EBM-PNV (B.2)

Intel® Atom[™] Dual-Core 5.25" Mini Module with Intel® ICH8-M Chipset

User's Manual

3rd Ed – 29 December 2011

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THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

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Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

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- 5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

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1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

1.2 Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 x EBM-PNV (B.2) with Intel[®] Atom[™] Dual Core & DDR3 SDRAM Mini Module.
- Heatsink
- 1 x Quick Installation Guide
- 1 x DVD-ROM or CD-ROM contains the followings:
 - User's Manual (this manual in PDF file)
 - Ethernet driver and utilities
 - VGA drivers and utilities
 - Audio drivers and utilities



If any of the above items is damaged or missing, contact your retailer.

1.3 Document Amendment History

Revision	Date	Comment
1 st	December 2011	Initial Release

1.4 Manual Objectives

This manual describes in details Avalue Technology EBM-PNV Single Board.

We have tried to include as much information as possible but we have not duplicated information that is already being provided in the standard IBM Technical References, unless it proved to be necessary to aid in the understanding of this board.

We strongly recommend that you study this manual carefully before attempting to interface with EBM-PNV series or change the standard configurations. Whilst all the necessary information is available in this manual we would recommend that unless you are confident, you contact your supplier for guidance.

Please be aware that it is possible to create configurations within the CMOS RAM that make booting impossible. If this should happen, clear the CMOS settings, (see the description of the Jumper Settings for details).

If you have any suggestions or find any errors concerning this manual and want to inform us of these, please contact our Customer Service department with the relevant details.

1.5 System Specifications

System 오				
CPU	Onboard Intel [®] Atom™ D525 Dual-Core 1.8GHz CPU			
FSB	800 MHz			
BIOS	AMI 8Mbit Flash BIOS			
System Chipset	Intel® ICH8-M Chipset (2.4W)			
I/O Chip	Winbond W83627DHG-P			
System Memory	Onboard 1GB DDR3 SDRAM & One 204-pin SODIMM Supports Up to			
System Memory	3GB DDR3			
SSD	One CompactFlash Type I/II Socket			
Watchdog Timer	Reset: 1 ~ 255min. and 1sec. or 1min./step			
H/W Status Monitor	Monitoring System Temperature, Voltage, and Cooling			
n/w Status Monitor	Fan Status. Auto Trotting Control when CPU Overheats			
Expansion	Two Mini PCIe Slots (One Supports mSATA(optional))			
I/O 💿				
	1 x SATA (SATA 2 or SATA 3) optional, 1 LPT (Option), 2 x			
MIO	RS-232/422/485,			
	4 x RS-232 (Option), 1 x K/B & Mouse (Option)			
USB	7 x USB 2.0			
DIO	16-bit General Purpose I/O for DI and DO 8-bit Parallel Port Data			
Display 오				
Chipset	Intel® Pineview™ Integrated, Gen3.5 + GFX Core @ 400MHz			
Resolution	CRT Mode : Up to 2048 x 1536 @ 60Hz			
Resolution	LCD/ Simultaneous Mode: Up to 1366 x 768 @ 75Hz			
Multiple Display	CRT + LVDS, LVDS + LVDS			
LVDS	1 x 18-bit, 2 x 18/24-bit LVDS			
Backlight Control	VR, PWM (Setting by BIOS)			
Touch Screen Interface (Optional)	\odot			
Chipset	ETP-CP-S458XRU			
Touch Scroon Interface	With 5-pin 2.54mm Pin Header (Can be Selected to Support 4/5-wire			
rouch Screen mierrace	Touch Screen)			

Audio 호		
HD Codec	Realtek ALC888 Supports 5.1-CH Audio	
Audio Interface	Mic-in, Line-in, Line-out	
Audio Amplifier	2 x 2W	
Ethernet 🗢		
LAN 1	Intel® 82574L PCI-E Gigabit Ethernet	
	Intel® 82574L PCI-E Gigabit Ethernet	
LAN Z	(Optional 1 x PS/2 Keyboard & Mouse)	
Ethernet Interface	1000 Base-Tx Gigabit Ethernet Compatible	
Mechanical & Environmental 📀		
Power Consumption	+12V @ 1.80A	
Power Type	+12V ~ +28V Power Input AT/Adapter	
Operation Temperature	0 ~ 60°C (32 ~ 140°F)	
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing	
Size (L x W)	8" x 5.75" x 0.75" (203mm x 146mm x 19mm)	
Weight	0.55lb (0.25kg)	

1.6 Architecture Overview – Block Diagram

The following block diagram shows the architecture and main components of EBM-PNV.



2. Hardware Configuration

2.1 Product Overview



2.2 Installation Procedure

This chapter provides you the instructions on how to setup your system.

- 1. Turn off the power supply.
- 2. Insert the SODIMM module (be careful with the orientation).
- 3. Insert all external cables for hard disk, floppy, keyboard, mouse, USB etc. except for flat panel. A CRT monitor must be connected in order to change CMOS settings to support flat panel.
- 4. Connect power supply to the board via the ATXPWR.
- 5. Turn on the power.
- 6. Enter the BIOS setup by pressing the delete key during boot up. Use the "LOAD BIOS DEFAULTS" feature. The *Integrated Peripheral Setup* and the *Standard CMOS Setup* Window must be entered and configured correctly to match the particular system configuration.
- 7. If TFT panel display is to be utilized, make sure the panel voltage is correctly set before connecting the display cable and turning on the power.



Note: Make sure the heat sink and the CPU top surface are in total contact to avoid CPU overheating problem that would cause the system to hang or show instability.

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2.2.1 Main Memory

EBM-PNV provides Onboard 1GB DDR3 SDRAM and One 204-pin SODIMM Supporting Up to 3GB DDR3





Make sure to unplug the power supply before adding or removing SODIMMs or other system components. Failure to do so may cause severe damage to both the board and the components.

- Locate the SODIMM socket on the board.
- Hold two edges of the SODIMM module carefully. Avoid touching its connectors.

- Align the notch key on the module with the rib on the slot.
- Firmly press the modules into the socket which automatically snaps into the mounting notch. Do not force the SODIMM module in with extra force as the SODIMM module only fits in one direction.



204-pin DDR3 SODIMM

• To remove SODIMM modules, simultaneously push the two ejector tabs outward, then pull out the SODIMM module.



Note:

- (1) Please do not change any DDR3 SDRAM parameter in BIOS setup to increase your system's performance without acquiring technical information in advance.
- (2) Static electricity can damage the electronic components of the computer or optional boards. Before proceeding, ensure that you are discharged of static electricity by briefly touching a grounded metal object.

