

User Manual

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AIMB-592

AMD EPYC 7003 Zen 3 Core, Micro-ATX with 4 x PCIe x16 Slots, 2 x 10GbE LAN, 2 x 2.5GbE LAN, 5 x USB 3.2 Gen1, IPMI 2.0



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FCC Class B

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 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

Processor Number	Code Name	Max TDP	Freq (GHz)	Mfg. Tech	Smart cache (L3)	Result
AMD EPYC [™] 7713P	Milan	225W	3.675GHz	7nm	256MB	Pass
AMD EPYC™ 7543P	Milan	225W	3.7GHz	7nm	256MB	Pass
AMD EPYC [™] 7313P	Milan	155W	3.7GHz	7nm	128MB	Pass

ECC Memory Compatibility

Category	Speed	Capacity	Vendor	Module P/N	Chip P/N	ADVANTECH	ECC	Result
						P/N		
DDR4	3200	64GB	Micron	MTA36ASF8G72PZ-	2BF75 DBCJT	96D4-	ECC	PASS
				3G2F1UI		64G3200ER-		
						M2		
DDR4	3200	128GB	Samsung	SQR-	SEC 207	SQR-	ECC	PASS
				RD4N28G3K2SRMB	K4ABG045WM	RD4N28G3K2		
					3CAE	SRMB		

		-												
P/N	USB	USB 3.2	VGA	PCle	DDR 4	10GbE	2.5GbE	IPMI	BMC	BMC	<mark>SATA</mark>	M.2	TPM	Slimline
	3.2	(Internal)		x16	Memory	LAN	LAN	2.0		LAN	Ш	M-Key		
	(Rear)			Gen4										
AIMB-	4	1	1	4	6	2	2	Yes	1 (AST2500)	1	8	1	1	2 (PCIe
592SF-														x4)
0AA1														
AIMB-	4	1	1	4	6	0	2	No	1 (AST2510)*	0	8	1	1	2 (PCIe
592SL-														x4)
0AA1														

Ordering Information

* 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 Micro-ATX Motherboard
- 4 x SATA HDD cable
- 1 x I/O port bracket
- 1 x Warranty Card
- 2 x M.2 screws
- 1 x Startup Manual

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.

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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 PCIe x16 slots, up to 2 x 10GbE LAN, 2 x 2.5GbE LAN, 5 x USB 3.2 Gen1, 8 x SATA III ports, and IPMI 2.0.

1.2 Features

- Rich I/O connectivity: up to dual 10GbE LAN and dual 2.5 Gbe LAN via PCIe x1 bus, 4 x PCIe x16 slot (Gen4), 5 x USB 3.2 Gen1, 2 slimline SAS connector support 2 x PCIe x4 SAS.
- 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 graphics

1.3 Specifications

1.3.1 Processor

- CPU: AMD EPYC[™] 7003 Series Processors
- BIOS: AMI BIOS 256 Mb SPI
- SATA hard disk drive interface: On-board SATA connectors with data transmission rates up to 600 MB

1.3.2 Memory

- RAM: Up to 768GB in six slots, 288-pin DIMM sockets. Supports 6 channels up to DDR4 3200MHz RDIMM.
 - ECC compatibility

1.3.3 Input/Output

- **PCIe slot:** 4 x PCIe x16 expansion slot
- Serial port: a serial port of RS-232
- USB port: Supports up to 5 x 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 1920 x 1200 @ 60Hz

1.3.5 Ethernet LAN

Supports up to 2 x 10/100/1000/2500 Mbps Ethernet ports via PCI Express x1 bus and 2 x 100/1000/10000 Mbps Ethernet ports via PCI Express x4 bus.

 Controller: LAN1/LAN2: Intel i226-LM (AIMB-592SF/AIMB-592SL)LAN3/LAN4: Intel X550 (AIMB-592SF); LAN5: BMC LAN (AIMB-592SF)

1.3.6 Industrial Features

Watchdog timer: It 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, 3.3V, 12V, 12V_8P
- Power requirements:

Operation	+5V	3.3V	12V	12V_8P
Configuration: AMD EPYC 7543P 32-	0.936A	1.8062A	0.005A	17.61060A
Core Processor 2.79GHz, with RDIMM				
DDR4 3200 128GB*6pcs				
Standby (5Vsb)	ЗA			

Measure the maximum current of the system under maximum load (CPU: Top speed, RAM & Graphics: Full loading)

- Board size: 244 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

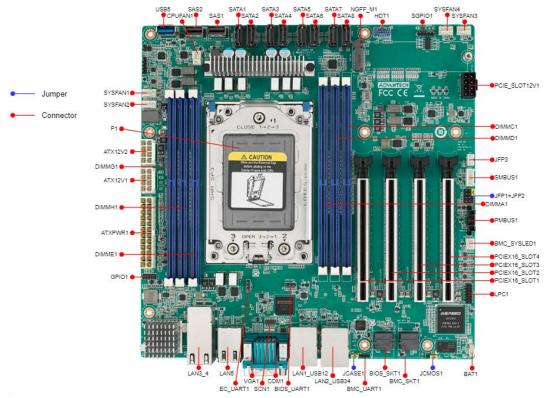
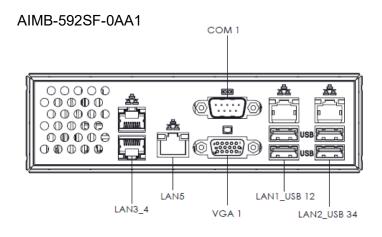


Figure 1.1 Board Layout



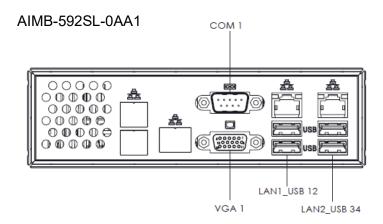


Figure 1.2 Rear I/O of the Two SKUs

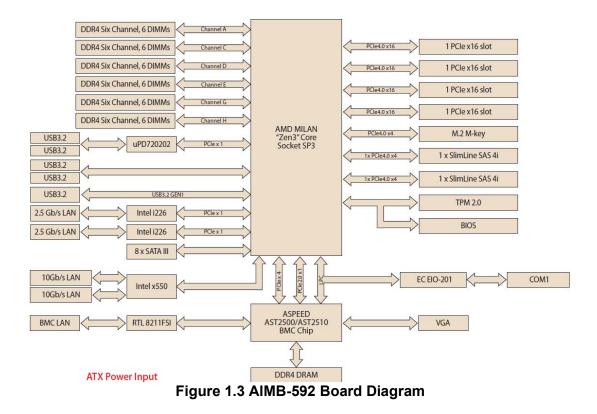
Table 1.1: Jumper Setting List

	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 + USB 3.2 Gen1 *2	LAN1_USB12
6	2.5G LAN + USB 3.2 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
14	PCIe x16 slot	PCIEX16_SLOT4
15	System Error Led wafer	BMC_SYSLED1
16	PMBus wafer	PMBUS1
17	HW SMBUS	SMBUS1
18	Front Panel3	JFP3
19	Graphics Card 12V slot	PCIE_SLOT12V1
20	System FAN3 connector	SYSFAN3
21	System FAN4 connector	SYSFAN4
22	Serial GPIO	SGPIO1
23	AMD Debug connector	HDT1
24	M.2 M-Key 2280 slot	NGFF_M1
25	SATA connector	SATA8
26	SATA connector	SATA7
27	SATA connector	SATA6
28	SATA connector	SATA5
29	SATA connector	SATA4
30	SATA connector	SATA3
31	SATA connector	SATA2
32	SATA connector	SATA1
33	Slimline SAS 4i connector	SAS1
34	Slimline SAS 4i connector	SAS2
35	CPU FAN connector	CPUFAN1
36	USB 3.2 Gen1 vertical connector	USB5
37	System FAN1 connector	SYSFAN1
38	System FAN2 connector	SYSFAN2

Table 1	I.2: Connector/Header List:	
39	ATX 12V IN connector	ATX12V2
40	ATX 12V IN connector	ATX12V1
41	ATX 24-pin IN connector	ATXPWR1
42	GPIO header	GPIO1
43	DDR4 RDIMM slot	DIMME1
44	DDR4 RDIMM slot	DIMMH1
45	DDR4 RDIMM slot	DIMMG1
46	DDR4 RDIMM slot	DIMMA1
47	DDR4 RDIMM slot	DIMMD1
48	DDR4 RDIMM slot	DIMMC1
49	CPU socket	P1
50	EC programing header	SCN1

1.6 AIMB-592 Board Diagram



1.7 Safety Precautions



Warning! Always completely disconnect the power cord from the 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 the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the 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)	1-2 1 2 3
Clear CMOS data	2-3 1 2 3

1.9 System Memory

The 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).

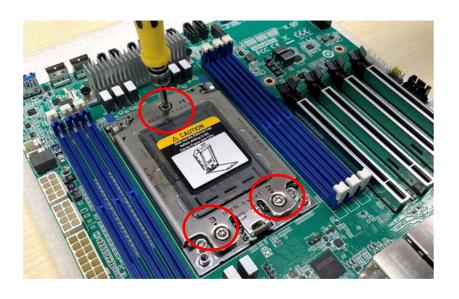
1.10 Memory Installation Procedures

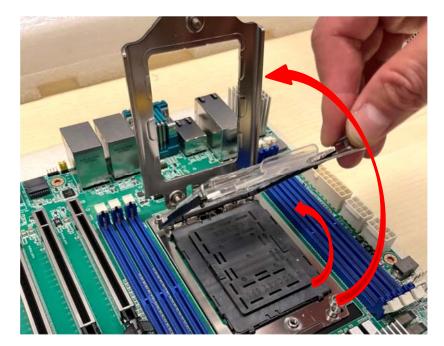
To install DIMMs, first make sure the two handles of the DIMM socket are in the "open" position, i.e., the handles lean outward. Slowly slide the DIMM module along the plastic guides on both ends of the socket. Then firmly but gently (avoid pushing down too hard) press the DIMM module well down into 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

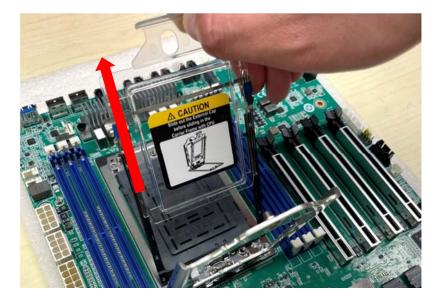
The AIMB-592 is designed for AMD EPYC 7003 Series processors. Please follow the processor installation as below.

