

User Manual

AIMB-592

AMD EPYC 7003 Zen 3 Core, MicroATX with 4 PCIe X 16 Slots, 2 10GbE LANs, 2 2.5GbE LANs, 5 USB 3.2 Gen1, IPMI 2.0



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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CPU Compatibility

CPU Family	Core Number	TDP(W)	Max. Speed	L3 Cache
7313P	16	155W	3.7GHz	128MB
7543P	32	225W	3.7GHz	256MB
7713P	64	225W	3.675GHz	256MB

Memory Compatibility

Category	Speed	Capacity	Vendor	Module_PN	Chip_PN	ADVANTEC H P/N	ECC	Result
DDR5	4800	32GB	Advantech	SQR- SD5N32G4K8 MNAB	IVA45 D8BNJ	SQR- SD5N32G4K 8MNAB	N	PASS
DDR5	4800	16GB	Advantech	SQR- SD5N16G4K8 MNAB	2AA45 D8BNJ	SQR- SD5N16G4K 8MNAB	N	PASS

Ordering Information

P/N	AIMB-592SF-00A1	AIMB-592SL-00A1
USB 3.2 (Rear)	4	4
USB 3.2 (Internal)	1	1
VGA	1	1
PCIe x16 Gen4	4	4
DDR4 Memory	6	6
10GbE LAN	2	0
2.5GbE LAN	2	2
IPMI2.0	Yes	No
BMC	1 (AST2500)	1 (AST2510)*
BMC LAN	1	0
SATA III	8	8
M.2 M-key	1	1
ТРМ	1	1
Slimline	2 (PClex4)	2 (PClex4)

* No BMC function

Initial Inspection

Before you begin installing your motherboard, please make sure that the following materials have been shipped:

- 1 x AIMB-592 AMD EPYC 7003 Zen 3 Core MicroATX Motherboard
- 4 x SATA HDD cable
- 1 x I/O port bracket
- 1 x Warranty card
- 2 x M.2 screws

If any of these items are missing or damaged, contact your distributor or sales representative immediately. We have carefully inspected the AIMB-592 mechanically and electrically before shipment. It should be free of marks and scratches and in perfect working order upon receipt. As you unpack the AIMB-592, check it for signs of shipping damage. (For example, damaged box, scratches, dents, etc.) If it is damaged or it fails to meet the specifications, notify our service department or your local sales representative immediately. Also notify the carrier. Retain the shipping carton and packing material for inspection by the carrier. After inspection, we will make arrangements to repair or replace the unit.

Contents

Chapter	1	General Information	.1
	1.1	Introduction	2
	1.2	Features	2
	1.3	Specifications	2
		1.3.1 Processor	2
		1.3.2 Memory	2
		1.3.3 Input/Output	2
		1.3.4 Graphics	2
		1.3.5 Ethernet LAN	2
		1.3.6 Industrial Features	3
		1.3.7 Mechanical and Environmental Specifications	3
	1.4	Jumpers and Connectors	3
	1.5	Board layout: Jumper and Connector Locations	3
		Figure 1.1 Board Layout	3
		Figure 1.2 Rear I/O of the Two SKUs	4
		Table 1.1: Jumper Setting List	4
		Table 1.2: Connector / Header List:	4
	1.6	AIMB-592 Board Diagram	6
		Figure 1.3 AIMB-592 Board Diagram	6
	1.7	Safety Precautions	6
	1.8	Jumper Settings	7
		1.8.1 How to Set Jumpers	7
		1.8.2 CMOS Clear (JCMOS1)	7
		Table 1.3: JCMOS1	7
	1.9	System Memory	7
	1.10	Memory Installation Procedures	7
	1.11	Processor Installation	8

Chapter 2 Connecting Peripherals13

2.1	Introduction	14
2.2	LAN and USB Ports (LAN1_USB12/ LAN2_USB34/ LAN3_4/LAN5)	14
2.3	VGA and Serial Ports (VGA1/COM1)	15
2.4	BMC ROM socket (BMC_SKT1)	15
2.5	BIOS SPI ROM socket (BIOS_SKT1)	16
2.6	Battery Holder (BAT1)	16
2.7	LPC Connector (LPC1)	17
2.8	PCIe Expansion Slot (PCIEX16_SLOT1/ PCIEX16_SLOT2/	
	PCIEX16_SLOT3/ PCIEX16_SLOT4)	17
2.9	System Error LED wafer (BMC_SYSLED1)	18
2.10	PMBus wafer (PMBUS1)	19
2.11	Hardware SMBUS (SMBUS1)	19
2.12	Front Panel3 (JFP3)	20
2.13	Graphics Card 12V slot (PCIE_SLOT12V1)	20
2.14	System FAN Connector (SYSFAN1/SYSFAN2/SYSFAN3/SYSFAN4)	21
2.15	Serial General Purpose I/O Connector (SGPIO1)	23
2.16	Serial ATA Interface Connector (SATA1~8)	23
2.17	CPU Fan Connector (CPUFAN1)	24
2.18	NGFF M.2 M-Key (NGFF_M1)	25
2.19	Slimline SAS 4i Connector (SAS1/SAS2)	25
2.20	General purpose I/O Connector (GPIO1)	26
2.21	USB3.2 Gen1 vertical connector (USB5)	26
2.22	DDR4 RDIMM slot (DIMME1/ DIMMH1/ DIMMG1/ DIMMA1/ DIMMD1/	
	DIMMC1)	27

	3.2.8 Server Mgmt3.2.9 BMC - Setting of WEB Browser	68 73
4	Software Introduction & Service	. 81
4.1	Introduction	82
4.2	Value-Added Software Services	82
	4.2.1 Software API 4.2.2 Software Utility	82 84
5	Chipset Software Installation Utility	/ 85
		•••
5.1	Before You Begin	86
5.2 5.3	Introduction Windows Series Driver Setup	86 86
6	LAN Configuration	. 87
6.1	Introduction	88
6.2	Windows Series Driver Setup	88
хA	Pin Assignments	. 89
A.1	CMOS Clear Jumper (JCMOS1)	90
	Table A.1: CMOS Clear Jumper (JCMOS1)	90
A.2	Front Panel1 + Front Panel2 header (JFP1+JFP2)	90
Δ3	Case open pin header (ICASE1)	2) 90 QN
74.0	Table A.3: Case open pin header (JCASE1)	90
A.4	ATX 12V IN connector (ATX12V1/ ATX12V2)ATX/AT Mode Selectic (PSON1)	on 91
	Table A.4: ATX 12V IN connector (ATX12V1/ ATX12V2)AT	X/AT 91
A.5	ATX 24pin IN connector (ATXPWR1)	91
	Table A.5: ATX 24pin IN connector (ATXPWR1)	92
A.6	GPIO header (GPIO1)	92
Λ 7	I able A.6: GPIO header (GPIO1) EC programing header (SCN1)	92
A . <i>i</i>	Table A.7: EC programing header (SCN1)	93
A 0	System FAN Connector (SYSFAN1/SYSFAN2/SYSFAN3/SYSFAN4	4)93
A.8	•	
A.8	Table A.8: System FAN Connector (SYSFAN1)	93
Α.δ	Table A.8: System FAN Connector (SYSFAN1) Table A.9: System FAN Connector (SYSFAN2)	93 94
	4 4.1 4.2 5 5.1 5.2 5.3 6 6.1 6.2 6.1 6.2 6.1 6.2 6.1 6.2 8 4.1 6.2 8 4.1 6.2 8 4.1 6.2 8 4.1 6 7 8 4.1 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	 3.2.8 Server Mgmt. 3.2.9 BMC - Setting of WEB Browser. 4 Software Introduction & Service 4.1 Introduction 4.2 Value-Added Software Services. 4.2.1 Software API. 4.2.2 Software Utility. 5 Chipset Software Installation Utility 5.1 Before You Begin. 5.2 Introduction 5.3 Windows Series Driver Setup. 6 LAN Configuration 6.1 Introduction 6.2 Windows Series Driver Setup. A Pin Assignments A Pin Assignments A.1 CMOS Clear Jumper (JCMOS1). Table A.1: CMOS Clear Jumper (JCMOS1). Table A.2: Front Panel1 + Front Panel2 header (JFP1+JFP). Table A.3: Case open pin header (JCASE1). A.4 ATX 12V IN connector (ATX12V1/ ATX12V2)ATX/AT Mode Selection (PSON1). Table A.4: ATX 12V IN connector (ATX12V1/ ATX12V2)AT Mode Selection (PSON1). Table A.5: CPIO1. ATX 24pin IN connector (ATX12V1/ ATX12V2)AT ATX 24pin IN connector (ATXPWR1). A ATX 24pin IN connector (ATXPWR1).