2.3 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper you connect the pins with the clip. To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



The jumper settings are schematically depicted in this manual as follows:

0 0		1 2 3 O
Open	Closed	Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

Jumpers		
Label	Function	Note
JBAT	Clear CMOS	3 x 1 header, pitch 2.54mm
ID1	Serial port 1 – RS232/ 422/ 485 mode	4 x 3 header, pitch 2.0mm
JFI	select	
102	Serial port 2 – RS232/ 422/ 485 mode	4 x 3 header, pitch 2.0mm
JFZ	select	
JP4	SATA DOM Pin 7 Power mode selector	3 x 1 header, pitch 2.0mm
JRI1	Serial port 1 pin9 signal select	3 x 2 header, pitch 2.0mm
JRI2	Serial port 2 pin9 signal select	3 x 2 header, pitch 2.0mm
JVR1	LCD backlight brightness adjustment	3 x 2 header, pitch 2.0mm
JVR2	LCD backlight brightness adjustment	3 x 2 header, pitch 2.0mm
SW1	Multi-function select	DIP switch 6pin
S/M/2	Serial port 1/2 – RS232/422/485 mode	DIP switch 6pin
3442	select	

The following tables list the function of each of the board's jumpers and connectors.

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Connectors		
Label	Function	Note
BAT	Battery connector	2 x 1 wafer, pitch 1.25mm
CFCARD	Compact Flash card connector	
COM1	Serial Port 1 connector	D-sub 9 pin, male
CPU_FAN	CPU fan connector	3 x 1 wafer, pitch 2.54mm
DIMM	204-pin DDR3 SODIMM socket	
JAUDIO	Audio connector	6 x 2 header, pitch 2.0mm
JBKL1	LCD Inverter connector	5 x 1 wafer, pitch 2.0mm
JBKL2	LCD Inverter connector	5 x 1 wafer, pitch 2.0mm
JCOM2	Serial Port 2 connector	5 x 2 header, pitch 2.0mm
JCOM3	Serial Port 3 connector	5 x 2 header, pitch 2.0mm
JCOM4	Serial Port 4 connector	5 x 2 header, pitch 2.0mm
JCOM5	Serial Port 5 connector	5 x 2 header, pitch 2.0mm
JCOM6	Serial Port 6 connector	5 x 2 header, pitch 2.0mm
JDIO	General purpose I/O connector	10 x 2 header, pitch 2.0mm
JHS	Handset speaker Mode selector	3 x 2 header, pitch 2.0mm
JLED	LED indicator connector	7 x 2 header, pitch 2.0mm
JLVDS1	LVDS Connector	DIN 40-pin wafer, pitch 1.25mm
JLVDS2	LVDS Connector	DIN 40-pin wafer, pitch 1.25mm
JTOUCH	Touch panel connector	5 x 1 header, pitch 2.54mm
JUSB1	USB connector 4&5	5 x 2 header, pitch 2.0mm
JUSB2	USB connector 2&3	5 x 2 header, pitch 2.0mm
JUSB4	USB connector 9	6 x 1 header, pitch 2.0mm
JKEY	OSD for front panel key	8 x 1 wafer, pitch 2.0mm
LAN1	RJ-45 Ethernet 1	
KBMS	Keyboard & Mouse (LAN2-Optional)	
LED	LED indicator connector	
LINOUT	Audio line-out connector	
MPCIE1	Mini-PCI connector 1	
MPCIE2	Mini-PCI connector 2	
PRINT	Optional LPT Connector	
PWR1	Power connector	
PWR2	Power connector	2 x 2 wafer, pitch 2.0mm
RSBTN	Reset button	
S_PWR1	Serial ATA power connector	2 x 1 wafer, pitch 2.0mm
SATA1	Serial ATA connector 1	
SATA2	Serial ATA connector 2	
USB1	USB connector 0&1	
VGA	VGA connector	D-sub 15-pin, female

2.4 Setting Jumpers & Connectors

2.4.1 Clear CMOS (JBAT)



Protect*



Clear CMOS



* Default

2.4.2 Multi-function select (SW1)





	ON	OFF
1	AT SEL	ATX SEL
2	CF Master	CF Slave
3	Touch Off	Touch On
4	Touch: 4W	Touch: 5W
5	GPIO32:L	GPIO32:H
6	GPIO33:L	GPIO33:H

2.4.3 Serial port 1/2 - RS-232/ 422/ 485 mode select (SW2)





In Serial Port 1 mode

	RS-232	RS-422	RS-485
1	ON	OFF	OFF
2	OFF	ON	OFF
3	OFF	OFF	ON

In Serial Port 2 mode

	RS-232	RS-422	RS-485
4	ON	OFF	OFF
5	OFF	ON	OFF
6	OFF	OFF	ON

2.4.4 Serial port 1/2 pin9 signal select (JRI1/ JRI2)



Ring*









* Default

2.4.5 Serial port 1/2 RS-232/ 422/ 485 mode select (JP1/ JP2)





* Default

2.4.6 SATA DOM Pin 7 Power mode selector (JP4)



* Default

Clear*

3	1

Power

3	1	

Signal	PIN
SATA_PWR	1
GND#7_1	2
GND	3



2.4.7 Handset speaker Mode selector (JHS)

1	
5	

Signal	PIN	PIN	Signal
HS_MIC+	1	2	HS_MIC-
HS_OUT+	3	4	GND
HOOK	5	6	GND

2.4.8 Battery connector (BAT)





Signal	PIN
GND	2
BAT	1

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2.4.9 LCD backlight brightness adjustment (JVR1)



* Default

Signal	PIN	PIN	Signal
+5V	1	2	DC
VR	3	4	VR
GND	5	6	PWM

Variation Resistor (Recommended: 4.7KΩ, >1/16W)

Mode1: VR type

1	
5	

Mode 2: DC type*

1	
5	

Note: DC: 0V ~5V

Mode 3: Pulse-Width Modulated type

1	
5	



Note:

For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by JBKL1. Please see the JBKL1 section for detailed circuitry information.

2.4.10 LCD backlight brightness adjustment (JVR2)



* Default

Signal	PIN	PIN	Signal
+5V	1	2	DC2
VR	3	4	VR
GND	5	6	PWM2

Variation Resistor

(Recommended: $4.7K\Omega$, >1/16W)



Note:

For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by JBKL2. Please see the JBKL2 section for detailed circuitry information.

Mode1: VR type

1	
5	

Mode 2: DC type*

1	
5	

Note: DC: 0V ~5V

Mode 3: Pulse-Width Modulated type

1	
5	

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2.4.11 Power connector (PWR2)



Signal	PIN	PIN	Signal
VIN	4	3	VIN
GND	2	1	GND

2.4.12 Serial ATA power connector (S_PWR1)



	U∎	
1	H∎	
۰.	\square	

Signal	PIN
SATA_PWR	2
GND	1



2.4.13 LCD Inverter connector (JBKL1/ JBKL2)

1	
Signal	PIN
+5V	5
BRIGHT	4
BLK_ON	3
GND	2
+12V	1



Note:

For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by **JVR1/ JVR2**. Please see the **JVR1/ JVR2** section for detailed circuitry information.

