ISA-E13

SINGLE BOARD COMPUTER

User's Manual

Version 1.0

Copyright Notice

Acknowledgments

Award is a registered trademark of Award Software International, Inc.
IBM, PS/2 are trademarks of International Business Machines Corporation.
Intel, Pentium4 are registered trademarks of Intel Corporation.
Microsoft Windows is a registered trademark of Microsoft Corporation.
All other product names or trademarks are properties of their respective owners.

CONTENTS

This page is intentionally left blank.

Introduction

This manual is designed to give you information on the ISA-E13 Single Board Computer card. The topics covered in this manual are as follows:

- ✓ **Features**
- ✓ **Specification**
- ✓ **Jumper setting and Connectors**
- ✓ **BIOS Setup**
- ✓ **Appendix**

Chapter 1
Features & Specifications

Features

- Support DMP Vortex86SX 300MHz CPU.
- Support 128MB DDR2 system memory on board.
- Standard ISA form factor with Rich I/O functions.
- Multiple I/O functions: 4 x USB2.0, 4x COM ports, IRDA, 2x PIDE, 1x CF, 1x LPT, 1x FDD.
- Multiple display technology: CRT, 18-bits TTL LCD and 18-bits LVDS.
- One 10/100M LAN on board.
- Power Input connector on board to support stand-alone operation.
- 16-bits Digital I/O with programmable input and output direction.
- One Mini-PCI socket on board to support WLAN, Modem and CANBUS module.
- PC104 and PC104Plus socket on board.
- COM1 and COM2 optional support RS485 protocol.
- Support WatchDog Timer and MTBF counter.

Specifications

- **Processor Support:**
  - Vortex86SX 300MHz CPU on board.

- **Major Chipset:**
  - Real Tek RTL8101L LAN chip.
  - Winbond 83697UG Super I/O.
  - XGI Z9S VGA controller

- **System Memory:**
  - 128MB DDR2 system memory on board.

- **Video Controller:**
  - XGI Z9S VGA controller with 64MB frame buffer.
  - One 15-Pins D-Sub Female connector for CRT displays.
  - One 40-pins 1.25mm pitch connector for 18-bits TTL LCD displays.
  - One 20-pins 1.25mm pitch connector for 18-bits LVDS LCD displays
  - One 5-pins JST connector for Inverter power and brightness control.

- **Super I/O:**
  - Win bond 83697UG LPC I/F Super I/O chip.
  - Four Serial ports as COM1~COM4. COM1 and COM2 is RS-485 supported.
  - COM1 are D-Sub 9-pins male on I/O bracket. Pin9 is powered with either +5V or +12V by jumper.
  - COM2~COM4 are box-header (2x5 box-header/ 2.54mm pitch) for internal connections.
  - 1 x Parallel port supports SPP/ECP/EPP mode. (2x16 box-header/ 2.54mm pitch).
  - 1 x IrDA port; (5-pins pin-header with +5V powered).
  - One Mini-DIN 6-pins connector on I/O bracket to support PS2 Keyboard/Mouse.

- **USB Interface**:
  - Four USB 2.0 ports compliant with USB Specification Rev.

2.0 and support USB Hot-Plug function.
- Four ports in two 2x5/2.54mm box header for internal USB devices connection.
- Support Legacy USB devices and Boot from USB devices like USB-HDD, USB-Floppy and USB-CDROM.
- All USB ports support USB type keyboard and mouse.

- **PIDE and SATA:**
  - PIDE controller support up to Ultra DMA mode 5 or ATA100 speed.
  - One standard 44-pins Box header to support 2.5" HDD or DOM Flash Disk.
  - One standard 40-pins Box header to support 3.5" HDD or DVD/CDROM drive.
  - One Compact Flash-II socket shared with PIDE Channel. One jumper to select as Master or Slave device.

- **10/100M Ethernet:**
  - One Realtek RT8101L chips on board for 10/100M LAN support.

- **Watchdog Timer:**
  - The Watch Dog timer can be disable/enable through BIOS setup.
  - The timeout interval 1~255 seconds can be programmed. The timeout event will generate the RESET.

- **CMOS:**
  - On-board RTC with 242 bytes of Battery-back CMOS RAM.
  - One 3-pins Jumper for users to clear CMOS data.

- **Digital Input and Output:**:
  - Support 16-bits Digital I/O.
  - Software programmable to configure as input or output direction.

- **BIOS:**
  - AMI Standard PnP Flash BIOS.
  - BIOS utility for field update.

- **PCI/ISA Interface:**
  - ISA bus complaint slot interface.
  - One PC104 socket
  - One PC104-Plus socket.
  - One Mini-PCI Socket (124pins/Type-B) on board to support WLAN, Modem and Can bus modules.
- **Power Connector:**
  - One 4-pins power input connector and one 2-pins power terminal for standalone operation.
  - Support AT mode operation only.
  - Support +5V single power input operation.

- **Software Compatibility:**
  - DOS 6.0 and 6.22.
  - WinCE 5.0.
  - Linux.

- **Cooling:**
  - Fan-less operation supported.
  - Flat Heat-sink on top of process.

- **Others:**
  - One Buzzer (9mm) on-board for beep message.

- **Operating Temperature:**
  - -40~85°C Operation Range.
  - -40~85°C Storage.
  - Relative Humility: 5~95%, non-condensing.

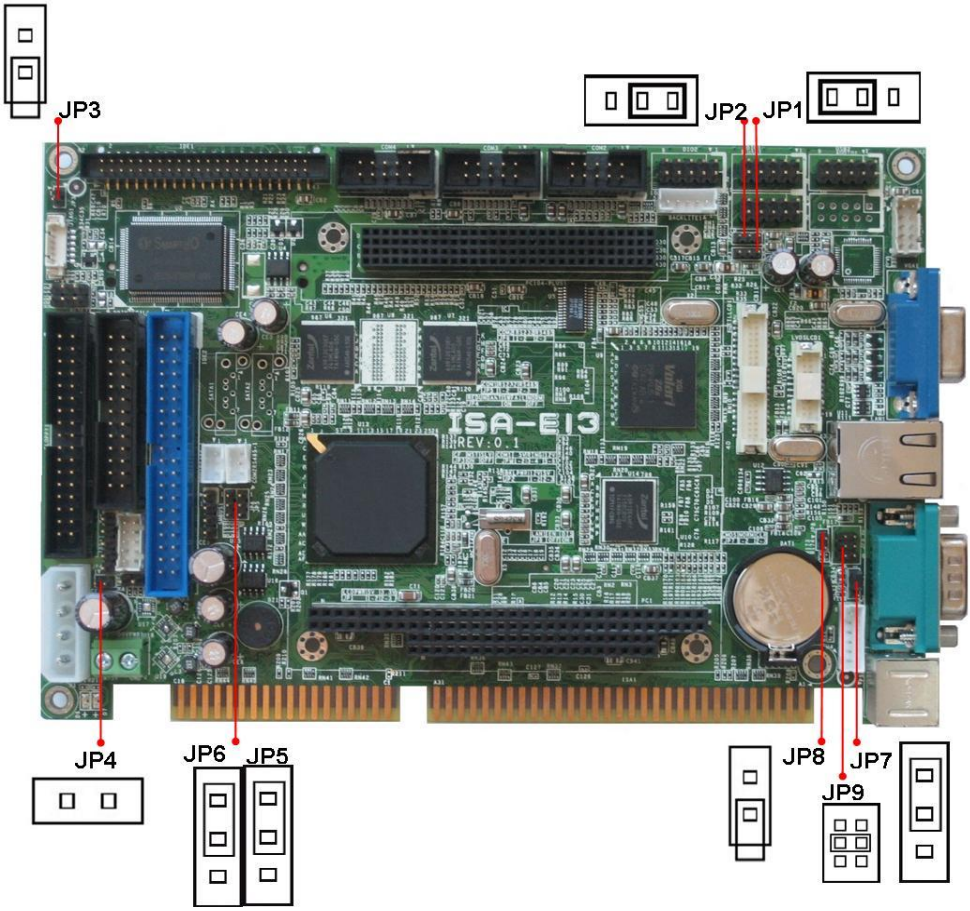
- **Dimensions:**
  - 185mm(W) x 127mm(L)
  - 4 screw holes on four corners for standalone operation.

Chapter 2
Jumper setting & Connectors

2.1Jumpers on the ISA-E13

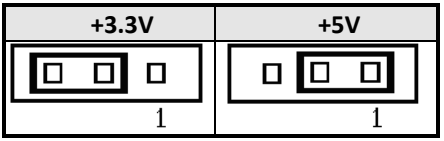
The jumpers on the ISA-E13 allow you to configure your Single Board Computer card according to the needs of your applications. If you have doubts about the best jumper configuration for your needs, contact your dealer or sales representative. The following table lists the jumpers on ISA-E13 and their respective functions.

Jumper Locations on the ISA-E13



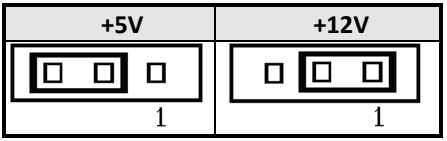
JP1: LCD PANEL Power Selection

JP1 can be used to select the Panel LCD supple power: +3.3V or +5V.The default setting is on +3.3V.User need to check the LCD panel spec and adjust this jumper to make Panel work in specified power rail.



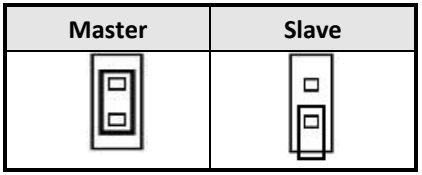
JP2: LCD PANEL Inverter Power Selection

JP2 can be used to select the Panel LCD Inverter supple power: +5V or +12V.The default setting is on +12V.User need to check the Inverter spec and adjust this jumper to make Inverter work in specified power rail.



JP3: CF Card Mode Selection

This Jumper is to select the CF works as Primary Channel Master device or Slave device. The default setting is Slave mode.



JP4: Redundant system support switch

This Jumper is to switch input for redundant.

External switch fail.	Normal
	

JP5: COM1 RS232/RS485 Selection

The default setting is RS232 mode.

JP5	I/F TYPE
	RS-232
	RS-485

JP6: COM2 RS232/RS485 Selection

The default setting is RS232 mode.

JP6	I/F TYPE
	RS-232
	RS-485

JP7: Clear CMOS RAM Data

This 3-pins Jumper allows the user to disconnect the built-in 3V battery power to clear the information stored in the CMOS RAM. To clear the CMOS data: (1) Turn off the system power, (2) Remove Jumper cap from pin1&2, (3) Short the pin2 and pin3 for three seconds, (4) Put Jumper cap back to pin1& 2. (5) Turn on your computer, (6) Hold Down <Delete> during boot up and enter BIOS setup to enter your preferences.

JP7	Setting	Function
	Pin 1-2 Short/Closed	Normal Operation (default)
	Pin 2-3 Short/Closed	Clear CMOS Content

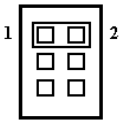
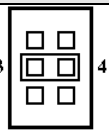
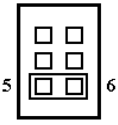
JP8: On-Board LAN

On-Board Fast Ethernet LAN chips can be disabled by shorting the JP8 jumper.

Port #	Disable	Enable
LAN		

JP9: COM1 Power Selection

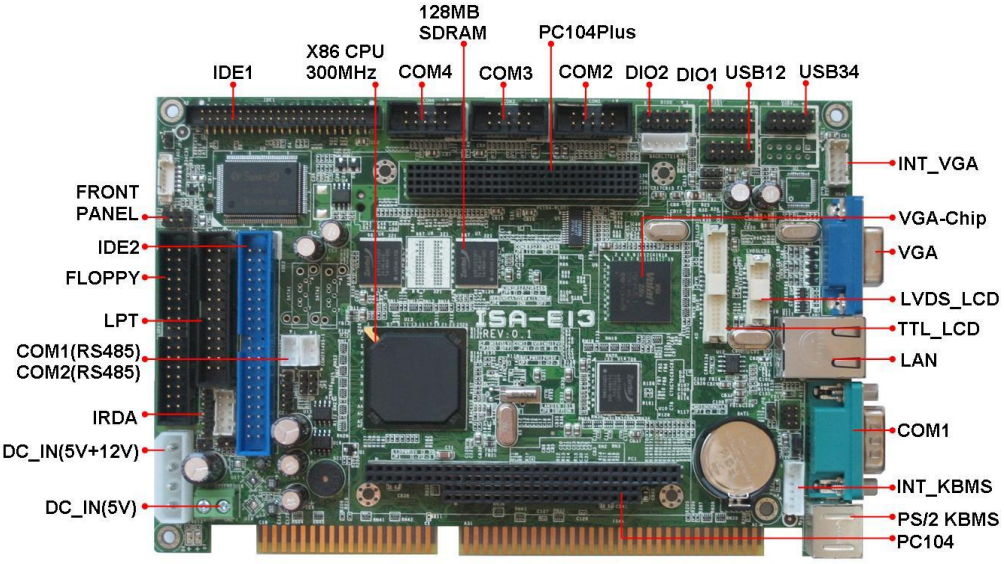
JP9 can be used to select the COM1 supply power: +5V, Ring-IN or +12V.

+5V	RI	+12V
		

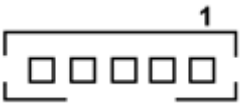
2.2Connectors on the ISA-E13

The connectors on the ISA-E13 allow you to connect external devices such as keyboard, floppy disk drives, hard disk drives, printers and etc. The following table lists the connectors on ISA-E13 and their respective page number.

Connector Locations on the ISA-E13



BACKLIGHT Connector



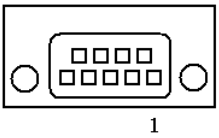
Pin #	Signal Name
1	+12V
2	GND
3	Brightness
4	ON/OFF
5	GND

COM1 (RS485), COM2 (RS485) Serial Ports

Pin #	Signal Name
1	485TX-
2	485TX+
3	GND

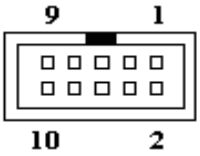
COM1 Serial Port

COM1 is a 9-pin D-Sub male connector. The following table shows its pin assignments.



Pin #	RS232 Mode Signal Name
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	+5V,Ring-IN or +12V

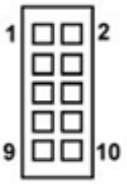
COM2, COM 3, COM 4 Serial Ports



Pin #	RS232 Mode Signal Name
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	Ring-IN
10	N.C.

INT_VGA Connector

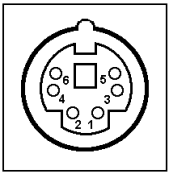
INT_VGA is for internal Video A/D board connection. The pin out is listed as below:



Signal Name	Pin #	Pin #	Signal Name
RED	1	2	GND
GREEN	3	4	GND
BLUE	5	6	GND
HSYNC	7	8	DDC_DATA
VSYNC	9	10	DDC_CLK

PS/2 Keyboard & Mouse Connector

The following table describes the pin assignment of PS/2 Keyboard and Mouse connector, which is mount on button of bracket. To attach PS/2 Keyboard and mouse, users need to connect trough a PS/2 1-to-2 Y-cable and plug into this Mini-Din connector. All the ISA-E13 boards come with a Y-cable. Contact with your dealer if the Y-cable is missing.

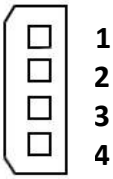


Pin #	Signal Name
1	Keyboard data
2	Mouse data
3	GND
4	5V
5	Keyboard clock
6	Mouse clock

CF-II (BOT) Connector

Signal Name	Pin #	Pin #	Signal Name
GND	1	2	PDD3
PDD4	3	4	PDD5
PDD6	5	6	PDD7
PCS1-	7	8	GND
GND	9	10	GND
GND	11	12	GND
VCC	13	14	GND
GND	15	16	GND
GND	17	18	PDA2
PDA1	19	20	PDA0
PDD0	21	22	PDD1
PDD2	23	24	N.C.
N.C.	25	26	N.C.
PDD11	27	28	PDD12
PDD13	29	30	PDD14
PDD15	31	32	PCS3-
N.C.	33	34	PDIOR-
PDIOW-	35	36	VCC
IRQ14	37	38	VCC
MST#_SLV	39	40	N.C.
PST1-	41	42	PIORDY
PDDREQ	43	44	PDDACK-
CF_LED-	45	46	N.C.
PDD8	47	48	PDD9
PDD10	49	50	GND

DC_IN (5V+12V) Connector



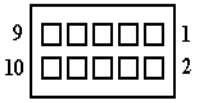
Signal Name	Pin #	Pin #	Signal Name
+12V	1	2	GND
GND	3	4	+5V

DC_IN(5V) Connector

Signal Name	Pin #
+5V	1
GND	2

DIO1 Connector

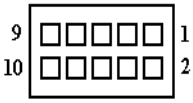
DIO ports support 8 digital I/O bits. Each bit can be configured as Input or output individually. All bits are 5V tolerant.



Signal Name	Pin #	Pin #	Signal Name
GND	1	2	+5V
DIO_0	3	4	DIO_4
DIO_1	5	6	DIO_5
DIO_2	7	8	DIO_6
DIO_3	9	10	DIO_7

DIO2 Connector

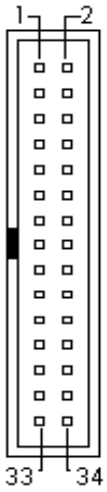
DIO ports support 8 digital I/O bits. Each bit can be configured as Input or output individually. All bits are 5V tolerant.



Signal Name	Pin #	Pin #	Signal Name
GND	1	2	+5V
DIO_10	3	4	DIO_14
DIO_11	5	6	DIO_15
DIO_12	7	8	DIO_16
DIO_13	9	10	DIO_17

Floppy Drive Connector

Floppy connector is a 34-pin header and will support up to 2.88MB floppy drives.

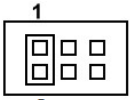


Signal Name	Pin #	Pin #	Signal Name
Ground	1	2	RM/LC
Ground	3	4	No connect
Ground	5	6	No connect
Ground	7	8	Index
Ground	9	10	Motor enable 0
Ground	11	12	Drive select 1
Ground	13	14	Drive select 0
Ground	15	16	Motor enable 1
Ground	17	18	Direction
Ground	19	20	Step
Ground	21	22	Write data
Ground	23	24	Write gate
Ground	25	26	Track 00
Ground	27	28	Write protect
Ground	29	30	Read data
Ground	31	32	Side 1 select
Ground	33	34	Diskette change

Front Panel Connector

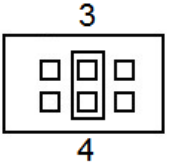
The front panel of the case has a control panel, which provides light indication of the computer activities and switches to change the computer status.

- **IDE Hard Disk LED Connector**
  This connector connects to the hard drive activity LED on control panel. This LED will flash when the HDD is being accessed.



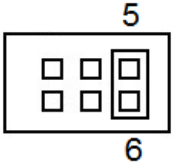
IDE LED Pin #	Signal Name
1	IDE_ACT
2	Ground

- **Power-On LED**
  This connector allows users to connect to Front Panel Power indicator.



PWR LED Pin #	Signal Name
3	+5V
4	Ground

- **RESET Switch**
  The reset switch allows the user to reset the system without turning the main power switch off and then on. Orientation is not required when making a connection to this header.



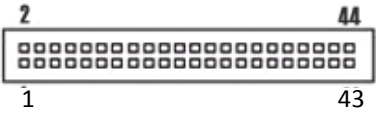
RESET Pin #	Signal Name
5	Reset
6	Ground

IrDA Connector

This connector is used for an IrDA connector for wireless communication.

