## **DIN Rail Box PC**

Intel Celeron Bay Trail-M

**IBDRW / IBDRW-Ex** 

**User Manual** 

Version 1.0



# Contents

CHAPTER	1 WINMATE IBDRW / IBDRW-EX OVERVIEW 4
1.1 Int	roduction4
1.2 Ha	ardware Specification4
1.2.1	System Specification4
1.2.2	Mechanical and Power4
1.2.3	I/O Connectors
1.2.4	Environment Considerations5
1.3 Pa	acking List5
1.4 Sa	afety Precaution5
1.5 Cł	nassis Dimension7
CHAPTER	2 HARDWARE FUNCTIONALITY 8
2.1 W	inmate IBDRW / IBDRW-Ex Peripherals8
2.1.1	DC Adapter Jack8
2.1.2	DC Adapter Jack8
2.1.3	Panel9
2.1.4	DVI Connector
2.1.5	Mini PCIe
2.1.6	SSD10
2.1.7	USB 2.0 + USB 3.0 + LAN Connector10
2.1.8	Dual LAN
2.1.9	COM + VGA11
2.1.10	Audio12
2.1.11	DIDO
2.1.12	RS422, RS48512
2.1.13	Isolator DIDO (CON4)
2.1.14	Clear CMOS
2.1.15	RS422, RS485 Terminal Resistor
2.1.16	RS422, RS485
2.1.17	RS232, RS422, RS48514
CHAPTER	3 INITIAL SETUP 15
3.1 DI	N Rail Mounting Setup15
3.2 Ca	able ARM Bracket Installation (optional for IBDR-Ex)16
3.3 Co	onfiguration of the BIOS17
3.3.1	BIOS setup and Boot Procedure17
3.3.2	BIOS Setup Keys17



3.3.3	MAIN	.18
3.3.4	BIOS Advance Setup Utility	.19
3.3.5	Advanced	.20
3.3.6	USB Configuration	.21
3.3.7	Chipset	.23
3.3.8	Chipset North Bridge Parameters	.23
3.3.9	Chipset South Bridge Parameters	.24
3.3.10	Security	.25
3.3.11	Security Boot Menu	.27
3.3.12	Boot	.28
3.3.13	Save & Exit	.29
APPENDIX	,	31



## Chapter 1 Winmate IBDRW / IBDRW-Ex Overview

#### 1.1 Introduction

Winmate IBDRW is a DIN-rail mounted Fanless Box PC, which provides several serial communication ports. With a compact size and small form factor as well as front accessible I/Os, Winmate IBDR is very convenient for wiring and DIN-rail installation in the control cabinet. The Wide operation temperature and Industrial serial port design makes this unit a perfect communication even in harsh and critical location. While IBDRW-Ex is ATEX and Class 1 Division 2 certified DIN Rail Box pc for hazardous location deployment and for ATEX certified Box PC requires special enclosure box.

#### **1.2 Hardware Specification**

#### 1.2.1 System Specification

Processor	: Intel ®Celeron ® Bay Trail-M			
System Chipset	: Bay Trail SoC Chipset			
System Memory	: 1 x DDR3L 1333MHz SO-DIMM 2GB (max 8GB)			
Ethernet Controller	: 4 x Intel ®WG82574L GbE LAN			
USB	: 1 x USB 3.0			
	: 3 x USB 2.0 (external)			
	: 2 x USB 2.0 by pin-header (internal)			
Storage	: Default 32GB mSATA SSD			
Second Storage (optional) : 2.5" SSD 64~512GB				

## 1.2.2 Mechanical and Power

Dimensions	: 85.5mm x 152mm x 139mm (L x W x H)
Construction	: Aluminum Housing
Power Input	: 9-36V DC IN (isolation)
Power Source Range	: 20W max.
Mounting	: DIN Rail



## 1.2.3 I/O Connectors

Front Side I/O : 1 x Power ON/OFF button with LED indicator

- 1 x Line Out, Line In, Mic In
- 4 x RJ-45 (Giga LAN)
- 1 x RS232 default (422/485 as optional)
- 1 x VGA
- 1 x USB3.0,
- 3 x USB2.0
- 1 x DC Power Terminal Block
- 1 x RS232 default (Isolated RS232/485 as optional)
- 1 x 20 pins terminal block DIDO

#### 1.2.4 Environment Considerations

Operating Temperature	: -20 to 60 deg. C
Operating Humidity	: 5% to 95% (non condensing)
Anti Vibration	: 5Hz – 500Hz / 1 Grms / 3 Axis

