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# Datasheet

## ADVANTECH

### AIMB-707

Industrial ATX Motherboard for 10th Gen. Intel® Core™ i, Pentium®, Celeron®

LGA1200 Prozessor with Intel® H420E Chipset



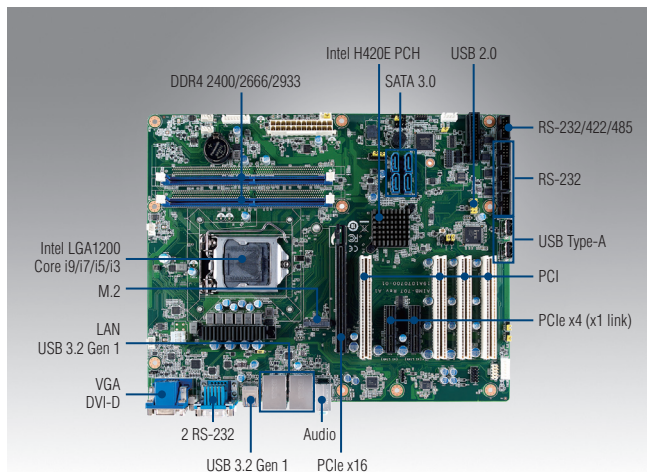
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# AIMB-707

## LGA1200 10th Generation Intel® Core™ i9/i7/i5/i3 & Pentium®/Celeron® ATX with DVI/VGA, DDR4, USB 3.2, M.2, 6 COMs



### Features

- Intel® 10th generation Core™ i9/i7/i5/i3 & Pentium®/Celeron® processor with H420E chipset
- Dual channel (Non-ECC) DDR4 2400/2666/2933 up to 64 GB
- Support VGA and DVI display
- M.2, SATA 3.0, USB 3.2, dual GbEs
- 5 RS-232 and 1 RS-232/422/485 serial ports
- 1 PCIe x16 (Gen 3) and 2 PCIe x4 (x1 Gen 3 link), and 4 PCI expansion slots

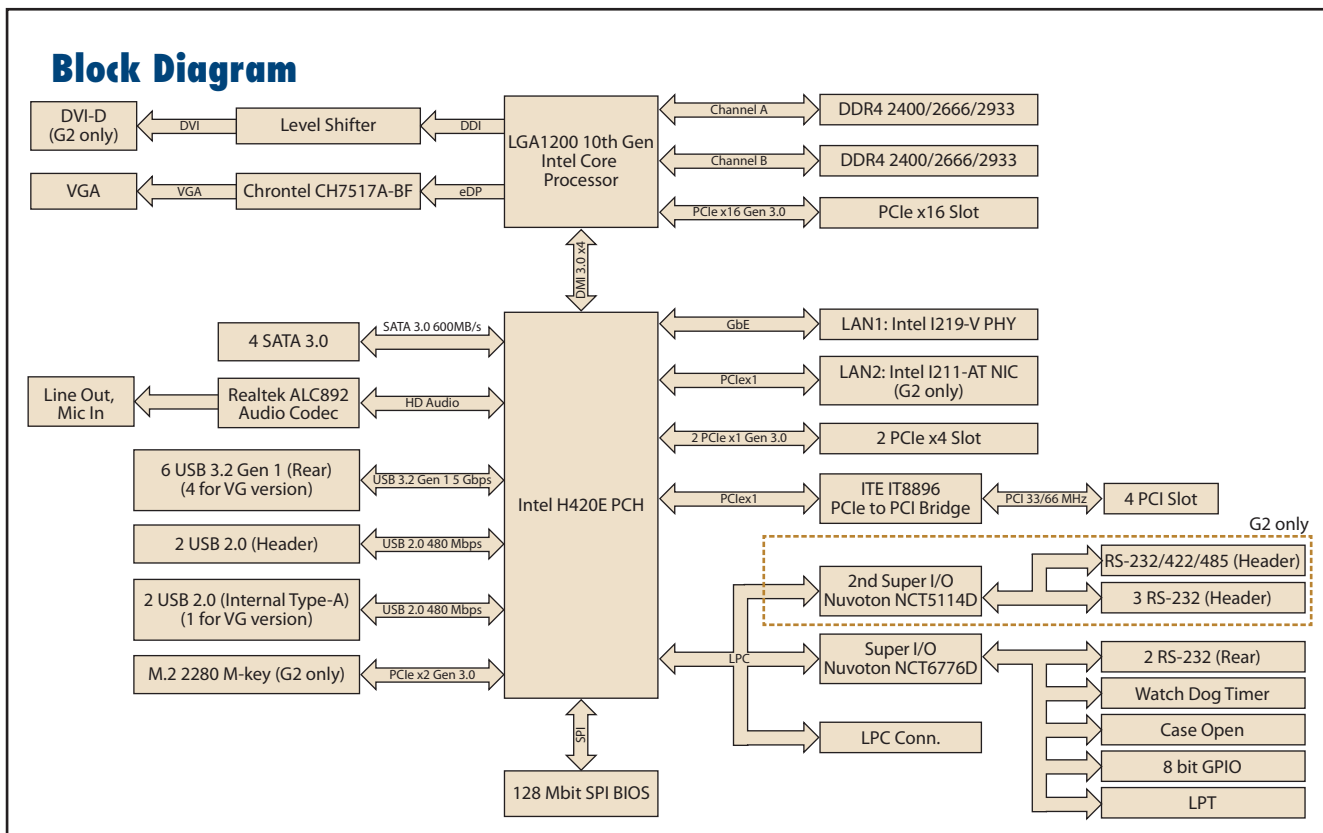
Note: Legacy platform is not supported.

