PowerBrick ATOM

Quick Manual





Contents

Chapter 1: Product Introduction

Overview	1
Key Features	1
Hardware Specifications	1
Knowing Your PowerBrick ATOM	2
Mechanical Dimensions	4

Chapter 2: BIOS Setup

About BIOS Setup	5
When to Configure the BIOS	5
Default Configuration	6
Entering Setup	6
BIOS Setup Utility	7
Main	7
Advanced	8
Chipset	16
Boot	20
Security	21
Save & Exit	22
Appendix : Power Consumption	23
Service Contact Information	24

ACURA EMBEDDED SYSTEMS INC.

Chapter 1: Product Introduction

Overview



Key Features

- On-board Intel® Atom™ Dual Core D2550 processor, 1.86 GHz
- Intel® NM10 Express chipset
- 1x DVI-I & 1x HDMI display output
- Dual Intel® 82574L GbE LAN ports
- 2x RS232/422/485 and 2x RS232
- 6x USB2.0
- 1x external CFast socket
- 1x mini-PCIe with two antenna holes
- Support 9-36V DC input
- Supports ATX power mode, WoL, LAN teaming and PXE function

Hardware Specifications

CPU Support

- On-board Intel® Atom™ Dual Core processor D2550, 1.86 GHz, 1M L2 cache
- Intel® NM10 Express chipset

Main Memory

 1x DDR3 SO-DIMM sockets, support up to 4G DDR3-800/1066 SDRAM, unbuffered and non-ECC

I/O Interface-Front

- ATX power on/off switch
- HDD access/power status LEDs
- 4x COM ports (COM2 & 3: RS232/422/485)
- 2x USB2.0 port
- Audio jack (speaker-out & mic-in)
- 2x antenna holes

Device

- 1x 2.5" HDD drive bay
- 1x External CFast Socket

I/O Interface-Rear

- 2x Intel® 82574L GbE LAN port
- 4x USB2.0 port
- 1x HDMI
- 1x DVI-I (support VGA & DVI-D display via cable)
- 1x 2-pin DC input, Support 9-36V DC input
- 1x external screwed type CFast socket
- 1x mini-PCle socket (support optional Wi-Fi or 3.5G module)

Power Requirements

- Support 9-36V DC input
- 1x optional 12V, 60W power adapter

Dimensions

185mm(W) x 131mm(D) x 54mm(H) (7.28"x 5.2"x 2.13")

Construction

Aluminum chassis with fan less design

Environment

- Operating temperature: Ambient with air flow: -5°C ~ 55°C (according to IEC60068-2-1, IEC60068-2-14)
- Storage temperature: -20°C ~ 80°C
- Relative humidity: 10% to 93% (non-Condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection Random: 0.5Grms @5~500 Hz according to IEC68-2-64 Sinusoidal: 0.5Grms @5~500 Hz according to IEC68-2-6

Certifications

- CE approval
- FCC Class A

Knowing Your PowerBrick ATOM

Front Panel



2

Power Switch

Press to power-on or power-off the system.

Power Status LED

Indicates the system's power status.

HDD Activity LED

Indicates the hard drive's activity.

COM1 and COM4 RS232

Used to connect RS232 compatible devices.

COM2 and COM3 RS232/RS422/RS485

Used to connect RS232/422/485 compatible serial devices.

USB2.0 Ports

Two USB2.0 ports to connect the system with USB2.0/1.1 devices. Line-out

Line-out jack to connect speakers or headphones.

Mic-in

Mic-in jack to connect microphones.

Antenna Holes

Empty antenna holes reserved for installing optional Mini-PCIe Wi-Fi module.

Rear Panel



9~36 DC

9~36V DC Input Used to plug a DC power cord.

DVI-I

Used to connect a digital LCD panel.

HDMI

Used to connect a high-definition display.

USB2.0 Ports

Four USB2.0 ports to connect the system with USB2.0/1.1 devices.

Gigabit LAN Ports

Dual Gigabit LAN ports to connect the system to a local area network.

CompactFlash

Used to insert a CompactFlash card.

Mechanical Dimensions





4

Chapter 2: BIOS Setup

This chapter describes how to use the BIOS setup program for the PowerBrick ATOM. The BIOS screens provided in this chapter are for reference only and may change if the BIOS is updated in the future.

To check for the latest updates and revisions, visit www.acuraembedded.com.

About BIOS Setup

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters.

These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure such items as:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the setup program affect how the computer per-forms. It is important, therefore, first to try to understand all the setup options, and second, to make settings appropriate for the way you use the computer.