## 1.3 Packing List

- 1 x DIN Rail Mounting clip
- 1 x User Manual
- 1 x 12V AC to DC Power Adapter with power cord
- 1 x System Recovery DVD (optional)
- Terminal block female connectors
- Cable Arm Bracket (Optional for IBDR-Ex)

## 1.4 Safety Precaution

#### 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.

#### SAFETY PRECAUTIONS!

- I Please read this safety instruction carefully.
- I Place keep this user's manual for later reference.
- Please disconnect this equipment for any AC outlet before cleaning. Use liquid or spray detergents for cleaning. Use a damp cloth.
- I Do not touch the LCD panel surface with sharp or hard objects.
- I For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Place this equipment on a reliable surface during installation, dropping letting it fall could cause damage.
- The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- All cautions and warnings on the equipment should be noted.
- I If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- If any of the following situations arises, get the equipment check personnel:
  - **n** The power cord or plug is damaged
  - n Liquid has penetrated into the equipment
  - n The equipment has been exposed to moisture
  - **n** The equipment does not work well, or you cannot get it to work according to user's manual
  - n The equipment has been dropped and damaged
  - n The equipment has obvious signs of breakage



- Do not leave this equipment in an uncontrolled environment where temperature is below -20°C (-4°F) or above 60°C (140°F). It may damage the equipment.
- Caution Use recommended mounting apparatus to avoid risk of injury.
- Warning Only use the connection cords which come along with the product, when in doubt, please contact the manufacturer.
- Provision shall be made to provide transient protection device to be set at a level not exceeding 140% of the rated voltage at the power supply terminals of the apparatus.
- Warning Explosion Hazard Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Warning The equipment should be adequately protected from direct light when installed indoor or outdoor.



## 1.5 Chassis Dimension

## **Chapter 2 Hardware Functionality**

#### 2.1 Winmate IBDRW / IBDRW-Ex Peripherals

The following figures show the connectors on Winmate IBDRW and the following sections give you detailed information about function of each peripheral.

### 2.1.1 DC Adapter Jack

						_
0	0	0	0	0	0	
	. –	-	-	-		

Pin	Signal Name
1	Adapter
2	GND
3	GND
4	GND
5	Adapter_DC
6	Adapter_DC

## 2.1.2 DC Adapter Jack



Pin	Signal Name	Pin	Signal Name
1	USB5V	12	TX2+
2	USB-	13	TX2-
3	USB+	14	TX3+
4	GND	15	TX3-
5	USB5V	16	TX4+
6	USB-	17	TX4-
7	USB+	18	DGND
8	GND	19	LEDGND
9	NA	20	YLED
10	TX1+	21	OLED
11	TX1-	22	GLED



## 2.1.3 Panel

1	9
0000	0
0000	0
2	10

Г

Pin	Signal Name	Pin	Signal Name
1	+V5S	6	GND
2	+V3.3S	7	GND
3	GND	8	FP_RST_N
4	SATA_LED#	9	NA
5	PWRBTN#	10	+V5A

## 2.1.4 DVI Connector

	Pin	Signal Name	Pin	Signal Name
	1	GND	10	GND
	2	HDMIB_TMDS0-	11	HDMIB_TMDS2 -
	3	HDMIB_TMDS0+	12	HDMIB_TMDS2 +
<b>.</b>	4	GND	13	GND
┝┫╺┫╸┫╸┨╸┨╺┨╺┨╸┨╼┓══╗╸┙	5	HDMI_DDC_CLK	14	HDMIB_CLK +
N	6	HDMI_DDC_DATA	15	HDMIB_CLK -
	7	GND	16	HDMI_HPD1
	8	HDMIB_TMDS1-	17	+V5S
	9	HDMIB_TMDS1+	18	+V5S

2.1.5 Mini PCIe





2.1.6 SSD



2.1.7 USB 2.0 + USB 3.0 + LAN Connector



Pin	Signal Name	Pin	Signal Name
1	+5VUSB3.0	20	LAN1_MDI0_IN+
2	U2DN0	21	LAN1_MDI0_IN-
3	U2DP0	22	LAN1_MDI1_IN+
4	UGND	23	LAN1_MDI1_IN-
5	U3RXDN1	24	LAN1_MDI2_IN+
6	U3RXDP1	25	LAN1_MDI2_IN-
7	UGND	26	LAN1_MDI3_IN+
8	U3TXDN1	27	LAN1_MDI3_IN-
9	U3TXDP1	28	LAN1_DGND
10	+5VUSB3.0	29	LAN1_VDD33
11	U2DN1	30	LAN1_ACTIVE_Y
12	U2DP1	31	LAN1_1000_O
13	UGND	32	LAN1_100_10_G
19	N89607501		



