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MB-80190



User Manual, Version 0.22010

Intel® Atom[™] Pineview Processor based 3.5" Embedded Board with VGA, LVDS, Dual GbE, SATA, CF & Mini PCI



1. General Information

1.1 Introduction

WIN ENTERPRISES is pleased to announce the launch of Intel® Pineview-D/Pineview-M low-voltage processor-based 3.5 inch Embedded SBC, with mini PCI support. Excellent performance and low-power features make the MB-80190 powerful performers able to drive the newest, most dynamic applications, including value-oriented embedded devices.

Designed with Intel® Pineview chipset and ICH8-M I/O controller supporting Intel® Pineview-D/Pieview-M processors. In addition, the MB-80190 supports one onboard 200pin DDRII SO-DIMM socket up to 2GB memory. The Intel® Pineview-D/Pineview-M chipset also supports 18-bit LVDS resolutions up to 1366 x 768 (Pineview-D) and CRT resolutions up to 2048 x 1536 (Pineview-D). Through dual Intel[®] 82574L Ethernet controller, the MB-80190 supports two 10/100/1000 LAN ports.

Expansion and I/O connectors include one mini PCI interface, two SATA, two serial ports, eight digital I/O port and six USB2.0 ports. Onboard type II CompactFlash[™] socket offers alternative storage and operating system boot capabilities. Designed with efficient power consumption, MB-80190 is suitable for space conscious and harsh working environment applications including medical instruments, POS/Kiosk, thin client, multimedia, test equipments, and industrial control systems. MB-80190 is fully compliant with the RoHS directive.

Contact a sales representative or email to: sales@win-ent.com for more detailed specifications and pricing information. Additional product information is available on the WIN ENTERPRISES website: www.win-ent.com.com.



1.2 Specifications

System

•	
CPU	Intel® Atom Pineview processor
BIOS	AMI® SPI BIOS
System Chipset	Intel® Pineview + ICH8M
System Memory	1 x 200-pin DDR2 SO-DIMM socket supports
	*667MHz/800MHz memory max. up to 2GB w/o ECC
	registered
	* dependent on CPU
SSD	1 x 50-pin CompactFlash type I/II
Watchdog Timer	255 levels timer interval, (1sec. to 255min.), setup by software.
Expansion Interface	1 x Mini PCI
Battery	Lithium 3V/220mAH

I/O

I/O Interface	2 x SATA, 2 x RS-232, 1 x IrDA 1.0 compliant, 1 x PS/2 KB/MS
USB	6 x USB 2.0
Audio	High definition audio interface
GPIO	Onboard programmable 8-bit Digital I/Os
Ethernet	
Speed	10/100/1000Mbps

Interface	2 x RJ-45
Ethernet Interface	IFEE 802 3 10/100/1000 Mbps compliant physical layer

Features:

- Low power consumption at 8W (Pineview N450 CPU + chipset)
- Fanless and Compact design
- Support Up to 8 COM port (via optional daughter board)
- Intel® Atom Pineview processor
- Mini PCI & CompactFlash supported
- 2 x GbE Ethernet

Display



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Chipset	Intel® Pineview processor Integrated
Memory Size	Intel® DVMT support up to 256MB
Resolution	VGA: 1400 x 1050 (Pineview-M), 2048 x 1536 (Pineview-D)
LCD/LVDS Interface	LVDS: 1280 x 800 (Pineview-M); 1366 x 768 (Pineview-D);
	18-bit LVDS
Dual Simultaneous	VGA + LVDS
Display	

Mechanical and Environment

Dimension (L x W)	145mm (L) x 102mm (W)
	(5.7" L x 4" W)
Operating Temperature	0 ℃ ~ 60 ℃ (32 ℉ ~ 140 ℉)
Operating Humidity	10% ~ 85% relative humidity, non-condensing
Storage Temperature	-20 ℃ ~ 85 ℃(-4 ℉ ~ 185 ℉)
Storage Humidity	10% ~ 85% relative humidity, non-condensing

Power

Power Supply Voltage	+12V DC in
Power Consumption	TBD

Packing List

	•	1 x	MB-80190	SBC
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• 1 x CD (Manual, Quick installation guide, Utility driver)

Ordering Information

Standard	
MB-8019A	3.5" Embedded Board with Intel Pineview N450 CPU, VGA, Dual
	GbE, SATA, CF, COM, USB, mini PCI
MB-8019B	3.5" Embedded Board with Intel Pineview D510 CPU, VGA, Dual
	GbE,
	SATA, CF, COM, USB, mini PCI
MB-8019C	3.5" Embedded Board with Intel Pineview D410 CPU, VGA, Dual
	GbE,
	SATA, CF, COM, USB, mini PCI