### Quiet Specifications



	CPU	i9-10900E	i9-10900TE	i7-10700E	i7-10700TE	i5-10500E	i5-10500TE	i3-10100E	i3-10100TE	G6400E	G6400TE	G5900E	G5900TE	
Processor System	Base Frequency	2.8 GHz	1.8 GHz	2.9 GHz	2.0 GHz	3.1 GHz	2.3 GHz	3.2 GHz	2.3 GHz	3.8 GHz	3.2 GHz	3.2 GHz	3.0 GHz	
	L3 Cache	20 MB	20 MB	16 MB	16 MB	12 MB	12 MB	6 MB	6 MB	4 MB	4 MB	2 MB	2 MB	
	Cores	10	10	8	8	6	6	4	4	2	2	2	2	
	TDP	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	
	Socket	LGA1200												
	Chipset	Intel H420E												
Expansion Slot	BIOS	AMI 128Mbit SPI Flash												
	PCI	4 (32-bit/33 MHz)												
	PCIe x4 (Gen 3)	2 (link x1)												
Memory	PCIe x16 (Gen 3)	1												
	Technology	Dual Channel(Non-ECC) DDR4 2400/2666/2933												
	Max Capacity	64 GB												
Graphics	Sockets	2 x 288-pin DIMM												
	Controller	Chipset integrated Intel HD Graphics												
Ethernet	VRAM	Shared system memory is subject to OS												
	Interface	10/100/1000 Mbps												
	Controller	GbE LAN1: Intel I219-V, GbE LAN2: Intel I211-AT												
SATA	Connector	2 x RJ-45												
	Max Data Transfer Rate	600 MB/s												
Rear I/O	Channel	4												
	VGA	1 (Resolution up to 1920 x 1200 @ 60 Hz)												
	DVI	1 for G2 version (Resolution up to 1920 x 1200 @ 60 Hz)												
	Ethernet	2 for G2 version; 1 for VG version												
	USB	6 (USB 3.2 Gen 1 for G2 version; 4 for VG version)												
	Audio	2 (Line-out, Mic-in)												
Internal Connectors	Serial	2 (RS-232)												
	USB	4 (2 x USB 2.0 via header, 2 x USB 2.0 Type-A) for G2 version; 3 (2 x USB 2.0 via header, 1 x USB 2.0 Type-A) for VG version												
	Serial	4 for G2 version (3 x RS-232, box-header; 1 x RS-232/422/485 with auto-flow control, box-header)												
	SATA	4												
	M.2	1 for G2 version (PCIe x2 M-key 2280 type)												
	Parallel	1												
Watchdog Timer	GPIO	8-bit												
	Output	System reset												
Power Requirement	Interval	Programmable 1 - 255 sec												
	Test Environment	Intel Core i9-10900E; DDR4 32 GB x 2												
	Voltage	3.3V		5V		12V		5Vsb		-12V				
Environment	Current	0.72A		1.29A		6.5A		0.11A		0.04A				
	Operating												Non-Operating	
Physical Characteristics	Temperature	0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution											-40 ~ 85 °C (-40 ~ 185 °F)	
	Humidity	40 °C @ 95% RH Non-condensing											60 °C @ 95% RH Non-condensing	
Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")													