2.3.13.1 Signal Description – LCD Inverter Connector (JBKL1/ JBKL2)

Signal	Signal Description		
BRIGHT	Vadj = 0.75V ~ 4.25V (Recommended: 4.7KΩ, >1/16W)		
BKL_ON	LCD backlight ON/OFF control signal		

PRINT (Rear side) Ľ© ∏© 0 \bigcirc ∐©] Ô Ľ 0 88880 999999 Note in the second Eed teel teesseest had ease and teesest teesse teesseest tees teesseest teesseest teesseest teesse teesse NUMBER OF OWNER \odot \odot -E 0 C.SSSELL

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<u>d</u>		=			0

Signal	PIN
GND	20
GND	19
GND	18
SLIN#	17
PAR_INIT#	16
ERR#	15
AFD#	14
SLCT	13
PE	12
BUSY	11
ACK#	10
PTD7	9
PTD6	8
PTD5	7
PTD4	6
PTD3	5
PTD2	4
PTD1	3
PTD0	2
STB-	1

2.4.14 Optional LPT connector (PRINT)

2.4.15 Serial port 1 connector (COM1)





In RS-232 Mode

Signal	PIN	PIN	Signal
DCD1	1	2	RxD1
TxD1	3	4	DTR1
GND	5	6	DSR1
RTS1	7	8	CTS1
RI1	9		NC

In RS-422 Mode

Signal	PIN	PIN	Signal
TxD1-	1	2	RxD1+
TxD1+	3	4	RxD1-
GND	5	6	NC
NC	7	8	NC
NC	9		NC

In RS-485 Mode

Signal	PIN	PIN	Signal
DATA1-	1	2	NC
DATA1+	3	4	NC
GND	5	6	NC
NC	7	8	NC
NC	9		NC

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2.4.16 CPU fan connector (CPU_FAN)





Signal	PIN
FAN_TAC1	3
+12V	2
GND	1

2.4.17 Audio connector (JAUDIO)



1	
11	

Signal	PIN	PIN	Signal
APM_LOUT_R	1	2	APM_LOUT_L
GND	3	4	GND
LINEIN_R	5	6	LINEIN_L
MIC-R	7	8	MIC-L
FRONT-JD	9	10	LINE1-JD
MIC1-JD	11	12	GND

2.4.18 Serial port 2 connector (JCOM2)



1	

In RS-232 Mode

Signal	PIN	PIN	Signal
DCD2	1	2	RxD2
TxD2	3	4	DTR2
GND	5	6	DSR2
RTS2	7	8	CTS2
RI2	9	10	NC

In RS-422 Mode

Signal	PIN	PIN	Signal
TxD2-	1	2	RxD2+
TxD2+	3	4	RxD2-
GND	5	6	NC
NC	7	8	NC
NC	9	10	NC

In RS-485 Mode

Signal	PIN	PIN	Signal
DATA2-	1	2	NC
DATA2+	3	4	NC
GND	5	6	NC
NC	7	8	NC
NC	9	10	NC

2.4.19 Serial port 3/ 4/ 5/ 6 connector (JCOM3/ JCOM4/ JCOM5/ JCOM6)



1	

Signal	PIN	PIN	Signal
DCD	1	2	RxD
TxD	3	4	DTR
GND	5	6	DSR
RTS	7	8	CTS
RI	9	10	NC

2.4.20 General purpose I/O connector (JDIO)



1	٥	٥	
	٥		
	٥	٥	
	٥	٥	
	٥	٥	
	٥	٥	
	٥	٥	
	٥	٥	
	٥	٥	
19	٥	۵	

Signal	PIN	PIN	Signal
DIO0	1	2	DIO10
DIO1	3	4	DIO11
DIO2	5	6	DIO12
DIO3	7	8	DIO13
DIO4	9	10	DIO14
DIO5	11	12	DIO15
DIO6	13	14	DIO16
DIO7	15	16	DIO17
SMB_CLK_S	17	18	SMB_DATA_S
GND	19	20	+5V

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2.4.21 LED indicator connector (JLED)



1	

Signal	PIN	PIN	Signal
GND	1	2	+3.3V
HD_ACT#	3	4	+3.3V
LAN1_ACT	5	6	3.3V_SB
LAN2_ACT	7	8	3.3V_SB
ROUT-	9	10	ROUT+
LOUT-	11	12	LOUT+
PWRBTN#	13	14	GND

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2.4.22 LVDS connector (JLVDS1)



	1																					
	п	п	п	п	L	п	п	п	п	п	п	п	п	п	п	п	п	п	п	п		_
Ð		0	0	0	:		0	0	0	0	0	0	0	0	0	0	0	0	0		Ì	Į
	U	U	U	U	T	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	-	-

Signal	PIN	PIN	Signal			
+5V	2	1	+3.3V			
+5V	4	3	+3.3V			
I ² C_DAT	6	5	I ² C_CLK			
GND	8	7	GND			
Txout0	10	9	Txout1			
Txout0#	12	11	Txout1#			
GND	14	13	GND			
Txout2	16	15	NC			
Txout2#	18	17	NC			
GND	20	19	GND			
NC	22	21	NC			
NC	24	23	NC			
GND	26	25	GND			
NC	28	27	NC			
NC	30	29	NC			
GND	32	31	GND			
Txclk	34	33	NC			
Txclk#	36	35	NC			
GND	38	37	GND			
+12V	40	39	+12V			

2.3.22.1 Signal Description – LVDS Connecter (JLVDS)

Signal	Description
I ² C_DAT, I ² C_CLK	I ² C interface for panel parameter EEPROM. This EERPOM is mounted on the LVDS receiver. The data in the EEPROM allows the EXT module to automatically set the proper timing parameters for a specific LCD panel.
2.4.23 LVDS connector (JLVDS2)



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ç	Si	g	n	а	I		F	P	N	I	I	P	IN	1		S	Si	g	n	а	I	
			- \	,		Т		~	,				1					2	<u>م</u>	۰,		

+5V	2	1	+3.3V
+5V	4	3	+3.3V
NC	6	5	NC
GND	8	7	GND
Txout0	10	9	Txout1
Txout0#	12	11	Txout1#
GND	14	13	GND
Txout2	16	15	Txout3
Txout2#	18	17	Txout3#
GND	20	19	GND
Txout4	22	21	Txout5
Txout4#	24	23	Txout5#
GND	26	25	GND
Txout6	28	27	Txout7
Txout6#	30	29	Txout7#
GND	32	31	GND
Txclk1	34	33	Txclk2
Txclk1#	36	35	Txclk2#
GND	38	37	GND
+12V	40	39	+12V

Ø

Note: Single/Dual 24-bit LVDS

1. CRT's resolution < LCD's resolution.

If we boot from CRT & LCD, the resolution is fixed by CRT's resolution.

If we boot from LCD only and plug the CRT in the OS, LCD works well but the CRT will have wrong resolution.

CRT's resolution > LCD's resolution.
 Everything is fine.



