200
  - Hybrid SLI technology to increase the performance of discrete GeForce GPUs
  - Next-generation NVIDIA® PureVideo™ HD video processor
  - Integrated HDMI interface with High-Definition Content Protection (HDCP) key support and protected audio stream mixing for full HDMI
  - Support Full NVIDIA® nView® multi-display technology capability support D-SUB + DVI-D or HDMI

- System Memory support
  Supports dual channel JEDEC DDR-800. Supports up to 8 GBs DDR2 memories.
- Twelve USB 2.0 Ports
  - Supports hot plug
  - Twelve USB 2.0 ports (four rear panel ports, eight onboard headers)
  - Supports wake-up from S1 and S3 mode
  - Supports USB 2.0 protocol up to 480 Mbps transmission rate
- Onboard Serial ATA II
  - 300MBps data transfer rate
  - Six Serial ATA II connectors
  - NVIDIA MediaShield RAID with support for RAID 0, RAID 1, RAID 0+1, RAID 5, and JBOD
  - Supports hot plug and NCQ (Native Command Queuing)
- Onboard LAN
  - LAN interface built-in onboard
  - Supports 10/100/1000 Mbit/sec Ethernet
- Onboard Audio
  - Azalia High-Definition audio
  - Supports 8-channel audio
  - Supports S/PDIF output
  - Supports Jack-Sensing function
- Green Function
  - Supports ACPI (Advanced Configuration and Power Interface)
  - Supports S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (Suspend to disk - depends on OS), and S5 (soft - off)
- Expansion Slots
  - Three PCI slots
  - Two PCI Express x1 slot
  - One PCI Express x16 Graphics slots with PCI Express 2.0

Unpacking and Parts Descriptions

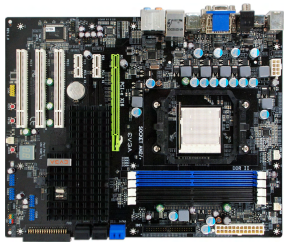
Unpacking

The EVGA nForce 730a motherboard comes with all the necessary cables for adding a motherboard to a new system case. If you are replacing a motherboard, you may not need many of these cables.

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

Equipment

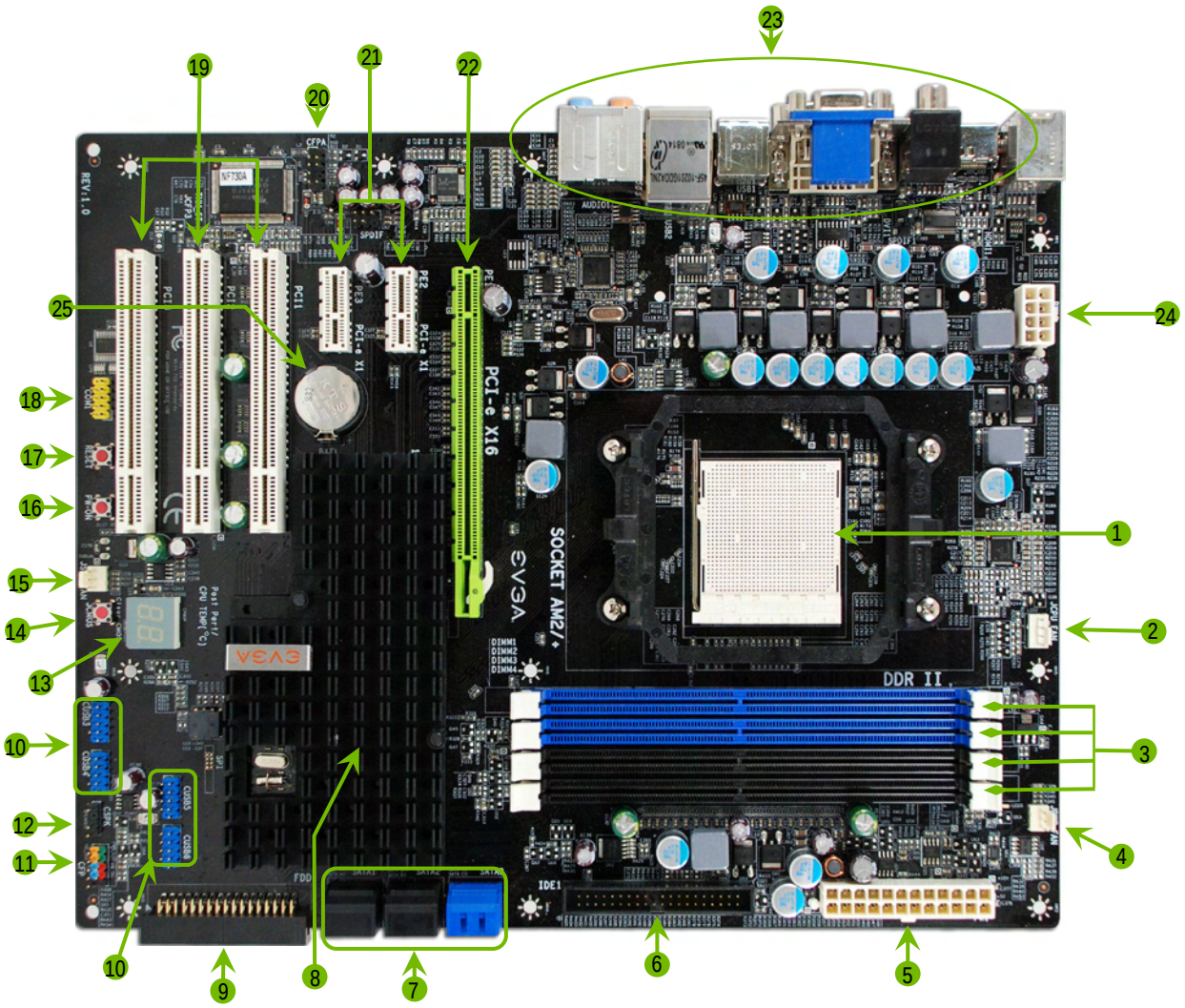
The following equipment is included in the motherboard box.

	**The EVGA nForce 730i Motherboard** This PCI Express motherboard contains the NVIDIA GeForce 9300/nForce 730i chipset and offers NVIDIA Hybri-SLI Technology.
	1 - Visual Guide Helps to quickly and visually guide you through the hardware installation of the motherboard.
	1 - 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 system case.

	1 - Floppy Cable Used to attach a floppy drive to the motherboard.
	1 - 2-Port SATA Power Cable Allows a Molex power connector to adapt to a SATA power connector.
	2 - SATA Signal Cable Used to support the Serial ATA protocol and each one connects a single drive to the motherboard.
	1 - IDE-ATA 133 HDD Cable Passes data between the IDE connection on the motherboard and IDE device.
	1 - Driver Installation CD Contains drivers and software needed to setup the motherboard.

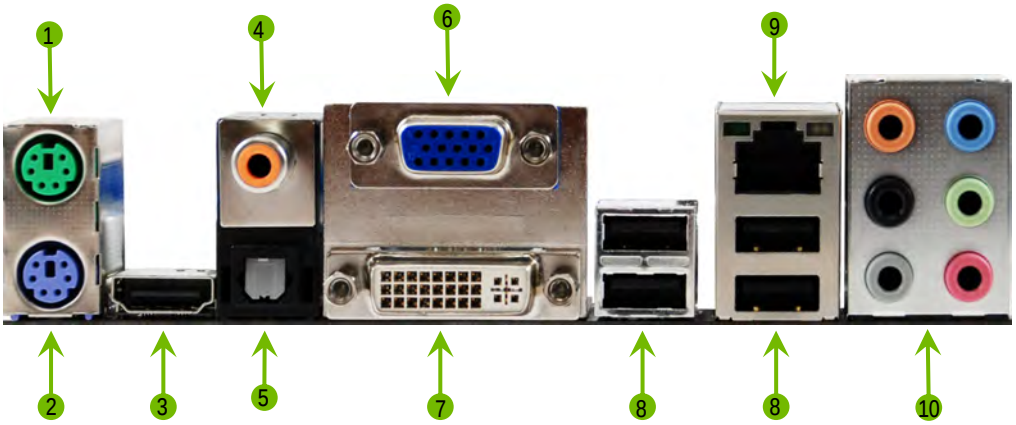
EVGA nForce 730a Motherboard

The EVGA nForce 730a motherboard with the NVIDIA GeForce 8200/ nForce 730a chipset is a PCI Express, Hybrid SLI-ready motherboard. Figure 1 shows the motherboard and Figures 2 shows the back panel connectors.

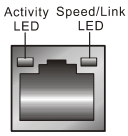


1. AM2 CPU Socket	11. Front Panel Connector	21. PCI Express x1 Slot
2. CPU Fan Connector	12. Speaker Connector	22. PCI Express x16 Slot
3. DDR2 DIMM Slots 1 - 4	13. Diagnostic Code Display	23. Back Panel Connectors (Figure 2)
4. Power Fan Connector	14. Clear CMOS Button	24. 8-pin ATX_12V Power Connector
5. 24-Pin ATX Power Connector	15. System Fan Connector	25. Motherboard Battery
6. IDE Connector	16. Power Button	
7. Serial-ATA (SATA) Connectors	17. RESET Button	
8. NVIDIA MCP (Passive Heat Sink)	18. Serial Connector	
9. FDD Connector	19. PCI Slots	
10. USB Headers	20. Front Panel Audio Connector	

Figure 1. EVGA nForce 730a Motherboard Layout



1. PS/2 Mouse Port
2. PS/2 Keyboard Port
3. HDMI Port
4. Coaxial SPDIF output
5. Optical SPDIF output
6. VGA Port
7. DVI-D Port
8. USB 2.0 ports (four)
9. LAN Port with LEDs to indicate status.



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

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

10.

Audio Port	2-Channel	6-Channel	8-Channel
Blue	Line-In	Line-In	Line-In
Green	Line-Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mic In
Orange		Center/Subwoofer	Center/Subwoofer
Black		Rear Speaker Out	Rear Speaker Out
Grey			Side Speaker Out

Figure 2. Chassis Back Panel 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 and setting switches

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 system case.

Preparing the Motherboard

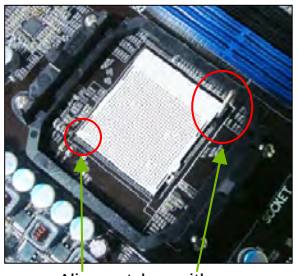
The motherboard shipped in the box does ***not*** contain a CPU or memory. You need to purchase these to complete this installation.

