

ANR-C246E1

1U Rackmount Network Platform

- Intel[®] Xeon[®] E-2100 family (C246 Chipset) Intel[®] Core[™] Celeron[®]
- Intel[®] C426



User Manual

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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.

Ver: 100 Date: Dec. 21, 2021

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1. Product Specifications

ANR-C246E1 rackmount network appliances provides flexible network solutions with the power of the 8th Generation Intel Core and Xeon processors, formerly Coffee Lake. With a range of processors to choose from, from the i3 up to Xeon E-2 processors, this network appliance is built for UTM, SD-WAN, web monitoring, load balancing, and Network Virtualization.

The system offers unmatched flexibility in their class, and are designed to be easy to use for small to mid-range network needs.

In addition, it is a user friendly and budget friendly solution for small to mid-level network solutions. With a shorter chassis, it can be deployed almost anywhere without need of a dedicated rack, perfect for small businesses or remote offices.

1.1. Specifications

(Specifications are subject to change without notice.)

Platform	
Form Factor	1U Rackmount Network Platform
Processor	 Intel[®] Xeon[®] E-2100 family (C246 Chipset) Intel[®] Core[™]/ Celeron[®]
Chipset	Intel [®] C246
System Memory	 2x DDR4 SO DIMM Up to 32GB DDR4 SO DIMM 260-pin DIMM x 2
Network	
Ethernet	Intel [®] i211 Gigabit Ethernet x 8
Bypass	• 2 Pairs
NIM Slot	• 1 (Optional)
Display	
Graphic Controller	Intel [®] UHD Graphics 630
Storage	
HDDs	Internal 2.5" HDD bay x 2
CF/CFast/mSATA	• mSATA



Expansion / Internal Interface

PCIe slot	NIM Slot x 1 (Optional)
Mini-PCle slot	 Mini-Card x 1 (PCIe[x1]+mSATA)
Keyboard and Mouse	• N/A
Universal Serial Bus	• USB 3.0 x 2

Miscellaneous

RTC	Internal RTC
Watchdog Timer	 1~255 steps by software programmable
Software Button	 GPIO Programmable push button x 1
GPIO	 4 bits input, 4bits output
FAN	• 2
Color	• Black

Environmental Parameters and Dimension

Power Requirement	220W ATX PSU
Operation Temp.	• 32°F ~ 104°F (0°C ~ 40°C)
Storage Temp.	 -4°F ~ 140°F (-20°C ~ 60°C)
Operating Humidity	 10%~80% relative humidity, non-condensing
Storage Humidity	 10%~80% @40°C; non-condensing
Vibration	 0.5 g rms/ 5 ~ 500Hz / operation (2.5" Hard Disk Drive) 1.5 g rms/ 5 ~ 500Hz / non operation
Chassis Dimension	 16.93" x 7.87" x 1.73" (430mm x 200mm x 44mm) (W x D x H)

I/O Interface

Front Panel	Power LED x 1
	Status LED x 1
	HDD Active LED x 1
	 USB 3.0 Ports x 2
	RJ-45 Console x 1
Rear Panel	AC Power Input x 1
	Power Switch x 1
	 Rear Expansion Slot x 1 (Optional)



1.2. Package Contents

Check if the following items are included in the package.

Item	Q'ty	Remark
ANR-C246E1 System	1	
SATA Cable	2	
SATA Power Cable	2	
Console Cable	1	
Ear Bracket Kit	1	
CPU Heatsink	1	



Hardware Information 2.