2.4.24 Touch panel connector (JTOUCH)

Signal PIN						
UL	1					
UR	2					
PROBE	3					
LR	4					
LL	5					



NOTE: Under 4W situation UL=X+, UR=Y+, LR=Y-, LL=X-

2.4.25 USB connector 4&5, 2&3 (JUSB1/ JUSB2)



1	

Signal	PIN	PIN	Signal
+5V	1	2	GND
D-	3	4	GND
D+	5	6	D+
GND	7	8	D-
GND	9	10	+5V

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USB connector 9 (JUSB4)

2.4.26

	1

Signal	PIN
+5V	1
D-	2
D+	3
GND	4
GND	5
+3.3V	6

OSD for front panel key (JKEY) 2.4.27



1	
Signal	PIN
GND	1
K-LED_GREEN	2
K-LED_RED	3
K-POWER	4
K-AUTO	5
K-MENU	6
K-RIGHT	7
K-LEFT	8



3.1 Introduction

The BIOS setup program allows users to modify the basic system configuration. In this following chapter will describe how to access the BIOS setup program and the configuration options that may be changed.

3.2 Starting Setup

The AMI BIOS[™] is immediately activated when you first power on the computer. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

By pressing immediately after switching the system on, or

By pressing the key when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test).

Press DEL to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

Press F1 to Continue, DEL to enter SETUP

3.3 Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Button	Description
1	Move to previous item
\downarrow	Move to next item
<i>←</i>	Move to the item in the left hand
\rightarrow	Move to the item in the right hand
Esc key	Main Menu Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu Exit current page and return to Main Menu
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
(Shift) F2 key	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F3 key	Calendar, only for Status Page Setup Menu
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the default
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

• Navigating Through The Menu Bar

Use the left and right arrow keys to choose the menu you want to be in.



Note: Some of the navigation keys differ from one screen to another.

• To Display a Sub Menu

Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A " \geq " pointer marks all sub menus.

3.4 Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or the F1 key again.

3.5 In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer is no longer able to boot, the AMI BIOS supports an override to the CMOS settings which resets your system to its defaults.

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

3.6 BIOS setup

Once you enter the AMI BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

3.6.1 Main Menu

This section allows you to record some basic hardware configurations in your computer and set the system clock.

			BIOS SE	TUP UTILITY			
Main	Advanced	PCIPnP	Boot	Security	Ch	ipset l	Exit
System	Overview					Use [EN]	[ER], [TAB] FT-TAB] to
AMIBIO Versio	S n :08.00.16	5				select a	a field.
Build I ID	Date:07/23/10 1AEOH008 :) }				Use [+] configu	or I-J to re system Time.
Inf	: (BPNUNO)	DI)EBM Pir	wiew-N +	ICH8M			
Proces	50r						
Speed Count	:255MHz :255						
System	Memory					i ← Sež t∔ Se	lect Screen elect Item
Size	:1014MB					+- Cl Tab Se	nange Field elect Field
System System	Time Date		[19:1 [Thu	0:46] 07/22/2010]		F1 Ge F10 Sa ESC Ea	eneral Help ave and Exit kit
	uA2_68_((") Comurcial	t 1985-2	009. America	n Mer	atrends.	Inc
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3.6.1.1 System Time

Use the system Date option to set the system date. Manually enter the day, month and year.

3.6.1.2 System Date

Use the system time option to set the system time. Manually enter the hours, minutes and seconds.



Note: The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen. Visit the Avalue website (<u>www.avalue.com.tw</u>) to download the latest product and BIOS information.

3.6.2 Advanced Menu

This section allows you to configure your CPU and other system devices for basic operation through the following sub-menus.

			BIOS SE	TUP UTILITY			
Main	Advanced	PCIPnP	Boot	Security	Chi	ipset 👘	Exit
Advanc WARNIN CPU IDE Supe Hard ACPI USB APM	ed Settings G: Setting way cause Configuration Configuration rIO Configuration Ware Health (Configuration Configuration Configuration	rong value system to n ation Configurat n n	s in bel malfunc	ow sections tion.		€ Confi t↓ Enter F1 F10 ESC	gure CPU. Select Screen Select Item Go to Sub Screen General Help Save and Exit Exit
	v02.68 ((C) Copyr igh	t 1985-2	009, America	n Meç	gatrend	s, Inc.

3.6.2.1 CPU Configuration

BIOS SETUP UTILITY	
Configure advanced CPU settings Module Version:3F.1B	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 Disabled] 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
v02.68 (C)Copyright 1985-2009, American Me	gatrends, Inc.

Item	Options	Description	
	Disabled,	This item allows you to limit CPUID maximum	
	Enabled	value.	
Execute-Disable Bit	Disabled,	This item allows you to enable or disable the	
Capability	Enabled	No-Execution page protection technology.	
Hyper Threading Disabled, This item allow		This item allows you to enable or disable	
Technology Enabled		Intel® Hyper Threading technology.	
	Disabled,	This item allows you to enable or disable	
Intel® SpeedStep 11 tech	Enabled	Intel® SpeedStep™ tech.	

3.6.2.2 IDE Configuration

	BIOS SETUP UTILITY	
Advanced		
IDE Configuration		Options
ATA/IDE Configuration Configure SATA as	[Enhanced] [IDE]	Disabled Compatible Enhanced
 Primary IDE Master Primary IDE Slave Secondary IDE Master Secondary IDE Slave Third IDE Master Third IDE Slave 	: [Not Detected] : [Not Detected] : [Not Detected] : [Not Detected] : [TRANSCEND] : [Not Detected]	
Hard Disk Write Protect IDE Detect Time Out (Sec)	[Disabled] [35]	 ← Select Screen ↑↓ Select Item ← Scheme Setime
► AHCI Configuration		F1 General Help F1 Save and Exit ESC Exit
v02.68 (C) Copyrigh	nt 1985-2009, American Me	gatrends, Inc.

Item	Options	Description
ATA/ IDE Configuration	Disabled, Compatible, Enhanced	This can be configured as Disabled, Compatible or Enhanced.
Configure SATA as	IDE, RAID, AHCI	Use the configure SATA as BIOS option to configure the SATA port as an IDE drive, a SATA drive (AHCI mode) or a SATA drive in a RAID configuration.
Primary/ Secondary/ Third IDE Master	Disabled, Enabled	Use the IDE Master and IDE Slave configuration menu to view both primary and secondary IDE device details and configure the IDE devices connected to the system.
Primary/ Secondary/ Third IDE Slave	Disabled, Enabled	Use the IDE Master and IDE Slave configuration menu to view both primary and secondary IDE device details and configure the IDE devices connected to the system.
Hard Disk Write Protect	Disabled, Enabled	Disable/ Enable device write protection. This will effective only if device is accessed through BIOS.
IDE Detect Time Out (Sec)	0/ 5/ 10/ 15/ 20/ 25/ 30/ 35	This allows you to select the time out value for detecting ATA/ ATAPI devices.

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3.6.2.2.1 AHCI Configuration

While entering setup, BIOS auto detects the presence of IDE devices. This displays the status of auto detection of IDE devices.

BIOS SETUP UTILITY	
Advanced	
AHCI Settings	While entering setup, BIOS auto detects the
 AHCI Port0 [Not Detected] AHCI Port1 [Not Detected] AHCI Port2 [Not Detected] 	presence of IDE devices. This displays the status of auto detection of IDE devices.
	 ← Select Screen ↑↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit
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Item	Options	Description	
SATA Port 0/1/2	Auto,	Serial port 0/ 1/ 2 mode select.	
SATA Port 0/ 1/ 2	Not Installed		
C M A D T	Disabled,	Select the smart monitoring, analysis, and	
5.M.A.R.T.	Enabled	reporting technology.	

