

# **ANR-ICEDA1**

# 1U Rackmount Network Appliance

• Intel<sup>®</sup> Xeon<sup>®</sup> D-1713NT Processor (ICE-Lake-D LCC Platform)



# User Manual

Acrosser Technology Co., Ltd. www.acrosser.com

SSD



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#### Purpose

This document is intended to provide the information about the features and use of the product.

#### Audience

The intended audiences are technical personnel, not for general audiences.

#### WARNING

Danger of explosion if batteries are incorrectly replaced. Always replace the battery with the same specifications. Dispose of used batteries according to the manufacturer's instructions.

Before running the system, make sure the power cord is firmly plugged into the socket.

#### CAUTION



IEC 60417-6172 (2012-09)

All power cords must be disconnected during product repair.

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# **1. Product Specifications**

The ANR-ICEDA1 is an 1U rackmount network appliance product. Powered by Intel<sup>®</sup> Xeon<sup>®</sup> D-1713NT Processor (Intel code name "Ice Lake") and runs on Intel<sup>®</sup> SoC with integrated Ethernet in high-density Ball-Grid Array packages, it delivers serverclass computing, hardware-based security, and high-bandwidth I/Os for networking applications at the edge.

### 1.1. Specifications

(Specifications are subject to change without notice.)

Platform	
Form Factor	1U Rackmount Network Platform
Processor	<ul> <li>Intel<sup>®</sup> Xeon<sup>®</sup> D-1713NT Processor, 4C/8T, Base Frequency: 2.20 GHz, 45W</li> </ul>
Chipset	• SoC
System Memory	2x DDR4 288 Pin SO-DIMM ECC DIMM slots
Front I/O	
Ethernet	• 12x 1GbE RJ45 (I350 AM4 x 3 ) + 4x 10GbE SFP+
Bypass	2 Pairs LAN Bypass
USB	2x Type A USB 3.2 Gen1
Console	1x RJ-45 Console
LCM	1x LCM with Keypad
LED	<ul> <li>1x Power LED</li> <li>1x Status LED</li> <li>1x HDD Active LED</li> </ul>
Others	1x Software Button
Rear I/O	
Fan	1x System Fan
Power Button	1x Power Switch
DC-in	1x 220W AC Power Input

Storage	
otorage	
SATA	<ul> <li>2x 2.5" Storage Devices w/ SATA III (6Gbps)</li> </ul>



#### Expansion

M.2	<ul> <li>1x M.2 B key(3052) with SIM</li> <li>1x M.2 E key(2230) (PCle)</li> </ul>
NIM Slot	1x NIM Slot (Optional)

#### Other Features

RTC	Internal RTC
Watchdog Timer	<ul> <li>1~255 steps by software programmable</li> </ul>
ТРМ	• TPM2.0

#### Software

OS support ·	Ubuntu 20.04.2 or above,	Cent OS 7 or above
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#### Mechanical & Environment

Chassis		Metal chassis
Dimension	•	16.93" x 7.87" x1.73" (430mm x 200mm x 44mm)
Operation Temperature	•	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	•	-4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	•	10%~80% relative humidity, non-condensing
Vibration	•	0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation
Shock	•	10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non- operation
Certification	•	CE / FCC class A



# 1.2. Package Contents

Check if the following items are included in the package.

Item	Q'ty	Remark
ANR-ICEDE0	1	
Console cable	1	
Ear bracket (pair)	1	
SATA cable	2	
SATA power cable	2	
HDD kit	2	

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# 2. Hardware Information

## 2.1. Dimensions

(Unit: mm)

#### System:









#### **Component Side:**







#### Solder Side:





### 2.2. Jumpers and Connectors

#### **Component Side:**





### 2.3. List of Jumpers

This system board is configured with a number of jumpers which can be configured for your application. This section details those jumpers and their settings.

Label	Function
CN5	Clear CMOS

### 2.3.1. Clear CMOS (CN5)

Setting	Configuration
Normal (Default)	1-3, 2-4
Clear CMOS	3-5, 4-6

### 2.4. List of Connectors

This system board is configured with a number of connectors which can be used for configuring your system and connecting with external modules. This section details those connectors and settings.

Label	Function
LED9	Status LED
CN1, CN2, CN3	SATA Power CN4
CN4	Battery Header
CN6, CN7	DDR4 SO-DIMM*2
CN10	DIO Header
CN11	Case Open
CN13	1Gb RJ45 Port
CN15	1Gb RJ45 Port
CN20	M.2 B-Key slot
CN21	Micro SIM
CN22	M.2 E-Key slot
CN23	USB3.1 + RJ45 Connector (IPMI Ethernet)
CN24	Serial Port
CN25, CN27	FAN1/FAN2
CN26, CN28	LCM
CN30	Console
CN31, CN32	ATX Power Connector



Label	Function
M1, M2, M3, M4	10Gb SFP+
M1, M2, M3, M4	10Gb SFP+
SATA1, SATA2, SATA3	SATA Connector
SATA1, SATA2, SATA3	SATA Connector
IPMI1	IPMI Slot
SW1	Software Programmable Button

Note 1: Bypass Function on CN13.