IrDA Pin #	Signal Name
1	+5V
2	NC
3	Ir TX
4	Ground
5	Ir RX

IDE1 Connector



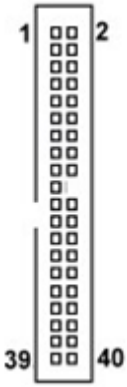
Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	Key
DRQ	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host PU 0
DACK	29	30	Ground
IRQ14	31	32	No connect
Address 1	33	34	P66DET
Address 0	35	36	Address 2
Chip select 1	37	38	Chip select 3
Activity	39	40	Ground
+5V	41	42	+5V
GND	43	44	No connect

INT_KBMS Connector

INT_KBMS is for internal input devices or MSR connection. The pin out is listed as below:

Signal Name	Pin #	Pin #	Signal Name
KB-CLOCK	1	2	KB-DATA
MS-CLOCK	3	4	MS-DATA
KBVCC	5	6	GND

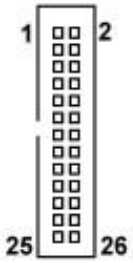
IDE2 Connector



Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	Key
DRQ	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host PU 0
DACK	29	30	Ground
IRQ14	31	32	No connect
Address 1	33	34	P66DET
Address 0	35	36	Address 2
Chip select 1	37	38	Chip select 3
Activity	39	40	Ground

LPT Connector

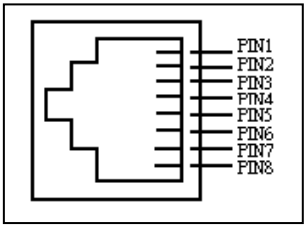
The LPT parallel port is a standard DSUB 26-pins Female connector . It can be configured as EPP or ECP or SPP mode.



Signal Name	Pin #	Pin #	Signal Name
Strobe	1	2	DATA0
DATA1	3	4	DATA2
DATA3	5	6	DATA4
DATA5	7	8	DATA6
DATA7	9	10	/ACK
BUSY	11	12	PE
SLCT	13	14	/AUTOFD
/ERROR	15	16	/INIT
SELIN	17	18	GND
GND	19	20	GND
GND	21	22	GND
GND	23	24	GND
GND	25	26	

LAN Connector

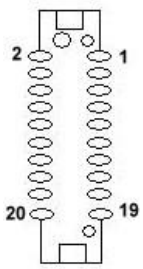
This connector is for the 10/100Mbps Ethernet capability. The figure below shows the pin out assignments of this connector and its corresponding input jack.



Pin #	Signal Name
1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

LVDS_LCD Connector

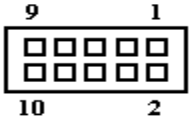
The LCD panel, inverter for LCD LAMP, Touch-screen Serial Interface must be connected to this LVDS header, using the below described connector:



Signal Name	Pin #	Pin #	Signal Name
+12V	1	2	+12V
GND	3	4	GND
LCDVDD 5V/3.3V	5	6	LCDVDD 5V/3.3V
GND	7	8	GND
BRIGHTNES	9	10	BCKLITE_ON
LVDS_GND	11	12	LVDS_GND
CHA_TX0+	13	14	CHB_TX0+
CHA_TX0-	15	16	CHB_TX0-
LVDS_GND	17	18	LVDS_GND
CHA_TX1+	19	20	CHB_TX1+

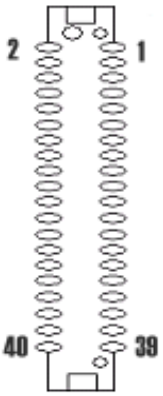
USB12, USB34 Connectors

The following table shows the pin outs of the USB12 USB34 connectors.



Signal Name	Pin #	Pin #	Signal Name
N.C.	1	2	VCC
GND	3	4	USB-
USB+	5	6	USB+
USB-	7	8	GND
VCC	9	10	N.C.

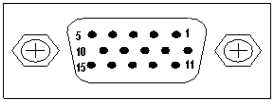
TTL_LCD Connector



Signal Name	Pin #	Pin #	Signal Name
+12V/+5V	1	2	+12V/+5V
GND	3	4	GND
LCDVDD 5V/3.3V	5	6	LCDVDD 5V/3.3V
HSYNC	7	8	VSYNC
CLK	9	10	DE
GND	11	12	GND
LR	13	14	UD
B1	15	16	B0
B3	17	18	B2
B5	19	20	B4
GND	21	22	GND
DMS	23	24	ADJ
G1	25	26	G0
G3	27	28	G2
G5	29	30	G4
GND	31	32	GND
GND	33	34	GND
R1	35	36	R0
R3	37	38	R2
R5	39	40	R4

VGA Connector

The pin assignments of VGA CRT connector are as follows:



Signal Name	Pin #	Pin #	Signal Name
Red	1	2	Green
Blue	3	4	N.C.
GND	5	6	GND
GND	7	8	GND
N.C.	9	10	GND
N.C.	11	12	DDC_DATA
HSYNC	13	14	VSYNC
DDC_CLK	15		

Chapter 3 BIOS Setup

This chapter describes the different settings available in the AMI BIOS that comes with the ISA-E13 CPU card. The topics covered in this chapter are as follows:

BIOS Introduction

This manual describes AMI's Setup program, which is built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

Starting Setup

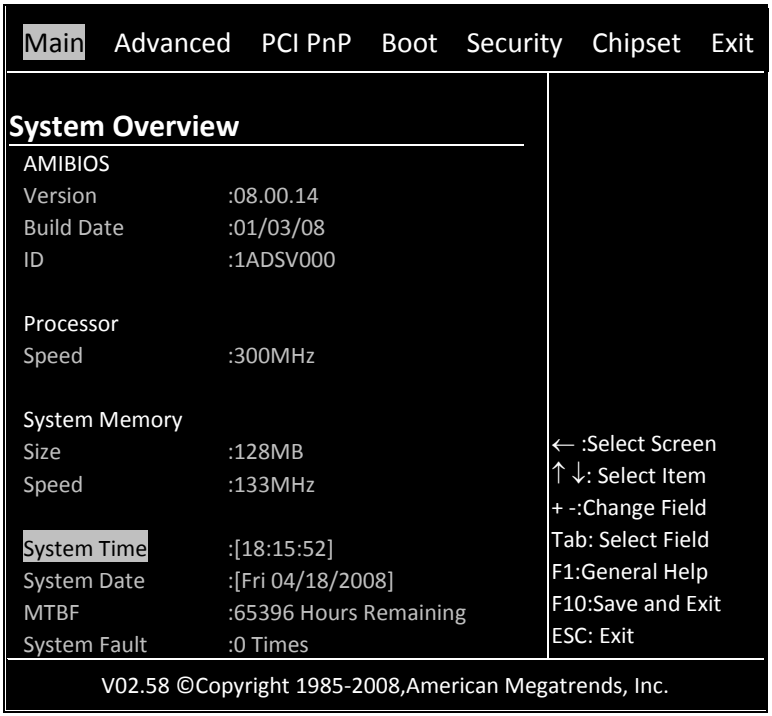
The following pages are meant to give you a better insight into the options you have to setup your system. Many options depend on the choice of type of memory, memory speed, peripherals and the programs that you will be running. The effective of these settings are related to system performance that can destabilize operation. We urge you to proceed with caution.

When the system is powered on, use the bios set program when you start up your system, reconfiguring your system, or press “Delete” promptly to run setup. This section will explain how to configure your system using this utility. And this change will be recognized and record them in the CMOS RAM of the SPI chip.

When you start up the computer, the system provides you the opportunity to set the program. Press the “del” during the P.O.S.T (Power-on Self-Test) to enter the program setting. And the POST will continue with the test routines. And the firmware chip will store the setup utility on the board. However, if you want to enter the setup after the POST, you can press Ctrl + Alt + Del simultaneously or turn off the power then back on.

3.1Main Menu

BIOS STUP UTILITY



AMIBIOS

This is the information of AMIBIOS.

Processor

This part shows the auto-detected CPU specification. It is the x86 SoC (System on Chip) with 0.13 micron process and ultra low power consumption design (less than 1 watt). The CPU is a high performance and fully static 32-bit X86 processor with the compatibility of Windows based, Linux and most popular 32-bit RTOS.

System Memory

This part shows the auto-detected system memory.
There are all 128MB onboard and the speed is 133MHz.

System Time

The time format is based on the 24-hour military time clock.
Press the + or - key to increment the setting or type the desired value into the field.

System Date

Press the + or - to set the date you wanted.
The BIOS determines the day of the week from the other date information; this field is for information only.

MTBF

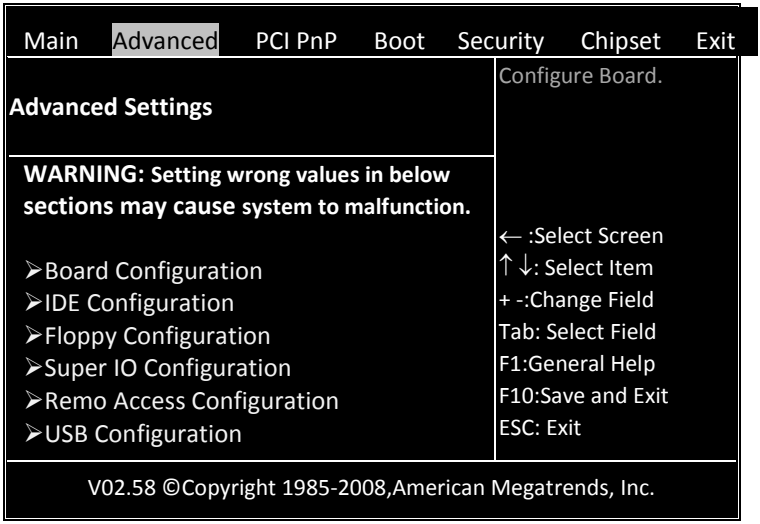
Mean time between failures (MTBF) is the mean (average) time between failures of a system, the reciprocal of the failure rate in the special case when the failure rate is constant. Calculations of MTBF assume that a system is 'renewed', i.e. fixed, after each failure, and then returned to service immediately after failure. A related term, mean distance between failures, with a similar and more intuitive sense, is widely used in transport industries such as railways and trucking. The average time between failing and being returned to service is termed mean down time (MDT).

System Fault

As the system detect the illegal command or serious error when boot, it will show on this screen.

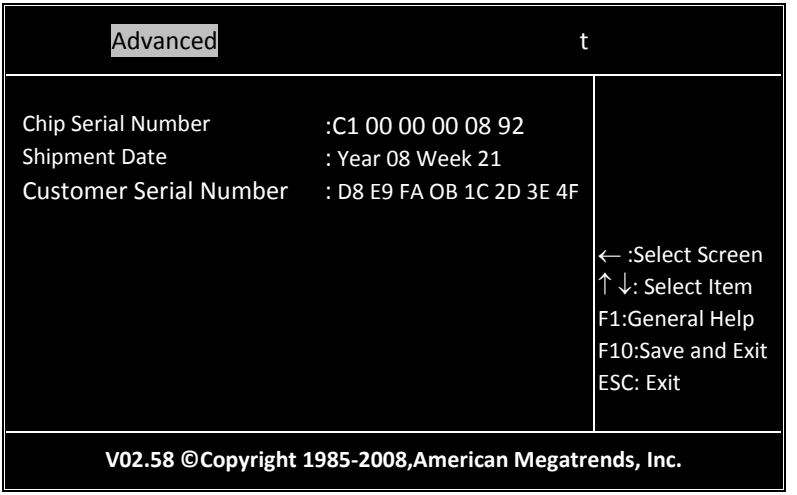
3.2Advanced

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.



➢Board Configuration

This will show the board related information including Chip Serial Number, Customer Serial Number and so on which is detected by BIOS. And the information will help you clear to know the boards related information.



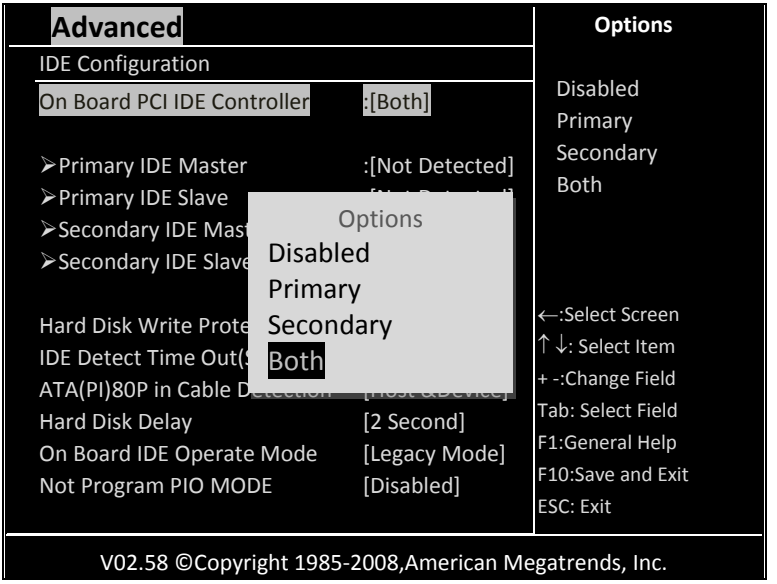
➢IDE Configuration

Advanced		Options
IDE Configuration		
On Board PCI IDE Controller	:[Both]	Disabled Primary Secondary Both
➢ Primary IDE Master	:[Not Detected]	
➢ Primary IDE Slave	:[Not Detected]	
➢ Secondary IDE Master	:[Not Detected]	
➢ Secondary IDE Slave	:[Not Detected]	
Hard Disk Write Protect	[Disabled]	←:Select Screen
IDE Detect Time Out(Set)	[35]	↑ ↓: Select Item
ATA(PI)80P in Cable Detection	[Host &Device]	+ -:Change Field
Hard Disk Delay	[2 Second]	F1:General Help
On Board IDE Operate Mode	[Legacy Mode]	F10:Save and Exit
Not Program PIO MODE	[Disabled]	ESC: Exit

V02.58 ©Copyright 1985-2008,American Megatrends, Inc.

On Bard PCI IDE Controller

This can select the specification you wanted for the IDE device. This option specifies the channel used by IDE controller on the motherboard.

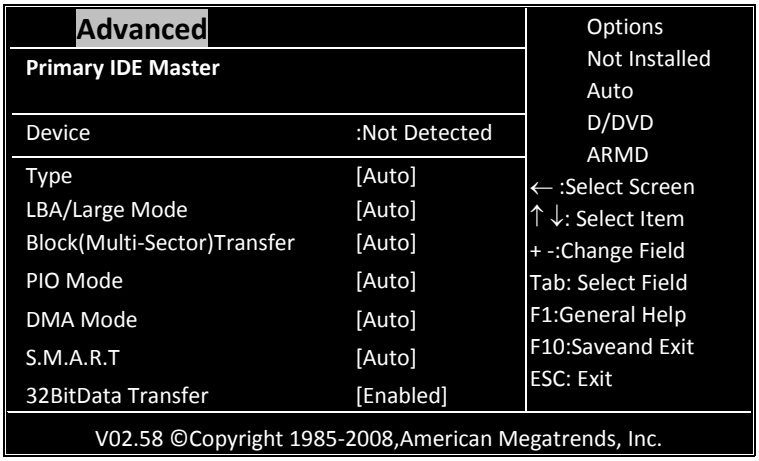


The choice:

Option	Description
Disabled	Disabled onboard IDE function
Primary	Allow system to detect only the Primary IDE channel.
Secondary	Allow system to detect only the Secondary IDE channel
Both	Allow system to detect the Primary and Secondary IDE channels. This is the default setting.

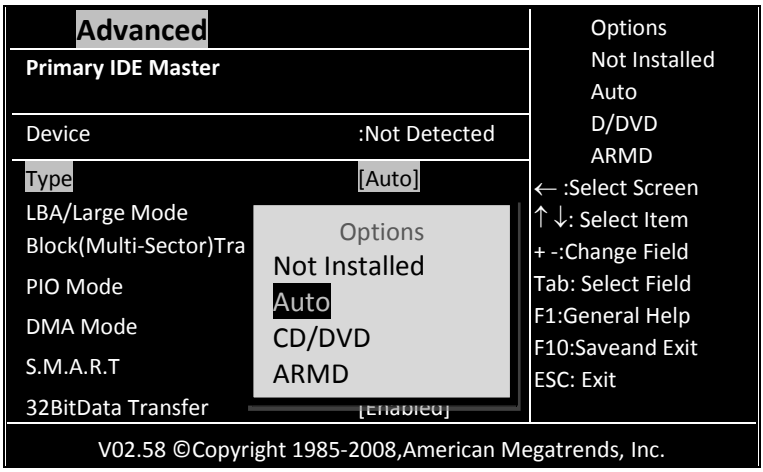
➢Primary/Secondary IDE Master/Slave

When you entered the IDE devices, the bios will auto-detected and show the detail information of IDE devices.
If you want to change with the IDE configuration, select the item and press the “Enter” to configure the item you wanted.



Type

Select the type of IDE drive. Setting to Auto allows automatic selection of the appropriate IDE device type.

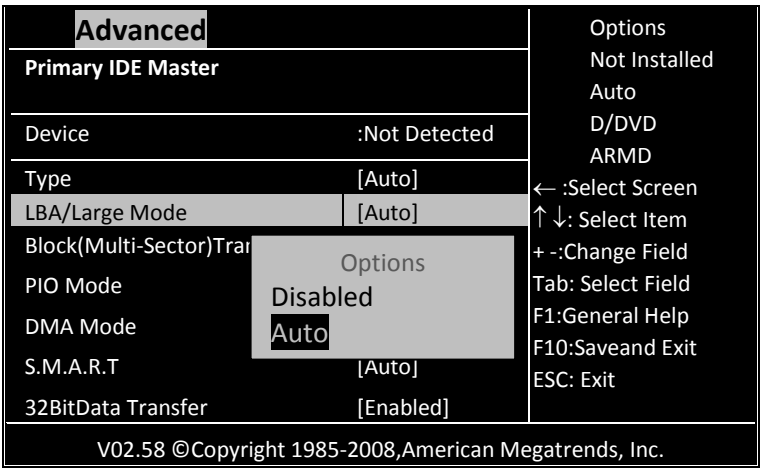


The choice:

Option	Description
Not installed	Prevent the BIOS from searching for an IDE disk drive on the specified channel.
Auto	Allow the BIOS auto detect the IDE disk drive type attached to the specified channel. This is a default setting.
CD/DVD	This option specified that an IDE CD-ROM drive is attached to the specified IDE channel. The BIOS will not attempt to search types of IDE disk drive on the specified channel.
ARMD	This option specifies an ATAPI Removable Media Device. This includes ,but is not limited to: ● ZIP ● LS-120

LBA/Large Mode

Enables or disables the LBA (Logical Block Addressing)/Large mode.

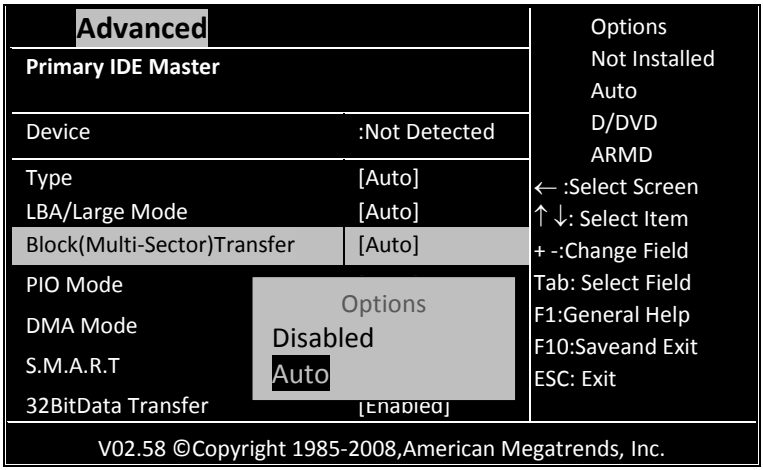


The choice:

Option	Description
Disabled	Set this value to prevent the BIOS from using Large Block Addressing mode control on the specified channel.
Auto	Set this value to allow the BIOS to auto detect the Large Block Addressing mode control on the specified channel. This is the default setting.

Block (Multi-Sector) Transfer

Enables or disables data multi-sectors transfers.

