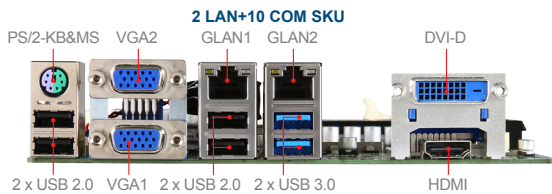
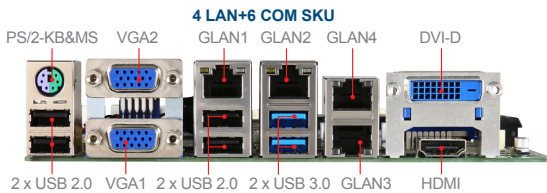
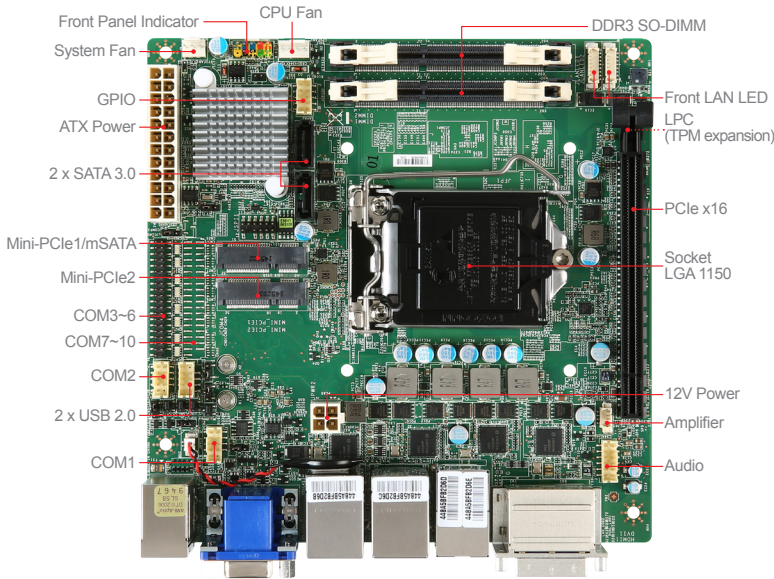


MS-98H1

LGA-1150 Intel® 4th Gen Core™ i7/i5/i3/Pentium/Celeron Processors with 4 GLAN, 10 COM, and 3 Independent Displays

NEW



Features

- Intel® Desktop Haswell & Haswell Refresh Core i7/i5/i3, Pentium, Celeron Processor
- Support 4 Intel® GbE LAN
- 3 or 2 independent displays with dual VGA, DVI-D, and HDMI outputs
- Support 10 COM ports (all with power)
- 2 SATA 3.0, 6 USB ports, PCIe x16, and Dual Mini-PCIe

Ordering Information

Part Number	Description
919-98H1-101	MS-98H1 V1.0 Mini-ITX, Intel Haswell Processor+Intel H81, 2" DDR3/DDR3L SO-DIMM+1"DVI-D+1"HDMI+2"VGA+4"GbE LAN+6"COM+8"USB Port ,ATX power
919-98H1-102	MS-98H1 V1.0 Mini-ITX, Intel Haswell Processor+Intel H81, 2" DDR3/DDR3L SO-DIMM+1"DVI-D+1"HDMI+2"VGA+2"GbE LAN+10"COM+8"USB Port ,ATX power
919-98H1-103	MS-98H1 V1.0 Mini-ITX, Intel Haswell Processor+Intel Q87, 2" DDR3/DDR3L SO-DIMM+1"DVI-D+1"HDMI+2"VGA+2"GbE LAN+10"COM+8x USB Port ,ATX power

Packing List

Part Number	Description	Quantity
E21-98H10X0-C22	I/O SHEILDING	1

Specifications

Processor	CPU	4th Gen Intel® Desktop Haswell/Haswell refresh Core i7/i5/i3/Pentium/Celeron Processor
	Frequency	Depends on CPU
	L2 Cache	Depends on CPU
	CPU Type	Socket (LGA 1150)
	Chipset	Intel® Q87/H81 Express
Memory	BIOS	AMI
	Technology	Dual-channel DDR3/DDR3L 1066/1333/1600MHz
	Max. Capacity	Up to 16 GB
	Socket	2 x 204-pin SO-DIMMs
	Controller	Intel® HD Graphics
Display	Graphic Memory	Shared system memory up to 1.7 GB SDRAM
	VGA	2
	DVI	1 (DVI-D)
	HDMI	1
	Multiple Display	3 independent displays (Q87 SKU) 2 independent displays (H81 SKU)
Ethernet	Display Interface	VGA1 up to 1920 x 1080 VGA2 up to 1920 x 1080 DVI-D up to 1920 x 1200 HDMI up to 1920 x 1200
	Controller	4 x Intel® I210-AT GbE LAN 2 x Intel® I211-AT GbE LAN (optional by SKU)
Audio	Controller	Realtek® ALC887 HD Audio Codec
Super I/O	Controller	Fintek F81866D
H/W Monitor	Watchdog Timer	256-level Watchdog Timer
	Smart Fan	Yes
TPM	Controller	Pin header
I/O Interface	USB	2 x USB 3.0 (rear) 4 x USB 2.0 (2 x rear, 2 x internal)
	Serial	10 x COM (COM1~10: internal) COM1: RS-232/422/485, 0V/5V/12V COM2: RS-232/422/485, 0V/5V/12V COM3~6: RS-232, 0V/5V/12V COM7~10: RS-232, 0V/5V/12V (optional by SKU)
	Parallel	N/A
	PS/2	1
	GPIO	8-bits (4 x GPI; 4 x GPO), 5V
Expansion Slot	PCIe x16	1
	Mini-PCIe	1 x Full-size(W/ mSATA) 1 x Half-size
Storage	SATA	2 x SATA 3.0
	mSATA	1
Power Supply	DC	N/A
	ATX	ATX-Power 24P, 12V-4P
Environment	Operating Temperature	-10 ~ 60°C
	Operating Humidity	10~90%, non-condensing
	Storage Temperature	-20 ~ 80°C
	Storage Humidity	10~90%, non-condensing
Form Factor	Dimensions	170mm x 170mm (Mini-ITX)
	Weight	0.37 Kg
Certification	EMC	FCC Class A, CE, C-Tick, VCCI, BSMI

HMI Panel PC
 Embedded System Board
 Embedded Board
 Semi-rugged Terminal System Board
 POS System Board
 COM Express Board
 Qseven Board
 Pico-ITX Board
 3.5" Board
 EPIC Board
 PICMG 1.0 Board
 Mini-ITX Board
 Micro-ATX Board
 ATX Board