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).

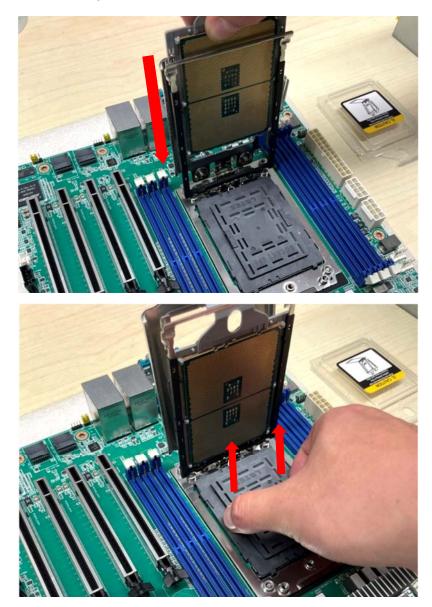




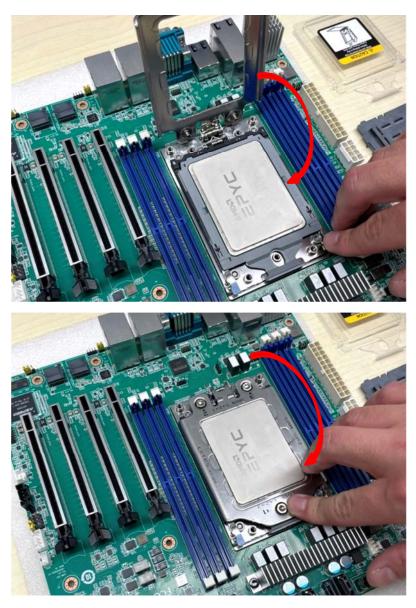
2. Remove the external cap by pulling upwards.



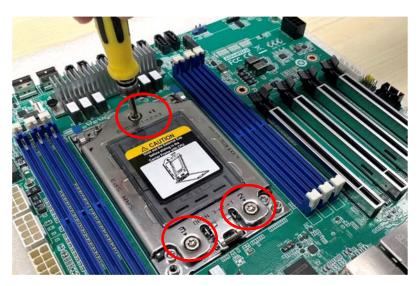
3. Install the carrier frame/CPU package to the rail frame, and then remove the PnP cover cap. Be very careful not to drop the PnP cover cap into the exposed contact field during the removal process.



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.





 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

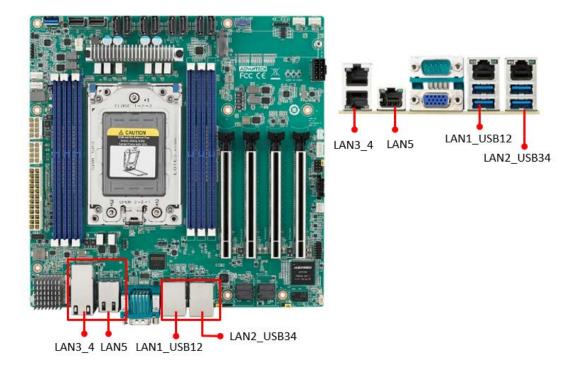
2.1 Introduction

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 USB 3.2 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 3.2 Gen1 supporting transmission rates up to 5 Gbps. The USB interface can be disabled in the system BIOS setup.

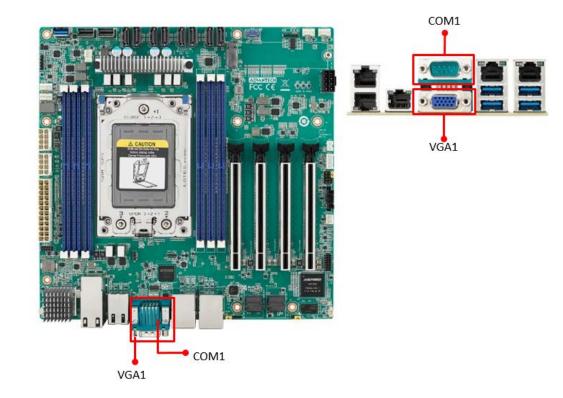
The AIMB-592 is equipped with up to two 2.5G Mbps and two 10G Mbps Ethernet LAN adapters and one BMC LAN which are supported by all major network operating systems. The RJ-45 jacks on the rear panel provide convenient LAN connections.



Chapter 2 **Connecting Peripherals**

2.3 VGA and Serial Ports (VGA1/COM1)

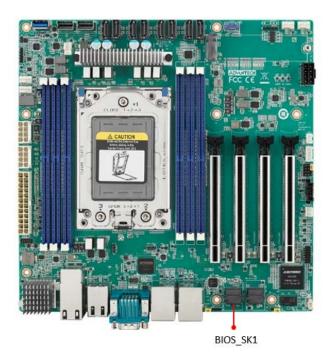
The AIMB-592 includes VGA1 interfaces that can drive conventional VGA1 displays. The serial port supports RS-232 and can connect to serial devices, such as a mouse or a printer, or to a communications network.



BMC ROM Socket (BMC_SKT1) 2.4

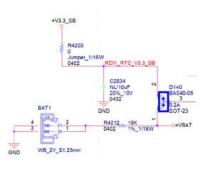


2.5 BIOS SPI ROM Socket (BIOS_SKT1)



2.6 Battery Holder (BAT1)



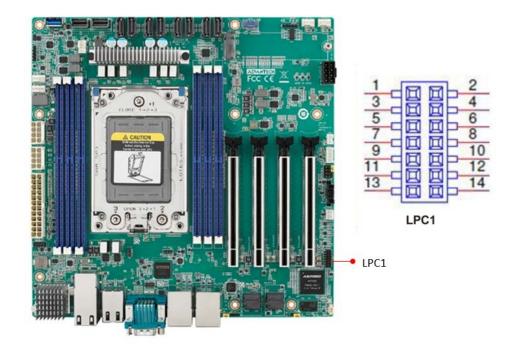


Pin	Signal	
1	+VBAT	
2	+VBAT	
3	GND	
4	GND	

BAT1

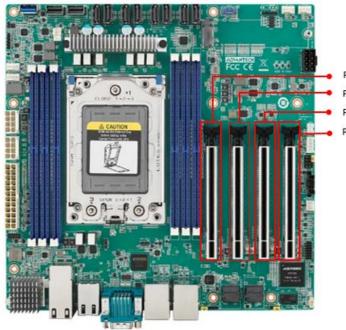
2.7 LPC Connector (LPC1)

The AIMB-592 has one LPC connector for BIOS usage.



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

The 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 will depend on the length of the graphics card.

- 2. Under POST, only BMC VGA output is supported. External graphics cards installed in the PCIe slot must have drivers installed in order to display normally under the OS.
- 3. Depending on the fan used, if installing the graphics card in PCIEX-16_SLOT1, it should be removed using the steps below:

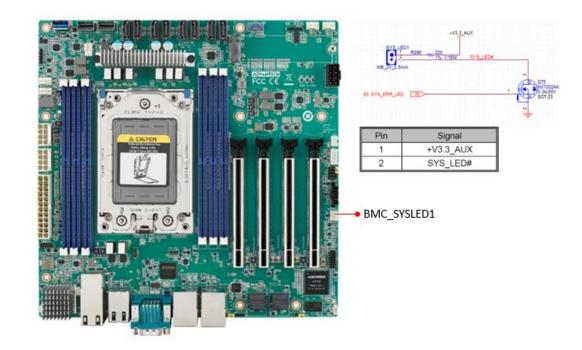
• When using with an STD Cooler (1970004817N001): Remove the memory installed in the DIMMC1 slot before removing the graphics card.

• When using with a Customized VC Heatsink: Remove the fan, then uninstall the DIMMC1 memory module before removing the graphics card.

4. If users intend to insert an add-on card, it is recommended to use one that supports PCIe Gen4.

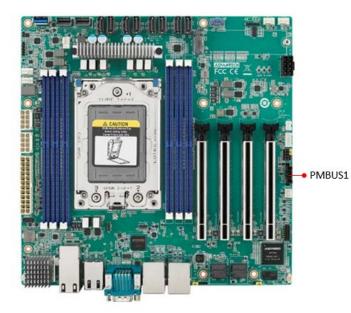
2.9 System Error LED Wafer (BMC_SYSLED1)

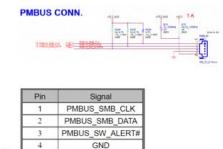
The System Error LED wafer is used to identify the chassis location via the "ipmitool chassis identify" command.



2.10 PMBus Wafer (PMBUS1)

The PMBUS connector is for communicating with a power supply that supports the PMBUS function.