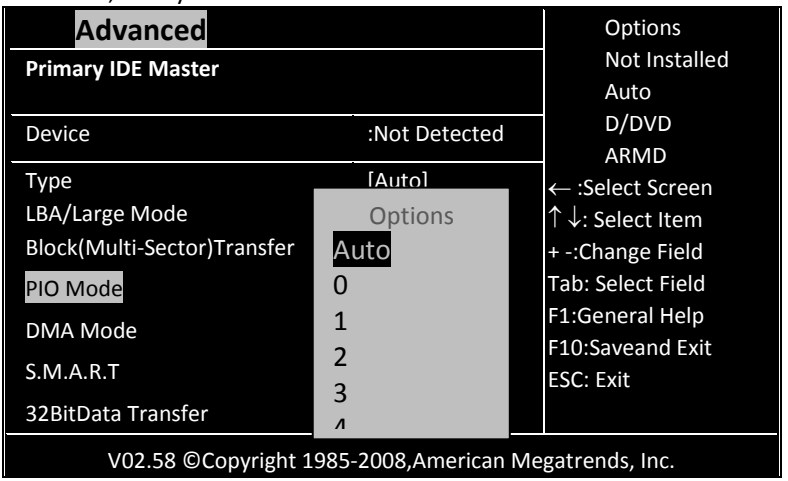


The choice:

Option	Description
Disabled	Set this value to prevent the BIOS from using Multi-Sector on the specified channel.
Auto	Set this value to allow the BIOS to auto detect device support for Multi-Sector Transfers on the specified channel. This is the default setting.

PIO Mode

IDE Programmed I/O (PIO) Mode programs the timing cycle between IDE drive and the programmable IDE controller. As PIO mode increases, the cycle time decreases.



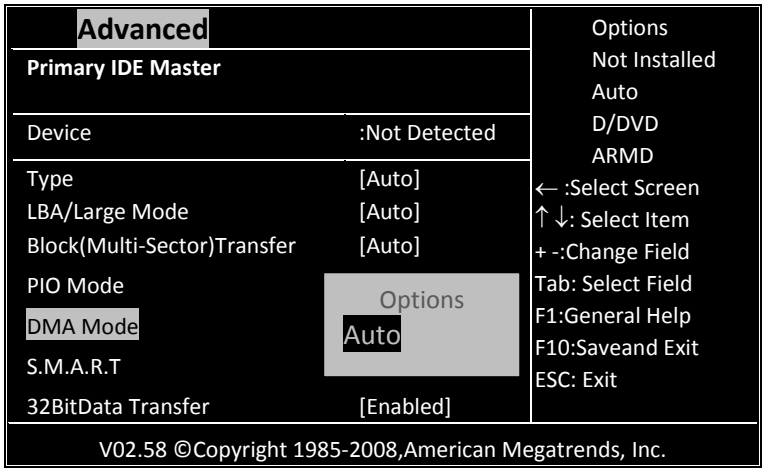
The choice:

Option	Description
Auto	Set this value to allow the BIOS to auto detect the PIO mode. Use this value if the IDE disk drive support cannot be determined. This is the default setting.
0	Set this value to allow the BIOS to use PIO mode 0.It has a data transfer rate of 3.3MBs.
1	Set this value to allow the BIOS to use PIO mode 0.It has a data transfer rate of 5.2MBs.
2	Set this value to allow the BIOS to use PIO mode 0.It has a data transfer rate of 8.3MBs.
3	Set this value to allow the BIOS to use PIO mode 0.It has a data transfer rate of 11.1MBs.
4	Set this value to allow the BIOS to use PIO mode 0.It has a data transfer rate of 16.6MBs.This setting generally works with all hard disk drives manufactured after 1999.For other disk drive, such as IDE CD-ROM drives, check the specified of the drive.

DMA Mode

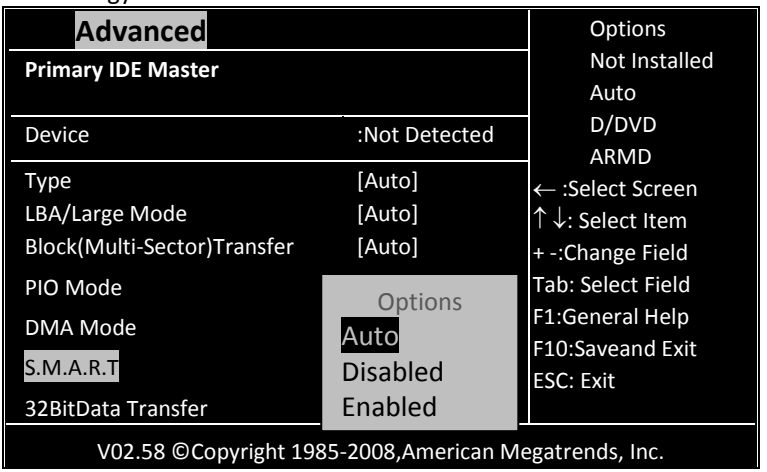
This setting allows you to adjust the DMA mode options. The Optimal and Fail-Safe default setting is [Auto].

.



S.M.A.R.T

S.M.A.R.T. stands for Smart Monitoring, Analysis, and Reporting Technology.

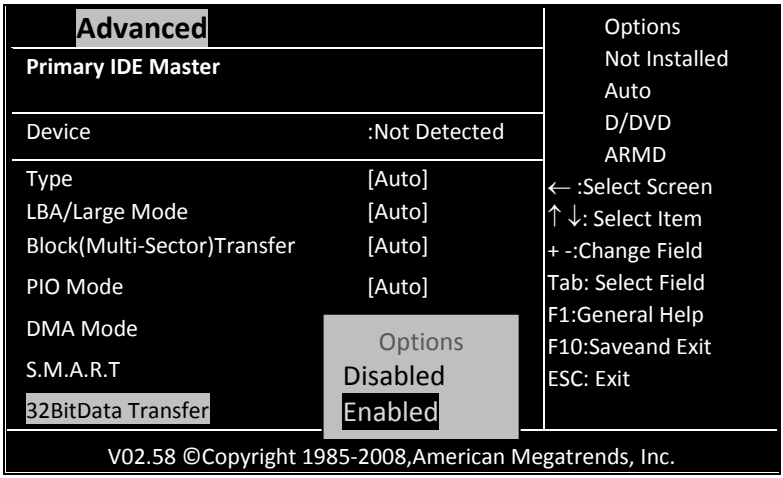


The choice:

Option	Description
Auto	Set this value to allow the BIOS to auto detect hard disk drive support. Use this setting if the IDE disk drive support cannot be determined. This is the default setting.
Disabled	Set this value to prevent the BIOS from using the SMART feature.
Enabled	Set this value to allow the BIOS to SMART feature on support hard disk drives.

32Bit Data Transfer

Enables or disables 32-bit data transfer.

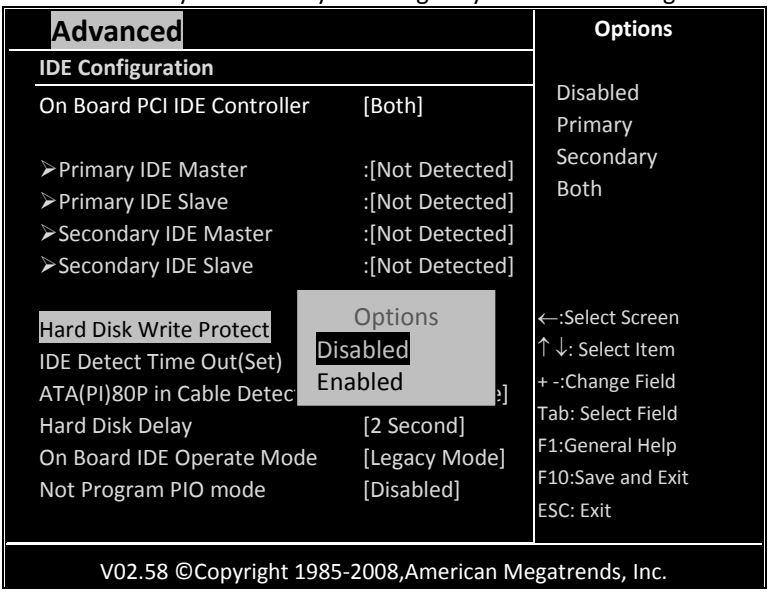


The choice:

Option	Description
Disabled	Set this value to prevent the BIOS from using 32-bit data transfers.
Enabled	Set this value to allow the BIOS to use 32-bit data transfers on support hard disk drive. This is the default setting.

Hard Disk Write Protect

This will allow you to enable or disable the hard disk write protection and this will only effective if you configure your device through BIOS.



The choice:

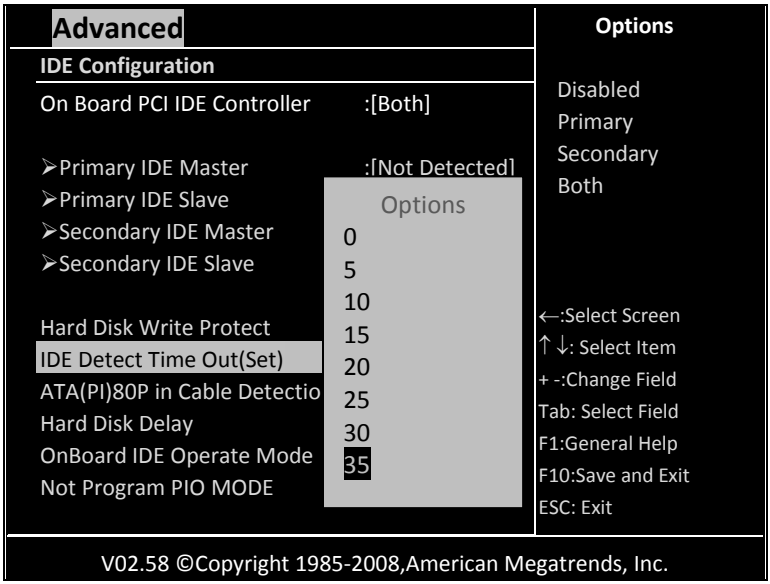
Option	Description
Disabled	Set this value to allow the hard disk drive to be used normally. Read, write, and erase functions can be performed to the hard disk drive. This is the being setting.
Enabled	Set this value to prevent the hard disk from being erased.

IDE Detect Time Out (Sec)

Select the time out value for detecting IDE devices.

The choice:

Option	Description
0	This value is the best setting to use if the onboard IDE controllers are to a specified IDE disk drive in the AMIBIOS.
5	Set this value to stop the AMIBIOS from searching the IDE bus for disk in five seconds. A large majority of ultra ATA hard disk drives can be detected well five seconds.
10	Set this value to stop AMIBIOS from searching IDE bus for IDE disk drives in 10 seconds.
15	Set this value to stop AMIBIOS from searching IDE bus for IDE disk drives in 15 seconds.
20	Set this value to stop AMIBIOS from searching IDE bus for IDE disk drives in 20 seconds.
25	Set this value to stop AMIBIOS from searching IDE bus for IDE disk drives in 25 seconds.
30	Set this value to stop AMIBIOS from searching IDE bus for IDE disk drives in 30 seconds.
35	Set this value to stop AMIBIOS from searching IDE bus for IDE disk drives in 35 seconds. This is the being setting.

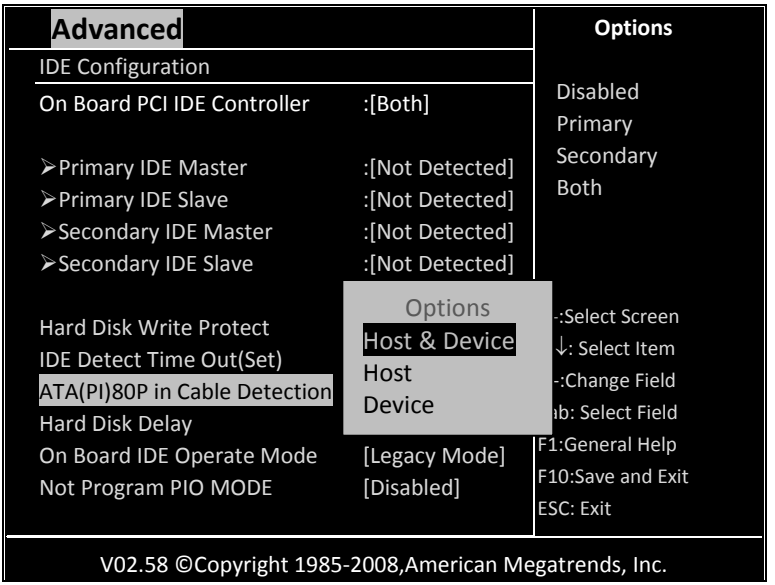


ATA (PI) 80 pin Cable Detection

Set this option to select the method used to detect the ATA (PI) 80 pin cable.

The choice:

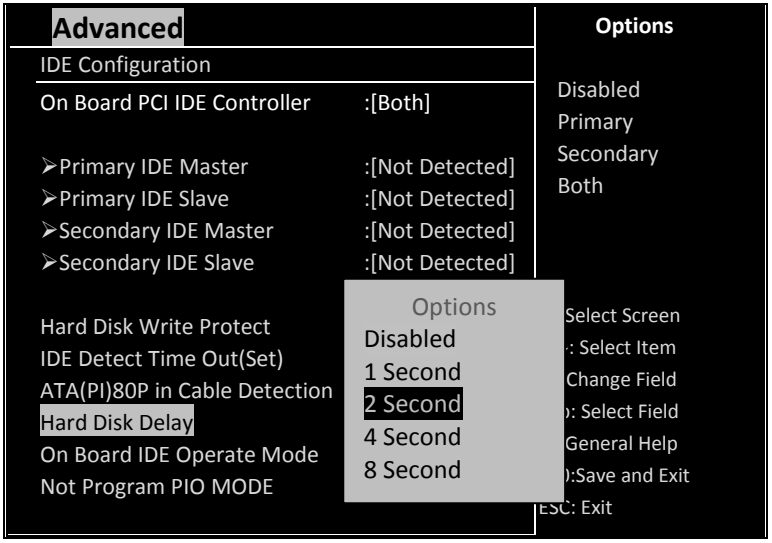
Option	Description
Host& Device	Set this value to use both the motherboard onboard IDE controller and IDE disk drive to detect the type of IDE cable used. This is the default setting.
Host	Set this value to use motherboard IDE controller to detect the type of IDE cable used.
Device	Set this value to use IDE disk drive to detect the type of IDE cable used.



The use of an 80-conductor ATA cable is mandatory for running Ultra ATA/66, Ultra ATA/100 and Ultra ATA/133 IDE hard disk drives. The standard 40-conductor ATA cable cannot handle the higher speeds.

Hard Disk Delay

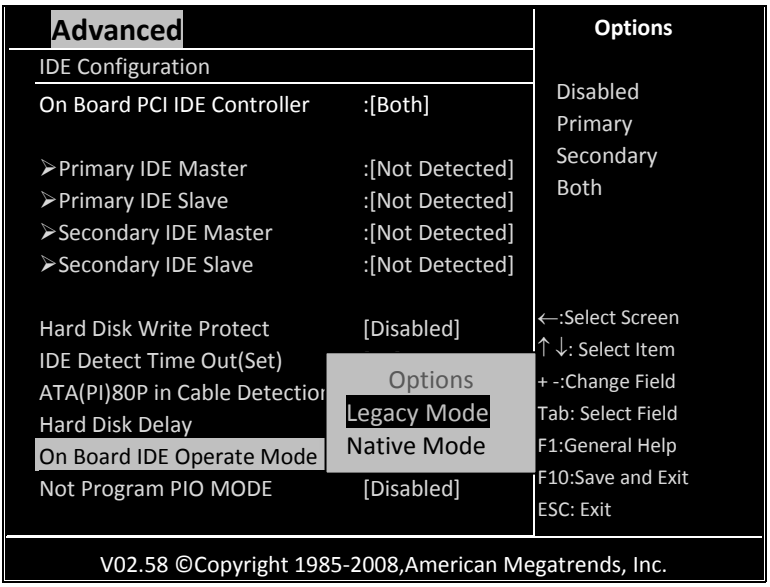
Delay for a connected HDD (secs). The length of time in seconds the BIOS will wait for a hard disk to be ready for operation. The range is from 0~8 seconds. The default setting is [2 Second].



On Board IDE Operate Mode

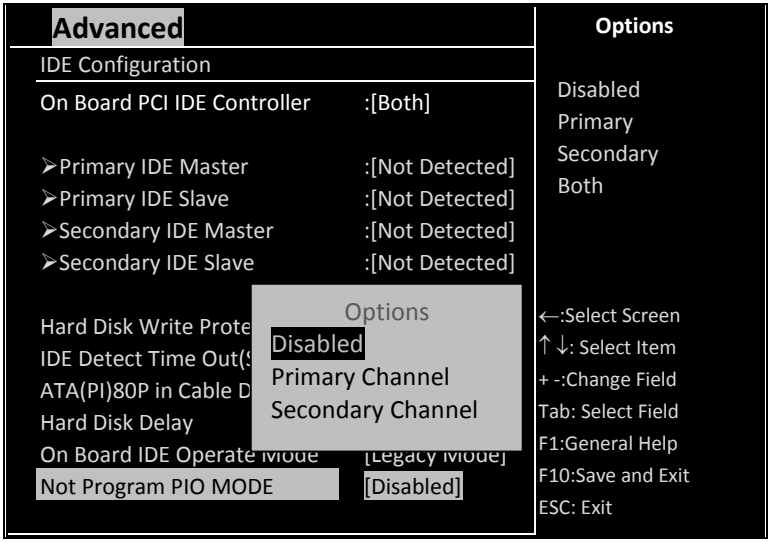
The items in this menu allow you to set or change the configurations for the IDE devices installed in the system.

The default setting is [Legacy Mode].



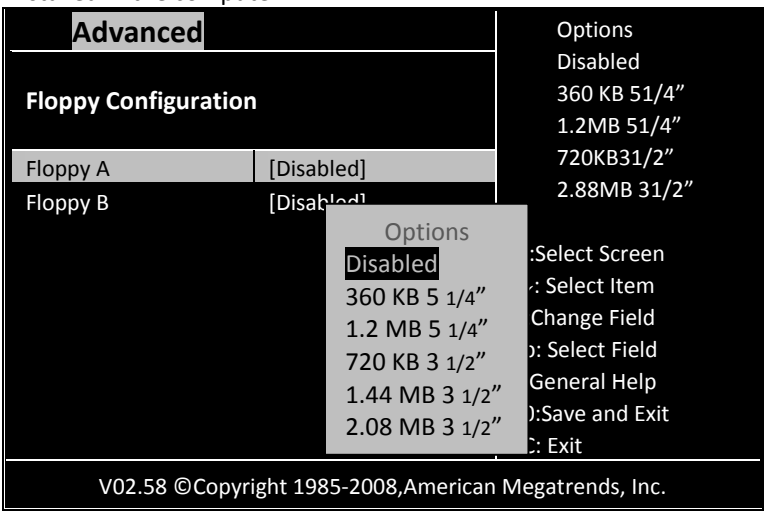
Not Program PIO mode

If the bios cannot detect the CF or IDE, this will allow you to indicate the CF or IDE card to Primary Channel or Secondary Channel.
The default setting is [Disabled].



➢Floppy Configuration

Floppy A' B Select the correct specifications for the diskette drive(s) installed in the computer.



Floppy A

The choice:

Option	Description
Disabled	No diskette drive installed. This is the default setting.
360KB 5 1/4"	5.25 in5-1/4 inch PC-type standard drive.
1.2MB 5 1/4"	5.25 in5-1/4 inch AT-type high-density drive.
720KB 3 1/2"	3.5 in3-1/2 inch double-sided drive.
1.44MB 3 1/2"	3.5 in3-1/2 inch double-sided drive.
2.88MB 3 1/2"	3.5 in 3-1/2 inch double-sided drive.

Floppy B

The choice

Option	Description
Disabled	No diskette drive installed. This is the default setting.
360KB 5 1/4"	5.25 in5-1/4 inch PC-type standard drive.
1.2MB 5 1/4"	5.25 in5-1/4 inch AT-type high-density drive.
720KB 3 1/2"	3.5 in3-1/2 inch double-sided drive.
1.44MB 3 1/2"	3.5 in3-1/2 inch double-sided drive.
2.88MB 3 1/2"	3.5 in 3-1/2 inch double-sided drive.

➢Super I/O Configuration

You can use this screen to select options for the Super I/O settings.

Advanced		Options
Configuration WIN697UF Super IO Chipset		
On Board Floppy Controller	[Disabled]	Disabled
Floppy Drive Swap	[Disabled]	Enabled
Serial Port 3 Address	[228/IRQ10]	
Serial Port 4 Address	[220/IRQ11]	
Serial Port4 Mode	[Normal]	← :Select Screen
Parallel Port Address	[378]	↑ ↓: Select Item
Parallel Port Mode	[ECT EPP]	+ -:Change Field
EPP Version	[1.9]	Tab: Select Field
ECP Mode DMA Channel	[DMA3]	F1:General Help
Parallel Port IRQ	[IRQ7]	F10:Save and Exit
		ESC: Exit
V02.58 ©Copyright 1985-2008,American Megatrends, Inc.		