2.1. **Dimensions**

٢

(Unit: mm)

System:





Component Side:





Solder Side:





2.2. Jumpers and Connectors

Component Side:





Solder Side:





2.3. List of Jumpers

The ANR-C246E1 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
JP1	RTC Reset
JP2	Auto Power Button

2.3.1. RTC Reset (JP1)

Normal (Default)	1-2
Clear CMOS	2-3

2.3.2. Auto Power Button (JP2)

Don't use Auto PWRBTN (Default)	1-2
Use Auto PWRBTN	2-3

2.4. List of Connectors

The ANR-C246E1 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
CN4 & CN5	HDD Power Connector
CN9	mSATA SOCKET
CN17	Digital I/O
CN18	LCM Connector
CN19	Key PAD Connector
CN20	SYS_FAN1
CN21	SYS_FAN2
CN22	24-Pin ATX Power Connector
CN23	8-Pin 12V Power Connector
CN25	HDMI Connector
COM2	COM Port
FP1	Front Panel Pin Header



SATA1 & SATA2	SATA Port Connector
USB1	USB3.0 Port

2.4.1. HDD Power Connector (CN4 & CN5)

Pin	Signal	Signal Type
1	+12V	PWR
2	GND	GND
3	GND	GND
4	+5V	PWR

2.4.2. Digital I/O (CN17)

Pin	Signal	Signal Type
1	DIO0	Input / Output
2	DIO1	Input / Output
3	DIO2	Input / Output
4	DIO3	Input / Output
5	DIO4	Input / Output
6	DIO5	Input / Output
7	DIO6	Input / Output
8	DIO7	Input / Output
9	+3.3V	PWR
10	GND	GND

2.4.3. LCM Connector (CN18)

Pin	Signal	Signal Type
1	LCMGND	GND
2	LCMVCC	PWR
3	VEE	PWR
4	SLIN#	Output
5	INIT#	Output
6	AFD#	Output
7	DATA0	Input / Output
8	DATA1	Input / Output
9	DATA2	Input / Output



10	DATA3	Input / Output
11	DATA4	Input / Output
12	DATA5	Input / Output
13	DATA6	Input / Output
14	DATA7	Input / Output
15	+5V	PWR
16	LCD#	Output

2.4.4. Key PAD Connector (CN19)

Pin	Signal	Signal Type
1	KEY PAD Down	Input
2	KEY PAD Up	Input
3	KEY PAD Right	Input
4	KEY PAD Left	Input

2.4.5. COM Port (COM2)

RS-232

Pin	Signal	Signal Type
1	DCD	Input
2	RXD	Input
3	TXD	Output
4	DTR	Output
5	GND	GND
6	DSR	Input
7	RTS	Output
8	CTS	Input
9	RI	Input
10	N.C.	

2.4.6. Front Panel Pin Header (FP1)

Pin	Signal	Signal Type
1	Power On Button(+)	Input
2	Power On Button(-)	GND



3	Reset Switch (+)	Input
4	Reset Switch (-)	GND
5	Power LED(+)	POWER
6	Power LED(-)	GND
7	HDD LED (+	Output
8	HDD LED (-)	Output

2.4.7. USB 3.0 Port (USB1)

Pin	Signal	Signal Type
1	+5V_USB	PWR
2	USB3_RX1_DN	DIFF
3	USB3_RX1_DP	DIFF
4	GND	GND
5	USB3_TX1_DN	DIFF
6	USB3_TX1_DP	DIFF
7	GND	GND
8	USBP_0N	DIFF
9	USBP_0P	DIFF
10	NC	
11	USBP_1P	DIFF
12	USBP_1N	DIFF
13	GND	GND
14	USB3_TX2_DP	DIFF
15	USB3_TX2_DN	DIFF
16	GND	GND
17	USB3_RX2_DP	DIFF
18	USB3_RX2_DN	DIFF
19	+5V_USB	PWR



2.5. 2.5" Hard Drive Installation

This section details the steps of how to install a 2.5" hard drive for the ANR-C246E1. This section includes steps for installing one or two 2.5" hard drives.

Step 1: Remove the screws securing the top cover, then remove the cover.



Step 2: Install the bracket cushions on the hard drive brackets as shown.