Installing the CPU

Be very careful when handling the CPU. Make sure not to bend or break any pins on the back. 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. Align the notches in the processor with the notches on the socket.
3. Lower the processor straight down into the socket with out tilting or sliding it into the socket



Align notches with notches on the CPU

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

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

Installing the CPU Fan

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

Installing Memory (DIMMs)

Your new motherboard has four 240-pin slots for DDR memory. These slots support 256 MB, 512 MB and 1 GB DDR2 technologies for x8 and x16 devices. 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 15 for the location of the memory slots.)

- **One DIMM**:

  Install into slot 1. You can install the DIMM into any slot, however, slot 1 is preferred.

- **Two DIMMs**:

  Install into either slots 1 and 2 or 3 and 4. The four DIMM sockets are divided into two colors to help you identify the channel pairs. To obtain best performance, simply mount DIMM sockets of the same color.

- **Four DIMMs**:

  Install into slots 1, 2, 3, and 4.

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

1. Unlock a DIMM slot by pressing the module clips outward.
2. Align the memory module to the DIMM slot and insert the module vertically while applying light downward pressure to properly seat the DIMM. 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 system case depends on the system case you are using and if you are replacing an existing motherboard or working with an empty system case. Determine if it would be easier to make all the connections prior to this step or to secure the motherboard and then make all the connections. It is normally easier to secure the motherboard first.

Use the following procedure to install the I/O shield and secure the motherboard into a system case.

Be sure that the CPU fan assembly has enough clearance for the system case covers and that 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 system case.

Before installing the motherboard, install the I/O shield from the *inside* of the system case. Press the I/O shield into place and make sure it fits securely. If the I/O shield does not fit into the system case, you would need to obtain the proper size from the system case supplier.

Securing the Motherboard into the Chassis

Most computer chassis have a base with mounting studs or spacers to allow the mother board 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 eight-to-ten screws.

Connecting Cables and Setting Switches

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

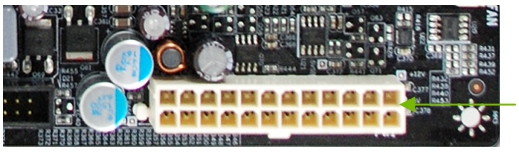
- Power Connections
  - 24-pin ATX power (**PW1**)
  - 8-pin ATX 12V power (**PW12**)
- Internal Headers
  - Front panel
  - Speaker
  - USB Headers
  - Audio
  - COM

- FDD
- IDE
- Serial ATA II
- Chassis Fans
- Expansion slots
- CMOS Clear Button

See Figure 1 on page 15 to locate the connectors and Button 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.

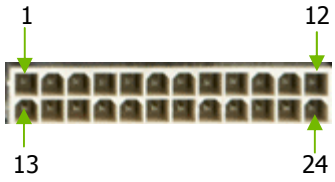


PW1 connector
Plug power cable from system power supply to PW1

Card edge

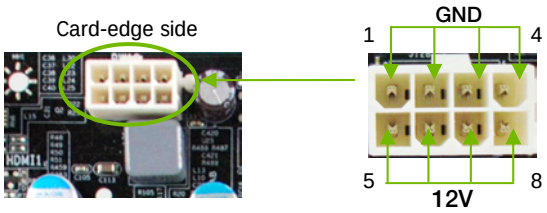
Figure 1. PW1 Motherboard Connector

Table 1. PW1 Pin Assignments

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

8-pin ATX 12V Power (PW12)

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



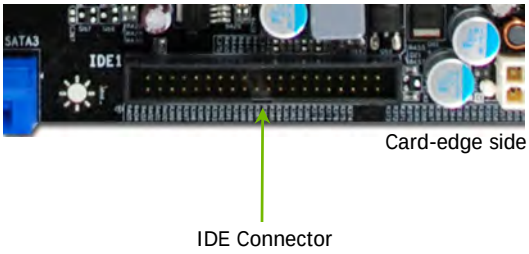
Connecting IDE Hard Disk Drives

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.

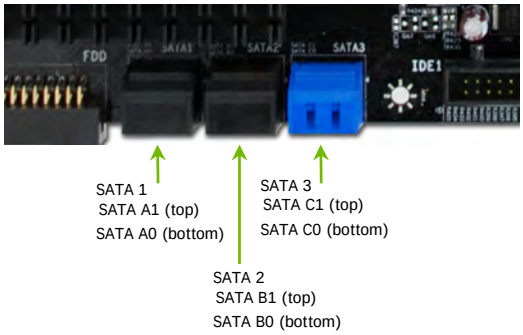
If an ATA-66/100 disk drive and a disk drive using any other IDE transfer protocol are attached to the same cable, the maximum transfer rate between the drives may be reduced to that of the slowest drive.



Connecting Serial ATA Cables

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

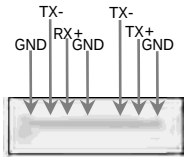
There are six (6) serial ATA connectors on the motherboard that support RAID 0, RAID 1, RAID 5, RAID 0+1 and JBOD configurations.



SATA 1
SATA A1 (top)
SATA A0 (bottom)

SATA 2
SATA B1 (top)
SATA B0 (bottom)

SATA 3
SATA C1 (top)
SATA C0 (bottom)



Connect the locking cable end to the motherboard connector.

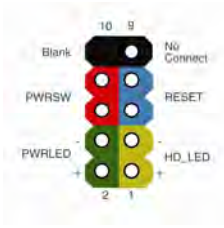
Connect the end without the lock to the drive.

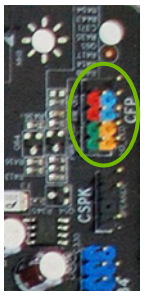
Note: The SATA3 port only supports AHCI and RAID mode. It does not support IDE mode.

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):





Card-edge side

- **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 in S1, S1, S3, S4 status, the LED is 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 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.

Table 2.Front Panel Header Pins

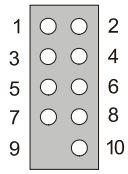
	Pin	Signal
HD_LED	1	HD_PWR
	3	HD Active
PWRLED	2	PWR LED
	4	STBY LED
RESET	5	Ground
	7	RST BTN
PWRSW	6	PWR BTN
	8	Ground
No Connect	9	+5V
Empty	10	Empty

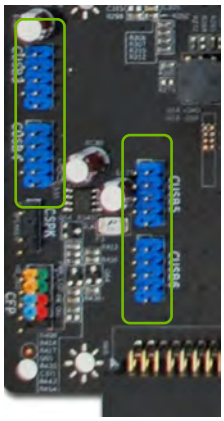
USB Headers

This motherboard contains four (4) USB 2.0 ports that are exposed on the rear panel of the chassis (Figure 2). The motherboard also contains four 10-pin internal header connectors onboard that can be used to connect an optional external bracket containing four (4) more USB2.0 ports.

1. Secure the bracket to either the front or rear panel of your chassis (not all chassis are equipped with the front panel option).
2. Connect the two ends of the cables to the USB 2.0 headers on the motherboard.

Table 3. USB 2.0 Header Pins

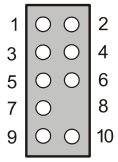
Connector	Pin	Signal
USB 2.0 Header 	1	5V_DUAL
	3	Data-
	5	Data+
	7	GND
	9	Empty
	Pin	**Signal**
	2	5V_DUAL
	4	Data-
	6	Data+
	8	GND
	10	No Connect



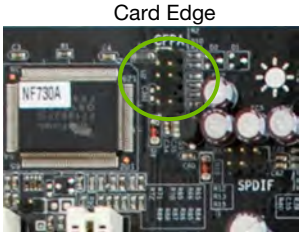
Audio

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 4. Front Audio Connector

Connector	Pin	Signal
Front Audio Connector 	1	PORT1_L
	2	AUD_GND
	3	PORT1_R
	4	PRECENCE_J
	5	PORT2_R
	6	SENSE1_RETURN
	7	SENSE_SEND
	8	Empty
	9	PORT2_L
	10	SENSE2_RETURN

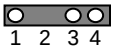
Card Edge

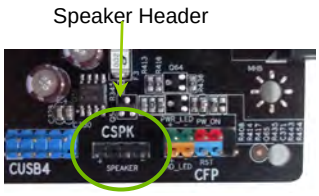


SPK Header

The speaker header is connects to the case's speaker for PC beeps.

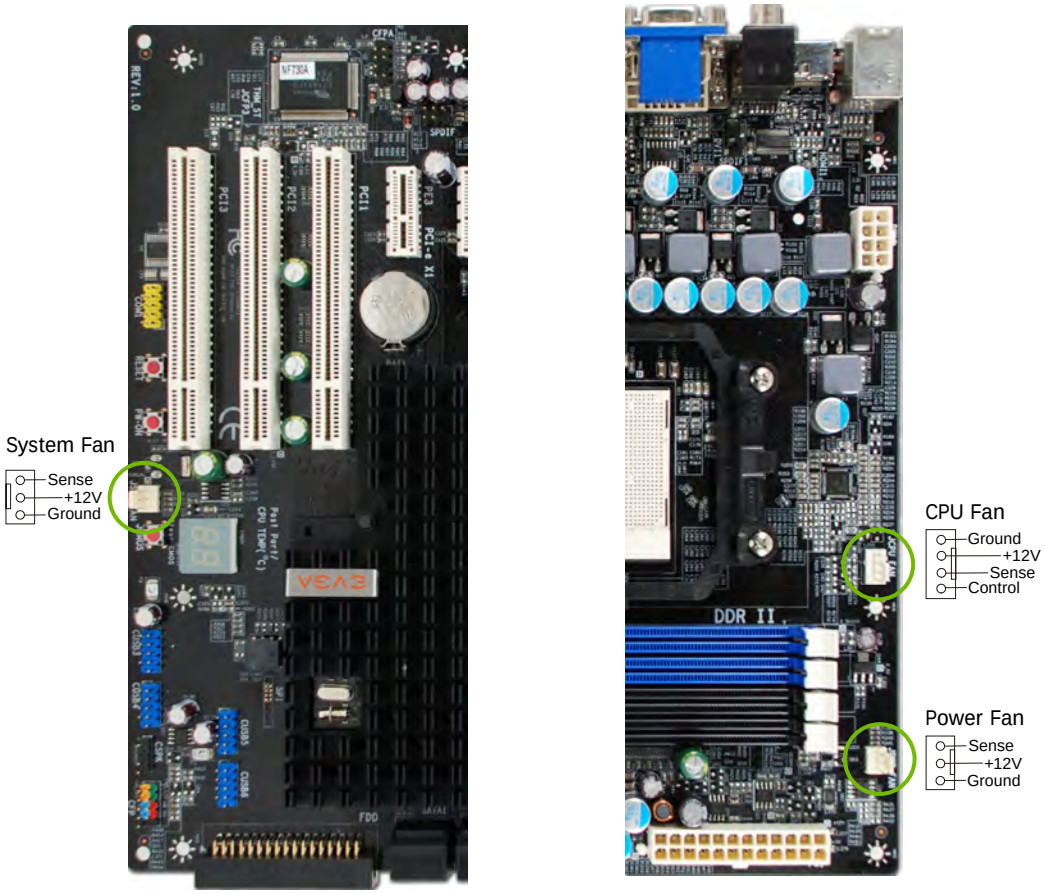
Table 5. CSPK Header Pins

Connector	Pin	Signal
Speaker Header 	1	VCC
	2	Empty
	3	GND
	4	Speaker



Fan Connections

There are three 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 S5mode.