When to Configure the BIOS

This program should be executed under the following conditions: •When changing the system configuration

- When a configuration error is detected by the system and you are prompted to make changes to the setup program
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts •When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Default Configuration

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions.

There are a few settings that you may need to change depending on your system configuration.

Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing allows you to enter Setup. Another way to enter Setup is to power on the computer and wait for the following message during the POST:

TO ENTER SETUP BEFORE BOOT PRESS <CTRL-ALT-ESC> Press the key to enter Setup:

Кеу	Function
Right and Left arrows	Moves the highlight left or right to select a menu.
Up and Down arrows	Moves the highlight up or down between sumenus or fields.
<esc></esc>	Exits the BIOS Setup Utility.
+ (plus key)	Scrolls forward through the values or options of the highlighted field.
- (minus key)	Scrolls backward through the values or options of the highlighted field.
Tab	Selects a field.
<f1></f1>	Displays General Help.
<f2></f2>	Load previous values
<f3></f3>	Load optimized default values.
<f4></f4>	Saves and exits the Setup program.
<enter></enter>	Press <enter> to enter the highlighted submenu.</enter>

Scroll Bar

When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

Submenu

BIOS Setup Utility

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

Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.

BIOS Informat ion American Megatrends Intel Reference Code version BIOS Verdor 4.6.5.1 Intel Reference Code version Core Version UEFI 2.3; PI 1.2 Intel Reference Code version Project Version 04/05/2012 16:05:57 Intel RC version Build Date and Time Intel RC version System Date [Tue 06/12/2012] System Time [04:37:08] Inter Select Item Inter Select Item Access Level Administrator Image Opt F1 General Help F2 Perious Values F3 Optimized Defaults F4 Save & Exit ESC: Exit	Main Advar	ced Chipset	Boot	Security	Save & Exit
System Date [Tue 06/12/2012] [04:37:08] Access Level Administrator	BIOS Informat ion BIOS Verdor Core Version Compliancy Project Version Build Date and Tim Intel RC version	e	American M 4.6.5.1 UEFI 2.3; N104-003 04/05/2012	fegatrends PI 1.2 16:05:57	Intel Reference Code version
Access Level Administrator : Select Screen 11: Select Item Entry Fil: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	System Date System Time		[Tue 06/12/ [04:37:08]	2012]	
	Access Level		Administra	for	→→: Select Screen 1]: Select Irem Enter: Select +/:: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Intel RC Version

Displays the Intel Reference Code version.

System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Monday to Sunday. Month displays the month, from January to December. Date displays the date,

from 1 to 31. Year displays the year, from 1999 to 2099.

System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

Access Level

Displays the access level of the current user in the BIOS.

Advanced

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.



Setting incorrect field values may cause the system to malfunction.



Launch LAN1/2 PXE OpROM

Enables or disables the boot option for legacy network devices connected to LAN1 and LAN2.

CPU Configuration

This section is used to configure the CPU.

	Aptio Setup	Utility - Cop	yright (C)	2011 America	Megatrends, Inc.
Main	Advanced	Chipset	Boot	Security	Save & Exit
Legacy Op Launch La Launch La CPU Confi UDE Confi USB Confi Super IO C H/W Monit PPM Confi	ROM Support an1 PXE OpRO an2 PXE OpRO guration guration configuration tor guration	DM DM	[Disabl [Disabl	ed] ed]	CPU Configuration Parameters
					→→→: Select Screen 11: Select Term Enter: Select +/-: Change Opt. F1: General Help F2: Provious Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.1	4.1219. Conv	right (C) 20	11 American M	Jegatrends, Inc.

Aptio Setup Utility Advanced	7 - Copyright (C) 2011 America Meg	gatrends, Inc.
CPU Configuration Processor Type EMT64 Proceddor Speed System Bus Speed Ratio Status Actual Ratio System Bus Speed Processor Stepping Microcode Revision L1 Cache RAM L2 Cache RAM Processor Core Hyper-Threading Hyper-Threading Execute Disable Bit Limit CPUID Maximum	Intel(R) Atom (TM) CPU Supported 2132 MHZ 533MHZ 16 16 533MHZ 30661 262 2x56 k 2x512 k Dual Supported [Enabled] [Disabled]	Enabled for Window: XP and Linux (OS optimized for Hyper- Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). →: Select Screen 11: Select Screen 11: Select Screen 11: Select Bell Entr: Select 14: Change Opt F1: General Help F2: Provices Values F3: Optimized Defaults F4: Stree & Exit ESC: Exit