* Note : All specifications are subject to change without prior notice



1.3 Board Layout





1.4 Board Dimension





2. Connector/Jumper Configuration

MB-80190 Pin assignment









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CN1: COM1 PIN1: DCD PIN2: RXD PIN3: TXD PIN4: DTR PIN5: GND PIN5: GND PIN6: DSR PIN6: DSR PIN7: RTS PIN8: CTS PIN9: RI

CN2: VGA

PIN1: RED PIN2: GREEN PIN3: BLUE PIN4: NC PIN5: GND PIN6: GND PIN7: GND PIN7: GND PIN9: +5V PIN10: GND PIN11: NC PIN11: NC PIN12: DDC DATA PIN13: HSYNC PIN14: VSYNC PIN15: DDC CLK

CN3: Reset Button

PIN1: RESET PIN2: GND

CN4: LAN1

PIN1: MDI0+ PIN2: MDI0-PIN3: MDI1+ PIN4: MDI2+ PIN5: MDI2-



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PIN6: MID1-PIN7: MDI3+ PIN8: MDI3-LED(RIGHT):SPEED LED(LEFT): ACT/LINK

CN5: LAN2

PIN1: MDI0+ PIN2: MDI0-PIN3: MDI1+ PIN4: MDI2+ PIN5: MDI2-PIN6: MID1-PIN7: MDI3+ PIN8: MDI3-LED(RIGHT):SPEED LED(LEFT): ACT/LINK

CN6: IR

PIN1: +5V PIN2: NC PIN3: IRRX PIN4: GND PIN5: IRTX

CN7: PS2 KB/MS

PIN1: KBD CLK PIN2: KBD DATA PIN3: MS CLK PIN4: GND PIN5: +5V PIN6: MS DATA

CN8: LVDS Backlight Control

PIN1: +12V PIN2: GND



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PIN3: BKLTEN# PIN4: BKLTCTL PIN5: +5V

CN9: USB

CN10: ATX Power Supply Control

PIN1: +5VSTBY(Output) PIN2: PSON# PIN3: GND

CN11: Battery Socket

CN12: HDA Connector

- PIN1: +5V
- PIN2: GND
- PIN3: GND
- PIN4: BITCLK
- PIN5: +3.3V
- PIN6: NC
- PIN7: SDIN0
- PIN8: SYNC
- PIN9: GND
- PIN10: RESET
- PIN11: SDOUT
- PIN12: SDIN1

CN13: LVDS Connector

PIN1: LVDS A0+ PIN2: LVDS A0-PIN3: GND PIN4: GND PIN5: LVDS A1+ PIN6: LVDS A1-PIN7: GND PIN8: VCC(+3.3V/+5V) PIN9: LVDS A2+ PIN10: LVDS A2-



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PIN11: CLK+ PIN12: CLK-PIN13: GND PIN14: GND PIN15: NC PIN16: NC PIN16: NC PIN17: BKLTEN PIN18: VCC(+3.3V/+5V) PIN19: DDC DATA PIN20: DDC CLK

CN14: COM2 (RS232/422/485)

PIN1: DCD PIN2: DSR PIN3: RXD PIN4: RTS PIN5: TXD PIN6: CTS PIN7: GND PIN8: RI PIN9: GND PIN10: NC PIN11: 485 TXD+ PIN12: 485 TXD-PIN13: 485 RXD+ PIN14: 485 RXD-

CN15: LPC Connector

PIN1: +3.3V PIN2: LAD0 PIN3: LAD1 PIN4: LAD2 PIN5: LAD3 PIN6: LFRAME PIN7: RESET PIN8: +5V PIN9: CLK PIN10: PME



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PIN11: GND PIN12: NC PIN13: SERIRQ PIN14: LDRQ

CN16: GPIO

PIN1: +3.3V PIN2: GND PIN3: GPIO0 PIN4: GPIO1 PIN5: GPIO2 PIN6: GPIO3 PIN7: GPIO4 PIN8: GPIO5 PIN9: GPIO6 PIN10: GPIO7

CN17: MINI PCI

CN18: Front Panel

PIN1: Power LED+ PIN2: Power LED-PIN3: HDD LED+ PIN4: HDD LED-PIN5: Power Button-PIN6: Power Button+ PIN7: Reset Button+ PIN8: Reset Button-