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.

COM1

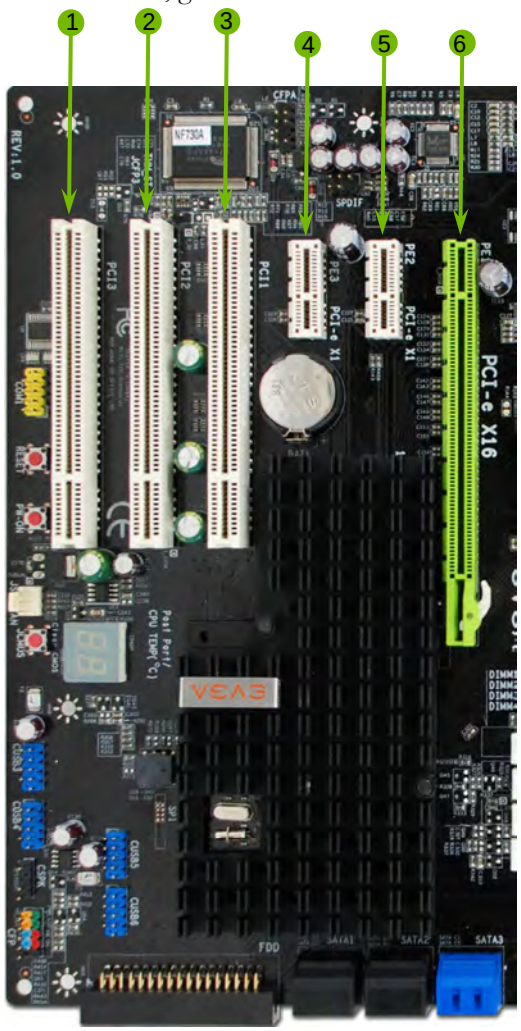
The motherboard kit provides an additional serial COM header for your machine. Connect one side of a switching cable to the header and then attach the serial COM device to the other side of the cable.

FDD Connector

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

Expansion Slots

This motherboard contains six expansion slots, three PCI Express slots and three PCI slots. For a full list of PCI Express x16 graphics card supported by this motherboard, go to www.nvidia.com/estore.



1 – PCI slot 3
2 – PCI slot 2
3 – PCI slot 1
4 – PCI-E x1 slot
5 – PCI-E x1 slot
6 – PCI-E x16 slot

PCI Slots

The three 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 Slots

There are two PCI Express x1 slots that are 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 Slot

The PCI Express x16 slot is reserved for graphic or video cards. 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.

Onboard Buttons

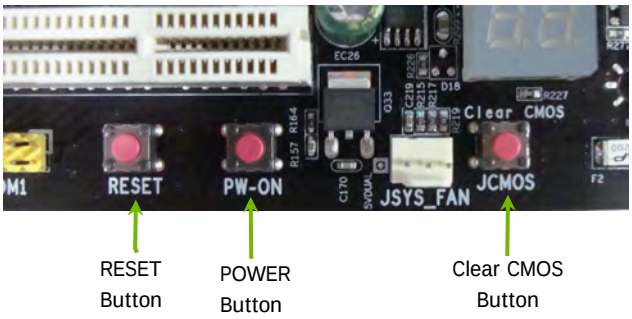
These onboard buttons include RESET, POWER and CMOS, lets you turn on/off the system easily, and convenient for clear CMOS.

Clear CMOS Button

The motherboard uses the CMOS RAM to store all the set parameters. The CMOS can be cleared by press the CMOS button.

RESET and POWER Button

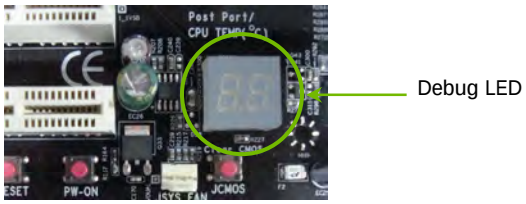
These onboard buttons lets you turn on/off the system easily, it is especially handy for debugging or testing the system.



Post Port Debug LED and LED Status Indicators

Post Port Debug LED

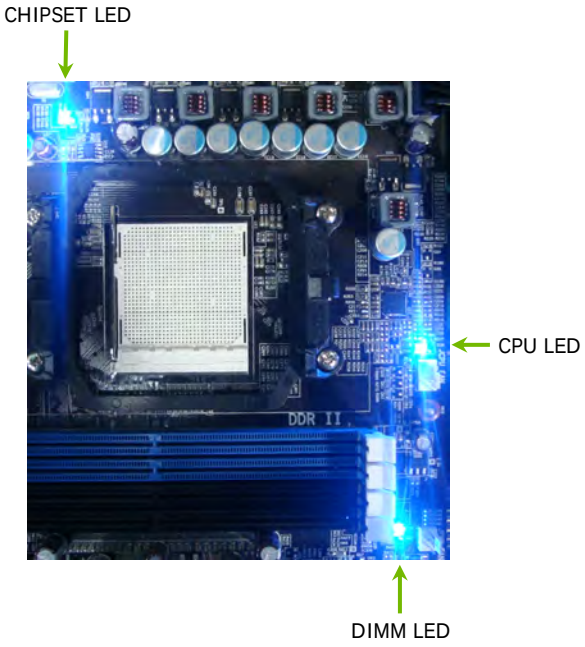
Provides two-digit POST codes to show why the system may be failing to boot. The LED will display the CPU temperature after entering the O/S.



LED Status Indicators

The onboard LED Lights indicate the system's status.

- CHIPSET LED (LED1):
  This LED to show the power status of Chipset.
- CPU LED (LED2):
  This LED to show the power status of CPU.
- DIMM LED (LED3):
  This LED to show the power status of Memory.



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
- Advanced Chipset 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.

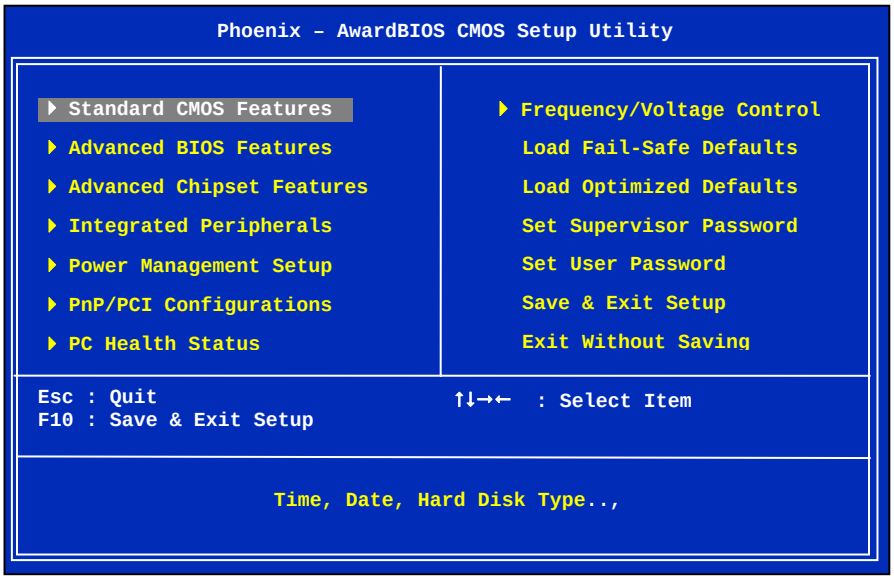


Figure 2. BIOS CMOS Setup Utility Main Menu

- **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.
- **Advanced Chipset Features**
  Use this menu to optimize system performance and configure clocks, voltages, memory timings, and more.
- **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.

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

- **Load Fail-Safe Defaults**
  Load Fail-Safe defaults system settings.
- **Load Optimized Defaults**
  Load Optimized 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.

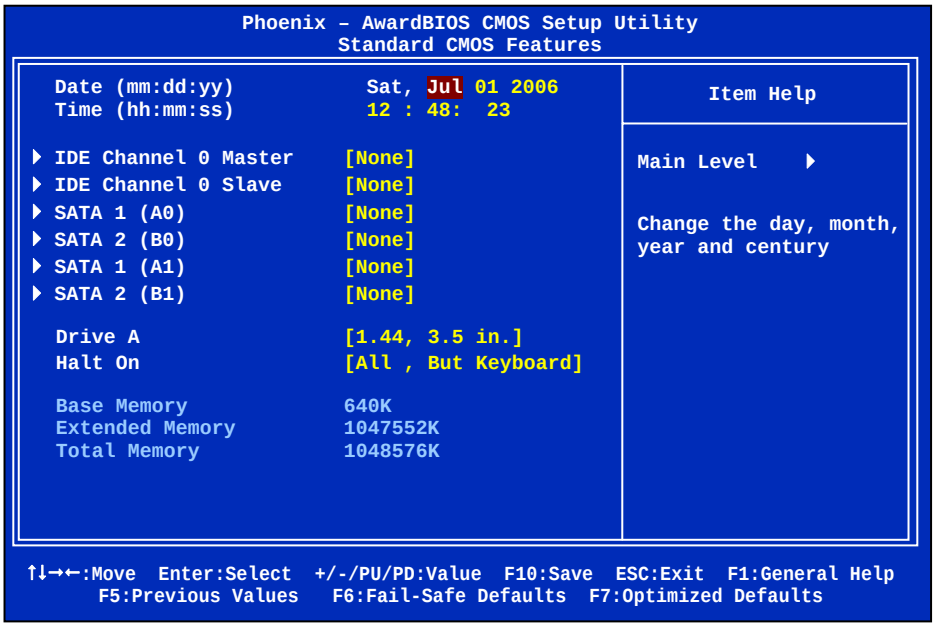


Figure 3. Standard CMOS Features Menu

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.