.. 81 С

4.1	Introdu	uction	
4.2	Value-	Added Software Services	
	4.2.1	Software API	
	4.2.2	Software Utility	

ATX Power Connector (ATX12V1/ ATX12V2/ ATXPWR1)......27

2

BIOS and BMC Operation......31 Chapter 3.1

. 87

		1		J			1	 '	•••	 	 ••	••	••	 			-
ctio	on .	 	 		 	 	 	 		 	 			 	 	8	38

С v 85

	•	
5.1	Before You Begin	
5.2	Introduction	

С

6.1	Introduction	88
6.2	Windows Series Driver Setup	88

Α

2.23

3

3.2

3.2.1

3.2.2

3.2.3

3.2.4

3.2.5

3.2.6

3.2.7

۹.1	CMOS Clear Jumper (JCMOS1)	90
	Table A.1: CMOS Clear Jumper (JCMOS1)	90
۹.2	Front Panel1 + Front Panel2 header (JFP1+JFP2)	90
	Table A.2: Front Panel1 + Front Panel2 header (JFP1+JFP	2) 90
۹.3	Case open pin header (JCASE1)	90
	Table A.3: Case open pin header (JCASE1)	90
۹.4	ATX 12V IN connector (ATX12V1/ ATX12V2)ATX/AT Mode Selection	on
	(PSON1)	91
	Table A.4: ATX 12V IN connector (ATX12V1/ ATX12V2)AT	X/AT
	Mode Selection (PSON1)	91
۹.5	ATX 24pin IN connector (ATXPWR1)	91
	Table A.5: ATX 24pin IN connector (ATXPWR1)	92
۹.6	GPIO header (GPIO1)	92
	Table A.6: GPIO header (GPIO1)	92
۹.7	EC programing header (SCN1)	93
	Table A.7: EC programing header (SCN1)	93
۹.8	System FAN Connector (SYSFAN1/SYSFAN2/SYSFAN3/SYSFAN4	4) 93
	Table A.8: System FAN Connector (SYSFAN1)	93
	Table A.9: System FAN Connector (SYSFAN2)	94

	Table A.11:System FAN Connector (SYSFAN4)	
A.9	CPU FAN connector (CPUFAN1)	
	Table A.12:CPU FAN connector (CPUFAN1)	
A.10	Serial GPIO (SGPIO1)	
	Table A.13:Serial GPIO (SGPIO1)	
A.11	System Error Led wafer (BMC_SYSLED1)	
	Table A.14:System Error Led wafer (BMC_SYSLED1)	
A.12	PMBus wafer (PMBUS1)	
	Table A.15:PMBus wafer (PMBUS1)	
A.13	HW SMBUS (SMBUS1)	
	Table A.16:HW SMBUS (SMBUS1)	
A.14	Front Panel3 (JFP3)	
	Table A.17: Front Panel3 (JFP3)	
A.15	Graphics Card 12V slot (SLOT12V1)	
	Table A.18:Graphics Card 12V slot (SLOT12V1)	
	,	



General Information

1.1 Introduction

The AIMB-592 motherboard utilizes the AMD EPYC 7003 Zen 3 Core processor, catering to industrial applications that necessitate high-performance computing and advanced power management capabilities. It supports the AMD EPYC 7003 Zen 3 Core, boasting a sizable 256MB L3 cache and DDR4 3200 MHz with a maximum capacity of 768GB (6 x 128GB per slot). The motherboard offers extensive I/O connectivity, including 4 x PCIex16 slots, up to 2 x 10GbE LAN, 2 x 2.5GbE LAN, 5 x USB 3.2 Gen2, 8 x SATA III ports, and IPMI2.0.

1.2 Features

- Rich I/O connectivity: up to dual 10GbE LAN and dual 2.5 Gbe LAN via PCle x1 bus, 4 x PCle x16 slot (Gen 4), 5 USB 3.2 Gen1, 2 slimline via PClex4 bus.
- Standard Micro ATX form factor with industrial features: The AIMB-592 is a full featured Micro ATX motherboard with balanced expandability and performance.
- Diverse Storage Devices: SATA HDD, M.2 M-key SSD
- **Optimized Integrated Graphics:** no integrated graphic.

1.3 Specifications

1.3.1 Processor

- CPU: AMD EPYC[™] 7003 Series Processors
- BIOS: AMI EFI 256 Mb SPI (with Lotus SPI socket)
- SATA hard disk drive interface: On-board SATA connectors with data trans- mission rate up to 600 MB

1.3.2 Memory

- RAM: Up to 768 GB in six slots, 288-pin DIMM sockets. Supports dual-channel up to DDR4 3200MHz RDIMM.
 - The ECC compatibility of AIMB-592 is supported.

1.3.3 Input/Output

- PCle slot: 4 PCle x16 expansion slot
- Serial port: a serial port of RS-232
- USB port: Supports up to 5 USB 3.2 Gen1 ports with transmission rates up to 5Gbps.
- GPIO: AIMB-592 supports 8-bit GPIO from super I/O for general-purpose con troll application.

1.3.4 Graphics

- Controller: ASPEED AST2500/AST2510 BMC Chip
- **VGA:** VGA up to 1920x1200@60Hz

1.3.5 Ethernet LAN

- Supports up to two 10/100/1000/2500 Mbps Ethernet port (s) via PCI Express x1 bus and two 100/1000/10000 Mbps Ethernet port (s) via PCI Express x4 bus
- Controller: LAN1/LAN2: Intel I226LM(AIMB-592SF/AIMB-592SL)LAN3/LAN4: Intel X550-AT (AIMB-592SF); LAN5: Realtek 8211FSI(AIMB-592SF)

1.3.6 Industrial Features

Watchdog timer: Can generate a system reset. The watchdog timer is programmable, with each unit equal to one second or one minute (255 levels).

1.3.7 Mechanical and Environmental Specifications

- Operating temperature: 0 ~ 60°C (32 ~ 140°F, depending on CPU).
- Storage temperature: -40 ~ 85°C (-40 ~ 185°F).
- Power supply voltage: +5V, +12V, +3.3V, +5 VSB, +12V 8P
- Power consumption:

+5 V	3.3 V	12 V	12 V(8-pin)	+5VSB
13.3A	36.2A	33.5A	13.7A	2A

Measure the maximum current value which system under maximum load (CPU: Top speed, RAM & Graphic: Full loading)

- **Board size:** 244 mm x 244 mm (9.6" x 9.6")
- **Board weight:** 0.3 kg.

1.4 Jumpers and Connectors

Connectors on the AIMB-592 motherboard link it to devices such as hard disk drives and a keyboard. In addition, the board has a number of jumpers used to configure your system for your application.

The tables below list the function of each of the board jumpers and connectors. Later sections in this chapter give instructions on setting jumpers. Chapter 2 gives instructions for connecting external devices to your motherboard.

1.5 Board layout: Jumper and Connector Locations



Figure 1.1 Board Layout







Table 1.1: Jumper Setting List			
	Description	Part Reference	
1	Clear CMOS jumper	JCMOS1	
2	Case open pin header	JCASE1	
3	Front Panel1 + Front Panel2 header	JFP1+JFP2	

Table 1.	2: Connector / Header List:	
	Description	Part Reference
1	10G LAN Port *2	LAN3_4
2	BMC LAN	LAN5
3	BMC VGA	VGA1
4	COM Port	COM1
5	2.5G LAN+USB3.2 Gen1 *2	LAN1_USB12
6	2.5G LAN+USB3.2 Gen1 *2	LAN2_USB34
7	BIOS SPI ROM socket	BIOS_SKT1
8	BMC ROM socket	BMC_SKT1
9	Battery Holder	BAT1
10	LPC Debug header	LPC1
11	PCIe x16 slot	PCIEX16_SLOT1
12	PCIe x16 slot	PCIEX16_SLOT2
13	PCIe x16 slot	PCIEX16_SLOT3

2: Connector / Header List:	
PCIe x16 slot	PCIEX16_SLOT4
System Error Led wafer	BMC_SYSLED1
PMBus wafer	PMBUS1
HW SMBUS	SMBUS1
Front Panel3	JFP3
Graphics Card 12V slot	PCIE_SLOT12V1
System FAN3 connector	SYSFAN3
System FAN4 connector	SYSFAN4
Serial GPIO	SGPIO1
AMD Debug connector	HDT1
M.2 M key 2280 slot	NGFF_M1
SATA connector	SATA8
SATA connector	SATA7
SATA connector	SATA6
SATA connector	SATA5
SATA connector	SATA4
SATA connector	SATA3
SATA connector	SATA2
SATA connector	SATA1
Slimline SAS 4i connector	SAS1
Slimline SAS 4i connector	SAS2
CPU FAN connector	CPUFAN1
USB3.2 Gen1 vertical connector	USB5
System FAN1 connector	SYSFAN1
System FAN2 connector	SYSFAN2
ATX 12V IN connector	ATX12V2
ATX 12V IN connector	ATX12V1
ATX 24pin IN connector	ATXPWR1
GPIO header	GPIO1
DDR4 RDIMM slot	DIMME1
DDR4 RDIMM slot	DIMMH1
DDR4 RDIMM slot	DIMMG1
DDR4 RDIMM slot	DIMMA1
DDR4 RDIMM slot	DIMMD1
DDR4 RDIMM slot	DIMMC1

Table 1.2

P1

SCN1

CPU socket

EC programing header

1.6 AIMB-592 Board Diagram



Figure 1.3 AIMB-592 Board Diagram

1.7 **Safety Precautions**

Warning! Always completely disconnect the power cord from chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.



Caution! Always ground yourself to remove any static charge before touching the motherboard. Modern electronic devices are very sensitive to electrostatic discharges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis.



Caution! The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.



Caution! There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

1.8 Jumper Settings

This section provides instructions on how to configure your motherboard by setting the jumpers. It also includes the motherboard's default settings and your options for each jumper.

1.8.1 How to Set Jumpers

You can configure your motherboard to match the needs of your application by setting the jumpers. A jumper is a metal bridge that closes an electrical circuit. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" (or turn ON) a jumper, you connect the pins with the clip. To "open" (or turn OFF) a jumper, you remove the clip. Sometimes a jumper consists of a set of three pins, labeled 1, 2, and 3. In this case you connect either pins 1 and 2, or 2 and 3. A pair of needle-nose pliers may be useful when setting jumpers.

1.8.2 CMOS Clear (JCMOS1)

Pin	Signal Pin Definition
1	+V1.5_RTC_JMP
2	+V1.5_RTC
3	GND

Table 1.3: JCMOS1		
Function	Jumper Settings	
Keep CMOS data (Default)	000 1-2 1 2 3	
Clear CMOS data	2-3 1 2 3	

1.9 System Memory

AIMB-592 has six 288-pin memory sockets and supports up to DDR4 3200MHz RDIMM with maximum capacity of 768 GB (Maximum 128 GB for each DIMM).

1.10 Memory Installation Procedures

To install DIMMs, first make sure the two handles of the DIMM socket are in the "open" position, i.e., the handles lean outward. Slowly slide the DIMM module along the plastic guides on both ends of the socket. Then firmly but gently (avoid pushing down too hard) press the DIMM module well down into the socket, until you hear a click when the two handles have automatically locked the memory module into the correct position of the DIMM socket. To remove the memory module, just push both handles outward, and the memory module will be ejected by the mechanism.

