

user manual

VB8003

Mini-ITX Mainboard

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Regulatory Compliance

FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his personal expense.

Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.



Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

Battery Recycling and Disposal



Only use the appropriate battery specified for this product.
Do not re-use, recharge, or reheat an old battery.
Do not attempt to force open the battery.
Do not discard used batteries with regular trash.
Discard used batteries according to local regulations.

Safety Precautions



Do's

- Always read the safety instructions carefully.
- Keep this User's Manual for future reference.
- All cautions and warnings on the equipment should be noted.
- Keep this equipment away from humidity.
- Lay this equipment on a reliable flat surface before setting it up.
- Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.
- Place the power cord in such a way that people cannot step on it.
- Always unplug the power cord before inserting any add-on card or module.
- If any of the following situations arises, get the equipment checked by authorized service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment has not worked well or you cannot get it work according to User's Manual.
 - The equipment has dropped and damaged.
 - The equipment has obvious sign of breakage.



Don'ts

- Do not leave this equipment in an environment unconditioned or in a storage temperature above 60°C (140°F). The equipment may be damaged.
- Do not leave this equipment in direct sunlight.
- Never pour any liquid into the opening. Liquid can cause damage or electrical shock.
- Do not place anything over the power cord.
- Do not cover the ventilation holes. The openings on the enclosure protect the equipment from overheating

Box Contents

- VB8003 Mini-ITX mainboard
- SATA cable
- I/O bracket
- Driver utility CD
- Screw pack for DVI port

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1

Product Overview



The ultra-compact and highly integrated VIA VB8003 uses the Mini-ITX mainboard form-factor developed by VIA Technologies, Inc. The mainboard enables the creation of an exciting new generation of small, ergonomic, innovative and affordable embedded systems. Through a high level of integration, the Mini-ITX mainboard is only 66% of the size of FlexATX mainboard form factor. The mainboard comes with a VIA Nano 1.6 GHz NanoBGA2 processor.

KEY COMPONENTS

VIA Nano 1.6 GHz NanoBGA2 Processor

The VIA Nano is a 64-bit superscalar processor in x86 platform using a 65 nanometer process technology. It delivers an energy-efficient, powerful performance, with cool and quiet operation all within an ultra compact NanoBGA2 package measuring 21 mm x 21 mm. Perfectly fit for embedded system applications such as industrial PCs, test machines, measuring equipment, digital signage, medical PCs, monitoring systems, gaming machines, in-vehicle entertainment, and etc. The VIA Nano also boasts of immersive multimedia performance, connectivity and computing applications. When combined with the all-in-one highly integrated digital media VX800 IGP chipset, system developers can utilize an impressive range of features for a wide range of notebook and desktop applications.

VIA VX800 Media System Processor

The VIA VX800 all-in-one digital media IGP chipset integrates a premium graphics engine, HD audio controller, DDR2 memory controller, 800MHz FSB processor interface, and extensive I/O capabilities in a single chip design. The VIA VX800 is based on a highly sophisticated power efficient architecture that enables such rich integration into a compact package with a maximum power envelope of just 5 W.

S3 Graphics Chrome 435 ULP

The S3 Graphics Chrome 435 ULP (Ultra Low Power) graphics processor offers superb performance-per-watt metrics, boasting incredibly low power draw. The S3 Graphics Chrome 435 ULP offers users an immersive visual experience without sacrificing battery life and its support for DirectX 10.1 allows realistic 3D rendering and increased visual acuity through improved Anti-aliasing (AA) and Image/ Texture, higher precision formats, and programmable lightning effects.

The S3 435 ULP also has the latest ChromotionHD Video Engine that enables acceleration for all leading video standards. It also has the sophisticated S3 Graphics PowerWise Technology algorithms that manage the power usage of the GPU — delivering optimal balance between performance and power on-the-fly. The S3 Graphics PowerWise Technology brings together graphics performance and power efficiency for embedded systems.

VIA VT1708 High Definition Audio Codec

The VIA VT1708 delivers top quality audio performance — supporting the latest 8-channel, 24-bit, 192 kHz audio content for an all-round high-fidelity experience. Integrating stereo DACs with a 100 dB signal-to-noise ratio, the VIA VT1708 includes features such as a high quality headphone amplifier, enhanced recording support, and advanced power management.

VIA VT1211 Super I/O

The VIA VT1211 is a full function Super I/O chip with a floppy disk controller, an IEEE-1284 parallel port interface, two 16C550-UART-based serial port interfaces, a VFIR (Very Fast IR) controller, a game port that supports two joysticks, a MIDI interface, and a 4 MB Flash-ROM interface.

Its integrated hardware monitor controller controls the speed of up to two fans, monitors two fan tachometers, and five universal analog inputs for measuring voltage or temperature. The VT1211 is ACPI ready with a hardware monitor engine built-in to monitor system health.

MAINBOARD SPECIFICATIONS

CPU	<p>VIA Nano 1.6 GHz NanoBGA2 processor with fansink</p> <ul style="list-style-type: none"> • NanoBGA2 package • 800 MHz Front Side Bus
Chipset	VIA VX800 Advanced All-in-One System Processor
Graphics	<p>S3 Chrome 435 ULP through PCIe x4 with GDDR3 256MB 32x32x2</p> <p>VIA Chrome9 HC integrated graphics with 3D/2D and unified video decoding accelerator</p> <p>Supports up to 4 displays</p> <p>Note: VB8003 default init display priority is S3G 435ULP (PCI-E) with DVI as default display output. To change init display priority to VX800 (onboard), please refer to BIOS menu page 80.</p>
System Memory	<p>Two DDR2 533/667 SODIMM slot</p> <ul style="list-style-type: none"> • Up to 4 GB memory size
Storage Expansion	<p>One UltraDMA 133/100/66/33 44-pin IDE connector</p> <p>Two SATA 3Gb/s connector</p> <p>One CF Type II</p>
Audio	VIA VT1708B High Definition Audio Codec
LAN	Two VIA VT6130 Gigabit Ethernet controller
Super I/O	VIA VT1211 LPC Super I/O
Onboard I/O Connectors	<p>One USB pin connector for two additional USB 2.0 ports</p> <ul style="list-style-type: none"> • supports VIA VT6656 WLAN module <p>One Serial port pin connector for COM2 (5V/12V)</p> <p>Two Serial ports reserved through video capture slot (5V/12V)</p> <ul style="list-style-type: none"> • add-on card required <p>One PS2 mouse/keyboard pin connector</p> <p>One DIO pin connector</p> <ul style="list-style-type: none"> • 4 GPI • 4 GPO <p>One LPC pin connector</p> <p>One FIR pin connector (IRDA 1.0)</p> <p>One SMBus connector</p> <p>One Front-panel pin connector</p> <p>One Front audio pin connector (MIC and Line-out)</p> <p>One SPDIF pin connector</p> <p>One Digital video input for CCIR-656/601/transport stream video</p> <p>One MFX pin connector</p> <p>One Backlight control connector (controls inverter power and panel brightness)</p> <p>One 24-bit 2-channel LVDS connector</p> <p>One fan pin connector for S3 Graphics 435 ULP fan</p> <p>Two fan pin connectors for CPU and System fans</p> <p>One system temperature reading connector</p> <p>One ATX power connector</p>

Back Panel I/O Ports	<p>One PS2 mouse port One PS2 keyboard port Two HDMI® ports One DVH (default display) connector Two RJ45 ports One serial port One VGA port Four USB 2.0 ports Two RCA jacks</p>
System Monitoring and Management	<p>Wake-On-LAN Keyboard Power-on Timer-Power-on CPU/System Voltage Monitoring System Temperature Monitoring Fan speed monitoring WatchDog Timer AC power failure recovery</p>
BIOS	<p>Award BIOS SPI 4/8Mbit LPC flash memory</p>
Operating System	<p>Windows XP, XPe and Linux</p>
Operating Temperature	<p>0°C up to 60°C</p>
Operating Humidity	<p>0% ~ 95% (relative humidity; non-condensing)</p>
Form Factor	<p>Mini-ITX 17cm x 17cm</p>



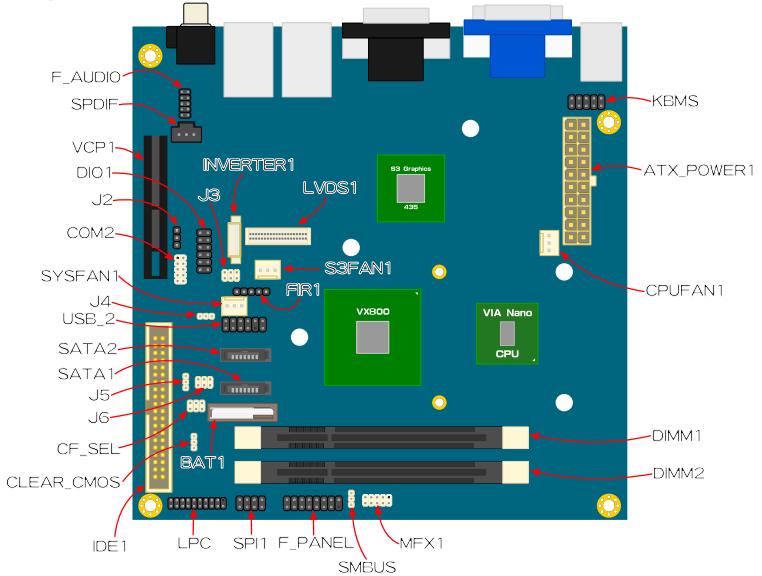
Note: System resources (such as BIOS, PCI, etc.) require physical memory address locations that reduce available memory addresses above 3 GB. This may result in less than 4 GB of memory being available to the operating system and applications.

With certain limitations, DVH (default display) can support DVH-D + CRT using a Y-cable

1. CRT will always show the same content with the primary display device from the S3G 435ULP.
2. CRT may not display correctly due to the timing limitation. Users may need to choose a specific CRT panel if this function is desired.

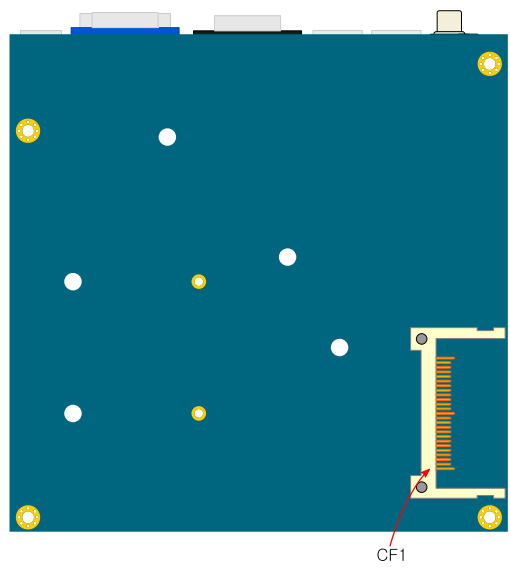
VB8003 LAYOUT

Top Side



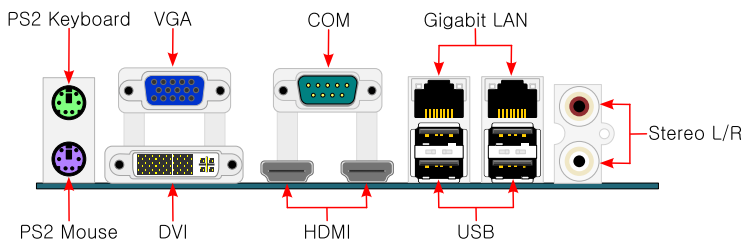
Symbol	Description	Symbol	Description
F_AUDIO	Front Audio pin header	LPC	Low Pin Count pin header
SPDIF	Sony/Philips Digital Interconnect Format	SPI1	SPI pin header
VCP1	Video Capture Port	F_PANEL	Front Panel pin header
DIO1	Digital I/O pin header	SMBUS	SMBus pin header
J2	COM2 5V/12V voltage selector	MFX1	MFX pin header
COM2	COM port pin header	KBMS	Keyboard and Mouse pin header
SYSFAN1	System Fan connector	ATX_POWER	ATX power connector
J4	System Thermal Resistor connector	CPUFAN1	CPU fan
USB_2	USB pin header	DIMM1	SODIMM slot 1
SATA1	SATA port 1	DIMM2	SODIMM slot 2
SATA2	SATA port 2	INVERTER1	LVDS Inverter connector
J5	IDE DOM power select	LVDS1	LVDS Panel connector
J6	SATA DOM power select	J3	Panel Power Select pin header
CF_SEL	CF voltage and master/slave select	S3FAN1	S3 Graphics Fan connector
CLEAR_CMOS	Clear CMOS	FIR1	Infrared pin header
IDE1	IDE connector	BAT1	CMOS Battery

Bottom Side



Symbol	Description
CF1	Compact Flash connector

VB8003 BACK PANEL LAYOUT



PS2 Keyboard

The purple 6-pin connector is for a PS/2 keyboard.

PS2 Mouse

The green 6-pin connector is for a PS/2 mouse.

VGA port

The blue 15-pin female VGA port allows you to connect any analog VGA monitor.

DVI port

The DVI-I connector allows you to connect to a DVI display.

COM port

The green 9-pin COM 1 port is for pointing devices or other serial devices.

HDMI[®] port

The mainboard has two High Definition Multimedia Interface (HDMI[®]) ports for connecting to high definition video and digital audio. The HDMI[®] port connector allows you to connect digital video devices which utilize a high definition video signal.



Note:
CEC feature is not supported.

Giga LAN port

The board provides one Gigabit Ethernet port controlled by a VIA VT6130 Gigabit Ethernet controller. This port allows connection to a Local Area Network (LAN) through a network hub.