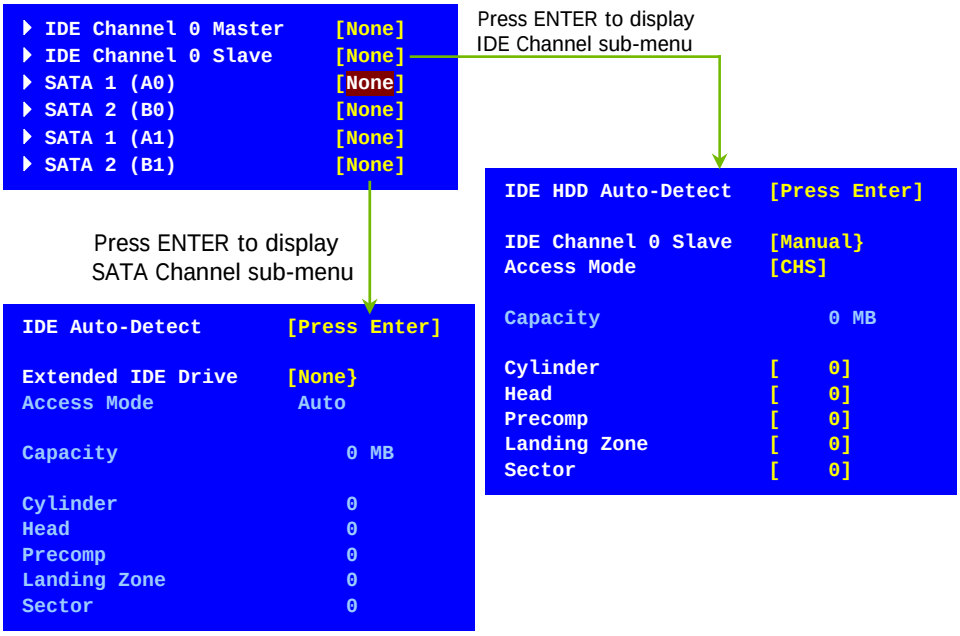
Date and Time

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 (mm:dd:yy)        Sat, Jul 01 2006
Time (hh:mm:ss)        14 : 48:  43
```

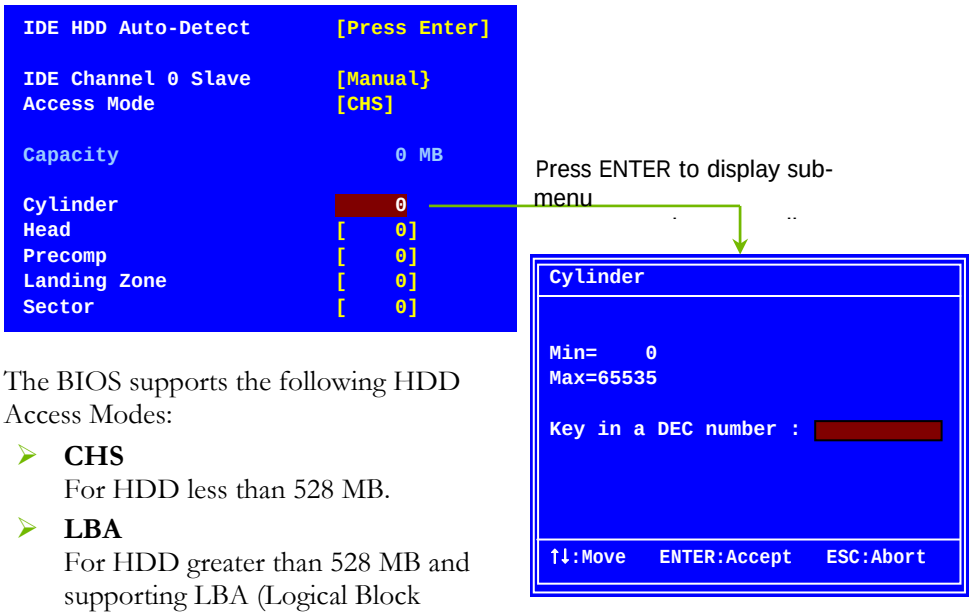
IDE Channel and SATA Channel

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



Press **Enter** to auto-detect IDE and 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 is no HDD installed or set.
- **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.

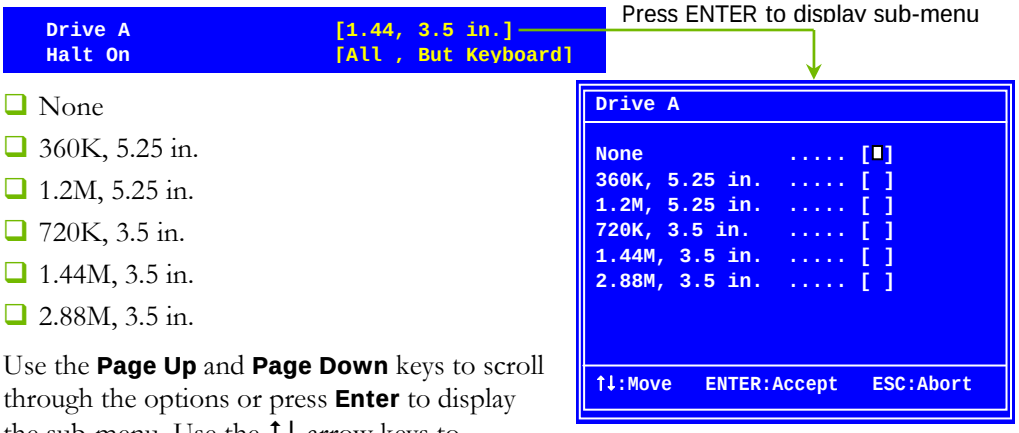


The BIOS supports the following HDD Access Modes:

- **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.

Drive A

The **Drive A** option allows you to select the kind of FDD to install. Options are:

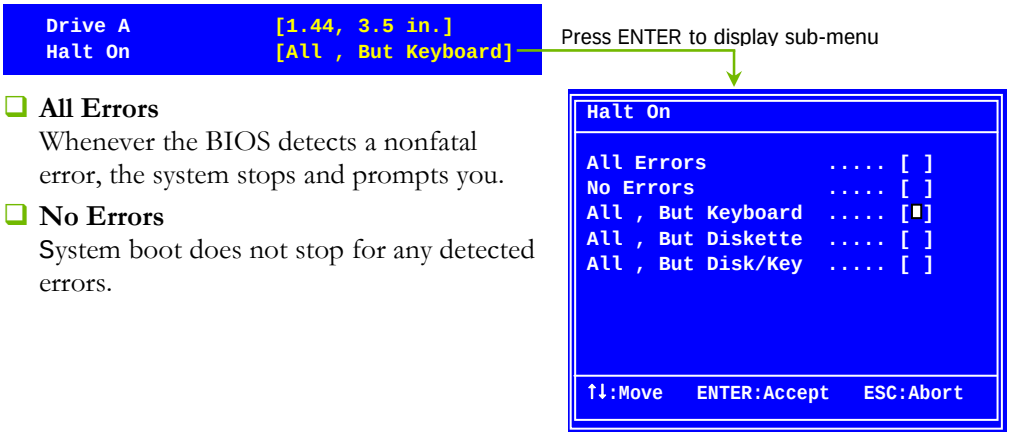


- None
- 360K, 5.25 in.
- 1.2M, 5.25 in.
- 720K, 3.5 in.
- 1.44M, 3.5 in.
- 2.88M, 3.5 in.

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. Press **Enter** to accept the changes and return to the Standard CMOS Features menu.

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.
- **All, But Diskette**
  The system boot does not stop for a diskette error but will stop for all other errors.
- **All, But Disk/Key**
  The system boot does not stop for a keyboard or disk error, but will 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 Menu

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.

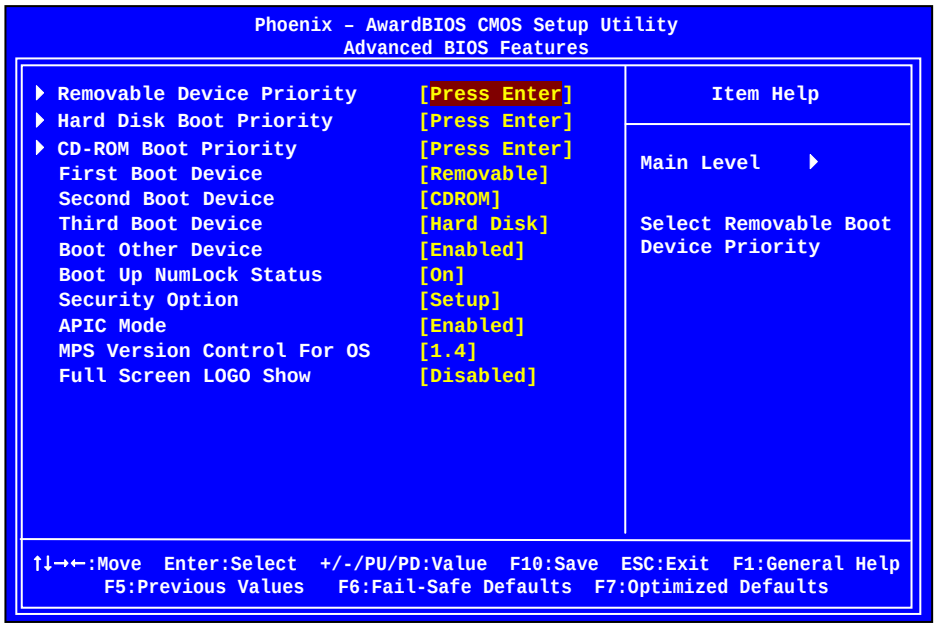


Figure 4. Advanced BIOS Features Menu

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.

Removable Device Priority

Use this option to select the priority for removable device startup. Press **Enter** to see the list of removable 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**.

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**.

Use the + and – keys to move the priority of the device within

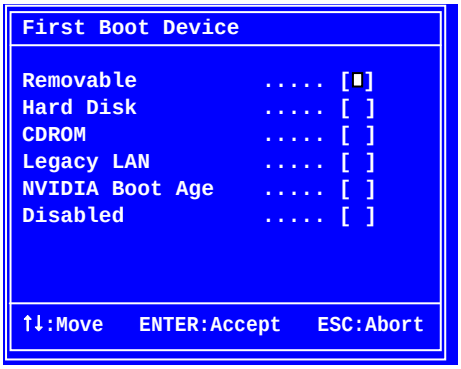
CD-ROM Boot Priority

Use this option to select the priority for CD-ROM startup. Select CD-ROM Boot Priority and press **Enter** to view available networks. 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.**

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.



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.

APIC Mode

Use this function to enable or disable the Advanced Programmable Interrupt Controller (APIC). If you disable this option, you also disable the MPS Version Control for OS option.

MPS Version Control For OS

Use this function to select the Multi-Processor Specification (MPS) version that BIOS passes to the operating system. Use the **Page Up** and **Page Down** keys to scroll through the options.

Full Screen LOGO Show

This option allows you to enable or disable the display of the full-screen logo when the system boots. Use the **Page Up** and **Page Down** keys to toggle between **Enable** and **Disable**

Advanced Chipset Features Menu

Select Advanced Chipset Features from the CMOS Setup Utility menu and press **Enter** to display the functions of the Advanced Chipset Functions menu.

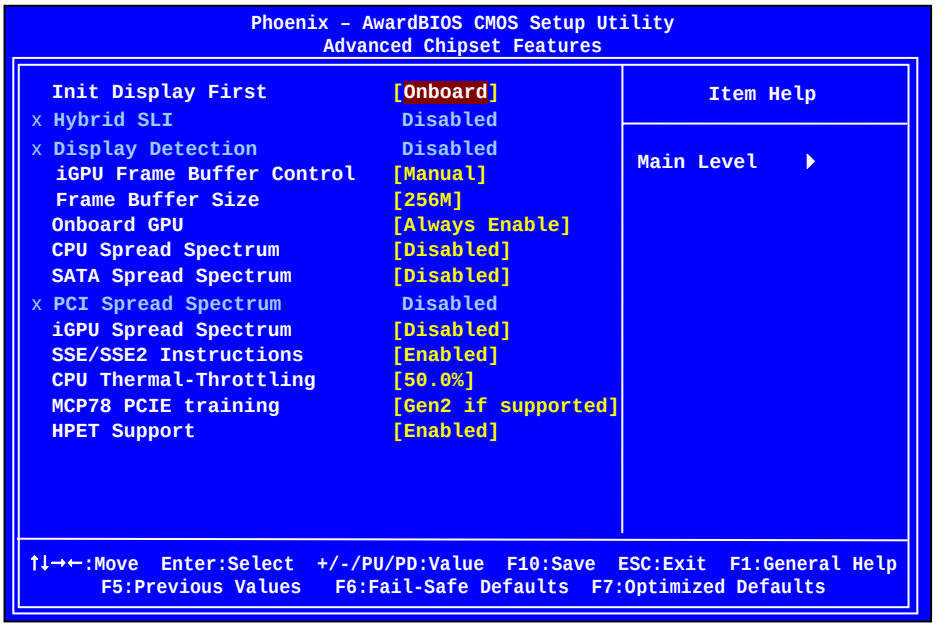


Figure 5. Advanced Chipset Features

Init Display First

This item is used to select the display device priority. The options are onboard, PCI Slot and PCIEx. If you use Hybird SLI card, the PCI Slot option not appear.

Hybrid SLI

This item allows you set the Hybrid SLI function if you install a Hybrid SLI card. The options are Auto and Disabled.

Display Detection

This item enabling will cause System BIOS to search for monitor connected if boot prefer (BGPU) does not have monitor connected. The options are Enabled and Disabled

iGPU Frame Buffer Control

This item allows you to set the onboard GPU frame buffer control mode. The options are Auto and Manual.

Frame Buffer Size

When you set the iGPU Frame Buffer Control item to **[Manual]** then allows you to set frame buffer size for onboard GPU. The options are 16M, 32M, 64M, 128M, 256M, 512M and Disabled. If you install a Hybrid SLI card, the options are 256M and 512M.

Onbaord GPU

This item allows you to set the onboard GPU. Select the **[Enable If No Ext GPU]** to enable the onboard GPU, if the system no detects any external graphics card. Select the **[Always Enable]** to always enable the onboard GPU.

CPU/ SATA/ PCI/ iGPU Spread Spectrum

These items reduce the EMI (Electromagnetic Interference) generated by the system.

SSE/ SSE2 Instructions

This item allows you to enable or disable the SSE/SSE2 (Stream SIMD Extensions) instructions.

CPU Thermal-Throttling

To prevent increasing heat from damaging the CPU or causing accidental shutdown while under high workloads, the CPU Thermal Throttling Technology will force the CPU to enter an idle mode from 87.5% to 12.5% according to preset CPU operating temperatures in the BIOS.

MCP78 PCIE training

The cards supporting gen2 mode will be trained in Gen2 mode by BIOS. The options are Only Gen1 and Gen2 if supported.

HPET Support

This function allows you to enable or disable the High Precision Even Timer (HPET). When Enabled, HPET is used as the timing hardware for multimedia and other time-sensitive application. When HPET is Disabled, the APIC timer is used.

Integrated Peripherals Menu

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

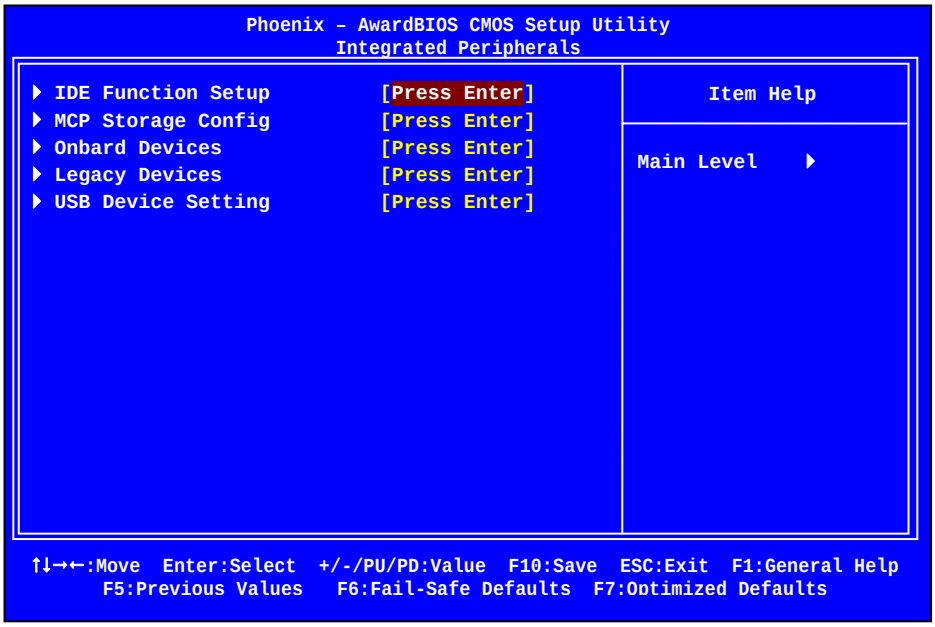


Figure 6. Integrated Peripherals Menu

IDE Function Setup

Press **Enter** to display the IDE Function Setup menu.