3.6.2.3 Super I/O Configuration

You can use this item to set up or change the Super IO configuration for FDD controllers, parallel ports and serial ports.

	BIOS SETUP UTILITY	
Advanced		
Configure Win627DHG Super IO Chipset		Allows BIOS to Select
Serial Port1 Address Serial Port2 Address Serial Port2 Mode Parallel Port Address Parallel Port Mode Parallel Port Mode Parallel Port IRQ Serial Port3 Address Serial Port4 Address Serial Port4 Address Serial Port5 Address Serial Port5 IRQ Serial Port6 Address Serial Port6 IRQ	C3F8/TRQ4J C2F8/TRQ3J [Normal] C378J [Normal] C1RQ7J C3E8J C111J C2E8J C111J C2E0J C10J C10J C10J	Addresses. Addresses. Select Screen 14 Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit

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Item	Options	Description
	Disabled,	
Serial Port 1/ 2/ 3/ 4/ 5/ 6	3F8, 2F8,	This item allows you to select serial port 1 ~ 6
Address	3E8, 2E8,	of base addresses.
	2F0, 2E0	
	Normal	This item allows you to select Serial Port 2
Serial Port 2 Mode	ASKIR	Mode
Serial Port 3/ 4/ 5/ 6 IRQ	4/ 9/ 10/ 11	This item allows you select serial port 3 ~ 6 of IRQ.
	Disabled,	
Devellet Devt Address	378,	The Parallel Address BIOS option assigns the
Parallel Port Address	278,	I/O port address of the parallel port.
	3BC	
	Normal,	
Parallel Port Mode	EPP,	The Parallel Port Mode selection selects the
	ECP,	mode the parallel port operations in.
	EPP+ECP	
Parallel Port IRO	IRQ5,	The Parallel Port Address BIOS option
	IRQ7	assigns the parallel port interrupt address.

3.6.2.4 Hardware Health Configuration

This section allows you to control H/W monitoring.

	BIOS SETUP UTILITY		
Advanced			
Hardware Health Configura	ition		Fan Configuration
System Temperature CPU Temperature Vcore AVCC 3VCC +5V +1.8V VCCGFX +1.05V USB VBAT CPUFAN0 Mode Setting CPUFAN0 PWM Control	:43°C/109°F :74°C/165°F :1.096 V :3.328 V :3.328 V :5.120 V :1.880 V :0.912 V :1.072 V :3.360 V :3.184 V [Manual Mode [250]	J	 Select Screen Select Item Change Option General Help Save and Exit ESC Exit
v02.68 (C) Copyr	ight 1985-2009, America	an Meg	gatrends, Inc.

3.6.2.5 ACPI Settings

You can use this item to set up ACPI Configuration. Please refer to 3.5.2.5.1 ~ 3.5.2.5.3 for more details.

BIOS SETUP UTILITY	
Advanced	
ACPI Settings • General ACPI Configuration • Advanced ACPI Configuration • Chipset ACPI Configuration	General ACPI Configuration settings
	 ← Select Screen ↑↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)Copyright 1985-2009, American Me	gatrends, Inc.

3.6.2.5.1 General ACPI Configuration

	BIOS SETUP UTILITY		
Advanced			
General ACPI Configuration		Select the ACPI	
Suspend mode Repost Video on S3 Resume DEEP S5	[Auto] [No] [Disabled]	 state used for System Suspend. * Select Screen 14 Select Item *- Change Option F1 General Help F10 Save and Exit ESC Exit 	
uA2_68_(C)Comuniabt	1985-2009, American Mer	ratrende. Inc	

Item	Options	Description
Suspend Mode	S1 (POS), S3 (STR), Auto	Select the ACPI states used for system suspend.
Repost Video on S3 Resume	No, Yes	This item allows you to invoke VGA BIOS POST on S3/ STR resume.
Deep S5	Disabled, Enabled	All PME/ wakeup event will be disabled in S4/ S5 mode when enabled DEEP S5.

Ø

Deep S5=ErP

Note:

ErP mode: 1. No Timer-Power-On

2. No Wake On Ring/ LAN

3.6.2.5.2 Advanced ACPI Configuration

	BIOS SETUP UTILITY	
Advanced		
Advanced ACPI Configuration		Enable RSDP pointers
ACPI Version Features ACPI APIC support AMI OEMB table Headless mode	[ACPI v1.0] [Enabled] [Enabled] [Disabled]	 Construction of the second system Description Tables. Different ACPI version has some addition. Select Screen Select Item Change Option F1 General Help F10 Save and Exit ESC Exit
	4 1995 2009 Augustosa Ma	rationale. The

Item	Options	Description
	ACPI v1.0,	This item allows you applie RSDP pointers to
ACPI Version Features	ACPI v2.0,	64-bit fixed system description tables
	ACPI v3.0	04-bit fixed system description tables.
ACPI APIC support	Enabled,	Include APIC table pointer to RSDT pointer
	Disabled	list.
AMI OEMB table Headless mode	Enabled,	Include OEMB table pointer to R(x)SDT
	Disabled	pointer list.
	Disabled,	Enable/ Disable Headless operation mode
	Enabled	through ACPI.

3.6.2.5.3 Chipset ACPI Configuration

BIOS SETUP UTIL	LITY
Advanced	
South Bridge ACPI Configuration	Options
Energy Lake Feature Disabled APIC ACPI SCI IRQ Disabled USB Device Wakeup From S3/S4 Disabled High Performance Event Timer Disabled	Enabled Disabled ← Select Screen ↑↓ Select Item ← Change Option F1 General Help F10 Save and Exit ESC Exit
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Item	Options	Description
Eporgy Loke Epoture	Disabled,	This item allows selecting energy lake feature
Energy Lake Feature	Enabled	mode.
	Disabled,	This item allows to enable/ disable APIC ACPI
APIC ACPI SCI IRQ	Enabled	SCI IRQ.
USB Davias Wakeun From S2/S4	Disabled,	This item allows selecting USB device wakeup
USB Device wakeup From S3/ S4	Enabled	mode.
Lich Derformence Event Timer	Disabled,	This section helps to set high performance
Figh Performance Event Timer	Enabled	event timer.

3.6.2.6 USB Configuration

The USB configuration menu is used to read USB configuration information and configure the USB setting.