USB port

The board provides four Universal Serial Bus (USB) ports on the back panel for connecting USB 2.0 devices.

Stereo Right/Left jack

The red and white RCA jacks are for stereo audio output. The red jack is the right channel and the white jack is the left channel.

2

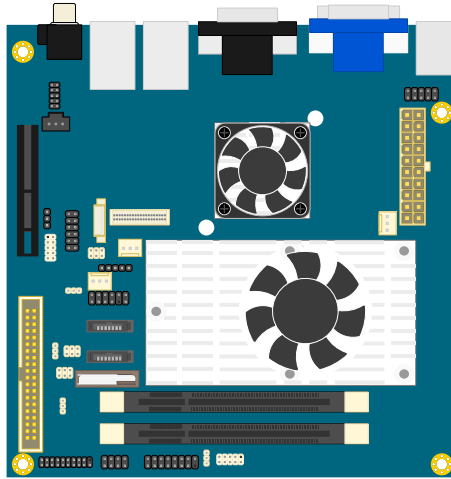
Onboard Connectors, Slots and Pin Headers

This chapter provides you with information about hardware installation procedures. It is recommended to use a grounded wrist strap before handling computer components. Electrostatic discharge (ESD) can damage some components.

TOP SIDE CONNECTORS

CPU

The VIA VB8003 Mini-ITX mainboard is packaged with a VIA Nano 1.6 GHz NanoBGA2. The processor requires a heatsink with fan to provide sufficient cooling.

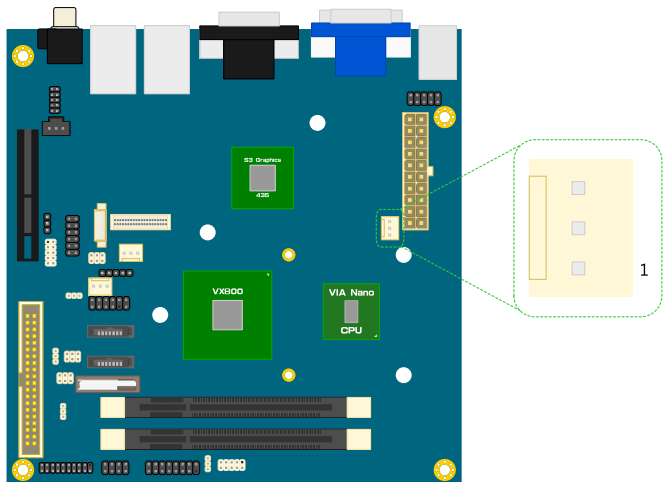


CPU and SYS Fan: CPUFAN1 and SYSFAN1

The CPUFAN (CPU fan) and SYSFAN (System fan) runs on +12V and maintains CPU and system, cooling. When connecting the cable to the connector, always be aware that the red wire (positive wire) should be connected to the +12V pin. The black wire is the ground wire and should always be connected to GND.

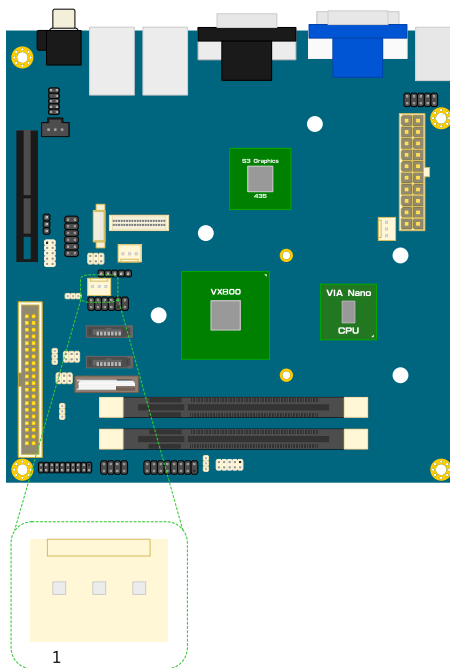
CPUFAN1

Pin	Signal
1	F_IO2
2	F_PWM2
3	GND



SYSFAN1

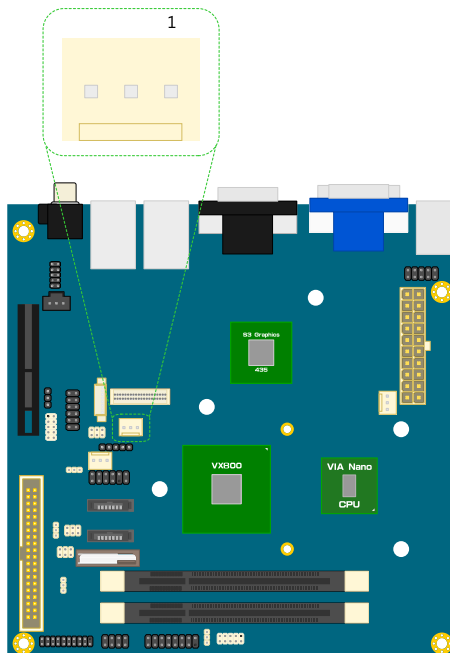
Pin	Signal
1	F_IO1
2	F_PWM1
3	GND



S3 Graphics Fan connector: S3FAN1

The S3FAN fan runs on +12V and maintains the cooling for the S3 Graphics chip. When connecting the cable to the connector, always be aware that the red wire (positive wire) should be connected to the +12V pin. The black wire is the ground wire and should always be connected to GND.

Pin	Signal
1	NC
2	+12V
3	GND

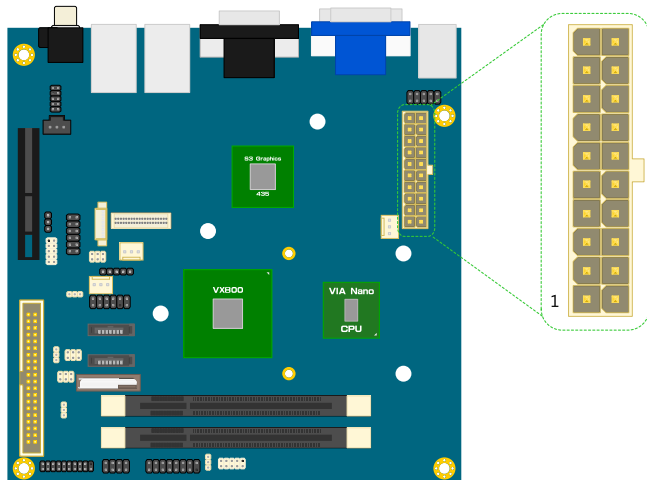


ATX 20-Pin Power connector: ATX_POWER1

The VIA VB8003 mainboard supports a conventional ATX power supply. Before inserting the power supply connector, always make sure that all components are installed correctly to ensure that no damage will be caused.

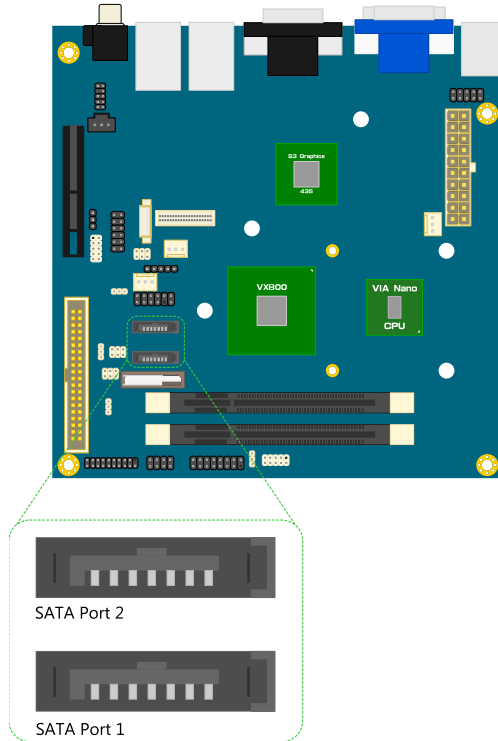
To connect the power supply, make sure the power plug is inserted in the proper orientation and the pins are aligned. Then push the plug down firmly into the connector.

Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	Power Supply On
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	Power Good	18	-5V
9	+5V Standby	19	+5V
10	+12V	20	+5V



Serial ATA connectors: SATA1 and SATA2

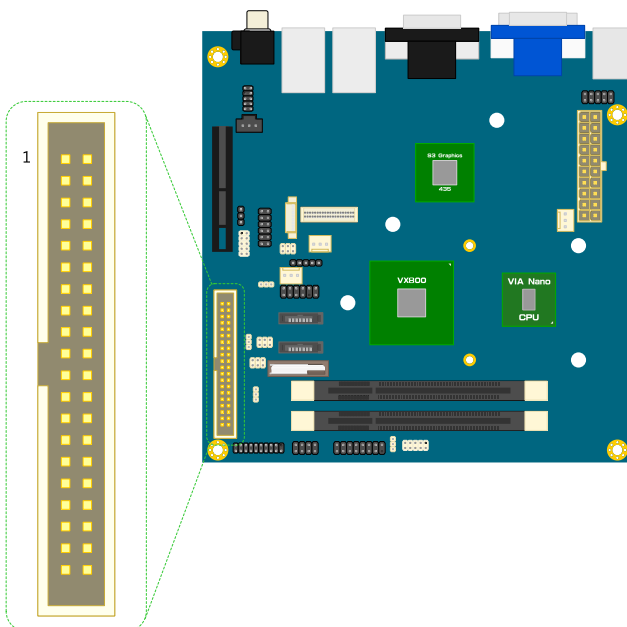
The current SATA interface allows a data transfer rate of up to 300 MB/s — approximately 225% faster than Ultra DMA parallel ATA.



IDE pin header: IDE1

The mainboard has an Ultra DMA 133/100 controller. You can connect up to two IDE devices in any combination.

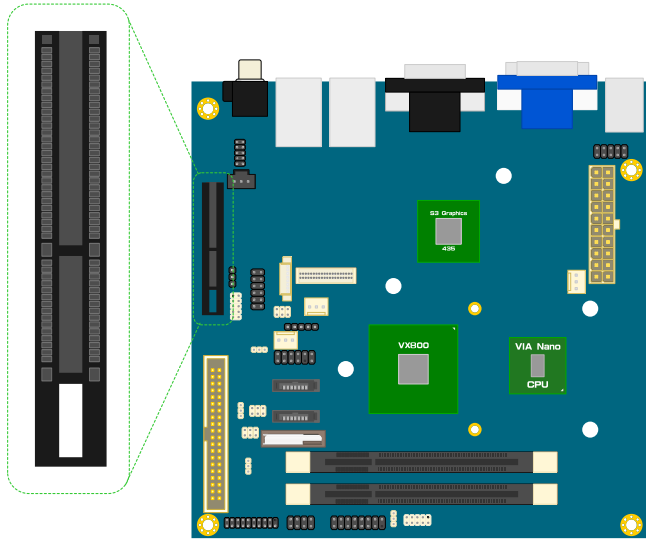
Pin	Signal	Pin	Signal
1	-IDE_RST	2	GND
3	PD_7	4	PD_8
5	PD_6	6	PD_9
7	PD_5	8	PD_10
9	PD_4	10	PD_11
11	PD_3	12	PD_12
13	PD_2	14	PD_13
15	PD_1	16	PD_14
17	PD_0	18	PD_15
19	GND	20	IDEV_SEL
21	PD_REO	22	GND
23	-PD_IOW	24	GND
25	-PD_IOR	26	GND
27	PD_RDY	28	GND
29	-PD_ACK	30	GND
31	PD_IRQ15	32	NC
33	PD_A1	34	-LID
35	PD_A0	36	PD_A2
37	-PD_CS1	38	-PD_CS3
39	+HD_LED1	40	GND



Video Capture Port: VCP1

The Video Capture Port (VCP) can support video capture or two additional COM ports with 5V/12V power select (additional add-on cards required).

Pin	Signal	Pin	Signal
A1	-PCIRST	B1	+5V
A2	+5V	B2	+5V
A3	+5V	B3	+5V
A4	GND	B4	GND
A5	NC	B5	DVP1_SPLCK
A6	+12V	B6	DVP1_SPD
A7	+12V	B7	GND
A8	NC	B8	+3.3V
A9	+3.3V	B9	NC
A10	+3.3V	B10	+3.3V
A11	VCP_INTA-	B11	NC
A12	GND	B12	VCP_CLK_DSR4
A13	VCP_D15_DTR4	B13	GND
A14	VCP_D14	B14	VCP_D13
A15	GND	B15	VCP_D12
A16	VCP_D11_R14	B16	GND
A17	VCP_D10_DCD4	B17	VCP_D9_SOUT4
A18	GND	B18	GND
A19	VCP_D8_SIN4	B19	VCP_D7_CTS3
A20	GND	B20	VCP_D6_RTS3
A21	VCP_D5_DSR3	B21	GND
A22	VCP_D4_DTR3	B22	GND
A23	GND	B23	VCP_D3_SIN3
A24	GND	B24	VCP_D2_SOUT3
A25	VCP_D1_DCD3	B25	GND
A26	VCP_D0_R13	B26	GND
A27	GND	B27	VCP_VS_RTS4
A28	GND	B28	VCP_HS_CTS4
A29	AGND	B28	GND
A30	LINE_IN_R	B30	DVP1_DET
A31	GND	B31	NC
A32	LINE_IN_L	B32	GND



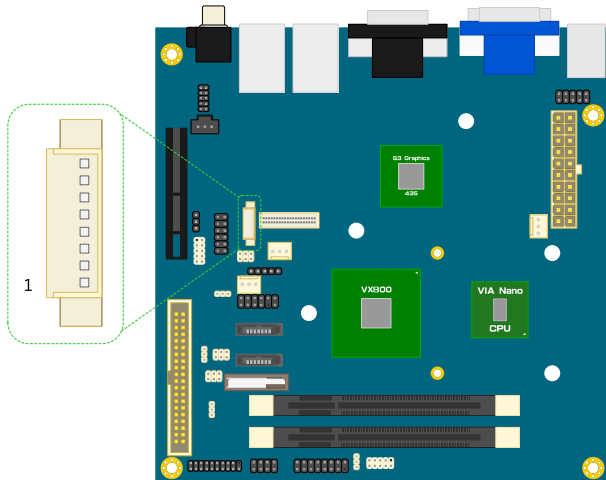
Note:

The Video Capture Port (VCP) slot is not a standard PCI Express slot. Users will not be able to insert general PCI Express add-on card.