On Board Floppy Controller

This item specifies the Floppy used by the onboard Floppy controller.
The default setting is [Disabled].

Floppy Drive Swap

This option allows you to *Enabled* or *Disabled* the Floppy Drive Swap.
The default setting is [Disabled].

Serial Port 3 Address

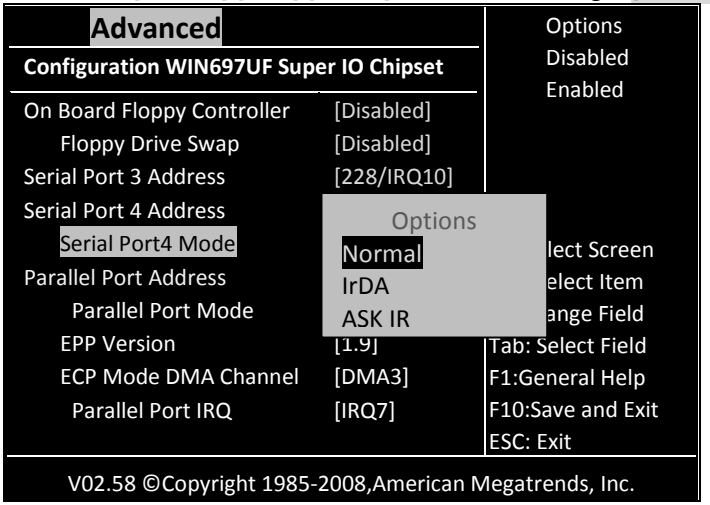
This option specifies the base I/O port address and Interrupt Request address of serial port.
The choice: [Disabled],[338/IRQ4],[238/IRQ3],[228/IRO10].
The default setting is [228/IRQ10].

Serial Port 4 Address

This option specifies the base I/O port address and Interrupt Request address of serial port.
The choice: [Disabled],[338/IRQ4],[238/IRQ3],[220/IRO11].
The default setting is [220/IRQ11].

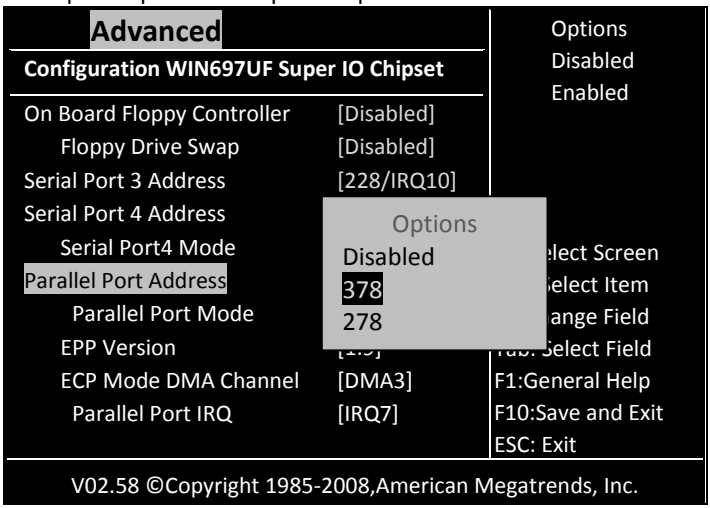
Serial Port4 Mode

This option specifies the base I/O port mode function.
The choice: [Normal],[IrDA],[ASK IR].The default setting is [Normal].



Parallel Port Address

This option specifies the parallel port address.

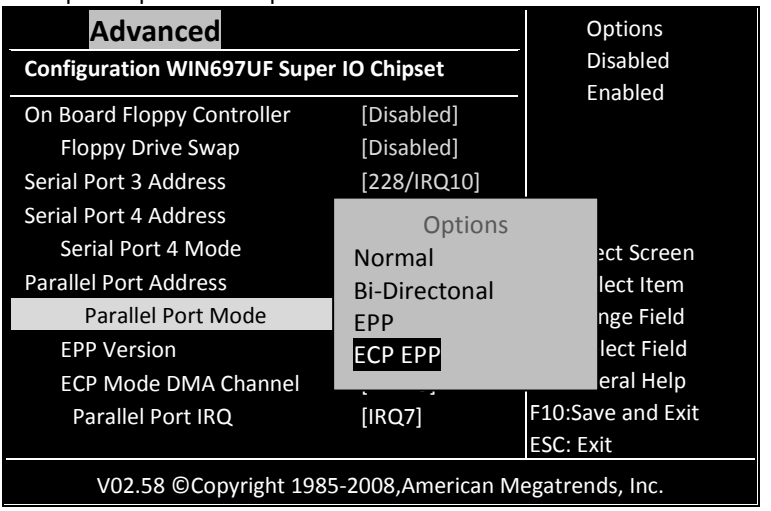


The choice:

Option	Description
Disabled	Prevent the parallel port from accessing any system resources.
378	Allow the parallel port to use 378 as its I/O port address. This is the default setting.
278	Allow the parallel port to use 278 as its I/O port address.

Parallel Port Mode

This option specifies the parallel mode.



EPP Version

The choice: [1.9], [1.7]. The default setting is [1.9].

ECP Mode DMA Channel

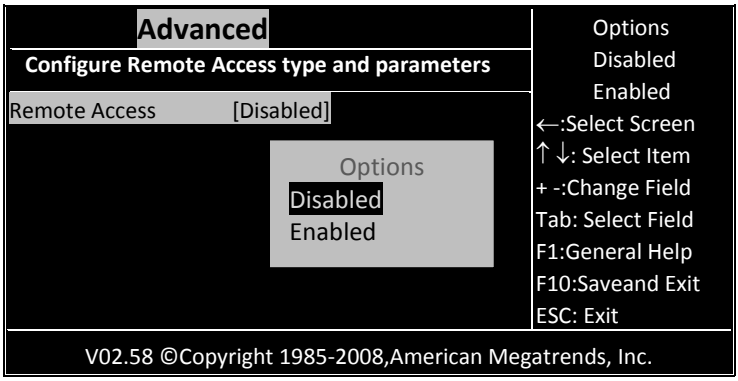
The choice: [DMA0], [DMA1], [DMA3]. The default setting is [DMA3].

Parallel Port IRQ

This option specifies the IRQ used by the parallel port.
The choice:

Option	Description
5	Set this value to allow the serial-port to use Interrupt 3.
7	Set this value to allow the serial-port to use Interrupt 7. This is the default setting.

➢Remote Access Configuration

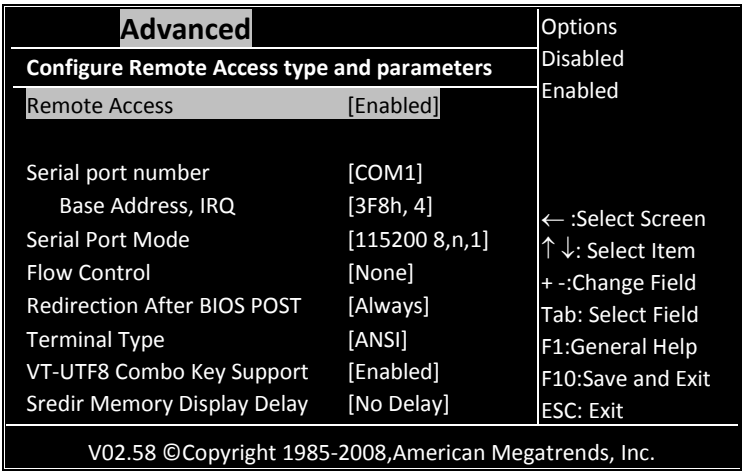


Remote Access

This menu allows you to enable or disable Remote Access.
The choice:

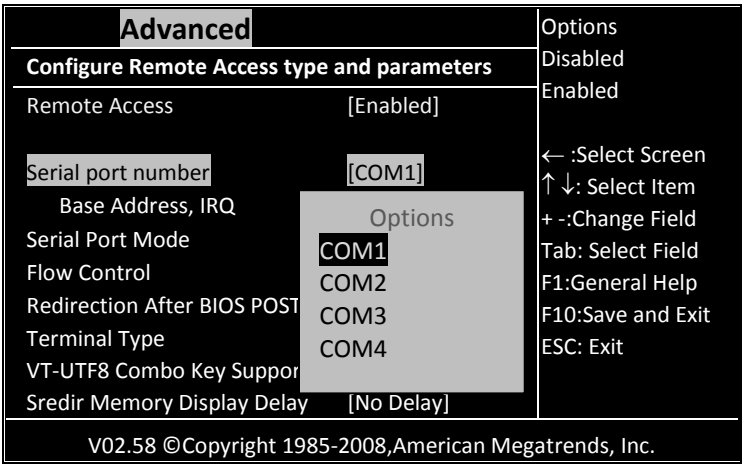
Option	Description
Disabled	Prevent the BIOS from using Remote Access. This is the default setting.
Enabled	Allow the system to use the remote access feature. The remote success feature requires a dedicated serial port connection.

If you select it to [Enable], below sub menus will show up:



Serial port number

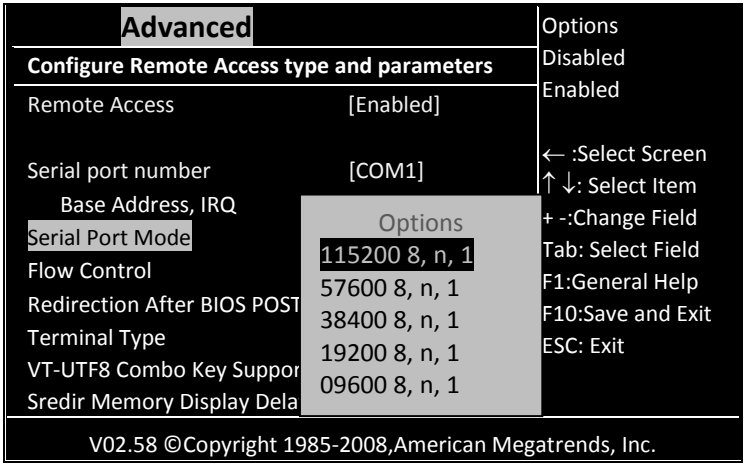
This menu allows you to select the serial port for console redirection. Make sure the selected port is enabled.
Configuration options: [COM1] [COM2] [COM3] [COM4]



Serial port Mode

Select the baud rate you want the serial port to use for console redirection.

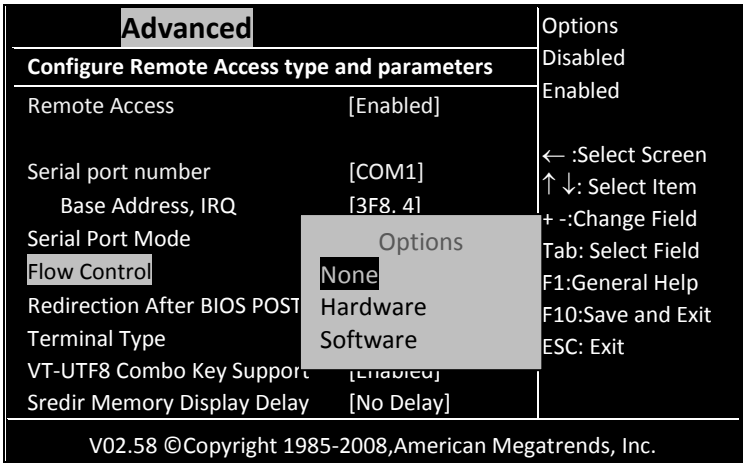
Configuration settings: [115200 8,n,1] [57600 8,n,1] [38400 8,n,1] [19200 8,n,1] [09600 8,n,1]



Flow Control

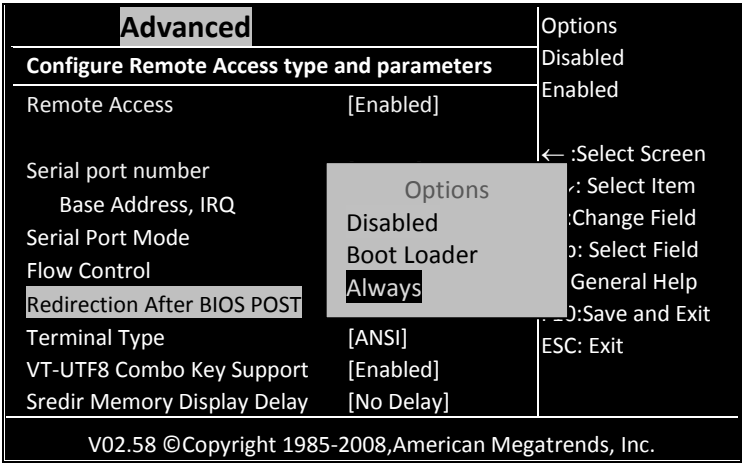
This menu allows you to select flow control for console redirection

Configuration options: [None] [Hardware] [Software]



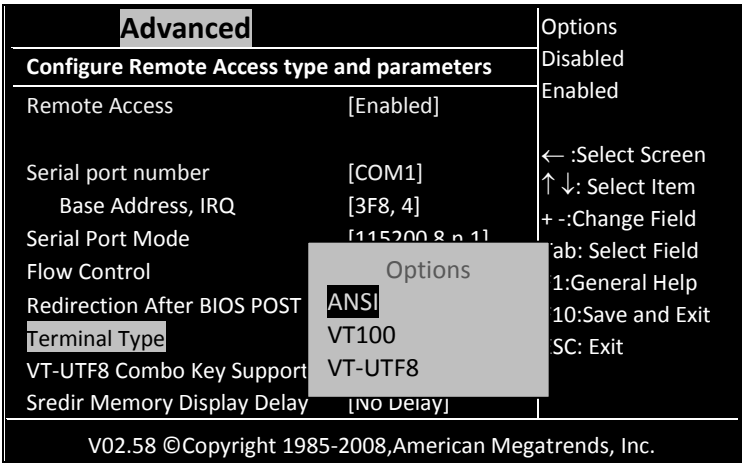
Redirection After BIOS POST

This menu allows you to set Redirection configuration after BIOS POST. You may turn off the redirection after POST [Disable] or set the Redirection to be active during POST and Boot Loader [Boot Loader] or to set the Redirection to be always active [Always].



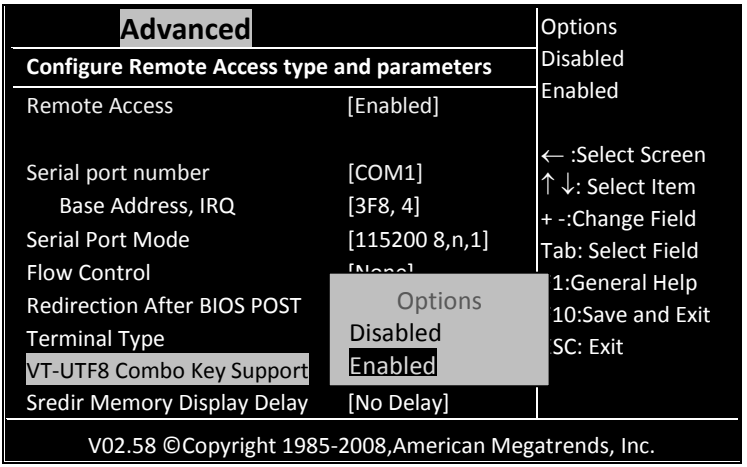
Terminal Type

This menu allows you to select the target terminal type. Configuration options: [ANSI] [VT100] [VT-UTF8].



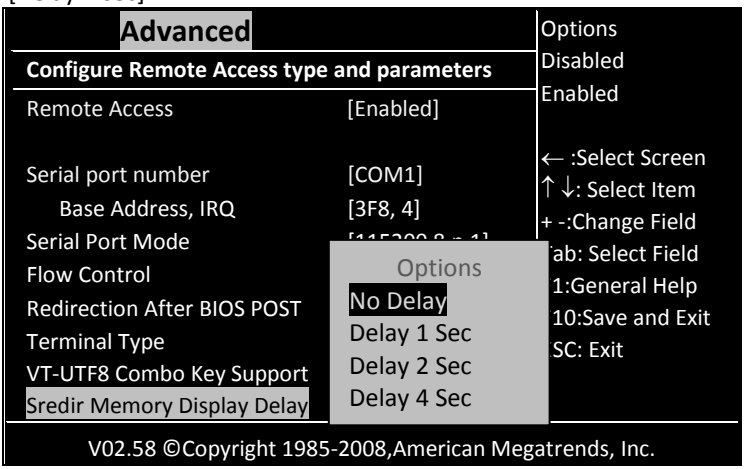
VT-UTF8 Combo Key Support

This menu allows you to enable or disable VT-UTF8 combination key support for ANSI/VT100 terminals.
Configuration options: [Disabled] [Enabled].

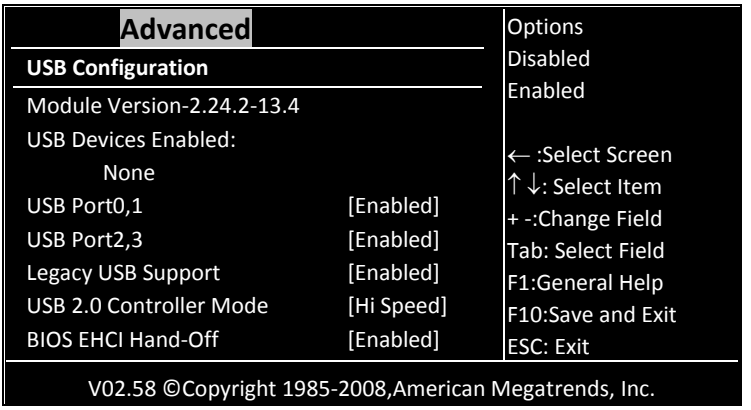


Sredir Memory Display Delay

This allow you to indicate the length of time in second to of the Memory Display Delay.
Configuration options: [No Delay] [Delay 1 sec] [Delay 2 sec] [Delay 4 sec]

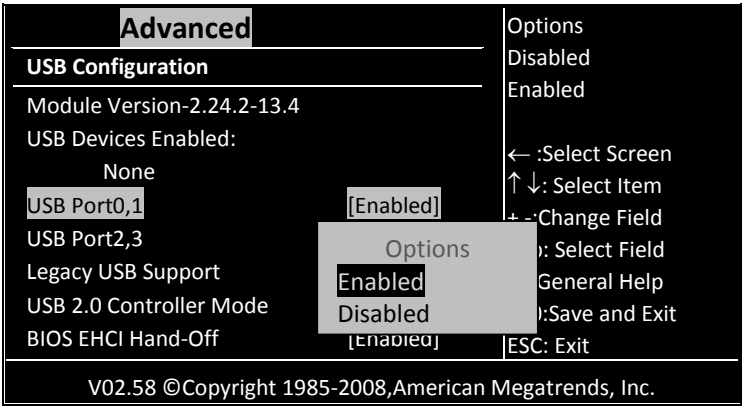


➢USB Configuration



USB Port 0,1,2,3

Set this value to allow the system to enable or disable the onboard USB ports.

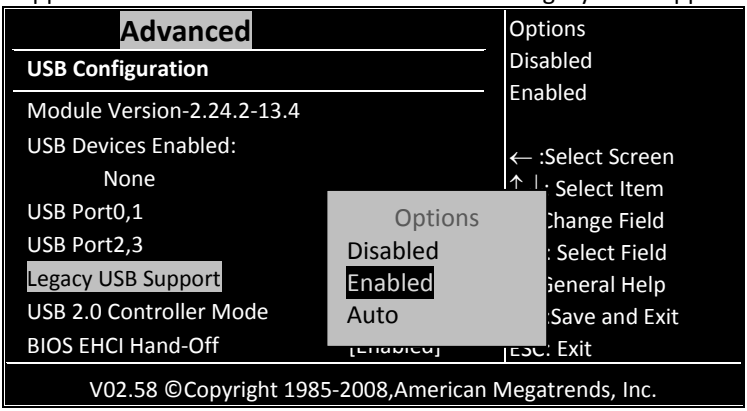


The choice:

Option	Description
Disabled	This setting makes the onboard USB ports unviable.
Enabled	Allows the use of the USB ports. This is the default setting.

Legacy USB Support

Legacy USB Support refers to the USB mouse and USB keyboard support. Set this value to enable or disable the Legacy USB Support.

