MANO522
Mini-ITX SBC with LGA1151 Socket 9th/8th Gen Intel® Core™ i7/i5/i3 Processor, HDMI, VGA, LVDS, USB 3.2 Gen 1, mSATA, M.2 and Dual GbE LAN

Features
- LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3 processor
- Intel® H310 chipset
- 2 DDR4 SO-DIMM for up to 64GB of memory
- 4 USB 3.2 Gen 1 and 2 USB 2.0
- 6 COM ports
- 2 SATA-600 and 1 mSATA
- PCIe x16 and M.2 Key E

Core System
- CPU: LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3 processor up to 65W
- System Memory: 2 x 260-pin DDR4-2666/2400 SO-DIMM, up to 64GB
- Chipset: Intel® H310
- BIOS: AMI
- SSD: 1 x mSATA
- Watchdog Timer: 255 levels, 1 to 255 sec.
- Expansion Interface: 1 x PCIe x16, 1 x M.2 Key E 22 x 30
- Battery Lithium: Lithium 3V/220mAH
- Power Input: 24+4 pin ATX connector
- AT Mode: Auto Power Function supported
- Dimensions: 170 x 170 mm
- Board Thickness: 1.6 mm
- Operating Temperature: 0°C to +60°C (+32°F to +140°F)
- Humidity: 10% to 95% relative humidity, non-condensing

I/O
- SATA: 2 x SATA-600
- Hardware Monitoring: Detect CPU/system temperature, voltage and fan speed
- Ethernet: 1 x 10/100/1000 Mbps Ethernet with Intel® i211-AT, supports Wake-on-LAN, PXE Boot ROM
- Audio: HD Codec audio as MIC-in/Line-in/Line-out with Realtek ALC662
- USB: 4 x USB 3.2 Gen 1, 2 x USB 2.0
- Serial: 1 x RS-232/422/485 (with +5V/+12V power) 5 x RS-232
- PS/2 Combo Port: N/A
- TPM: Firmware TPM 2.0 (fTPM 2.0)
- SMBus: N/A
- Digital I/O: 8-channel in/out programmable

Display
- Chipset: Intel® integrated Gfx graphic engine
- Memory Size: Share system memory
- Display Interface: 1 x VGA, 1 x HDMI, 1 x LVDS, 18/24-bit single/dual channel

Packing List
- Standard: I/O bracket

Ordering Information
- Standard: MAN0522VGGA-H310 (P/N:E38M522101)
- Optional: 594M5002100E 2 x COM port, P=2.0 mm, L=300 mm
  59384500100E Audio cable with bracket, P=2.0 mm, L=420 mm
  594E8422800E 2 x USB 2.0 wafer cable with bracket, P=2.0, L=180 mm

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