Step 3: Install brackets onto hard drive with screws. Repeat Steps 2 & 3 with the second set of brackets if you are installing two hard drives.





Step 4: Attach SATA and power cables to system board as shown for the first hard drive.



Step 5: Attach SATA and power cables to system board as shown for the second hard drive (skip this step if only installing one hard drive).





Step 6: Place first hard drive assembly onto installation brackets as shown.



Note: Make sure that SATA and power cables are under the hard drive.

Step 7: Connect SATA and power cable to first hard drive as shown.





<complex-block>

Step 8: Place the second hard drive onto installation brackets as shown.

Note: Make sure that SATA and power cables are under the hard drive.

Step 9: Connect SATA and power cable to the second hard drive as shown.





2.6. CPU and Heat Sink Installation

This section details the steps of how to install the CPU and heat sink for the ANR-C246E1.

Step 1: Remove the screws securing the top cover, then remove the cover.



Step 2: Remove the highlighted screw, then remove the fan duct.





Step 3: Open the CPU bracket.





Step 4: Remove the pin cover and place the CPU into the socket. Use the notches to ensure proper alignment. Note: The CPU should fit into the socket easily. DO NOT force the CPU into the socket. Pushing on the CPU can cause damage to the CPU pins or socket.



Step 5: Close the bracket and lock the bracket pole into position. Note: Please ensure you have applied thermal paste according to CPU manufacturer's guidelines before installing the heat sink.







Step 6: Place the heatsink onto the CPU and fasten the heatsink screws. Make sure the heatsink is aligned with the airflow of the fan.



Step 7: Replace the fan cover and secure with the fastening screw.





3. AMI BIOS Setup

3.1. System Test and Initialization

The system uses certain routines to perform testing and initialization during the boot up sequence. If an error, fatal or non-fatal, is encountered, the system will output a few short beeps or an error message. The board can usually continue the boot up sequence with non-fatal errors.

The system configuration verification routines check the current system configuration against the values stored in the CMOS memory. If they do not match, an error message will be output, and the BIOS setup program will need to be run to set the configuration information in memory.

There are three situations in which the CMOS settings will need to be set or changed:

- Starting the system for the first time
- The system hardware has been changed
- 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 or <F2> 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.

Security - The setup administrator password can be set here

Boot - Enable/ Disable quiet Boot Option

Save & Exit – Save your changes and exit the program



3.3. Setup Submenu: Main

Aptio Setup Util Main Advanced Chipset Secu	ity – Copyright (C) 2019 American Megatrends, rity Boot Save & Exit	Inc.
BIOS Information AND-C246E1 V1.0 BIOS Vendor Compliancy System Date System Time Access Level	Set the Date switch betwe Default Rang Year: 2005-2 UEFI 2.7; PI 1.6 Months: 1-12 Days: depend [10:45:18] Administrator	. Use Tab to en Date elements. es: 599 ent on month
	++: Select S 11: Select I Enter: Selec +/-: Change F1: General F2: Previous F3: Optimize F4: Save & E ESC: Exit	creen tem t Jpt. Help Values d Defaults xit
Version 2.20.12	71. Converget (C) 2019 American Megatrends. In	с.

3.4. Setup Submenu: Advanced

Aptio Setup Utility – Copyright (C) 2019 American Main <mark>Advanced</mark> Chipset Security Boot Save & Exit	Megatrends, Inc.
 CPU Configuration PCH-FW Configuration Trusted Computing SATA And RST Configuration Hardware Monitor SID Configuration Serial Port Console Redirection 	CPU Configuration Parameters
 Power Management Digital IO Port Configuration LAN Bypass Configuration 	
▶ Network Stack Configuration	++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1271. Copyright (C) 2019 American Me	egatrends, Inc.