+V3.3_AUX

5

2.11 Hardware SMBUS (SMBUS1)

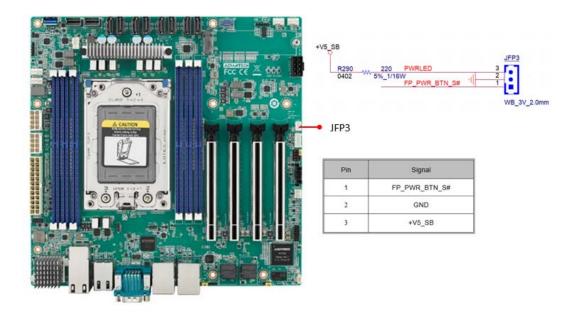


SMBUS	CONN	ND J. MUT	•	F 14	
CIIIDOO	COMM.	Rectif No. 4.79 Th. 5 total	84088 1624.75 75, 17500 8402	SA STORAGE	-
	111100085. 9	8		ALC DESCRIPTION	

SMBUS1

Pin	Signal
1	+V5
2	HWM_SMB_CLK
3	HWM_SMB_DATA
4	GND

2.12 Front Panel3 (JFP3)



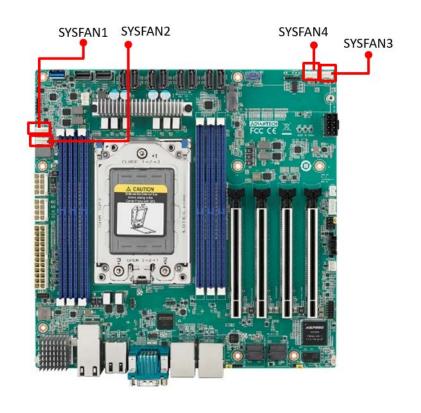
2.13 Graphics Card 12V Slot (PCIE_SLOT12V1)

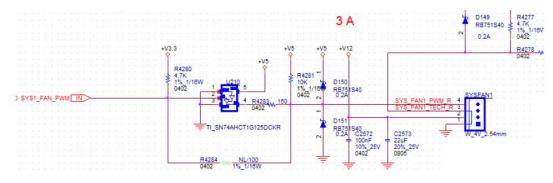
- PCIE SLO 33.5		5 810712V1 0 9 9 2 7 8 9 4 ATC-602V_4 2mi	+V12 C2544 10000 10000 10000 100000000
Pin	Signal	Pin	Signal
1	+V12	5	GND
2	+V12	6	GND
3	+V12	7	GND
4	GND	8	GND

Note!

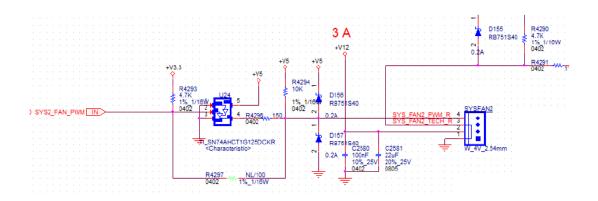
This connector is only necessary if PCIe cards that draw more than 70 watts from the PCIe bus are fully installed in four slots on the motherboard and it is only for power input usage.

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

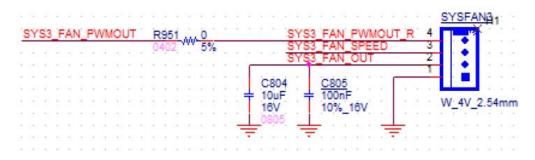




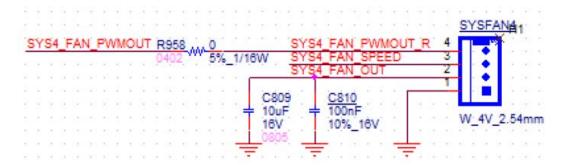
Pin	Signal
1	GND
2	+V12
3	SYS1_FAN_TACH
4	SYS_FAN1_PWM



Pin	Signal
1	GND
2	+V12
3	SYS2_FAN_TACH
4	SYS2_FAN_PWM

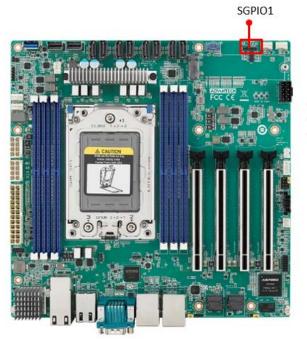


Pin	Signal
1	GND
2	SYS3_FAN_OUT
3	SYS3_FAN_SPEED
4	SYS3_FAN_PWMOUT



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)

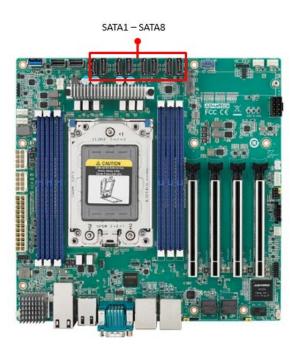


R_SGPIO2_CLK_BUF1	SGPIO1
R_SGPIO2_LOAD_BUF1	3
R_SGPIO2_DATAOUT_BUF1	
	PH_5x1V_2.54mm

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)

The 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.

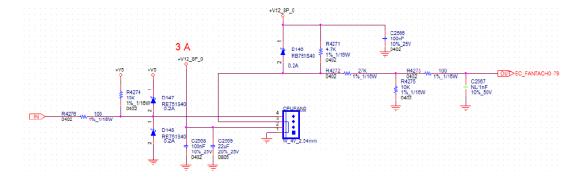


2.17 CPU Fan Connector (CPUFAN1)

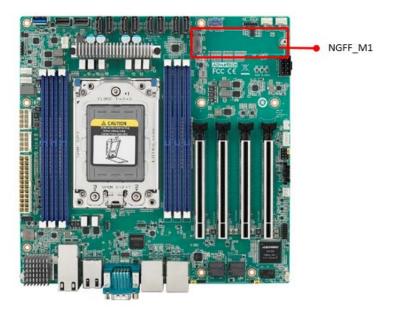
If a fan is used, this connector supports cooling fans that draw up to 2A (24W).



Pin	Signal
1	GND
2	+V12_8P_0
3	EC_FANTACH0
4	EC_CPU_PWM



2.18 NGFF M.2 M-Key (NGFF_M1)



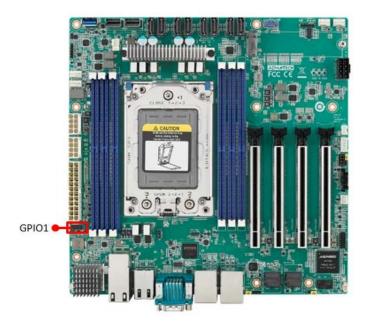
 M.2 M-Key: 2280: Supports SATA III or PCIe x4 interfaces and compatible with NVMe devices.

2.19 Slimline SAS 4i Connector (SAS1/SAS2)

This connector supports PCIE Gen 4 signals.

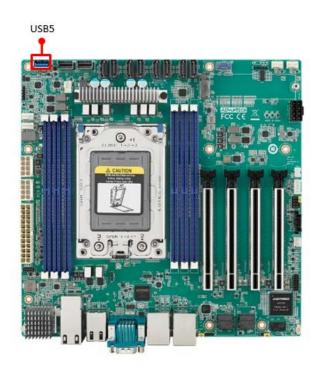


2.20 General Purpose I/O Connector (GPIO1)

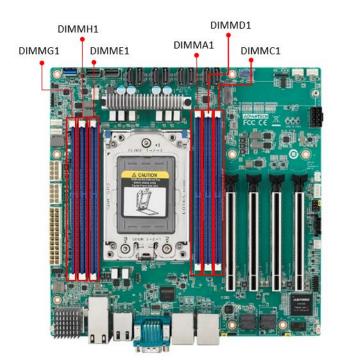


2.21 USB 3.2 Gen1 Vertical Connector (USB5)

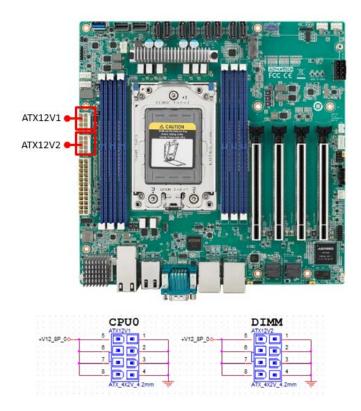
The USB port complies with USB 3.2 Gen 1, supports transmission speeds of up to 5 Gbps, and includes fuse protection.



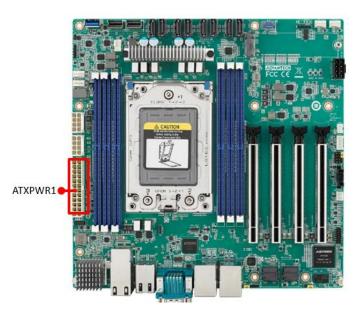
2.22 DDR4 RDIMM Slot (DIMME1 / DIMMH1 / DIMMG1/ DIMMA1 / DIMMD1 / DIMMC1)

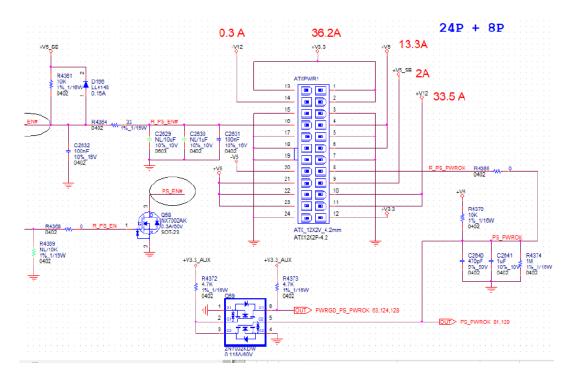


2.23 ATX Power Connector (ATX12V1 / ATX12V2 / ATXPWR1)



Pin	Signal	Pin	Signal
1	GND	5	+V12_8P_0
2	GND	6	+V12_8P_0
3	GND	7	+V12_8P_0
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!

1.

- Please connect the ATX12V1 and ATX12V2 connector with the PSU ATX 12V 8-pin connector, otherwise the AIMB-592 will not boot up normally.
- 2. For a fully configured system, we recommend that you use a power 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 memory of the motherboard. When the power is turned off, the battery on the board supplies the necessary power to preserve the flash memory.

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.

Select Screen
Select Item
Select
Change Opt
General help
Previous Values
Optimized Defaults
Save & Exit
Exit

3.2.1 Main Menu

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

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit Event Logs 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	16384 MB (DDR4) 2933 MT/s [Wed 04/26/2023] [15:06:02]	<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	2.21.1280 Copyright (C) 20	D23 AMI	

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.