## 2.1.8 Dual LAN



Pin	Signal Name	Pin	Signal Name
1	LAN3_MDI0_IN+	19	NA
2	LAN3_MDI0_IN-	20	GND
3	LAN3_MDI1_IN+	21	LAN3_100_10_G
4	LAN3_MDI1_IN-	22	LAN3_1000_O
5	LAN3_MDI2_IN+	23	LAN3_ACTIVE_Y
6	LAN3_MDI2_IN-	24	LAN3_VDD33
7	LAN3_MDI3_IN+	25	LAN4_100_10_G
8	LAN3_MDI3_IN-	26	LAN4_1000_O
9	NA	27	LAN4_ACTIVE_Y
10	GND	28	LAN4_VDD33
11	LAN4_MDI0_IN+	29	LAN_GND
12	LAN4_MDI0_IN-	30	LAN_GND
13	LAN4_MDI1_IN+	31	LAN_GND
14	LAN4_MDI1_IN-	32	NA
15	LAN4_MDI2_IN+	33	LAN_GND
16	LAN4_MDI2_IN-	34	LAN_GND
17	LAN4_MDI3_IN+	35	LAN_GND
18	LAN4_MDI3_IN-	36	NA

## 2.1.9 COM + VGA



Pin	Signal Name	Pin	Signal Name
C1	DCD4/485TXRX-	V1	R_FILTER
C2	SRD4/485TXRX+	V2	G_FILTER
C3	STD4/422RX+	V3	B_FILTER
C4	DTR4/422RX-	V4	NA
C5	GND	V5	GND
C6	NDSR1	V6	GND
C7	NRTS1	V7	GND
C8	NCTS1	V8	GND
C9	NRI1	V9	VGA_5V
		V10	GND



## 2.1.10 Audio

0		\$
D10*		
AU	BJ B4	
C	) Ó	)
	OOOO A1 A4	

Pin	Signal Name	Pin	Signal Name
A1	Line1_L	C1	MIC1_L
A2	SW_C	C2	SW_B
A3	AUGND	C3	AUGND
A4	LINE1_R	C4	MIC1_R
B1	AZ_FOUT_L	G1	AUGND
B2	LINE2_JD	G2	AUGND
B3	AUGND	G3	AUGND
B4	AZ_FOUT_R	G4	AUGND
C0	AUGND	A1	LINE1_L
		A2	SW_C

## 2.1.11 DIDO

<b>0</b>	0	0	0	0	0	
0	0	0	0	0	0	Ō

Pin	Signal Name	Pin	Signal Name
1	GND	8	DINT1
2	DIO_5V	9	DINT2
3	DOUT3	10	DINT0
4	DOUT1	11	GPIO53_IN0
5	DOUT2	12	GPIO56_OUT0
6	DOUT0	13	GPIO54_IN1
7	DINT3	14	GPIO57_OUT1

## 2.1.12 RS422, RS485

σ	0
0	0
0	0
0	0
, <b>O</b> ,	Q

Pin	Signal Name	Pin	Signal Name
1	GND	8	DINT1
2	DIO_5V	9	DINT2
3	DOUT3	10	DINT0
4	DOUT1	11	GPIO53_IN0
5	DOUT2	12	GPIO56_OUT0



## 2.1.13 Isolator DIDO (CON4)

9	10
0	01
	$\sim 1$
	<u> </u>
0	01
	$\sim 1$
	<b>V</b>
	01
-	Ň

Pin	Signal Name	Pin	Signal Name
1	ISO5V	6	DO2_GPIO
2	ISOGND	7	DI3_GPIO
3	DI1_GPIO	8	DO3_GPIO
4	DO1_GPIO	9	DI4_GPIO
5	DI2_GPIO	10	DO4_GPIO

## 2.1.14 Clear CMOS

0	
0	

1-2 : Clear CMOS
2-3 : Normal

Г

## 2.1.15 RS422, RS485 Terminal Resistor





2.1.16 RS422, RS485

1-2 : RS485
2-3 : RS422



## 2.1.17 RS232, RS422, RS485

2 JP* 10	0000	0000	0000	000	0 0	0 0	JP <b>*</b>
-1		ð	9	m	I		

Jumper	RS232	RS422	RS485
JP8 (2x3)	1-2	3-4	5-6
	1-2	2-3	2-3
IDO (2xA)	4-5	5-6	5-6
JF9 (3X4)	7-8	8-9	8-9
	10-11	11-12	11-12



