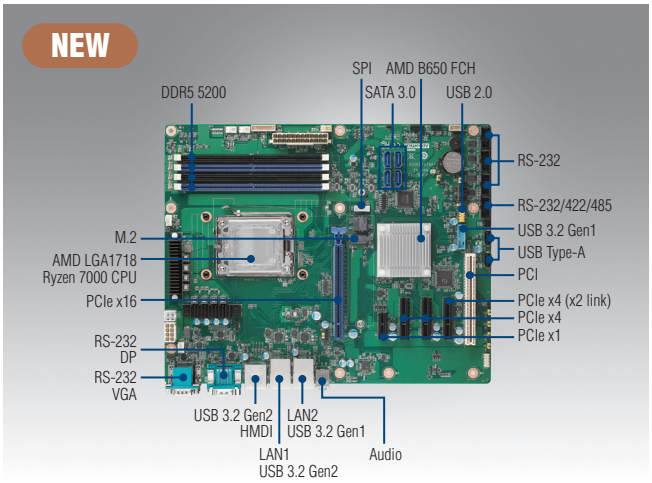
AIMB-723

LGA1718 AMD Ryzen™ Embedded 7000/9000 and EPYC™ 4005 ATX Motherboard with DP/HDMI/VGA, DDR5, USB 3.2, M.2



Features

- AMD Ryzen™ Embedded 7000/9000 and EPYC™ 4005 Server Processors with B650 chipset
- Four DIMM sockets up to 192 GB DDR5 5600
- Triple display DP/HDMI/VGA and dual GbE LAN
- M.2, SATA RAID 0, 1, 10, and USB 3.2 Gen 2
- Optimized PCIe placement for GPU and Frame grabber card installation.

Note 1: Legacy platform is not supported.
Note 2: dTPM 2.0 module is required to enable dTPM technologies.
Note 3: AMD fTPM ready for Windows 11.