Main Advanced Chipset Security	Aptio Setup – AMI Boot Save & Exit Event Logs Server Mgmt
 Trusted Computing AMD CBS EID-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVMe Configuration SATA Configuration T1s Auth Configuration 	Trusted Computing Settings
▶ Driver Health	++: 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

TPM 2.0 Device Found Firmware Version: Vendor:	7.2 NTC	Enables or Disables BIOS support for security device O.S. will not show Security
Security Device Support Active PCR banks Available PCR banks	[Enable] SHA-1,SHA256 SHA-1,SHA256,SHA384	Device. TCG EFI protocol and INT1A interface will not be available.
SHA-1 PCR Bank SHA256 PCR Bank	[Enabled] [Enabled]	
SHA384 PCR Bank	[Disabled]	
Pending operation Platform Hierarchy	[None] [Enabled]	++: Select Screen
Storage Hierarchy Endorsement Hierarchy	[Enabled] [Enabled]	t↓: Select Item Enter: Select
TPM 2.0 UEFI Spec Version	[TCG_2]	+/-: Change Opt.
Physical Presence Spec Version TPM 2.0 InterfaceType	[1.3] [TIS]	F1: General Help F2: Previous Values
Device Select	[Auto]	F3: Optimized Defaults F4: Save & Exit ESC: Exit

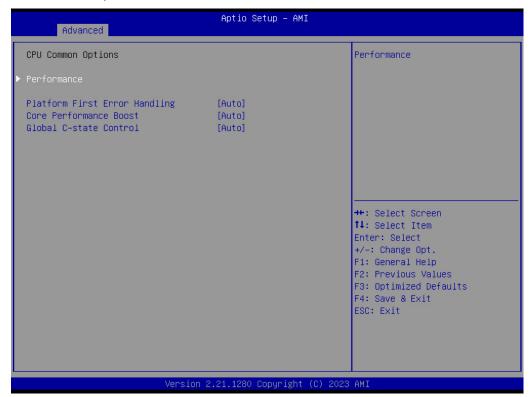
3.2.2.1 AMD CBS

Main Advanced Chinset Security	Aptio Setup – AMI Boot Save & Exit Event Logs Server Mgmt
 Trusted Computing AMD CBS EID-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration Tls Auth Configuration Driver Health 	AMD CBS Setup Page ++: Select Screen 11: 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 Copyright (C) 2023 AMI

AMD CBS Setup Page

Advanced	tio Setup — AMI
AMD CBS	CPU Common Options
 CPU Common Options UMC Common Options NBIO Common Options 	
	++: Select Screen f1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.22.	1282 Copyright (C) 2022 AMI

CPU Common Options - Performance



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

Advanced	Aptio Setup – AMI	
Performance		Can be used to modify the number of core/CCD.
OC Mode ▶ Custom Core Pstates	[Normal Operation]	
 CCD/Core/Thread Enablement SMT Control 	[Auto]	
		++: Select Screen
		†↓: 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

- 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]

Advanced Advanced	tio Setup – AMI
AMD CBS	UMC Common Options
 CPU Common Options UMC Common Options NBIO Common Options 	
	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.21.1	1280 Copyright (C) 2023 AMI

UMC Common Options - DDR4 Common Options

Aptio Setup - AMI Advanced	I
UMC Common Options	DDR4 Common Options
DDR4 Common Options	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.22.1282 Copyright	(C) 2022 HMI

DDR4 Common Options - Common RAS



DDR4 Common Options - Common RAS - ECC Configuration



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

Aptio Setup Advanced	- AMI
AMD CBS	NBIO Common Options
 CPU Common Options UMC Common Options NBIO Common Options 	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.22.1282 Copyr	ignt (C) 2022 AMI

NBIO Common Options

Advanced	Aptio Setup – AMI	
NBIO Common Options		SMU Common Options
IOMMU PCIE ARI Support PCIE ARI Enumeration > SMU Common Options	[Disabled] [Auto] [Auto]	++: Select Screen ↑↓: 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 ((C) 2023 AMI

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

SMU Common Options

Advanced	Aptio Setup – AMI	
SMU Common Options		0 = not APBDIS (mission mode) 1 = APBDIS
APBDIS CPPC	[Auto] [Auto]	1 - HEDUIS
		<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Ven	sion 2.21.1280 Copyright (C) 2	023 AMI

- APBDIS [Auto]
- CPPC [Auto]

3.2.2.2 EIO-201 EC Configuration

Main Advanced Chipset Securit	Aptio Setup – AMI Boot Save & Exit Event Logs Server Mgmt
 Trusted Computing AMD CBS EIO-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVMe Configuration SATA Configuration T1s Auth Configuration Driver Health 	EIO-201 EC Configuration Parameters.
Versio	2.21.1280 Copyright (C) 2023 AMI

Advanced	Aptio Setup – AMI	
EID-201 EC Configuration		Set Parameters of Serial Port 1 (COMA)
Embedded Controller Firmware Version	EIO-201 X00163716	1 (60/m)
ErP Support	[Disabled]	
 Serial Port 1 Configuration Digital I/O Configuration 		
Case Open Warning	[Disabled]	
Wake On Ring	[Disabled]	
Watch Dog Timer	[Disabled]	
▶ Hardware Monitor		<pre>++: Select Screen f↓: Select Item</pre>
		Enter: Select
		+/-: Change Opt.
		F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit
Versio	n 2.21.1280 Copyright (C) :	2023 AMI

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

Advanced	Aptio Setup — AMI	
Serial Port 1 Configuration		Enable or Disable Serial Port
Serial Port Device Settings	[Enabled] IO=3F8h; IRQ=4;	(COM)
Change Settings	[Auto]	
		<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
	24 4220 Denusiality /22-2025	
– Serial Port	.21.1280 Copyright (C) 2023	HUT

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		
NCT6126D Super IO Configuration		Set Parameters of Serial Port 2 (COMB)
Super IO Chip > Serial Port 1 Configuration > Serial Port 2 Configuration > Serial Port 3 Configuration > Serial Port 4 Configuration > Serial Port 5 Configuration > Serial Port 6 Configuration	NCT6126D	
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	1 2.22.1282 Copyright (C) 2	022 AMI

]

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	EIO-201 X00163716	
ErP 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 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	2.21.1280 Copyright (C) 2023	AMI

 Digital I/O Configuration Configure Digital I/O Pins.

EIO-201 EC Configuration		Enabled or Disabled Watch Dog
		Timer function, Watch Dog
Embedded Controller	EIO-201	Timer will initial after
Firmware Version	X00163716	ASPEED chip. ASPEED chip will
		initial for about 45 seconds.
ErP Support	[Disabled]	
· Serial Port 1 Configuration		
· Digital I/O Configuration		
Case Open Warning	[Disabled]	
Wake On Ring	[Disabled]	
Watch Dog Timer	[Disabled]	
Hardware Monitor		++: Select Screen
		↑↓: Select Item
		Enter: Select
		+/-: Change Opt.
		F1: General Help
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit

- Case Open Warning [Disabled]
- Wake On Ring [Disabled]
- Watch Dog Timer [Disabled]

- Note!
- 1. The Watchdog Timer will initialize after the ASPEED chip starts up, which takes approximately 45 seconds.

- 2. A continuous series of short beeps indicates a case open or high temperature warning.
- 3. A single short beep that repeats continuously indicates a case open or temperature warning.

Advanced	Aptio Setup – AMI	
Digital I/O Configuration Digital I/O Pin 1 Digital I/O Pin 2	[Input] [Input]	Configure Digital I∕O Pin 1.
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]	
		<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>
Vers.	ion 2.21.1280 Copyright (C)	2023 AMI

- 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	EID-201 X00163716	
ErP 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 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	2.21.1280 Copyright (C) 202	'3 AMI

Hardware Monitor Monitor hardware status

Advanced	Aptio Setup – AMI	
PC Health Status		Smart Fan Mode Select
CPU Temperature SystemO Temperature System1 Temperature CPUFAN1 SYSFAN1 SYSFAN2 SYSFAN3	: + 36.7°C/ +98.0°F : + 40.9°C/ +105.6°F : + 40.1°C/ +104.1°F : 0 RPM : 4561 RPM : 0 RPM : 0 RPM	
SYSFAN4	: O RPM	
+VIN +V5SB +VBAT +VDDCR_CPU +VDDCR_SOC	: +12.22 V : +5.01 V : +2.96 V : +0.76 V : +0.85 V	<pre>++: Select Screen \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$</pre>
▶ Smart Fan Mode Configuration		F2: Previous Values F3: Optimized Defaults
ACPI Shutdown Temperature CPU Warning Temperature	[Disabled] [Disabled]	F4: Save & Exit ESC: Exit
Versio	n 2.21.1280 Copyright (C) 20	23 AMI

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

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

2. A repeating pattern of two short beeps followed by one long beep indicates a CPU temperature warning.

Advanced	Aptio Setup – AMI	
Smart Fan Mode Configuration Smart Fan – CPUFAN1 Smart Fan – SYSFAN1 Smart Fan – SYSFAN2 Smart Fan – SYSFAN3 Smart Fan – SYSFAN4	[Auto] [Auto] [Auto] [Auto] [Auto]	Control Smart FAN function. Get value from EC and only set value when Save Changes.
		<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>
Versio	n 2.21.1280 Copyright (C)	2023 AMI

The Smart FAN Control function retrieves values from the EC (Embedded Controller) and only applies changes when settings are saved.

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

Chapter 3 BIOS and BMC Operation

3.2.2.3 S5 RTC Wake Settings

Aptio Setup Main Advanced Chipset Security Boot Save & E	
 Trusted Computing AMD CBS EIO-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVMe Configuration SATA Configuration 	Enable system to wake from S5 using RTC alarm
 Tls Auth Configuration Driver Health 	++: 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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Wake system from S5 [Disabled]

Advanced	Aptio Setup – AMI	
Wake system from S5	[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>
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Enable/Disable System wake on alarm event. If "FixedTime" is selected, the system will wake on the hr:min:sec specified. When "DynamicTime" is selected, the system will wake after the specified number of minutes has passed from the current time.