## **Chapter 3 Initial Setup**

#### 3.1 DIN Rail Mounting Setup

Please follow these steps to mount the IBDRW hook kit on a DIN rail

- 1. Screw the provided DIN-rail Kit on the rear side of the box as the diagram shown below.
- 2. Please make sure the stiff metal handle part is located on the top



3. Press the stiff metal handle downward and insert the hook into the DIN-rail



4. Release the handle so it can snap into place as shown below





## 3.2 Cable ARM Bracket Installation (optional for IBDR-Ex)

In hazardous locations, sparks caused by the movement from a cable and connector which is even slightly loose could lead to a disaster and to prevent this, cable arm bracket can be use to secure some LAN, USB and Audio connectors. Follow these steps to complete the installation



- 1. Find the cable arm bracket in the package, including the plate, bracket / holder, and screws
- 2. Install the plate on the top of the box and screw it tightly
- 3. Plug all the necessary cables into the connectors
- 4. Place the cable arm bracket according to the picture and then attach the bracket / holders to the plate and then screw it for securing the installed cables





### 3.3 Configuration of the BIOS

#### 3.3.1 BIOS setup and Boot Procedure

BIOS stands for "Basic Input Output System" and it is the most basic communication between user and the hardware. To enter BIOS Setup, the [DEL] key must be pressed after the USB controller has been initialized as soon as the following message appears on the monitor during Power On Self Test (POST):

"Press DEL to run SETUP"

**Note** :Update BIOS version may be published after the manual is released. Please check with the latest version of BIOS on the website. User may need to run BIOS setup utility for the following status:

- 1. Error message on screen indicate to check BIOS Setup
- 2. Restoring the Factory default setting
- 3. Modifing the specific hardware specification
- 4. Want to optimize the specification

#### 3.3.2 BIOS Setup Keys

The following keys are enabled during POST:

Кеу	Function
Del	Enters the BIOS setup menu
	Display the boot menu. Lists all bootable devices that are
F7	connected to the system. With cursor $\uparrow$ and cursor $\downarrow$ and by
	pressing <enter>, select the device used for the boot</enter>
Pause	Pressing the [Pause] key stops the POST. Press any other key to
	resume the POST.

The following keys can be used after entering the BIOS Setup:

Кеу	Function
F1	General Help
F2	Previous Values



F3	Optimized Defaults
F4	Save & Exit
Esc	Exit
+/-	Change Opt.
Enter	Select or execute command
Cursor ↑	Moves to the previous item
Cursor ↓	Goes to the next item
Cursor ←	Moves to the previous item
Cursor →	Goes to the next item

## 3.3.3 MAIN

Immediately after the [DEL] key is pressed during startup, the main BIOS setup menu appears:

Aptio Setup Utility - Main Advanced Chipset Security	- Copyright (C) 2013 American Boot Save & Exit	Megatrends, Inc.
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time	American Megatrends 5.009 UEFI 2.3; PI 1.2 IBWWV 006 x64 04/18/2014 09:20:23	Set the Time. Use Tab to switch between Time elements.
CPU Configuration Microcode Patch BayTrail SoC	31e B3 Stepping	
Memory Information Total Memory	4096 MB (LPDDR3)	++: Select Screen
System Language	[English]	↑↓: Select Item Enter: Select
System Date System Time	[Wed 04/23/2014] [18:44:49]	+/-: Change Opt. F1: General Help F2: Previous Values
Access Level	Administrator	F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.1242. (	Copyright (C) 2013 American M	egatrends, Inc.



BIOS setting	Description	Setting options	Effect
	This is current time		
	setting. The time is	Adjustment of the	Sot the time in the
System Time	maintained by the	Adjustment of the	format [bbummiaa]
	battery when the device	ume	ionnat [nn.mm.ss]
	is turned off		
	This is current date		
	setting. The time is	Changes to the	Set the date in the
System Date	maintained by the	changes to the	format
	battery when the device	date	[mm/dd/yyyy]
	is turned off		
			Set the language
	This is surront longuage		in other language.
System Language	anting		The language in
	setting.	language	this device is
			English