LVDS INVERTER connector: INVERTER1

The mainboard provides an inverter for supplying power to the backlight of the LCD panel.

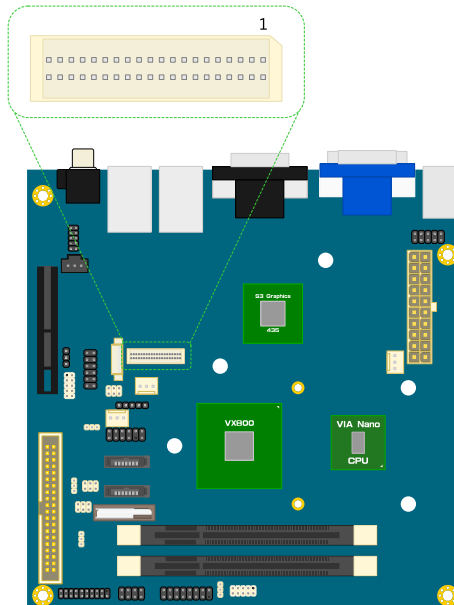
Pin	Signal
1	IVDD1_CEN
2	IVDD1_CEN
3	BLON1
4	NC
5	BLON1
6	BRIGHTNESS1_CTL
7	GND
8	GND



LVDS Panel connector: LVDS1

The LVDS Panel connector allows you to connect the panel's LVDS cable directly to support LVDS panel without any need of a daughter card.

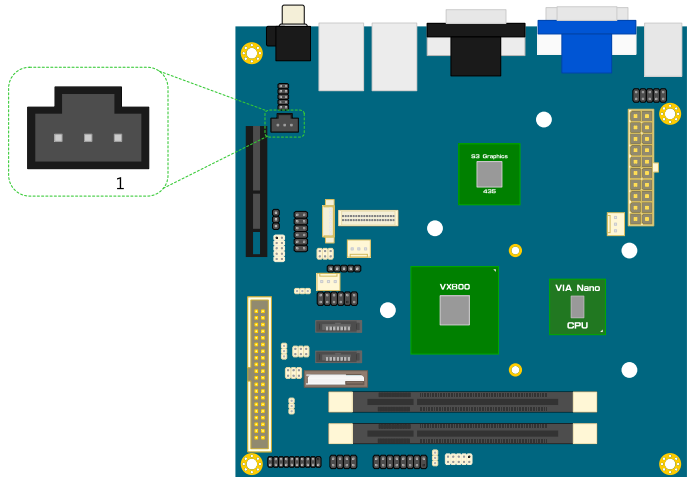
Pin	Signal	Pin	Signal
1	PVDD2	2	PVDD1
3	PVDD2	4	PVDD1
5	PVDD2	6	PVDD1
7	GND	8	GND
9	-LD2C0	10	-LD1C0
11	+LD2C0	12	+LD1C0
13	GND	14	GND
15	-LD2C1	16	-LD1C1
17	+LD2C1	18	+LD1C1
19	GND	20	GND
21	-LD2C2	22	-LD1C2
23	+LD2C2	24	+LD1C2
25	GND	26	GND
27	-LCLK2	28	-LCLK1
29	+LCLK2	30	+LCLK1
31	GND	32	GND
33	-LD2C3	34	-LD1C3
35	+LD2C3	36	+LD1C3
37	DVP1_SPCLK	38	NC
39	DVP1_SPD	40	NC



SPDIF OUT connector: SPDIF

This connector is for connecting the Sony Philips Digital Interface (SPDIF) bracket. The SPDIF output provides digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. The feature is available only with stereo system that has digital output function.

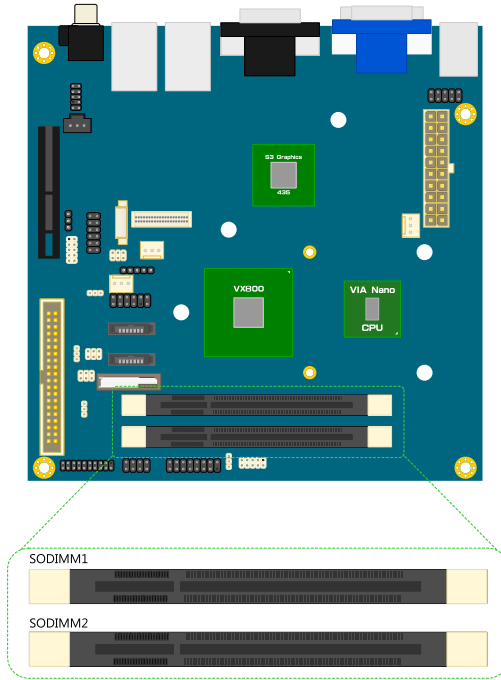
Pin	Signal
1	+5V
2	SPDIF_OUT
3	GND



Memory Module Installation

Memory Slot: SODIMM1 and SODIMM2

The VIA VB8003 Mini-ITX mainboard has two 200-pin SODIMM slots for DDR2 667/533 SODIMM SDRAM memory modules and supports memory sizes up to 4 GB.



Available DDR2 SDRAM Configuration

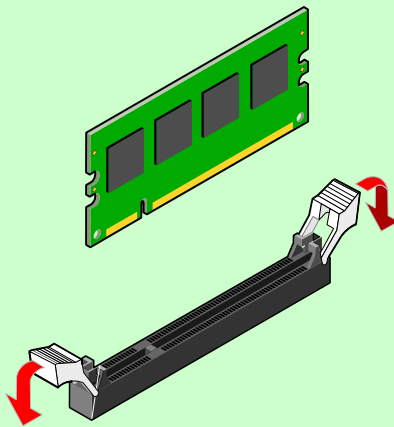
Refer to the table below for available DDR2 SDRAM configurations on the mainboard.

Slot	Module Size	Total
SODIMM1	64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB	64 MB - 2 GB
SODIMM2	64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB	64 MB - 2 GB
Maximum supported system memory		4 GB

Installing the memory

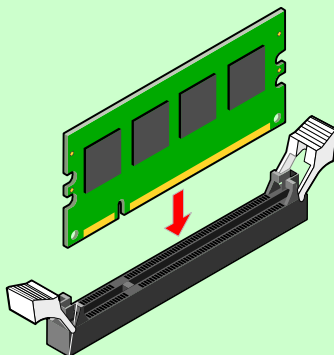
Step 1

Locate the memory SODIMM slots and push the locking mechanism on the memory slot outward.



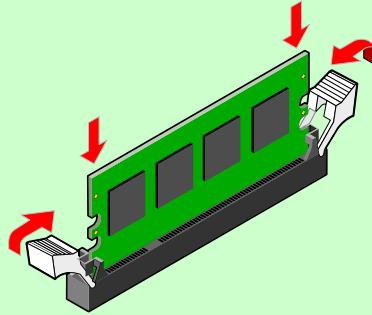
Step 2

Then align the memory module with the memory slots.



Step 3

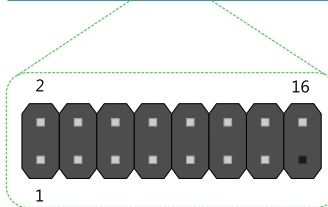
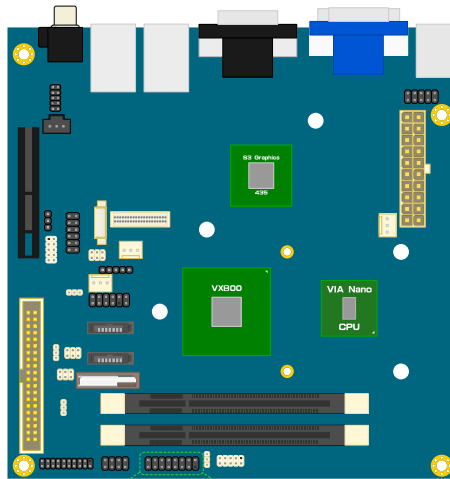
Insert the memory module into the slot and push down until it snaps into the locking mechanism.



Front Panel pin header: F_PANEL

The F_PANEL pin header connector allows you to connect the power switch, reset switch, power LED, sleep LED, HDD LED, and case speaker.

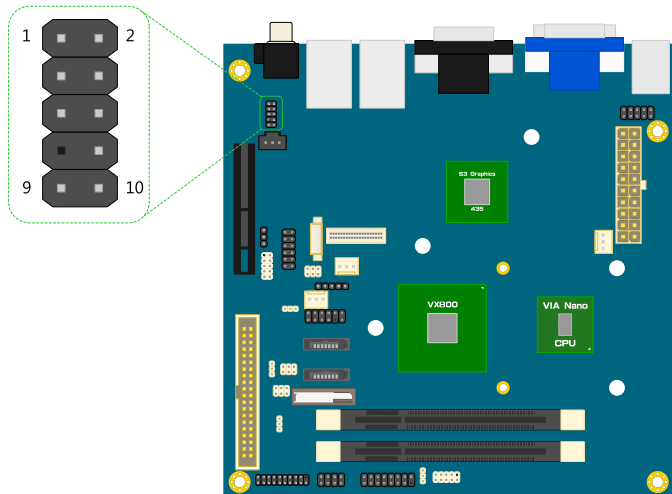
Pin	Signal	Pin	Signal
1	+5V DUAL	2	+5V
3	+5V DUAL	4	HD_LED
5	-PLED2	6	PW_BN-
7	+5V	8	GND
9	NC	10	RST_SW
11	NC	12	GND
13	SPEAK	14	+5V
15	Key	16	-SLEEP_LED



Front Audio pin header: F_AUDIO

This pin header is for the front panel audio cable that allows a convenient connection to one Line-out and Mic-in.

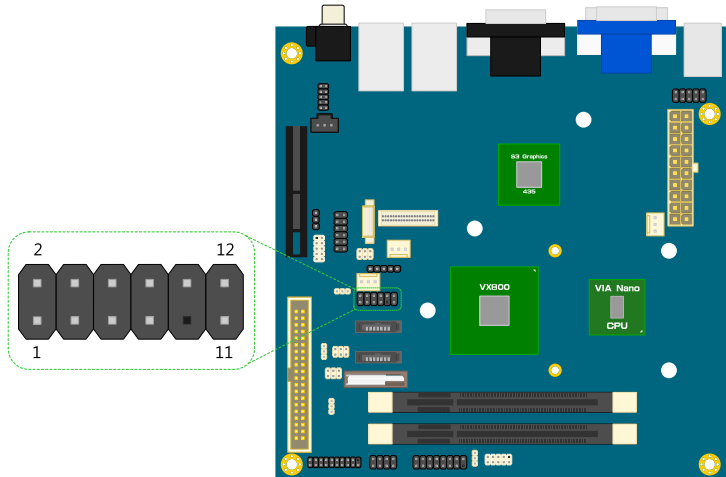
Pin	Signal	Pin	Signal
1	HPO-R	2	HPO-L
3	NC	4	NC
5	MIC2-R	6	MIC2-L
7	Key	8	NC
9	AGND	10	AGND



USB pin header: USB_2

The mainboard provides one 12-pin USB pin header allowing up to two additional USB 2.0 ports. These ports can be used to connect high-speed USB interface peripherals such as USB HDD, digital cameras, MP3 players, printers and modem.

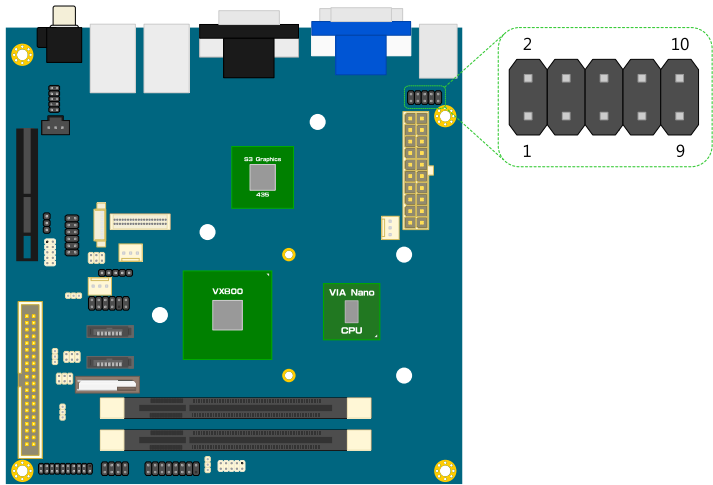
Pin	Signal	Pin	Signal
1	VUSB0	2	VUSB0
3	USBD_T0-	4	USBD_T1-
5	USBD_T0+	6	USBD_T1+
7	GND	8	GND
9	Key	10	NC
11	NC	12	-RF_ON



KBMS/CIR pin header: KBMS

The mainboard provides a CIR (Consumer Infrared Module) pin header. It is also convertible to a KBMS pin header which is for attaching a PS2 keyboard and mouse.