1.11 Processor Installation

The AIMB-592 is designed for AMD EPYC 7003 Series processors. Please follow the processor installation as below.

1. Unscrew the three screws (shown above in red circles) on the top of the socket retention mechanism (SRM), then rotate the retention frame and rail frame (with external cap).





2. Remove the external cap by pulling upwards.



3. Install the carrier frame/CPU package to the rail frame, and then remove the PnP cover cap. Be very careful not to drop the PnP cover cap into the exposed contact field during the removal process.





4. Rotate and push the rail frame and retention frame until they are in the horizontal position.

5. Tighten the three screws (shown above in red circles) by using a T-20 screwdriver.



- Chapter 1 General Information
- Install the processor heatsink module into the socket retention mechanism (SRM) by using a T-20 screwdriver (follow the heatsink label direction 1-2-3-4).





Connecting Peripherals

2.1 Introduction

You can access most of the connectors from the top of the board as it is being installed in the chassis. If you have a number of cards installed or have a packed chassis, you may need to partially remove the card to make all the connections.

2.2 LAN and USB Ports (LAN1_USB12/ LAN2_USB34/ LAN3_4/LAN5)

The AIMB-592 provides up to five USB3.2 gen1 ports. (4 x USB ports on the rear side, 1 x USB port via the board pin header) The USB interface complies with USB Specification Rev 2.0 supporting transmission rates up to 480 Mbps and Rev 3.0 supporting transmission rate up to 5 Gbps. The USB interface can be disabled in the system BIOS setup.

The AIMB-592 is equipped with up to two 2.5G Mbps and two 10G Mbps Ethernet LAN adapters and one BMC LAN which are supported by all major network operating systems. The RJ-45 jacks on the rear panel provides convenient LAN connection.



2.3 VGA and Serial Ports (VGA1/COM1)

AIMB-592 includes VGA1 interfaces that can drive conventional VGA1 displays. The serial port supports RS-232 and can connect to serial devices, such as a mouse or a printer, or to a communications network.



BMC ROM socket (BMC_SKT1) 2.4





2.5 BIOS SPI ROM socket (BIOS_SKT1)



2.6 Battery Holder (BAT1)





Pin	Signal	
1	+VBAT	
2	+VBAT	
3	GND	
4	GND	1

BAT1

2.7 LPC Connector (LPC1)

AIMB-592 has one LPC connector which is for BIOS usage.



2.8 PCIe Expansion Slot (PCIEX16_SLOT1/ PCIEX16_SLOT2/ PCIEX16_SLOT3/ PCIEX16_SLOT4)

AIMB-592 provides four PCIe x16 slots that can support up to two double-deck cards.



PCIEX16_SLOT1 PCIEX16_SLOT2 PCIEX16_SLOT3 PCIEX16_SLOT4 Note!



1. 16_SLOT4, There will be institutional interference with the connectors at LPC1, SYS_LED1, JFP1+JFP2, JFP3, SMBUS1, SLOT12V1, PMBUS1, SYSFAN3, SYSFAN4. The actual situation still needs to be based on the length of the graphic card.

- 2. Under POST, only BMC VGA output is supported, and external graphics cards on PCIe Slot must be installed the driver, then it can display normally under the OS.
- 3. Depending on the fan used, if install the graphic card on the PCIEX16_SLOT1, should remove it as follows steps.
- 4. When using with STD Cooler (1970004817N001): Remove the memory inserted in the DIMMC1 position before removing the graphics card.
- 5. When using with Customized VC Heatsink: Remove this fan, uninstall the memory at DIMMC1 before removing the graphics card.
- 6. If users would insert an Add-on card, it is recommended to use the Add-on card with PCIe Gen4.

2.9 System Error LED wafer (BMC_SYSLED1)

System Error LED wafer is for usage of identify the chassis location by "ipmitool chassis identify" command.



2.10 PMBus wafer (PMBUS1)

PMBUS connector is for communicating with power supply that has PMBUS function supported.





- 1	Pin	Signal		
1	1	PMBUS_SMB_CLK		
1	2	PMBUS_SMB_DATA		
Ĩ	3	PMBUS_SW_ALERT#		
	4	GND		
IBUS1	5	+V3.3_AUX		

2.11 Hardware SMBUS (SMBUS1)





SMBUS1

Pin	Signal
1	+V5
2	HWM_SMB_CLK
3	HWM_SMB_DATA
4	GND

2.12 Front Panel3 (JFP3)



2.13 Graphics Card 12V slot (PCIE_SLOT12V1)

-• PCIE SLC 33.5	_SLOT12V1 DT 4P	5 SLOT 12//1 1 9 B B 2 9 B B 2 9 B B 3 8 B 4 ATTC_4127 - 2mm	+V12 C2644 100nF 1015_22V
Pin	Signal	Pin	Signal
1	+V12	5	GND
2	+V12	6	GND
3	+V12	7	GND
4	GND	8	GND

Note!

This connector is only necessary if PCIe cards that draw more than 70 watts from the PCIe bus are fully-installed on four slots on the motherboard and it is only for power input usage.

2.14 System FAN Connector (SYSFAN1/SYSFAN2/ SYSFAN3/SYSFAN4)





Pin	Signal GND +V12		
1			
2			
3	SYS1_FAN_TACH		
4	SYS_FAN1_PWM		



Pin	Signal
1	GND
2	+V12
3	SYS2_FAN_TACH
4	SYS2_FAN_PWM



Pin	Signal		
1	GND		
2	SYS3_FAN_OUT		
3	SYS3_FAN_SPEED		
4	SYS3_FAN_PWMOUT		



Pin	Signal	
1	GND	
2	SYS4_FAN_OUT	
3	SYS4_FAN_SPEED	
4	SYS4_FAN_PWMOUT	

2.15 Serial General Purpose I/O Connector (SGPIO1)



R_SGPIO2_CLK_BUF1	SGPIO1
R_SGPIO2_LOAD_BUF1	3
R_SGPIO2_DATAOUT_BUF1	
	PH_5x1V_2.54mm

Pin	Signal
1	R_SGPIO_CLK_BUF1
2	
3	R_SGPIO_LOAD_BUF1
4	R_SGPIO_DATAOUT_BUF1
5	

2.16 Serial ATA Interface Connector (SATA1~8)

AIMB-592 features eight serial ATA III interfaces (up to 600 MB/s) and eases cabling to hard drives with long and space-saving cables.



2.17 CPU Fan Connector (CPUFAN1)

If a fan is used, this connector supports cooling fans that draw up to 2A (24W).



Pin	Signal
1	GND
2	+V12_8P_0
3	EC_FANTACH0
4	EC_CPU_PWM



2.18 NGFF M.2 M-Key (NGFF_M1)



M.2 M-key: 2280, support SATA III or PCIex4 interface, and can support NVMe devices.

2.19 Slimline SAS 4i Connector (SAS1/SAS2)

This connector has PCIE Gen 4 signal.



2.20 General purpose I/O Connector (GPIO1)



2.21 USB3.2 Gen1 vertical connector (USB5)

The USB port complies with USB 3.2 Gen1. Transmission rates of up to 5Gbps. Fuse protection is supported.



2.22 DDR4 RDIMM slot (DIMME1/ DIMMH1/ DIMMG1/ DIMMA1/ DIMMD1/ DIMMC1)



2.23 ATX Power Connector (ATX12V1/ ATX12V2/ ATXPWR1)



Pin	Signal	Pin	Signal	
1	GND	5	+V12_8P_0	
2	GND	6	+V12_8P_0	
3	GND	7	+V12_8P_0	- 1
4	GND	8	+V12_8P_0	




Pin	Signal Pin Definition	Pin	Signal Pin Definition
1	+V3.3	13	+V3.3
2	+V3.3	14	-V12
3	GND	15	GND
4	+V5	16	PS_ON#
5	GND	17	GND
6	+V5	18	GND
7	GND	19	GND
8	PWR_OK	20	-V5
9	+V5_SB	21	+V5
10	+V12	22	+V5
11	+V12	23	+V5
12	+V3.3	24	GND

This connector is for an ATX Micro-Fit power supply. The plugs from the power supply are designed to fit these connectors from only one direction. Determine the proper orientation and push down firmly until the connectors join completely.

Note!

- Please connect the ATX12V1 and ATX12V2 connector with the 1.
 - PSU ATX 12V 8-pin connector, otherwise AIMB-592 will not boot up normally. For a fully configured system, we recommend that you use a power
- 2. supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and minimum output should be at least 700W.



BIOS and BMC Operation

3.1 Introduction

AMI BIOS has been integrated into many motherboards, and has been very popular for over a decade. With the AMI BIOS Setup program, you can modify BIOS settings to control the special features of your computer. The Setup program uses a number of menus for making changes. This chapter describes the basic navigation of the AIMB-592 setup screens.

3.2 BIOS Setup

The AIMB-592 Series system has AMI BIOS built in, with a SETUP utility that allows users to configure required settings or to activate certain system features.

The SETUP saves the configuration in the FLASH of the motherboard. When the power is turned off, the battery on the board supplies the necessary power to preserve the FLASH.

When the power is turned on, press the or <Esc> button during the BIOS POST (Power-On Self Test) to access the CMOS SETUP screen.