BIOS SETUP UTILITY	
Havanced	
USB Configuration	Enables support for
Module Version - 2.24.5-14.4	option disables
USB Devices Enabled : 1 Keyboard, 1 Hub	no USB devices are connected.
Legacy USB Support[Enabled]USB 2.0 Controller Mode[HiSpeed]BIOS EHCI Hand-Off[Enabled]Hotplug USB FDD Support[Auto]	
▶ USB Mass Storage Device Configuration	 ← Select Screen ↑↓ Select Item ← Change Option F1 General Help F10 Save and Exit ESC Exit

Item	Options	Description
		Use the Legacy USB Support BIOS option to
		enable USB mouse and USB keyboard
		support. Normally if this option is not enabled,
		any attached USB mouse or USB keyboard
Logoov LISP Support	Enabled,	does not become available until a USB
Legacy USB Support	Disableu,	compatible operating system is fully booted
	Auto	with all USB drivers loaded. When this option
		is enabled, any attached USB mouse or USB
		keyboard can control the system even when
		there is no USB driver loaded onto the system.
USB 2.0 Controller Mode	HiSpeed (480Mbps),	This item allows you to select HiSpeed
	FullSpeed (12Mpbs)	(480Mbps) or FullSpeed (12Mpbs).
	Fachlad	This is a workaround for OSs without EHCI
BIOS EHCI Hand-Off	Disabled	hand-off support. The EHCI ownership change
		should be claimed by EHCI driver.
	Fachlad	A dummy FDD devices is created that will be
	Enabled,	associated with the hotplugged FDD later.
סטין אפט support	Disabled,	Auto option creates this dummy device only if
	Auto	there is no USB present.

3.6.2.7 APM Configuration

The APM Configuration menu allows the advanced power management options to be configured.



Item	Options	Description
Restore on AC Power Loss by IO	Power On, Power Off, Last State	Use this to set up the system response after a power failure.
Resume On Ring	Disabled, Enabled	Use the Resume on Ring BIOS option to enable activity on the RI (ring in) modem line to rouse the system from a suspend or standby state. That is, the system is roused by an incoming call on modem.
Resume On RTC Alarm	Disabled, Enabled	Use the Resume on RTC Alarm option to specify the time the system should be roused from a suspend state.

3.6.3 Advanced PCI/ PnP Settings

Main Advanced PCIPnP Boot Security Chipset Exit Advanced PCI/PnP Settings 				
Advanced PCI/PnP Settings				
Advanced PCI/PnP Settings				
Sustem Boot				
WARNING: Setting wrong values in below sections may cause system to malfunction.				
Clear NURAM [No]				
Plug & Play O/S [No]				
PCI Latency Timer [64]				
Allocate IRQ to PCI VGA [Yes]				
Palette Snooping [Disabled]				
PCI IDE BusMaster [Enabled]				
OffBoard PCI/ISA IDE Card [Auto]				
★ Select Screen				
IRQ3 [Reserved] 14 Select Item				
IRQ4 [Reserved] +- Change Option				
IRQ5 [Reserved] F1 General Help				
IRQ7 [Reserved] F10 Save and Exit				
IRQ9 [Available] ESC Exit				
IRQ10 [Reserved]				
IRQ11 [Reserved] •				
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ltem	Options	Description
		Set this value to force the BIOS to clear the
	No,	Non-volatile Random Access Memory
	Yes	(NVRAM). The Original and Fail-Safe default
		setting is No.
		When set No, BIOS configures all the device
	No	in the system. When set to Yes and if you still
Plug & Play O/S	NO,	a Plug and Play operating system, the
	Yes	operating system configures the plug and Play
		device not required for boot.
PCI Latency Timer	32, 64, 96,	Value in units of PCI clocks for PCI device
	128, 160, 192,	
	224, 248	
		When set to Yes will assigns IRQ to PCI VGA
Allocate IRQ to PCI VGA	No,	card if card requests IRQ. When set to No will
	Yes	not assign IRQ to PCI VGA card even if card
		requests an IRQ.
PalattaSpaaning	Disabled,	This item designed to solve problems caused
Paletteonooping	Enabled	by some non-standard VGA card.

PCI IDE BusMaster	Disabled, Enabled	When set to enabled BIOS uses PCI busmastering for reading/ writing to IDE drives.
OffBoard PCI/ ISA IDE Card	Auto, PCI Slot 1/ 2/ 3/ 4/ 5/ 6	Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card. When set to auto will works for most PCI IDE cards.
IRQ3/ 4/ 5/ 7/ 9/ 10/ 11	Available, Reserved	Use the IRQ# address to specify what IRQs can be assigned to a particular peripheral device.

3.6.4 Boot Settings

Use the Boot menu to configure system boot options.

			BIOS SET	TUP UTILITY		
Main	Advanced	PCIPnP	Boot	Security	Ch	ipset Exit
Boot S Boot Boot Hard Remo	Houanced ettings Settings Co Device Prio Disk Drives vable Drives	nfiguratic rity		Security		 Configure Settings during System Boot. * Select Screen †4 Select Item Enter Go to Sub Screen F1 General Help
			1 1005 0		M	F10 Save and Exit ESC Exit
	VU2.68 (t) Copyr igł	nt 1985-20	JUS, America	n Me	gatrends, Inc.

3.6.4.1 Boot Settings Configuration

BIOS SETUP UTILITY				
Boot Boot				
Boot Settings Configuration		Allows BIOS to skip		
Quick Boot Quiet Boot AddOn ROM Display Mode Bootup Num-Lock PS/2 Mouse Support Wait For 'F1' If Error Hit 'DEL' Message Display Interrupt 19 Capture	[Enabled] [Disabled] [Force BIOS] [On] [Auto] [Enabled] [Enabled] [Disabled]	booting. This will decrease the time needed to boot the system.		
		 ← Select Screen ↑↓ Select Item ← Change Option F1 General Help F10 Save and Exit ESC Exit 		

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ltem	Options	Description
Quick Poot	Disabled,	Use the quick boot BIOS option to make the
QUICK BOOT	Enabled	computer speed up the boot process.
Quiet Reat	Disabled,	Use the quiet boot BIOS option to select the
Quiet Boot	Enabled	screen display when the system boots.
	Eoroo PIOS	The AddOn ROM Display Mode option allows
AddOn ROM Display Mode	Force BIOS,	add-on ROM (read-only memory) messages
	Keep Curren	to be displayed.
	On, Off	The Bootup Num-Lock BIOS option allows the
Bootup Num-Lock		number Lock setting to be modified during
		boot up.
PS/2 Mouse Support	Disabled,	
	Enabled,	This select support for PS/w mouse.
	Auto	
	Disabled	When set to enable, the system waits for the
Wait For 'F1' if Error	Enabled	F1 key to be pressed when error occurs. This
		allows option ROM to trap interrupt19.
Hit 'DEL' Message Display	Disabled,	This displays 'Press to run Setup> in
	Enabled	POST.
Interrupt 19 Capture	Disabled,	This allows option DOMe to trap intermetted
	Enabled	This allows option ROMs to trap interrupt19.

3.6.4.2 Boot Device Priority

Use the Boot Device Priority menu to specify the boot sequence from the available devices.

BIOS SETUP UTILITY				
Boot Device Priority		Specifies the boot		
1st Boot Device 2nd Boot Device	[USB:USB Hotplug FD] [HDD:3M-TRANSCEND]	A device enclosed in narenthesis has been		
		disabled in the corresponding type menu.		
		 Salast Sereen 		
		14 Select Item		
		+- Change Uption F1 General Help		
		F10 Save and Exit ESC Exit		
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3.6.4.3 Hard Disk Devices

Use the Hard Disk Drives menu to specify the boot sequence of the available HDDs.