3.2.2.4 Serial Port Console Redirection

Main Advanced Chipset Securit	Aptio Setup – AM 9 Boot Save & Exit	
 Trusted Computing AMD CBS EID-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration Tls Auth Configuration Driver Health 		Serial Port Console Redirection ++: 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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Advanced	Aptio Setup – AMI	
COM1 Console Redirection ► Console Redirection Settings	[Disabled]	Legacy Console Redirection Settings
Serial Communication via IPMI COM IPMI COM Console Redirection ▶ IPMI COM Console Redirection Settings	[Disabled]	
Legacy Console Redirection ▶ Legacy Console Redirection Settings		
Serial Port for Out-of-Band Managemen Windows Emergency Management Services Console Redirection EMS ▶ Console Redirection Settings		<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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- 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.

Advanced	Aptio Setup — AMI	
Legacy Console Redirection Settings Redirection COM Port Resolution Redirect After POST	[COM1] [80x24] [Always Enable]	Select a COM port to display redirection of Legacy OS and Legacy OPROM Messages
		++: Select Screen 1: Select Item
		Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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- Redirection COM Port [COM1]
- Resolution [80x24]
- Redirect After POST [Always Enable]

3.2.2.5 CPU Configuration

	ptio Setup – AMI t Save & Exit Event Logs Server Mgmt
 Trusted Computing AMD CBS EID-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVME Configuration SATA Configuration Tls Auth Configuration 	CPU Configuration Parameters
▶ Driver Health	<pre>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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Advanced	Aptio Setup — AMI	
CPU Configuration		View Memory Information related to Node O
SVM Mode ▶ Node 0 Information	[Enabled]	<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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- SVM Mode [Enable]
- Node 0 Information

CPU Configuration - Node 0 Information

Advanced	Aptio Setup – AMI
Node 0 Information	
AMD EPYC 7543P 32-Core Processor 32 Cores 64 Threads Running © 2821 MHz 1100 mV Processor Family: 19h Processor Model: 00h-0Fh Microcode Patch Level: A001173 Cache 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	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2.2	1.1280 Copyright (C) 2023 AMI

3.2.2.6 USB Configuration

Apti Main Advanced Chipset Security Boot	<mark>o Setup – AMI</mark> Save & Exit Event Logs Server Mgmt
 Trusted Computing AMD CBS EID-201 EC Configuration SS RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration Tls Auth Configuration Driver Health 	USB Configuration Parameters ++: 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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Advanced	Aptio Setup — AMI	
USB Configuration	_	Enables Legacy USB support. AUTO option disables legacy
USB Module Version	27	support if no USB devices are connected. DISABLE option will
USB Controllers: 3 XHCIs		keep USB devices available only for EFI applications.
USB Devices:		
9 Drives, 3 Keyboards, 2 Mice,	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-outs:		↑↓: 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
AMI Virtual CDROMO 1.00	[Auto]	F4: Save & Exit
AMI Virtual HDiskO 1.00	[Auto]	ESC: Exit
USB3.0 FLASH DRIVE PMAP	[Auto]	
AMI Virtual CDROM1 1.00	[Auto]	
AMI Virtual CDROM2 1.00	[Auto]	
Uppe ion - 0	.21.1280 Copyright (C) 2023	омт

 Legacy USB Support [Enabled] Enables Legacy USB support, the AUTO option disables legacy support if no USB devices are connected. The 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]

3 XHCIS		Mass storage device emulation
USB Devices: 9 Drives, 3 Keyboards, 2 Mi	ce, 1 Hub	type. 'AUTO' enumerates devices according to their media format. Optical drives
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.
upp handling data and the		
USB hardware delays and time-outs		
USB transfer time-out	[20 sec]	
Device reset time-out	[20 sec]	
Device power-up delay	[Auto]	We Delect Orecord
Need Otenand Davidson		++: Select Screen
Mass Storage Devices:	[out-1	↑↓: Select Item
AMI Virtual CDROMO 1.00	[Auto]	Enter: Select
AMI Virtual HDiskO 1.00	[Auto]	+/-: Change Opt.
USB3.0 FLASH DRIVE PMAP	[Auto]	F1: General Help
AMI Virtual CDROM1 1.00	[Auto]	F2: Previous Values
AMI Virtual CDROM2 1.00	[Auto]	F3: Optimized Defaults
AMI Virtual CDROM3 1.00	[Auto]	F4: Save & Exit
AMI Virtual HDisk1 1.00	[Auto]	ESC: Exit
AMI Virtual HDisk2 1.00	[Auto]	
AMI Virtual HDisk3 1.00		

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 AMD CBS EID-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVMe Configuration SATA Configuration Tls Auth Configuration 	Network Stack Settings	
▶ Driver Health	<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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Advanced	Aptio Setup – AMI	
Network Stack	[Disabled]	Enable/Disable UEFI Network Stack **: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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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 AMD CBS EIO-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVMe Configuration SATA Configuration T1s Auth Configuration Driver Health 	CSM configuration: Enable/Disable, Option ROM execution settings, etc. ++: Select Screen 14: 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 Copyrig	yht (C) 2023 AMI		

Advanced	Aptio Setup – AMI	
Compatibility Support Module Con	figuration	UPON REQUEST – GA20 can be disabled using BIOS services. ALWAYS – do not allow
CSM16 Module Version	07.84	disabling GA20; this option is useful when any RT code is
GateA20 Active INT19 Trap Response	[Upon Request] [Immediate]	executed above 1MB.
Boot option filter	[UEFI only]	
Option ROM execution		
Network Storage Video Other PCI devices	(UEFI) (UEFI) (UEFI) (UEFI)	<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>
Versi	on 2.21.1280 Copyright (C) :	2023 AMI

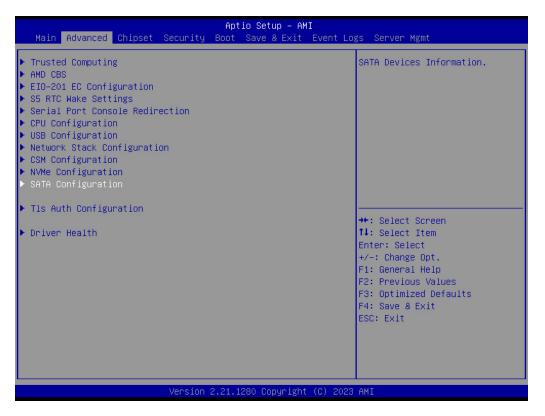
- GateA20 Active [Upon Request] UPON REQUEST – GA20 can be disabled using BIOS services. ALWAYS – do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.
- INT19 Trap Response [Immediate]
- Boot option filter [UEFI only]

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

3.2.2.9 NVMe Configuration

Aptio Setup — AMI Main <mark>Advanced</mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt			
 Trusted Computing AMD CBS EID-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration T1s Auth Configuration Driver Health 	<pre>**: Select Screen **: Select Screen **: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit</pre>		
	ESC: Exit		

3.2.2.10 SATA Configuration



3.2.2.11 TIs Auth Configuration

Aptio Setup – AMI Main <mark>Advanced </mark> Chipset Security Boot Save & Exit Event Logs Server Mgmt			
 Trusted Computing AMD CBS EIO-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration SATA Configuration T1s Auth Configuration Driver Health 	Press <enter> to select TIs Auth Configuration.</enter>		
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- Server CA Configuration
- Client Cert Configuration

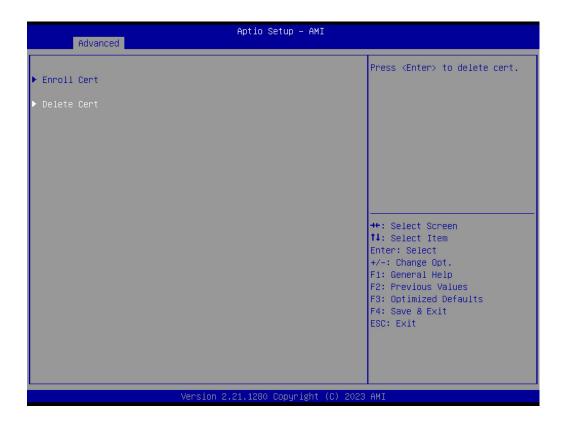
Server CA Configuration – Enroll Cert

Aptic Advanced	o Setup – AMI
▶ Enroll Cert	Press <enter> to enroll cert.</enter>
▶ Delete Cert	
	++: 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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Server CA Configuration – Enroll Cert – Enroll Cert Using File

Aptio Setup	- AMI
▶ Enroll Cert Using File	Enroll Cert Using File
Cert GUID	
 Commit Changes and Exit Discard Changes and Exit 	
	++: Select Screen †↓: Select Item Enter: Select +/-: Change Opt. E1: Cenage Upt.
	F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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Server CA Configuration – Delete Cert



3.2.2.12 Driver Health

Provides Health Status for the Drivers/Controllers.

Main Advanced Chipset Security	Aptio Setup – AMI 30ot Save & Exit Event Logs Server Mgmt
 Trusted Computing AMD CBS EID-201 EC Configuration S5 RTC Wake Settings Serial Port Console Redirection CPU Configuration USB Configuration Network Stack Configuration CSM Configuration NVMe Configuration SATA Configuration T1s Auth Configuration 	Provides Health Status for the Drivers/Controllers
 Driver Health 	++: Select Screen fl: 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

Aptio Setup - AMI 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 fl: Select Item Enter: Select +/-: Change Opt. F1: General Help
Version 2.21.1280		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

3.2.3 Chipset Configuration Settings

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	Aptio Setup – AMI Security Boot Save & Exit Ev	vent Logs Server Mgmt
PCIe Link Training Type PCIe Compliance Mode ▶ South Bridge ▶ North Bridge	[1 Step] [Off]	South Bridge 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>
	Version 2.21.1280 Copyright ((C) 2023 AMI

3.2.3.1 South Bridge

Chipset	Aptio Setup — AMI	
Chipset PCI Express Configuration LAN1 Controller LAN1 PXE OPROM LAN2 Controller LAN2/PXE OPROM LAN3/LAN4 Controller LAN3 PXE OPROM LAN4 PXE OPROM PCIE Wake Restore AC Power Loss PCIE Device Initial Delay	Aptio Setup - AMI [Enabled] [Disabled] [Enabled] [Disabled] [Disabled] [Disabled] [Disabled] [Power Off] 0	<pre>PCI Express Configuration Parameters ++: 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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- LAN1 Controller [Enable]
- LAN2 Controller [Enable]
- LAN3/4 Controller [Enable]
- PCIE Wake [Disabled]
- Restore AC Power Loss [Power off]
- PCIE Device Initial Delay 0

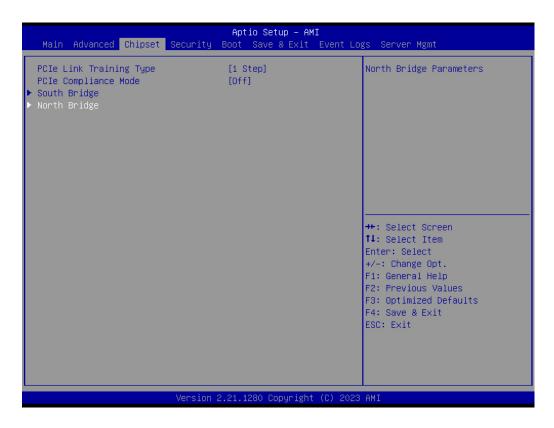
PCI Express Configuration

The user can enable or disable PCI express devices.