Note 2: PCIe\*8 on GF1 is for NIM riser card PER-R40X only, not for standard PCIe signal.

### 2.4.1. Battery Holder (CN4)

Pin #	Signal	Pin #	Signal
1	+3.3V	2	Ground

#### 2.4.2. Digital I/O (CN10)

Pin #	Signal	Pin #	Signal
1	Digital I/O bit1	2	Digital I/O bit2
3	Digital I/O bit3	4	Digital I/O bit4
5	Digital I/O bit5	6	Digital I/O bit6
7	Digital I/O bit7	8	Digital I/O bit8
9	+5V	10	GND

#### 2.4.3. Front Panel Pin Header (FP1)

Pin #	Signal	Pin #	Signal
1	Power Button SW+	2	Ground
3	Hardware Reset SW+	4	Ground
5	PWRLED	6	Ground
7	HDDACT	8	HDD LED-

### 2.4.4. Case Open Holder (CN11)

Pin #	Signal	Pin #	Signal
1	Ground	2	Case Open



# 2.4.5. M.2 B-Key Slot (CN20)

Pin #	Signal	Pin #	Signal
1	CFG3	2	+3.3V
3	GND	4	+3.3V
5	GND	6	PWR_OFF
7	USB2DN	8	W_DISABLE
9	USB2DP	10	NC
11	GND	-	-
-	-	20	NC
21	CFG0	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	PCIE1RXP	30	UIMRST
31	PCIE1RXN	32	UIMCLK
33	GND	34	UIMDAT
35	PCIE1TXN	36	UIMPWR
37	PCIE1TXP	38	DEVSLP
39	GND	40	NC
41	PCIE0RXP	42	NC
43	PCIE0RXN	44	NC
45	GND	46	NC
47	PCIE0TXN	48	NC
49	PCIE0TXP	50	PLTRST#
51	GND	52	NC
53	PCIECLKDN	54	WAKE#
55	PCIECLKDP	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	SIMDET
67	NC	68	32K_SUSCLK
69	CFG1	70	+3.3V



Pin #	Signal	Pin #	Signal
71	GND	72	+3.3V
73	GND	74	+3.3V
75	CFG2	-	-

### 2.4.6. M.2 E-Key Slot (CN22)

Pin #	Signal	Pin #	Signal
1	GND	2	+3.3V
3	NC	4	+3.3V
5	NC	6	NC
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	GND
19	NC	20	NC
21	NC	22	NC
23	NC	32	NC
33	GND	34	NC
35	PCIE0TXP	36	NC
37	PCIE0TXN	38	NC
39	GND	40	NC
41	PCIE0RXP	42	NC
43	PCIE0RXN	44	NC
45	GND	46	NC
47	PCIECLK0DP	48	NC
49	PCIECLK0DN	50	32K_SUSCLK
51	GND	52	PLTRST#
53	CLKREQ#	54	DIS2#
55	WAKE#	56	DIS1#
57	GND	58	NC
59	PCIE1TXP	60	NC
61	PCIE1TXN	62	NC



Pin #	Signal	Pin #	Signal
63	GND	64	NC
65	PCIE0RXP	66	NC
67	PCIE0RXN	68	NC
69	GND	70	NC
71	PCIECLK1DP	72	+3.3V
73	PCIECLK1DN	74	+3.3V
75	GND	-	-

### 2.4.7. Serial Port (CN24)

Pin #	Signal	Pin #	Signal
1	DCD2	2	DSR2
3	RXD2	4	RTS2
5	TXD2	6	CTS2
7	DTR2	8	RI2
9	GND	-	-



### 2.5. Hardware Installation

This section details the hardware assembly steps for the ANR-ICEDA1. Please read this section thoroughly before beginning installation and ensure you have all necessary components ready. A Phillips head screwdriver is required.

### 2.5.1. 2.5" Hard Disk Drive Installation

Step 1: Unscrew the upper lid.



Step 2: Place assembled cushions on the hard disk driver bracket.



Step 3: Lock HDD on the bottom cushions with four screws.





Step 4: Connect the SATA cable and power cable to the main board.



Step 5: Connect the SATA cable and power cable into the Hard Disk and put hard drive bracket on the chassis.