Pin	Signal	Pin	Signal
1	+5VDUAL	2	GND
3	KB_CLK	4	KB_DATA
5	EKBCLK	6	EKBDATA
7	MS_CLK	8	MS_DATA
9	EMSCLK	10	EMSDATA



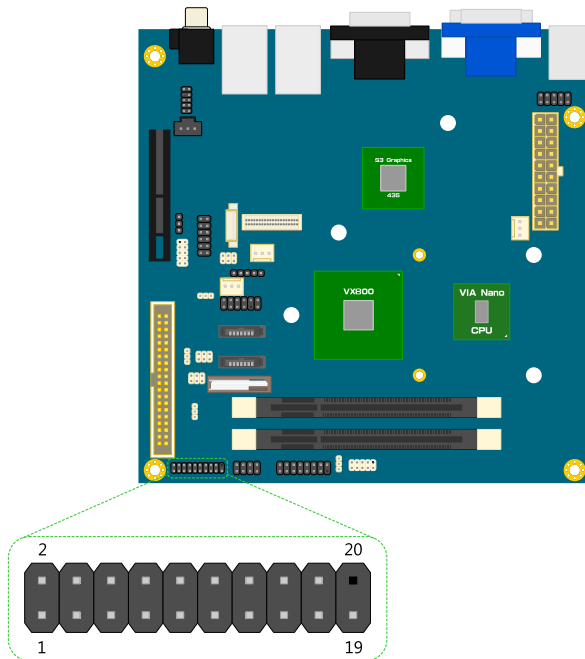
Note:

When the pin header is not in use, short pins 3 and 5, 4 and 6, 7 and 9, and 8 and 10.

Low Pin Count pin header: LPC

This pin header connector is for LPC devices.

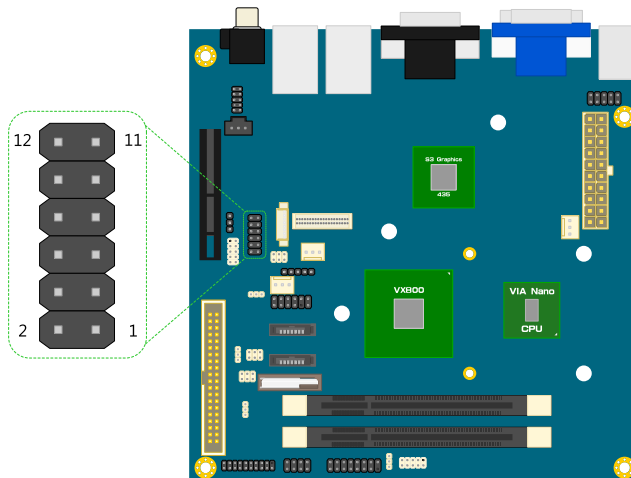
Pin	Signal	Pin	Signal
1	LPC_AD1	2	LPC_33_CLK
3	-PCL_RST-1	4	GND
5	LPC_AD0	6	LPC_48_CLK
7	LPC_AD2	8	-LPC_FRAME
9	SERIRQ	10	LPC_AD3
11	-LPC_DRQ1	12	-EXTSMI
13	+5V	14	+3.3V
15	+5V	16	+3.3V
17	GND	18	GND
19	GND	20	Key



Digital I/O pin header: DIO1

General purpose digital input and output.

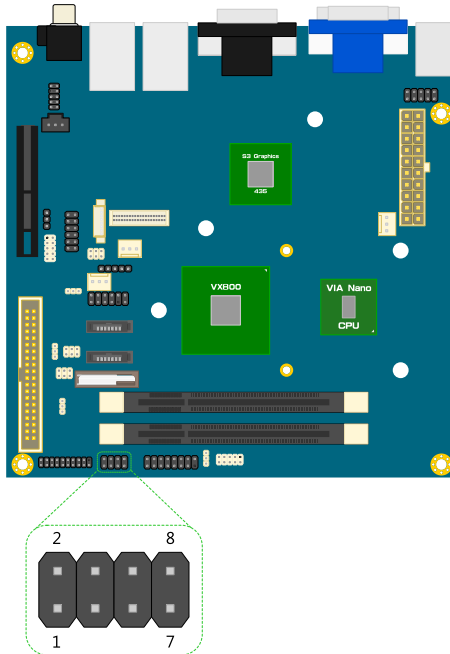
Pin	Signal	Pin	Signal
1	+5V	2	+12V
3	GPO_30	4	GPI_34
5	GPO_31	6	GPI_35
7	GPO_32	8	GPI_36
9	GPO_33	10	GPI_37
11	GND	12	GND



SPI pin header: SPI1

The SPI (Serial Peripheral Interface) pin header is used to connect the mainboard to a SPI BIOS programming fixture.

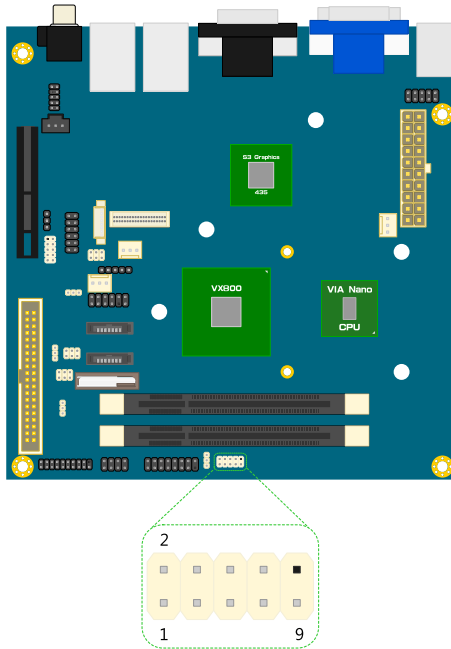
Pin	Signal	Pin	Signal
1	SPI_VCC	2	GND
3	SPI_SS0	4	SPI_CLK
5	SPI_DI	6	SPI_DO
7	NC	8	RST_SW



MFx pin header: MFx1

This pin connector is for MFx add-on cards. This pin header also allows you to connect SMBus (System Management Bus) devices (using pins 4, 6, and 8). Such devices communicate with a SMBus host and/or other SMBus devices using the SMBus interface.

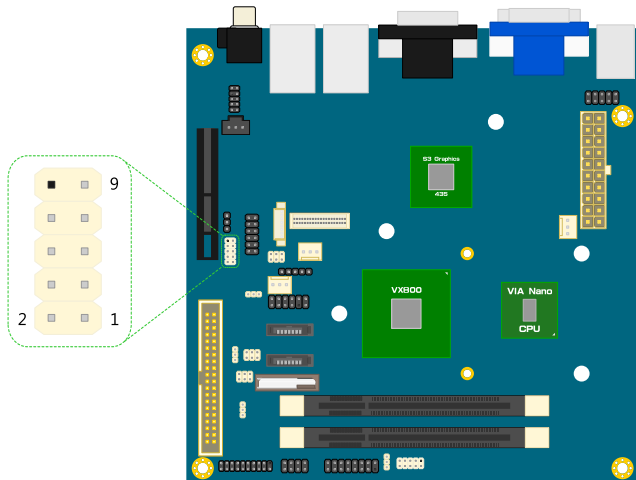
Pin	Signal	Pin	Signal
1	+5V	2	+5VSUS
3	PW_BN	4	SMB_CLK
5	NC	6	SMB_DAT
7	NC	8	GND
9	GND	10	Key



COM pin header: COM2

The COM pin header can be used to attach an additional port for serial devices.

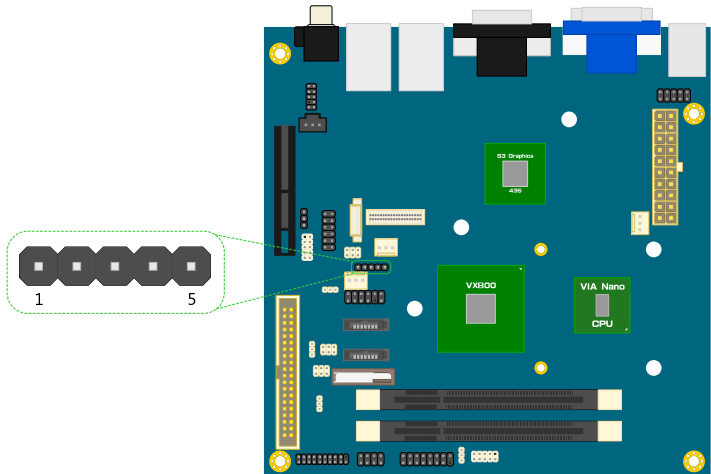
Pin	Signal	Pin	Signal
1	-DCD	2	SIN
3	SOUT	4	-DTR
5	GND	6	-DSR
7	-RTS	8	-CTS
9	RI	10	Key



FIR pin header: FIR 1

This FIR (Fast IrDA Infrared) pin header is used to connect an IrDA module. The BIOS settings must be configured to activate the IR function.

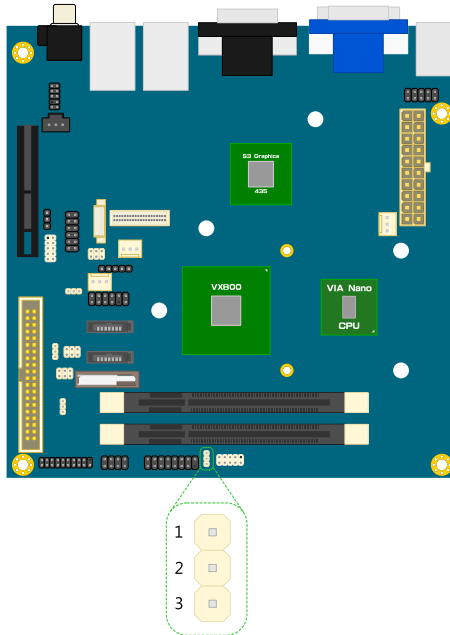
Pin	Signal
1	+5V
2	IRRX I
3	IRRX
4	GND
5	IRTX



SMBus pin header: SMBus

This pin header allows you to connect SMBus (System Management Bus) devices. Devices communicate with a SMBus host/or other SMBus device using the SMBus interface.

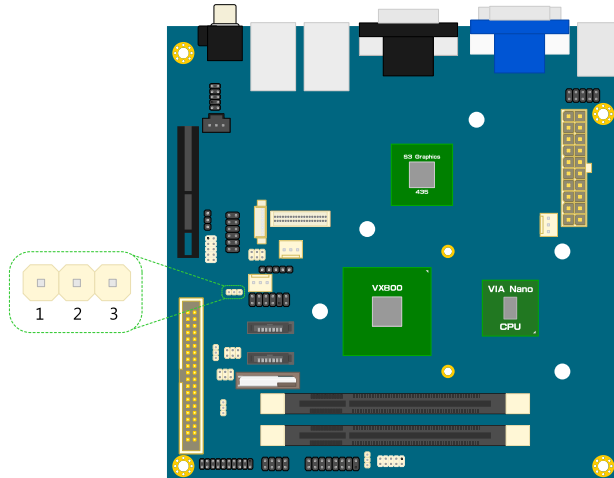
Pin	Signal
1	SMBCK
2	SMBDT
3	GND



System Thermal Resister: J4

This pin header allows you to connect the system temperature reading device.

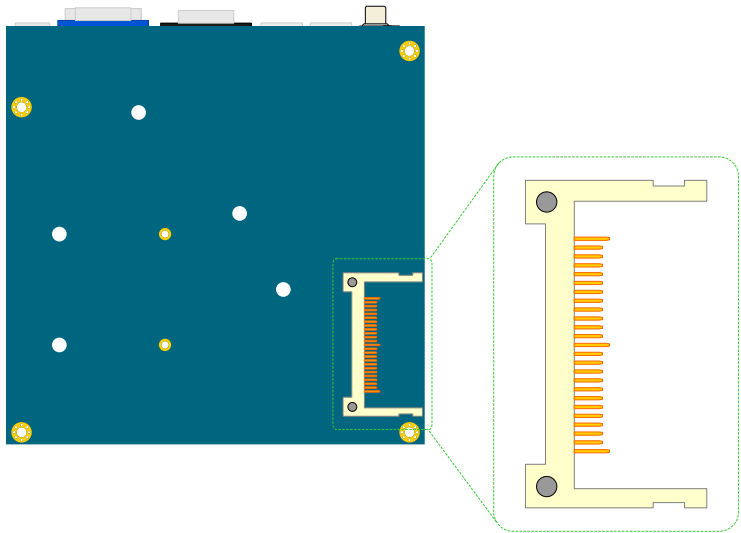
Pin	Signal
1	SIO_UIC2
2	SIO_UIC2
3	GND



BOTTOM SIDE CONNECTOR

CompactFlash connector CF1:

This CF connector allows you to connect to a passive 50-pin Type II adapter.







3

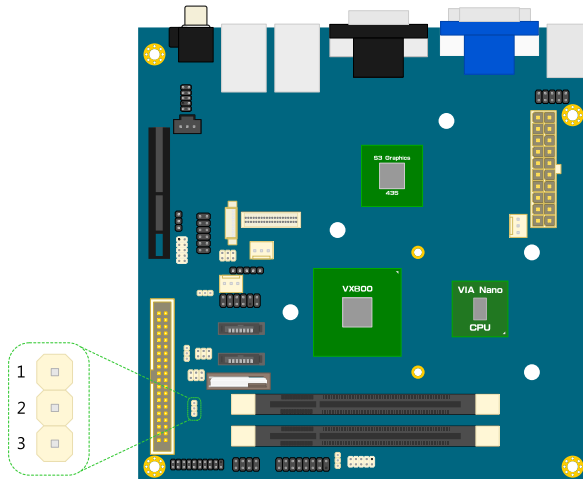
Onboard Jumpers

The mainboard provides jumpers for setting some mainboard functions. This section will explain how to change the settings of the mainboard functions using the jumpers.