3.4.1. Advanced: CPU Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2019 Americar	n Megatrends, Inc.
CPU Configuration		Number of cores to enable in
Type ID Microcode Revision Speed L1 Data Cache L1 Instruction Cache L2 Cache L3 Cache L4 Cache L4 Cache VMX SMX/TXT Active Processor Cores Hyper-Threading Intel(R) Speed Shift Technology	Intel(R) Xeon(R) E-2124G CPU @ 3.40GHz 0x906EA B4 3400 MHz 32 KB x 4 32 KB x 4 32 KB x 4 256 KB x 4 8 MB N/A Supported Supported Supported [A11] [Enabled] [Disabled]	<pre>each processor package. ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F3: Optimized Defaults F4: Save & Exit</pre>
		ESC: Exit
Version 2.20.1271.	Copyright (C) 2019 American ⊨	iegatrends, Inc.

Active Processor Cores

Number of cores to enable in each processor package.

• Hyper-Threading

Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology).

Intel[®] Speed Shift Technology

Enable/Disable Intel[®] Speed Shift Technology support. Enabling will expose the CPPC v2 interface to allow for hardware controlled P-states.



3.4.2. Advanced: PCH-FW Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2019 America	n Megatrends, Inc.
ME Firmware Version ME Firmware Mode ME Firmware SKU ME Firmware Status 1 ME Firmware Status 2 ▶ Firmware Update Configuration	12.0.31.1416 Normal Mode Consumer SKU 0x90000255 0x86100106	Configure Management Engine Technology Parameters
		+: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Copyright (C) 2019 American M	

3.4.2.1. Firmware Update Configuration

Aptio Setup Utility Advanced	– Copyright (C) 2019 America	n Megatrends, Inc.
Me FW Image Re-Flash Local FW Update	[Disabled] [Enabled]	Enable/Disable Me FW Image Re-Flash function.
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.20.1271.	Copyright (C) 2019 American	Megatrends, Inc.



- Me FW Image Re-Flash Enable/Disable Me FW Image Re-Flash function.
- Local FW Update
 Options for Local FW Update function.

3.4.3. Advanced: Trusted Computing

Aptio Setup Ut Advanced	ility – Copyright (C) 2018 American	Megatrends, Inc.
Configuration Security Device Support TPM State Pending operation Device Select	(Enable) (Enabled) (None) (Auto)		Enables or Disables BIOS support for security device. O.S. will not show Security Device. TGG EFI protocol and INTIA interface will not be available.
Current Status Information TPM Enabled Status: TPM Active Status: TPM Owner Status:	Enable Activated Owned		
			++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.	.1271. Copyright (C)	2018 American Mu	egatrends, Inc.

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.

TPM State

Enable/Disable Security Device. Note: Your Computer will reboot during restart in order to change State of the Device.

• Pending operation

Schedule an Operation for the Security Device. **Note**: Your Computer will reboot during restart in order to change State of Security Device.

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



3.4.4. Advanced: SATA And RST Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2019 Americar	n Megatrends, Inc.
SATA And RST Configuration		Enable/Disable SATA Device.
SATA Controller(s) SATA Mode Selection	[Enabled] [AHCI]	
Serial ATA Port 0 Hot Plug Serial ATA Port 1 Hot Plug mSATA	Empty [Disabled] Empty [Disabled] Empty	
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.20.1271. C	opyright (C) 2019 American ⊧	legatrends, Inc.

- SATA Controller(s) Enable/Disable SATA Device.
- SATA Mode Selection Determines how SATA controller(s) operate.
- Hot Plug

Designates this port as Hot Pluggable.



3.4.5. Advanced: Hardware Monitor

Aptio Setup Ut: Advanced	ility – Copyright (C) 2019 An	merican Megatrends, Inc.
Pc Health Status		Smart Fan Function Settings
▶ Smart Fan Function		
CPU Temperature(DTS) System Temperature	: +84 °c : +34 °c	
CPU Fan 1 Speed CPU Fan 2 Speed	: 5037 RPM : N/A	
VCORE VMEM +12V	: +1.248 V : +1.212 V : +11.952 V	
+5V +VCCI0	: +5.040 V : +0.948 V	++: Select Screen ↑↓: Select Item
SVDUAL VBAT	: +5.045 V : +2.904 V	Enter: Select +/-: Change Opt. E1: General Helm
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit
		ESC: Exit
Version 2.20.3	1271. Copyright (C) 2019 Amer	rican Megatrends, Inc.