Step 6: Connect the SATA cable and power cable into the Hard Disk and put hard drive bracket on the chassis.





### 2.5.2. Heat Sink Installation





Step 2: Cover the Heatsink on the CPU and ensure the direction of the Heatsink does not obstruct the airflow.







Step 3: Fasten the screw to lock the air duct.

### 2.5.3. NIM Installation

#### Step 1: Loosen the screws on the bottom of chassis.





Step 2: Remove the null Module cover or existing LAN module.



Step 3: Insert the LAN Module and fasten the screws.





# 3. AMI BIOS Setup

### 3.1. System Test and Initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors.

The system configuration verification routines check the current system configuration stored in the CMOS memor y and BIOS NVRAM. If system configuration is not found or system configuration data error is detected, system will load optimized default and re-boot with this default system configuration automatically.

There are four situations in which you will need to setup system configuration:

- · Starting the system for the first time
- The system hardware has been changed
- The system configuration is reset by Clear-CMOS jumper.
- The CMOS memory has lost power and the configuration information is erased

The system's CMOS memory uses a backup battery for data retention. The battery must be replaced when it runs down.

### 3.2. AMI BIOS Setup

The AMI BIOS ROM has a pre-installed Setup program that allows users to modify basic system configurations, which is stored in the battery-backed CMOS RAM and BIOS NVRAM so that the information is retained when the power is turned off.

To enter BIOS Setup, press <Del> or <ESC> immediately while your computer is powering up.

The function for each interface can be found below.

**Main** – Date and time can be set here. Press <Tab> to switch between date elements

Advanced - Enable/ Disable boot option for legacy network devices

Chipset – Host bridge parameters.

Boot - Enable/ Disable quiet Boot Option

Security – The setup administrator password can be set here

Save & Exit – Save your changes and exit the program



# 3.3. Setup Submenu: Main

Main Advanced Platform Configurat.	Aptio Setup – AMI ion Socket Configuration	Security Boot Save & Exit
BIOS Information ARM-ICEDA1 V1.0 (xx/xx/2023)		Set the Date. Use Tab to switch between Date elements. Default Rappes:
BIOS Vendor Compliancy	American Megatrends UEFI 2.8; PI 1.7	Year: 1998-9999 Months: 1-12 Days: Dependent on month
System Date System Time	[Fri 07/01/2022] [13:24:49]	Range of Years may vary.
Access Level	Administrator	
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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# 3.4. Setup Submenu: Advanced

Aptio Setup Main Advanced Platform Configuration	<ul> <li>AMI</li> <li>Socket Configuration Security</li> </ul>
<ul> <li>Trusted Computing</li> <li>Hardware Monitor</li> <li>SIO Configuration</li> <li>Serial Port Console Redirection</li> <li>Power Management</li> <li>Digital IO Port Configuration</li> <li>LAN Bypass Configuration</li> <li>Case Open Configuration</li> </ul>	Trusted Computing Settings ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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### 3.4.1. Trusted Computing

Aduapand	Aptio Setup – AMI	
Huvanceu		
TPM 2.0 Device Found Firmware Version:	7.2	Enables or Disables BIOS support for
Vendor:	NTC	security device. O.S.
Security Device Support	[Enable]	Device. TCG EFI protocol and INT1A
Active PCR banks	SHA-1,SHA256	interface will not be
Available PCR banks	SHA-1,SHA256,SHA384	available.
SHA-1 PCR Bank	[Enabled]	
SHA256 PCR Bank	[Enabled]	++: Select Screen
SHA384 PCR Bank	[Disabled]	T↓: Select Item Enter: Select
Pending operation	[None]	+/-: Change Opt.
Platform Hierarchy	[Enabled]	F1: General Help
Storage Hierarchy	[Enabled]	F2: Previous Values
Endorsement	[Enabled]	F3: Optimized Defaults
Hierarchy	•	F4: Save & Exit
		ESC: Exit
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- Security Device Support
   Enables or Disables BIOS support for security device. O.S. will not show Security
   Device. TCG EFI protocol and INT1A interface will not be available.
- SHA-1 PCR Bank Enable or Disable SHA-1 PCR Bank
- SHA256 PCR Bank Enable or Disable SHA256 PCR Bank.
- SHA384 PCR Bank Enable or Disable SHA384 PCR Bank.
- Pending operation Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device.
- Platform Hierarchy
   Enable or Disable Platform Hierarchy.
- Storage Hierarchy
   Enable or Disable Storage Hierarchy.
- Endorsement Hierarchy Enable or Disable Endorsement Hierarchy.
- TPM 2.0 UEFI Spec Version Select the TCH2 Spec Version Support.



TCG\_1\_2: The Compatible mode for Win8/Win10

TCG\_2: Support new TCG2 protocol and event format for Win10 or later.