Clear CMOS: CLEAR_CMOS

The onboard CMOS RAM stores system configuration data and has an onboard battery power supply. To reset the CMOS settings, set the jumper on pins 2 and 3 while the system is off. Return the jumper to pins 1 and 2 afterwards. Setting the jumper while the system is on will damage the mainboard. The default setting is on pins 1 and 2.

Setting	Normal			Clear		
	1	2	3	1	2	3
Normal Operation (default)	On	On	Off			
Clear CMOS	Off	On	On			



Caution:

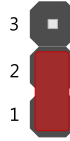
Except when clearing the RTC RAM, never remove the cap from the default position of the CLEAR_CMOS jumper. Removing the cap will cause system boot failure. Avoid clearing the CMOS while the system is on; it will damage the mainboard.

COM2 5V/12V Select: J2

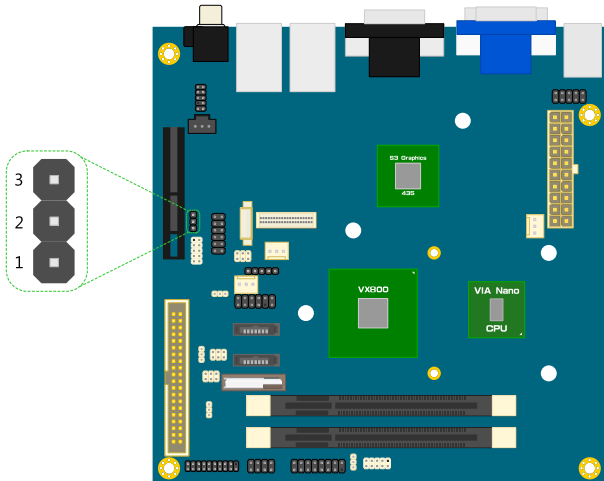
J2 is a VCC selector for determining the input voltage for COM2. For +5V set the jumper on pins 1 and 2, and for +12V set the jumpers on pins 2 and 3.

Setting	1	2	3
+5V	On	On	Off
+12V	Off	On	On

+5V



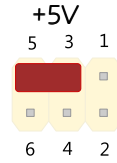
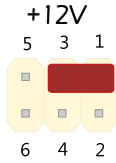
+12V



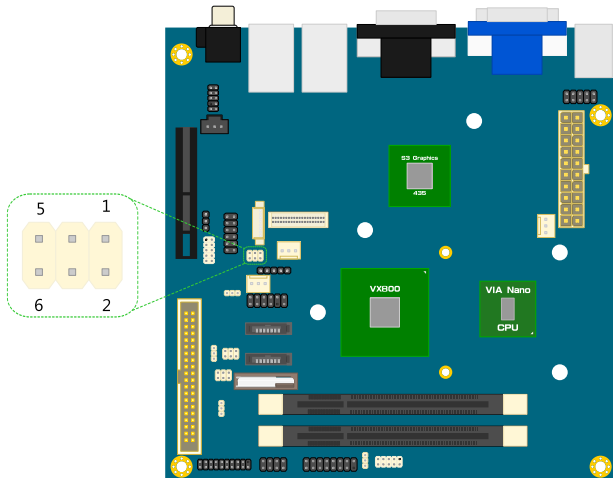
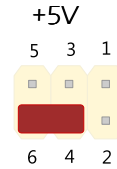
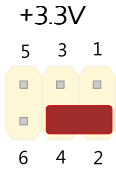
Power Select for LVDS Inverter and Panel Power: J3

J3 is the power selector for determining the LVDS inverter and LVDS panel power.

Inverter Power Setting	1	2	3	4	5	6
+12V (default)	On	Off	On	Off	Off	Off
+5V	Off	Off	On	Off	On	Off







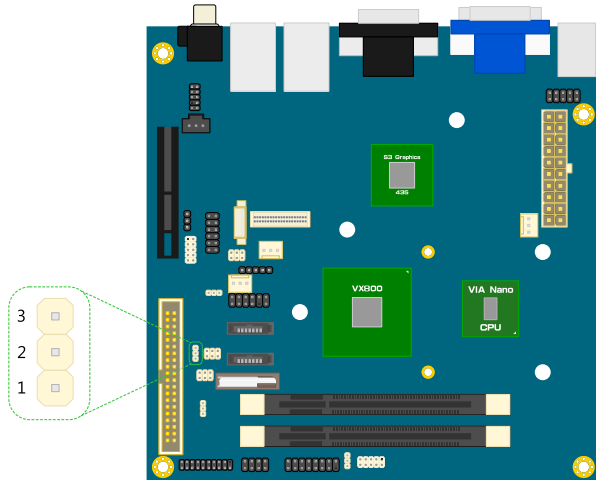
Panel Power Setting	1	2	3	4	5	6
+3.3V (default)	Off	On	Off	On	Off	Off
+5V	Off	Off	Off	On	Off	On



IDE DOM Power Select: J5

J5 is the voltage selector for determining the IDE DOM signal voltage.

Setting	1	2	3	+3.3V	+5V
+3.3V	On	On	Off		
+5V	Off	On	On		



Note:

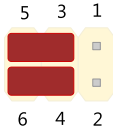
Make sure there is no jumper cap on this pin header when connecting to IDE HDD.

SATA DOM Power Select: J6

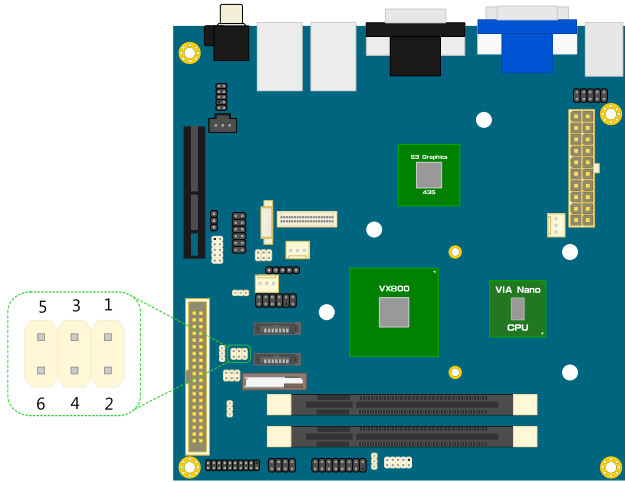
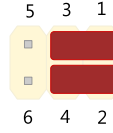
J6 is the voltage selector for determining the SATA DOM signal voltage.

Setting	1	2	3	4	5	6
Default	Off	Off	On	On	On	On
SATA DOM power	On	On	On	On	Off	Off

Default



SATA DOM Power



Note:

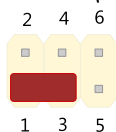
Make sure the jumper cap is on its default position when connecting to SATA HDD.

CF Voltage and Master/Slave Select: CF_SEL

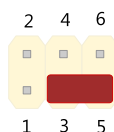
This jumper determines the working state of the CF connector.

CF Voltage Setting	1	2	3	4	5	6
+3.3V (default)	On	Off	On	Off	Off	Off
+5V	Off	Off	On	Off	On	Off

+3.3V (default)

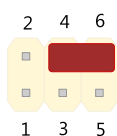


+5V

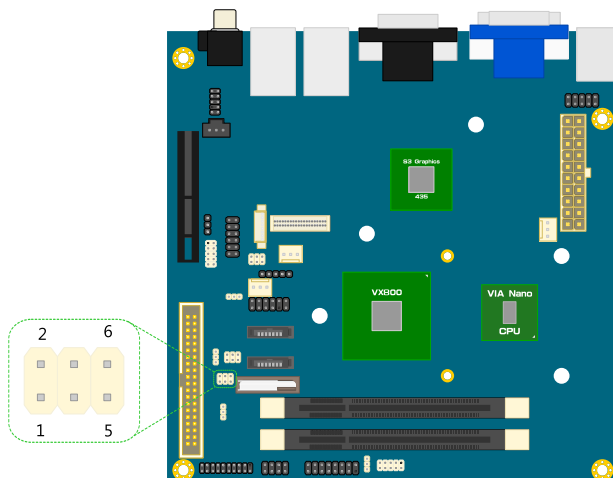
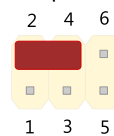


Master/Slave Setting	1	2	3	4	5	6
Master	Off	Off	Off	On	Off	On
Slave (default)	Off	On	Off	On	Off	Off

Master



Slave (default)



4

BIOS Setup

This chapter gives a detailed explanation of the BIOS setup functions.

ENTERING THE BIOS SETUP MENU

Power on the computer and press <Delete> during the beginning of the boot sequence to enter the BIOS setup menu. If you missed the BIOS setup entry point, restart the system and try again.

CONTROL KEYS

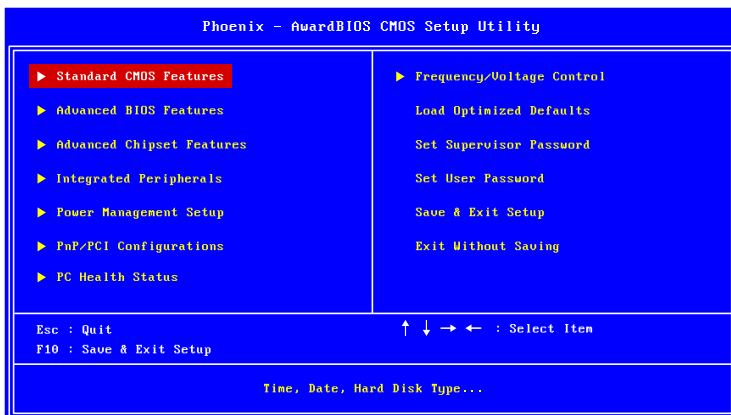
Keys	Description
Up	Move to the previous item
Down	Move to the next item
Left	Move to the previous tab
Right	Move to the next tab
Enter	Select the item
Esc	Jumps to the Exit menu or returns to the main menu from a submenu
Page Up	Increase the numeric value or make changes
Page Down	Decrease the numeric value or make changes
+ (number pad)	Increase the numeric value
- (number pad)	Decrease the numeric value
F1	General help, only for Status Page Setup Menu and Option Page Setup Menu
F5	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6	Load the default CMOS value from Fail-Safe default table, only for Option Page Setup Menu
F7	Load Optimized defaults
F10	Save all the changes and exit

GETTING HELP

The BIOS setup program provides a “**General Help**” screen. You can display this screen from any menu/sub-menu by pressing <**F1**>. The help screen displays the keys for using and navigating the BIOS setup. Press <**Esc**> to exit the help screen.

MAIN MENU

The Main Menu contains twelve setup functions and two exit choices. Use arrow keys to select the items and press <Enter> to accept or enter Sub-menu.



Standard CMOS Features

Use this menu to set basic system configurations.

Advanced BIOS Features

Use this menu to set the advanced features available on your system.

Advanced Chipset Features

Use this menu to set chipset specific features and optimize system performance.

Integrated Peripherals

Use this menu to set onboard peripherals features.

Power Management Setup

Use this menu to set onboard power management functions.

PnP/PCI Configurations

Use this menu to set the PnP and PCI configurations.

PC Health Status

This menu shows the PC health status.

Frequency/Voltage Control

Use this menu to set the system frequency and voltage control.

Load Optimized Defaults

Use this menu option to load BIOS default settings for optimal and high performance system operations.

Set Supervisor Password

Use this menu option to set the BIOS supervisor password.

Set User Password

Use this menu option to set the BIOS user password.

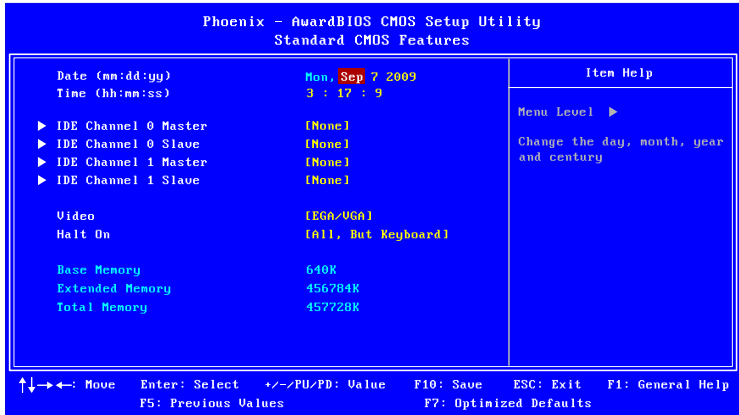
Save & Exit Setup

Save BIOS setting changes and exit setup.

Exit Without Saving

Discard all BIOS setting changes and exit setup.

STANDARD CMOS FEATURES



Date

The date format is [Day, Month Date, Year]

Time

The time format is [Hour : Minute : Second]

Video

Settings: [EGA/VGA, CGA 40, CGA 80, MONO]

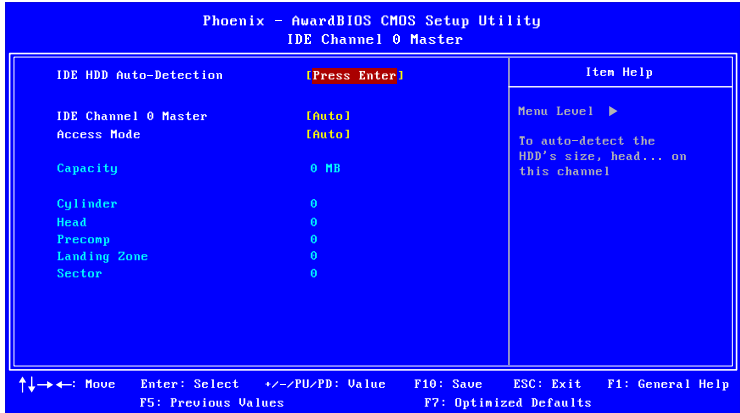
Halt On

Set the system's response to specific boot errors. Below is a table that details the possible settings.