Control Keys	
$< \leftarrow > < \rightarrow >$	Select Screen
< ↑ >< ↓ >	Select Item
<enter></enter>	Select
<+/->	Change Opt
<f1></f1>	General help
<f2></f2>	Previous Values
<f3></f3>	Optimized Defaults
<f4></f4>	Save & Exit
<esc></esc>	Exit

3.2.1 Main Menu

Press to enter AMI BIOS CMOS Setup Utility, the Main Menu will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit EventLogs Server Mgmt		
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time Access Level Project Board Version Power Type	American Megatrends 5.0.2.2 0.08 x64 UEFI 2.8: PI 1.7 A5920000F60x037 04/19/2023 18:20:41 Administrator AIMB-592SF ATX	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.
Memory Information Total Memory Memory Frequency System Date System Time	16304 M0 (DDR4) 2933 MT/s [Wed 04/26/2023] [15:06:02]	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

The Main BIOS setup screen has two main frames. The left frame displays all the options that can be configured. Grayed-out options cannot be configured; options in blue can. The right frame displays the key legend.

Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it.

System Time/System Date

Use this option to change the system time and date. Highlight the System Time or System Date using the <Arrow> keys. Enter new values via the keyboard. Press the <Tab> or <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time must be entered in HH:MM:SS format.

3.2.2 Advanced BIOS Features

Select the Advanced tab from the AIMB-592 setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as CPU Configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.

Aptio Setup – AMI Main <mark>Advanced</mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt			
 Trusted Computing AHD CBS EIO-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSH Configuration SATA Configuration Tis Auth Configuration Driver Health 	Trusted Computing Settings ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
Version 2.21.1280 Copyright (C) 2023 AM1			

TPM 2.0 Device Found Firmware Version: Vendor:	7.2 NTC	Enables or Disables BIOS support for security device. 0.5. will not show Security
Security Device Support Active PCR banks Available PCR banks	(Enable) SHA-1,SHA256 SHA-1,SHA256,SHA384	INTIA interface will not be available.
SHA-1 PCR Bank SHA256 PCR Bank SHA384 PCR Bank	[Enabled] [Enabled] [Disabled]	
Pending operation Platform Hierarchy	[None] (Enabled)	++: Select Screen
Storage Hierarchy Endorsement Hierarchy TRM 2 0 UEEI Spec Version	[Enabled] [Enabled]	Enter: Select Item
Physical Presence Spec Version TPM 2.0 InterfaceTupe	[1.3]	F1: General Help F2: Previous Values
Device Select	(Auto)	F3: Optimized Defaults F4: Save & Exit ESC: Exit

3.2.2.1 AMD CBS

Aptio Setup – AMI Main <mark>Advanced</mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt		
 Trusted Computing AMD CBS EIO-201 EC Configuration SS RTC Nake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSH Configuration SATA Configuration SATA Configuration Tis Auth Configuration Driver Health 	AMD CBS Setup Page ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.21.1280 Copyright	(C) 2023 AMI	

AMD CBS Setup Page

Aptio Setup - AMI Advanced		
Aptio Sa AMD CBS • CPU Common Options • UHC Common Options • NBIO Common Options	CPU Common Options ++: Select Screen +: 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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CPU Common Options - Performance



- Platform First Error Handling [Auto]
- Core Performance Boost [Auto]
- Global C-state Control [Auto]

Aptio Setup - AMI Advanced		
Performance OC Hode • Custom Core Pstates • CCD/Core/Thread Enablement SMT Control	[Normal Operation] [Auto]	Can be used to modify the number of core/CCD.
Vers	ion 2.21.1280 Copyright (C)	2023 AMI

- OC Mode [Normal Operation] Can be used to modify the number of core/CCD. Custom Core P-states CCD/Core/Thread Enablement
- SMT Control [Auto]

UMC Common Options ++: Select Screen T1: Select Item
Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save 8 Exit ESC: Exit

UMC Common Options - DDR4 Common Options

Advanced Advanced	io Setup – AMI
UMC Common Options	DDR4 Common Options
▶ DDR4 Common Options	
	++: Select Screen T1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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DDR4 Common Options - Common RAS

DDR4 Common Options - Common RAS - ECC Configuration

Advanced	Aptio Setup - AM	11
ECC Configuration DRAM ECC Symbol Size DRAM ECC Enable DRAM UECC Retry	(Auto) (Auto) (Auto)	DRAM ECC Symbol Size (x4/x8/x16) - UMC_CH::EccCtrl[EccSymbolSize16 , EccSymbolSize]
		<pre>#*: Select Screen f1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
V	ersion 2.21.1280 Copyright	t (C) 2023 AMI

- DRAM ECC Symbol Size [Auto]
- DRAM ECC Enable [Auto]
- DRAM UECC Retry [Auto]

Aptio Setup - AMI Advanced		
Advanced AMD CBS > CPU Common Options > UMC Common Options > NB10 Common Options	NBIO Common Options ++: Select Screen 11: Select Item Enter: Select	
	+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	

NBIO Common Options

Advanced	Aptio Setup — AMI	
NBIO Common Options IOHMU PCIE ARI Support PCIE ARI Enumeration SHU Common Options	[Disabled] [Auto] [Auto]	SMU Common Options ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Ve	rsion 2.21.1280 Copyright	(D) 2023 AMI

- IOMMU [Disabled]
- PCIe ARI Support [Auto]
- PCIe ARI Enumeration [Auto]
- SMU Common Options

SMU Common Options

Aptio Setup - AMI Advanced		
Advanced SMU Common Options APBOIS CPPC	(Auto) [Auto]	0 = not APBDIS (mission mode) 1 = APBDIS ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESG: Exit
	Version 2.21.1280 Copyright	1 (C) 2023 AMI

- APBDIS [Auto]
- CPPC [Auto]

3.2.2.2 EIO-201 EC Configuration



Advanced	Aptio Setup - AMI	
EIO-201 EC Configuration		Set Parameters of Serial Port
Embedded Controller Firmware Version	EI0-201 X00163716	1 (CONK)
ErP Support	[Disabled]	
 Serial Port 1 Configuration Digital I/O Configuration Case Open Warning Wake On Ring Watch Dog Timer 	(Disabled) [Disabled] [Disabled]	
▶ Hardware Honitor		<pre>##: Select Screen I4: Select Item Enter: Select #/~: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Marrie	ion 2 21 1280 Converight	(C) 2023 AMT

 Serial Port 1 Configuration Set Parameters of Serial Port1 (COMA)

Advanced	Aptio Setup — AMI	
Advanced Serial Port 1 Configuration Serial Port Device Settings Change Settings	(Enabled) IO=3F8h; IRQ=4; [Auto]	Enable or Disable Serial Port (COM) ++: Select Screen 11: Select Item Enter: Select
Vérsi	on 2.21.1280 Copyright (C)	+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
 Serial Port 		

Enable or Disable Serial Port (COM)

- Serial Port [Enable]
- Device Settings IO=3F8h; IRQ=4;
- Change Settings [Auto]

Serial Port 2 Configuration Set Parameters of Serial Port2 (COMB)

Aptio Setup - AMI Advanced	
Advanced NCT6126D Super IO Configuration Super IO Chip NCT6126D Serial Port 1 Configuration Serial Port 2 Configuration Serial Port 3 Configuration Serial Port 4 Configuration Serial Port 5 Configuration Serial Port 6 Configuration	Set Parameters of Serial Port 2 (COMB)
	++: Select Screen T4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

]

- Serial Port

Enable or Disable Serial Port (COM)



- Serial Port [Enable]
- Device Settings IO=2F8h; IRQ=3;

- Change Settings [Auto]
- Device Mode [RS232]

Advanced	Aptio Setup – AMI	
EIO-201 EC Configuration		Configure Digital I/O Pins.
Embedded Controller Firmware Version	EI0-201 X00163716	
EnP Support	[Disabled]	
 Serial Port 1 Configuration Digital 1/0 Configuration Case Open Warning Wake On Ring Watch Dog Timer 	[Disabled] [Disabled] [Disabled]	
▶ Handware Monitor		<pre>#*: Select Screen f4: 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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 Digital I/O Configuration Configure Digital I/O Pins.

Advanced	Aptio Setup - AMI	
EIO-201 EC Configuration		Enabled or Disabled Hatch Dog
Embedded Controller	EI0-201	Timer will initial after
Firmware Version	X00163716	ASPEED chip. ASPEED chip will initial for about 45 seconds
EnP Support	[Disabled]	ATTACADA TON ODDATT TO OCCUMULA
Serial Port 1 Configuration		
Digital I/O Configuration	Disabled	
Wake On Ring	[Disabled]	
Natch Dog Timer	[Disabled]	
Handware Monitor		<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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- Case Open Warning [Disabled]
- Wake On Ring [Disabled]
- Watch Dog Timer [Disabled]

Note! 1. Watch Dog Timer will initial after ASPEED chip and ASPEED chip will initial for about 45 seconds.

2. The beep sounds of Case Open warning temperature is continuous 1 short beep.

Advanced	Aptio Setup - AMI	
Advanced Digital I/O Configuration Digital I/O Pin 1 Digital I/O Pin 2 Digital I/O Pin 3 Digital I/O Pin 4 Digital I/O Pin 5 Digital I/O Pin 6 Digital I/O Pin 7 Digital I/O Pin 8	(input) [Input] [Input] [Input] [Input] [Input] [Input]	Configure Digital I/O Pin 1. ++: 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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- Digital I/O Pin 1 [Input]
- Digital I/O Pin 2 [Input]
- Digital I/O Pin 3 [Input]
- Digital I/O Pin 4 [Input]
- Digital I/O Pin 5 [Input]
- Digital I/O Pin 6 [Input]
- Digital I/O Pin 7 [Input]
- Digital I/O Pin 8 [Input]

Advanced	Aptio Setup — AMI	
EIO-201 EC Configuration		Monitor hardware status
Embedded Controller Firmware Version	E10-201 X00163716	
EnP Support	[Disabled]	
 Serial Port 1 Configuration Digital I/O Configuration Case Open Warning Wake On Ring Watch Dog Timer 	(Disabled) (Disabled) (Disabled)	
▶ Hardware Monitor		<pre>++: Select Screen f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Vers	ion 2.21.1280 Coouright	(C) 2023 AMI

Hardware Monitor Monitor hardware status

Advanced	Aptio Setup – AMI	
PC Health Status CPU Temperature	: + 36.7°C/ +98.0°F	Smart Fan Mode Select
SystemO Temperature System1 Temperature	: + 40.9°C/ +105.6°F : + 40.1°C/ +104.1°F	
CPUFAN1 SYSFAN1	: 0 RPM : 4561 RPM	
SYSFAN2 SYSFAN3	: O RPM : O RPM	
+VIN	: +12.22 V	
+VSS8 +VBAT	: +5.01 V : +2.96 V	++: Select Screen f1: Select Item
+VDDCR_CPU +VDDCR_SOC	: +0.76 V : +0.85 V	Enter: Select +/-: Change Opt.
Smart Fan Mode Configuration		F2: Previous Values F3: Optimized Defaults
ACPI Shutdown Temperature CPU Warning Temperature	[Disabled] [Disabled]	F4: Save & Exit ESC: Exit

- Smart Fan Mode Configuration Smart Fan Mode Select
- ACPI Shutdown Temperature [Disabled]
- CPU Warning Temperature [Disabled]

Note! 1. If actual fan speed is under 500RPM, it will show "0RPM" on BIOS menu and EC tool.