```
OnChip IDE Channel0          [Enabled]
Primary Master    PIO        [Auto]
Primary Slave     PIO        [Auto]
Primary Master    UDMA       [Auto]
Primary Slave     UDMA       [Auto]
IDE DMA transfer access      [Enabled]
Serial-ATA Controller        [Enabled]
IDE Prefetch Mode            [Enabled]
IDE HDD Block Mode           [Enabled]
```

- **OnChip IDE Channel0**
  Use this function to enable or disable the onchip IDE Channel0. When disabled, the Primary Master/Slave functions are changed to **Auto** and cannot be changed.

```
  OnChip IDE Channel0        [Disabled]
x Primary Master  PIO         Auto
x Primary Slave   PIO         Auto
x Primary Master  UDMA        Auto
x Primary Slave   UDMA        Auto
  IDE DMA transfer access    [Enabled]
  Serial-ATA Controller      [Enabled]
  IDE Prefetch Mode          [Enabled]
  IDE HDD Block Mode         [Enabled]
```

- **Primary Master/Slave PIO**
  When **OnChip IDE Channel0** is set to **[Enabled]**, you can select a mode for the primary Master and Slave PIO. Select from **Auto**, or **Mode 1** through **Mode 4**.

- **Primary Master/Slave UDMA**
  When **OnChip IDE Channel0** is set to **[Enabled]**, you can disable the primary Master and Slave UDMA or set it to **[Auto]**.

- **IDE DMA transfer access**
  Use this function to enable or disable IDE DMA transfer access.

- **Serial-ATA Controller**
  This function allows you to enable specific SATA controllers, enable all controllers, or disable all controllers. The options available are **[SATA-0]**, **[SATA-0+1]**, **[Enabled]**, and **[Disabled]**.

- **IDE Prefetch Mode**
  Use this function to enable or disable the **IDE Prefetch mode**.

- **IDE HDD Block Mode**
  Using this function on the Integrated Peripherals menu allows your IDE hard drive needs to support block mode. Select **[Enabled]** to automatically detect the optimal number of block read/writes per sector the drive can support. Select **[Disabled]** if your drive does not support block mode.

MCP Storage Config

Press **Enter** to display the MCP Storage Config menu.

```
SATA Operation Mode        [IDE]
SATA SALP Features         [OFF]
```

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

- **SATA SALP Features**
  This item allows you select the SATA SALP (Aggressive Link Power Management status. The options are OFF, Partial, Slumber.

Onboard Devices

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