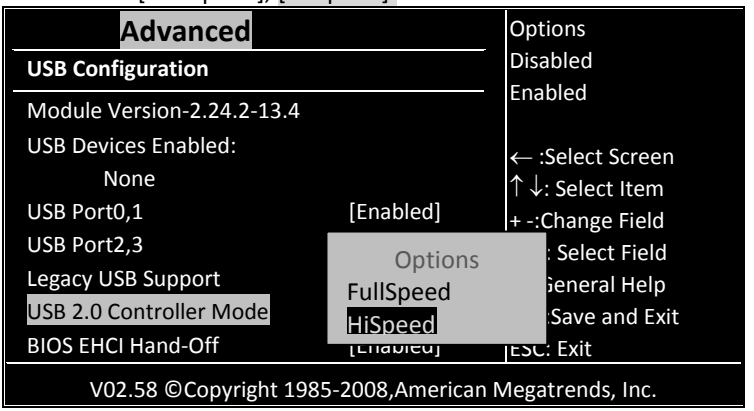


The choice:

Option	Description
Disabled	Prevent the use of any USB device in DOS or during system boot.
Enabled	Allow the use of USB devices during boot and while using DOS. This is the default setting.
Auto	This option auto detects USB Keyboards or Mice and if found, allows them to be untilized during boot and while using DOS.

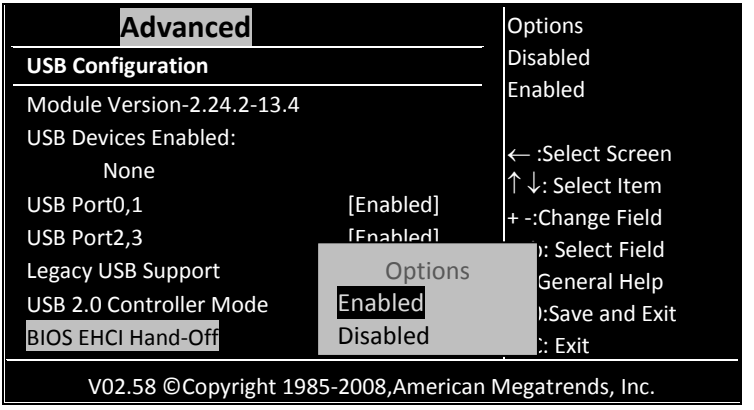
USB 2.0 Controller Mode

Allow you configure the USB 2.0 controller in HiSpeed or Full Speed.
The choice: [Full Speed], [Hi Speed].



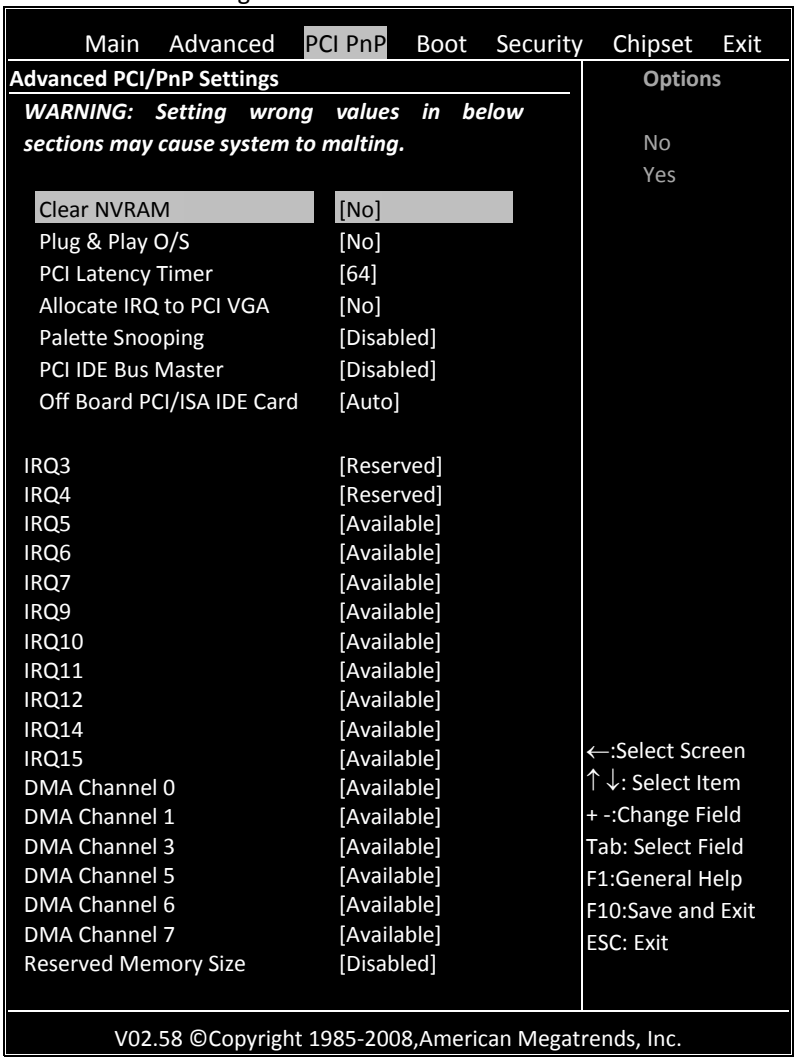
BIOS EHCI Hand-OFF

Allow you to enable or disable support for the operating system without an EHCI hand-off feature.
Configuration options: [Disabled] [Enabled].



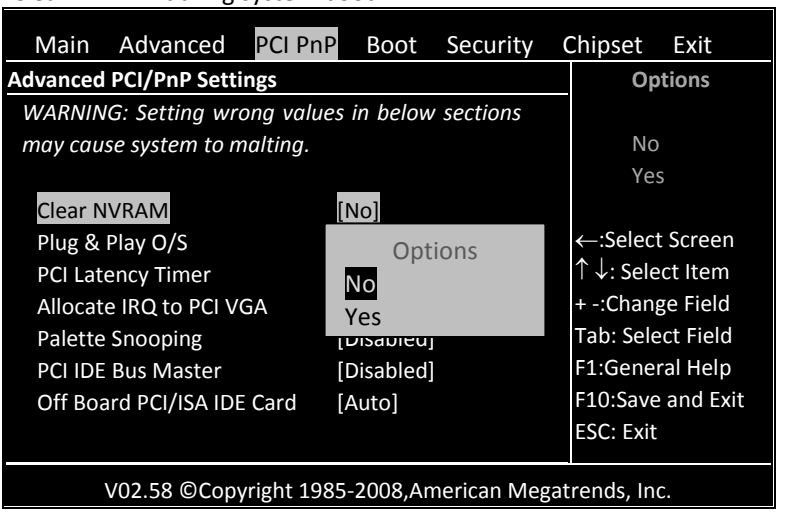
3.3PCI /PnP

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components.
This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.



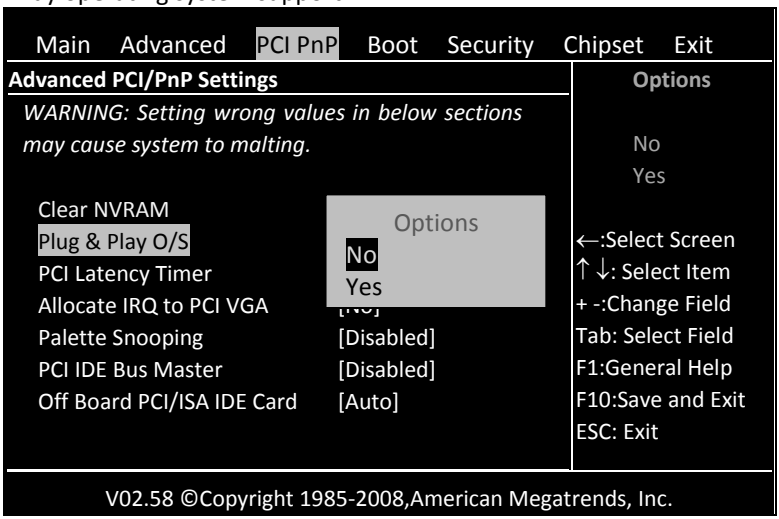
Clear NVRAM

Clear NVRAM during system boot.



Plug & Play O/S

Set this value to allow the system to modify the settings for Plug and Play operating system support.

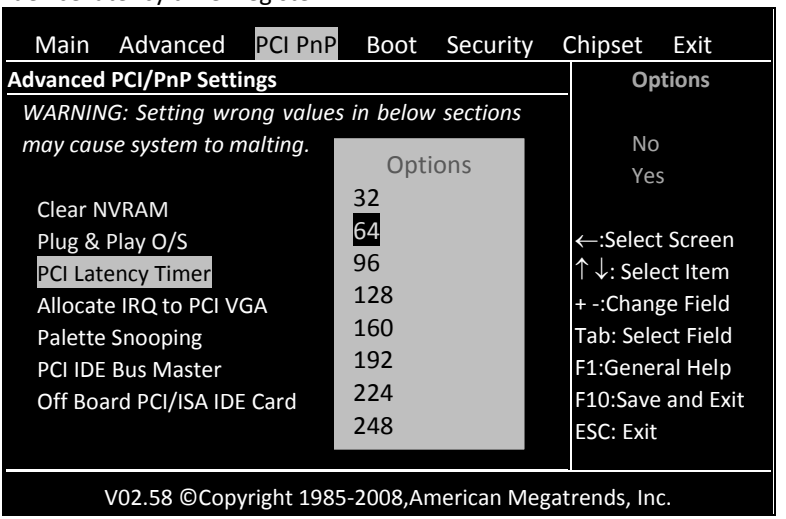


The choice:

Option	Description
No	The No setting is for operating systems that do not meet the Plug and Play specifications. It allows the BIOS to configure all the devices in the system. This is the default setting.
Yes	The Yes setting allows the operating system to change the interrupt, I/O, and DMA settings. Set this option if the system is running Plug and Play aware operating systems.

PCI Latency Timer

Allow you to select the value in units of PCI clocks for all of the PCI device latency timer register.

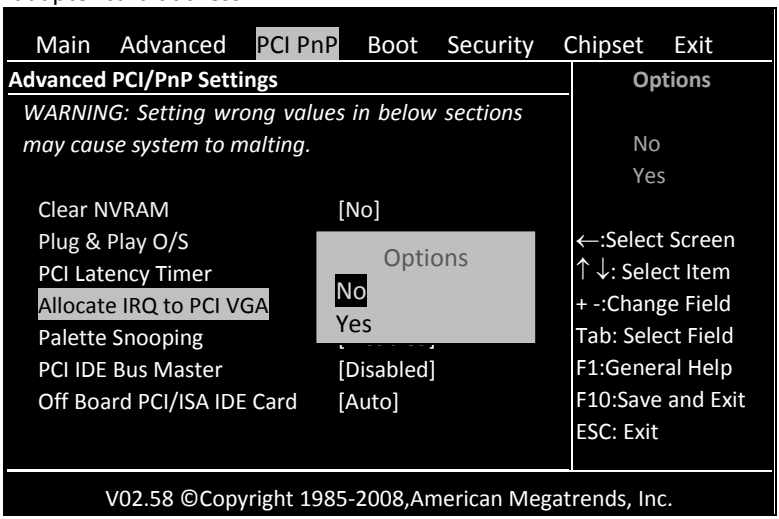


The choice:

Option	Description
32	This option sets the PCI latency to 32 PCI clock cycle.
64	This option sets the PCI latency to 64 PCI clock cycle. This is the default setting.
96	This option sets the PCI latency to 96 PCI clock cycle.
128	This option sets the PCI latency to 128 PCI clock cycle.
160	This option sets the PCI latency to 160 PCI clock cycle.
192	This option sets the PCI latency to 192 PCI clock cycle.
224	This option sets the PCI latency to 224 PCI clock cycle.
248	This option sets the PCI latency to 248 PCI clock cycle.

Allocate IRQ to PCI VGA

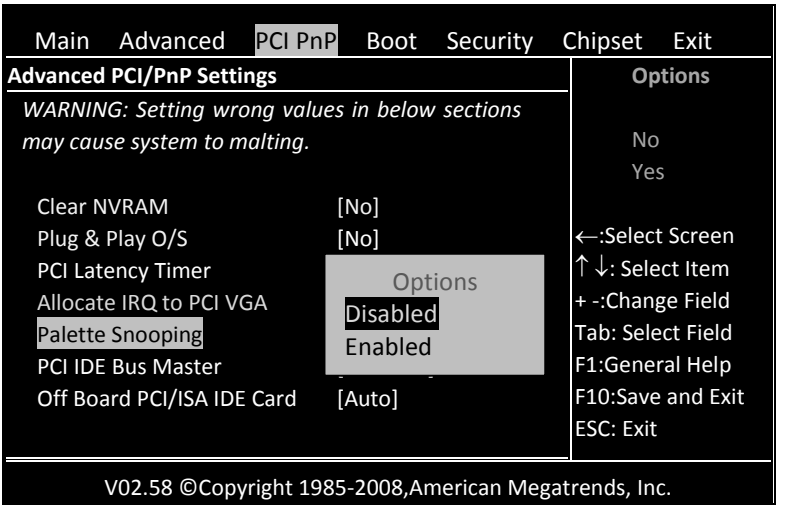
Set this value to allow or restrict the system from the giving the VGA adapter card address.



The choice:

Option	Description
Yes	Set this value to allow the allocation of an IRQ to a VGA adapter card that uses the PCI local bus.
No	Set this value to prevent the allocation of an IRQ to a VGA adapter card that uses the PCI local bus. This is the default setting.

Palette Snooping

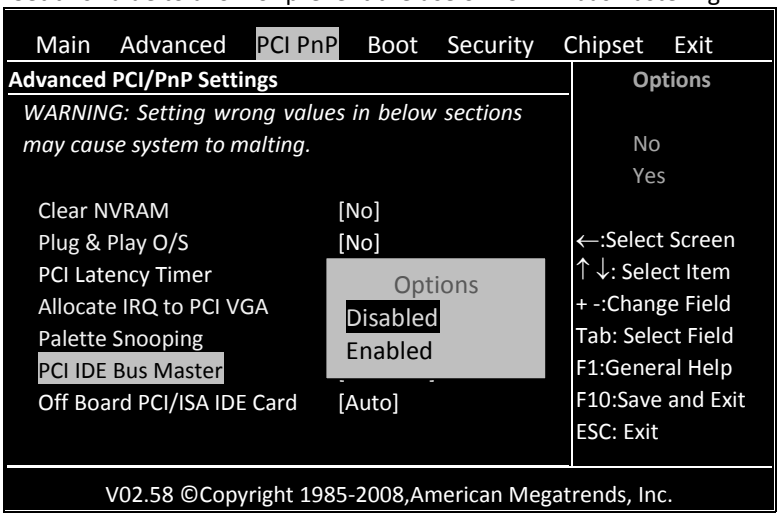


The choice:

Option	Description
Disabled	This is the default setting and should not be changed unless the VGA card manufacturer requires Palette Snooping to be Enabled.
Enabled	This setting informs the PCI device that an JSA based Graphics device is installed in the system. It does this so the ISA based Graphics card will function correctly. This does not necessarily indicate a physical ISA adapter card. The graphics chipset can be mounted on a PCI card. Always check With tour adapter card's manuals first, before modifying the default setting in the BIOS.

PCI IDE Bus Master

Set this value to allow or prevent the use of PCI IDE busmastering.

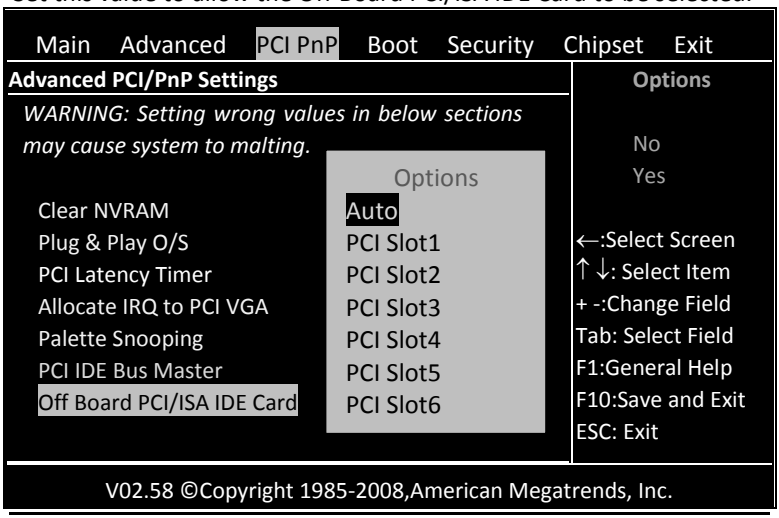


The choice

Option	Description
Disabled	Set this value to prevent PCI bus mastering. This is the default setting.
Enabled	This option specifies that the IDE controller on the PCI local bus has mastering capabilities.

Off Board PCI/ISA IDE Card

Set this value to allow the Off Board PCI/ISA IDE Card to be selected.



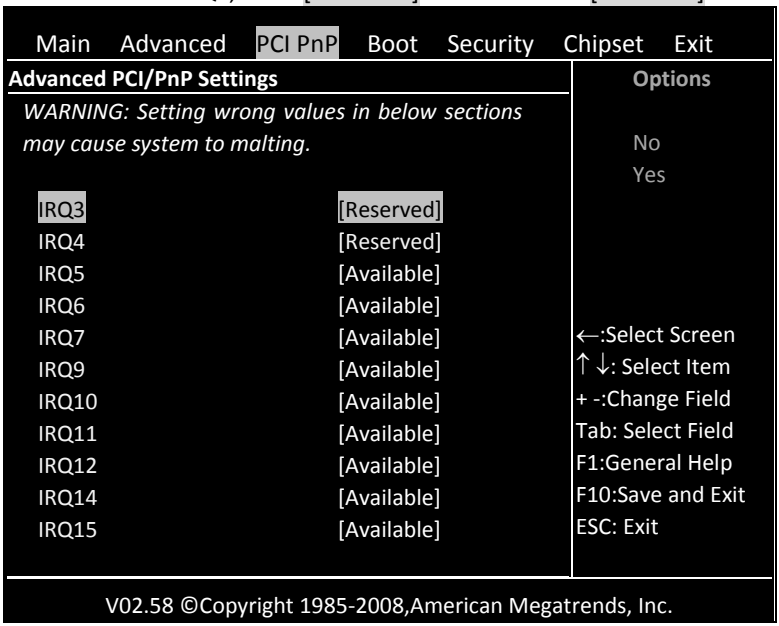
The choice:

Option	Description
Auto	This setting will auto select the location of an Off Board PCI IDE adapter card. This is the default setting.
PCI Slost1	This setting will select PCI Slot 1 as location of the Off Board PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 1.
PCI Slost2	This setting will select PCI Slot 2 as location of the Off Board PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 2.
PCI Slost3	This setting will select PCI Slot 3 as location of the Off Board PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 3. This option is available even if the motherboard does not have a PCI Slot 3. If the motherboard does not have a PCI Slot 3, do not use this setting.
PCI Slost4	This setting will select PCI Slot 4 as location of the Off Board PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 4. This option is available even if the motherboard does not have a PCI Slot 4. If the motherboard does not have a PCI Slot 4, do not use this setting.
PCI Slost5	This setting will select PCI Slot 5 as location of the Off Board PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 5. This option is available even if the motherboard does not have a PCI Slot 5. If the motherboard does not have a PCI Slot 5, do not use this setting.
PCI Slost6	This setting will select PCI Slot 6 as location of the Off Board PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 6. This option is available even if the motherboard does not have a PCI Slot 6. If the motherboard does not have a PCI Slot 6, do not use this setting.

IRQ 3, 4, 5, 6, 7, 9

IRQ10, 11, 12, 14, 15

This item can select the IRQ with Available or Reserved. When you set available, the specified IRQ is to be used by a PCI/PnP device; as you set reserved, the IRQ will reserved for legacy ISA devices.
The default of IRQ3, 4 are [Reserved] and others are [Available].

