

AND-EL6KE1

Desktop Network Appliance

• Intel[®] Elkhart Lake SoC Processor 2~4 Cores



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: 101 Date: Mar. 10, 2022

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1. Product Specifications

The AND-EL6KE1 is powered by the latest Intel[®] Celeron[®] J6412 processors (formerly Elkhart Lake), designed to bring the performance needed to power network applications from UTM and firewall to VPN and SD-WAN. Supporting up to 32 GB of RAM, the system is capable of handling intensive networking processes, as well as ensure more accurate and secure connections thanks to technologies like Intel[®] AES-NI.

Designed for faster, more flexible connections, the unit comes standard with four copper Gigabit RJ-45 LAN ports and one fiber SFP port, allowing fast, direct connections. The AND-EL6KE1 provides wireless flexibility with six antenna ports and allow up to two wireless modules to be installed at the same time; including multiple Wi-Fi and Bluetooth networks, as well as 4G and 5G cellular modules. The system also features a redundant power supply for more reliable networking; and a 2.5" SATA drive bay to help power local network storage needs.

1.1. Specifications

(Specifications are subject to change without notice.)

Platform	
Form Factor	Desktop Network Appliance
Processor	 Intel[®] Elkhart Lake SoC Processor 2~4 Cores
Chipset	• SoC
System Memory	• 260-pin DDR4 SO-DIMM x 1 3200MHz
Network	
Ethernet	 Intel[®] i211, Gigabit Ethernet x 4 Intel[®] i210, SFP x 1
Bypass	•
Display	
Graphic Controller	Intel [®] UHD Graphics
Connector	• HDMI x 1
Storage	
HDD	•_
CF/CFast/mSATA	mSATA slot x 1 SATA III port x 1



Internal/Expansion Interface

PCIe slot	• _
Mini-PCIe Slot	Mini Card Socket (PCIe + USB 2.0, full size) with SIM x 1
	 Mini Card Socket (PCIe, half size) x 1
Keyboard and Mouse	•
USB	• USB2.0 Type A x 2

Miscellaneous

RTC	Internal RTC
Watchdog Timer	 1~255 steps by software programmable
Software Button	GPIO Programmable push button x 1
Fan	Smart Fan
Color	• Black

Physical & Environmental

Power Requirement	2 x 12V DC Power Input Connector Lockable, 40W power adapter
Operating 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
Storage Humidity	 10%~80% @40°C; non-condensing
Vibration	 0.5 Grms/ 5 ~ 500Hz / operation (SSD) 1.5 Grms/ 5 ~ 500Hz / non-operation
Shock	 10 G peak acceleration (11 m sec. duration), operation 20 G peak acceleration (11 m sec. duration), non-operation
Dimension (W x D x H)	• 8.27" x 4.09" x 1.73" (210mm x 105mm x 44mm)



1/	1	7
1/	1	,

Front Panel	 3 x LEDs (Power, Status, Storage) 	
	• 1 x Micro-SIM	
	 2 x Antenna Holes 	
Rear Panel	 2 x DC Power Input Connector Lockable 	
	 1 x Power Button 	
	2 x USB2.0 Ports	
	 4 x 1.0Gbps RJ45 Ports 	
	• 1 x SFP	
	 1 x RJ-45 Console 	
	 1 x Reset Button 	
	 3 x Antenna Holes 	

1.2. Package Contents

Check if the following items are included in the package.

Item	Q'ty	Remark
AND-EL6KE1 System	1	
2.5" SSD Bay	1	
SATA Cable	1	
SATA Power Cable	1	
Power Adapter	1	
System Rubber Foot	4	



2. Hardware Information

2.1. Dimensions

(Unit: mm)

System:





0	0 0 0	0
0	• • • • •	0
	NEWT FAIR LAWY LAWE LAWE SHIP HEMI UND CONSOLE CONTACT OF THE	



Board

Top and I/O View:







Bottom and Side View:





2.2. Jumpers and Connectors

Note: Components and their locations may vary depending upon which configuration was purchased.

Top and I/O View:





Bottom and Side View:





2.3. List of Jumpers

Please refer to the table below for all of the board's jumpers that you can configure for your application.

Label	Function
CN6	Clear CMOS
JP1	Auto Power Button Selection

2.3.1. Clear CMOS (CN6)

Normal (Default)	Clear CMOS

2.3.2. Auto Power Button (JP1)



2.4. List of Connectors

Please refer to the table below for all of the board's connectors that you can configure for your application. (Optional) denotes a component that is not included on the standard configuration. Some optional components may replace standard components.