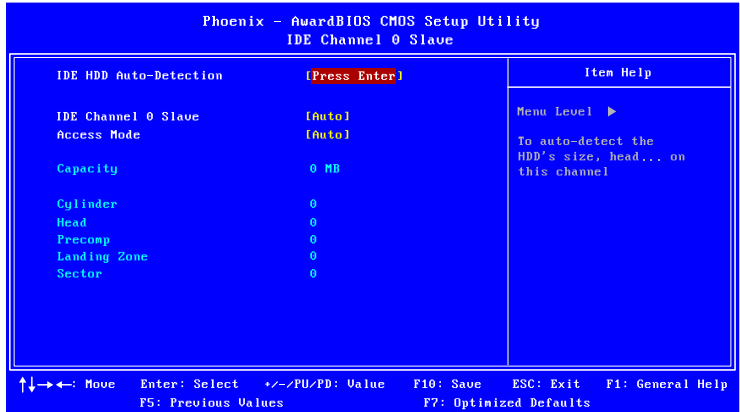
Settings	Description
All Errors	System halts when any error is detected
No Errors	System does not halt for any error
All, But Keyboards	System halts for all non-errors

IDE DRIVES

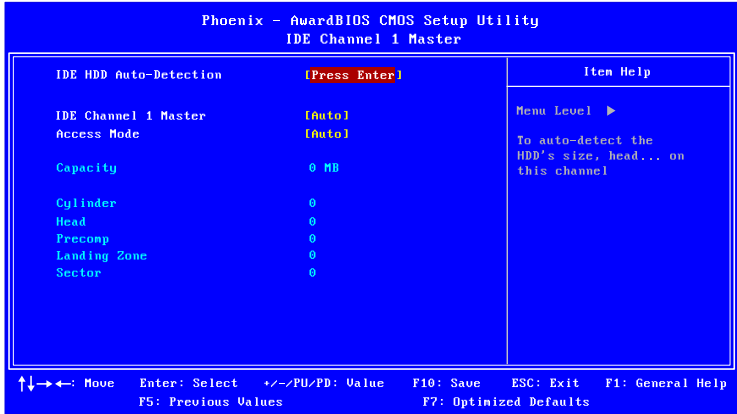
IDE Channel 0 Master



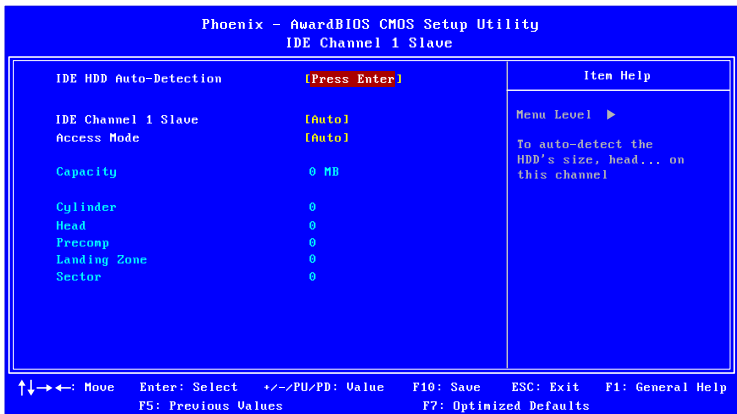
IDE Channel 0 Slave



IDE Channel 1 Master



IDE Channel 1 Slave

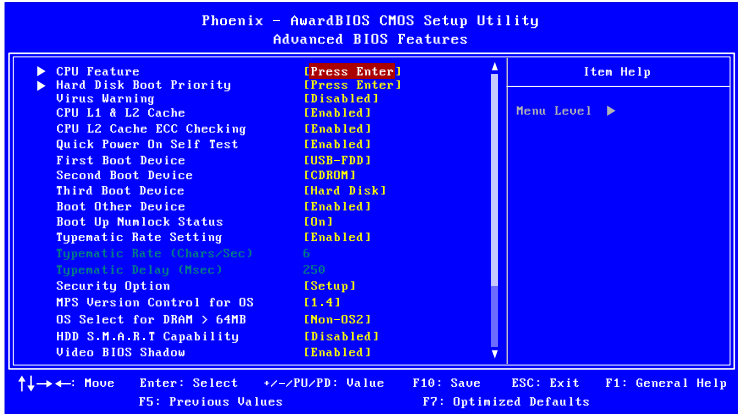


The specifications of your drive must match with the drive table. The hard disk will not work properly if you enter incorrect information in this category. Select **“Auto”** whenever possible. If you select **“Manual”**, make sure the information is from your hard disk vendor or system manufacturer.

Below is a table that details required hard drive information when using the “Manual” mode.

Settings	Description
IDE Channel	The name of this match the name of the menu. Settings: [None, Auto, Manual]
Access Mode	Settings: [CHS, LBA, Large, Auto]
Capacity	Formatted size of the storage device
Cylinder	Number of cylinders
Head	Number of heads
Precomp	Write precompensation
Landing Zone	Cylinder location of the landing zone
Sector	Number of sectors

ADVANCED BIOS FEATURES



Virus Warning

Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection.

Settings	Description
Enabled	Turns on hard disk boot sector virus protection
Disabled	Turns off hard disk boot sector virus protection



Note:

If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on the screen and alarm beep.

CPU L1 & L2 Cache

Settings	Description
Enabled	Turns on CPU L1 & L2 cache
Disabled	Turns off CPU L1 & L2 cache

CPU L2 Cache ECC Checking

Settings: [Enabled, Disabled]

Quick Power On Self-Test

Shortens Power On Self-Test (POST) cycle to enable shorter boot up time.

Settings	Description
Disabled	Standard Power On Self Test (POST)
Enabled	Shorten Power On Self Test (POST) cycle and boot up time

First/Second/Third Boot Device

Set the boot device sequence as BIOS attempts to load the disk operating system.

Settings	Description
LS120	Boot from LS-120 drive
Hard Disk	Boot from the HDD
CDROM	Boot from CDROM
ZIP100	Boot from ATAPI ZIP drive
USB-FDD	Boot from USB Floppy drive
USB-ZIP	Boot from USB ZIP drive
USB-CDROM	Boot from USB CDROM
Legacy LAN	Boot from network drive
Disabled	Disable the boot device sequence

Boot Other Device

Enables the system to boot from alternate devices if the system fails to boot from the “First/Second/Third Boot Device” lists.

Settings	Description
Disabled	No alternate boot device allowed
Enabled	Enable alternate boot device

Boot Up NumLock Status

Set the NumLock status when the system is powered on.

Settings	Description
Off	Forces keypad to behave as arrow keys
On	Forces keypad to behave as 10-key

Typematic Rate Setting

Enables “Typematic Rate” and “Typematic Delay” functions.

Settings: [Disabled, Enabled]

Typematic Rate (Chars/Sec)

This item sets the rate (characters/second) at which the system retrieves a signal from a depressed key.

Settings: [6, 8, 10, 12, 15, 20, 24, 30]

Typematic Delay (Msec)

This item sets the delay between, when the key was first pressed and when the system begins to repeat the signal from the depressed key.

Settings: [250, 500, 750, 1000]

Security Option

Selects whether the password is required every time the System boots, or only when you enter Setup.

Settings	Description
Setup	Password prompt appears only when end users try to run BIOS Setup
System	Password prompt appears every time when the computer is powered on and when end users try to run BIOS Setup

MPS Version Control for OS

Settings: [1.1, 1.4]

OS Select for DRAM > 64MB

Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on the system.

Settings: [Non-OS2, OS2]

HDD S.M.A.R.T. Capability

Settings: [Disabled, Enabled]

Video BIOS Shadow

Enabled copies Video BIOS to shadow RAM Improves performance.

Settings: [Disabled, Enabled]

Full Screen Logo Show

Show full screen logo during BIOS boot up process.

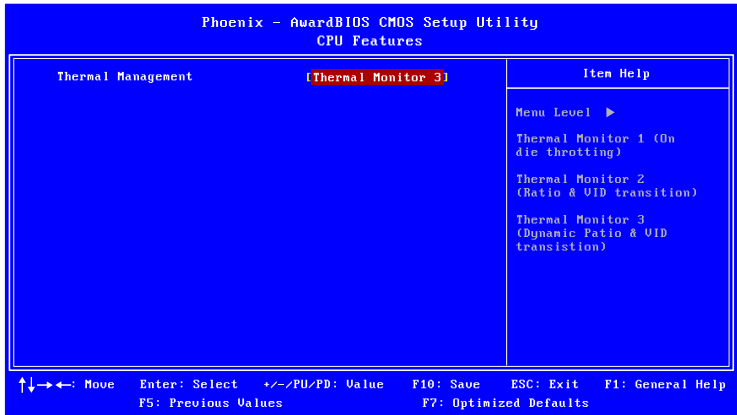
Settings: [Disabled, Enabled]

Summary Screen Show

Show summary screen.

Settings: [Disabled, Enabled]

CPU FEATURES

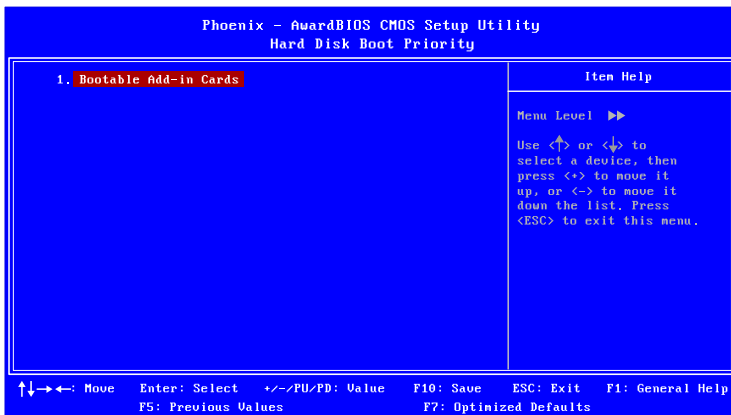


Thermal Management

This item sets the CPU's thermal control rule to protect the CPU from overheating.

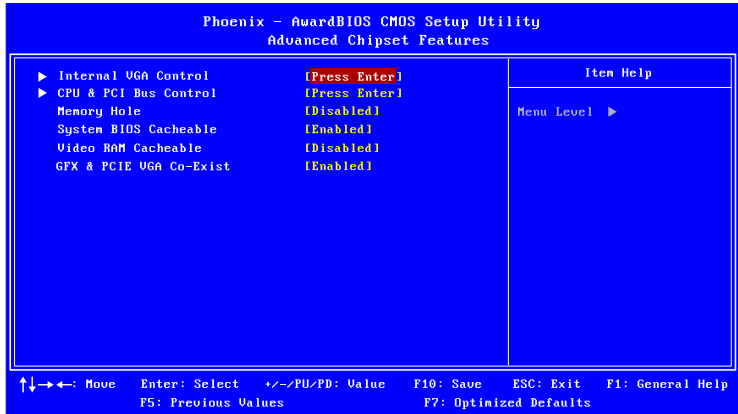
Settings	Description
Thermal Monitor 1	On-die throttling
Thermal Monitor 2	Ratio & VID transition
Thermal Monitor 3	Dynamic Ratio & VID transition
Disabled	Disable the thermal monitor

HARD DISK BOOT PRIORITY



This is for setting the priority of the hard disk boot order when the “Hard Disk” option is selected in the “[First/Second/Third] Boot Device” menu item.

ADVANCED CHIPSET FEATURES



Caution:

The Advanced Chipset Features menu is used for optimizing the chipset functions. Do not change these settings unless you are familiar with the chipset.

Memory Hole

Settings: [Disabled, 15M – 16M]

System BIOS Cacheable

Settings: [Disabled, Enabled]

Video RAM Cacheable

Settings: [Disabled, Enabled]

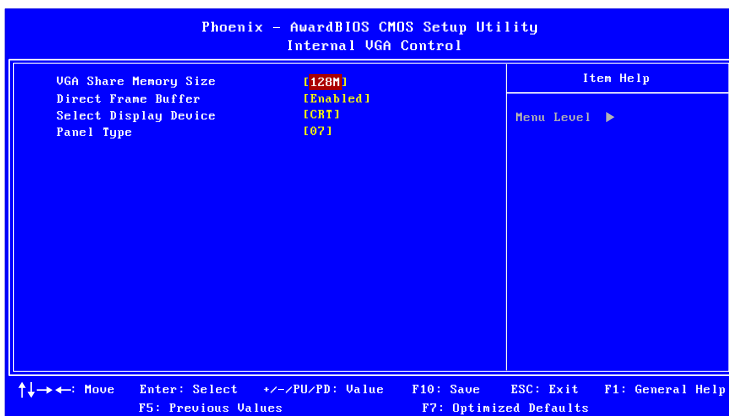
GFX & PCIE VGA Co-Exist

This item allows you to support four displays.

Settings: [Enabled, Disabled]

GFX & PCIE VGA Co-exist item must be enabled to support 4 display outputs on VB8003.

INTERNAL VGA CONTROL



VGA Share Memory Size

This setting allows you to select the amount of system memory that is allocated to the integrated graphics processor.