#### Physical Presence Spec Version

Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3

#### Device Select

TPM 1.2 will restrict support to TPM 1.2 devices, TPM 2.0 will restrict support to TPM 2.0 devices, Auto will support both with the default set to TPM 2.0 devices if not found, TPM 1.2 devices will be enumerated.

### 3.4.2. Hardware Monitor

	Advanced	Aptio Setup — AMI	
	Pc Health Status		Smart Fan function
Þ			setting
	CPU Temperature	: +41 °c	
		• 7047 PPM	
	System FAN	: N/A	
	VCORE	: +1.787 V	++: Select Screen
	VMEM +12V	: +1.209 V : +12.295 V	I∔: Select ltem Enter: Select
	+3.3V 5VSB	: +3.397 V : +5.041 V	+/−: Change Opt. F1: General Help
	+5V	: +5.068 V	F2: Previous Values
	VBAT	: +3.357 V : +2.964 V	F3: Optimized Defaults F4: Save & Exit ESC: Exit
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### 3.4.3. System Fan Setting

Advanced	Aptio Setup – AMI	
Smart Fan Function		Smart Fan Mode Select
CPU Fan Setting CPU Fan Mode Manual PWM Setting	[Software Mode] 127	
System Fan Setting System Fan Mode Manual PWM Setting	[Software Mode] 127	
		<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>
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• Manual PWM Setting Fan will work with this Manual PWM Value.

Advanced	Aptio Setup – AMI	
Smart Fan Function		Smart Fan Mode Select
CPU Fan Setting CPU Fan Mode Temperature select Fan off temperature limit Fan start temperature limit Fan start PMM PMM SLOPE SETTING System Fan Setting System Fan Mode Temperature select Fan off temperature limit Fan start temperature limit Fan start temperature limit Fan start PMM PMM SLOPE SETTING	[Automatic Mode] [CPU Temperature] 20 45 95 65 5 [Automatic Mode] [CPU Temperature] 20 45 95 65 5	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
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- Smart Fan 1 Mode
   Smart Fan Mode Select.
- Fan off temperature limit Fan will off when temperature lower then this limit.
- Fan start temperature limit Fan will work when temperature higher than this limit.
- Fan full speed temperature limit Fan will full speed when temperature higher than this limit.
- Fan start PWM Fan will full start with this PWM value.
- PWM SLOPE SETTING PWM SLOPE Selection.
   Slope = PWM value / °C

### 3.4.4. SIO Configuration

Aptio Setup - AMI Advanced		
	AMI SIO Driver Version : A5.17.00 Super IO Chip Logical Device(s) Configuration [*Active*] Serial Port 0 [*Active*] Serial Port 1 [*Active*] Parallel Port	View and Set Basic properties of the SIO Logical device. Like IO Base, IRQ Range, DMA Channel and Device Mode.
	WARNING: Logical Devices state on the left side of the control, reflects the current Logical Device state. Changes made during Setup Session will be shown after you restart the system.	++: Select Screen †4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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### 3.4.5. Serial Port 0 Configuration

Aptio Setup – AMI Advanced		
Serial Port O Configura	tion [Enabled]	Enable or Disable this Logical Device.
Logical Device Settings: Current : IO=3F8h; I	RQ=4;	
Possible:	[Use Automatic Settings]	
WARNING: Disabling SIO L have unwanted side effec PROCEED WITH CAUTION.	ogical Devices may ts.	<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>
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#### • Use This Device

Enable/Disable this Logical Device.

#### Possible

Allow user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.



### 3.4.6. Serial Port 1 Configuration

Aptio Setup – AMI Advanced		
Serial Port 1 Configura	tion	Enable or Disable this
Use This Device	[Enabled]	
Logical Device Settings: Current : IO=2F8h; I	RQ=3;	
Possible:	[Use Automatic Settings]	
WARNING: Disabling SIO L have unwanted side effec PROCEED WITH CAUTION.	ogical Devices may ts.	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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#### • Use This Device

Enable/Disable this Logical Device.

#### Possible

Allow user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.



### 3.4.7. Parallel Port Configuration

Advanced	Aptio Setup — AMI	
Parallel Port Configura	tion	Enable or Disable this
Use This Device	[Enabled]	Lugical Device.
Logical Device Settings: Current : IO=378h; I	RQ=5;	
Possible:	[Use Automatic Settings]	
Mode :	[Standard Parallel Port mode(SPP)]	++: Select Screen
WARNING: Disabling SIO L have unwanted side effec PROCEED WITH CAUTION.	ogical Devices may ts.	<ul> <li>Frei Select Trem</li> <li>Enter: Select</li> <li>+/-: Change Opt.</li> <li>F1: General Help</li> <li>F2: Previous Values</li> <li>F3: Optimized Defaults</li> <li>F4: Save &amp; Exit</li> <li>ESC: Exit</li> </ul>
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#### • Use This Device

Enable/Disable this Logical Device

#### Possible

Allow user to change Device's Resource settings. New settings will be reflected on This Setup Page after System restarts.

