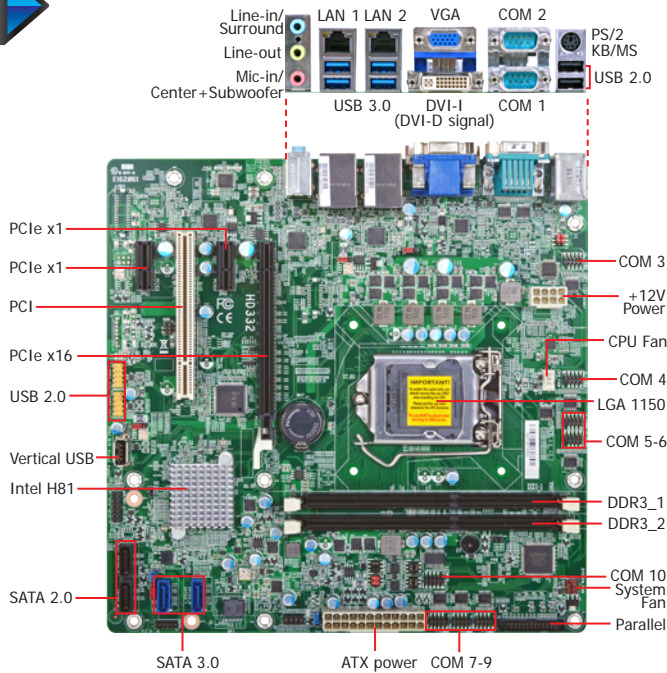


MB-HD332-H81

Desktop

H81



Model Name	LAN	COM
MB-HD332-H81B	1	2 RS232
MB-HD332-H81X	2	1 RS232/422/485, 9 RS232

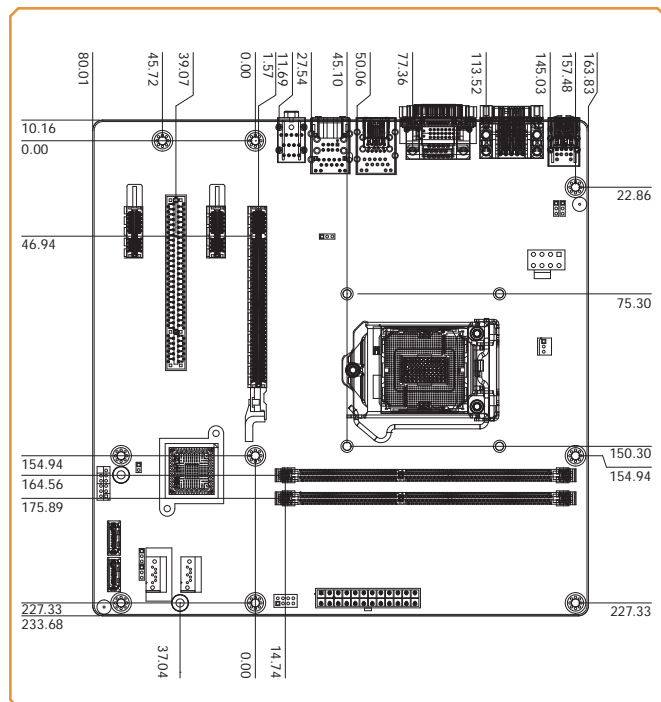
Features

MEMORY	2 DDR3 DIMM up to 16GB
EXPANSION	1 PCIe x16 2 PCIe x1 1 PCI
DISPLAY OUTPUTS	1 VGA, 1 VGA/DVI-I (DVI-D signal)
LAN	2 LAN
COM	10 COM
USB	11 USB: 4 USB 3.0, 7 USB 2.0
PARALLEL	1 Parallel
STORAGE	4 SATA: 2 SATA 3.0, 2 SATA 2.0

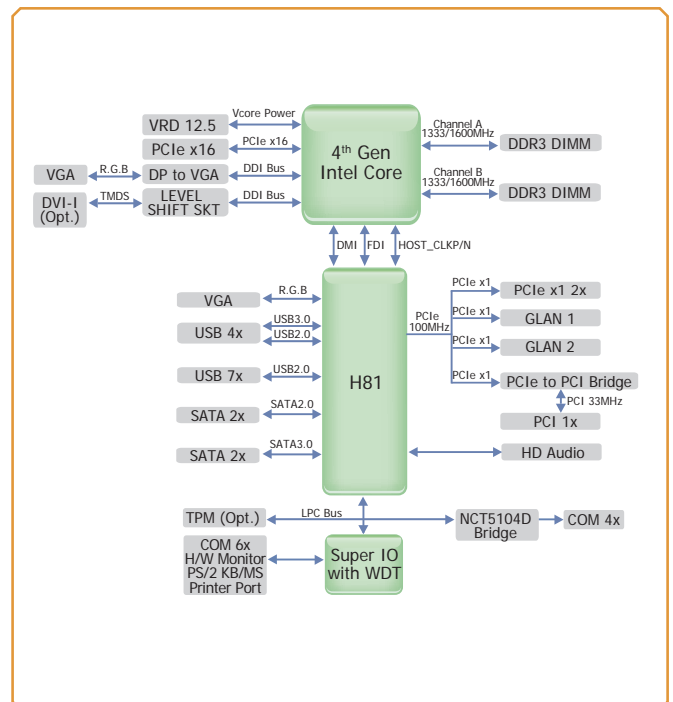
* The specifications on this datasheet refer to HD332-H81X.



Mechanical Drawing



Block Diagram



MB-HD332-H81

Specifications * Optional and is not supported in standard model. Please contact your sales representative for more information.