Settings: [Disabled, 64M, 128M, 256M]

Direct Frame Buffer

Settings: [Disabled, Enabled]

Select Display Device

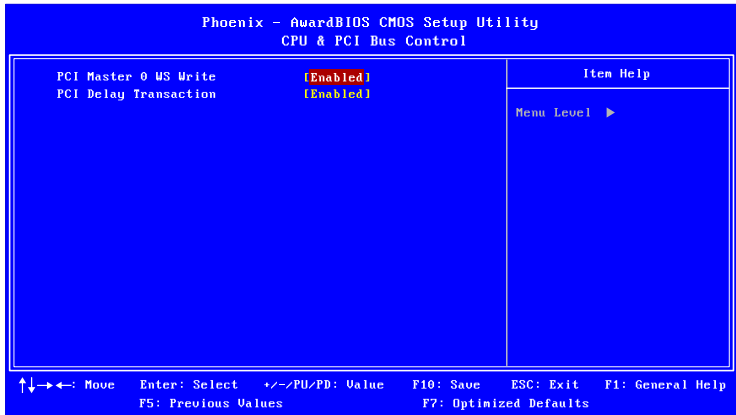
Settings: [CRT, HDMI, LCD, CRT+HDMI, CRT+LCD]

Panel Type

Settings: [Min = 0000, Max = 000F]

Key in a DEC number

CPU & PCI BUS CONTROL



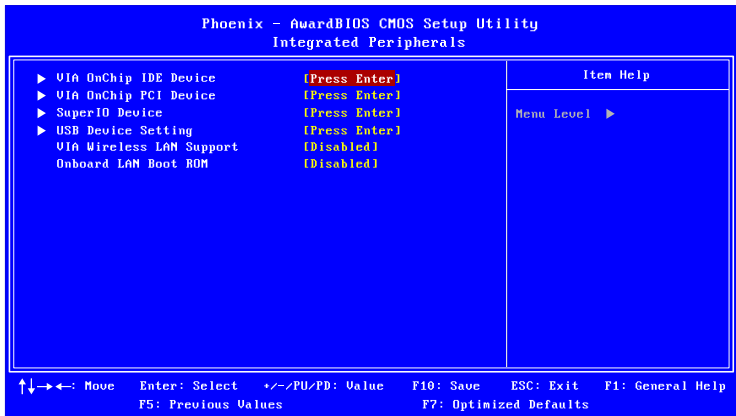
PCI Master 0 WS Write

Settings: [Enabled, Disabled]

PCI Delay Transaction

Settings: [Disabled, Enabled]

INTEGRATED PERIPHERALS



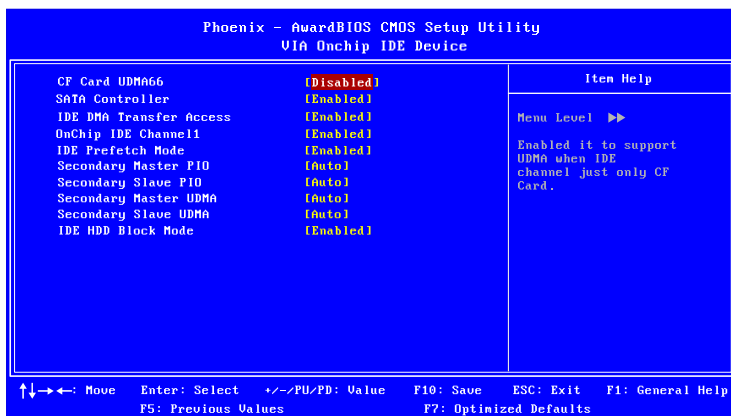
VIA Wireless LAN Support

Settings: [Enabled, Disabled]

Onboard LAN Boot ROM

Settings: [Enabled, Disabled]

VIA ONCHIP IDE DEVICE



CF Card ATA66

Settings: [Disabled, Enabled]

SATA Controller

Settings: [Disabled, Enabled]

IDE DMA Transfer Access

Settings: [Disabled, Enabled]

OnChip IDE Channel 1

Settings: [Disabled, Enabled]

IDE Prefetch Mode

Settings: [Disabled, Enabled]

Secondary Master PIO

Settings: [Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4]

Secondary Slave PIO

Settings: [Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4]

Secondary Master UDMA

Settings: [Disabled, Auto]

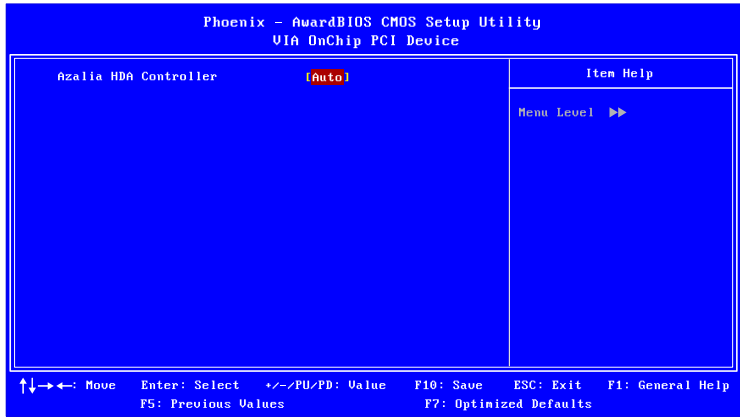
Secondary Slave UDMA

Settings: [Disabled, Auto]

IDE HDD Block Mode

Settings: [Disabled, Enabled]

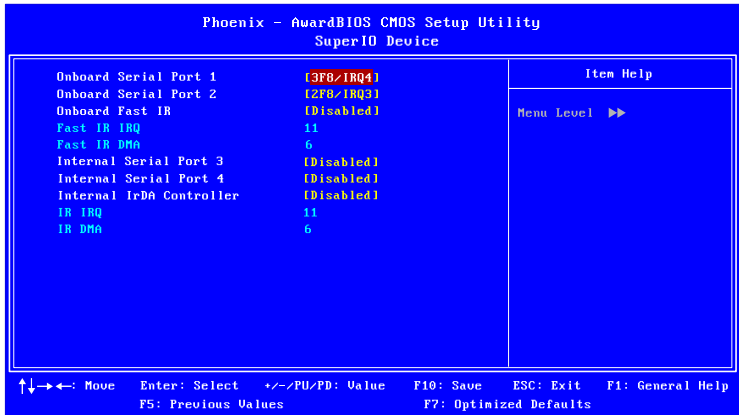
VIA ONCHIP PCI DEVICE



Azalia HDA Controller

Settings: [Disabled, Auto]

SUPER IO DEVICE



Onboard Serial Port 1

Settings: [Disabled, 3F8/IRQ4, 2F8/IRQ3]

Onboard Serial Port 2

Settings: [Disabled, 3F8/IRQ4, 2F8/IRQ3o]

Onboard Fast IR

Enable Onboard Fast IR function.

Settings: [Disabled, Enabled]

Fast IR IRQ

Set this field to reserve an IRQ for the Fast IR port. This field is only available if Onboard Fast IR is enabled.

Settings: [3, 4, 11]

Fast IR DMA

Set this field to choose the DMA channel. This field is only available if Onboard Fast IR is enabled.

Settings: [5, 6]

Internal Serial Port 3

Settings: [Disabled, 3E8/IRO5, 2E8/IRO10]

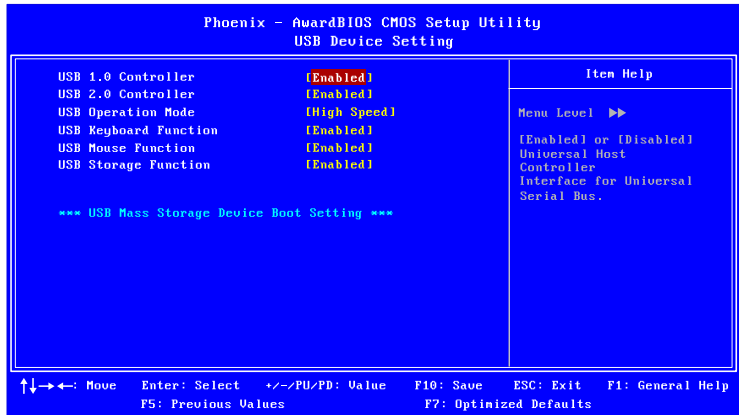
Internal Serial Port 4

Settings: [Disabled, 3E8/IRO5, 2E8/IRO10]

Internal IrDA Controller

Settings: [Disabled, FIR]

USB DEVICE SETTING



USB 1.0 Controller

Enable or disable Universal Host Controller Interface for Universal Serial Bus.

Settings: [Disabled, Enabled]

USB 2.0 Controller

Enable or disable Enhanced Host Controller Interface for Universal Serial Bus.

Settings: [Disabled, Enabled]

USB Operation Mode

Auto decide USB device operation mode.

Settings	Description
Full/Low Speed	All of USB Device operated on full/low speed mode
High Speed	If USB device was high speed device, then it operated on high speed mode.

USB Keyboard Function

Enable or disable Legacy support of USB Keyboard.

Settings: [Disabled, Enabled]

USB Mouse Function

Enable or disable Legacy support of USB Mouse.

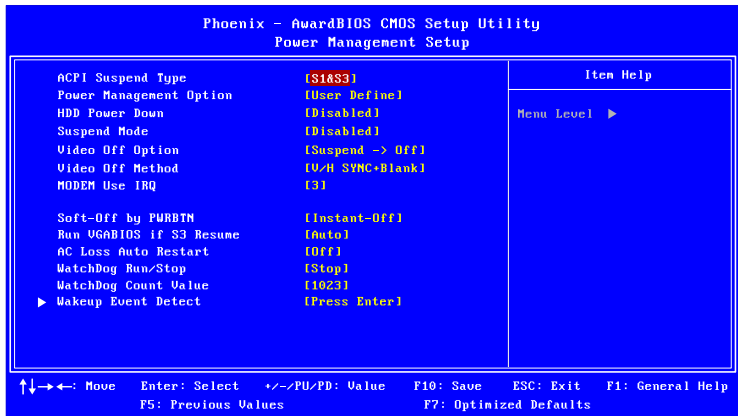
Settings: [Disabled, Enabled]

USB Storage Function

Enable or disable Legacy support of USB Mass Storage.

Settings: [Disabled, Enabled]

POWER MANAGEMENT SETUP



ACPI Suspend Type

Settings	Description
S1(POS)	S1/Power On Suspend (POS) is a low power state. In this state, no system context (CPU or chipset) is lost and hardware maintains all system contexts.
S3(STR)	S3/Suspend To RAM (STR) is a power-down state. In this state, power is supplied only to essential components such as main memory and wakeup-capable devices. The system context is saved to main memory, and context is restored from the memory when a "wakeup" event occurs.
S1 & S3	Depends on the OS to select S1 or S3.

Power Management Option

Settings: [User Define, Min Saving, Max Saving]

HDD Power Down

Set the length of time for a period of inactivity before powering down the hard disk.

Settings: [Disable, 1 Min, 2 Min, 3 Min, 4 Min, 5 Min, 6 Min, 7 Min, 8 Min, 9 Min, 10 Min, 11 Min, 12 Min, 13 Min, 14 Min, 15 Min]

Suspend Mode

Sets the length of time for a period of inactivity before entering suspend mode.

Settings: [Disable, 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 1 Hour]

Video Off Option

Select whether or not to turn off the screen when system enters power saving mode, ACPI OS such as Windows XP will override this option.

Settings	Description
Always On	Screen is always on even when system enters power saving mode
Suspend -> Off	Screen is turned off when system enters power saving mode

Video Off Method

Settings: [Blank Screen, V/H SYNC+Blank, DPMS Support]

MODEM Use IRQ

Settings: [NA, 3, 4, 5, 7, 9, 10, 11]

Soft-Off by PWRBTN

This field configures the power button on the chassis.

Settings	Description
Delay 4 Sec	System is turned off if power button is pressed for more than four seconds.
Instant-Off	Power button functions as a normal power-on/-off button.

Run VGABIOS if S3 Resume

Select whether to run VGA BIOS if resuming from S3 state. This is only necessary for older VGA drivers.

Settings: [Auto, Yes, No]

AC Loss Auto Restart

The field defines how the system will respond after an AC power loss during system operation.

Settings	Description
Off	Keeps the system in an off state until the power button is pressed
On	Restarts the system when the power is back
Former-Sts	Former-Sts

WatchDog Run/Stop

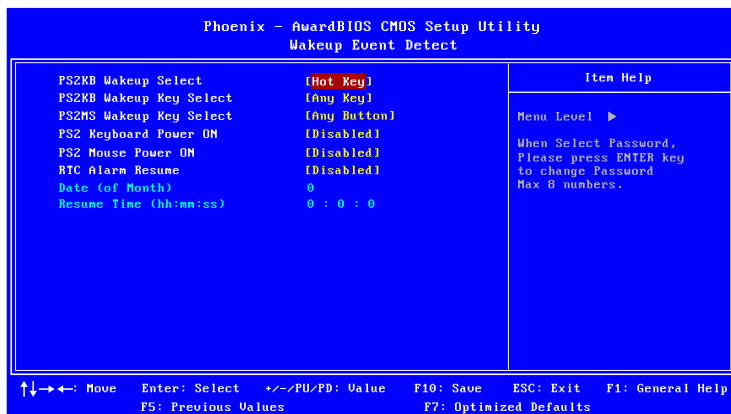
Settings: [Stop, Run]

WatchDog Count Value

Key in a DEC number:

Settings: [Min=0 to Max = 1023]

WAKEUP EVENT DETECT



PS2KB Wakeup Select

When selecting “Password”, press <Page Up> or <Page Down> to change password. The maximum number of characters is eight. “PS2MS Wakeup from S3/S4/S5” and “PS2KB Wakeup from S3/S4/S5” will be disabled while changing the password.

Settings: [Hot Key, Password]

PS2KB Wakeup Key Select

Sets a Hot Key to restore the system from the power saving mode to an active state.