CN20: FAN Connector

PIN1: SENSOR PIN2: +12V PIN3: GND

CN21: USB Port0/1(PIN HEADER)

PIN1: +5V PIN2: +5V PIN3: USBD0-



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PIN4: USBD1-PIN5: USBD0+ PIN6: USBD1+ PIN7: GND PIN8: GND PIN9: NC PIN10: GND

CN22: +12V DC in

PIN1: +12V PIN2: GND



3. **BIOS Setting**

3.1. Entering the CMOS Setup Program

Use the CMOS Setup program to modify the system parameters to reflect the options installed in your system and to customize your system. For example, you should run the Setup program after you:

- 1. Received an error code at startup
- 2. Install another disk drive
- 3. Use your system after not having used it for a long time
- 4. Find the original setup missing
- 5. Replace the battery
- 6. Change to a different type of CPU
- 7. Run the Flash program to update the system BIOS

Run the CMOS Setup program after you turn on the system. On-screen instructions explain how to use the program.

\prod Enter the CMOS Setup program's main menu as follows:

- Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears: "Press DEL to enter SETUP"
- Press the key to enter CMOS Setup program. The main menu appears:



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			BIOS SE	TUP UTILITY		
<mark>Main</mark> Adu	vanced	PCIPnP	Boot	Security	Chi	ipset Exit
System Over	rview					Use [ENTER], [TAB]
AMIBIOS Version	:08.00.15					select a field.
Build Date ID	:09/11/09 :71100009					Use [+] or [-] to configure system Time.
Processor						
Speed Count	:255MHz :255					
System Mem o Size	ory : 1019MB					 ← Select Screen ↑↓ Select Item
System Time System Date	e		[14:1 [Fri	2:57] 09/11/2009]		Tab Select Field F1 General Help F10 Save and Exit
CMC Lo-Modu	ule:0D2.0	25x, Hi	-Module:0	D2.017x		ESC Exit
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3. Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.

AMIBIOS: Displays the auto-detected BIOS information.
Processor: Displays the auto-detected CPU specification.
System Memory: Displays the auto-detected system memory.
SystemTime: [hour:min:sec]
This item allows you to set the system time.
System Date: [Day mm/dd/yyyy]
This item allows you to set the system date.

In the main menu, press F10 ("Save Changes and Exit") to save your changes and reboot the system. Choosing "Discard Changes and Exit" ignores your changes and exits the program. Pressing <ESC> anywhere in the program returns you to the main menu.



3.2. Menu Options

The main menu options of the CMOS Setup program are described in the following and the following sections of this chapter.

Main: For changing the basic system configurations.

Advanced: For changing the advanced system settings.

PCIPnP: For changing the advanced PCI/PnP Settings.

Boot: For changing the system boot configurations.

Security: Use this menu to set User and Supervisor Passwords.

Chipset: For changing the chipset settings.

Exit: For selecting the exit options and loading default settings.



3.3. Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

\iint Use the Advanced Setup option as follows:

1. Choose "Advanced" from the main menu. The following screen appears:

			BIOS SE	TUP UTILITY				
Main	Advanced	PCIPnP	Boot	Security	Ch	ipset	Power	Exit
Advanc	ed Settings					Confi	gure CPU.	
WARNIN	G: Setting w may cause	rong value system to	s in bel malfunc	ow sections tion.				
 CPU IDE Supe Hard ACPI Even MPS PCI Remo USB 	Configuratio Configuratio rIO Configura ware Health Configuratio t Log Config Configuratio Express Conf te Access Co Configuratio	n ation Configurat on uration n iguration nfiguratio n	ion n				Select S Select I Go to Su General I Save and Exit	creen tem b Screen Help Exit
	v02.58 (C) Copyr igh	t 1985-2	004, America	n Meç	yatrend	s, Inc.	

- Use the arrow keys to move between fields. Modify the selected field using the PgUP/PgDN/+/- keys. Some fields let you enter numeric values directly.
- 3. After you have finished with the Advanced setup, press the <ESC> key to return to the main menu.



3.3.1. CPU Configuration

This sub menu shows the CPU-related information which is automatically detected by BIOS.