2. The beep sounds of CPU warning temperature is continuous 2 short beep and 1 long beep.

Advanced	Aptio Setup — AMI	C.
Smart Fan Mode Configuration Smart Fan - CPUFAN1 Smart Fan - SYSFAN2 Smart Fan - SYSFAN3 Smart Fan - SYSFAN3 Smart Fan - SYSFAN4	[Auto] [Auto] [Auto] [Auto]	Control Smart FAN function. Get value from EC and only set value when Save Changes. ++: 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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Control Smart FAN function. Get value from EC and only set value when save changes.

- Smart Fan CPUFAN1 [Auto]
- Smart Fan SYSFAN1 [Auto]
- Smart Fan SYSFAN2 [Auto]
- Smart Fan SYSFAN3 [Auto]
- Smart Fan SYSFAN4 [Auto]

3.2.2.3 S5 RTC Wake Settings

Main Advanced Chipset Security	Aptio Setup – AMI oot Save & Exit Event Logs Server Mgmt
 Trusted Computing AHD CBS E10-201 EC Configuration SS RTO Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration T1s Auth Configuration Driver Health 	Enable system to wake from SS using RTC alarm ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version	21.1280 Copyright (C) 2023 AMI

Wake system from S5 [Disabled]

Aptio Setup - AMI Advanced		8
Wake system from SS	(Disabled)	Enable or disable System wake on alarm event. Select fixedTime, system will wake on the hr::min::sec specified. Select DynamicTime , System will wake on the current time + Increase minute(s)
		<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>
	ersion 2.22.1282 Coouright	(C) 2022 AM1

Enable or disable System wake on alarm event. Select FixedTime, system will wake on the hr: :min: :sec specified. Select DynamicTime , System will wake on the current time + Increse minute(s)

3.2.2.4 Serial Port Console Redirection

Aptio Setup – AMI Main <mark>Advanced</mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt	
 Trusted Computing AHD CBS EIO-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSH Configuration NVMe Configuration SATA Configuration Tis Auth Configuration Driver Health 	Serial Port Console Redirection ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.21.1280 Copyr	night (C) 2023 AMI

Aptio Setup - AMI Advanced		
COM1 Console Redirection Console Redirection Settings Serial Communication via IPMI COM IPMI COM Console Redirection IPMI COM Console Redirection Setting Legacy Console Redirection	[Disobied] (Disobied) (S	Legacy Console Redirection Settings
Serial Port for Out-of-Band Manageme Windows Emergency Management Service Console Redirection EMS Console Redirection Settings	nt/ s (EMS) (Disabled)	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save 8 Exit ESC: Exit
Version 2	.21.1280 Copyright	(C) 2023 AMI

- Console Redirection [Disabled]
- IPMI COM Console Redirection [Disabled]
- Console Redirection EMS [Disabled]

Serial Port Console Redirection – Legacy Console Redirection Settings Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages



- Redirection COM Port [COM1]
- Resolution [80x24]
- Redirect After POST [Always Enable]

3.2.2.5 CPU Configuration

Aptio Setup – AMI Main <mark>Advanced</mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt	
 Trusted Computing AND CBS EIO-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection OPU Configuration USB Configuration Network Stack Configuration CSH Configuration SATA Configuration Tis Auth Configuration Driver Health 	DPU Configuration Parameters ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save 8 Exit ESC: Exit
Version 2.21.1280 Copy	right (C) 2023 AMI

Aptio Setup - AMI Advanced		
CPU Configuration		View Memory Information related to Node 0
SVM Mode ▶ Node O Information	[Enabled]	
		++: Select Screen T4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	version 2.21.1280 Copyright	(C) 2023 AMI

- SVM Mode [Enable]
- Node 0 Information

CPU Configuration - Node 0 Information

Aptio Setup - AMI Advanced	
Node 0 Information AMD EPYC 7543P 32-Core Processor 32 Cores 64 Threads Running 0 2821 MHz 1100 mV Processor Family: 19h Processor Model: 00h-OFh Microcode Patch Level: A001173 Coche per Core L1 Instruction Cache: 32 KB/8-way L1 Data Cache: 32 KB/8-way L2 Cache: 512 KB/8-way L3 Cache per Socket: 256 MB/16-way	++: 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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3.2.2.6 USB Configuration

Aptio Setup – AMI Main <mark>Advanced</mark> Chipset Security Boot Save & Exit EventLogs Server Mgmt	
 Trusted Computing AHD CBS EID-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSH Configuration NVME Configuration SATA Configuration Tls Auth Configuration Driver Health 	USB Configuration Parameters ++: Select Screen T1: Select Item Enter: Select +/-: Change Dot. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.21.1280 Copyrigh	it (C) 2023 AMI

Aptio Setup - AMI Advanced		
USB Configuration		Enables Legacy USB support. AUTO option disables legacy
USB Module Version	27	support if no USB devices are
USB Controllers:		keep US8 devices available
3 XHCIs		only for EFI applications.
USB Devices:		
9 Drives, 3 Keyboards, 2 M.	ice, 1 Hub	
Legacy USB Support	[Enabled]	
XHCI Hand-off	[Enabled]	
USB Mass Storage Driver Support	[Enabled]	
Port 60/64 Emulation	(Enabled)	
		+++: Select Screen
USB hardware delays and time-out:	11	14: Select Item
USB transfer time-out	[20 sec]	Enter: Select
Device reset time-out	[20 sec]	+/-: Change Opt.
Device power-up delay	[Auto]	F1: General Help
		F2: Previous Values
Mass Storage Devices:		F3: Optimized Defaults
AHI Virtual COROMO 1.00	[Auto]	F4: Save & Exit
AMI Virtual HDiskO 1.00	(Auto)	ESC: Exit
USB3.0 FLASH DRIVE PMAP	[Auto]	
AMI Virtual COROM1 1.00	[Auto]	
ANI Virtual COROM2 1.00	[Auto]	V

 Legacy USB Support [Enabled] \Enables Legacy USB support, AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.

- XHCI Hand-off [Enabled]
- USB Mass Storage Driver Support [Enabled]
- Port 60/64 Emulation [Enabled]

Aptio Setup - AMI Advanced		
3 XHCIS		Mass storage device emulation
USB Devices:	5001.51 (22.27	type. 'AUTO' enumerates
9 Drives, 3 Keyboards, 2 Mic	e, 1 Hub	devices according to their
Legacy USB Support	[Enabled]	are emulated as 'CDROM'.
XHCI Hand-off	[Enabled]	drives with no media will be
USB Mass Storage Driver Support	(Enabled)	emulated according to a drive
Port 60/64 Emulation	(Enabled)	type.
USB hardware delays and time-outs:		
USB transfer time-out	[20 sec]	
Device reset time-out	[20 sec]	
Device power-up delay	[Auto]	
		++: Select Screen
Mass Storage Devices:		11: Select Item
AMI Virtual CDR0M0 1.00	[Auto]	Enter: Select
AMI Virtual HDisk0 1.00	[Auto]	+/-: Change Opt.
USB3.0 FLASH DRIVE PMAP	[Auto]	F1: General Help
ANI Virtual CDROM1 1.00	[Auto]	F2: Previous Values
ANI Virtual CDROM2 1.00	[Auto]	F3: Optimized Defaults
AMI Virtual CORDM3 1.00	[Auto]	F4: Save & Exit
AMI Virtual HDisk1 1.00	[Auto]	ESC: Exit
AMI Virtual HDisk2 1.00	[Auto]	
AHI Virtual HDisk3 1.00		
Version	2.21.1280 Copyright	(C) 2023 AMI

3.2.2.7 Network Stack Configuration

Aptio Setup – AMI Main <mark>Advanced.</mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt	
 Trusted Computing AND CBS EIO-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVME Configuration SATA Configuration Tis Auth Configuration Driver Health 	Network Stack Settings ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.21.1280 Copy	right (C) 2023 AMI

Advanced	Aptio Setup – AMI	
Network Stack	(Disabled)	Enable/Disable UEFI Network Stack ++: Select Screen 14: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.21.1280 Copyright (C) 2023 AMI

Network Stack [Disabled]
 Enable/Disable UEFI Network Stack

3.2.2.8 CSM Configuration

Aptio Setup – AMI Main <mark>Advanced.</mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt		
 Trusted Computing AHD CBS EIO-201 EC Configuration SS RTC Make Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSH Configuration NVME Configuration SATA Configuration T1s Auth Configuration Driver Health 	CSM configuration: Enable/Disable, Option ROM execution settings, etc.	
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ration 07:84 (Upon Request) (Immediate) (UEFI only)	UPON REQUEST - GA20 can be disabled using BIOS services. ALMAYS - do not allow disabling GA20: this option is useful when any RT code is executed above IMB.
07:84 [Upon Request] [Immediate] [UEFI only]	disabling GA20: this option is useful when any RT code is executed above IMB.
(Upon Request) (Immediate) (UEFI only)	executed above IMD.
(Immediate) [UEFI only]	
[UEFI only]	
[UEFI]	
(UEFI)	++: Select Screen
(UEFI)	14: Select Item
[UEFI]	Enter: Select
	+/-: Change Opt.
	F1: General Help
	F2: Previous Values
	F3: Optimized Defaults
	F4: Save & Exit
	ESC: EXIT
	21.1280 Coouright (C