```
HD Audio                   [INT Codec + EXT Codec]
MAC Lan                    [Auto]
P80 Show CPU Temperature   [Enabled]
```

- **HD Audio**
  This item allows you to enable or disable the hard disk audio function. Options are Disabled, Internal Codec, External Codec, INT Codec + EXT Codec
- **MAC Lan**
  Use this function to set the MAC LAN to **[Auto]** or disable this function.
- **P80 Show CPU Temperature**
  When this function is enabled the Post Port LED will display the CPU temperature. Options are Enabled and Disabled.

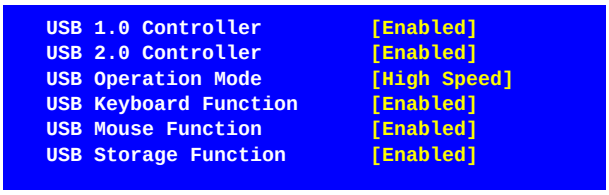
Legacy Devices

Press **Enter** to display the Legacy Devices menu.

- **Onboard FDC Controller**
  Select "Enabled" if you wish to use onboard floppy disk controller (FDC). If you install an external FDC or the system has no floppy drive, select "Disabled "in this field.
- **Onboard Serial Port 1**
  Select an address and corresponding interrupt for the first serial port. Options are [3F8/IRQ4], [2E8/IRQ3], [3E8/IRQ4], [Auto], and [Disabled].

USB Device Setting

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



- **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.

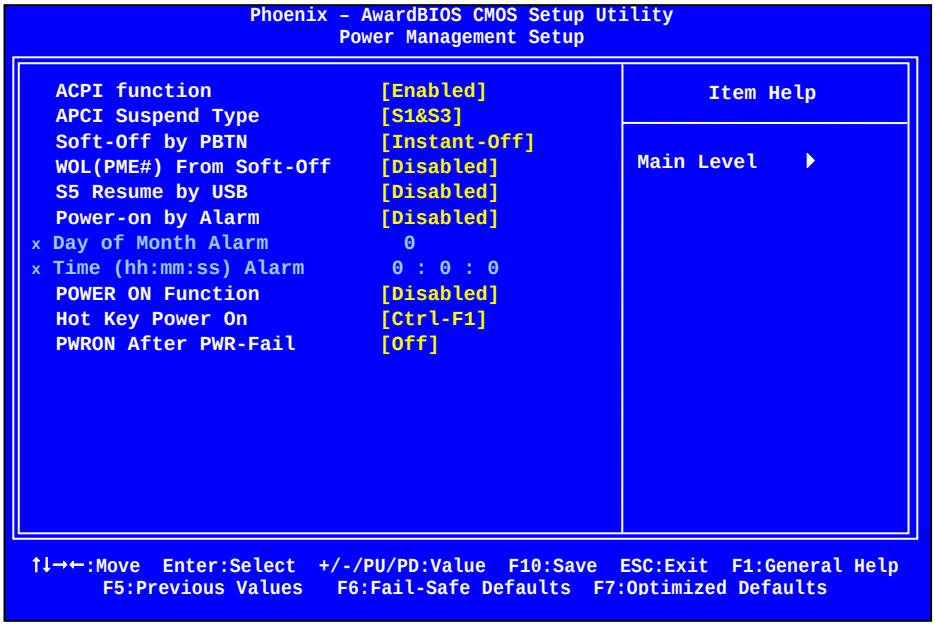


Figure 7. Power Management Setup Menu

ACPI Function

This function allows you to enable or disable the ACPI function.

ACPI Suspend Type

This function allows you to select an ACPI Suspend Type. Types to select from are **[S1&S3]**, **[S1(POS)]**, and **[S3(STR)]**.

Soft-Off by PBNT

This function allows you to set Soft-Off by PBNT to **[Instant-Off]** or **[Delay 4 Sec]**.

WOL(PME#) From Soft-Off

This function allows you to enable or disable WOL(PME#) from soft-off.

S5 Resume by USB

This function allows a USB device to wake-up the system from Soft-off state.

Power On by Alarm

This function allows you to enable or disable the Power-on by alarm function. Set to **[Disable]** to prevent power-on by alarm. When set to **[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 allows you to define the power-on function by the key press activity. Options for this function are:

- **Disabled**
- **Mouse**
- **Keyboard**
- **Both (Keyboard and Mouse)**

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.

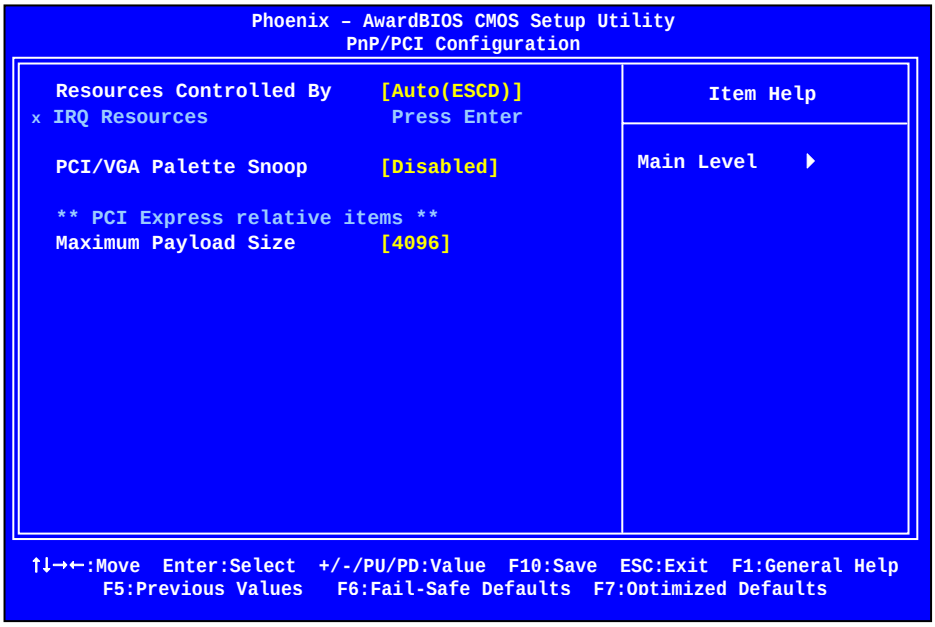
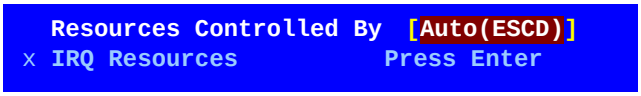


Figure 8. PnP/PCI Configuration Menu

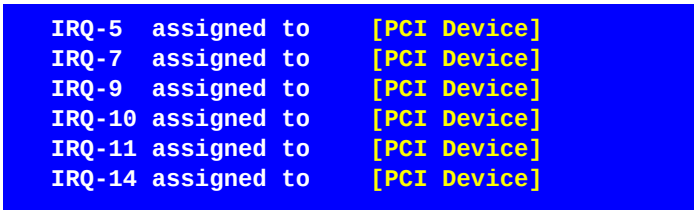
Resources Controlled By

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.



IRQ Resources

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



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 function on the PnP/PCI Configuration menu allows you to enable or disable the Palette Snoop function.

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.

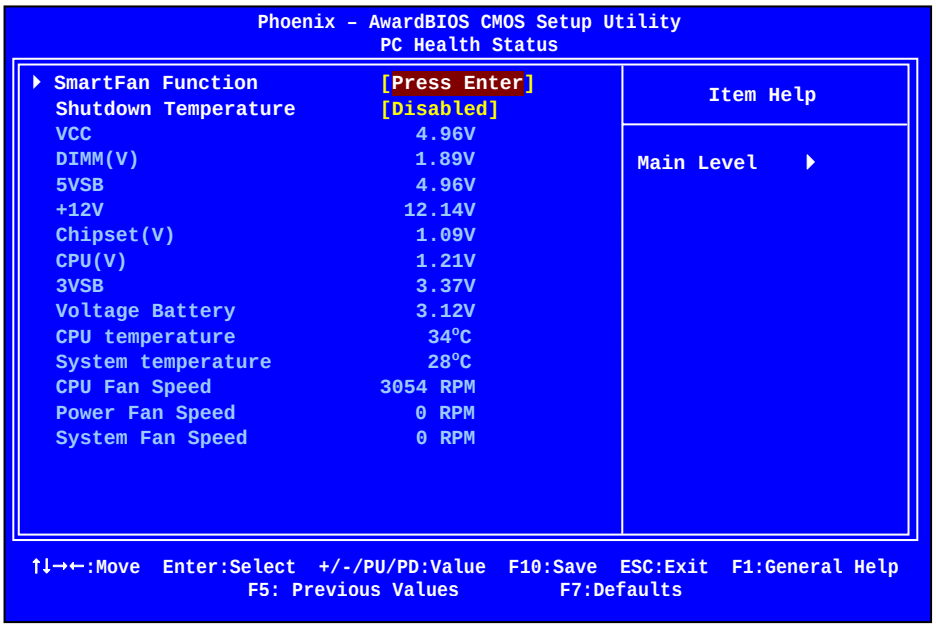
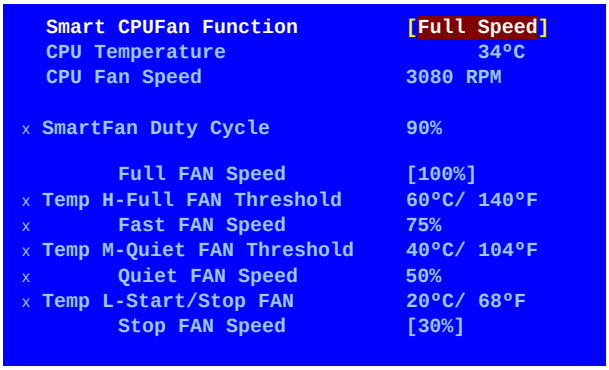


Figure 9. PC Health Status Menu

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. Full speed fixes fan speed at100% duty cycle. Control the Fan by Duty-Cycle directly. By Temperature calculates the fan speed according to different temperature range.

How effective Smart CPU Fan is will depend on fan design. Most fans have built-in thermistor and may self adjust its speed. Some fans have very limited duty cycle range open to fan control.

Shutdown Temperature

This is the temperature that the computer will turn off the power to combat the effects of an overheating system. (requires ACPI to be enabled in Power Management BIOS and ACPI compliant operating system.) The default is Disabled. Options available are 60°C/140°F to 70°C/158°F in increments of 5°C.

Frequency/Voltage Control Menu

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

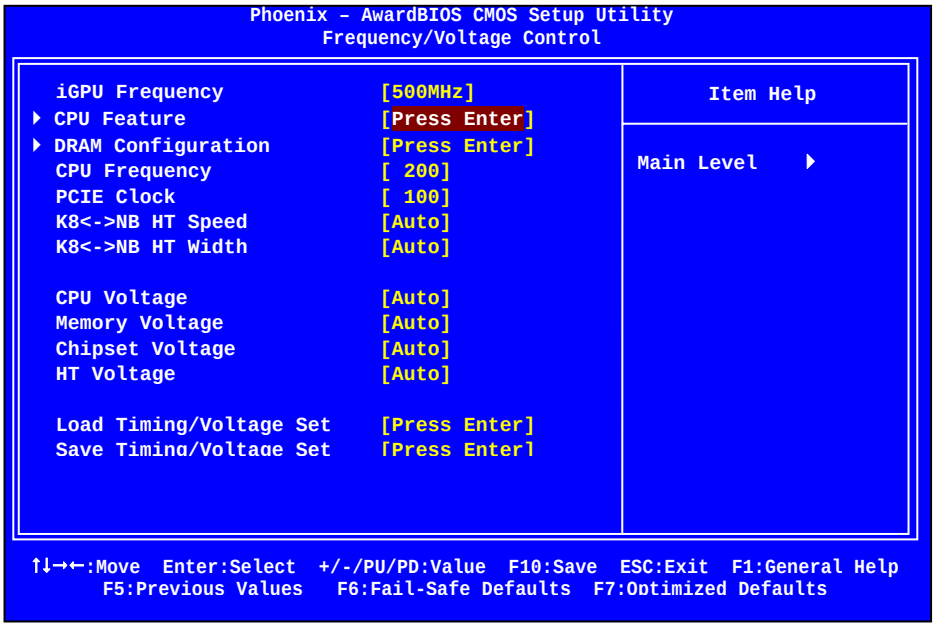


Figure 10. Frequency/Voltage Control Menu

iGPU Frequency

This item allows you to set the onboard graphics frequency. The options are 500 to 1000 in 1MHz increments.

CPU Feature

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

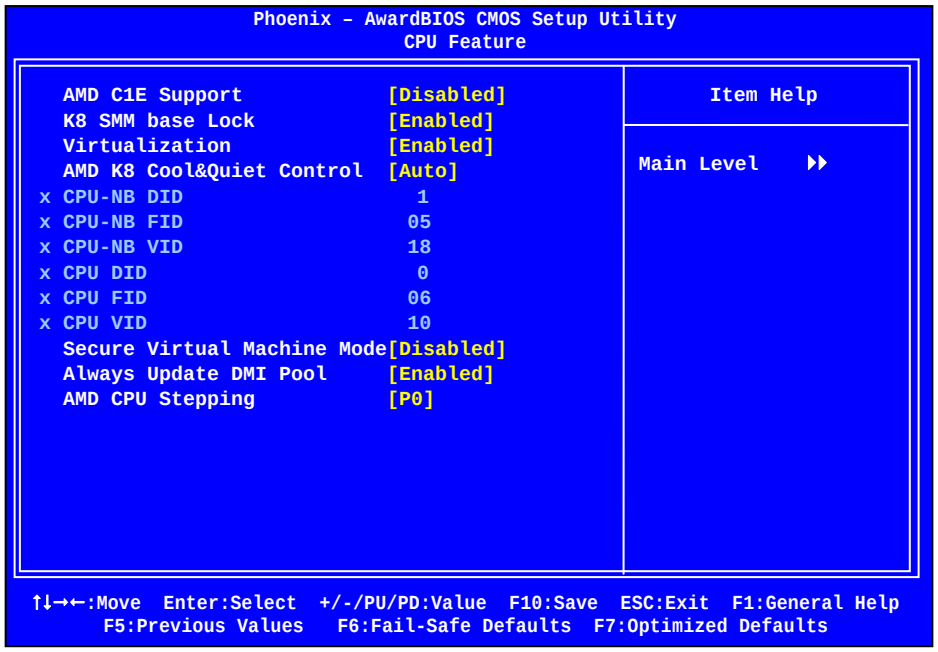


Figure 11. CPU Feature Menu

- **AMD C1E Support**
  Enabled, this function reduces the CPU power consumption when the CPU is idle. Idle occurs when the operating system issues a halt instruction.

- **K8 SMM base Lock**
  This item allows you to disable the K8 SMM base Lock function.

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

- **AMD K8 Cool&Quiet Control**
  Reduce the noise and heat from your PC when AMD's Cool'n'Quiet™

technology is enabled. When set to Disbaled the following related items become available to select.

- **CPU-NB DID**
  The options are 1 and 2.
- **CPU-NB FID**
  The options are 0000 to 0005 in the hex number.
- **CPU-NB VID**
  The options are 0000 to 007F in the hex number.
- **CPU DID**
  The options are 0 to 4.
- **CPU FID**
  The options are 0000 to 0007 in the hex number.
- **CPU VID**
  The options are 0000 to 0018 in the hex number.
- **Secure Virtual Machine Mode**
  This item allows you to set the Secure Virtual Machine Mode. The options are Enabled and Disabled.
- **Always Update DMI Pool**
  The options are Enabled and Disabled.
- **AMD CPU Stepping**
  This item allows you to select the AMD CPU Stepping for microprocessor's version. The options are P0 and P1.

DRAM Configuration

Select DRAM Configuration from the Frequency/Voltage Controls menu and press **Enter** to display the DRAM Configuration menu. This section allows you to configure the system based on the specific features of the installed chipset. Change these settings only if you are familiar with the Chipset. We recommend that you leave this at the default value.

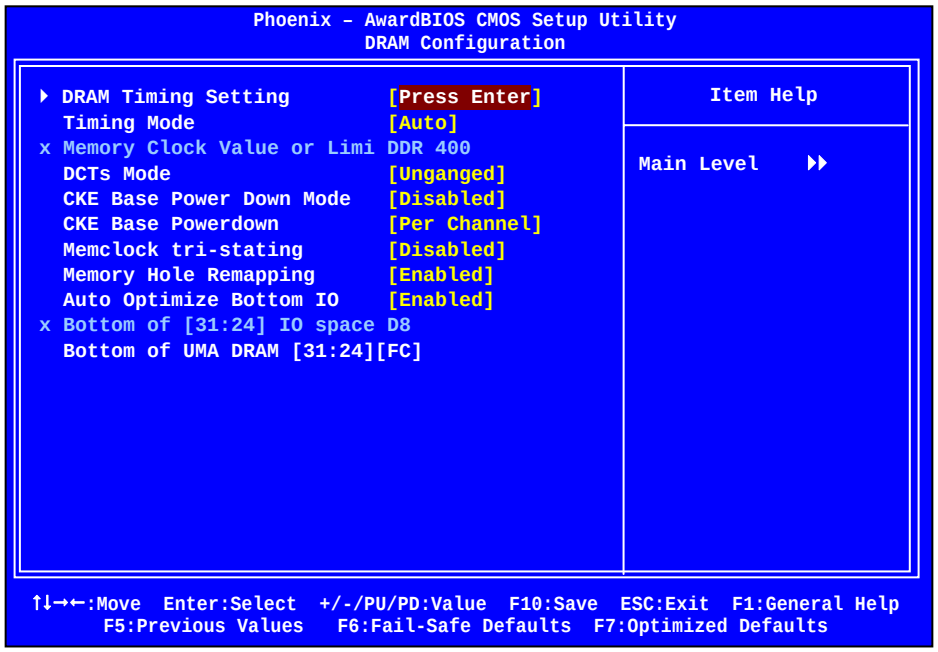
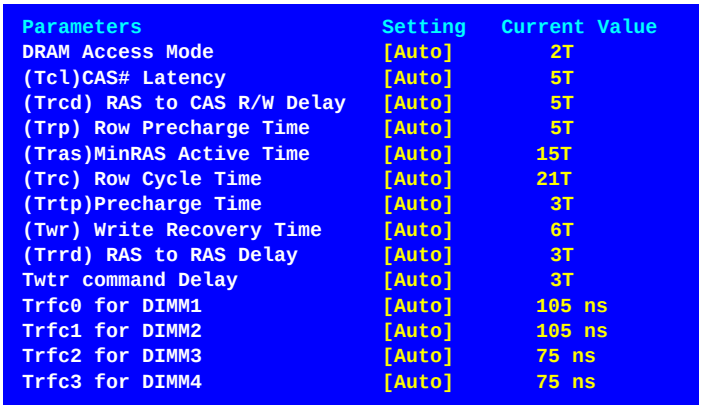


Figure 12. DRAM Configuration Menu

- DRAM Timing Setting
  Press Enter to display the DRAM Timing Setting menu.



Parameters	Setting	Current Value
DRAM Access Mode	[Auto]	2T
(Tcl)CAS# Latency	[Auto]	5T
(Trcd) RAS to CAS R/W Delay	[Auto]	5T
(Trp) Row Precharge Time	[Auto]	5T
(Tras)MinRAS Active Time	[Auto]	15T
(Trc) Row Cycle Time	[Auto]	21T
(Trtp)Precharge Time	[Auto]	3T