BIOS SETUP UTILITY Advanced	
Configure advanced CPU settings Module Version:3F.17	Disabled for WindowsXP
Manufacturer:Intel Frequency :255MHz FSB Speed :0MHz Cache L1 :0 KB Cache L2 :0 KB Ratio Actual Value:10 Max CPUID Value Limit Disabledl Execute-Disable Bit Capability [Enabled] Hyper Threading Technology [Enabled] Intel (R) SpeedStep (tm) tech [Enabled]	 Select Screen Select Item Change Option General Help Save and Exit ESC Exit



3.3.2. **IDE Configuration**

This sub menu allows you to set or change the configurations for the IDE devices installed in the system.

IDE Configuration		Options
Configure SATA as Primary IDE Master Primary IDE Slave Secondary IDE Master Secondary IDE Slave Third IDE Master Third IDE Slave Equate IDE Master	CLDED : [Not Detected] : [Not Detected]	IDE RAID AHCI
 Fourth IDE Slave Hard Disk Write Protect IDE Detect Time Out (Sec) ATA(PI) 80Pin Cable Detection 	: [Not Detected] [Disabled] [35] [Host & Device]	+ Select Screen 14 Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit

Primary * IDE Master

This information is auto-detected by BIOS and is not user-configurable. It will show "Not Detected" if no IDE device is installed in the system.

Primary IDE Slave

This information is auto-detected by BIOS and is not user-configurable. It will show "Not Detected" if no IDE device is installed in the system.

Following screens allow you to setup the parameters of IDE devices.



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B	IOS SETUP UTILITY			
Advanced				
Primary IDE Master		Select the type		
Device :Not Detected		to the system.		
Туре	[Auto]			
LBA/Large Mode	LAuto			
Block (Multi-Sector Transfer)	[Auto]			
UNH NOAE				
Donation Transform	LHUTOJ (Franklad)			
JZDIT DATA IFANSIEF	LENADIEGI			
		← Select Screen		
		1+ Select Item		
		F1 Concernal Holm		
		F10 Sauce and Exit		
		FSC Fyit		
		LUC LAIL		
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3.3.3 Super IO Configuration

Configure Win627DHG Super	10 Chipset	Allows BIOS to Select
Serial Portl Address Serial Port2 Address Serial Port2 Mode	[3F8/TRQ4] [2F8/TRQ3] [Norma1]	Addresses.
		+ Select Screen †4 Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit

Serial Port1 Address: [3F8/IRQ4]

Selects the Serial Port1 base address and IRQ.

Serial Port2 Address: [2F8/IRQ3]

Selects the Serial Port2 base address and IRQ.



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3.3.4 Hardware Health Configuration

This screen shows you the CPU core voltage, System voltage, System temperature.

Hardware Health Configur	ation	Fan confiruration
System Temperature CPU Temperature	:35*C/95*F :29*C/84*F	- mode setting
CPUFAN0 Speed	:6250 RPM	
Vcore	:1.120 U	
AUCC	:3.360 V	
3VCC	:3.360 V	
+1.50	:1.496 V	
+1.8V	:1.816 V	
+50	:5.017 U	+ Select Screen
+120	:12.091 V	14 Select Item
30SB	:3.360 V	+- Change Option
UBAT	:3.072 U	F1 General Help
CPUFAN0 Mode Setting	[Manual Mode	F10 Save and Exit
CPUFANO PWM Control	[250]	ESC Exit



3.3.5 ACPI Configuration

This sub menu is used to change the settings for the ACPI.

BIOS SETUP UTILITY Advanced		
ACPI Settings General ACPI Configuration Advanced ACPI Configuration 	General ACPI Configuration settings	
	 Select Screen Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit 	
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This sub menu is used to change the settings for the ACPI.



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BIOS SETUP UTILITY	
Advanced	
General ACPI Configuration	Select the ACPI
Suspend mode [S3 (STR)] Repost Video on S3 Resume [No]	 ← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
un2 61 (f)Comunicati 1985-2006 American Mee	atronde. Inc

Advanced ACPI Configuratio	n	Enable RSDP pointers
ACPI Version Features ACPI APIC support	IACPI v3.01 IEnabled]	Description Tables. Di ACPI version has some
		 Select Screen Select Item Change Option General Help Save and Exit ESC Exit

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Advanced ACPI Configuration:

This sub menu configures additional ACPI options. It contains below sub-menus:

ACPI Version Features: [ACPI v3.0]

This item allows you to enable or disable RSPD pointers to 64-bit Fixed System Description Tables.

ACPI APIC support: [Enabled]

This item allows you to enable or disable APIC features.