Label	Function
CN1	HDMI Connector
CN4	SATA Connector
CN5	SATA Power Connector (only +5V)
CN10	LAN Ports 1 thru 4 RJ45
CN14	LAN Port 5 SFP
CN13	Fan Connector
CN15/CN16	Mini PCIe / M.2 E-Key (co-lay option) only PCIe function
CN17/CN18	Mini PCIe / M.2 E-Key (co-lay option) only PCIe function
CN19	Micro SIM for CN17/CN18



CN20/CN21	Mini PCIe / M.2 B-Key (co-lay option) only USB3.0 function
CN22	Micro SIM for CN21/CN20
CN23	Serial Port1
CN24	Dual USB2.0 Connector
CN25	mSATA Slot
CN27	Redundant DC-INPUT1 (12V)
CN28	Redundant DC-INPUT2 (12V)
CN30	DIO Connector
SW1	Power Button
SW2	Software Reset

2.4.1. SATA Power Connector (CN5)

Pin	Signal	Pin	Signal
1	NC	2	GND
3	GND	4	+5V

2.4.2. Digital I/O (CN30)

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. Switch GPIO Mapping (SW2)

SW2 GPIO Mapping

Mapping SIO GP64



2.5. 2.5" Hard Drive Installation

This section details how to install a 2.5" SATA Drive (SSD) for the AND-EL6KE1.

Step 1: Remove the top cover by first removing the two screws which secure it to the bottom chassis, then sliding the bottom chassis as shown.



Step 2: Mount the SATA drive to the drive bracket and secure with three screws.





Step 3: Insert the bracket into the system, being careful to line the bracket up with the post on the chassis as shown:



Step 4: Secure the drive bracket to the standoffs with two screws:





Step 5: Connect the SATA and SATA Power Cables to the SATA drive.



Step 6: Reattach the top panel, making sure to replace the screws removed in Step 1.



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 display an error message. The system 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 and BIOS NVRAM. If a system configuration is not found or an error is detected, the system will load the default configuration and reboot automatically.

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 system configuration was reset by the 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 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 – Access hardware monitor and advanced board features and options

Chipset – Chipset settings and options

Security - The setup administrator password can be set here

Boot – Set boot drive priority and quiet boot options

Save & Exit – Save changes and exit the program



3.3. Setup Submenu: Main

Main Advanced Chipset	Aptio Setup – AMI Security Boot Save & Exit	
BIOS Information AND-EL6KE1 V1.0 BIOS Vendor Compliancy System Date	American Megatrends UEFI 2.7; PI 1.6 [Thu 07/15/2021]	Set the Date. Use Tab to switch between Date elements. Default Ranges: Year: 1998–9999 Months: 1–12 Days: Dependent on month Range of Years may vary.
System lime Access Level	(15:59:47) Administrator	
		<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 21 1278 Convright (C) 2021	AMT

3.4. Setup Submenu: Advanced

Aptio Setup – AMI Main <mark>Advanced Chipset Security Boot Save & Exit</mark>		
 CPU Configuration PCH-FW Configuration Trusted Computing SATA Configuration Hardware Monitor SID Configuration Serial Port Console Redirection 	CPU Configuration Parameters	
▶ Power Management ▶ Digital IO Port Configuration ▶ Status LED Configuration	<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>	
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3.4.1. CPU Configuration

Advanced	Aptio Setup - AMI	
Advanced CPU Configuration Processor Information Name Type Speed ID Stepping Number of Processors Microcode Revision Active Processor Cores	Aptio Setup - AMI ElkhartLake ULX Intel(R) Celeron(R) J6413 @ 1.80GHz 1800 HHz 0X90661 B0 4Core(s) / 4Thread(s) F [A11]	Number of cores to enable in each processor package. ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F3: Soptimized Defaults
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Active Processor Cores

Number of cores to enable in each processor package.



3.4.2. PCH-FW Configuration

Advanced	Aptio Setup – AMI	
ME Firmware Version ME Firmware Mode ME Firmware SKU ME Firmware Status 1 ME Firmware Status 2 ▶ Firmware Update Configuration	15.40.10.2204 Normal Mode Consumer SKU 0x90000255 0x80100106	Configure Management Engine Technology Parameters
		++: Select Screen ++: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	2.21.1278 Copyright (C) 202	

3.4.2.1. Firmware Update Configuration

Advanced	Aptio Setup – AMI	
Me FW Image Re-Flash FW Update	[Disabled] [Enabled]	Enable/Disable Me FW Image Re-Flash function. +*: 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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- Me FW Image Re-Flash Enable/Disable Me FW Image Re-Flash function.
- FW Update

Enable/Disable ME FW Update function.