Settings: [Ctrl+F1, Ctrl+F2, Ctrl+F3, Ctrl+F4, Ctrl+F5, Ctrl+F6, Ctrl+F7, Ctrl+F8, Ctrl+F9, Ctrl+F10, Ctrl+F11, Ctrl+F12, Power, Wake, Any Key]

PS2MS Wakeup Key Select

Enables any mouse activity to restore the system from the power saving mode to an active state.

Settings: [Any Button, Left Button, Right Button]

PS2 Keyboard Power On

Settings: [Disabled, Enabled]

PS2 Mouse Power On

Settings: [Disabled, Enabled]

RTC Alarm Resume

Set a scheduled time and/or date to automatically power on the system.

Settings: [Disabled, Enabled]

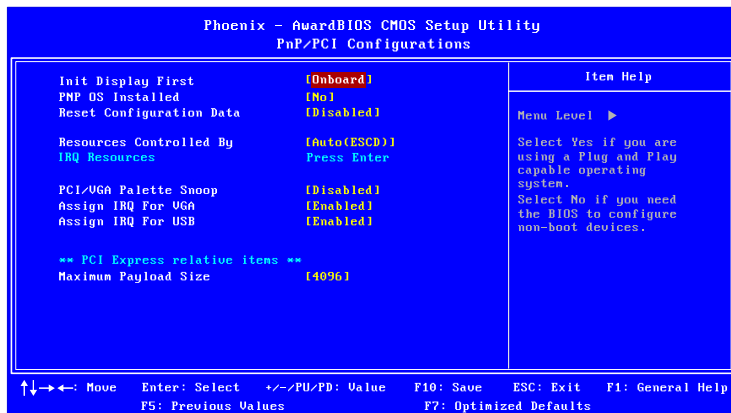
Date (of Month)

This field can only be set if “RTC Alarm Resume” is enabled. The field specifies the date for “RTC Alarm Resume”.

Resume Time (hh : mm : ss)

This field can only be set if “RTC Alarm Resume” is enabled. The field specifies the time for “RTC Alarm Resume”.

PNP/PCI CONFIGURATION



Note:

This section covers some very technical items and it is strongly recommended to leave the default settings as is unless you are an experienced user.

Init Display First

Settings: [Onboard, PCIEx]

PNP OS Installed

Settings	Description
No	BIOS will initialize all the PnP cards
Yes	BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system

Reset Configuration Data

Settings	Description
Disabled	Default setting
Enabled	Resets the ESCD (Extended System Configuration Data) after exiting BIOS Setup if a newly installed PCI card or the system configuration prevents the operating system from loading

Resources Controlled By

Enable the BIOS to automatically configure all the Plug-and-Play compatible devices.

Settings	Description
Auto(ESCD)	BIOS will automatically assign IRO, DMA and memory base address fields
Manual	Unlocks "IRO Resources" for manual configuration

PCI/VGA Palette Snoop

Some non-standard VGA display cards may not show colors properly. This field allows you to set whether MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. When enabled, a PCI/VGA can work with a MPEG ISA/VESA VGA card. When disabled, a PCI/VGA cannot work with a MPEG ISA/VESA Card.

Settings: [Disabled, Enabled]

Assign IRO for VGA

Assign IRO for VGA devices.

Settings: [Disabled, Enabled]

Assign IRO for USB

Assign IRO for USB devices.

Settings: [Disabled, Enabled]

Maximum Payload Size

Set maximum TLP payload size for the PCI Express devices. The unit is byte.

Settings: [128, 256, 512, 1024, 2048, 4096]

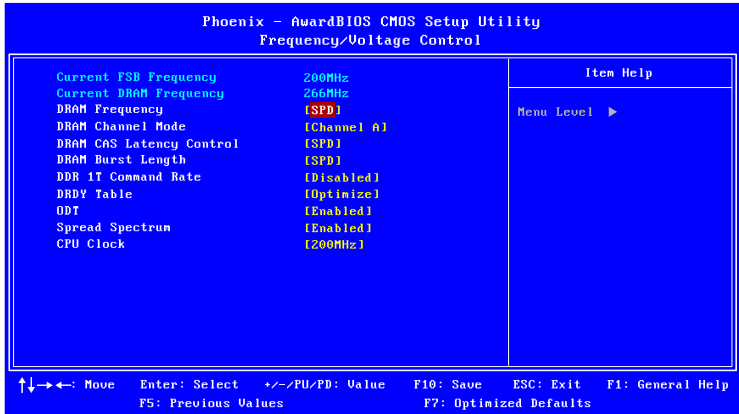
PC HEALTH STATUS

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
PC Health Status		Menu Level ▶
Current System Temp.	31°C / 23°F	
System Fan Speed	4150 RPM	
CPU Fan Speed	4201 RPM	
CPU Vcore	1.077V	
3.3V	3.407V	
+12V	11.943V	

↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
 F5: Previous Values F7: Optimized Defaults

The PC Health Status displays the current status of all of the monitored hardware devices/components such as CPU voltages, temperatures and fan speeds.

FREQUENCY/VOLTAGE CONTROL



DRAM Frequency

The chipset supports synchronous and asynchronous mode between host clock and DRAM clock frequency.

Settings: [DDR2-400, DDR2-533, DDR2-667, SPD]

DRAM Channel Mode

Settings: [Channel A, Channel A & B, Channel A & C]

DRAM CAS Latency Control

Settings: [2T, 3T, 4T, 5T, 6T, SPD]

DRAM Burst Length

Settings: [4, 8, SPD]

DDR 1T Command Rate

Settings: [Disabled, Enabled]

DRDY Table

Settings: [Slowest, Optimize]

ODT

Settings: [Disabled, Enabled]

Spread Spectrum

When the mainboard's clock generator pulses, the extreme values (spikes) of the pulses create EMI (Electromagnetic Interference). The Spread Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curves.

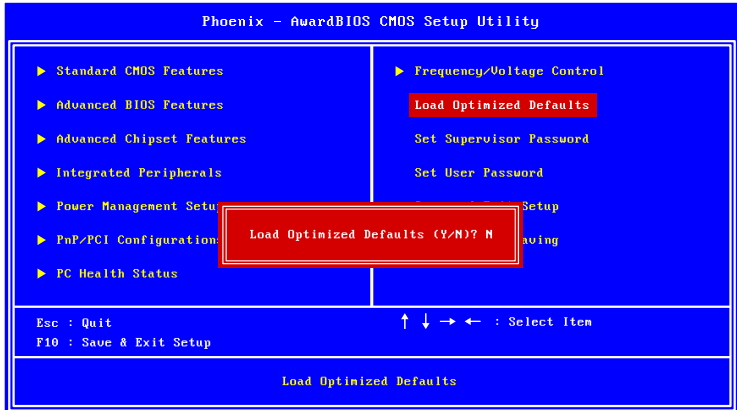
Settings: [Disabled, +/- -0.1%, +/- -0.2%, +/- -0.3%, +/- -0.4%, +/- -0.5%, +/- -0.6%, +/- -0.7%, +/- -0.8%, +/- -0.9%]

CPU clock

Key in a DEC number.

Settings: [Min = 200, Max = 265]

LOAD OPTIMIZED DEFAULTS

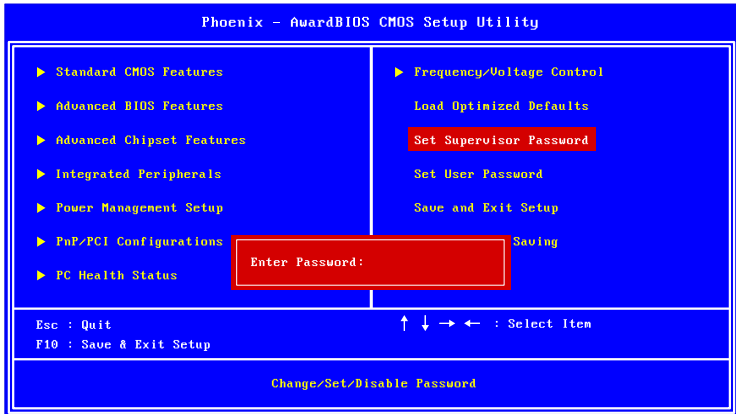


This option is for restoring all the default optimized BIOS settings. The default optimized values are set by the mainboard manufacturer to provide a stable system with optimized performance.

Entering “**Y**” and press <Enter> to load the default optimized BIOS values.

Entering “**N**” will cancel the load optimized defaults request.

SET SUPERVISOR/USER PASSWORD



This option is for setting a password for entering BIOS Setup. When a password has been set, a password prompt will be displayed whenever BIOS Setup is run. This prevents an unauthorized person from changing any part of your system configuration.

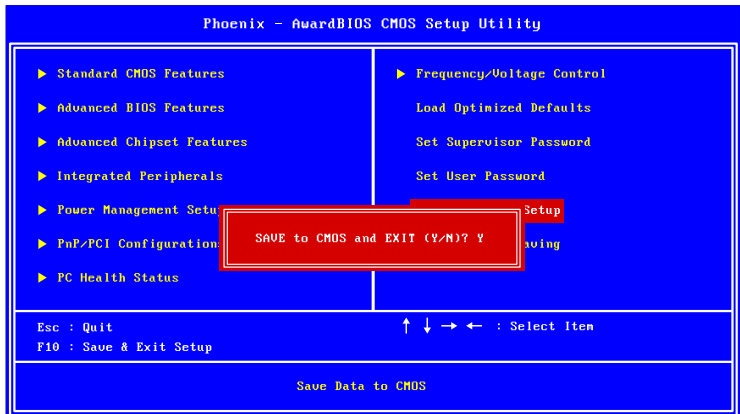
There are two types of passwords you can set. A supervisor password and a user password. When a supervisor password is used, the BIOS Setup program can be accessed and the BIOS settings can be changed. When a user password is used, the BIOS Setup program can be accessed but the BIOS settings cannot be changed.

To set the password, type the password (up to eight characters in length) and press <Enter>. The password typed now will clear any previously set password from CMOS memory. The new password will need to be reentered to be confirmed. To cancel the process press <Esc>.

To disable the password, press <Enter> when prompted to enter a new password. A message will show up to confirm disabling the password. To cancel the process press <Esc>.

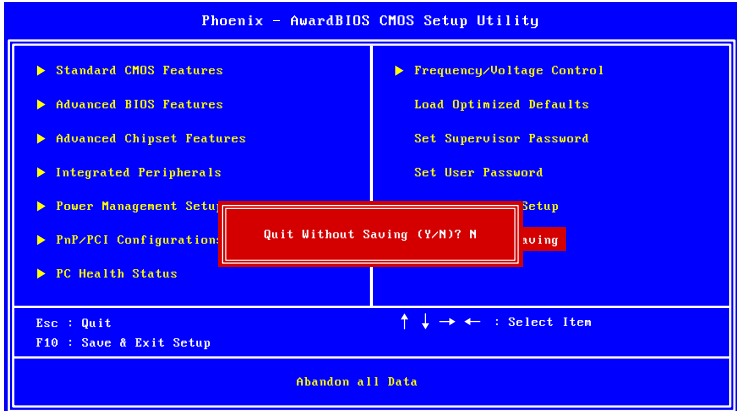
Additionally, when a password is enabled, the BIOS can be set to request the password each time the system is booted. This would prevent unauthorized use of the system. See "Security Option" in the "Advanced BIOS Features" section for more details.

SAVE & EXIT SETUP



Entering "Y" saves any changes made, and exits the program.
 Entering "N" will cancel the exit request.

EXIT WITHOUT SAVING



Entering "Y" discards any changes made and exits the program.
Entering "N" will cancel the exit request.

5

Driver Installation

This chapter gives you brief descriptions of each mainboard driver and application. You must install the VIA chipset drivers first before installing other drivers such as VGA drivers. The applications will only function correctly if the necessary drivers are already installed.

DRIVER UTILITIES

Getting Started

The VIA VB8003 includes a driver CD that contains the drivers and software for enhancing the performance of the system. The drivers can also be downloaded from <http://www.viaembedded.com>

**Note:**

The driver utilities and software are updated from time to time. The latest updated versions are available at <http://www.viaembedded.com>

Running the Driver Utilities CD

To start using the CD, insert the CD into the CD-ROM or DVD-ROM drive. The CD should run automatically after closing the CD-ROM or DVD-ROM drive. The driver utilities and software menu screen should then appear on the screen. If the CD does not run automatically, click on the "Start" button and select "Run..." Then type: "D:\Setup.exe".

For Linux drivers, click the right button on mouse and click open. Linux drivers located in the "Driver" folder.

**Note:**

D: might not be the drive letter of the CD-ROM/DVD-ROM in your system.

CD CONTENT

- **VIA 4 in 1 Drivers**
 - Contains VIA ATAPI Vendor Support Driver (enables the performance enhancing bus mastering functions on ATA-capable Hard Disk Drives and ensures IDE device compatibility), AGP VxD Driver (provides service routines to your VGA driver and interface directly to hardware, providing fast graphical access), IRO Routing Miniport Driver (sets the system's PCI IRO routing sequence) and VIA INF Driver (enables the VIA Power Management function).
 - Includes V-RAID and RAID tools.
- **VIA Graphics Driver**
 - Enhances the onboard VIA graphic chip.
 - Windows XP driver is provided.
- **S3G GPU Driver**
 - Enhances S3G Chrome 435 ULP
- **VIA Audio Driver**
 - Enables access to the onboard VIA HD audio codec.
- **VIA USB 2.0 Driver**
 - Enhances VIA USB 2.0 ports.
- **VIA GigaLAN Driver**
 - Enhances the onboard VIA VT6130 Gigabit Ethernet.
- **VIA FIR Driver:**
 - Support for FIR.

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