3.4.5.1. Smart Fan Function

Aptio Setup Utility - Advanced	- Copyright (C) 2019 America	n Megatrends, Inc.
Smart Fan Function CPU Fan 1 Smart Control FAN Control Mode Spin PMM Temperature Source Off Control Temperature Full Speed Temperature FWM Slope CPU Fan 2 Smart Control FAN Control Mode Spin PMM Temperature Source Off Control Temperature Start Control Temperature Full Speed Temperature FWM Slope	[Enabled] [Automatic Mode] 80 [CPU Temperature(DTS)] 20 60 95 1 [Enabled] [Automatic Mode] 80 [CPU Temperature(DTS)] 20 60 95 1	For En/Disable CPU Fan 1 Smart Control Enabled: FAN is running in accordance with user settings Disabled: FAN is always running with full speed +: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Copyright (C) 2019 American H	



- CPU Fan 1 / 2 Smart Control Enable/Disable CPU Fan Smart Control. Enabled: FAN operates in accordance with user settings. Disabled: FAN always operates at full speed.
- FAN Control Mode Manual Mode: Depends on PWM Duty.
 Automatic Mode: FAN Speed depends on CPU Temperature.
- Spin PWM The PWM Duty of FAN Spin Range: [0 - 255]
- Temperature Source Reference Temperature Input Selection.
- Off Control Temperature
 Temperature Value for FAN Off.
 Note: Some fans have the minimum speed even if the PWM value is 0
- Start Control Temperature Temperature Value for FAN Start.
- Full Speed Temperature Temperature Value for FAN Full Speed.
- PWM Slope
 Slope PWM value/Degree C for FAN Speed Control.
 Range:[1-15]
- PWM Duty Manual Mode PWM Duty value. Range:[0 - 255]



3.4.6. Advanced: SIO Configuration

Aptio Setup Utility – Copyright (C) 2018 American Advanced	Megatrends, Inc.
AMI SIO Driver Version : A5.09.01 Super IO Chip Logical Device(s) Configuration > [*Active*] Serial Port 1 + [*Active*] Serial Port 2 > [*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.	
	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.20.1271. Copyright (C) 2018 American Me	egatrends, Inc.

3.4.6.1. Serial Port Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2018 American	Megatrends, Inc.
Serial Port 1 Configuration		Enable or Disable this Logical
Use This Device		Device.
Logical Device Settings: Current : ID=3F8h; IRQ=4;		
Possible:	[Use Automatic Settings]	
Possible: USE Automatic Settings] WARNING: Disabling SIO Logical Devices may have unwanted side effects. PROCEED WITH CAUTION.		++: 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.



3.4.6.2. Parallel Port Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2018 American	Megatrends, Inc.
Parallel Port Configuration		Enable or Disable this Logical
		Device.
Logical Device Settings: Current : IO=378h; IRQ=5;		
Possible:	[Use Automatic Settings]	
Mode :	[Standard Parallel Port mode(SPP)]	
Mode : [Standard Parallel Port mode(SPP)] WARNING: Disabling SIO Logical Devices may have unwanted side effects. PROCEED WITH CAUTION.		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1271. Copyright (C) 2018 American Megatrends, Inc.		