## 3.3.4 BIOS Advance Setup Utility

BIOS Setting	Description
Intel AMT Support	Enable and disable BIOS support for Intel Active Management
	Technology
Intel AMT Setup Prompt	Enable and disable the boot interruption <ctrl+p> to call up Intel</ctrl+p>
	Management Engine BIOS Extention (MBEx) configuration page
	Enable Client Initiated Remote Access (CIRA) Fast Call for Help.
AMT CIRA Request Trig	CIRA allows AMT maintenance event if the AMT PC is not in the
	intranet
	CIRA timeout for connection establishment with MPS
AIMT CIRA TIMeout	(Manageability Presence Server / "vPro Enabled Gateway")
Lin Configure ME	Resets all the values of the MEBx to their defaults (see section
	"Reset with Un-Configure")
USB Configure	USB Configure:
	Enable and disable the USB configuration (provisioning)



## 3.3.5 Advanced

Aptio Setup Utility – Copyright (C) 2013 American Main Advanced Chipset Security Boot Save & Exit	Megatrends, Inc.
ACPI Settings SMART Settings Super IO Configuration Hardware Monitor CPU Configuration PPM Configuration Thermal Configuration IDE Configuration LPSS & SCC Configuration Network Stack Configuration CSM Configuration CMOS Trusted Computing USB Configuration Platform Trust Technology Intel(R) I211 Gigabit Network Connection - 00:00:00:00: Intel(R) I211 Gigabit Network Connection - 00:00:00:00:	<pre>\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\</pre>
Version 2.16.1242, Conuright (C) 2013 American M	egatrends Inc

BIOS Setting	Description	Setting	Effect
		options	
ACRI Sottings	Configures ACPL sottings	Entor	Opens
ACFI Settings	Conliguies ACFT settings	LIIIGI	submenu
SMART Sottings	Configures SMART sottings	Enter	Opens
SMART Settings	Conligues SMART settings		submenu
Super IO Configuration	Configures System Super IO	Enter	Opens
Super 10 Configuration	Chip parameters		submenu
Hardwara Monitor	Manitar bardwara atatua	Enter	Opens
Hardware Monitor			submenu
CPLI Configuration	Configures CBL sottings	Enter	Opens
CFO Configuration	Configures CFO settings		submenu
PPM Configuration	Configuras PDM Parameters	Entor	Opens
	Configures Frim Farameters	LIIIGI	submenu
Thormal Configuration	Configures Thermal	Entor	Opens
	Parameters	Entei	submenu
		E star	Opens
	Configures IDE devices		submenu



LPSS & SCC	Configura LDSS & SCC	Entor	Opens
Configuration	Configures LF 33 & 300	LIIIGI	submenu
Network Stack	Configures notwork stock	Entor	Opens
Configuration	Configures network stack	LIIIGI	submenu
	Configures CSM:		Opone
CSM Configuration	Enable/Disable, Option ROM	Enter	opens
	execution settings, etc.		submenu
01100	CMOS pottings / Information	Enter	Opens
	CIVICS Seturigs / Information		submenu
Traction Oceanotics	Trusted computing settings	Entor	Opens
Trusting Computing	Trusted computing settings	LIIIGI	submenu
LISP Configuration	Configures LISP pottings	Entor	Opens
USB Conliguration	Configures USB settings	Enter	submenu
Platform Truct Tachpology	Platform trust technology	Fatar	Opens
Fiaironn must rechnology	Fianonn nusi lechnology	Enter	submenu

## 3.3.6 USB Configuration

Aptio Setup Utility – Advanced	Copyright (C) 2013 American	Megatrends, Inc.
USB Configuration		Enables Legacy USB support.
USB Module Version	8.10.27	support if no USB devices are connected. DISABLE option will
USB Devices: 1 Drive, 1 Keyboard, 2 Hubs		keep USB devices available only for EFI applications.
Legacy USB Support	[Enabled]	
XHCI Hand-off	[Disabled]	
EHCI Hand-off	[Enabled]	
USB Mass Storage Driver Support	[Enabled]	
USB hardware delays and time-outs:		++: Select Screen
USB transfer time–out	[20 sec]	†↓: Select Item
Device reset time-out	[20 sec]	Enter: Select
Device power-up delay	[Auto]	+/-: Change Upt.
Mass Storade Devices:		F1. General netp F2: Previous Values
N/A	[Auto]	F3: Ontimized Defaults
	[naco]	F4: Save & Exit
		ESC: Exit
Version 2.16.1242. Co	pyright (C) 2013 American Mo	egatrends, Inc.