Chincet	Aptio Setup – AMI	
Chipset PCI Express Configuration M.2 M-key Slot ASPM Mode Control PCIe x16 Slot1 ASPM Mode Control PCIe x16 Slot2 ASPM Mode Control PCIe x16 Slot3 ASPM Mode Control PCIe x16 Slot4 ASPM Mode Control LAN1 Controller ASPM Mode Control LAN2 Controller ASPM Mode Control LAN3/LAN4 Controller ASPM Mode Control	Aptio Setup - AMI [Enabled] [Disabled] [Enabled] [Disabled] [Enabled] [Disabled] [Enabled] [Disabled] [Enabled] [Disabled] [Enabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled]	Enable/Disable M.2 M-Key Slot device.
	ion 2.21.1280 Copyright (C)	

- M.2 M-key Slot [Enabled]
- PCIe 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 Setup - AMI Chipset	
North Bridge Configuration	View Information related to Socket O
Memory Information	SUCKET U
Total Memory: 16384 MB (DDR4) ▶ Socket 0 Information	
	<pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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Memory Information

Socket 0 Information

Chipset	Aptio Setup – AMI		
Socket 0 Information			
DIMM A1: DIMM C1: DIMM D1: Size Speed Number of Ranks Manufacturer DIMM E1: DIMM G1: DIMM H1:	Populated & Disabled Populated & Enabled 16384MB 2933MT/S 1 Micron Technology Populated & Disabled Populated & Disabled Populated & Disabled	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>	
Version 2.21.1280 Copyright (C) 2023 AMI			

3.2.4 Security Settings

Aptio Setup – AMI Main Advanced Chipset <mark>Security</mark> Boot Save & Exit Event Logs Server Mgmt		
Password Description		Secure Boot configuration
If ONLY the Administrator's then this only limits access only asked for when entering If ONLY the User's password is a power on password and u boot or enter Setup. In Setu have Administrator rights. The password length must be in the following range: Minimum length	s to Setup and is g Setup. is set, then this must be entered to	
Maximum length Administrator Password User Password ▶ Secure Boot	20	<pre>++: Select Screen \$\$\\$\$ Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
	Version 2.21.1280 Copyrig	

3.2.4.1 Secure Boot



3.2.5 Boot Settings



Setup Prompt Timeout
 Number of seconds to wait for setup activation key.

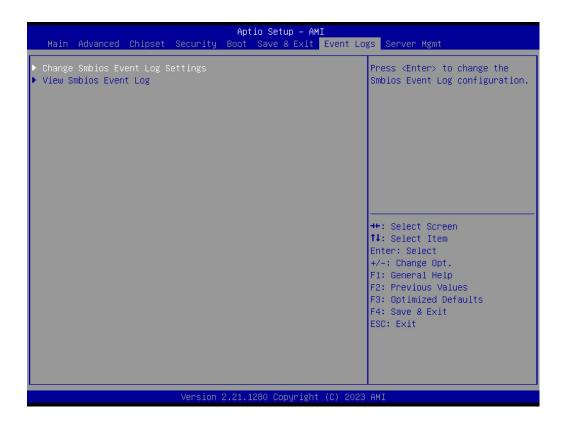
Chapter 3 BIOS and BMC Operation

- 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 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.

	Aptio Setup — AMI Event Lo	gs
Enabling/Disabling Options Smbios Event Log	[Enabled]	Change this to enable or disable all features of Smbios Event Logging during boot.
Erasing Settings Erase Event Log When Log is Full	[No] [Do Nothing]	Event Logging during boot.
Smbios Event Log Standard Settings Log System Boot Event MECI METW	[Enabled] 1 60	
Custom Options Log EFI Status Code Convert EFI Status Codes to Standard Smbios Type	[Enabled] [Disabled]	<pre>→+: Select Screen ↑↓: Select Item Enter: Select</pre>
NDTE: All values changed here do not effect until computer is resta		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
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■ View Smbios Event log.

Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit	
▶ Change Smbios Event Log Settings ▶ View Smbios Event Log	Press <enter> to view the Smbios Event Log records.</enter>
	<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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	Apti	o Setup – AMI Event Log	gs <mark>-</mark>
DATE TIME ERROR CODE	SEVERITY	COUNT	DESCRIPTION Log Area Reset and Count is
01/01/22 00:00:51 Smbios 0x16	NZA	N/A	applicable only for
01/01/22 00:00:51 Smbios 0x17	N/A	N/A	Multi-Events
01/01/22 00:00:51 EFI 0300000A		01	
01/01/22 00:01:31 Smbios 0x17	N/A	N/A	
04/26/23 15:01:26 Smbios 0x17		NZA	
04/26/23 15:03:32 Smbios 0x17		N/A	
			<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>
Ven	sion 2.21.12	80 Copyright (C) 2023	AMI

3.2.8 Server Mgmt

Main Advanced Chipset Securit	Aptio Setup – AMI y Boot Save & Exit Event L	ogs Server Mgmt
BMC Self Test Status BMC Device ID BMC Device Revision BMC Firmware Revision IPMI Version IPMI Wersion 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 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] [Enabled] 6 [Do Nothing] [Disabled] 10 [Reset]	Press <enter> to change the SEL event log configuration. ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults</enter>
	n 2.21.1280 Copyright (C) 202	F4: Save & Exit ESC: Exit

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.

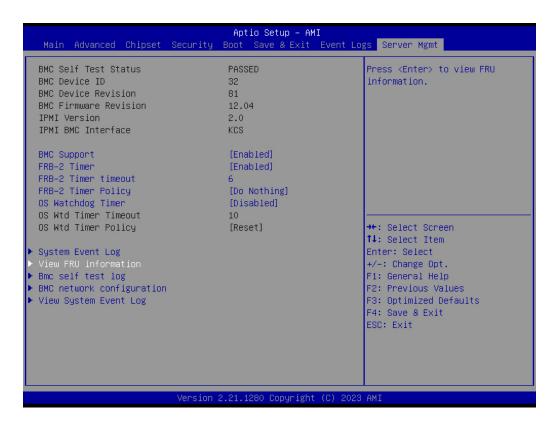
3.2.8.1 System Event Log

Main Advanced Chipset Se	Aptio Setup – AMI curity Boot Save & Exit Eve	nt Logs Server Mgmt
BMC Self Test Status BMC 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 Timeout OS Watchdog Timer OS Wtd Timer Timeout	PASSED 32 81 12.04 2.0 KCS [Enabled] [Enabled] 6 [Do Nothing] [Disabled] 10	Press <enter> to change the SEL event log configuration.</enter>
OS Wtd Timer Policy > System Event Log > View FRU information > Bmc self test log > BMC network configuration > View System Event Log	[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>

	Aptio Setup — AMI	Server Mgmt
Enabling/Disabling Options SEL Components	[Enabled]	Change this to enable or disable event logging for error/progress codes during
Erasing Settings Erase SEL	[No]	boot.
Custom EFI Logging Options Log EFI Status Codes	[Error code]	
NOTE: All values changed here do no effect until computer is rest		
		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version	2.21.1280 Copyright (C) 202	3 AMI

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

3.2.8.2 View FRU information



	Aptio Setup — AMI	Server Mgmt
FRU Information		
System Manufacturer System Product Name System Version System Serial Number Board Manufacturer Board Product Name Board Part Number Board Serial Number Chassis Manufacturer Chassis Part Number	Advantech AIMB-592	
Chassis Serial Number SDR Version System UUID	1.5 6E36AABA-BFDE-11D3-02AD- 07F04F19441E	++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt.
NOTE:No FRU information for fields i information needs to be filled by O.		F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2	.21.1280 Copyright (C) 2023	AMI

3.2.8.3 BMC Self Test Log

Main Advanced Chipset Secu	Aptio Setup – AMI urity Boot Save & Exit Eve	ent Logs Server Mgmt
BMC Self Test Status BMC 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	PASSED 32 81 12.04 2.0 KCS [Enabled] [Enabled] 6 [Do Nothing] [Disabled] 10	logs the report returned by BMC self test command
OS Wtd Timer Policy > System Event Log > View FRU information > Bmc self test log BMC network configuration > View System Event Log	[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>
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	Aptio Setup – AMI	Server Mgmt
Log area usage = 00 out of 20 logs		Erase Log Options
Erase Log When log is full	[Yes, On every reset] [Clear Log]	
Log Empty		
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
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- 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 Lo	ogs Server Mgmt
BMC Self Test Status BMC 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	PASSED 32 81 12.04 2.0 KCS [Enabled] [Enabled] 6 [Do Nothing] [Disabled]	Configure BMC network parameters
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	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>
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	Aptio Setup – AMI	Server Mgmt
BMC network configuration жжжжжжжжжжжжжжжж Configure IPv4 support жжжжжжжжжжжжжжж Lan channel 1 Configuration Address source	[Unspecified]	▲ 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
Current Configuration Address source	DynamicAddressBmcDhcp	
Station IP address	172.22.16.165	
Subnet mask	255.255.252.0	
Station MAC address	3A-FB-2E-70-5E-A1	
Router IP address	0.0.0	
Router MAC address	00-00-00-00-00	++: Select Screen ↑↓: Select Item
жжжжжжжжжжжжжж		Enter: Select
Configure IPv6 support		+/-: Change Opt.
****		F1: General Help F2: Previous Values
Lan channel 1		F3: Optimized Defaults F4: Save & Exit
IPv6 Support	[Enabled]	ESC: Exit
Configuration Address source	[Unspecified]	· • • • • • • • • • • • • • • • • • • •
Versio	n 2.21.1280 Copyright (C) 2	023 AMI