• Use This Device

Enable/Disable this Logical Device Enable/Disable this Logical Device Enable/Disable this Logical Device

Mode

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



3.4.7. Advanced: Serial Port Console Redirection

Aptio Setup Utility – C Advanced	Copyright (C) 2018 American	Megatrends, Inc.
COMO Console Redirection Console Redirection Settings Legacy Console Redirection Legacy Console Redirection Settings Serial Port for Out-of-Band Management Windows Emergence Management Services	(Enabled) it∕ - (ENS)	Console Redirection Enable or Disable.
 Console Redirection Console Redirection Settings 	(Disabled)	<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.20.1271. Cop	yright (C) 2018 American M	egatrends, Inc.

- COM0 Console Redirection
 Enable or Disable Console Redirection
- Console Redirection
 Console Redirection



3.4.7.1. COM0 Console Redirection

Aptio Setup Utili Advanced	ity – Copyright (C) 2018	American Megatrends, Inc.
COMO Console Redirection Settings		Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends
Terminal Type Bits per second Data Bits Parity Stop Bits Flow Control VT-UTER Combon Key Symport	[VT100+] [115200] [8] [None] [1] [Enchted]	VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
Recorder Mode Resolution 100x31 Putty KeyPad	[Disabled] [Disabled] [VT100]	++: Select Screen 11: Select Item
		 File State File General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.127	71. Copyright (C) 2018 An	merican Megatrends, Inc.

• 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.



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.

3.4.7.2. Legacy Console Redirection Settings

Aptio Setup Utility Advanced	– Copyright (C) 2018 Ame	rican Megatrends, Inc.
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 fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.19.1266.	Copyright (C) 2018 Ameri	can Megatrends, Inc.

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.

Redirection After POST

When BootLoader is selected, then Legacy Console Redirection is disabled before booting to legacy OS. When Always Enable is selected, then Legacy Console Redirection is enabled for legacy OS. Default setting for this option is set to Always Enable.

3.4.8. Advanced: Power Management

Aptio Setup Utility - Advanced	- Copyright (C) 2018 Americar	n Megatrends, Inc.
Power Management		Select system power mode.
Power Mode Restore AC Power Loss	[ATX Type] [Last State]	
Wake Events RTC wake system from S5 Wake up day Wake up hour Wake up minute Wake up second	[Enabled] 0 0 0 0	
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.20.1271. C	Copyright (C) 2018 American ⊨	Megatrends, Inc.

Power Mode

Select power supply mode.

- Restore AC Power Loss Select power state when power is re-applied after a power failure.
- RTC wake system from S5
 Fixed Time : System will wake on the hr::min::sec
 Specified Dynamic Time: System will wake on the current time + Increase minutes(s).



3.4.9. Advanced: Digital IO Port Configuration

Aptio Setup Utility Advanced	– Copyright (C	C) 2018 American	Megatrends, Inc.
Aptio Setup Utility Advanced Digital IO Port Configuration DIO Port1 Output Level DIO Port2 Output Level DIO Port3 Output Level DIO Port4 Output Level DIO Port5 DIO Port6 DIO Port6 DIO Port8	- Copyright (C (Output) (High] (Output) (High] (Output) (High] (Input] (Input] (Input]	2) 2018 American	Megatrends, Inc. Set DIO as Input or Output ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: Beneral Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1271.	Copyright (C)	2018 American M	egatrends, Inc.

- DIO Port1~4
 Set DIO as Input or Output
- Output Level
 Set output level when DIO pin is output
- DIO Port5~8
 Set DIO as Input or Output



3.4.10. Advanced: LAN Bypass Configuration

Aptio Setup Utility - Advanced	Copyright (C) 2019 American	Megatrends, Inc.
LAN Bypass Configuration		Configure LAN Bypass Status LED.
LAN Bypass Status LED	[LED OFF]	
LAN Bypass Kit 1 Configuration		
Mode for Power-on	[PassTru]	
Mode for Power-off	[PassTru]	
LAN Bypass Kit 2 Configuration		
Mode for Power-on	[PassTru]	
Mode for Power-off	[PassTru]	
LAN Bypass Kit 3 Configuration		
Mode for Power-on	[PassTru]	
Mode for Power-off	[PassTru]	
LAN Bypass Kit 4 Configuration		++: Select Screen
Mode for Power-on	[PassTru]	T↓: Select Item
Mode for Power-off	[PassTru]	Enter: Select
		+/-: Change Opt.
WDT Configuration	[System Reset]	F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit
Version 2.20.1271. Co	pyright (C) 2019 American M	egatrends. Inc.