- GateA20 Active [Upon Request] UPON REQUEST – GA20 can be disabled using BIOS services. ALWAYS – do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.
- INT19 Trap Response [Immediate]
- Boot option filter [UEFI only]

- Network [UEFI]
- Storage [UEFI]
- Video [UEFI]
- Other PCI devices [UEFI]

3.2.2.9 NVMe Configuration

	Aptio Se Main Advanced Chipset Security Boot Save	t up – AMI ≜ Exit Event Logs Server Mgmt
********	Main Advanced Chipset Security Boot Save Trusted Computing AMD CBS EIO-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration Tis Auth Configuration Driver Health	<pre>& Exit Event Logs Server Mgmt NVMe Device Options Settings ++: Select Options Settings ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>

3.2.2.10 SATA Configuration



3.2.2.11 TIs Auth Configuration





- Server CA Configuration
- Client Cert Configuration

Aptio Setup - AMI Advanced	
▶ Enroll Cert	Press (Enter) to enroll cert.
▶ Delete Cert	
	++: Select Screen T4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Server CA Configuration – Enroll Cert – Enroll Cert Using File

Aptio Setup - ANI Advanced	
▶ Enroll Cert Using File	Enroll Cert Using File
Cert GUID	
 Commit Changes and Exit Discard Changes and Exit 	
	++: Select Screen 11: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.21.1280	Copyright (C) 2023 AMI

Server CA Configuration – Delete Cert



3.2.2.12 Driver Health

Provides Health Status for the Drivers/Controllers

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit Event Logs Server Mgmt	
 Half Hovanced Chipset Security Bost Save X PX1 Trusted Computing AHD CBS EIO-201 EC Configuration S5 RTC Hake Settings Serial Port Console Redirection CPU configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration Tis Auth Configuration Driver Health 	Provides Health Status for the Drivers/Controllers ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults
Marcine 2, 21, 1290, Personal	F4: Save & Exit ESC: Exit

Aptio Setup - AMI Advanced		
Advanced • Intel(R) 2.56 Ethernet Controller 0.10.04 • Intel(R) 2.56 Ethernet Controller 0.10.04 • Intel(R) 106bE Driver 6.9.04 x64 Healthy • Intel(R) 106bE Driver 6.9.04 x64 Healthy	Healthy Healthy	Provides Health Status for the Drivers/Controllers ++: Select Screen 14: Select Item Enter: Select +/-: Change Dnt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Enter: Evit
		LOUX LAIT

3.2.3 Chipset Configuration Setting

Select the chipset tab from the BIOS setup screen to enter the Chipset Setup screen. Users can select any item in the left frame of the screen, such as South Bridge Parameters, to go to the sub menu for that item. Users can display a Chipset Setup option by highlighting it using the <Arrow> keys. All Chipset Setup options are described in this section. The Chipset Setup screens are shown below. The sub menus are described on the following pages.

Main Advanced Chipset Secur	Aptio Setup - AM Pity Boot Save & Exit	I Event Logs Server Mgmt
PCIe Link Training Type PCIe Compliance Hode > South Bridge > North Bridge	(1 Step) (Off)	South Bridge Parameters
		<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>
Vers	ion 2.21.1280 Copyright	(C) 2023 AMI

3.2.3.1 South Bridge



- LAN1 Controller [Enable]
- LAN2 Controller [Enable]
- LAN3/4 Controller [Enable]
- PCIE Wake [Disabled]
- Restore AC Power Loss [Power off]
- PCIE Device Initial Delay 0

PCI Express Configuration

User can enable or disable PCI express devices.

Chipset	Aptio Setup - AMI	
PCI Express Configuration H.2 H-hoy Slot ASPM Mode Control PCIe x16 Slot1 ASPM Mode Control PCIe x16 Slot2 ASPM Mode Control PCIe x16 Slot3 ASPM Hode Control PCIe x16 Slot4 ASPM Mode Control LANI Controller ASPM Mode Control LAN2 Controller ASPM Mode Control LAN3/LAN4 Controller ASPM Mode Control	(Enabled) (Disabled) (Enabled) (Disabled) (Enabled) (Enabled) (Enabled) (Enabled) (Enabled) (Enabled) (Enabled) (Enabled) (Disabled) (Enabled) (Enabled) (Disabled) (Enabled) (Disabled) (Disabled)	Enable/Disable M.2 M-key Slot device.
Mone	inn 2 21 1280 Conunight	(C) 2023 AMT

- M.2 M-key Slot [Enabled]
- PCle x16 Slot1 [Enabled]
- PCIe x16 Slot2 [Enabled]
- PCIe x16 Slot3 [Enabled]
- PCIe x16 Slot4 [Enabled]
- LAN1 Controller [Enabled]
- LAN2 Controller [Enabled]
- LAN3/LAN4 Controller [Enabled]

3.2.3.2 North Bridge



Aptio Set	up - ANI
Chipset North Bridge Configuration Memory Information Total Memory: 16384 MB (DDR4) • Socket 0 Information	View Information related to Socket 0 ++: Select Screen 14: Select Item Enter: Select Item Enter: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.21.1280 Cor	ognight (C) 2023 AMI

Memory Information

Socket 0 Information

Chipset	Aptio Setup - AMI	
Chipset Socket 0 Information DIMM A1: DIMM C1: DIMM D1: Size Speed Number of Ranks Hanufacturer DIMM E1: DIMM E1: DIMM H1:	Populated & Disabled Populated & Disabled Populated & Enabled 16304MB 2933MT/s 1 Micron Technology Populated & Disabled Populated & Disabled Populated & Disabled	++: Select Screen T4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.21.1280 Copyright (C) 2023 AMI

3.2.4 Security Setting

Password Description		Secure Boot configuration
If ONLY the Administrator's p then this only limits access only asked for when entering 3 If ONLY the User's password in is a power on password and mu boot or enter Setup. In Setup have Administrator rights. The password length must be in the following range: Minimum length	assword is set, to Setup and is Setup. s set, then this st be entered to the User will 3	
Maximum length Administrator Password User Password	20	++: Select Screen T1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
Secure Boot		F3: Optimized Defaults F4: Save & Exit ESC: Exit

3.2.4.1 Secure Boot



3.2.5 Boot Setting



Setup Prompt Timeout
 Number of seconds to wait for setup activation key.
Chapter 3 BIOS and BMC Operation

- Bootup NumLock
 State Select the keyboard NumLock state as "On" or "Off".
- Quiet Boot Enable or Disable the quiet boot option.
- Boot Option Priorities
 Sets the system boot priorities.

3.2.6 Save & Exit

Save Options Save Changes and Exit Discard Changes and Exit	Exit system setup after saving the changes.
Save Changes and Reset Discard Changes and Reset	
Save Changes Discard Changes	
Default Options Restore Defaults Save as User Defaults	
Restore User Defaults	++: Select Screen T1: Select Item
Boot Override UEFI: USB3.0 FLASH DRIVE PMAP, Partition 1 (USB3.0 FLASH DRIVE PMAP)	Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

- Save Changes and Exit Exit system setup after saving the changes.
- Discard Changes and Exit Exit system setup without saving any changes.
- Save Changes and Reset
 Reset the system after saving changes.
- Discard Changes and Reset Reset system setup without saving any changes.
- Save Changes
 Save changes done so far to any of the setup options.
- Discard Changes
 Discard changes done so far to any of the setup options.
- Restore Defaults Restore/Load default values for all the setup options.
- Save as User Defaults
 Save the changes done so far as user defaults.
- Restore User Defaults Restore the user defaults to all the setup options.

3.2.7 Event Logs



Change Smbios Event Log Settings



View Smbios Event log

Main Advanced Chipset Security B	o Setup – AMI Save & Exit Event Logs Server Mgmt
 Change Smbios Event Log Settings View Smbios Event Log 	Press (Enter) to view the Smbios Event Log records.
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	Aptio Setup – AMI Ev	ent Logs
DATE TIME ERROR CODE 01/01/22 00:00:51 Smbios 0x16 01/01/22 00:00:51 Smbios 0x17 01/01/22 00:00:51 EFI 0300000A 01/01/22 00:00:51 smbios 0x17 04/26/23 15:01:26 Smbios 0x17 04/26/23 15:03:32 Smbios 0x17	SEVERITY COUNT N/A N/A Minor O1 N/A N/A N/A N/A N/A N/A	DESCRIPTION Log Area Reset and Count is applicable only for Multi-Events
		++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save 8 Exit ESC: Exit
	ion 2.21.1280 Copyright (C) 2023 AMI

3.2.8 Server Mgmt

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit Event Logs <mark>Server Mgmt</mark>		
Main Advanced Chipset Security Boot BMC Self Test Status PASS BMC Device ID 32 BMC Device Revision 81 BMC Firmware Revision 12.0 IPMI Version 2.0 IPMI BMC Interface KCS BMC Support [Enal FRB-2 Timer [Enal FRB-2 Timer timeout 6 FRB-2 Timer Timeout 10 OS Watchdog Timer [Dis	PASSED 32 81 12.04 2.0 KCS [Enabled] 6 [Do Nothing] [Disabled] 10	Press (Enter) to change the SEL event log configuration.
OS Wtd Timer Policy > System Event Log > View FRU information > Bmc self test log > BMC network configuration > View System Event Log	10 (Reset)	<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>

BMC Support Enable or Disable interfaces to communicate with BMC.

OS Watchdog Timer If enabled, this starts a BIOS timer which can only be shut off by Management Software after the OS loads.