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

Main Advanced Chipset	Aptio Setup – AM Security Boot Save & Exit						
BMC Self Test Status BMC 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 network configuration View System Event Log	PASSED 32 81 12.04 2.0 KCS [Enabled] [Enabled] 6 [Do Nothing] [Disabled] 10 [Reset]	Press <enter> to view the System Event Log Records.</enter>					
Version 2.21.1280 Copyright (C) 2023 AMI							

3.2.9 BMC - Setting of WEB Browser

Enabling an Intelligent Planet					
	. 1				
		Advantech-BMC			
		Disemanie	_		
		US - English	-		
		Remember Username			
		Sign me in			
			<u>R</u>		

- The user should check "Station IP address" of the BIOS menu (Section 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, the login page will be reloaded. Enter the username and modified password to log into the browser.
- Standard 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 US+English	• O syne	😅 Hefresh 💄 admin +
Einmwaru.Information 13.04.0 ad.26.2822.14.04.11.CVT 10.04 Costine	Dashboard Control Parel					Here - Dathboard
Quick Links	0 d 0 hrs	3				
🖷 Dashbeard	Power-On Hours	Access Logs				
a Sensor		More info O				
• FRU Information						
Last. Loga & Reports >						
 Settings 						
🖵 Remote Control						
G Image Redirection						
O Power Control						
🗲 Maintenance						
6 Sign out						

 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 powered off, and access logs will show all events incurred by various sensors. ON state

Advantech-BMC	=				R	US - English	• 🤇	© Sync	CRefresh	1 admin +
Eicroware. Information 12.04.6 Jul 36 2022 14:04:11 CST Host Online	Dashboard Centrol Panel									ome - Dashboard
Quick Links	0 d 0 ^{hrs}	3								
A Dashboard	Power-On Hours	Aco								
Sensor	Sec		Mor	re infa 🖸						
FRU Information	Ω Today (27)	Details	🖸 30 da	ays (27)	Details	Sensor Moni	toring			
🖬 Logs & Reports 💦										
 Settings 						⊖ Currently rec	overed			_
Remote Control	system_event			system_eve						
A Image Redirection	10 events			10 events						
O Power Control			1.0							
✤ Maintenance										
😝 Sign out										

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

3.2.9.2 Sensor

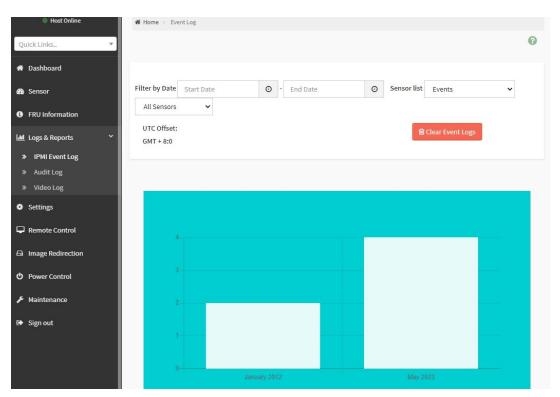
Host Online	ℰ Home > Sensor Reading			
Quick Links				0
A Dashboard	□ Critical Sensors (0)			
🎒 Sensor		All thres	hold sensors are normal	
FRU Information	Discrete Sensor State	es (2)		
Logs & Reports				
Settings	Sensor Name		State	
Remote Control	SEL_Logging		No state defined	
	SystemBMC_WTD		No state defined	
Image Redirection				
එ Power Control	Normal Sensors (13)			
F Maintenance	Sensor Name	Reading	Behavior	
🕒 Sign out	Jv+ 12V	12.15 Volts		
	-/⊷ 3V3	3.36 Volts		
	-∕⊷ 3V3SB	3.36 Volts		
	J~ 5V	5.05 Volts		

3.2.9.3 FRU Information

Host Online	# Home > FRU		
Quick Links			0
A Dashboard	Available FRU Devices		
🚯 Sensor	FRU Device ID 0 🗸		
FRU Information	FRU Device Name Board FRU		
Logs & Reports			
Settings	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
Image Redirection	Chassis Type Other	Version	Language English
O 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 a FRU device.

3.2.9.4 LOG & Reports - IPMI Event Log



3.2.9.5 LOG & Reports – Audit Log

🔍 Host Online 🏾 🖀 H	ome > AuditLog	
Quick Links		0
A Dashboard		Ø
A Sensor	r by Date Start Date O - End Date O	
FRU Information		
Logs & Reports	Audit Log: 94 out of 94 event entries	
» IPMI Event Log	2023	Â
» Audit Log	ID: 94 May 16th 2023, 1:32:35 pm AMIEA114B9FBB47 spx restservice: spx restservice [1193 : 1193	
» Video Log	INFO]https Login from IP:172.22.214.181 user:admin -	
Settings	ID: 93 May 16th 2023, 1:29:22 pm AMIEA114B9FBB47 spx_restservice: spx_restservice [1193 : 1193	
Remote Control	WARNING]https Login Failed from IP:172.22.214.181 user:admin -	
Image Redirection	ID: 92 May 16th 2023; 1:11:24 pm AMIEA114B9FBB47 spx_restservice: spx_restservice [1193:1193 INFO]HTTPS logout from IP:172.22.16.74 user:admin -	
O Power Control		
	ID: 91 May 16th 2023, 1:11:08 pm AMIEA114B9FBB47 adviserd: adviserd [1146 : 1163 INFO]KVM logout from IP:172.22.16.74 user:admin -	
🕞 Sign out	ID: 90 May 16th 2023, 1:10:49 pm AMIEA114B9FBB47 adviserd: adviserd [1146:1163 INFO]kvm Login from IP:172.22.16.74 user:admin -	
9	ID: 89 May 16th 2023, 1:09:29 pm AMIEA114B9FBB47 spx_restservice: spx_restservice [1193 : 1193 INFO]https Login from IP:172.22.16.74 user:admin -	•

3.2.9.6 LOG & Reports – Video Log

=		2	US - English	▼ \$ync	CRefresh 💄 admin -
Video Log All video event logs					🕷 Home 🗧 Video Log
					Ø
Filter by Date Start Date 0	2 • End Date	0			
	v	ideo Log: 0 out of 0 event entrie:			
0					

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	9		9
🚳 Sensor	Captured BSOD	Date & Time	External User Services	KVM Mouse Setting
FRU Information	E	—	-th	臣
Logs & Reports	Log Settings	Media Redirection Settings	Network Settings	PAM Order Settings
Settings	T	O ₀ 0	\bowtie	*
🖵 Remote Control	Platform Event Filter	Services	SMTP Settings	SSL Settings
Image Redirection	Ο			8
C Power Control	System Firewall	User Management	Video Recording	
🗲 Maintenance	ojocan newati	our management		a minimeenades
🕒 Sign out				

Users can access various configuration settings through this page.

3.2.9.8 Remote Control

Host Online	♣ Home > Remote Control	
Quick Links		6
# Dashboard	H5Viewer	
Sensor		
FRU Information	Click here to go to Remote Session Settings.	
네 Logs & Reports	C ^a Launch H5Viewer	
Settings		
🖵 Remote Control		
Image Redirection		
O Power Control		
F Maintenance		
Sign out		

Remote Control – Launch H5viewer

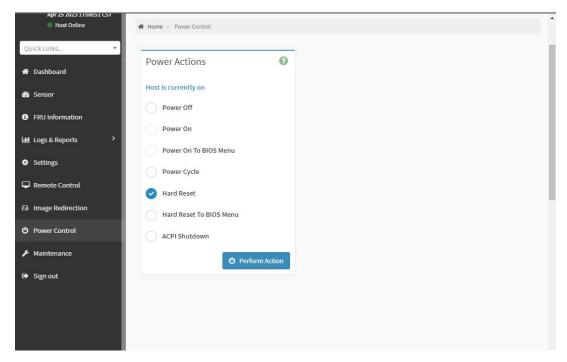


LWIN RWIN LALT LCTRL RALT RCTRL NUM CAPS SCR

3.2.9.9 Image Redirection

=	2 4	A	US - English	٠	© Sync	C Refresh	🎗 admin 🗸
Image Redirection						🕊 Home 🖓	Image Redirection
Remote 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

=		S A US - English	◆ Sync ○ Refresh ▲ admin →
Maintenance			# Home - Maintenance
Backup Configuration	Cual BMC Image configuration	Firmware Image Location	Firmware information
Firmware Update	Preserve Configuration	Restore Configuration	D Restore Factory Defaults
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 allows application programs to request services from libraries and operating systems. It includes not only the necessary drivers but also a comprehensive set of user-friendly, intelligent, and integrated interfaces. This accelerates development, improves security, and adds value to Advantech platforms. Acting as a bridge between developers and their solutions, the API makes it easier to adopt and integrate Advantech embedded platforms 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 provides 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 with an embedded system environment and transfer serial messages using the SMBus protocols, allowing simultaneous control of multiple devices.

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 enables developers to turn the screen

backlight on or 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

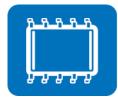


Makes use of Intel SpeedStep technology to save power consumption. The system will automatically adjust the CPU speed depending on the system loading.

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 the current BIOS by copying it from the flash chip to a file on the customer's 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 occur.



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 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 2.0/3.2 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. Visit the Advantech website and search for AIMB-592. There you can find the "Chip" driver available for download.