Quiet

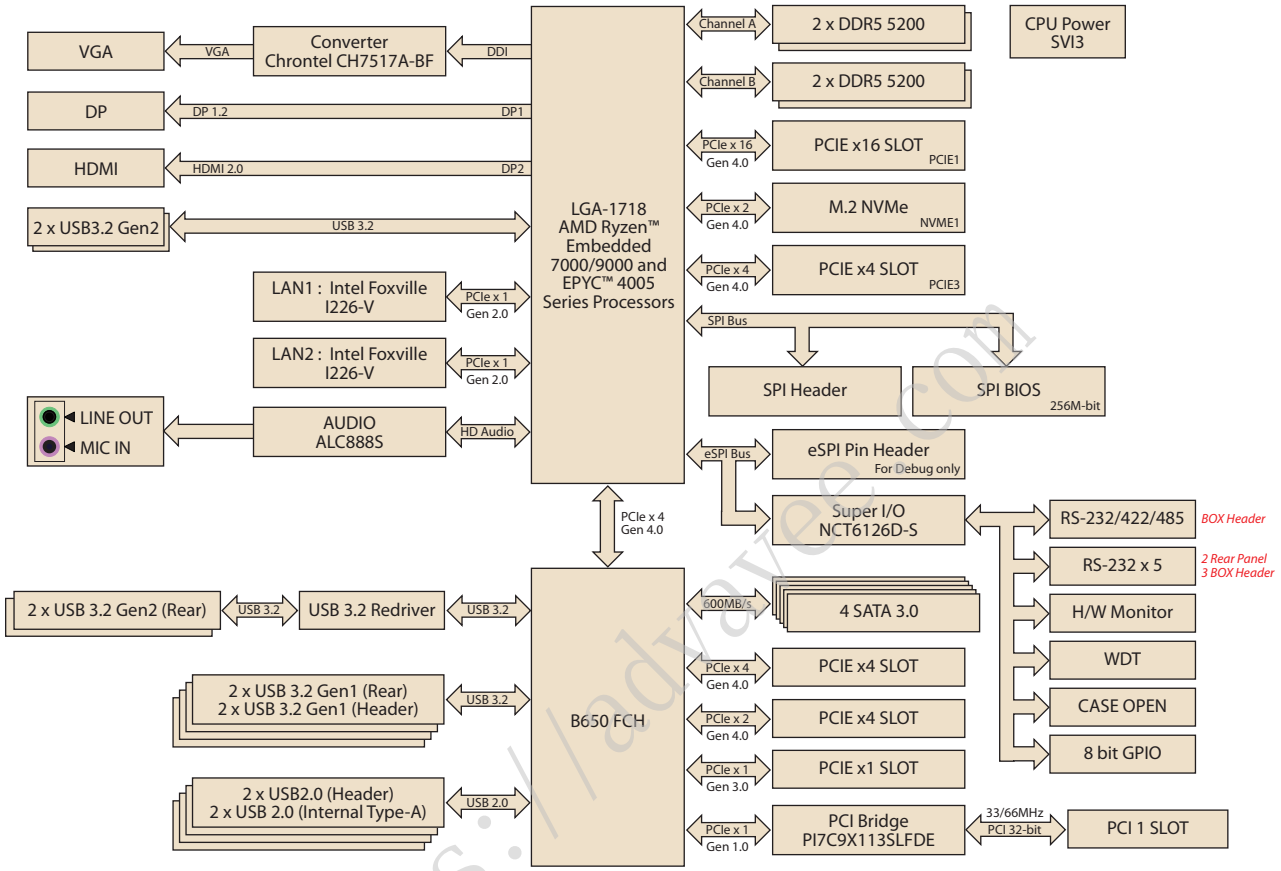
Specifications

Processor System	CPU	Ryzen 7 7700X*	Ryzen 5 7600X*	Ryzen 9 7900	Ryzen 7 7700	Ryzen 5 7600	Ryzen 9 PRO 7945	Ryzen 7 PRO 7745	Ryzen 5 PRO 7645	Ryzen 9 9900X*	Ryzen 5 9600X	EPYC™ 4545P	EPYC™ 4465P	EPYC™ 4345P	EPYC™ 4245P
	P-core Base Frequency	4.5 GHz	4.7 GHz	3.7 GHz	3.8 GHz	3.8 GHZ	3.7 GHz	3.8 GHz	3.8 GHz	4.4GHz	3.9GHz	3GHz	3.4GHz	3.8GHz	3.9GHz
	L3 Cache	32 MB	32 MB	64MB	32 MB	32 MB	64 MB	32 MB	32 MB	64MB	32MB	64MB	64MB	32MB	32MB
	Cores	8	6	12	8	6	12	8	6	12	6	16	12	8	6
	Processor Base Power	105 W	105 W	65 W	65 W	65 W	65 W	65 W	65 W	120W	65W	65W	65W	65W	65W
	Socket	LGA 1718													
	Chipset	B650													
	BIOS	AMI 256Mbit SPI Flash													
Expansion Slot	PCI	1													
	PCIe x1 (Gen 3)	1													
	PCIe x4 (Gen 4)	1 (x2 link)													
	PCIe x4 (Gen 4)	2													
	PCIe x16 (Gen 4)	1													
Memory	Technology	Dual Channel** DDR5 5600 Non-ECC UDIMM													
	Max Capacity	128 GB (7000 Series), 192 GB (9000 and 4005 Series)													
	Sockets	4 x 288-pin DIMM													
Graphics	Controller	CPU integrated AMD Radeon™ Graphics													
	VRAM	Shared system memory is subjected to the OS													
Ethernet	Interface	10/100/1000/2500 Mbps													
	Controller	GbE LAN1: Intel I226-V; GbE LAN2: Intel I226-V													
	Connector	2 x RJ-45													
SATA	Max. Data Transfer Rate	600 MB/s													
	Channel	4													
	RAID	0, 1, 10													
Rear I/O	VGA	1 (Resolution up to 1920 x 1200 @ 60Hz)													
	HDMI	1 (Resolution up to 3840 x 2160 @ 60Hz)													
	DisplayPort	1 (Resolution up to 3840 x 2160 @ 60Hz)													
	Ethernet	2													
	USB	6 (4 x USB 3.2 Gen 2, 2 x USB 3.2 Gen1)													
	Audio	2 (Line-out, Mic-in)													
	Serial	2 (RS-232)													
Watchdog Timer	Output	System reset													
	Interval	Programmable 1 ~ 255 sec													
Power Requirement	Power On	AMD Ryzen™ 7 7700X 105W, DDR5 32GB x 4													
	Voltage	+3.3 V	+5 V	+12 V	-12 V	-5 V									
	Current	2.72 A	1.28 A	1.33 A	0.08 A	0.03 A									
Internal Connectors	USB	6 (2 x USB 3.2 Gen 1 via pin header, 2 x USB 2.0 via pin header, 2 x USB 2.0 type A connector)													
	Serial	4 (3 x RS-232, 1 x RS-232/422/485)													
	SATA	4													
	M.2	1 (PCIe x2 Gen 4 M-key 2280 type)													
	SPI	1 (Optional dTPM 2.0 module available)													
	GPIO	8-bit													
Environment		Operating					Non-Operating								
	Temperature	0 ~ 60 °C (32 ~ 140 °F), depends on CPU loading and system thermal solution					-40 ~ 85 °C								
	Humidity	95% @ 40 °C, non-condensing					95% @ 60 °C, non-condensing								
Physical Characteristics	Dimension (L x H)	304.8 x 244 mm (12" x 9.6")													