(Twr) Write Recovery Time	[Auto]	6T
(Trrd) RAS to RAS Delay	[Auto]	3T
Twtr command Delay	[Auto]	3T
Trfc0 for DIMM1	[Auto]	105 ns
Trfc1 for DIMM2	[Auto]	105 ns
Trfc2 for DIMM3	[Auto]	75 ns
Trfc3 for DIMM4	[Auto]	75 ns

  - **DRAM Access Mode**
    This item allows you to select the DRAM Access Mode. The options are Auto, 1T Mode and 2T Mode.
  - **(Tcl) CAS# Latency:** The CAS# Latency time (options are Auto, 3 through 6).
  - **(Trcd) RAS to CAS R/W Delay :** RAS#-to-CAS# Delay for Read/Write commands to the same bank (options are Auto, 3 through 6)
  - **(Trp) Row Precharge Time:** Row Precharge time. This is the Precharge-to-Active or Auto-to-Refresh of the same bank (options Auto, are 3 through 6).
  - **(Tras) Minimum RAS Active:** This is the minimum RAS# active time (options are Auto, 5 through 18) **.**
  - **(Trc) Row Cycle Time :** RAS#-to-RAS# or auto refresh time of the same bank (options are Auto, 11 through 26).
  - **(Trtp) Precharge Time :** The Precharge Time (options are Auto, 2 through 3).
  - **(Twr) Write Recovery Time:** The Write recovery time (options are Auto, 3 through 5).

- **(Trrd) RAS to RAS Delay:** RAS#-to-RAS# delay of different banks (options are Auto, 2 through 5).
- **Twtr command Delay:** This is the minimum write-to-read delay with the same chip selected (options are Auto, 1 through 3).
- **Trfc x for DIMMx:** This is the minimum time from an auto-refresh command to an activate command or another auto refresh command. The recommended programming of this register varies based on DRAM density and speed. (options are Auto, 75ns, 105ns, 127.5ns, 195ns, 327.5ns).

- **Timing Mode**
  This item allows you to select the Timing Mode. The options are Auto, MaxMemClk and Manaul.

- **DCTs Mode**
  This item allows you to select the DCTs Mode. The options are Ganged (One 128bit channel) and Unganged (Dual 64bit independent channel).

- **CKE Base Power Down Mode**
  When in power down mode, if all pages of the DRAMs associated with a CKE pin are closed, then these parts are placed in power down mode. Only pre-charge power down mode is supported, not active power down mode. The Options are Enabled and Disabled.

- **CKE Base Powerdown**
  This bit is initialized based on the type of system being implemented. For non mobile systems, power down mode should be set to channel CKE control. The options are Per channel, Per CS.

- **Memclock tri-stating**
  Enables the DDR memory clocks to be tristated when alternate VID mode is enabled. The options are Enabled, Disabled.

- **Memory Hole Remapping**
  Enables to support 4G Memory Size. Options are Enabled, Disabled.

- **Auto Optimize Bottom IO**
  This item sets auto optimize maximal DRAM size when kernel assign PCI resources done. Options are Enabled, Disabled.

- **Bottom of UMA DRAM [31:24]**
  Set Bottom of UMA DRAM address. Options are 0000 ~ 00FC.

CPU Frequency

This item enables you to increment the CPU's clock generator at 1 MHz step. The options are 200 to 600 in 1MHz increments.

PCI Clock

This item enables you to subtle tune the PCIE frequency at increments of 1MHz step. The options are 100 to 200 in 1MHz increments.

K8<->NB HT Speed

This item allows you to set the HyperTransport speed between the CPU and Northbridge. The options are Auto and 200MHz to 1.8GHz in 200MHz increments.

K8<->NB HT Width

This item allows you to set the HyperTransport width between the CPU and Northbridge. The options are Auto, ↓8↑8, ↓16↑16.

CPU Voltage

This item allows you to adjust the CPU voltage. Use the **Page Up** and **Page Down** keys to select a voltage or select [Auto] to automatically set the voltage.

Memory Voltage

This item allows you to adjust the memory voltage. Use the **Page Up** and **Page Down** keys to select a voltage or select [Auto] to automatically set the voltage.

Chipset Voltage

This item allows you to adjust the chipset voltage. The options are Auto and 1.1V to 1.4V in 0.1V increments.

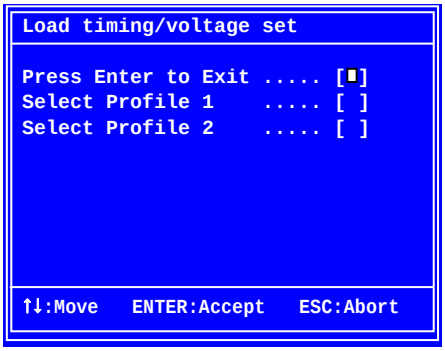
HT Voltage

This item allows you to adjust the HyperTransport voltage. The options are Auto and 1.2V to 1.5V in 0.1V increments.

Load Timing/Voltage Set

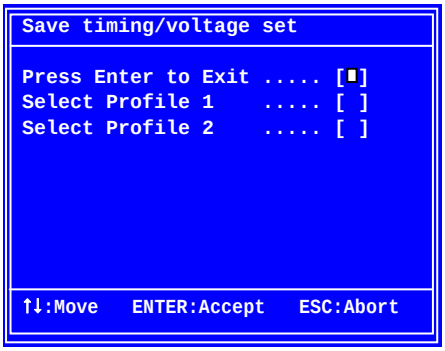
This function loads the system voltages and timing settings that were defined in the System Voltages menu. You can set up to two profile settings using the **Save timing/voltage set** function.

There are two profile options that can be loaded. The default setting is **Auto** for all settings. Press **Enter** to see the options.



Save Timing/Voltage Set

This function saves the system voltages and timing settings that were defined in the System Voltages menu. There are two profile options that can be loaded. 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 32bit and 64bit and is Vista-capable.

The kit comes with a CD that contains utility drivers and additional NVIDIA software.

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

- NVIDIA nForce motherboard drivers
- Audio drivers
- RAID drivers
- Adobe Acrobat Reader
- User's Manual

Drivers Installation

1. Insert the EVGA NVIDIA MCP78 Series 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 it does not run, go to My Computer and click on the CD to open.

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

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

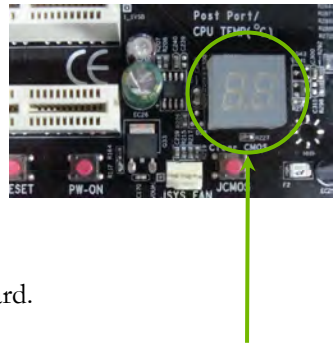
JEDEC - Joint Electron Device Engineering Council

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
PCI-E - Peripheral Component Interconnect Express
PCI-X - Peripheral Component Interconnect Extended
POST – Power on Self Test
PWM – Pulse Width Modulation
QDR - Quad Data Rate
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

Appendix A POST Codes for the EVGA nForce 730a Motherboard



This section provides the Award POST Codes (Table 6) for the EVGA nForce 730a Motherboard during system boot up.

The POST Codes are displayed on the LED POST Code readout located directly onboard the motherboard.

The LED POST Code readout will also display current CPU temperatures.