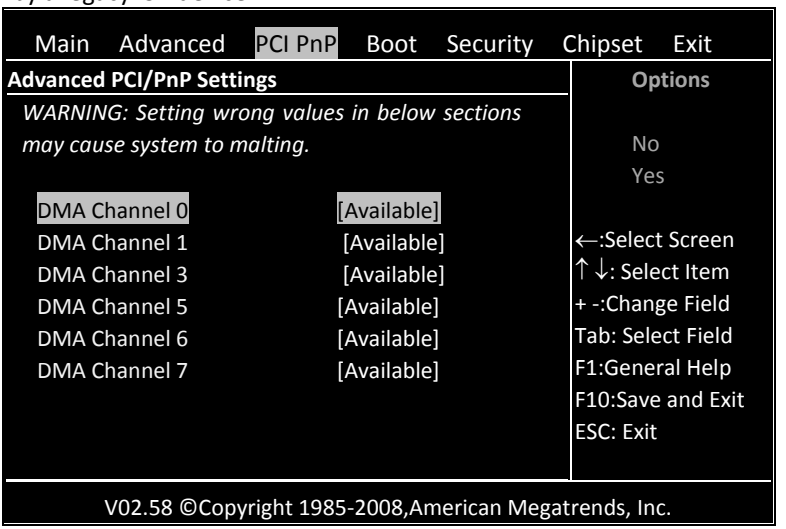


The choice:

Interrupt	Option	Description
IRQ3 IRQ4 IRQ5 IRQ6 IRQ7 IRQ9 IRQ10 IRQ11 IRQ12 IRQ14 IRQ15	Available	This setting allows the specified IRQ to be used by a PCI/PnP device. This is the default setting.
	Reserved	This setting allows the specified IRQ to be used by a legacy ISA device.

DMA Channel 0, 1, 3, 5, 6, 7

This item can select the DMA Channel for Available or Reserved. When set to Available the specified DMA is available for used by PCI/PnP devices; when set to reserved, the specified DMA to be used by a legacy ISA device.

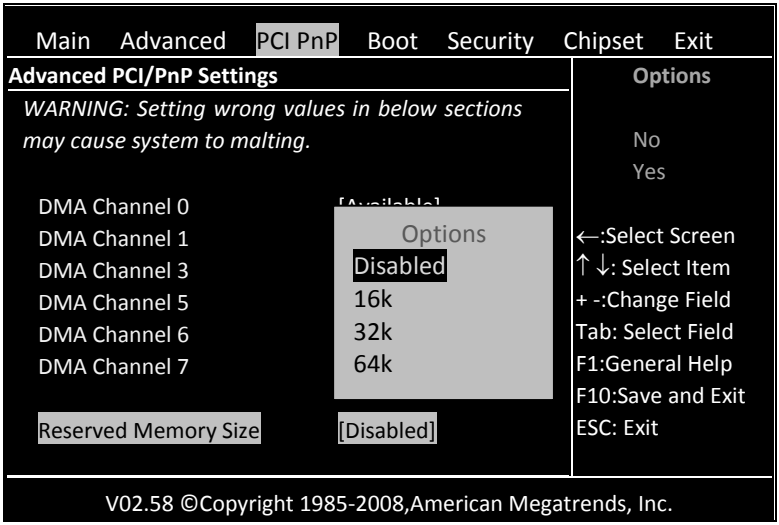


The choice:

DMA Channel	Option	Description
DMA Channel 0 DMA Channel 1 DMA Channel 3 DMA Channel 5 DMA Channel 6 DMA Channel 7	Available	This setting allows the specified DMA to be used by a PCI/PnP device. This is the default setting.
	Reserved	This setting allows the specified DMA to be used by a legacy ISA device.

Reserved Memory Size

Set this value to allow the system to reserve memory that is used by ISA devices.

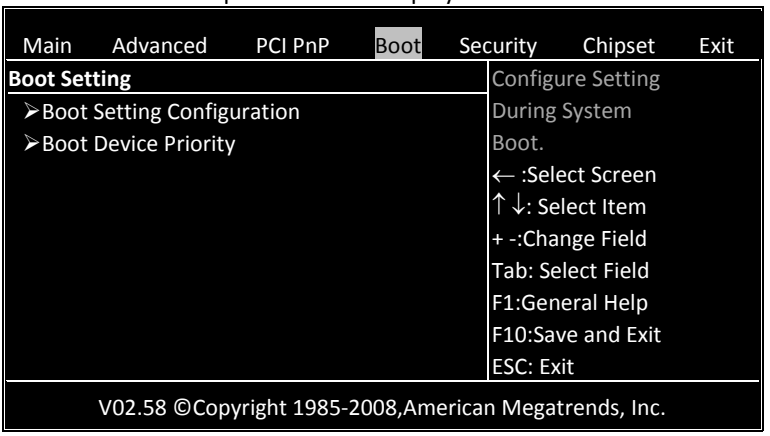


The choice:

Option	Description
Disabled	Set this value to BIOS from reserving memory to ISA device. This is the default setting.
16K	Set this value to allow the system to reserve 16K of the system memory to the ISA device.
36K	Set this value to allow the system to reserve 36K of the system memory to the ISA device.
64K	Set this value to allow the system to reserve 64K of the system memory to the ISA device.

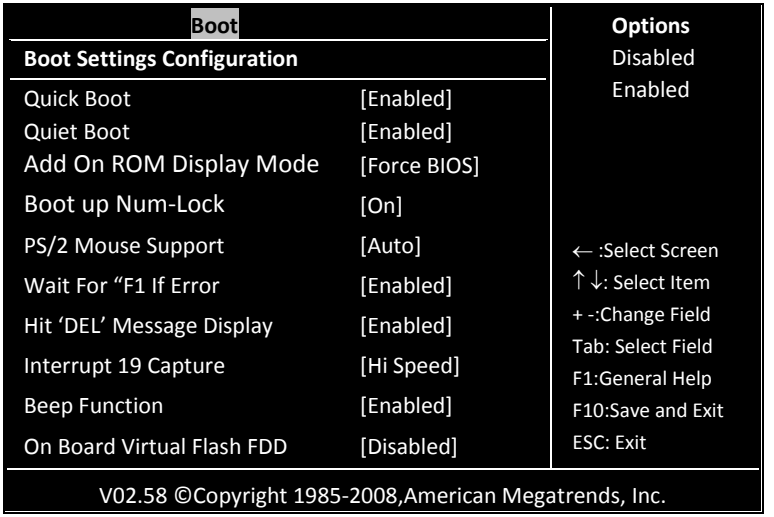
3.4Boot setting

The Boot menu items allow you to change the system boot options. Select an item then press Enter to display the sub-menu.



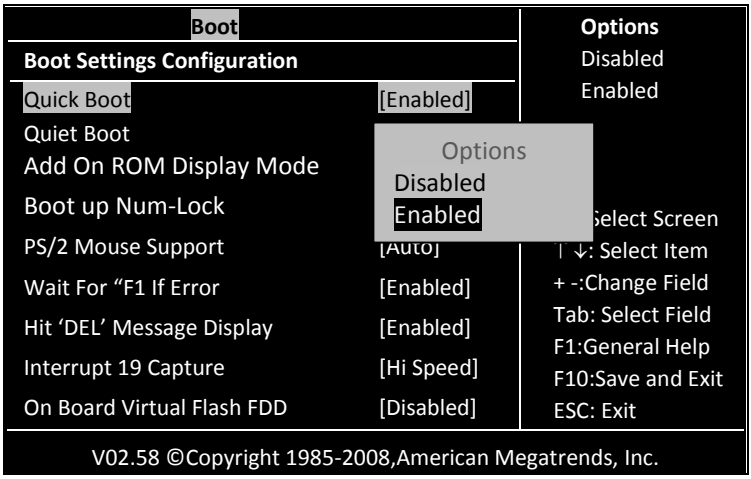
➢Boot Setting Configuration

Allow you to configure the system boot setting with bellow submenus.



Quick Boot

Set the value to *Enable* to allow the BIOS to skip some Power On Self Tests (POST) while booting to decrease the time needed to boot the system. When you set the value to Disable the BIOS will performs all the POST items.

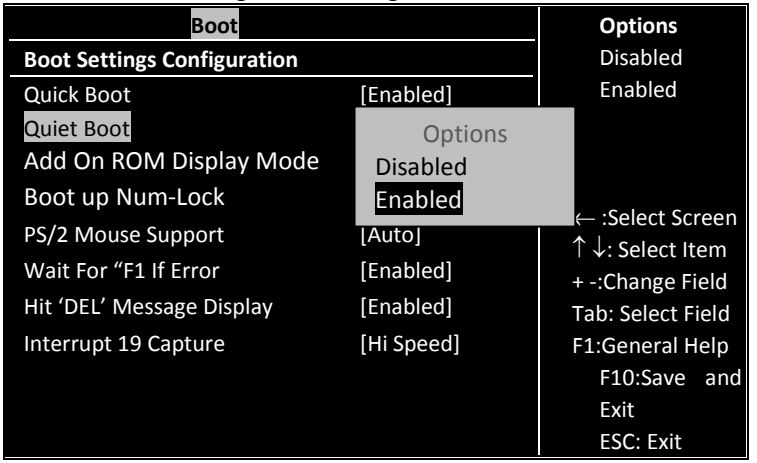


The choice:

Option	Description
Disabled	Set this value to allow the BIOS to perform all POST tests.
Enabled	Set this value to allow the BIOS to skip certain POST tests to boot faster. This is the default setting.

Quiet Boot

Set this value to allow the boot up screen options to be modified between POST messages or OEM logo.

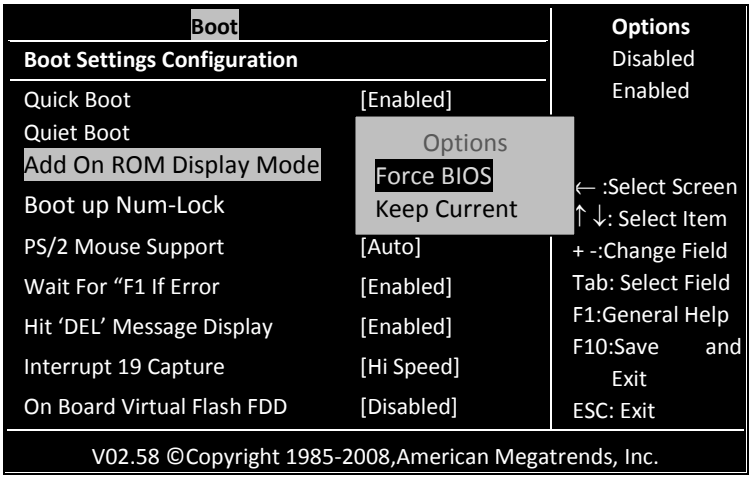


The choice:

Option	Description
Disabled	Set this value to allow the computer system to display the POST message.
Enabled	Set this value to allow the computer system to display the OEM logo. This is the default setting.

Add On ROM Display Mode

Set this option to display add-on ROM (read-only memory) messages. The Optimal and Fail-Safe default setting is Force BIOS. An example of this is a SCSI BIOS or VGA BIOS.

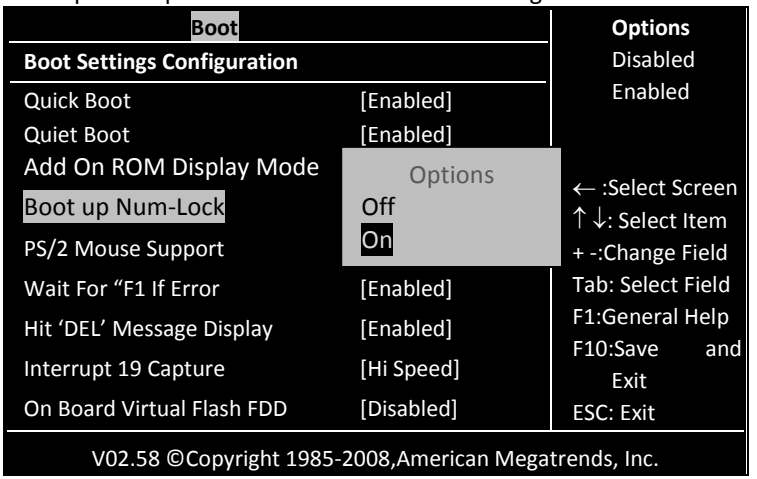


The choice:

Option	Description
Force BIOS	Set this value to allow the computer system to force a third party BIOS to display during system boot. This is the default setting.
Keep Current	Set this value to allow the computer system to display the ez PORT information during system boot.

Boot up Num-Lock

Set this value to allow the Number Lock setting to be modified during boot up. The Optimal and Fail-Safe default setting is On.

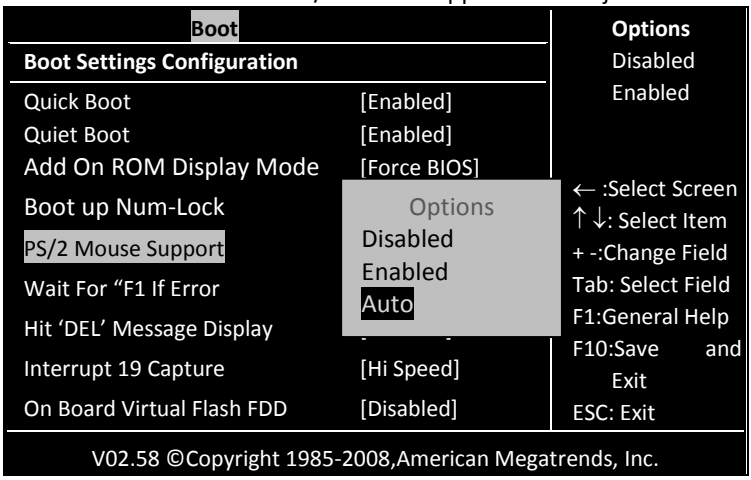


The choice:

Option	Description
Off	Disabled the keyboard Number Lock automatically.
On	Allow the Number Lock on the keyboard to be enabled automatically when the computer system is boot up. This is the default setting.

PS/2 Mouse Support

Set this value to allow the PS/2 mouse support to be adjusted.

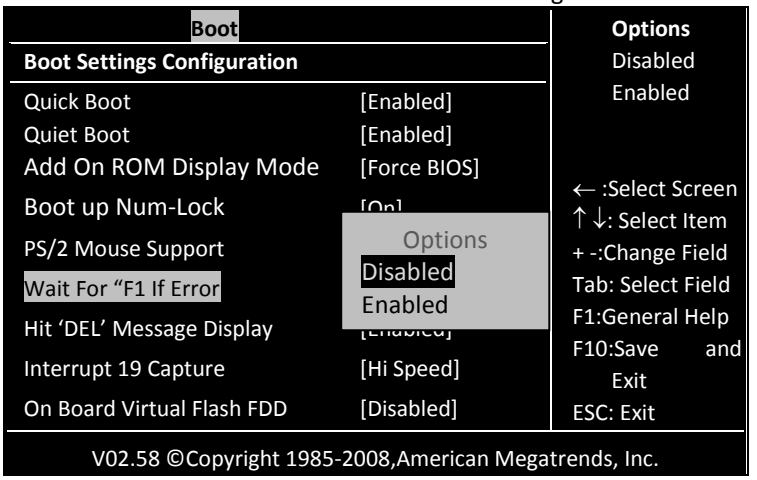


The choice:

Option	Description
Disabled	This option will prevent the PS/2 mouse port from using system resources and will prevent the post from being active. Use this setting if installing a serial mouse.
Enabled	Set this value to allow the system to use a PS/2 mouse.
Auto	Set this value to allow the system to use a PS/2 mouse. This is the default setting.

Wait For 'F1' If Error

Set this value to allow the Wait for 'F1' Error setting to be modified.

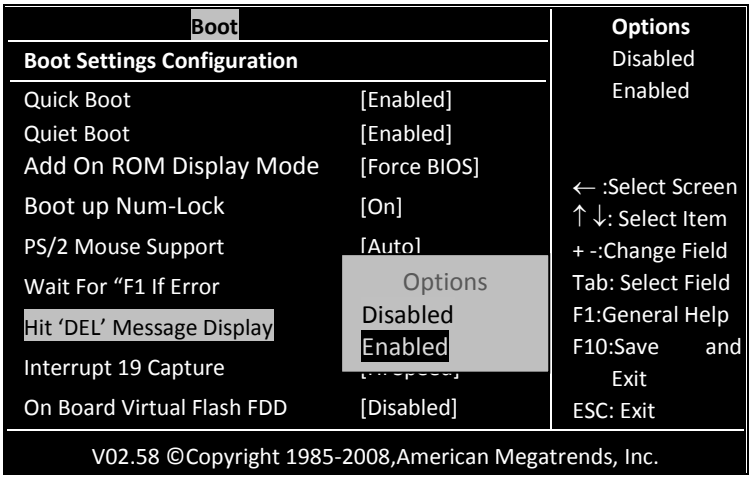


The choice:

Option	Description
Disabled	This prevents the ez PORT to wait on an error for user intervention . This setting should be used if there is a known reason for a BIOS error to appear. An example would be a system administrator must remote boot the system. The computer system does not have a keyboard currently attached. If this setting is set, the system will continue to boot up in to the operating system. If ' F1'is enabled, the system will wait until the BIOS setup is entered.
Enabled	Set this value to allow the system BIOS to wait for any error. If an error is detected, pressing<F1>will enter upgrading the hardware and not setting the BIOS to recognize it. This normally Happens when upgrading the hardware and not setting the BIOS to recognize it. This is the default setting.

Hit 'DEL' Message Display

Set this value to allow the *Hit "DEL" to enter Setup* Message Display to be modified.

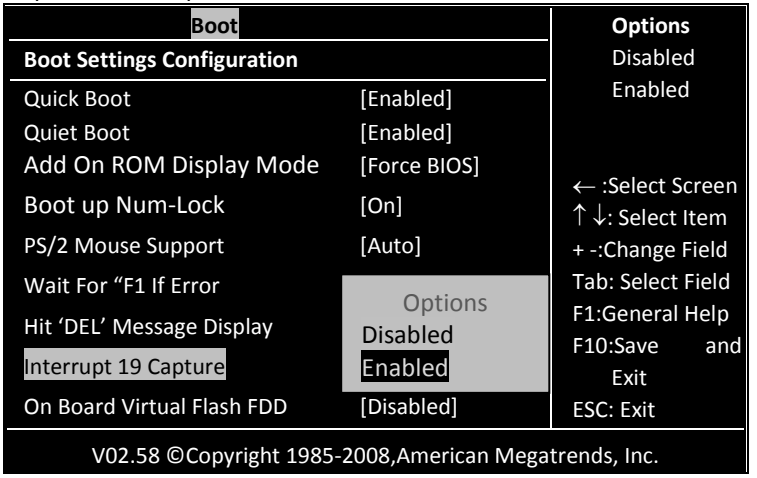


The choice:

Option	Description
Disabled	This prevents the ezPORT to display Hit Del to enter Setup during Memory initialization. If Quite Boot is enables, the Hit 'DEL'message will not display.
Enabled	This allows the ezPORT to display Hit Del to enter Setup during Memory initialization. This is the default setting.

Interrupt 19 Capture

Set this value to allow option ROMs such as network controllers to trap BIOS interrupt 19.

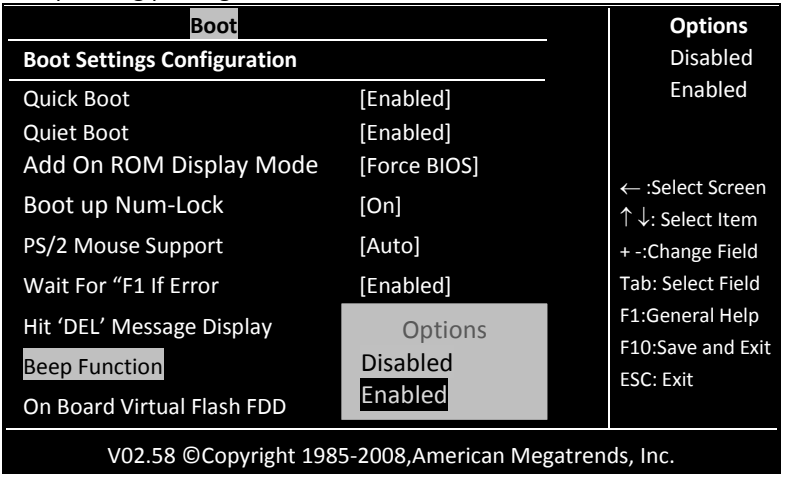


The choice:

Option	Description
Disabled	The BIOS prevents option ROMs from trapping interrupt 19.
Enabled	The BIOS allows option ROMs to trap interrupt 19. This is the default setting.