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

9

Aptio Setu	p Utility - Copyright (C) 2011 America Mega	trends, Inc.
Advanced		
CPU Configuration Processor Type EMT64 Proceddor Speed System Bus Speed Ratio Status Actual Ratio System Bus Speed	Intel(R) Atom (TM) CPU Supported 2132 MHZ 533MHZ 16 16 533MHZ 30661	Enabled for Window: XP and Linux (OS optimized for Hyper- Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology).
Processor Stepping Microcode Revision L1 Cache RAM L2 Cache RAM Processor Core Hyper-Threading	Launch Lan1 PXE OpROM Disabled Enabled	: Select Screen 14: Select Itam Exter: Select +i-: Change Opt.
Hyper-Threading Execute Disable Bit Limit CPUID Maximun	[Enabled] [Enabled] 1 [Disabled]	F1: Genäral Help F2: Provious Values F3: Optimized Dafaults F4: Save & Exit ESC: Exit
Version 2	2.14.1219. Copyright (C) 2011 American Megatr	ends, Inc.

This field is used to enable or disable hyper-threading.

Execute Disable Bit

Aptio Setu	p Utility - Copyright (C) 2011 America Mega	trends, Inc.
Advanced		
CPU Configuration Processor Type EMT64 Proceddor Speed System Bus Speed Ratio Status Actual Ratio System Bus Speed Processor Stepping Microcode Revision L1 Cache RAM L2 Cache RAM Processor Core Hyper-Threading Hyper-Threading Execute Disable Bit Limit CPUID Maximum	Intel(R) Atom (TM) CPU Supported 2132 MHZ 533MHZ 16 6 533MHZ 30661 Launch Lanl PXE OpROM Disabled Enabled [Enabled] [Disabled]	XD can prevent certain classes of malicious buffer overflow attack: when combined with a supporting OS (Windows Server 2003 SPI,Windows XP SP2, SuSE Linux 9.2, RedHAT Enterprise 3 Update 3.) →: Select Serven 11: Select Team Enter: Select H=: Change Opt F1: General Help F2: Provides Values F3: Optimized Defaults F4: Save & Exit ESC: Enit
Transform		

This field is used to enable or disable execute disable bit. When this field is set to Disabled, it will force the XD feature flag to always return to 0. XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3).

Limit CPUID Maximum

The CPUID instruction of some newer CPUs will return a value greater than 3. The default is Disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem may occur. To avoid this problem, enable this field to limit the return value to 3 or lesser than 3.

USB Configuration

This section is used to configure USB devices.

	Aptio Setup	Utility - Cop	yright (C)	2011 America	Megatrends, Inc.
Main	Advanced	Chipset	Boot	Security	Save & Exit
Legacy Op) Launch La Launch La	ROM Support nl PXE OpRO n2 PXE OpRO	9M 9M	(Disabl (Disabl	ed] ed]	USB Configuration Parameters
 CPU Config IDE Config USB Config Super IO C H/W Monit FPM Config 	guration guration guration onfiguration or guration				
					→→-: Select Stream ↑1: Select Item Enter: Select +1: Change Opt F1: General Help F2: Provious Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.1	4.1219. Copy	right (C) 20)11 American 1	Megatrends, Inc.

IDE Configuration

This section is used to configure the IDE devices.

Main	Advanced	Chipset	Boot	Security	Save & Exit
Legacy Op	ROM Support	:			IDE Devices Configuration
Launch L	anl PXE OpRO	OM	[Disab]	led]	
Launch L	an2 PXE OpRC	OM	[Disabl	ed]	
CPU Conf	ignization				
IDE Conf	guration				
USB Cont Super IO (iguration Configuration				
H/W Moni	itor				
FPM Con	Iguration				
					Salart Corres
					†4: Select Item
					Enter: Select
					+/-: Change Opt. F1: General Helm
					F2: Previous Values
					F3: Optimized Defaults
					F4: Save & Exit ESC: Exit

Configure SATA as



Configures the SATA as IDE or AHCI mode.

- IDE
- AHCI

This option configures the Serial ATA drives as Parallel ATA physical storage device.

This option configures the Serial ATA drives to use AHCI (Advanced Host Controller Interface). AHCI allows the storage driver to enable the advanced Serial ATA features which will increase storage performance.

SATA Controller(s)

Enables or disables SATA controller.

Super IO Configuration

This section is used to configure the I/O board Super I/O chip.