3.4.3. Trusted Computing

Advanced	Aptio Setup – AMI		
TPM 2.0 Device Found Firmware Version: Vendor: Security Device Support Active PCR banks Available PCR banks SHA-1 PCR Bank SHA256 PCR Bank	7.85 IFX [Enable] SHA-256 SHA-1,SHA256 [Disabled] [Enabled]	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.	
Pending operation Platform Hierarchy Storage Hierarchy Endorsement Hierarchy TFM 2.0 UEFI Spec Version Physical Presence Spec Version TFM 2.0 InterfaceType Device Select	[None] [Enabled] [Enabled] [TG6_2] [1.3] [TIS] [Auto]	++: 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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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 SHA256 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

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.

3.4.4. SATA Configuration

Advanced	Aptio Setup – AMI	
SATA Configuration		Enable/Disable SATA Device.
SATA Controller(s)		
Serial ATA Port 0 Serial ATA Port 1	Empty Empty	
		<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>
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• SATA Controller(s) Enable/Disable SATA Device.



3.4.5. Hardware Monitor

Advanced	Aptio Setup – AMI	
Hardware Monitor		Smart Fan function setting
▶ System FAN Setting		
CPU DTS Temperature System Temperature	: +34 °c : +32 °c	
System FAN	: N/A	
VCORE VMEM +3.3V +12V1 +5V +12V2 VSB3V VBB4T AVCC3	: +1.678 V : +1.177 V : +3.271 V : +12.033 V : +4.905 V : +0.261 V : +3.248 V : +2.964 V : +3.248 V	<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>
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3.4.5.1. Smart FAN Setting

Advanced	Aptio Setup – AMI	
System FAN Setting Smart Fan 1 Mode Fan off temperature limit Fan start temperature limit Fan start PWM PWM SLOPE SETTING	[Automatic Mode] 15 35 59 130 5	Smart Fan Mode Select ++: 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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- Smart Fan 1 Mode Smart Fan Mode Select.
- Manual PWM Setting Manual Mode: Fan will work with this Manual PWM Value.
- Fan off temperature limit Fan will off when temperature lower than 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 start with this PWM value.
- PWM SLOPE SETTING PWM SLOPE Selection Slope = PWM value/°C.

3.4.6. SIO Configuration





3.4.6.1. Serial Port Configuration



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. Serial Port Console Configuration

Aptio Setup – AMI Advanced		
COMO Console Redirection Console Redirection Settings Serial Port for Out-of-Band Management Windows Emergency Management Services Console Redirection EMS Console Redirection Settings	[Enabled] ht/ ; (EMS) [Disabled]	Console Redirection Enable or Disable.
		<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>
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Console Redirection

Console Redirection Enable or Disable.

Console Redirection Settings

The settings specify how the host computer and the remote computer (which the user is using) will exchange data.

Both computers should have the same or compatible settings.

Console Redirection EMS
 Console Redirection Enable or Disable.



3.4.7.1. COM0 Console Redirection Settings

Advanced	Aptio Setup – AMI	
COMO Console Redirection Settings Terminal Type Bits per second Data Bits Parity Stop Bits Flow Control VT-UTF8 Combo Key Support Recorder Mode Resolution 100x31 Putty KeyPad	[VT100+] [115200] [0] [None] [1] [None] [Enabled] [Disabled] [Disabled] [VT100]	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTFB: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes. ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F3: General Heip F3: Optimized Defaults F4: Save & Exit ESC: Exit
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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.

3.4.8. Power Management

Advanced	Aptio Setup – AMI	
Power Management		Select system power mode.
Power Mode Restore AC Power Loss	[ATX Type] [Last State]	
Wake Events RTC wake system from S5	[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>
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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.

• RTC wake system from S5

Fixed Time : System will wake on the hr::min::sec Dynamic Time : System will wake on the current time + Increase minutes(s). Bypass: BIOS will not control RTC wake function during system shutdown.

3.4.9. Digital IO Port Configuration

Advanced	Aptio Setup — AMI	
Advanced Digital IO Port Configuration DIO1 Output Level DIO2 Output Level DIO3 Output Level DIO4 Output Level DIO5 DIO6 DIO7	(Output) (High) (Output) (High) (Output) (High) (Output) (High) (Input) (Input) (Input)	Set DIO as Input or Output
DIO8	[Input]	<pre>++: Select Screen tl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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- 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. Status LED Configuration

Advanced	Aptio Setup – AMI	
Status LED Configuration		Configure Status LED.
Status LED		
		++: Select Screen
		11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Prevines Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
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 Configure LAN Bypass Status LED Configure Status LED.