3.2.8.1 System Event Log

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit Event Logs <mark>Server Mgmt</mark>		
BMC Self Test Status BHC Device ID BMC Device Revision BMC Firmware Revision IPMI Version IPMI BMC Interface BMC Support FRB-2 Timer FRB-2 Timer timeout FRB-2 Timer Policy OS Watchdog Timer OS Wtd Timer Policy OS Wtd Timer Policy System Event Log View FRU information B Bmc self test log BMC network configuration View System Event Log	PASSED 32 81 12.04 2.0 KCS [Enabled] 6 [Do Nothing] [Disabled] 10 [Reset]	Press (Enter) to change the SEL event log configuration.
	Version 2.21.1280 Copyright	(C) 2023 AMI

	Aptio Setup - AMI	Server Mgmt
Enabling/Disabling Options SEL Components	(Enabled)	Change this to enable or disable event logging for
Erasing Settings Erase SEL	[NO]	boot.
Custom EFI Logging Options Log EFI Status Codes	(Error code)	
NOTE: All values changed here d effect until computer is	o not take restarted.	
		++: Select Screen f1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
	ion 2.21.1280 Conucisht (C) 2023 AMT

- SEL Components [Enabled]
- Erase SEL [No]
- Log EFI Status Codes [Error code]

3.2.8.2 View FRU information



	Aptio Setup - AMI	Server Hgmt
FRU Information System Manufacturer System Product Name System Version System Serial Number Board Manufacturer Board Product Name Board Product Name Board Port Number Chassis Manufacturer Chassis Part Number Chassis Serial Number SDR Version System UUID	Aptio Setup - AMI Advantech AIMB-592 1.5 6E36AABA-BFDE-11D3-02AD- 07F04F19441E	Server Mgmt ++: Select Screen 14: Select Item Enter: Select +/-: Change Dot. E4: Common Halo
information needs to be fill	ed by O.E.M	F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

3.2.8.3 BMC Self Test Log

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit Event Logs <mark>Server Mgmt</mark>		
BMC Self Test Status BMC Device ID BMC Device Revision BMC Finmware Revision IPMI Version IPMI BMC Interface BMC Support FRB-2 Timer timeout FRB-2 Timer timeout FRB-2 Timer Policy OS Watchdog Timer OS Wtd Timer Timeout OS Wtd Timer Policy System Event Log View FRU information Fmc self test log BMC network configuration View System Event Log	PASSED 32 81 12.04 2.0 KCS [Enabled] 6 [Do Nothing] [Disabled] 10 [Reset]	logs the report returned by BMC self test command ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.21.1280 Copyright (C) 2023 AMI

	Aptio Setup - AMI	Server Mgmt
Log area usage = 00 out of 20 logs		Erase Log Options
Enase Log When log is full	(Yes. On every reset) [Clear Log]	
Log Empty		
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
version :	2.21.1280 Copyright (C) 202	3 AMI

- Erase Log
 Erase log options.
- When Log is Full Select the action to be taken when the log is full.

3.2.8.4 BMC Network Configuration

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit Event Logs Server Mgmt		
BHC Self Test Status BHC Device ID BHC Device Revision BHC Firmware Revision IPHI Version IPHI SMC Interface BHC Support FRB-2 Timer FRB-2 Timer File OS Watchdog Timer OS Wat	PASSED 32 81 12.04 2.0 KCS [Enabled] 6 [Do Nothing] [Disabled] 10 [Reset]	Configure BMC network parameters ++: Select Screen 11: Select Item Enter: Select +/-: Change Ont. F1: General Help F2: Previous Values
▶ View System Event Log		F3: Optimized Defaults F4: Save & Exit ESC: Exit
	version 2.21.1280 Copyright (C) 2023 AMI

	Aptio Setup - AMI	Server Mgmt
BMC network configuration Configure IPv4 support 	Unspecified) DynamicAddressBmcDhcp 172.22.16.165 255.255.252.0 3A-F8-2E-70-5E-A1 0.0.0.0	 Select to configure LAN channel parameters statically or dynamically(by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase
Configure IPv6 support	(replaced)	<pre>t+: Select Screen t+: Select Item Enter: Select +/-: Change Opt, F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit Scree Self</pre>
1446 Support	(Eugo reg)	ESC: EXIT
	Diospec of Ledi	

Configuration Address Source

Select to configure LAN channel parameters statically or dynamically (by BMC). The Unspecified option will not modify any BMC network parameters during the BIOS phase.

3.2.8.5 View System Event Log

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit Event Logs <mark>Server Mgmt</mark>		
BMC Self Test Status BHC Device ID BMC Device Revision BMC Firmware Revision IPMI Version IPMI BMC Interface BMC Support FRB-2 Timer FRB-2 Timer timeout FRB-2 Timer Policy OS Watchdog Timer OS Wtd Timer Timeout OS Wtd Timer Policy System Event Log View FRU information BMC self test log BMC network configuration View System Event Log	PASSED 32 81 12.04 2.0 KCS [Enabled] 6 [Do Nothing] [Disabled] 10 (Reset]	Press (Enter) to view the System Event Log Records. ++: 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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3.2.9 BMC - Setting of WEB Browser

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	Farmers		
	Present		
	Cheverber Sterrane		
	Signation in (
			ſ

- User should check the "Station IP address" of BIOS menu (chapter 3.8.4) before logging in the web browser and the URL should begin with "https://"
- Default user login Administrator: admin Password: admin
- It is mandatory to change the password for the default user at first successful login. Once the password is changed, login page will be reloaded, enter the username and modified password to login the Browser.
- Straight password format policies are enforced on the BMC, the password will need to include at least a capital letter, small capital letter or special characters. The password management policies will also be enforced on the IPMI of the BMC interface.

3.2.9.1 Dashboard Page

OFF state

Advantech-BMC	-		-	A Vi-Dyles	• CD ++++	Cartant A.	aprile a
Conservation States Address States Transformer	Dashboard constituent						-
10-0142.	0 d 0 tes France Constants	3	2				
Fill Information Mark Reports							
• Settings							
Ek tenge Redission Ø Passa Connel							
· Signat							

 The dashboard page will show power-on hours and access log information only when the toggle button is in the OFF state. The area of power-on hours will keep on accumulating and it will reset to zero when the system is in power-off, and access logs will show all events incurred by various sensors. ON state

Advantech-BMC	=				j.	4	US-English		•	O Syne	Cheben	L admin +
Consectablemetics U.Sect adda 2000 (Insectable) in the Units	Dashboard careatrase										•	per - bulland
Quikline. •	0 d 0 hrs	3										
Cardinant	Preset On Hinath	Arrest		100								
la farmar			March 10	0								
O FBJ Information	• Today (::)	Details	G 30 days	(sit)	Detail	e	Sensor M	onitorin	s:			i i
Mittige&Reports P												
O tartings		7 - C	1				@ Currently	recoveres	ġ.			
Remote Control	system event			vistem event								
G image Redirection	10 events			10 events								
O Power Control												
▶ Maintenates					55							
🖶 Signate												

 When the toggle button is in ON state, it will show 'Today & 30 Days' and 'Sensor Monitoring' information.

3.2.9.2 Sensor

Host Online	4 Home - Sensor Reading			
ck Links.				6
Dushboard	Critical Sensors (0)			
Sensor		O All thresho	ld sensors are normal	
FRU Information	Discrete Sensor State	es (2)		
Logs & Reports	•			
Settings	Sensor Name		State	
Remain Control	SEL_Logging		No state defined	
Message California	 SystemBMC_WTD 		No state defined	
Image Redirection				
Power Control	Normal Sensors (13)			
Maintenance	Sensor Name	Reading	Behavior	
Sign out	-h- 12V	12.15 Volts		
	- → 3V3	3.36 Volta		
	·h- 3V358	3.36 Volta		
	Jin SV	5.05 Volts		

3.2.9.3 FRU Information

Host Online	# Home = FRU		
Quick Unks			0
Dashboard	Available FRU Devices		
🙃 Sensor	FRU Device ID		
FRU Information	FRU Device Name Board FRU		
M Logs & Reports	Chassis Information	Board Information	Product Information
🖵 Remote Control	Chassis Information Area 1 Format Version	Board Information 1 Area Format	Product Information Area 1 Format Version
EA Image Redirection	Chassis Type Other	Version	Language English
Power Control	Chassis Part Number	Language English	Product Manufacturer
F Maintenance	Chassis Serial Number	Manufacture Date Mon Oct 24 Time 22:00:00 2022	Product Name
🖶 Sign out		Board Advantech	Product Part Number
		Manufacturer	Product Version
		Board Product AIMB-592 Name	Product Serial Number
		Board Serial Number	Asset Tag
		Board Part Number	

Shows information of chassis, board or product information of FRU device.

3.2.9.4 LOG & Reports - IPMI Event Log



3.2.9.5 LOG & Reports – Audit Log



3.2.9.6 LOG & Reports – Video Log

=					3 A	US - English	• O Sync	CRefresh 💄 admin •
Video Log	Al video event logs							# Home - VideoLog
								0
Filter by Date	Start Date	0	End Date	0				
				Video Log: 0 out o	of 0 event entries			
Ø								

This page will display the video log when video trigger settings is enabled, user can adjust under "Setting -> Video Recording -> Auto Video Settings -> Video Trigger Settings" item.