Aptio Setup Utility - Copyright (C) 2011 America Megatrends, Inc.							
Main	Advanced	Chipset	Boot	Security	Save & Exit		
Legacy Op Launch La Launch La	ROM Support anl PXE OpRO an2 PXE OpRO	M M	[Disabl [Disabl	led] led]	System Super IO Chip Parameters		
 CPU Confi IDE Confi USB Confi Super IO C H/W Moni PPM Confi 	guration guration guration configuration tor iguration						
					→→-: Select Screen ↑4: Select Item Enter: Select +4: Change Opt. F1: Gameral Help F2: Provious Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
	Version 2.1	4.1219. Copy	right (C) 20)11 American I	Megatrends, Inc.		

Serial Port 0 Configuration

	Advanced	Chipset	Boot	Security	Save & Exit
Serial Por Serial Por Device Set	t 0 Configurati t tings	on	(Enable IO=3F	ed] 3H; IRQ=4;	Change the Serial Port Max E Rate. Select <115200 bpr> or <921600 bpr>
Device Set	tings		[IO=3F	8H; IRQ=4;]	
Onboard S	Serial Port Ma	s Baud Rate	[115200	bps]	
					11: Select Item Enter: Select +1-: Change Opt. F1: General Help F2: Provious Values F3: Optimized Defaults
					11: Select Item Enter: Select 44: Change Opt. F1: General Help F2: Provious Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

This field configures the maximum baud rate of the serial port 0, the options are 115200 bps and 921600 bps.

Onboard Serial Port Mode



This field is used to configure the mode of serial port 1 as RS232, RS422, RS485 or RS485 AUTO.

Onboard Serial Port Max Baud Rate

	Aptio Setup	Utility - Cop	yright (C)	2011 America	Megatrends, Inc.
Main	Advanced	Chipset	Boot	Security	Save & Exit
Serial Port Serial Port Device Sett	t O Configuration	0 n	[Enabl IO=2F	ed] 8H; IRQ=3;	Change the Serial Port Max Ba Rate. Select <115200 bps> or <\$21600 bps>
Chang Sett Onboard S Onboard S	tings ierial Port 1 M ierial Port Mas	ode Baud Rate	[IO=2] [RS232 [11520	78H; IRQ=3; [] 0 bps]	1
	01 01 01 01 01 00 01 00 00	nboard Seria ps ps	Port Max	Baud Rate	: Select Screen
					11: Select Item Enter: Select ++: Change Opt. F1: General Help F2: Protions Values F3: Optimized Defaults F4: Save & Exit
	Varcian 2.1	41210 Conv	right (C) 2(11 American 1	ESC: Ext

This field configures the maximum baud rate of the serial port 1, the options are 115200 bps and 921600 bps.

H/W Monitor

This section is used to configure the hardware temperature, fan speed and voltages.

Main	Advanced	Chipset	Boot	Security	Save & Exit
Legacy Op Launch L Launch L · CPU Conf · IDE Conf · USB Conf · Super IO · H/W Moni · PPM Conf	pROM Support anl PXE OpRC an2 PXE OpRC iguration iguration Configuration itor iguration	DM DM	[Disabl [Disabl	ed] ed]	Monitor hardware status
					→: Select Screen 1: Select Streen 1: Select Stam Enter: Select 4:-/- Change Opt. F1: General Relp F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Main	Advanced	Chipset	Boot	Security	Save & Exit
Pc Health	Status				Monitor hardware
CPU Tem	perature		: +33 C		
System Te	mperature		: +35 C		
CPU FAN	Speed		: N/A		
CPU:Vco	re		: +1.168 V		
+3.3V			: +3.204 V		
+5V			: +5.120 V	-	
					: Select Screen
					†↓: Select Item
					the Change Ont
					F1: General Help
					F2: Previous Values
					F3: Optimized Defaults E4: Same & Enit
					ESC: Exit

PPM Configuration

This section is used to configure Intel SpeedStep.

Aptio Setup Utility - Copyright (C) 2011 America Megatrends, Inc.							
Main	Advanced	Chipset	Boot	Security	Save	& Exit	
Legacy Op Launch La Launch La	ROM Support anl PXE OpRO an2 PXE OpRO)M)M	[Disab] [Disab]	led] led]		PPM Configuration Parameters	
 CPU Confi IDE Confi USB Confi Super IO (H/W Moni PPM Confi 	guration guration guration Configuration tor iguration						
						Salect Screen 11: Select Isan Enter: Select +	
	Version 2.1	4.1219. Copy	right (C) 2	011 American 1	Megatre	ends, Inc.	