- Configure LAN Bypass Status LED
 LAN Bypass Status LED
- Mode for Power-on Configure LAN kit behavior when system in power-on state. (Bypass/Pass Through)
- Mode for Power-off
 Configure LAN kit behavior when system in power-off state. (Bypass/Pass Through)
- WDT Configur

Configure LAN kit behavior when WDT is triggered. (Bypass/Pass Through)



3.4.11. Advanced: Network Stack Configuration

Aptio Setup Utility - (Advanced	Copyright (C) 2019 American	Megatrends, Inc.
Network Stack Ipv4 PXE Support Ipv4 HTTP Support PXE boot wait time Media detect count	[Enabled] [Enabled] [Disabled] 0 1	Enable/Disable UEFI Network Stack
		++: Select Screen t4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1271. Co	oyright (C) 2019American M	egatrends, Inc.

- Network Stack
 Enable/Disable UEFI Network Stack
- Ipv4 PXE Support

Enable/Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.

Ipv4 HTTP Support

Enable/Disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.

• PXE boot wait time

Wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.

Media detect count

Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.



3.5. Setup submenu: Chipset

Main Adva	Aptio Setup anced Chipset	Utility – Copyri Security Boot	ight (C) 2019 An Save & Exit	merican Me	gatrends, ∶	Inc.
▶ System Ager	nt (SA) Configur	ation		Sy	istem Agent	(SA) Parameters
				++ ↑↓ En +// F1 F2 F3 F4 ES	:: Select Sd :: Select T Hter: Select -: Change (:: General H :: Previous 1: Optimized :: Save & E :C: Exit	creen tem tpt. Help Values d Defaults Kit
	Version 2.2	0.1271. Copyrigh	nt (C) 2019 Amer	rican Mega	trends, Ind	з.

3.5.1. Chipset: System Agent (SA) Configuration

Aptio Setup Utility - Chipset	Copyright (C) 2019 American	Megatrends, Inc.
System Agent (SA) Configuration		VT-d capability
VT-d	Supported	
Memory Configuration Memory Frequency Memory Timings (tCL-tRCD-tRP-tRAS) Channel 0 Slot 0 Size Number of Ranks Manufacturer Channel 1 Slot 0 VT-d Primary Display	2133 MHz 15-15-15-36 Populated & Enabled 4096 MB (DDR4) 1 UnKnown Not Populated / Disabled [Enabled] [Auto]	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1271. C	opyright (C) 2019 American M	egatrends, Inc.



• VT-d

VT-d capability.

• Primary Display

Select which of IGFX/PEG/PCI Graphics device should be Primary Display Or select SG for Switchable Gfx.

3.6. Setup submenu: Security

Aptio Setup Utility – Main Advanced Chipset <mark>Security</mark>	Copyright (C) 2019 American Boot Save & Exit	Megatrends, Inc.
Password Description		Set Administrator Password
If ONLY the Administrator's password then this only limits access to Setu only asked for when entering Setup. If ONLY the User's password is set, is a power on password and must be e boot or enter Setup. In Setup the Us have Administrator rights. The password length must be in the following range: Minimum length	is set, o and is then this ntered to er will 3	
Maximum length Administrator Password User Password	20	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt.
▶ Secure Boot		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1271. Co	oyright (C) 2019 American Me	egatrends, Inc.