WinSvr19 driver for AIMB-592	
2023-05-26 Driver Document No.1-5161758611	
Related Product: AIMB-592	
Solution:	
WinSvr19 driver for AIMB-592	^
WinSvr19 driver for AIMB-592	
AIMB-592_Chip_WinSvr19 2023-05-09	Download
AIMB-592_Graphic_WinSvr19 2023-05-09	Download
AIMB-592_Lan_WinSvr19 2023-05-26	Download



LAN Configuration

6.1 Introduction

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

6.2 Windows Series Driver Setup

Visit the Advantech website and search for AIMB-592. You will see the "LAN" driver available for download.

WinSvr19 driver for AIMB-592	
2023-05-26 Driver Document No.1-5161758611	
Related Product: AIMB-592	
Solution:	
WinSvr19 driver for AIMB-592	^
WinSvr19 driver for AIMB-592	
AIMB-592_Chip_WinSvr19 2023-05-09	Download
AIMB-592_Graphic_WinSvr19 2023-05-09	Download
AIMB-592_Lan_WinSvr19 2023-05-26	Download



Pin Assignments

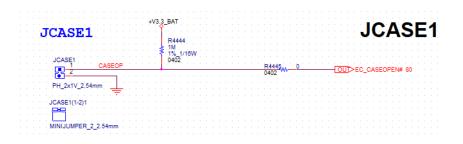
A.1 CMOS Clear Jumper (JCMOS1)

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)



Case Open P	Pin Header (JCASE1)	
Pin	Signal	
1	CASEOP	
2	GND	

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

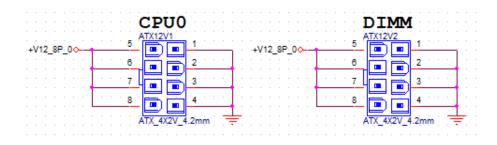


Table A.3: ATX 12V IN Connector (ATX12V1/ ATX12V2)ATX/AT Mode Selection (PSON1)

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 24-Pin IN Connector (ATXPWR1)

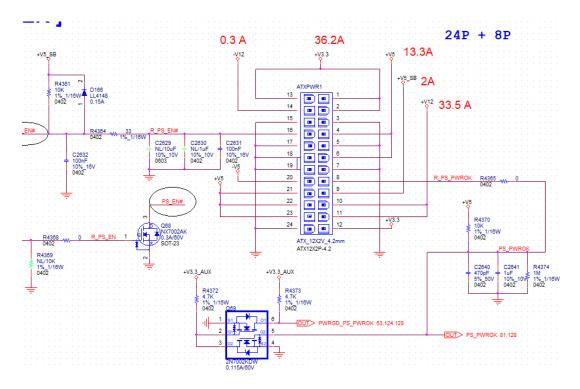


Table A.4: A	Table A.4: ATX 24-Pin IN Connector (ATXPWR1)		
Pin	Signal	Pin	Signal
1	+V3.3	13	+V3.3
2	+V3.3	14	-V12
3	GND	15	GND
4	+V5	16	PS_ON#
5	GND	17	GND
6	+V5	18	GND
7	GND	19	GND
8	PWR_OK	20	-V5
9	+V5_SB	21	+V5
10	+V12	22	+V5
11	+V12	23	+V5
12	+V3.3	24	GND

A.6 GPIO header (GPIO1)

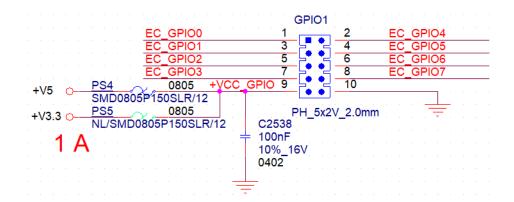


Table A.5: GPIO Header (GPIO1)			
Pin	Signal	Pin	Signal
1	EC_GPIO0	2	EC_GPIO4
3	EC_GPIO1	4	EC_GPIO5
5	EC_GPIO2	6	EC_GPIO6
7	EC_GPIO3	8	EC_GPI07
9	+V5	10	GND

A.7 EC Programing Header (SCN1)



Table A.6: E	Table A.6: 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)

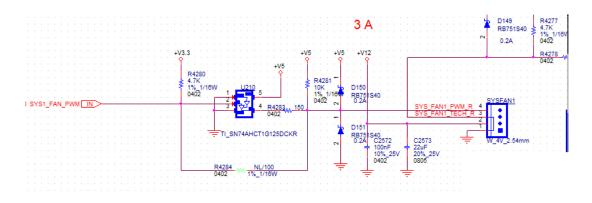


Table A.7: System FAN Connector (SYSFAN1)		
Pin	Signal	
1	GND	
2	+V12	
3	SYS1_FAN_TACH	
4	SYS_FAN1_PWM	

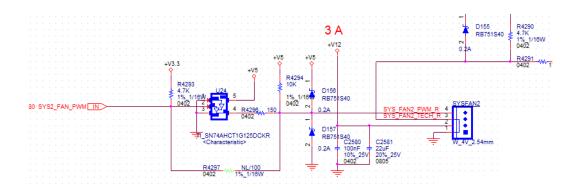


Table A.8: System FAN Connector (SYSFAN2)

Pin	Signal
1	GND
2	+V12
3	SYS2_FAN_TACH
4	SYS2_FAN_PWM

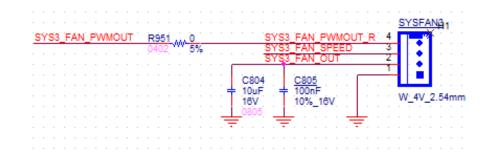


Table A.9: System FAN Connector (SYSFAN3)		
Pin	Signal	
1	GND	
2	SYS3_FAN_OUT	
3	SYS3_FAN_SPEED	
4	SYS3_FAN_PWMOUT	

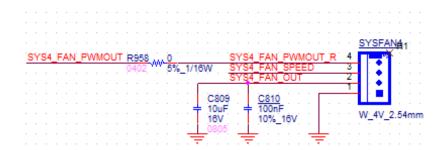


Table A.10: System FAN Connector (SYSFAN4)PinSignal1GND2SYS4_FAN_OUT3SYS4_FAN_SPEED4SYS4_FAN_PWMOUT

A.9 CPU FAN Connector (CPUFAN1)

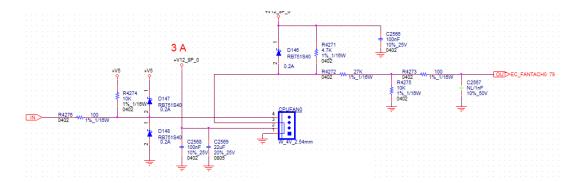


Table A.11: CPU FAN Connector (CPUFAN1)		
Pin	Signal	
1	GND	
2	+V12_8P_0	
3	EC_FANTACH0	
4	EC_CPU_PWM	

A.10 Serial GPIO (SGPIO1)

		· · · · · · · · · · · · · · · · · · ·	
R_SGPIO2_CLK_BUF1 1	SGPI01	R_SGPI03_CLK_BUF1 1	
R_SGPIO2_LOAD_BUF1 3			
PH	_5x1V_2.54mm	PH_5x1V_2.54mm	

Table A.12: 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)

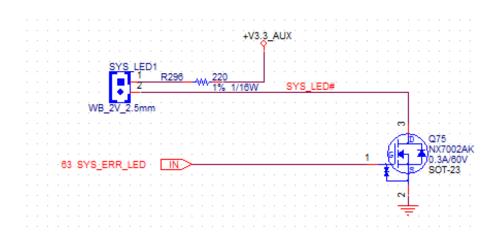


Table A.13: System Error LED Wafer (BMC_SYSLED1)		
Pin	Signal	
1	+V3.3_AUX	
2	SYS_LED#	

A.12 PMBus Wafer (PMBUS1)

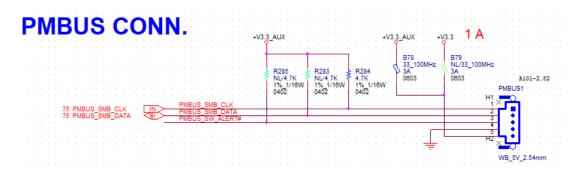


Table A.14: PMBus Wafer (PMBUS1)		
Pin	Signal	
1	PMBUS_SMB_CLK	
2	PMBUS_SMB_DATA	
3	PMBUS_SW_ALERT#	
4	GND	
5	+V3.3_AUX	

A.13 HW SMBUS (SMBUS1)

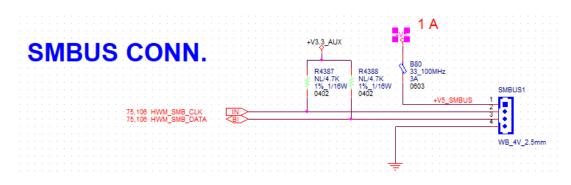


Table A.15: HW SMBUS (SMBUS1)		
Pin	Signal	
1	+V5	
2	HWM_SMB_CLK	
3	HWM_SMB_DATA	
4	GND	

A.14 Front Panel3 (JFP3)

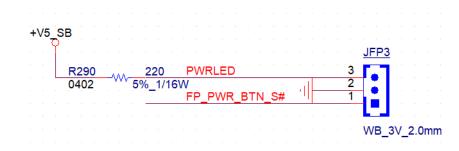


Table A.16: Front Panel3 (JFP3)		
Pin	Signal	
1	FP_PWR_BTN_S#	
2	GND	
3	+V5_SB	

A.15 Graphics Card 12V slot (SLOT12V1)

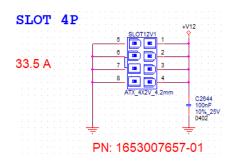


Table A.17: Graphics Card 12V slot (SLOT12V1)			
Pin	Signal	Pin	Signal
1	+V12	5	GND
2	+V12	6	GND
3	+V12	7	GND
4	GND	8	GND



www.advantech.com

Please verify specifications before quoting. This guide is intended for reference purposes only.

All product specifications are subject to change without notice.

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