Table 3. Award POST Code

Award POST Codes		
Code	**Name**	**Description**
01	Reserved	
02	Jumps to E000 segment	Execution of POST routines in E000
03	Early SuperIO	Init Early Initialized the super IO
04	Reserved	
05	Blank video	Reset Video controller
06	Reserved	
07	Init KBC	Keyboard controller init
08	KB test	Test the Keyboard
09	Reserved	
0A	Mouse Init	Initialized the mouse
0B	Reserved	
0C	Reserved	
0D	Reserved	

Award POST Codes		
Code	**Name**	**Description**
0E	CheckSum Check	Check the integrity of the ROM,BIOS and message
0F	Reserved	
10	Autodetect EEPROM	Check Flash type and copy flash write/erase routines
11	Reserved	
12	Test CMOS	Test and Reset CMOS
13	Reserved	
14	Load Chipset	Load Chipset Defaults
15	Reserved	
16	Init Clock	Initialize onboard clock generator
17	Reserved	
18	Init CPU	CPU ID and initialize L1/L2 cache
19	Reserved	
1A	Reserved	
1B	Setup Interrupt Vector Table	Initialize first 120 interrupt vectors with SPURIOUS_INT_HDLR and initialize INT 00h-1Fh according to INT_TBL
1C	CMOS Battery Check	Test CMOS and check Battery Fail
1D	Early PM	Early PM initialization
1E	Reserved	
1F	Re-initial KB	Load keyboard matrix
20	Reserved	
21	HPM init	Init Heuristic Power Management (HPM)
22	Reserved	
23	Program chipset	Early Programming of chipset registers
24	Init PNP	Init PNP
25	Shadow VBIOS	Shadow system/video BIOS
26	Clock Gen	Init onboard clock generator and sensor
27	Setup BDA	Setup BIOS DATA AREA (BDA)
28	Reserved	
29	CPU Speed detect	Chipset programming and CPU Speed detect
2A	Reserved	
2B	Init video	Initialize Video

Award POST Codes		
Code	**Name**	**Description**
2C	Reserved	
2D	Video memory test	Test Video Memory and display Logos
2E	Reserved	
2F	Reserved	
30	Reserved	
31	Reserved	
32	Reserved	
33	Early keyboard reset	Early Keyboard Reset
34	Reserved	
35	Test DMA Controller 0	Test DMA channel 0
36	Reserved	
37	Test DMA Controller 1	Test DMA channel 1
38	Reserved	
39	Test DMA Page Registers	Test DMA Page Registers
3A	Reserved	
3B	Reserved	
3C	Test Timer	Test 8254 Timer 0 Counter 2.
3D	Reserved	
3E	Test 8259-1 Mask	Verify 8259 Channel 1 masked interrupts by alternately turning off and on the interrupt lines.
3F	Reserved	
40	Test 8259-2 Mask	Verify 8259 Channel 2 masked interrupts by alternately turning off and on the interrupt lines.
41	Reserved	
42	Reserved	
43	Test Stuck Interrupt	Turn off interrupts then verify no 8259's interrupt mask register is on. Test 8259 Force an interrupt and verify the interrupt occurred.
44	Reserved	
45	Reinit serial port	Reinitialize Preboot agent serial port
46	Reserved	
47	EISA Test	If EISA non-volatile memory checksum is good,

Award POST Codes		
Code	**Name**	**Description**
		execute EISA initialization. If not, execute ISA tests and clear EISA mode flag.
48	Reserved	
49	Size Memory	Size base memory from 256K to 640K and extended memory above 1MB.
4A	Reserved	
4B	Reserved	
4C	Reserved	
4D	Reserved	
4E	Init APIC	Initialize APIC and set MTRR
4F	Reserved	
50	USB init	Initialize USB controller
51	Reserved	
52	Memory Test	Test all memory of memory above 1MB using Virtual 8086 mode, page mode and clear the memory
53	Reserved	
54	Reserved	
55	CPU display	Detect CPU speed and display CPU vendor specific version string and turn on all necessary CPU features
56	Reserved	
57	PnP Init Display	PnP logo and PnP early init
58	Reserved	
59	Setup Virus	Setup virus protect according to Protect Setup
5A	Reserved	
5B	Awdflash Load	If required, will auto load Awdflash.exe in POST
5C	Reserved	
5D	Onboard I/O	Init Initializing onboard superIO
5E	Reserved	
5F	Reserved	
60	Setup enable	Display setup message and enable setup functions
61	Reserved	
62	Reserved	
63	Initialize Mouse	Detect if mouse is present, initialize mouse, install

Award POST Codes		
Code	**Name**	**Description**
		interrupt vectors.
64	Reserved	
65	PS2 Mouse special	Special treatment to PS2 Mouse port
66	Reserved	
67	ACPI init	ACPI sub-system initializing
68	Reserved	
69	Init Cache	Initialize cache controller
6A	Reserved	
6B	Setup	Enter setup check and autoconfiguration check up
6C	Reserved	
6D	Initialize Floppy	Initialize floppy disk drive
6E	Reserved	
6F	FDD install	Install FDD and setup BIOS data area parameters
70	Reserved	
71	Reserved	
72	Reserved	
73	Initialize Hard Drive	Initialize hard drive controller
74	Reserved	
75	Detect HDD	IDE device detection
76	Reserved	
77	Detect serial ports	Initialize serial ports.
78	Reserved	
79	Reserved	
7A	Detect parallel ports	Initialize parallel ports.
7B	Reserved	
7C	HDD Write Protect	HDD check for write protection
7D	Reserved	
7E	Reserved	
7F	POST error check	Check POST error and display them and ask for user intervention
80	Reserved	
81	Reserved	
82	Security Check	Ask password security.

Award POST Codes		
Code	**Name**	**Description**
83	Write CMOS	Write all CMOS values back to RAM and clear screen.
84	Display PNP	Display PNP devices
85	USB Final Init	Final USB initialization
86	Reserved	
87	Reserved	
88	Reserved	
89	Setup ACPI tables	Setup ACPI tables
8A	Reserved	
8B	Option ROM Detect	Scan for Option ROMs
8C	Reserved	
8D	Enable Parity Check	Enable Parity Check
8E	Reserved	
8F	IRQ12 Enable	Enable IRQ12 if mouse present
90	Reserved	
91	Reserved	
92	Reserved	
93	Boot Medium Read	Detect and store boot partition head and cylinders values in RAM
94	Final Init	Final init for last micro details before boot
95	NumLock	Set NumLock status according to Setup
96	Boot Attempt	Set low stack Boot via INT 19h.
C0	Base CPU test	Read/Write CPU registers
C1	Memory Presence	Base memory detect
C2	Early Memory	Board Initialization
C3	Extend Memory	Turn on extended memory, cache initialization
C4	Special Display	First display initialization
C5	Early Shadow	Early shadow enable for fast boot
C6	Cache presence	External cache size detection
CF	CMOS Check	CMOS checkup
B0	Spurious	If interrupt occurs in protected mode.
B1	Unclaimed NMI	If unmasked NMI occurs, display Press F1 to disable NMI, F2 reboot.

Award POST Codes		
Code	**Name**	**Description**
BF	Program MCP	To program chipset from defaults values
E1-EF	Setup Pages	E1- Page 1, E2 - Page 2, etc.
FF	Boot	