3.3.6 PCI Express Configuration

This sub menu allows you to enable or disable Active State Power-Management :

BIOS SETUP UTILITY	
Advanced	
PCI Express Configuration	Enable/Disable PCL Express LAs and
Active State Power-Management [Enabled]	 ← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
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3.3.7 Smbios Configuration

This sub menu allows you to enable or disable Smbios :

Advanced	Smbios Configuration Screen	
Smbios Configuration		SMBIOS SMI Wrapper
Smbios Smi Support	[Enabled]	50h-54h
		 ← Select Screen ↑↓ Select Item +- Change Ontion
		F1 General Help F10 Save and Exit
		LOU EXIT
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3.3.8 USB Configuration

This sub menu allows you to change the USB-related features.

BIOS SETUP UTILITY	
Advanced	
USB Configuration	Enables support for legacy USB. AUTO
Module Version - 2.24.3-13.4	option disables legacy support if
USB Devices Enabled : 4 Drives	no USB devices are connected.
LegacyUSBSupport[Enabled]USB2.0ControllerMode[HiSpeed]BIOSEHCIHand-Off[Enabled]	
▶ USB Mass Storage Device Configuration	 ← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
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Legacy USB Support: [Enabled]

Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected.

USB 2.0 Controller Mode: [FullSpeed]

This item allows you to configure the USB 2.0 controller in Hi Speed(480Mbps) or Full Speed(12Mbps).

BIOS EHCI Hand-Off

This item allows you to Enable/Disable BIOS EHCI Hand-Off

USB Mass Storage Device Configuration

This item allows you to configure USB Mass Storage Device



3.4. PCIPnP Menu

This PCIPnP menu items allow you to change the settings for the advanced PCI/PnP.

\bigcup Use the PCIPnP Setup option as follows:

1. Choose "PCIPnP" from the main menu. The following screen appears:

	BIOS SETUP UTILITY		
Main Advanced PCIPnP	Boot Security	Chipset	Exit
Advanced PCI/PnP Settings			r NVRAM during
WARNING: Setting wrong value may cause system to	es in below sections malfunction.	3930	Cin DOUL.
Clear NURAM	[No]		
Plug & Play O/S	[No]		
PCI Latency Timer	[64]		
Allocate IRQ to PCI UGA	[Yes]		
PCI IDE BusMaster	(Enabled)		
OffBoard PCI/ISA IDE Card	[Auto]		
IRQ3	[Available]	+	Select Screen
IRQ4	[Available]	11	Select Item
IRQ5	[Available]	+	Change Option
IRQ7	[Ava i lable]	F1	General Help
IRQ9	[Available]	F10	Save and Exit
IRQ10	[Available]	ESC	Exit
IRQ11	[Available]		
IRQ14	[Available]		



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IRQ15 [Available] DMA Channel 0 [Available] DMA Channel 1 [Available] DMA Channel 3 [Available] DMA Channel 5 [Available] DMA Channel 6 [Available] DMA Channel 7 [Available] DMA Channel 7 [Available] MA Channel 7 [Avai	Main Advanced	PCIPnP	BIOS SET	CUP UTILITY Security	Chi	pset	Exit
Reserved Memory Size Disabled] + Select Screen 14 Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit	IRQ15 DMA Channel 0 DMA Channel 1 DMA Channel 3 DMA Channel 5 DMA Channel 6 DMA Channel 7		[Avai [Avai [Avai [Avai [Avai [Avai [Avai	lable] lable] lable] lable] lable] lable] lable]		Avai DMA used devia Rese DMA use devia	lable: Specified is available to be by PCI/PnP ces. rved: Specified is reserved for by Legacy ISA ces.
	Reserved Menory	Size	Disa	bled)	v	+ +- F1 F10 ESC	Select Screen Select Item Change Option General Help Save and Exit Exit

 Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUP/PgDN keys. Press the <F1> "Help" key for information on the available options:

3. After you have finished with the PCIPnP Setup, press the <ESC> key to return to the main menu.

Clear NVRAM

This item allows you to clear the BIOS setting

Plug & Play O/S: [No]

No: lets the BIOS configure all the devices in the system. Yes: lets the OS configure Plug & Play devices not required for boot if your system has a Plug & Play operating system.

PCI Latency Timer: [64]

This item allows you to select the value in units of PCI clocks for the PCI device latency timer register. This setting controls how many PCI clocks each PCI device can hold the bus before another PCI device takes over.



Allocate IRQ to PCI VGA: [Yes]

BIOS assigns an IRQ to PCI VGA card if the card requests for an IRQ.