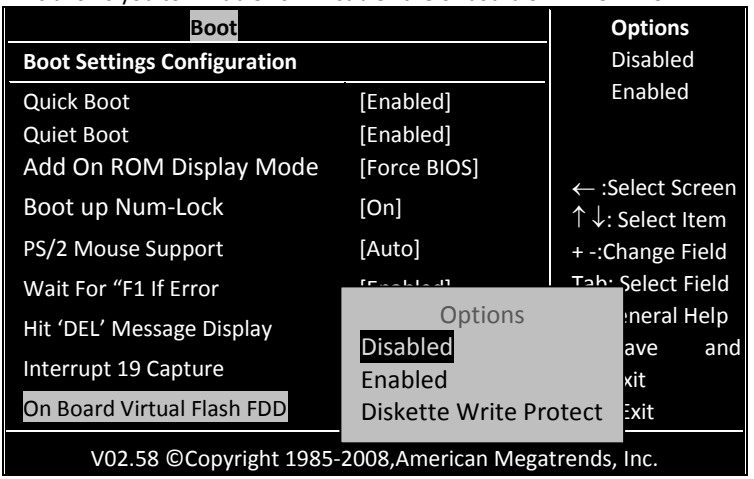
Beep Function

Set this value to allow the system to enable or disable generating a beep during posting success.



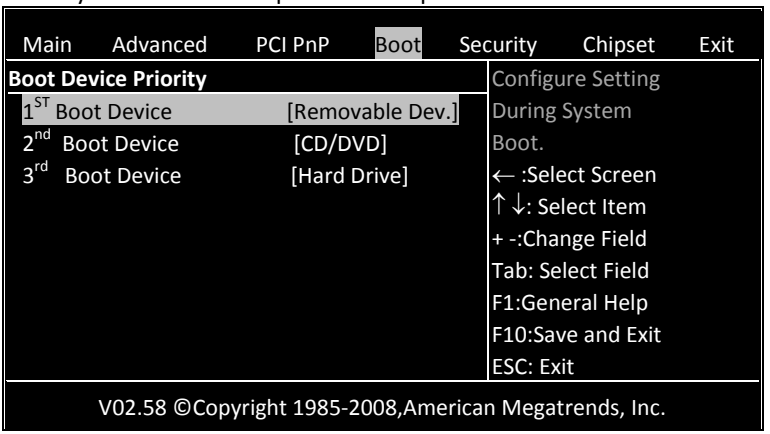
On Board Virtual Flash FDD

This allows you to "Enable" or "Disable" the onboard SPI FLASH-DISK.



➢Boot Device Priority

Use this screen to specify the order in which the system checks for the device to boot from. To access this screen, select Boot Device Priority on the Boot Setup screen and press <Enter>.



1st Boot Device

The choice: [Removable Dev.], [CD/DVD], [Hard Drive], [Disabled].

2nd Boot Device

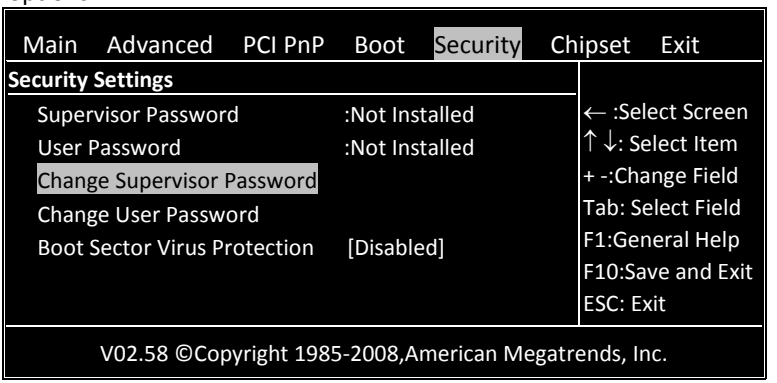
The choice: [Removable Dev.], [CD/DVD], [Hard Drive], [Disabled].

3rd Boot Device

The choice: [Removable Dev.], [CD/DVD], [Hard Drive], [Disabled].

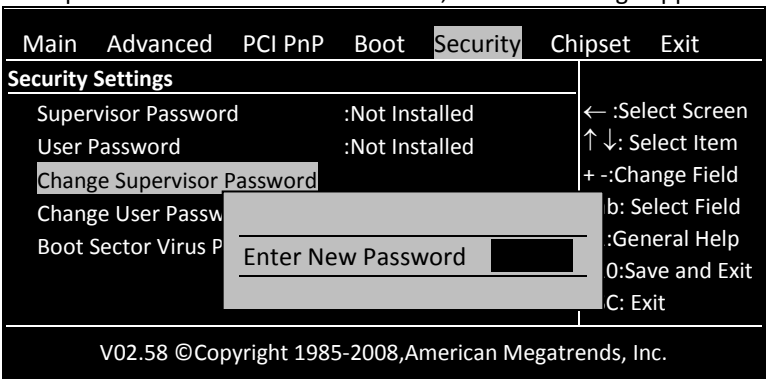
3.5Security

The Security menu items allow you to change the system security settings. Select an item then press Enter to display the configuration options.



Change Supervisor Password

Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears.

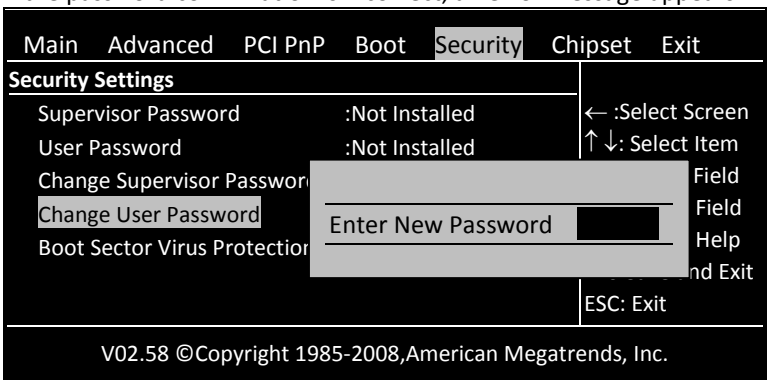


Clear Supervisor Password

Select [Clear Supervisor Password] and press <Enter>. In sub menu, press <Enter>. Then password uninstalled.

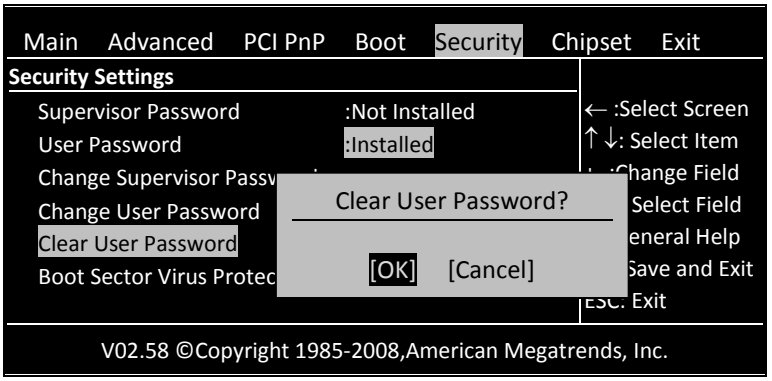
Change User Password

Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears.



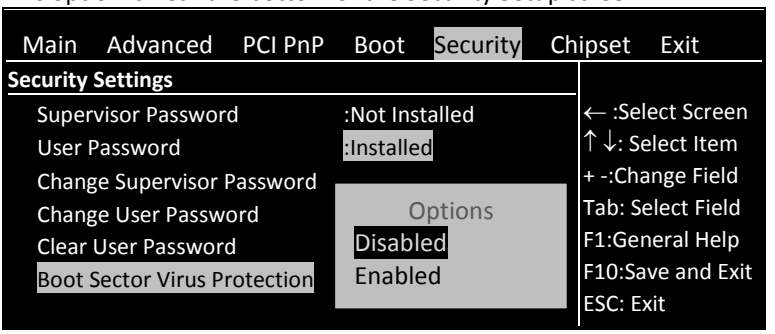
Clear User Password

If you already changed user password, you can set from [Clear User Password] this item.

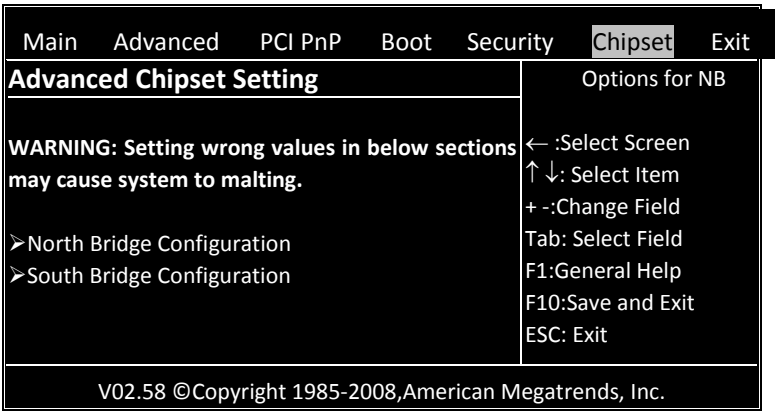


Boot Sector Virus Protection

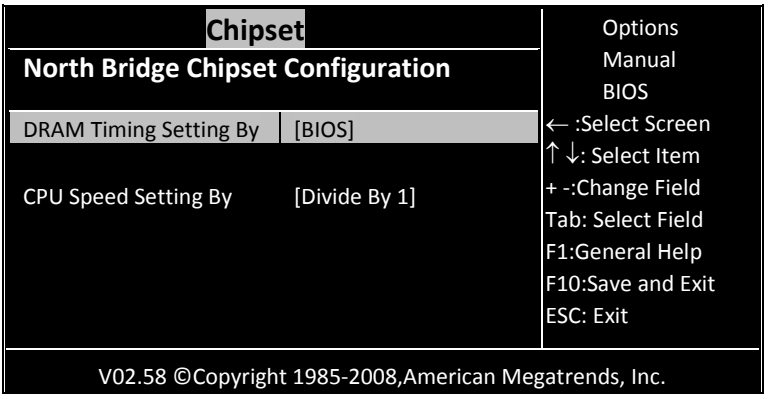
This option is near the bottom of the Security Setup screen.



3.6Chipset

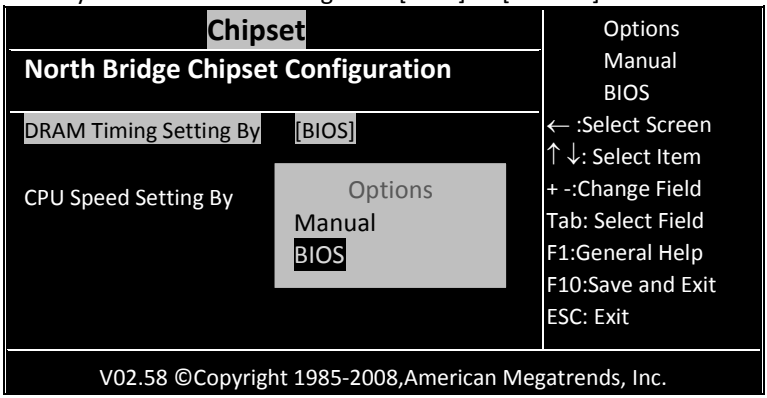


➢North Bridge Configuration



DRAM Timing Setting By

Allow you to set DRAM timing from [BIOS] or [Manual].

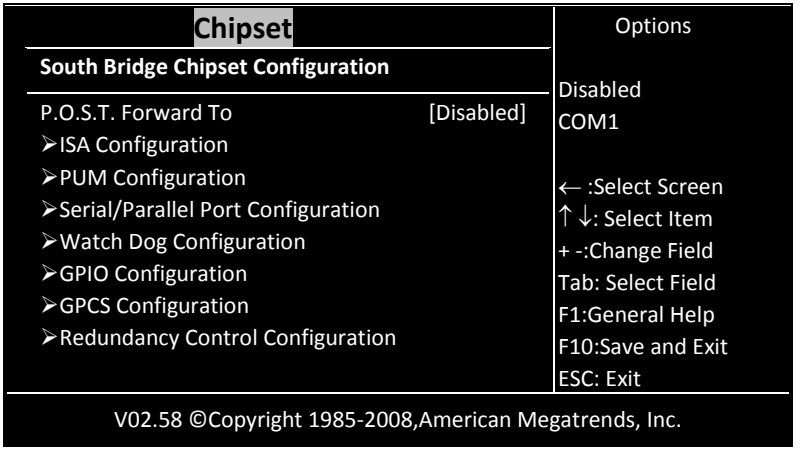


CPU Speed Setting By

Allow you to regulate CPU speed.

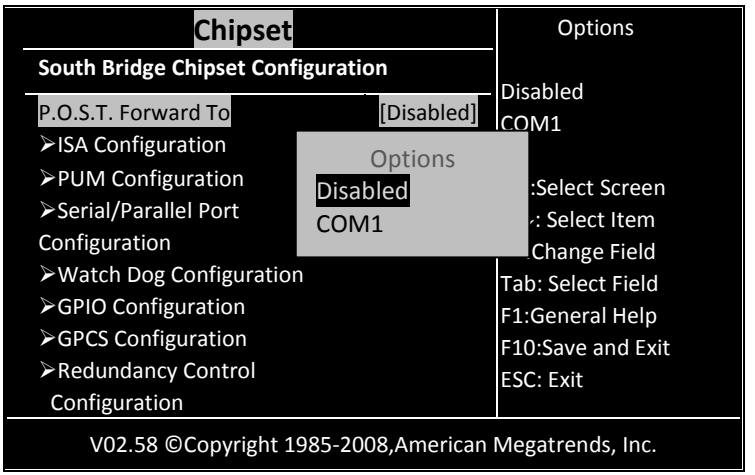
➢South Bridge Configuration

You can use this screen to select options for the South Bridge Configuration. South Bridge is a chipset on the motherboard that controls the basic I/O functions.



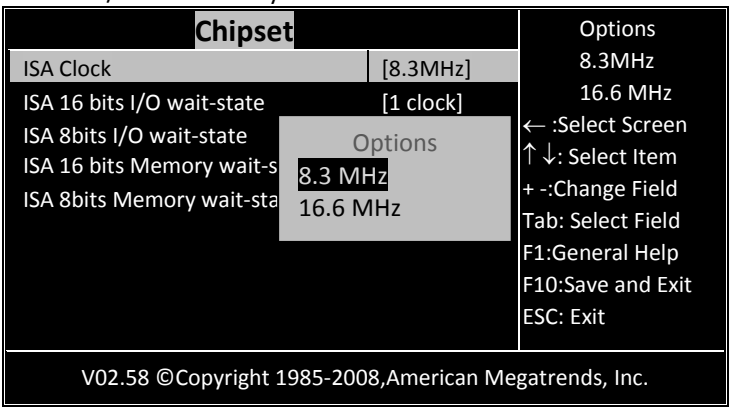
P.O.S.T. Forward To

This allows you to set the P.O.S.T Forward to COM1 port and then the post will display on the screen which connect with COM1.
The choice:



➢**ISA Configuration**

This allows you to set the ISA bus frequency and to select the clock value of I/O and Memory.



ISA Clock

The choice: [8.3MHz], [16 MHz].

ISA 16 bits I/O wait-state

The choice: [1clock], [2clock], [3clock], [4clock], [5clock], [6clock], [7clock], [8clock].

ISA 8bits I/O wait-state

The choice: [1clock], [2clock], [3clock], [4clock], [5clock], [6clock], [7clock], [8clock].

ISA 16 bits Memory wait-state

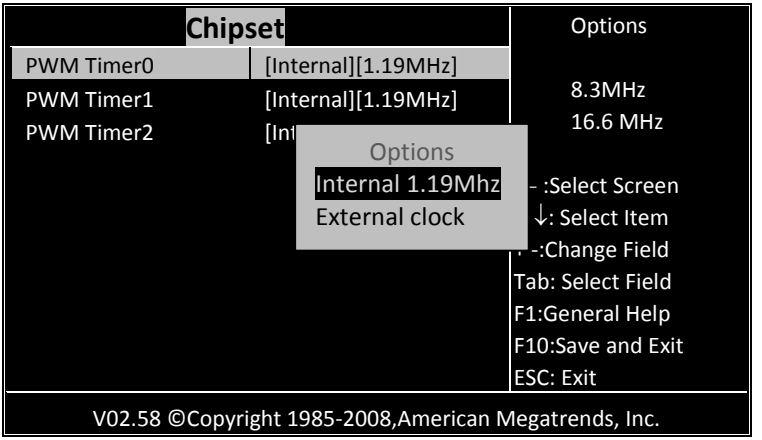
The choice: [0clock], [1clock], [2clock], [3clock], [4clock], [5clock] , [6clock] , [7clock] .

ISA 8bits Memory wait-state

The choice: [1clock], [2clock], [3clock], [4clock], [5clock], [6clock], [7clock], [8clock].

➢**PWM Configuration**

This option allows you indicate the PWM to Internal or External clock.



PUM Timer0

The choice: [Interval 1.19MHz], [External clock].

PUM Timer1

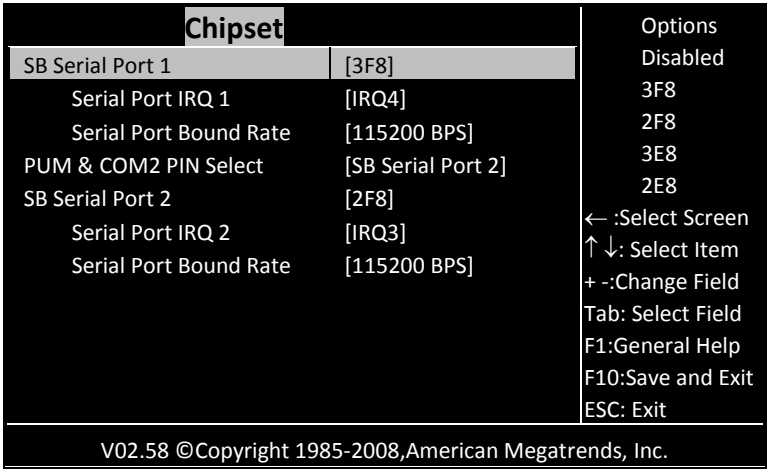
The choice: [Interval 1.19MHz], [External clock].

PUM Timer2

The choice: [Interval 1.19MHz], [External clock].

➢Serial/Parallel Port Configuration

This option specifies the serial port address and IRQ of Serial Port.



The choice:

Option	Description
Disabled	Prevent the serial port from accessing any system resources. When this option is set to Disabled, the serial port physically becomes unavailable.
3F8/IRQ4	Allow the serial port to use 3F8 as its I/O port address and IRQ 4 ports on computer systems use IRQ 4 and I/O Port 3F8 as the standard setting. The most common serial device connected to this port is a mouse. If the system will not use a serial device, it is best to set this port to Disabled.
2F8/IRQ3	Allow the serial port to use 2F8 as its I/O port address. If the system will not use a serial device, it is best to set this port to Disabled.
3E8/IRQ4	Allow the serial port to use 3E8 as its I/O port address. If the system will not use a serial device, it is best to set this port to Disabled.
2E8/IRQ3	Allow the serial port to use 2E8 as its I/O port address. If the system will not use a serial device, it is best to set this port to Disabled.

SB Serial Port 1

The choice: [Disabled], [3F8], [2F8], [3E8], [2E8].

Serial Port IRQ 1

The choice: [IRQ3], [IRQ4], [IRQ9], [IRQ10], [IRQ11].

Serial Port Bound Rate

The choice: [2400 BPS], [4800BPS], [9600BPS], [19200BPS], [38400BPS], [57600BPS], [115200BPS].

PUM & COM2 PIN Select

The choice: [SB Serial Port 2], [8254 PWM].

SB Serial Port 2

The choice: [Disabled], [3F8], [2F8], [3E8], [2E8].