Chipset

This section is used to configure the system based on the specific features of the chipset.

	Aptio Setup Utility - Copyright (C) 2011 America Megatrends, Inc.								
Main	Advanced	Chipset	Boot	Security	Save & Exit				
 Host Bridg South Brid 	e ge		[Disabl [Disabl	ed] ed]	Host Bridge Parameters				
					→→-: Select Screen 14: Select Item				
					Enter: Soloct +/-: Chango Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Saro & Exit ESC: Exit				
	Version 2.1	14.1219. Copy	right (C) 20)11 American N	Megatrends, Inc.				

Setting incorrect field values may cause the system to malfunction.

Host Bridge

Displays the memory information

	Aptio Setup	Utility - Copy	right (C) 2	011 America	Mega	trends, Inc.
Main	Advanced	Chipset	Boot	Security	Sav	e & Exit
Main Intel IGD (Advanced Configuration femory Inform Yeauency HOTY	chipset ation******	Boot 1067 M 2048 MB	Security	Sav	e & Exit Config Intel IGD Settings →: Select Screen 1:: Select Nem Enter Select H: Change Opt. F: Conseril Felp F2: Pervious Values F3: Optimized Defaults F3: Optimized Defaults F3: Set & Exit ESC: Exit
	Version 2.1	4.1219. Copyr	ight (C) 201	1 American M	ſegatr	ends, Inc.

Intel® IGD Configuration Settings for Intel® IGD.

IGFX – Boot Type

Main	A day and a				B
	Advanced	Chipset	Boot	Security	Save & Exit
Intel IGD IGFX - B Fixed Gr:	Configuration oot Type phics Memory	Size	[DVI] [128MB]		Select the Video Device Which will be activated during POST. This has no effect if external graphics prese
	CRT	IGFX	- Boot Type	-	
	CRT + H	DMI			: Select Screen
					Enter: Select +/-: Change Opt.
					El: Canaral Hale
					F2: Previous Values

This field is used to configure which video device will be activated during POST. This has no effect if external graphics present. The options are CRT, DVI and CRT + HDMI.

Due to Intel® VBIOS wrong address issue in HDMI mode, there is no "HDMI" display output option in the BIOS menu.

Please refer to the following table for the display reference when a HDMI monitor is connected to POWERBRICK ATOM.

Connected Monitor Type	BIOS setting	Display output at POST mode
HDMI only	DVI	HDMI
HDMI only	CRT + HDMI	HDMI
HDMI+ DVI via Y cable	DVI	DVI
HDMI+ VGA via Y cable	CRT + HDMI	CRT + HDMI
HDMI+ VGA via Y cable	VGA	VGA

Fixed Graphics Memory Size

	Aptio Setup	Utility - Copy	right (C)	2011 America	Mega	trends, Inc.
Main	Advanced	Chipset	Boot	Security	Sav	e & Exit
► Intel IGD (IGFX - Bo Fired Gray	Configuration ot Type phics Memory	Size	[CRT + [128MB]	HDMI]		Configure Fixed Graphics Memory Size
	128MB 256MB	Fixed Grap	hics Memor	y Size		→→: Select Screen 11: Select Item Enter: Select 14: Change Opt. E1: Cange Meln
	Version 2.1	4 1219 Cenvr	ight (C) 20	11 American J	Megatr	P Second Leep F. Perton Values F. Optimized Defaults F Save & Exit ESC: Exit

This field is used to configure the memory size of the fixed graphics, the options are 128MB and 256MB.

South Bridge

Aptio Setu	Megatrends, Inc.			
Main Advanced	Chipset	Boot	Security	Save & Exit
Azalia Controller SMBus Controller		(HD Aud (Enabled	io]]	Select AC power state when power is re-applied after a power failure.
High Precision Event T	imer Configur	ation		
High Precision Timer	-	[Enabled	1	
Restore AC Power Loss		[Power C	n]	
				: Select Screen
				14: Select Item Enter: Select
				F1: General Help F2: Previous Values
				F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2	.14.1219. Copy	right (C) 20	11 American 1	Megatrends, Inc.

Azalia Controller

This section disables Azalia or enables HD Audio.

SMBus Controller

This section is used to configure SMBus. **High Precision Timer** This section is used to configure High Precision Event Timer.

Restore AC Power Loss

This section is used to configure Restore AC Power Loss.