BIOS Setting	Description	Setting options	Effect
Legacy USB	User can enable or	Disable	will keep LISP devices
		Disable	will keep 000 devices



			available only for EFI	
Current	diachla LICD nort		applications	
Support		Frable	Enable all the USB	
		Enable	devices	
	User can enable or	Enable	USB 3.0 is enable	
USB 3.0 Support	disable USB 3.0 (XHCI)	Disable		
	controller support.	Disable	USB 3.0 IS disable	
	This is a workaround for	Disable	Disables this function	
XHCI Hand-off	OSes without XHCI	E coldo	Eachter (bis faceties	
	hand-off support	Enable	Enables this function	
	This is a workaround for	Disable	Disables this function	
EHCI Hand-off	OSes without ECHI	Frable	Fraklas this function	
	hand-off support	Enable	Enables this function	
USB mass	User can Enable or	Disable	Disables this function	
storage driver	disable USB mass	Frabla	Enchlos this function	
support	storage driver support	Enable		
	The time out value for	1 Sec		
USB Transfer	ane time-out value for	5 Sec	Depends on the time-out	
time-out	interrupt transfore	10 Sec	value	
		20 Sec		
	LISP mass storage	10 Sec		
Device Reset	device start unit	20 Sec	Depends on the time-out	
time-out		30 Sec	value	
		40 Sec		
	Maximum time the		Uses default value: for a	
Device power-up	device will take before it	Auto	root port it is 100 ms, for a	
delay	properly reports itself to	/ (010	Hub port the delay is taken	
	the host controller		from Hub descriptor	



## 3.3.7 Chipset

Aptio Setup Main Advanced Chipset	Utility – Copyright (C) 2013 Americar Security Boot Save & Exit	Megatrends, Inc.
▶ North Bridge ▶ South Bridge		North Bridge Parameters
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.1	6.1242. Copyright (C) 2013 American ⊧	legatrends, Inc.

## 3.3.8 Chipset North Bridge Parameters

Aptio Setup Utility - Chipset	Copyright (C) 2013 American	Megatrends, Inc.
<ul> <li>Intel IGD Configuration</li> <li>IGD - LCD Control</li> <li>Graphics Power Management Control</li> </ul>		Config Intel IGD Settings.
Memory Information		
Total Memory	4096 MB (LPDDR3)	
Memory Slot0 Memory Slot2	4096 MB (LPDDR3) Not Present	
Max TOLUD	[Dynamic]	
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.16.1242. Co	opyright (C) 2013 American M	egatrends, Inc.

BIOS Setting	Description	Setting options	Effect
Intel ICD Configuration	Provides onboard	Enter	Opens
The IGD Configuration	graphics-related	Linter	submenu



	configuration options		
	Configures IGD – LCD	Entor	Opens
IGD – LCD Control	setting	Enter	submenu
Graphic Power	Provides power saving		Opons
Management Control	configuration options for the	Enter	submonu
	onboard graphics		Submenu

## 3.3.9 Chipset South Bridge Parameters

Aptio Setup Utilit Chipset	ty – Copyright (C) 2013 (	American Megatrends, Inc.
<ul> <li>Azalia HD Audio</li> <li>USB Configuration</li> <li>PCI Express Configuration</li> </ul>		Azalia HD Audio Options
High Precision Timer Restore AC Power Loss	[Enabled] [Power On]	
Serial IRQ Mode	[Quiet]	
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.1242	2. Copyright (C) 2013 Am	erican Megatrends, Inc.

BIOS Setting	Description	Setting	Effect
		options	
		Disable	Disables this
Azalia HD Audio	Configures onboard audio	Disable	function
Azalla I ID Audio	function	Enable	Enables this
		Enable	function
LISP Configuration	Provides user with	USB 2.0(EHCI)	Enable / Disable
	configuration options for the		this function
	USB controller, such as		Enable / Disable
	enabling/disabling a	USB POILU	this function
	specific USB port and		Enable / Disable
	support for certain features	USB POILT	this function
			Enable / Disable
		030 FUIL2	this function



	-		
		USB Port 3	Enable / Disable
			this function
	Provides user with	PCI Express	Enable / Disable
	configuration options for the	port 0	this function
		PCI Express	Enable / Disable
PCI Express	PCI Expless bus, such as	port 1	this function
Configuration		PCI Express	Enable / Disable
	channel and speed	port 2	this function
		PCI Express	Enable / Disable
	Configuration	port 3	this function
	Configuras high presision	Diachla	Disables this
High Drasisian Timor	timer (UDET) in the	Disable	function
Fligh Precision Timer		Fachla	Enables this
	operating system	Enable	function
		Power Off	The System
			stays off upon
			the return of the
			AC power
		Power On	The System is
	Configures the state of the system after return of power		turned on upon
Restore AC Power Loss			the return of the
Residie ACT Ower 2033			AC power
		Last State	The system
			returns to its last
			known awake
			state upon the
			return of the AC
			power
		Quite	Entering quite
		Quite	(active) mode
Serial IRQ Mode	Configures IRQ mode		Entering
		Continuous	Continuous
			(idle) mode