#### • Mode

Change Parallel Port mode. Some of the Modes required a DMA resource. After Mode changing, Reset the System to reflect actual device settings.



### 3.4.8. Serial Port Console Redirection

Aptio Setup - AMI Advanced		
Advanced COMO Console Redirection [Enabled] Console Redirection Settings Legacy Console Redirection Settings Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS) Console Redirection [Disabled] EMS Console Redirection Settings	Console Redirection Enable or Disable. ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
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- Console Redirection Console Redirection Enable or Disable.
- Console Redirection EMS Console Redirection Enable or Disable.



### 3.4.9. Console Redirection Settings

Advanced	Aptio Setup – AMI	
Advanced COMO Console Redirection S Terminal Type Bits per second Data Bits Parity Stop Bits Flow Control VT-UTF8 Combo Key Support Recorder Mode Resolution 100x31 Putty KeyPad	ettings [VT100Plus] [115200] [8] [None] [1] [None] [Enabled] [Disabled] [Disabled] [VT100]	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100Plus: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Vene	ion 2 22 1283 Conuright (C)	2022 AMT

#### • Terminal Type

Emulation:

ANSI: Extended ASCII char set.

VT100: ASCII char set.

VT100+: Extends VT100 to support color, function keys, etc.

VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.

#### Bits per second

Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

Data Bits

Data Bits

Parity

A Parity bit can be sent with the data bits to detect some transmission errors.

Even: Parity bit is 0 if the number of 1's in the data bits is even.

Odd: Parity bit is 0 if the number of 1's in the data bits is odd.

Mark: Parity bit is always 1.

Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection. They can be used as an additional data bit.



#### Stop Bits

Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

#### Flow control

Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.

#### VT-UTF8 Combo Key Support

Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data.

Resolution 100x31
 Enables or disables extended terminal resolution.

#### Putty KeyPad

Select FunctionKey and KeyPad on Putty.

### 3.4.10. Legacy Console Redirection Settings

Advanced	Aptio Setup – AMI	
Legacy Console Redirect.	ion Settings	Select a COM port to display redirection of
Redirection COM Port Resolution Redirect After POST	[COMO] [80x24] [Always Enable]	Legacy OS and Legacy OPROM Messages
		<pre>++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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#### Redirection COM Port

Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages.



#### Resolution

On Legacy OS, the Number of Rows and Columns supported redirection.

#### 3.4.11. Power Management

Advanced	Aptio Setup – AMI	
Power Management		Select system power mode.
Power Mode Restore AC Power Loss	[ATX Type] [Last State]	
Wake Events System Wake On RTC	[Disabled]	
		++: Select Screen ↑↓: Select Item
		Enter: Select +/-: Change Opt.
		F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit
		ESC: Exit
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- Power Mode
   Select power supply mode.
- Restore AC Power Loss Select power state when power is re-applied after a power failure.
- System Wake On RTC

By Date: System will wake on the day with hr::min::sec specified./n By Weekday: System will wake on the enabled weekday with hr ::min::sec specified./ n

Bypass: BIOS will not control RTC wake function.



### 3.4.12. Digital IO Port Configuration

Aptio Setup – AMI Advanced				
Digital IO Port	Configuration	Set DIO as Input or Output		
DI01 Output Level DI02 Output Level DI03 Output Level DI04 Output Level DI05 DI06 DI07 DI08	[Output] [High] [Output] [High] [Output] [High] [Input] [Input] [Input] [Input] [Input]	<pre>++: Select Screen +/: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>		
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• DIO

Set DIO as Input or Output.

Output Level

Set output level when DIO pin is output.



### 3.4.13. LAN Bypass Configuration

Advanced	Aptio Setup – AMI	
LAN Bypass Configuration		Configure LAN Bypass Status LED.
LAN Bypass Status LED	[LED OFF]	
LAN Bypass Kit 1 Configur Mode for Power-on Mode for Power-off LAN Bypass Kit 2 Configur Mode for Power-on Mode for Power-off	ration [PassTru] [PassTru] ration [PassTru] [PassTru]	
WDT Configuration	[System Reset]	<pre>++: Select Scheen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Vencion	2 22 1283 Copunight (C) 20	TWA COA

- Lan Bypass Status LED Configure LAN Bypass status LED.
- Mode for Power-on
   Configure LAN kit behavior when system is in power-on state. (Bypass/Pass
   Through)
- Mode for Power-off
   Configure LAN kit behavior when system is in power-off state. (Bypass/Pass
   Through)
- WDT Configuration
   Configure WDT behavior, System Reset, Force Bypass.