Main	Advanced	Chipset	Boot	Security	Save & Exit
Azalia Co SMBus Co High Prec	ntroller ontroller ision Event Tin	ner Configur:	[HD Au [Enable	dio] d]	Select AC power state whenpower is re-appli after a power failure.
High Prec	ision Timer		[Enabie	d]	
Restore A	C Power Loss		[Power (On]	
	Power o				→++: Select Screen 1): Select Team Enter: Select +/-: Change Opt F1: General Help F2: Dension: Unlose
					F3: Provins values F3: Optimized Defaults F4: Save & Exit ESC: Exit

This field is used to configure the AC power state when power is restored after power failure, the options are Power Off and Power On.

Boot

Boot Configuration

This section is used to configure settings during sytem boot.

Setup Prompt Timeout

This section configures the number of seconds to wait for the setup activation key. **Quiet Boot**

When Enabled, the BIOS will shorten or skip some check items during POST. This will decrease the time needed to boot the system.

GateA20 Active

Configures the GateA20 function.

Option ROM Messages

Configures the ROM message.

Interrupt 19 Capture

When enabled, it allows the optional ROM to trap interrupt 19. **Boot Option Priorities**

Boot option #1

Main	Advanced	Chipset	Boot	Security	Save & Exit
Boot config Setup Pro Bootup Nu	guration mpt Timeout umLock State		1 [On]		Select AC power state whenpower is re-applie after a power failure.
Quiet Boo	t		[Disabie	d]	
CSM16 M	odule Version		07.65		
GateA20 A Option RC	Active DM Messages		[Upon F [Force F	leauest] BIOS]	
Interrupt Boot Optic Boot Optic Boot Optic	19 Capture on Priorities on #1 on #2	SATA S UEFI: - Disabled	Boot O M:TS4GC1 Pretec 01G1	ption #1 7X5001 8 2.00	-: Select Screen Select Item r: Select
Hard Driv	re BBS Prioriti	25			Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit

This field is used to adjust the boot sequence of the system. Boot Option #1 is the first boot device that the system will boot from, next will be #2 and so forth.

Security

Aptio Setup Utility - Copyright (C) 2011 America Megatrends, Inc.							
Main Advanced	Chipset	Boot	Security	Sav	Save & Exit		
Password Description If ONLY the Administrato only limits access to Setup entering Setup. If ONLY the User's passw to boot or enter Serup. In Administrator rights. The password length musi in the following range: Minimum length Maximum length	r's password and is only a ord and must Setup the Us be	is set, then isked for wh t be entered er will have 3 20	this len		Set Administrator Password		
Administrator Password User Password					: Selact Screen 1J: Selact Irem Enter: Selact + Change Opt FI: General Halp F2: Provious Values F3: Optimized Defmits F4: Save & Enit ESC: Exit		
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.							

Administrator Password

Sets the administrator's password

User Password

Sets the user's password.

Save & Exit



Save Changes and Exit

To save the changes and exit the Setup utility, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes. You can also press <F4> to save and exit Setup.

Discard Changes and Exit

To exit the Setup utility without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting. You can also press <ESC> to exit without saving the changes.

Save Changes and Reset

To save the changes and reset, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes and Reset

To exit the Setup utility without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting.

Save Changes

To save changes and continue configuring the BIOS, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes

To discard the changes, select this field then press <Enter>. A dialog box will appear.

Confirm by selecting Yes to discard all changes made and restore the previously saved settings.

Restore Defaults

To restore the BIOS to default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Save as User Defaults

To use the current configurations as user default settings for the BIOS, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Restore User Defaults

To restore the BIOS to user default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Boot Override

To bypass the boot sequence from the Boot Option List and boot from a particular device, select the desired device and press <Enter>.

Launch EFI Shell from filesystem device

To launch EFI shell from a filesystem device, select this field and press <Enter>.

Appendix : Power Consumption

Power Consumption Measurement

Purpose

The purpose of the power consumption test is to verify the power dissipation of system, and the loading of power supply.
Test Equipment
PROVA CM-07 AC/DC CLAMP METER

Test Procedure

1.Power up the DUT, boot into Windows 7 x32 Ultimate.

2. Entering standby mode (HDD power down).

3.Measure the power consumption and record it.

4.Run Burn-in test program to apply 100% full loading.

5.Measure the power consumption and record it.

Test Data

	Sys #1	Sys #1	
	+12V	+24V	
Full-Loading Mode	1.81A	0.96A	
Total	21.72W	23.04W	
Standby S1Mode	0.84A	0.45A	
Total	10.08W	10.8W	

Service Contact Information

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