## 3.3.10 Security

Allows user to configure an administration or user password, user must enter the administrator or user password at system startup and when entering BIOS setup



Aptio Setup Utility - Main Advanced Chinset Security	Copyright (C) 2013 American Boot Save & Exit	Megatrends, Inc.
Password Description		Customizable Secure Boot
TO ONLY the Advistation of a second	1	settings
then this only limits access to Setu	is set, a and is	
only asked for when entering Setup.		
If ONLY the User's password is set,	then this	
is a power on password and must be e	ntered to Pr will	
have Administrator rights.	5, 0111	
The password length must be		
in the following range:	<u>_</u>	
Maximum length	20	
-		++: Select Screen
Advisistantes Descuend		↑↓: Select Item
User Password		⊢/-: Change Opt.
		F1: General Help
		F2: Previous Values
▶ Secure Boot menu		F3: Uptimized Defaults F4: Save & Evit
		ESC: Exit
Varation 0.15-1010-00	aunisht (C) 0040 Amonista V	oseteorde Teo

BIOS Setting	Description	Setting	Effect
		options	
	Displays whether or not an		
Administrator Password	administrator password has	Enter	Enter Password
	been set		
User Password	Display whether or not a user password has been set	Enter	Enter Password



## 3.3.11 Security Boot Menu

Aptio Setu	up_Utility — Copyright (C) 2013 Ar	merican Megatrends, Inc.
	Security	
System Mode Secure Boot	Setup Not Active	Secure Boot can be enabled if 1.System running in User mode with enrolled Platform Key(PK)
Secure Boot Secure Boot Mode ▶ Key Management	[Disabled] [Custom]	2.CSM function is disabled
		++: Select Screen fl: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values F3: Ontimized Defaults
		F4: Save & Exit ESC: Exit
Version 2	2.16.1242. Copyright (C) 2013 Amer	rican Megatrends, Inc.

BIOS Setting	Description	Setting options	Effect
		Disable	Disables this
Socura Boot	Displays the current boot	Disable	function
Secure Bool	state	Enable	Enables this
		LIIADIE	function
		Disabla	Disables this
Socura Boot Modo	Allows user to configure	Disable	function
Secure Boot Mode	the secure boot mode	Enchlo	Enables this
		Enable	function
		Enroll all factory	
		default keys, Platform	
Key Management	Provides user with	key, key exchange	
	configuration options for	key, Authorized	Select the
	secure boot key	signatures,	desired key
	management	Authorized	
		timestamps,	
		Forbidden signatures	



### 3.3.12 Boot

Aptio Setup Utility – Main Advanced Chipset Security	Copyright (C) 2013 American Boot Save & Exit	Megatrends, Inc.
Boot Configuration Setup Prompt Timeout	1	Number of seconds to wait for setup activation key.
Bootup NumLock State	[0n]	65535(0xFFFF) means indefinite waiting.
Quiet Boot Fast Boot	[Disabled] [Disabled]	
Boot Option Priorities	MEET, Wultinlocood	
Boot Option #1 Boot Option #2	[MultipleCard Reader]	
Boot Option #3 Boot Option #4	[IBA GE Slot 0100 v1550] [UEFI: Built-in EFI]	
Network Device BBS Priorities		↔: Select Screen ↑↓: Select Item
Hard Drive BBS Priorities		Enter: Select
		F1: General Help
		F2: Previous values F3: Optimized Defaults
		F4: Save & Exit ESC: Exit
Vencion 2 16 1242 - D	opuniaht (C) 2012 American M	edataande Inc

BIOS Setting	Description	Setting	Effect	
		options		
	Allows user to configure the			
	number of seconds to stay	Enter	Set the prompt	
	in BIOS setup prompt	Linter	timeout	
	screen			
	Enables or disables	On	Remains On	
	Numlock feature on the			
Boot NumLock State	numeric keypad of the			
	keyboard after the POST.	Off	Remains Off	
	(Default: On)			
	Determines if POST	Disabled	Disables this	
Quite Boot	message or OEM logo	Disabled	function	
	(default = Black	Enabled	Enables this	
	background) is displayed	Enabled	function	
Fast Boot	Enables or disables East	Dischlo	Disables this	
	Root to chorton the OS heat	DISADIE	function	
	process (Default: Dischlad)	Enable	Enables this	
		Enable	function	