Palette Snooping: [Disabled]

This item allows you to enable or disable the feature. When set to [Enabled], the palette snooping feature informs the PCI devices that an ISA graphics device is installed in the system so that the device can function correctly.

PCI IDE BusMaster: [Enabled]

This item allows you to enable or disable the feature. Enable: BIOS uses PCI bus mastering for reading/writing to IDE devices.

OffBoard PCI/ISA IDE Card

This item allows you to configure the setting of Off-Board PCI/ISA IDE Card.

Reserved Memory Size: [Disabled]

This item allows you to select the reserved memory for legacy ISA devices.



3.5. Boot Menu

\bigcup Use the Boot Setup option as follows:

1. Choose "Boot" from the main menu. The following screen appears:



2. Move between items and select values by using the arrow keys. Modify the selected fields using the PnUP/PgDN Keys. For information on the various options, press <F1> key .

3. After you have finished with the Boot setup, press the <ESC> key to return to the main menu.



3.5.1. Boot Settings Configuration

This item is used to configure system boot setting with below sub menus:

Boot Settings Configuration		Allows BIOS to skip
Quick Boot Quiet Boot PS/2 Mouse Support Wait For 'F1' If Error Hit 'DEL' Message Display Interrupt 19 Capture	[Enabled] [Disabled] [Auto] [Enabled] [Enabled] [Disabled]	booting. This will decrease the time needed to boot the system.
		 Select Screen 14 Select Item Change Option F1 General Help F10 Save and Exit ESC Exit

Quick Boot: [Enabled]

This item allows BIOS to skip certain tests (POST, Power On Self Tests) while booting. This will decrease the time needed to boot the system.

Quiet Boot: [Disabled]

This item allows you to enable or disable the full screen logo display feature. Disabed: displays normal POST messages.

PS/2 Mouse Support: [Auto]

Allows you to select the options of PS/2 Mouse.

Interrupt 19 Capture: [Disabled]

This item allows the option ROMs to trap Interrupt 19.



3.5.2. Boot Device Priority

This item is used to configure system boot setting with below sub menus:

Boot Device Priority	Specifies the boot	
1st Boot Device	[USB:Generic]	available devices. A device enclosed in parenthesis has been disabled in the corresponding type menu.
		 Select Screen Select Item Change Option General Help Save and Exit ESC Exit



3.5.3. **Removable Drives**

This item is used to configure system boot setting with below sub menus:

BIOS SETUP UTILITY Boot				
Removable Drives		Specifies the boot		
1st Drive 2nd Drive 3rd Drive 4th Drive	UUSB:Generic] TUSB:Generic] TUSB:Generic] TUSB:Generic]	available devices.		
		+ Select Screen †4 Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit		
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3.6. Security Menu

\square Use the Security Setup option as follows:

1. Choose "Security" from the main menu. The following screen appears:

			BIOS SE	TUP UTILITY			
Main	Advanced	PCIPnP	Boot	Security	Chij	pset	Exit
Secur i	ty Settings				_	Insta passw	11 or Change the word.
Superv User P	isor Password assword	l :Not Ins :Not Ins	talled talled				
Change Change Clear	Supervisor I User Passwor User Password	Password rd 1					
Boot S	ector Virus I	Protection	(Disa	ıbledl			
						¢ †↓ Enter F1 F10 ESC	Select Screen Select Item Change General Help Save and Exit Exit
	v02.61 ((C) Copyr igh	t 1985-2	2006, America	n Mega	atrend	ls, Inc.

- Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. Please press the <F1> key for information on the various options.
- 3. After you have finished with the Security setup, press the <ESC> key to return to the main menu.

Change Supervisor Password:

This item allows you to set or change the supervisor password. The Supervisor



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Password item on top of the screen shows the default Not Installed. After you have set a password, this item shows Installed.

Change User Password:

This item allows you to set or change the user password. The User Password item on top of the screen shows the default Not Installed. After you have set a password, this item shows Installed.

Clear User Password:

This item allows you to clear the user password.

Boot Sector Virus Protection: [Disabled]

This item allows you to enable or disable the boot sector virus protection. If enabled, AMI BIOS will issue a warning when a virus or program attempts to write to the hard disk's boot sector or attempts to execute disk format command.