### 3.4.14. Case Open Configuration

Advanced	Aptio Setup – AMI	
Case Open Configuration		Case Open detecting function
Case Open Warning Chassis Opened	[Disabled] [No]	
		<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>
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• Case Open Warning Case Open detecting function.

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# 3.5. Setup submenu: Chipset

	Main	Advanced	Platform	Aptio Se Configura	etup – A tion <mark>So</mark>	MI cket Co	nfiguration	Security	
•	Main PCH-IO Server  Setup N Settin; values may cau	Advanced Configura ME Config Warning: g items on use system	Platform tion uration this Scre to malfur	configura een to inco nction!	tion <u>So</u> orrect		<pre>&gt;</pre>	Security ers Screen Item ct Opt. Help s Values ed Defaults Exit	
			Version 2	2.22.1283 (	Copyrigh	t (C) 2	ESC: Exit		

### 3.5.1. PCH-IO Configuration

Aptio Setup – AMI Platform Configuration	
PCH-IO Configuration	Device Options Settings
▶ SATA Configuration	
	→+: Select Screen
	↑↓: Select Item Enter: Select
	+/-: Change upt. F1: General Help F2: Previous Values
	F3: Optimized Defaults F4: Save & Exit ESC: Exit
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### 3.5.2. SATA Configuration

Aptio Setup - AMI Platform Configuration	
▶ Controller 3 SATA Configuration	SATA Controller 3 Device Options Settings
	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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### 3.5.3. Controller 3 SATA Configuration

Aptio Setup – AMI Platform Configuration				
Controller 3 SATA Conf	iguration	SATA test settings		
SATA Configuration SATA Port 0 SATA Port 1 SATA Port 2 SATA Port 3 SATA Port 4	[Enabled] [Not Installed] [Not Installed] [Not Installed] [Not Installed] [Not Installed]	++: Select Screen		
		14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
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#### • SATA Configuration SATA test setting



# 3.5.4. General ME Configuration

General ME Configuration	Aptio Setup – AMI Platform Configuration				
Uper. Firmware Version       11:5.0.3.67         Backup Firmware       N/A         Version       Recovery Firmware         ME Firmware Status #1       0x00000245         ME Firmware Status #2       0x8011C006         Current State       Operational         Error Code       No Error         Recovery Cause       N/A         ++: Select Screen         11: Select Item         Enter: Select         +/-: Change Opt.         F1: General Help         F2: Previous Values         F3: Optimized Defaults         F4: Save & Exit         ESC: Exit	General ME Configuration Oper. Firmware Version Backup Firmware Version Recovery Firmware Version ME Firmware Status #1 ME Firmware Status #2 Current State Error Code Recovery Cause	11:5.0.3.67 N/A 11:5.0.3.67 0x00000245 0x8011C006 Operational No Error N/A	++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		

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### 3.5.5. Socket Configuration

Main Advanced Platform	Aptio Setup – AMI Configuration Socket	Configuration Security	
<ul> <li>Processor Configuration</li> <li>Memory Configuration</li> <li>IIO Configuration</li> <li>Advanced Power Management</li> </ul>	Configuration	Displays and provides option to change the Processor Settings	
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>	
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### 3.5.6. Processor Configuration

	Aptio Setup – AMI Socket Co	nfiguration		
Processor Configuration  Processor BSP Revision Processor Socket Processor ID	606C1 - ICX-D LCC B Socket 0 Socket 1 000606C1*	Enables Hyper Threading (Software Method to Enable/Disable Logical Processor threads.		
Processor Frequency Processor Max Ratio Processor Min Ratio	2.200GHz 16H 08H			
L1 Cache RAM(Per Core) L2 Cache RAM(Per Core) L3 Cache RAM(Per Package)	80KB 1280KB 10240KB	++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt.		
Processor O Version	Intel(R) Xeon(R) D−1713 NT CPU @ 2.20GHz	F1: General Help F2: Previous Values F3: Optimized Defaults		
Hyper-Threading [ALL]	[Enable]	F4: Save & Exit ESC: Exit		
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### • Hyper-Threading [ALL]

Enables Hyper Threading (Software Method to Enable/Disable Logical Processor threads.