3.2.9.7 Settings

Host Online	# Home - Settings			
Quick Links				
Dashboard	0	•		0
🚯 Sensor	Captured BSOD	Date & Time	External User Services	KVM Mouse Setting
FRU Information				11
😹 Logs & Reports 🔹 🔸	Log Settings	Media Redirection Settings	Network Settings	PAM Order Settings
• Settings	Ŧ	02		
C Remote Control	Platform Event Filter	Services	SMTP Settings	SSL Settings
G Image Redirection	0		-	8
O Power Control	Sustem Ensural	Line Management	Video Recording	₽
	aparent Fridender	Con management	noto recording	ar an anter labes
🖶 Sign out				

Users can access various configuration settings through this page

3.2.9.8 Remote Control

Host Online	# Home - Remote Control	
Quick Links.		0
Dashboard	H5Viewer	
Sensor		
0 FRU Information	Click here to go to Remote Session Settings.	
Left Logs & Reports	C Launch H5Wewer	
O Settings	a contraction of the second	
Remote Control		
Image Redirection		
O Power Control		
😝 Sign out		

Remote Control – Launch H5viewer



LWIN RWIN LALT LCTRL RALT RCTRL NUM CAPS SCR

3.2.9.9 Image Redirection

=	8	*	US-English	•	0.5ym	Refresh	1 admin •
Image Redirection						ef Horse	map full-sales
۹							
Barricia images							

3.2.9.10 Power Control



This page allows the user to view and control the power of the system platform from a remote device.

3.2.9.11 Maintenance

=		📾 🔺 US-English	• O Sync CRefresh & admin •
Maintenance			d Note - Haltstore
Backup Configuration	Chuel BAC trage configuration	Firmware trage Location	C Firmware information
Firmware Updata	Preserve Configuration	La Restore Configuration	5 Restore Factory Delaulta
System Administrator			



Software Introduction & Service

4.1 Introduction

The mission of Advantech Embedded Software Services is to "Enhance quality of life with Advantech platforms and Microsoft® Windows® embedded technology." We enable Windows® Embedded software products on Advantech platforms to more effectively support the embedded computing community. Customers are freed from the hassle of dealing with multiple vendors (hardware suppliers, system integrators, embedded OS distributors) for projects. Our goal is to make Windows® Embedded Software solutions easily and widely available to the embedded computing community.

4.2 Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

4.2.1 Software API

4.2.1.1 Control

GP I/O



SMBus



General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off the device. Our API also provide Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.

SMBus is the System Management Bus defined by Intel Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.

4.2.1.2 Display

Brightness Control



The Brightness Control API allows a developer to access embedded devices and easily control brightness.

The Backlight API allows a developer to control the backlight

(screen) on/off in embedded devices.

Brightness Control



4.2.1.3 Monitor

Watchdog



Hardware Monitor



A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.

4.2.1.4 Power Saving

CPU Speed



System Throtting



Makes use of Intel SpeedStep technology to save power consumption. The system will automatically adjust the CPU speed depending on the system loading.

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. This API allows the user to adjust the clock from 87.5% to 12.5%.

4.2.2 Software Utility

BIOS Flash



Monitoring



The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on the customers' disk. The BIOS Flash utility also provides a command line version and an API for fast implementation into customized applications.

Monitoring is a utility for customers to monitor system health, like voltage, CPU and system temperature and fan speed. These items are important to a device, if critical errors occur and are not solved immediately, permanent damage may be caused.



Chipset Software Installation Utility

5.1 Before You Begin

To facilitate the installation of the enhanced display drivers and utility software, read the instructions in this chapter carefully. The drivers for the AIMB-592 are available online for download from the Advantech support website.

5.2 Introduction

The AMD Chipset Software Installation (CSI) utility installs the Windows INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

- Core PCI PnP services
- Serial ATA interface support
- USB 2.0/3.1 support
- Identification of AMD chipset components in the Device Manager



This utility is used for the following versions of Windows, and it has to be installed **before** installing all the other drivers:

Windows Server 2019 Standard x64

Windows Server 2016 Standard x64



It is necessary to update all the latest Microsoft hot fix files when using this OS.

5.3 Windows Series Driver Setup

1. When enter the website of Advantech, then search product AIMB-592. There is "Chip" driver inside.

WinSvr19 driver for AIMB-592





LAN Configuration

6.1 Introduction

AIMB-592 features dual 2.5 Gigabit Ethernet LANs via dedicated PCI Express x1 lanes (Intel i226-LM for LAN1&2) that supports 10/100/1000/2500 Mbps Ethernet speed and dual 10 Gigabit Ethernet LANs via dedicated PCI Express x4 lanes (Intel X550-AT for LAN3&4) that supports 100/1000/10000 Mbps Ethernet speed.

6.2 Windows Series Driver Setup

When enter the website of Advantech, then search product AIMB-592. There is "LAN" driver inside.





Pin Assignments

A.1 CMOS Clear Jumper (JCMOS1)

Table A.1: CMOS Clear Jumper (JCMOS1)						
Function	Jumper Setting					
Keep COMS Data (Default)						
Clear CMOS Date						
Pin	Signal Pin Definition					
1	+V1.5_RTC_JMP					
2	+V1.5_RTC					
3	GND					

A.2 Front Panel1 + Front Panel2 header (JFP1+JFP2)

Table A.2: Front Panel1 + Front Panel2 header (JFP1+JFP2)									
Pin	Signal Pin Definition	Pin	Signal Pin Definition						
1	FRP_SPK2	7	FRP_SPK3						
2	+V3.3	8	HWM_SMB_DATA						
3	FP_PWR_BTN_S#	9	FP_RST_BTN_S#						
4		10	FRP_SPK4						
5	SATA_LED#	11	HWM_SMB_CLK						
6	GND	12	GND						

A.3 Case open pin header (JCASE1)



Table A.3: Case open pin header (JCASE1)		
Pin	Signal	
1	CASEOP	
2	GND	

A.4 ATX 12V IN connector (ATX12V1/ ATX12V2)ATX/ AT Mode Selection (PSON1)



Table A.4: ATX 12V IN connector (ATX12V1/ ATX12V2)ATX/AT Mode Selection (PSON1)

Pin	Signal	Pin	Signal
1	GND	5	+V12_8P_0
2	GND	6	+V12_8P_0
3	GND	7	+V12_8P_0
4	GND	8	+V12_8P_0

A.5 ATX 24pin IN connector (ATXPWR1)



Table A.5: ATX 24pin IN connector (ATXPWR1)			
Pin	Signal	Pin	Signal
1	+V3.3	13	+V3.3
2	+V3.3	14	-V12
3	GND	15	GND
4	+V5	16	PS_ON#
5	GND	17	GND
6	+V5	18	GND
7	GND	19	GND
8	PWR_OK	20	-V5
9	+V5_SB	21	+V5
10	+V12	22	+V5
11	+V12	23	+V5
12	+V3.3	24	GND

A.6 GPIO header (GPIO1)



Table A.6: GPIO header (GPIO1)			
Pin	Signal	Pin	Signal
1	EC_GPIO0	2	EC_GPIO4
3	EC_GPIO1	4	EC_GPIO5
5	EC_GPIO2	6	EC_GPIO6
7	EC_GPIO3	8	EC_GPIO7
9	+V5	10	GND

A.7 EC programing header (SCN1)



Table A.7: EC programing header (SCN1)			
Pin	Signal	Pin	Signal
1	GND	2	RDC_TMS
3	GND	4	RDC_TDI
5	GND	6	RDC_TDO
7	GND	8	RDC_TCK
9	GND	10	GND
11	GND	12	SPI_RDC_CLK

A.8 System FAN Connector (SYSFAN1/SYSFAN2/ SYSFAN3/SYSFAN4)



Table A.8: System FAN Connector (SYSFAN1)		
Pin	Signal	
1	GND	
2	+V12	
3	SYS1_FAN_TACH	
4	SYS_FAN1_PWM	



Table A.9: System FAN Connector (SYSFAN2)

Pin	Signal
1	GND
2	+V12
3	SYS2_FAN_TACH
4	SYS2_FAN_PWM



Table A.10: System FAN Connector (SYSFAN3)		
Pin	Signal	
1	GND	
2	SYS3_FAN_OUT	
3	SYS3_FAN_SPEED	
4	SYS3_FAN_PWMOUT	



Table A.11: System FAN Connector (SYSFAN4) Pin Signal 1 GND 2 SYSTEM FAN CONTENT

2	SYS4_FAN_OUT
3	SYS4_FAN_SPEED
4	SYS4_FAN_PWMOUT

A.9 CPU FAN connector (CPUFAN1)



Table A.12: CPU FAN connector (CPUFAN1)		
Pin	Signal	
1	GND	
2	+V12_8P_0	
3	EC_FANTACH0	
4	EC_CPU_PWM	

A.10 Serial GPIO (SGPIO1)

SGPI01	SGPI02
R_SGPI02_CLK_BUF1 1 R_SGPI03_CLK_BUF1	1
	<u> </u>
	<u>u t</u>
PH_5x1V_2.54mm	PH_5x1V_2.54mm

Table A.13: Serial GPIO (SGPIO1)		
Pin	Signal	
1	R_SGPIO_CLK_BUF1	
2		
3	R_SGPIO_LOAD_BUF1	
4	R_SGPIO_DATAOUT_BUF1	
5		

A.11 System Error Led wafer (BMC_SYSLED1)



Table A.14: System Error Led wafer (BMC_SYSLED1)				
Pin	Signal			
1	+V3.3_AUX			
2	SYS_LED#			

A.12 PMBus wafer (PMBUS1)



Table A.15: PMBus wafer (PMBUS1)				
Pin	Signal			
1	PMBUS_SMB_CLK			
2	PMBUS_SMB_DATA			
3	PMBUS_SW_ALERT#			
4	GND			
5	+V3.3_AUX			

A.13 HW SMBUS (SMBUS1)



Table A.16: HW SMBUS (SMBUS1)				
Pin	Signal			
1	+V5			
2	HWM_SMB_CLK			
3	HWM_SMB_DATA			
4	GND			

A.14 Front Panel3 (JFP3)



Table A.17: Front Panel3 (JFP3)				
Pin	Signal			
1	FP_PWR_BTN_S#			
2	GND			
3	+V5_SB			

A.15 Graphics Card 12V slot (SLOT12V1)



Table A.18: Graphics Card 12V slot (SLOT12V1)						
Pin	Signal	Pin	Signal			
1	+V12	5	GND			
2	+V12	6	GND			
3	+V12	7	GND			
4	GND	8	GND			



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