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	Display	USB 3.2 Gen 1	USB 2.0	COM	GbE LAN	AMT	M.2	SATA	SW RAID	Intelligent System Module Support
AIMB-707G2-00A1	H420E	Non-ECC	VGA + DVI	6	4	6	2	No	1	4	No	No
AIMB-707VG-00A1	H420E	Non-ECC	VGA	4	3	2	1	No	0	4	No	No

### Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	x2
1960097974T001	I/O port bracket	x1
2041070700	Startup manual	x1

Note: Driver CD is not provided. Please visit Advantech support website for driver download.

### I/O View



AIMB-707G2-00A1



AIMB-707VG-00A1

### Optional Accessories

Part Number	Description
1701090401	Single COM port cable(40 cm)
1701092300	Dual COM port cable(28.5 cm)
1700022749-11/ 1700022749-12/ 1700022749-13	SATA power cable
1700019268-11	PS/2 KB/Mouse cable
1960063434N000	IO bracket for PS/2 KB/Mouse cable
1700002204	2-port USB 2.0 cable w/ BKT(27 cm)
1960052651N021	CPU cooler for 2U, 4U, and wallmount chassis
1960049408N001	CPU heatsink for 1U chassis
TBD	IO bracket for 1U chassis
PCA-COM232-00A1E	4-port RS-232 LPC module
PCA-COM485-00A1E	4-port RS-422/485 LPC module
PCA-TPM-00B1E	TPM2.0 module

Note: Purchasing AIMB-707's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-707.

### Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card providing 1 PCI slot
AIMB-RF10F-01A1E	1U riser card providing 1 PCIe x 16 slot
AIMB-RP30P-03A1E	2U riser card providing 3 PCI slots
AIMB-RP3PF-21A1E	2U riser card providing 1 PCIe x 16 and 2 PCI slots

Our company network supports you worldwide with offices in Germany, Austria, Switzerland, the UK and the USA. For more information please contact:

## Headquarters

### Germany



#### FORTEC Elektronik AG

Augsburger Str. 2b  
82110 Germering

Phone: +49 89 894450-0  
E-Mail: [info@fortecag.de](mailto:info@fortecag.de)  
Internet: [www.fortecag.de](http://www.fortecag.de)

## Fortec Group Members

### Austria



#### Distec GmbH Office Vienna

Nuschinggasse 12  
1230 Wien

Phone: +43 1 8673492-0  
E-Mail: [info@distec.de](mailto:info@distec.de)  
Internet: [www.distec.de](http://www.distec.de)

### Germany



#### Distec GmbH

Augsburger Str. 2b  
82110 Germering

Phone: +49 89 894363-0  
E-Mail: [info@distec.de](mailto:info@distec.de)  
Internet: [www.distec.de](http://www.distec.de)

### Switzerland



#### ALTRAC AG

Bahnhofstraße 3  
5436 Würenlos

Phone: +41 44 7446111  
E-Mail: [info@altrac.ch](mailto:info@altrac.ch)  
Internet: [www.altrac.ch](http://www.altrac.ch)

### United Kingdom



#### Display Technology Ltd.

Osprey House, 1 Osprey Court  
Hichingbrooke Business Park  
Huntingdon, Cambridgeshire, PE29 6FN

Phone: +44 1480 411600  
E-Mail: [info@displaytechnology.co.uk](mailto:info@displaytechnology.co.uk)  
Internet: [www.displaytechnology.co.uk](http://www.displaytechnology.co.uk)

### USA



#### Apollo Display Technologies, Corp.

87 Raynor Avenue,  
Unit 1 Ronkonkoma,  
NY 11779

Phone: +1 631 5804360  
E-Mail: [info@apolloDisplays.com](mailto:info@apolloDisplays.com)  
Internet: [www.apolloDisplays.com](http://www.apolloDisplays.com)