3.7. Chipset Menu

 \bigcup Use the Chipset Setup option as follows:

1. Choose "Chipset" from the main menu. The following screen appears.

			BIOS SE	TUP UTILITY				
Main	Advanced	PCIPnP	Boot	Security	Chi	ipset	Power	Exit
Advanc WARNIN > Nort > Sout	ed Chipset S G: Setting w may cause h Bridge Con h Bridge Con	ettings rong value system to figuration figuration	s in bel malfunc	ow sections tion.		Confi featu	igure Nort ires.	th Bridge
						<pre> t→ t↓ Enter F1 F10 ESC </pre>	Select S Select 1 Go to Su General Save and Exit	Screen (tem (b Screen Help I Exit
	v02.58 (C) Copyr igh	t 1985-2	004, America	n Meç	gatrend	s, Inc.	

- Move between items and select values by using the arrow keys. Modify the selected field the PgUP/PgDN keys. For information on the various options, press <F1> key.
- 2.7.2 After you have finished with the Chipset Setup, press the <ESC> key to return to the main menu.



3.7.1. North Bridge Configuration

BI	OS SETUP UTILITY	Chipset
North Bridge Chipset Configurat	tion	Options
DRAM Frequency Configure DRAM Timing by SPD Memory Hole	(Auto) [Enabled] [Disabled]	Auto 667 MHz 800 MHz
Initate Graphic Adapter Internal Graphics Mode Select DEC Port Configuration	[IGD] [Enabled, 8MB]	
 Video Function Configuration 		+ Select Screen
		14 Select Item +- Change Option F1 General Help F10 Save and Exit FSC Exit

Primary Graphics Adapter: [PCIe/IGD]

This item allows you to set the graphic adapter.

Internal Graphics Mode Select : [Enabled, 8MB]

Select the amount of system memory used by the internal graphics device.

Boot Display Configuration

This item allows you to configure Boot Display Function.



3.7.2. Video Function Configuration

BIOS SETUP UTILITY Chipset		
Video Function Configurat	ion	Options
Boot Display Device Flat Panel Type	ICRT + LVDSI [1366*768]	CRT LUDS CRT + LUDS
		 Select Screen Select Item Change Option General Help Save and Exit ESC Exit
v02.61 (C)Copyr	ight 1985-2006, America	n Megatrends, Inc.

Boot Display Device: [CRT + LVDS]

This item allows you to set the boot display device.

Flat Panel Type : [1366*768]

This item allows you to configure the panel type.



3.7.3 South Bridge Configuration

	BIOS SETUP UTILITY	Chipset
South Bridge Chipset Con	figuration	Options
USB 2.0 Controller HDA Controller	(Enabled) (Enabled)	Enabled Disabled
		 Select Screen Select Item Change Option General Help Save and Exit ESC Exit
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USB 2.0 Controller: [Enabled]

This item allows you to enable or disable the USB 2.0 controller.

HDA Controller: [Enabled]

This item allows you to enable or disable the Audio controller.



3.8 Exit

The item allows you to save or discard your changes to the BIOS items, and load the optimal defaults or failsafe defaults for the BIOS items.

\bigcup Use the Exit option as follows:

- **BIOS SETUP UTILITY** Main Advanced PCIPnP Security Boot Chipset Exit Exit Options Exit system setup after saving the Save Changes and Exit changes. Discard Changes and Exit **Discard Changes** F10 key can be used for this operation. Load Optimal Defaults Load Failsafe Defaults ÷ Select Screen **†**↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit v02.61 (C)Copyright 1985-2006, American Megatrends, Inc.
- 1. Choose "Exit" from the main menu, the following screen appears.

- Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. For information on the various options, please press <F1> key.
- Please press the <ESC> key to return the main menu after finishing with the Exit Options.



Save Changes and Exit:

Save changes of values to CMOS and exit the CMOS setup program. F10 key can be used for this operation.

Discard Changes and Exit:

Discard all CMOS changes and exit the CMOS setup program. ESC key can be used for this operation.

Discard Changes:

Discard all CMOS changes and load the previously saved values. F7 key can be used for this operation.

Load Optimal Defaults:

This item allows you to load optimal defaults for each of the parameters on the Setup menus, which will provide the best performance settings for your system. F9 key can be used for this operation.

Load Failsafe Defaults:

This item allows you to load failsafe defaults for each of the parameters on the Setup menus, which will provide the most stable performance settings. F8 key can be used for this operation.