* CPU performance may be throttled (reduced clock speed) to avoid overheating in ambient temperatures exceeding 30°C (86°F).
** Install one memory module on DIMMA1 or DIMMB1. Add an additional module to DIMMA0 or DIMMB0 only when both DIMMA1 and DIMMB1 are installed.

https://advance.com

Block Diagram



https://advaved.com

Ordering Information

Part number	Chipset	Memory	Display	USB 3.2 Gen2	USB 3.2 Gen 1	USB 2.0	COM	GbE LAN	M.2	SATA 3.0	SW RAID
AIMB-723G2-00A1	B650	Non-ECC UDIMM DDR5 5200 up to 128 GB	VGA + HDMI + DP	4	4	4	6	2	1	4	Yes

Packing List

Part Number	Description	Qty
1700003194	SATA data cable	2
1960111153T001	I/O port bracket (for 2U chassis or higher)	1
2041072300	Startup manual	1

* Driver CD is not included. Please visit Advantech support website to download the drivers.

Embedded OS

Part Number	Description
20706WX1HS0087	img W10 21HL AIMB-723 64b 21H2 ENU
20706WX1VS0087	img W10 21VL AIMB-723 64b 21H2 ENU
20706WLH1S0056	img W11 24HL AIMB-723 64b 24H2 ENU
20706WLV1S0056	img W11 24VL AIMB-723 64b 24H2 ENU
20706U22DS0047	img UbuntuD AIMB-723 64b 22.04 ENU

Optional Accessories

Part number	Description
1700002204	2-port USB 2.0 cable w/ BKT(27 cm)
1700028292-01	2-port USB 3.0 cable w/ BKT(30 cm)
1970005786N001	CPU cooler for 4U chassis
1970005287T001	CPU cooler for wall-mount chassis (For CPU Base Power ≦ 65W)
1970006287N000	4 point mounting CPU cooler for 2U/4U chassis and wall-mount chassis (For CPU Base Power ≦ 65W)
1701090401	Single COM port cable(40 cm)
1701092300	Dual COM port cable(28.5 cm)
1700022749-11/ 1700022749-12/ 1700022749-13	SATA power cable
PCA-TPMSPI-00A1	dTPM 2.0 SPI module to enable TPM and vPro technologies

I/O View



AIMB-723G2-00A1