Boot Option Priority	Specifies the overall boot order from the available devices	Ex: Boot Option#1 (hard drive)	Hard drive as the first priority
Hard Drive BBS Priority	Specifies the boot order for a specific device type, such as hard drives, optical drives, floppy disk drives, and devices that support Boot from LAN function	Enter	Enter the submenu that present the devices of the same type are connected

## 3.3.13 Save & Exit

Aptio Setup Utility – Copyright (C) 2013 American Main Advanced Chipset Security Boot <mark>Save &amp; Exit</mark>	Megatrends, Inc.
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset Save Options Save Changes Discard Changes Restore Defaults	Exit system setup after saving the changes.
Save as User Defaults Restore User Defaults Boot Override IBA GE Slot 0100 v1550 UEFI: Built-in EFI Shell UEFI: MultipleCard Reader 1.00 MultipleCard Reader 1.00	++: Select Screen †↓: Select Item Enter: Select +/-: Change Opt. F1: General Help
Launch EFI Shell from filesystem device ▶ Reset System with ME disable ModeMEUD000	F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Me	egatrends, Inc.

BIOS Setting	Description	Setting options	Effect
		Entor Voc	Saves the
Save Changes and Exit	This saves the changes to	Enter < res>	changes
	the CMOS and exits the		Return to the
	BIOS Setup program	Esc <no></no>	BIOS Setup
			Main Menu
Discard Changes and Exit	This exits the BIOS Setup		Saves the
	without saving the changes	Enter < fes>	changes



	made		Return to the
	in BIOS Setup to the CMOS	Esc <no></no>	BIOS Setup
		Enter <yes></yes>	Saves the
	Reset the system after		changes
Save Changes and Reset	saving the changes		Return to the
		Esc <no></no>	BIOS Setup
			Main Menu
		Enter <yes></yes>	Saves the
Discard Changes and	Reset system setup without		changes
Reset	saving any changes		Return to the
		Esc <no></no>	BIOS Setup
			Main Menu
		Enter <yes></yes>	Saves the
	Save changes done so far		changes
Save Changes	to any of the setup options		Return to the
		Esc <no></no>	BIOS Setup
			Main Menu
	Discard changes done so far to any of the setup options	Enter <yes></yes>	Saves the
			changes
Discard Changes			Return to the
		Esc <no></no>	BIOS Setup
			Main Menu
			Saves the
		Enter < res>	changes
Restore Default	for all the setue options		Return to the
		Esc <no></no>	BIOS Setup
			Main Menu
			Saves the
	Sove the changes done co	Enter < res>	changes
Save as User Defaults	for on Lloor defaulte	Esc <no></no>	Return to the
			BIOS Setup
			Main Menu
		Fratan Var	Saves the
	Restore the User Defaults to	Enter < res>	changes
Restore User Defaults			Return to the
	an the setup options	Esc <no></no>	BIOS Setup
			Main Menu



## APPENDIX

Refer the following descriptions for various approvals and certifications

N.A. Safety for Information Technology Equipment (optional for IBDRW-Ex)



Certification by Underwriter Laboratories to UL60950-1, 2<sup>nd</sup> Edition standard and equivalent CSA C22.2 No 60950-1-07, 2<sup>nd</sup> Edition Standard

N.A. Safety for HazLoc Class 1 Division 2, Groups A,B,C,D,T4 (optional for IBDRW-Ex)

I.T.E. FOR USE IN HAZ.LOC.	Certification	by	Underwriter		Laborate	ories to
	ANSI/ISA-12.12	.01-201	2	standard	and	equivalent
E361897	CAN/CSA C22.2	2 No 21	3-M1	987 Standa	rd	

Explosive Atmosphere Directive (optional for IBDRW-Ex)



Certification with ATEX Directive 94/9/EC; Independent 3rd party assessment

Low Voltage Directive European Safety for Industrial Control Equipment



Self-Declaration in accordance with European LVD Directive 2006/95/EC; Independent 3rd party assessment (Accredited by IEC 17025)

Electromagnetic Compatibility Directive European EMC for Industrial Control Equipment



Self-Declaration in accordance with EMC Directive 2004/108/EC; Independent 3rd party assessment (Accredited by IEC 17025)



Federal Communications Commission on electromagnetic interference



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may cause harmful and (2) this device must accept any interference received, including that may cause undesired operation