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Appendix A: Watchdog Timer Programming

Guide

:-----Enter the extended function mode, interruptible double-write . MOV DX,2EH ; Unlock W83627DHG MOV AL,87H OUT DX,AL OUT DX,AL -----; Configure logical device 8 -----MOV AL,07H OUT DX,AL ; Point to Logical Device Number Reg. INC DX MOV AL,08H OUT DX,AL ; Select logical device 8 ;-----; Set minute as counting unit .-----DEC DX MOV AL, F5H OUT DX,AL ; Select CRF5 INC DX MOV AL,08H OUT DX,AL ; Set Watchdog time-our to minute mode .-----; Load 2 minutes to Watchdog Counter and start counting down ·-----DEC DX MOV AL, F6H OUT DX,AL ; Select CRF6 INC DX MOV AL,02H



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OUT DX,AL	; Time-out occurs after 2 minutes
;	
; Exit extended f	unction mode
;	
DEC DX	
MOV AL,AAH	
OUT DX,AL	



Appendix B: GPIO Programming Guide

Enter the extended	function mode, interruptible double-write
MOV DX, 2EH	
MOV AL, 87H	
OUT DX, AL	;O 2E 87
OUT DX, AL	;O 2E 87
Select logical devi	ce 9
MOV DX, 2EH	; Point to logic device number register
MOV AL, 07H	
OUT DX, AL	;O 2E 07
MOV DX, 2FH	;Select logic device 9
MOV AL, 09H	
OUT DX, AL	;O 2F 09
; Configure Registe	er (CR30) and set GPIO to GPI function
MOV DX, 2EH	; Configure Register (CR30)
MOV AL, 30H	
OUT DX, AL	;O 2E 30
MOV DX, 2FH	;Enable GPIO Port
MOV AL, 02H	
OUT DX, AL	;O 2F 02
MOV DX, 2EH	; Configure Register (CRF0)
MOV AL, F0H	
OUT DX, AL	;O 2E F0
MOV DX, 2FH	;Set all GPIO to input
MOV DX, 2FH MOV AL, FFH	;Set all GPIO to input
MOV DX, 2FH MOV AL, FFH OUT DX, AL	;Set all GPIO to input ;O 2F FF
MOV DX, 2FH MOV AL, FFH OUT DX, AL ;Reading data from	;Set all GPIO to input ;O 2F FF
MOV DX, 2FH MOV AL, FFH OUT DX, AL ;Reading data from 	;Set all GPIO to input ;O 2F FF I GPI0~7
MOV DX, 2FH MOV AL, FFH OUT DX, AL ;Reading data from MOV DX, 2EH MOV AL, F1H	;Set all GPIO to input ;O 2F FF GPI0~7
MOV DX, 2FH MOV AL, FFH OUT DX, AL ;Reading data from MOV DX, 2EH MOV AL, F1H OUT DX, AI	;Set all GPIO to input ;O 2F FF I GPI0~7 :O 2E F1
MOV DX, 2FH MOV AL, FFH OUT DX, AL ;Reading data from MOV DX, 2EH MOV AL, F1H OUT DX, AL MOV DX, 2FH	;Set all GPIO to input ;O 2F FF i GPI0~7 ;O 2E F1
MOV DX, 2FH MOV AL, FFH OUT DX, AL ;Reading data from MOV DX, 2EH MOV AL, F1H OUT DX, AL MOV DX, 2FH IN AL DX	;Set all GPIO to input ;O 2F FF i GPI0~7 ;O 2E F1 ;Bead value (00~FF)



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2. GPO0~7 access through 2Eh address

;-----, Enter the extended function mode, interruntible double-write

MOV DX, 2EH MOV AL 87H	
	:O 2F 87
OUT DX, AL	;0 2E 87
Select logical devi	ce 9
MOV DX, 2EH	; Point to logic device number register
MOV AL, 07H	
OUT DX, AL	;O 2E 07
MOV DX, 2FH	;Select logic device 9
	-O 2E 00
	,0 2F 09
; Configure Registe	er (CR30) and set GPIO to GPO function
MOV DX, 2EH	; Configure Register (CR30)
MOV AL, 30H	
OUT DX, AL	;O 2E 30
MOV DX, 2FH	;Enable GPIO Port I
MOV AL, 02H	
OUT DX, AL	;O 2F 02
MOV DX, 2EH	; Configure Register (CRF0)
MOVAL, FUH	
	;U ZE FU
MOVAL OOU	
	·O 2E 00
	,0 21 00
:Output data to GP	200~7

MOV DX, 2EH	
MOV AL, F1H	
OUT DX, AL	;O 2E F1
MOV DX, 2FH	
MOV AL,XXH	;XX (00~FF)= output value
OUT DX, AL	;O 2F XX
;	

Note: Bit 0= GPO0, Bit 1= GPO1...... Bit 7= GPO7