Serial Port IRQ 2

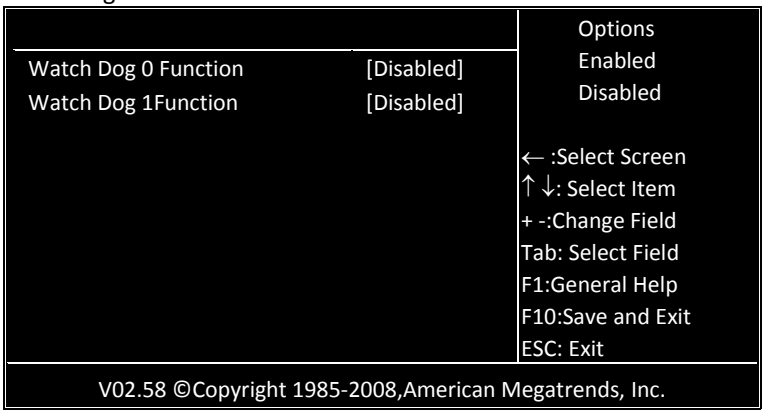
The choice: [IRQ3], [IRQ4], [IRQ9], [RQ10], [IRQ11].

Serial Port Bound Rate

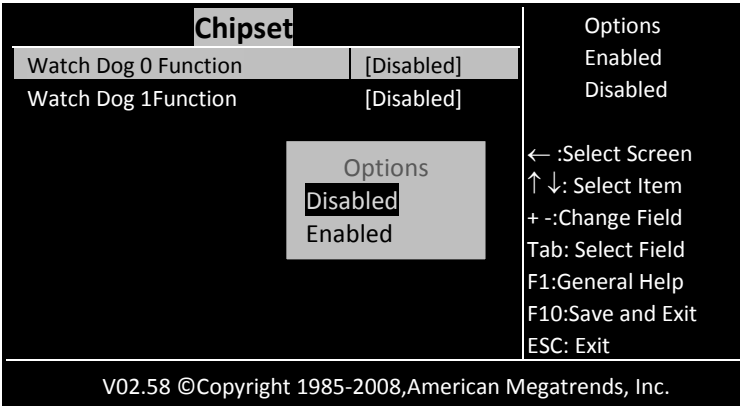
The choice: [2400 BPS], [4800BPS], [9600BPS], [19200BPS], [38400BPS], [57600BPS], [115200BPS].

➢**WatchDog Configuration**

This option allows you to Disable or Enable the time-out function of watchdog timer.

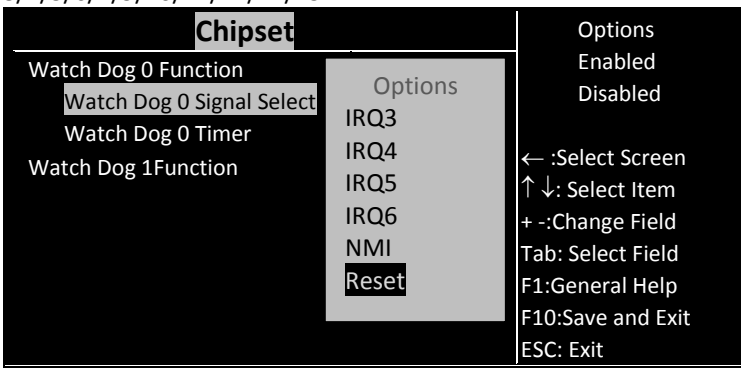


Watch Dog 0 signal Function



Watch Dog 0 signal Select

This defines the action that will be undertaken once the watchdog has timed out. The action can be either RESET, NMI or IRQ 3/4/5/6/7/9/10/11/12/14/15.



➢GPIO Configuration

Allow you select the functions and what sensors or devices, if any, are connected to it. GPIO port 0, 1 and 2 are always free for use normally. If your system does not use external RTC and SPI, GPIO port 3 is also free for use. Developer also can disable COM1 to select GPIO port 4. The actual free GPIO pins depend on your system. Please check it before using GPIO.

Chipset		Options
GPIO PORTO 78H[07…00]	[IIIIIIII]	I I I I I I I I
GPIO PORTO 79H[17…10]	[IIIIIIII]	I I I I I I I 0
GPIO PORTO 7AH[27…20]	[IIIIIIII]	I I I I I I 00
PORT3 & SPI Pin Select	[GPIO PORT3]	I I I I I 000
		I I I I 0000
GPIO PORT3 7BH[37…30]	[IIIIIIII]	I I I 00000
PORT2& COM1 Pin Select	[SB Serial Port 1]	I I 000000
		I 0000000
		00000000
		← :Select Screen
		↑ ↓: Select Item
		+ -:Change Field
		Tab: Select Field
		F1:General Help

GPIO PORTO 78H[07…00]

The choice: [IIIIIIII] , [IIIIIII0] , [IIIIII00] , [IIIII000] , [IIII0000]
[III00000] , [II000000] , [I0000000] , [00000000]

GPIO PORTO 79H[17…10]

The choice: [IIIIIIII] , [IIIIIII0] , [IIIIII00] , [IIIII000] , [IIII0000]
[III00000] , [II000000] , [I0000000] , [00000000]

GPIO PORTO 7AH[27…20]

The choice: [IIIIIIII] , [IIIIIII0] , [IIIIII00] , [IIIII000] , [IIII0000]
[III00000] , [II000000] , [I0000000] , [00000000]

PORT3 & SPI Pin Select

The choice: [SPI Bus] , [GPIO PORT3]

GPIO PORT3 7BH[37…30]

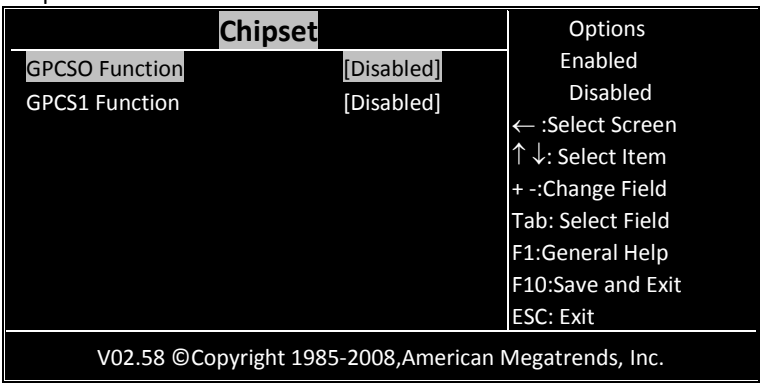
The choice: [IIIIIIII] , [IIIIIII0] , [IIIIII00] , [IIIII000] , [IIII0000]
[III00000] , [II000000] , [I0000000] , [00000000]

PORT2& COM1 Pin Select

The choice: [SB Serial Port1] , [GPIO PORT4].

➢GPCS Configuration

This option allows you to set address for Flash Disk devices as below Instruction:
Step1: Select “GPCS0 Command” to “MEMR/W 8bit”.
Step2: Select “GPCS0 Start Address” to “0E0000 HEX”.
Step3: Select “GPCS0 Size” to “64 KBYTE”.
Step4: Select “GPCS1 Command “to” IOW 8 bits.
Step5: Select “GPCS1 Start Address”to“000100 HEXES”.
Step6: Select “GPCS1 Size” to “2 BYTE”.



Allow you to set the address of the Flash Disk device

GPCSO Function

The choice: [Disabled], [Enabled].

GPCS1 Function

The choice: [Disabled], [Enabled].

➢Redundancy Control Configuration

This option allow you to select the value on bellow devices to guarantee operational safety so that the event of failure on board, the currently-running functions can be transferred to additional board.

Chipset		Options
Dual Port 4KB SRAM	[Disabled]	Enabled Disabled
SB Serial Port 9	[Disabled]	
WatvhDog0 Condition	[Disabled]	
WatvhDog1 Condition	[Disabled]	
Invalid OPCODE Condition	[Disabled]	
KB/MS System Fail	[Normal]	
GPIO PORT0 System Fail	[Normal]	
GPIO PORT1 System Fail	[Normal]	← :Select Screen
GPIO PORT2 System Fail	[Normal]	↑ ↓: Select Item
LPT PORT System Fail	[Normal]	+ -:Change Field
UART1 System Fail	[Normal]	Tab: Select Field
UART2 System Fail	[Normal]	F1:General Help
UART3 System Fail	[Normal]	F10:Save and Exit
UART4 System Fail	[Normal]	ESC: Exit
V02.58 ©Copyright 1985-2008,American Megatrends, Inc.		

Dual Port 4KB SRAM

The choice: [Disabled], [Enabled].

SB Serial Port 9

The choice: [Disabled], 3F8, 2F8, 3E8, 2E8, 10.

WatvhDog0 Condition

The choice: [Disabled], [Enabled].

WatvhDog1Condition

The choice: [Disabled], [Enabled].

Invalid OPCODE Condition

The choice: [Disabled], [Enabled].

KB/MS System Fail

The choice: [Normal], [TRI-State].

GPIO PORT0 System Fail

The choice: [Normal], [TRI-State].

GPIO PORT1 System Fail

The choice: [Normal], [TRI-State].

GPIO PORT2 System Fail

The choice: [Normal], [TRI-State].

LPT PORT System Fail

The choice: [Normal], [TRI-State].

UART1 System Fail

The choice: [Normal], [TRI-State].

UART2 System Fail

The choice: [Normal], [TRI-State].

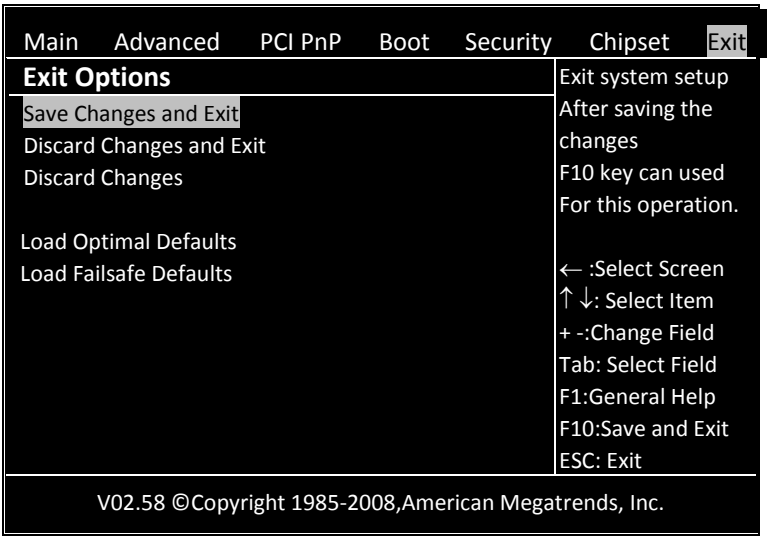
UART3 System Fail

The choice: [Normal], [TRI-State].

UART4 System Fail

The choice: [Normal], [TRI-State].

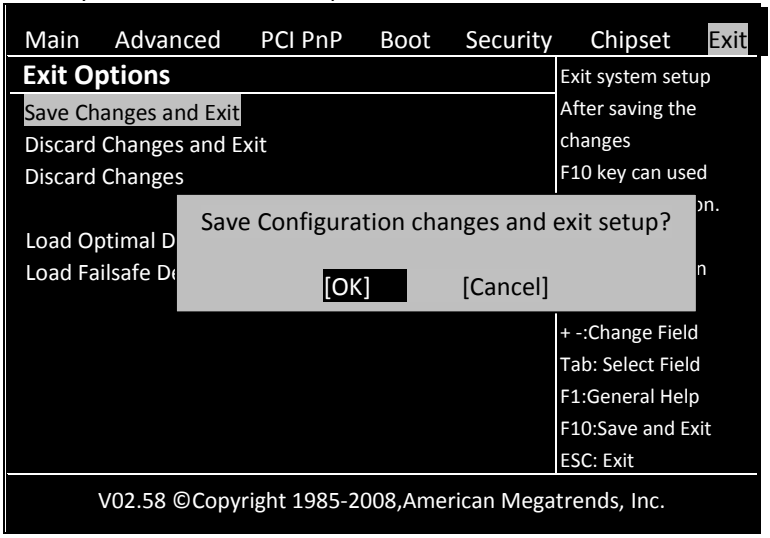
3.7Exit option



Save Changes and Exit

As Once you finished the selections, this option will allow you to determine whether to accept the modifications or not. Select the "OK" to save the change and exit, if you select "NO", you will return to Setup utility.

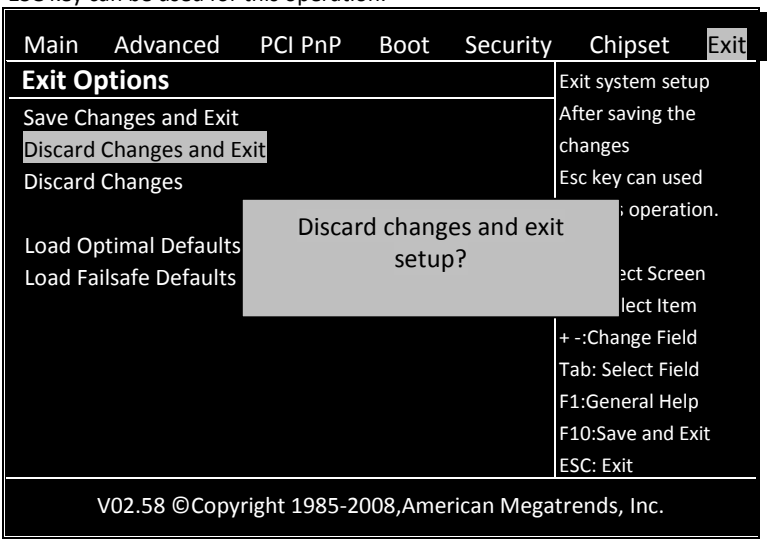
F10 key can be used for this operation.



Discard Changes and Exit

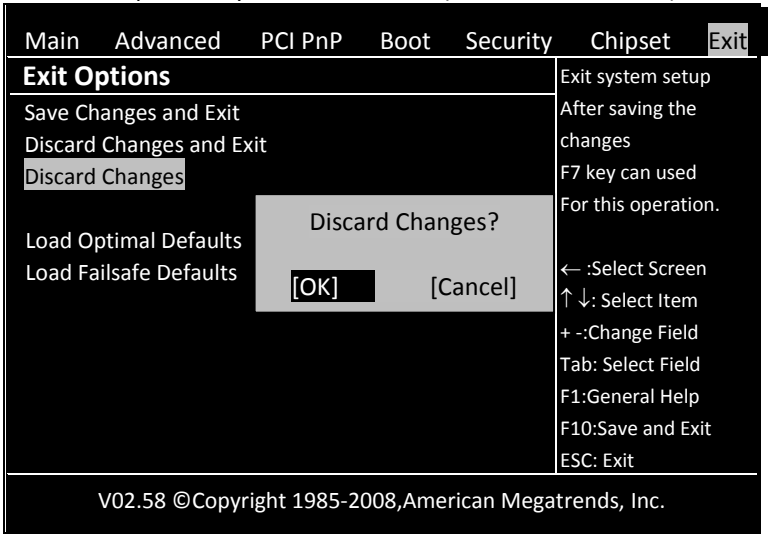
Select this option to exit the Setup without saving any change you have made in this session. Press “OK” will quit the Setup utility without saving any modifications. Press “NO” will return to Setup utility.

ESC key can be used for this operation.



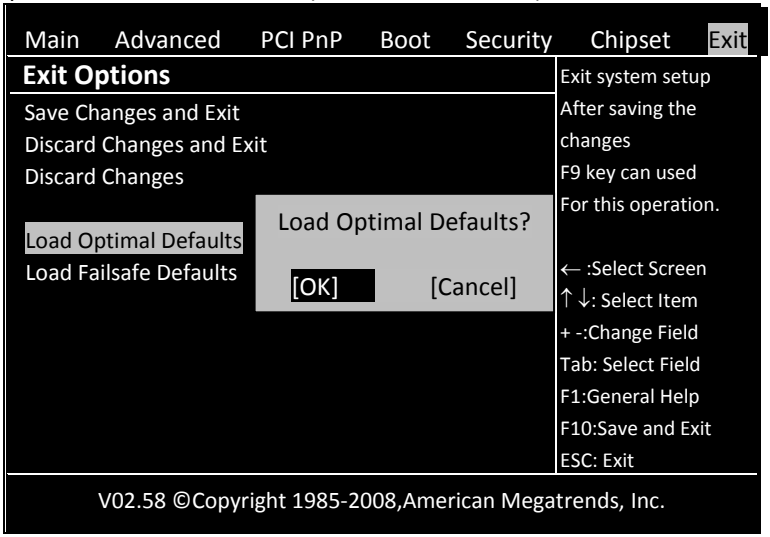
Discard Changes

This option allows you to discard the selections you made and restore the previously saved value. **F7** key can be used for this operation.



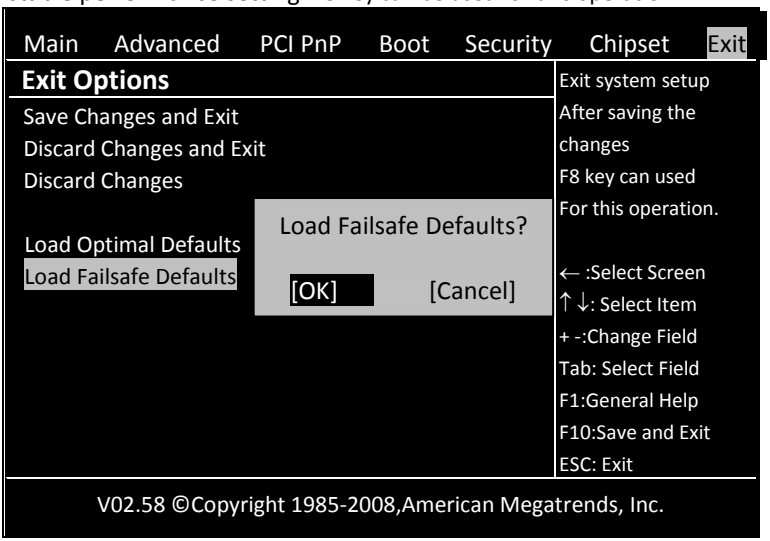
Load Optimal Defaults

This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features. **F9** key can be used for this operation.



Load Failsafe Defaults

This option allows you to load the failsafe default values for each of the parameters on the Setup menus, which will provide the most stable performance setting. **F8** key can be used for this operation.



CHAPTER 4 Appendix

A. I/O Port Address Map

Each peripheral device in the system is assigned a set of I/O port addresses which also becomes the identity of the device. There is a total of 1K port address space available. The following table lists the I/O port addresses used on the Industrial CPU Card.

Address	Device Description
000h - 01Fh	DMA Controller #1
020h - 03Fh	Interrupt Controller #1
040h - 05Fh	Timer
060h - 06Fh	Keyboard Controller
070h - 07Fh	Real Time Clock, NMI
080h - 09Fh	DMA Page Register
0A0h - 0BFh	Interrupt Controller #2
0C0h - 0DFh	DMA Controller #2
0F0h	Clear Math Coprocessor Busy Signal
0F1h	Reset Math Coprocessor
1F0h - 1F7h	IDE Interface
220F	Serial Port #4(COM4)
228F	Serial Port #3(COM3)
278 - 27F	Parallel Port #2(LPT2)
2F8h - 2FFh	Serial Port #2(COM2)
2B0 - 2DF	Graphics adapter Controller
378h - 3FFh	Parallel Port #1(LPT1)
360 - 36F	Network Ports
3B0 - 3BF	Monochrome & Printer adapter
3C0 - 3CF	EGA adapter
3D0 - 3DF	CGA adapter
3F0h - 3F7h	Floppy Disk Controller
3F8h - 3FFh	Serial Port #1(COM1)

B. Interrupt Request Lines (IRQ)

There are a total of 15 IRQ lines available on the Industrial CPU Card. Peripheral devices use interrupt request lines to notify CPU for the service required. The following table shows the IRQ used by the devices on the Industrial CPU Card.

Level	Function
IRQ0	System Timer Output
IRQ1	Keyboard
IRQ2	Interrupt Cascade
IRQ3	Serial Port #2
IRQ4	Serial Port #1
IRQ5	Reserved
IRQ6	Floppy Disk Controller
IRQ7	Parallel Port #1
IRQ8	Real Time Clock
IRQ9	Software Redirected to Int0Ah
IRQ10	Reserved
IRQ11	Reserved
IRQ12	PS/2 Mouse
IRQ13	80287
IRQ14	Primary IDE
IRQ15	Secondary IDE

C. POST Beep

Currently there are two kinds of beep codes in BIOS. This code indicates that a **video error** has occurred and the BIOS cannot initialize the video screen to display any additional information. This beep code consists of a single long beep followed by two short beeps.

The other code indicates that your **DRAM error** has occurred. This beep code consists of a single long beep repeatedly.