	BIOS SETUP UTILITY Boot	
Hard Disk Drives		Specifies the boot
1st Drive	[HDD:3M-TRANSCEND]	sequence from the available devices.
		 ← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
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3.6.4.4 Removable Devices

Use the Removable Drives menu to specify the boot sequence of the available FDDs.

	BIOS SETUP UTILITY	
	Boot	
Removable Drives		Specifies the boot
1st Drive	[USB:USB Hotplug FD]	available devices.
		0.1.4.0
		← Select Screen
		F1 General Help
		FIU Save and Exit ESC Exit
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3.6.5 Security Settings

Use the Security menu to set system and user password.

MainAdvancedPCIPnPBootSecurityChipsetExitSecuritySettings				BIOS SE	TUP UTILITY			
Security SettingsInstall or Change the password.Supervisor Password :Not InstalledInstall or Change the password.Change Supervisor Password Change User Password Clear User PasswordEnter Change Boot Sector Virus Protection (Disabled)Boot Sector Virus Protection (Disabled)+ Select Screen 14 Select Item Enter Change F1 General Help F10 Save and Exit ESC Exit	Main	Advanced	PCIPnP	Boot	Security	Chi	pset	Exit
Supervisor Password :Not Installed User Password :Not Installed Change Supervisor Password Change User Password Clear User Password Boot Sector Virus Protection [Disabled] * Select Screen 14 Select Item Enter Change F1 General Help F10 Save and Exit ESC Exit	Securi	ity Settings					Insta	11 or Change the
Change Supervisor Password Change User Password Boot Sector Virus Protection [Disabled] * Select Screen 14 Select Item Enter Change F1 General Help F10 Save and Exit ESC Exit	Superv User I	visor Passwor Password	d :Not Ins :Not Ins	stalled stalled			passw	
Boot Sector Virus Protection [Disabled] + Select Screen 14 Select Item Enter Change F1 General Help F10 Save and Exit ESC Exit	Change Change Clear	e Supervisor e User Passwo User Passwor	Password rd d					
 ← Select Screen ↑↓ Select Item Enter Change F1 General Help F10 Save and Exit ESC Exit 	Boot S	Sector Virus	Protection	n [Disa	ıbledl			
							¢ †↓ Enter F1 F10 ESC	Select Screen Select Item Change General Help Save and Exit Exit
v02.68 (C)Copuright 1985-2009, American Megatrends, Inc.		v02.68 (C) Copurial	nt 1985-2	2009, America	n Mer	atrend	s, Inc.

3.6.5.1 Change Supervisor/ User Password

To either install or change the password.



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3.6.5.2 Clear User Password

Use the Clear User Password to clean a user password.



3.6.5.3 Boot Sector Virus Protection

The boot sector virus protection will warn if any program tries to write to the boot sector.

3.6.6 Advanced Chipset Settings

Use the chipset menu to access the Northbridge and Southbridge configuration menus.

			BIOS SE	TUP UTILITY			
Main	Advanced	PCIPnP	Boot	Security	Chi	ipset	Exit
Advanc WARNIN ► Nort ► Sout	ed Chipset S G: Setting w may cause h Bridge Com h Bridge Com	ettings rong value system to figuration figuration	s in bel malfunc	ow sections tion.		Confi featu	gure North Bridge res.
						¢ †↓ Enter F1 F10 ESC	Select Screen Select Item Go to Sub Screen General Help Save and Exit Exit
	v02.68 (C) Copyr igh	t 1985-2	009, American	n Meg	fatrend	s, Inc.

3.6.6.1 North Bridge Configuration

BIOS SETUP UTILITY	
Ch	ipset
North Bridge Chipset Configuration	Options
PCI MMID Allocation: 4GB To 3072MB DRAM Frequency [Auto] Configure DRAM Timing by SPD [Enabled]	Auto 667 MHz
Initate Graphic Adapter [IGD] Internal Graphics Mode Select [Enabled, 8MB]	
PEG Port Configuration	
▶ Video Function Configuration	 ← Select Screen ↑↓ Select Item ← Change Option F1 General Help F10 Save and Exit ESC Exit
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Item	Option	Description
DRAM Frequency	Auto,	This item allows you to manually
	667MHz	change DRAM frequency.
Configure DRAM Timing by	Disabled,	This item allows you to enable or
SPD	Enabled	disable by DRAM SPD.
		This item allows you to select
Initate Graphic Adapter		which graphics controller to use
	FEGRIGD	as the primary boot device.
	Disabled,	This option determines the
Internal Graphics Mode Select	Enabled 32MB,	amount of system memory that
internal Graphics Mode Select	Enabled 64MB,	can be used by the internal
	Enabled 128MB	graphics device.
PEG Port Configuration	Disabled	Use the PEG Port option to
		enable or disable the PCI Express
		port.

		Chipset
Video Function Configuration		Options
DVMT Mode Select DVMT/FIXED Memory	[DVMT Mode] [256MB]	Fixed Mode DVMT Mode
Boot Display Device Flat Panel Type RTD-2553 Chip EDID support Panel 1 Back light mode Panel 1 Back light control Panel 2 Back light mode Panel 2 Back light control Spread Spectrum Clock	[CRT + LUDS] [1024x768] [Disabled] [DC mode] [50 %] [PWM mode] [00 %] [Disabled]	 ← Select Screen ↑↓ Select Item +− Change Option F1 General Help F10 Save and Exit ESC Exit

3.6.6.1.1 Video Function Configuration

ltem	Option	Description
	Fixed Mode,	Displays the active system
DVMT Mode Select	DVMT Mode,	memory mode
	Combo Mode	memory mode.
	64MB,	Specifies the amount of DVMT/
DVMT/ FIXED Memory	128MB,	FIXED system memory to allocate
	Maximum DVMT	for video memory.
	VBIOS-Default,	
Boot Display Device	CRT,	Select boot display device at post
	LVDS,	stage.
	CRT+LVDS	

	640 x 480,	This item allows you to select
	800 x 600,	which panel resolution you want.
	1024 x 768,	
	1024 x 600,	
	1024 x 576,	
	800 x 480,	
	1280 x 720,	
Flat Daniel Trues	1280 x 768,	
Flat Panel Type	800 x 600,	
	1024 x 600,	
	1024 x 768,	
	1024 x 768,	
	1024 x 768,	
	1280 x 800,	
	1280 x 600,	
	1366 x 768	
	Disabled,	This item allows you to enable or
RTD-2553 Chip EDID support	Enabled	disable RTD-2553 Chip EDID
		support.
Panel 1/ 2 Back light mode/ Control	PWM mode,	This item allows you to select
	DC mode	Panel 1/ 2 backlight mode/
		control.
Sproad Sportrum Clock	Disabled,	This item allows you to enable or
Spread Spectrum Clock	Enabled	disable spread spectrum clock.