3.5. Setup Submenu: Chipset

Main Ad	vanced Chipset	f Security Boo	Aptio Setup – AM: ot Save & Exit	I	
▶ System Ag	ent (SA) Config	uration			System Agent (SA) Parameters
					<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>
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3.5.1. System Agent (SA) Configuration

Chipset	Aptio Setup – AMI	
System Agent (SA) Configur	ration	VT-d capability
VT-d	Supported	
VT-d		
 Memory Configuration Graphics Configuration 		++: 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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• VT-d VT-d capability.

3.5.1.1. Memory Configuration

Chipset	Aptio Setup – AMI	
Memory Configuration		
Total Memory Memory Data Rate	8192 MB 2400 MTPS	
Channel O Slot O Size	Populated & Enabled 8192 MB (Unknown)	++: 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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3.5.1.2. Graphics Configuration

Chipset	Aptio Setup – AMI	
Graphics Configuration Skip Scaning of External Gfx Card Primary Display Internal Graphics	[Disabled] [Auto] [Auto]	If Enable, it will not scan for External Gfx Card on PEG and PCH PCIE Ports
		++: Select Screen 14: Select Item Enter: Select
		<pre>File Select File General Help F2: Previous Values F3: Optimized Defaults F4: Save & Evit</pre>
		ESC: Exit
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- Skip Scaning of External Gfx Card If Enable, it will not scan for External Gfx Card on PEG and PCH PCIE Ports.
- **Primary Display** Select which of IGFX/PEG/PCI Graphics device should be Primary Display or select HG for Hybrid Gfx.
- Internal Graphics Keep IGFX enabled based on the setup options.



3.6. Setup Submenu: Security

Main Advanced Chipset S	Aptio Setup – AMI ecurity Boot Save & Exit	
Password Description		Set Administrator Password
If ONLY the Administrator's then this only limits access only asked for when enterin If ONLY the User's password is a power on password and boot or enter Setup. In Set have Administrator rights. The password length must be in the following range: Minimum length	password is set, s to Setup and is g Setup. is set, then this must be entered to up the User will 3	
Maximum length	20	++: Select Screen
Administrator Password User Password		T↓: Select Item Enter: Select +/-: Change Opt. E1: General Heln
► Secure Boot		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.21.1278 Conuright (C	C) 2021 AMT

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
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]	ine mode change requires platform reset
► Key Management		
		++: 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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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

Secure Boot mode options: Standard or Custom.

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

	Security	Aptio Setup – AMI			
Vendor Keys		Valid	Install factory default Secure		
Factory Key Provision • Restore Factory Keys • Reset To Setup Mode • Export Secure Boot var • Enroll Efi Image	iables		reset and while the System is in Setup mode		
Device Guard Ready ▶ Remove 'UEFI CA' from ▶ Restore DB defaults	DB				
Secure Boot variable	Size Keys	Key Source			
Platform Key(PK)	0 0	No Keys	↔: Select Screen		
Key Exchange Keys	0 0	No Keys	↑↓: Select Item		
Authorized Signatures	0 0	No Keys	Enter: Select		
Forbidden Signatures	0 0	No Keys	+/-: Change Opt.		
Authorized TimeStamps	0 0	No Keys	F1: General Help		
▶ Uskecovery Signatures	01 01	NO KEYS	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).
- 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.
- 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

Main Advanced Chipset Security	Aptio Setup - AMI Boot Save & Exit	
Boot Configuration Quiet Boot Network Stack	[Enabled] [Disabled]	Enables or disables Quiet Boot option
FIXED BOOT ORDER Priorities Boot Option #1 Boot Option #2 Boot Option #3 Boot Option #4 Boot Option #5 Boot Option #7 Boot Option #7 Boot Option #9 Boot Option #10	[Hand Disk] [NVME] [CD/DVD] [SD] [USB Hand Disk] [USB Hand Disk] [USB Han] [USB Fioppy] [USB Lan] [Network]	++: 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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Quiet Boot

Enable / Disable Quiet Boot option.

- Network Stack
 Enable/Disable UEFI Network Stack.
- FIXED BOOT ORDER Priorities Sets the system boot order.



3.8. Setup Submenu: Save & Exit

Aptio Setup – AMI Main Advanced Chipset Security Boot <mark>Save & Exit</mark>	
Save Options	Reset the system after saving
Save Changes and Reset Discard Changes and Exit	the changes.
Default Options Restore Defaults	
	↔: 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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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	d):
Operating System & Version (e.g. Windo	ws 7 Embedded):
Special API or Driver:	
	(If yes, please provide it for debug.)
Running Applications: Others:	
Describe Your Problems or Questions	:
Send the above information to one of • Acrosser Local Sales Representative	the following Acrosser contacts:
 Acrosser Authorized Sales Channels Acrosser Inquiry http://www.acrosser. Acrosser FAX Number 886-2-299928 	com/inquiry.html 87





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