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. Security: Secure Boot

Aptio Setup	Utility – Copyright (C) 2018 Am Security	merican Megatrends, Inc.
System Mode	Setup	Secure Boot feature is Active if Secure Boot is Enabled.
Secure Boot	[Disabled] Not Active	Platform Key(PK) is enrolled and the System is in User mode.
Secure Boot Mode ▶ Restore Factory Keys ▶ Reset To Setup Mode	[Custom]	The mode change requires platform reset
▶ Key Management		
		<pre>++: Select Screen T4: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.2	20.1271. Copyright (C) 2018 Amer	ican Megatrends, Inc.

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. Secure Boot: Key Management

Aptio Setup	Utility - Security	Copyright (C)	2018 American	Megatrends, Inc.
Vendor Keys		Valid		Install factory default Secure
Factory Key Provision • Restore Factory Keys • Reset To Setup Mode • Export Secure Boot variab • Enroll Efi Image	les			reset and while the System is in Setup mode
Device Guard Ready ▶ Remove 'UEFI CA' from DB ▶ Restore DB defaults				
Secure Boot Variable Si Platform Key(PK) Key Exchange Keys Authorized Signatures Eachidden Signatures	0 0 0 0 0 0	No Keys No Keys No Keys No Keys		++: Select Screen 14: Select Item Enter: Select
 Authorized TimeStamps OsRecovery Signatures 	0 0	No Keys No Keys No Keys		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.	20.1271. 0	opyright (C) 2	018 American M	egatrends, Inc.

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)

- Remove 'UEFI CA' from DB Device Guard ready system must not list 'Microsoft UEFI CA' Certificate in Authorized Signature database (db).
- Restore DB defaults
 Restore DB variable to factory defaults.



3.7. Setup submenu: Boot

Aptio Setup Utility – Main Advanced Chipset Security	Copyright (C) 2019 American Boot Save & Exit	Megatrends, Inc.
Boot Configuration		Enables or disables Quiet Boot
Quiet Boot		option
CSM Support	[Enabled]	
Launch PXE ROM	[Do not launch]	
Boot mode select	[UEFI]	
EIVED POOT OPDER Priorities		
Boot Ontion #1	[UEEI Hard Disk]	
Boot Option #2	[UEFI CD/DVD]	
Boot Option #3	[UEFI USB Device:UEFI:	
	TOSHIBA TransMemory	
	PMAP, Partition 1]	
Boot Option #4	[UEFI Network]	++: Select Screen
NUEET USP Drive PPS Priorities		I+: Select Item
CET I GOD DI IVE DOS TI IGI ICIES		+/-· Change Ont
		F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit
Version 2.20.1271. Co	pyright (C) 2019 American M	egatrends, Inc.

- Quiet Boot Enable / Disable Quiet Boot option.
- CSM Support
 Enable/Disable CSM Support.
- Launch PXE ROM Controls the execution of UEFI and Legacy Network OpROM Note: Network Stack should be enabled if select UEFI PXE boot.
- Boot mode select
 Select boot mode LEGACY/UEFI.



3.8. Setup submenu: Save & Exit

Aptio Setup Utility – Copyright (C) 2019 American Main Advanced Chipset Security Boot <mark>Save & Exit</mark>	Megatrends, Inc.
Save Options	Reset the system after saving the changes
Save Changes and Reset Discard Changes and Exit	
Default Options Restore Defaults	
	++: Select Screen t↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
	F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.20.1271. Copyright (C) 2019 American M	egatrends, Inc.

Boot Option Priorities

This feature allows the user to specify which devices are boot devices and the order of priority from which the systems boots from during startup.



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 Ca	ırd):
Operating System & Version (e.g. Wind	lows 7 Embedded):
Special API or Driver:	
	(If yes, please provide it for debug.)
Running Applications:	
Others:	
Describe Your Problems or Question	IS:
Send the above information to one of • Acrosser Local Sales Representative • Acrosser Authorized Sales Channels • Acrosser Inquiry http://www.acrosse	f the following Acrosser contacts:





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