BIOS SETUP UTILITY Chipset			
South Bridge Chipset Confi	guration	Options	
USB Functions USB 2.0 Controller HDA Controller SMBUS Controller PCIe Wake LAN Boot rom	[10 USB Ports] [Enabled] [Enabled] [Enabled] [Disabled] [Disabled]	Disabled 2 USB Ports 4 USB Ports 6 USB Ports 8 USB Ports 10 USB Ports	
PCIE Ports Configuration PCIE Port 0 PCIE Port 1 PCIE Port 2 PCIE Port 3	[Auto] [Auto] [Auto] [Auto]	 ← Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit 	

3.6.6.2 South Bridge Configuration

ltem	Option	Description
	Disables,	This option enables the number of
USB Functions	2/ 4/ 6/ 8/ 10 USB Ports	USB ports desired or disables the
		USB function.
	Disabled,	This aption is dischlad by default
USB 2.0 Controller	Enabled	This option is disabled by default.
	Disabled	This option is used to enable the
HAD Controller		southbridge high definition audio
	Enabled	controller.
SMBUS Controller	Disabled,	This option is anabled by default
SWB03 Controller	Enabled	This option is enabled by default.
PCIe Weke	Disabled,	This section allows selecting PCIe
PCIe Wake	Enabled	wake mode.
LAN Boot rom	Disabled,	This section allows selecting LAN
	Enabled	boot rom mode.
PCIE Port 0/ 1/ 2	Disabled,	
	Enabled,	POIE a art 0/1/0 m a da
	Auto	POIE ροπ 0/ 1/ 2 mode.

3.6.7 Exit Options

Use the Exit menu to load default BIOS values, optional failsafe values and to save configuration changes.

BIOS SETUP UTILITY						
Main Advanced	PCIPnP	Boot	Security	Ch	ipset <mark>Exit</mark>	
Main Advanced Exit Options Save Changes and E Discard Changes an Discard Changes Load Optimal Defau Load Failsafe Defa	xit d Exit lts ults	Boot	Security		Exit Exit Exit system setup after saving the changes. F10 key can be used for this operation.	
					 Select Screen Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit 	
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3.6.7.1 Save Changes and Exit

Use the save changes and reset option to save the changes made to the BIOS options and to exit the BIOS configuration setup program.



3.6.7.2 Discard Changes and Exit

Use the Discard changes and Exit option to exit the system without saving the changes made to the BIOS configuration setup program.

			BIOS SE	TUP UTILITY				
Main	Advanced	PCIPnP	Boot	Security	Chi	pset	Exit	
Main Exit (Save (Discar Discar Load (Load 1	Advanced Dptions Changes and E rd Changes and rd Changes Dptimal Defau Failsafe Defau	PCIPnP xit d Exit	Boot	Security	Chi	pset Exit witho chang ESC k for t	Exit system setup out saving any jes. Key can be used this operation.	
			OK1	[Cance1]		Select Screen Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit		
	02 <u>60</u> (1	C) Comunicat	+ 1995 2	009 Anonios	n Mor	atroad		
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3.6.7.3 Discard Changes

Use the Discard Changes option to discard the changes and remain in the BIOS configuration setup program.



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3.6.7.4 Load Optimal Defaults

Use the Load Optimal Defaults option to load the optimal default values for each of the parameters on the setup menus. F9 key can be used for this operation.

BIOS SETUP UTILITY						
Main Advanced I	PCIPnP Boot	Security	Chipset <mark>Exit</mark>			
Exit Options Save Changes and Exit Discard Changes and I Discard Changes Load Optimal Defaults Load Failsafe Default	t Exit Load Opti	security mal Defaults?	 Load Optimal Default values for all the setup questions. F9 key can be used for this operation. 			
		[Cance 1]	 ← Select Screen ↑↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit 			
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3.6.7.5 Load Failsafe Defaults

Use the Load Failsafe Defaults option to load failsafe default values for each of the parameters on the Setup menus. F8 key can be used for this operation.



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4. Drivers Installation



Note: Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

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4.1 Install Chipset Driver (For Intel ICH8-M)

Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to **\Driver_Chipset\Intel\ICH8-M**.



Note: The installation procedures and screen shots in this section are based on Windows XP operation system. If the warning message appears while the installation process, click Continue to go on.



Step1. Locate \[\Driver_Chipset\Intel\] OM57\\infinst_autol.exe \].



Step 2. Click Next.



Step 3. Click Yes.



Step 4. Click Next.



Step 5. Click Finish to complete setup.
4.2 Install Display Driver (For Intel Pineview)

Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to **\Driver_Video\Intel\Pineview**.



Note: The installation procedures and screen shots in this section are based on Windows XP operation system.









Step 3. Click Yes.

ntel® Graphics Media Accelerator Driver		
Intel® Graphics Media Accelerator Driver Readme File Information		
Refer to the Readme file below to vie * * * * * Production Version	w the system requirements and installe ***XP*********************************	ation information.
* Microsoft Windows* * * Driver Revision: PV	XP 14.37.50.5106	~
	< Back Next : Intel®	Cancel

Step 4. Click Next.



Step 2. Click Next.

Step 5. Click Finish to complete setup.

4.3 Install Audio Driver (For Realtek ALC888)

Insert the Supporting CD-ROM to CD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to **\Driver_Audio\Realtek \ALC888.**



Note: The installation procedures and screen shots in this section are based on Windows 2000 operation system.





Step 3. The program executes the Setup automatically.

Realtek High Definition Audio Driver Setup (2.99) R2.49		
	Maintenance Complete	
	InstallShield Wizard has finished performing maintenance operations on Reallek High Definition Audio Driver.	
	Yes, I want to restart my computer novel Wo, I will restart my computer later	
	Remove any disks from their drives, and then slick Finish to complete setup.	
InstallShield	< Back Finish Cancel	

Step 1. Locate \[\Driver_Audio\Intel\] 6300ESB ALC888\setup.exe \].



Step 2. Select Next to the next step.

Step 4. Click Finish to complete the setup.

4.4 Install Ethernet Driver (For Intel 82574L)

Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to **D:\Driver_Gigabit\Intel\ 82574L**.



Note: The installation procedures and screen shots in this section are based on Windows XP operation system.





Step 3. Click Next to run the installation.



Step 4. Click Accept to continue.

Intel(R) Network Connections	
Setup Options Select the program features you want installed.	(intel)
Install:	
Orivers O	
Feature Description	
< <u>B</u> ack <u>N</u> ext >	Cancel

Step 5. Click Next.

Step 1. Locate \Driver_Gigabit\Intel\ 82574L and choose your system OS.

Extracting Files The contents of this package are being	j extracted.
Please wait while the InstallShield Wizar DriverInstaller on your computer. This i	d extracts the files needed to install may take a few moments.
Extracting OemVer.reg	
talishield	
	< Back Next > Cancel

Step 2. Click Next.

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Step 5. Click Install to next step.



Step 6. Click Next to next step.



Step 7. Click Finish to complete the setup.

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5. Mechanical Drawing



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-15.93-





Unit: mm





Unit: mm

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