### 3.5.7. Memory Configuration

Aptio Setup – AMI Socket Configuration		
 Integrated Memory Controller (iMC) 	Displays memory topology with Dimm population information	
▶ Memory Topology	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>	
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### 3.5.8. Memory Topology

Aptio Setup –	AMI	
8	Socket Cor	figuration
SocketO.ChA.DimmO: 2133MT/s UNKNOWN SRx8 4 SODIMM	 4GB 	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
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### 3.5.9. IIO Configuration

Aptio Setup – AMI Socket Configuration		
IIO Configuration		
▶ Socket0 Configuration	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
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### 3.5.10. Socket0 Configuration

Aptio Setup – AMI Socket Configuration		
IOUO (IIO PCIe Port 1) [Auto]	Selects PCIe port Bifurcation for selected slot(s)	
	<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>	
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 IOU0 (IIO PCIe Port 1) Selects PCIe port Bifurcation for selected slot(s).

### 3.5.11. Advanced Power Management Configuration

	Aptio Setup – AMI Socket Co	nfiguration
Advanced Power Management	Configuration	Hardware P–State setting
▶ Hardware PM State Control		++: Select Screen tl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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### 3.5.12. Hardware PM State Control

Aptio Setup – AMI Socket Configuration		
Hardware PM State Cont	rol	Disable: Hardware
Hardware P–States	[Disable]	<pre>chooses a P-state based on OS Request (Legacy P-States) Native Mode:Handware chooses a P-state based on OS guidance Out of Band ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit</pre>
Vane	ion 2 22 1222 Conunia	ESU: EXIT
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#### • Hardware P-States

Disable: Hardware chooses a P-state based on OS Request (Legacy P-States). Native Mode: Hardware chooses a P-state based on OS guidance.

Out of Band Mode: Hardware autonomously chooses a P-state (no OS guidance).



### 3.6. Setup submenu: Security

Main Advanced Platform Co	Aptio Setup – AMI onfiguration Socket (	Configuration	Security ►
Password Description		▲ Set Adminis	trator
If ONLY the Administrator's then this only limits access only asked for when entering If ONLY the User's password is a power on password and r boot or enter Setup. In Setu have Administrator rights.	password is set, s to Setup and is g Setup. is set, then this must be entered to up the User will	rassworu	
in the following range:		→+: Select	Screen
Minimum length 3		†∔: Select	Item
Maximum length 20		Enter: Sele	ct
Administrator Password User Password		+/-: Change F1: General F2: Previou F3: Optimiz ▼ F4: Save & ESC: Exit	: Opt. . Help is Values ied Defaults Exit
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#### Change User/Administrator Password

You can set an Administrator Password or User Password. An Administrator Password must be set before you can set a User Password. The password will be required during boot up, or when the user enters the Setup utility. A User Password does not provide access to many of the features in the Setup utility.

Select the password you wish to set, and press Enter. In the dialog box, enter your password (must be between 3 and 20 letters or numbers). Press Enter and retype your password to confirm. Press Enter again to set the password.

#### Removing the Password

Select the password you want to remove and enter the current password. At the next dialog box press Enter to disable password protection.



### 3.6.1. Secure Boot

	Aptio Setup – AMI	Security
System Mode	Setup	Secure Boot feature is Active if Secure Boot
Secure Boot	[Disabled] Not Active	is Enabled, Platform Key(PK) is enrolled and the System
Secure Boot Mode ▶ Restore Factory Keys ▶ Reset To Setup Mode	[Custom]	is in User mode. The mode change requires platform reset
▶ Key Management		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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#### Secure Boot

Secure Boot feature is Active if Secure Boot is Enabled, Platform Key (PK) is enrolled, and the System is in User mode. The mode change requires platform reset.

#### Secure Boot Mode

In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.

#### Restore Factory Keys

Force System to User Mode. Install factory default Secure Boot key databases.

# Reset To Setup Mode Delete all Secure Boot key databases from NVRAM.



#### 3.6.1.1. Key Management

	Aptio S	Setup – AMI	Security
Vendor Keys Factory Key Provisi ▶ Restore Factory Key ▶ Reset To Setup Mode	Valid on [Disabled] s		Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode
Secure Boot variable Platform Key Key Exchange Keys Authorized Signature Forbidden Signature Authorized TimeStam OsRecovery Signature Export Secure Boot Enroll Efi Image	e   Size  Keys  (PK)  0  (KEK)  0  es (db)  0  es(dbx)  0  os(dbt)  0  es(dbr)  0  variables	Key Source 0  No Keys 0  No Keys 0  No Keys 0  No Keys 0  No Keys 0  No Keys	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Factory Key Provision

Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode.

Restore Factory Keys

Force System to User Mode.

Install factory default Secure Boot key databases.

Reset To Setup Mode

Delete all Secure Boot key databases from NVRAM.

Export Secure Boot variables

Copy NVRAM content of Secure Boot variables to files in a root folder on a file system device.

Enroll Efi Image

Allow the image to run in Secure Boot mode.

Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db)

Secure Boot VariableS

Enroll Factory Defaults or load certificates from a file:

- 1. Public Key Certificate in:
  - a) EFI\_SIGNATURE\_LIST
  - b) EFI\_CERT\_X509 (DER encoded)



- c) EFI\_CERT\_RSA2048 (bin)
- d) EFI\_CERT\_SHAXXX
- 2. Authenticated UEFI Variable
- 3. EFI PE/COFF Image (SHA256)

Key Source: Default, External, Mixed

### 3.7. Setup submenu: Boot

◀ Boot Save & Exit	Aptio Setup – AMI	
Boot Configuration		Enables or disables Quiet Boot option
Quiet Boot Network Stack	[Enabled] [Disabled]	
FIXED BOOT ORDER Priorit Boot Option #1 Boot Option #2 Boot Option #3	ies [UEFI Hard Disk] [UEFI CD/DVD] [UEFI USB Device]	
Boot Option #4	[UEFI Network]	↔: Select Screen t↓: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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- Quiet Boot Enable / Disable Quiet Boot option.
- Network Stack

Enable/Disable UEFI Network Stack.



# 3.8. Setup submenu: Save & Exit

Aptio Setup – AMI ◀ Boot Save & Exit	
Save Options	Reset the system after
Save Changes and Reset Discard Changes and Exit	saving the changes.
Default Options Restore Defaults	
	↔: Select Screen ↓: Select Item
	Enter: Select
	F1: General Help
	F2: Previous Values
	F4: Save & Exit
	E20: EXI(



# 4. FAQ

#### Q 1. Where is the serial number located on my system?

• The serial number (S/N) is an alpha-numeric character located on the bottom or side chassis.



(for reference only)



## **Technical Support Form**

We deeply appreciate your purchase of Acrosser products. Please find the "**tech\_form. doc**" file in our utility CD. If you have any questions or problems about Acrosser products, please fill in the following information. We will answer your questions in the shortest time possible.

#### **Describe Your Info and Acrosser System Info**

Your Company Name:	
Your Contact Info:	Phone Number:
Your E-Mail Address:	
Your Company Address:	
Acrosser Model Name:	
Acrosser Serial Number:	
Describe System Configuration	
• CPU Type:	
Memory Size:	
• Storage Device (e.g. HDD, CF, or SSD):	
Additional Peripherals (e.g. Graphic Care	לא:
Operating System & Version (e.g. Windo	ws 7 Embedded):
Special API or Driver:	
	(If yes, please provide it for debug.)
Running Applications:	
Others:	
Send the above information to one of • Acrosser Local Sales Representative • Acrosser Authorized Sales Channels	the following Acrosser contacts:





#### **Acrosser Headquarters**

241402新北市三重區重新路5段609巷4號3樓之8 Rm. 8, 3F., No. 4, Ln. 609, Sec. 5, Chongxin Rd., Sanchong Dist., New Taipei City 241402, Taiwan (R.O.C.) TEL: +886-2-29999000 FAX: +886-2-29992887

#### **Acrosser Taichung Office**

414台中市烏日區僑仁街8號10樓之1 10F.-1, No.8, Qiaoren St., Wuri Dist., Taichung City 414, Taiwan (R.O.C.) TEL: +886-4-2337-0715 FAX: +886-4-2337-3422

#### **Acrosser China Subsidiary**

深圳市欣扬通电子有限公司 深圳市福田区泰然八路安华工业区6号楼7层 706室 (邮编: 518040) Room 706, floor 7, building 6, Anhua Industrial Zone, Tairan 8th Road, Futian District, Shenzhen, China (Postal: 518040) TEL: +86-755-83542210 FAX: +86-755-83700087

#### Acrosser Nanjing Office

欣扬通电子有限公司 南京办事处
江苏省南京市江宁区天元东路228号504室
(邮编: 211100)
Room 504, No. 228, Tian Yuan East Rd.,
Jiang Ning Dist., Nanjing City, Jiangsu Province,
China (Postal: 211100)
Mobile: 13611932003
TEL: +86-025-86137002
FAX: +86-025-86137003

#### Acrosser Beijing Office

欣扬通电子有限公司 北京办事处 北京市昌平区沙河镇沙阳路巩华新村8号楼2单元 1403室 (邮编: 102206) Room 1403, Unit 2, Building 8, Gonghua Village, Shahe Town, Changping District, Beijing, China (Postal: 102206) Mobile: 13311317329

#### Acrosser USA Inc.

8351 Elm Ave. Suite 107, Rancho Cucamonga, CA91730, USA TEL: +1-909-476-0071 FAX: +1-909-466-9951