PROCESSOR

- LGA 1150 socket for:
 - 4th Generation Intel® Core™ processors (22nm process technology)
 - Intel® Core™ i7-4790S (8M Cache, up to 4.0 GHz); 65W
 - Intel® Core™ i7-4770S (8M Cache, up to 3.9 GHz); 65W
 - Intel® Core™ i7-4770TE (8M Cache, up to 3.3 GHz); 45W
 - Intel® Core™ i5-4590S (6M Cache, up to 3.7 GHz); 65W
 - Intel® Core™ i5-4590T (6M Cache, up to 3.0 GHz); 35W
 - Intel® Core™ i5-4570S (6M Cache, up to 3.6 GHz); 65W
 - Intel® Core™ i5-4570TE (4M Cache, up to 3.3 GHz); 35W
 - Intel® Core™ i3-4360 (4M Cache, 3.7 GHz); 54W
 - Intel® Core™ i3-4350T (4M Cache, 3.1 GHz); 35W
 - Intel® Core™ i3-4340TE (4M Cache, 2.6 GHz); 35W
 - Intel® Core™ i3-4330 (4M Cache, 3.5 GHz); 54W
 - Intel® Core™ i3-4330TE (4M Cache, 2.4 GHz); 35W
 - Intel® Pentium® G3420 (3M Cache, 3.2 GHz); 53W
 - Intel® Pentium® G3320TE (3M Cache, 2.3 GHz); 35W
 - Intel® Celeron® G1820 (2M Cache, 2.7 GHz); 53W
 - Intel® Celeron® G1820TE (2M Cache, 2.2 GHz); 35W

CHIPSET

- Intel® H81 Express Chipset

SYSTEM MEMORY

- Two 240-pin DDR3 DIMM sockets
- Supports DDR3 1333/1600MHz when operating at 1.5V
- Supports dual channel memory interface
- Supports up to 16GB system memory
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3 DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

EXPANSION SLOTS

- 1 PCIe x16 Gen 3 slot (PCIe 3.0)
- 2 PCIe x1 Gen 2 slots (PCIe 2.0)
- 1 PCI slot (PCI 2.3)

ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: 1 VGA, 1 VGA/DVI-I (DVI-D signal)
- VGA: 24-bit, resolution up to 1920x1200 @ 60Hz
- DVI-D: resolution up to 1920x1200 @ 60Hz
- Supports 20 Graphics Execution Units (EUs)
- Intel® Clear Video Technology
- DirectX Video Acceleration (DXVA) support for accelerating video processing
- Supports DirectX 11.1 and OpenGL 4.0

ONBOARD AUDIO FEATURES

- Realtek ALC888 5.1-channel High Definition Audio
- Audio outputs: Mic-in/Center+Subwoofer, line-in/surround and line out

ONBOARD LAN FEATURES

- 2 Intel® 82574L Gigabit Ethernet Controllers; or
- 2 Intel® I210 PCI Express Gigabit Ethernet controllers*
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

SERIAL ATA (SATA) INTERFACE

- 2 SATA 3.0 ports with data transfer rate up to 6Gb/s
- 2 SATA 2.0 ports with data transfer rate up to 3Gb/s
 - SATA port 1 provides adequate space for SATA DOM
- Integrated Advanced Host Controller Interface (AHCI) controller

REAR PANEL I/O PORTS

- 1 mini-DIN-6 port for PS/2 mouse/keyboard
- 2 DB-9 RS232 serial ports
- 2 VGA ports; or
 - 1 VGA and 1 DVI-I ports
- 2 RJ45 LAN ports
- 4 USB 3.0 ports
- 2 USB 2.0 ports
- Line-in/Surround, Line-out, Mic-in/Center+Subwoofer jacks

I/O CONNECTORS

- 2 connectors for 4 external USB 2.0 ports and 1 vertical USB 2.0/1.1 port; or
- 3 connectors for 6 external USB 2.0 ports*
- 8 connectors for 8 external serial ports (2.0mm pitch)
 - 1 RS232/RS422/485 (RS232 and/or power)*
 - 7 RS232
- 1 parallel connector
- 4 Serial ATA connectors
- 1 24-pin ATX power connector
- 1 8-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 2 fan connectors

USB INTERFACE

- XHCI Host Controller supports up to 2 super speed USB 3.0 ports

TRUSTED PLATFORM MODULE (TPM)*

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

BIOS

- AMI BIOS
- 64Mbit SPI BIOS

WATCHDOG TIMER

- Software programmable from 1 to 255 seconds

ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving*
- Supports ACPI
- System Power Management
- Wake-On-Events include:
 - Wake-On-PS/2 KB/Mouse
 - Wake-On-USB KB/Mouse
 - Wake-On-LAN
 - RTC timer to power-on the system
- CPU stopped clock control
- AC power failure recovery

DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors VCore/5V/3.3V/V_{DDIMM}/12V/3VSB/VBAT voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed

POWER CONSUMPTION

- HD332-H81X (VGA+DVI/VGA): 69.10W with i7-4770S at 3.10GHz and 2x 4GB DDR3 DIMM

OS SUPPORT

- Windows XP Professional x86 & SP3 (32-bit) (limited function)
- Windows 7 Ultimate x86 & SP1 (32-bit)
- Windows 7 Ultimate x64 & SP1 (64-bit)
- Windows 8 Enterprise x86 (32-bit)
- Windows 8 Enterprise x64 (64-bit)

TEMPERATURE

- Operating: 0°C to 60°C
- Storage: -20°C to 85°C

HUMIDITY

- 5% to 90%

MTBF

- 421,271 hrs @ 25°C; 241,503 hrs @ 45°C
- Calculation model: Telcordia Issue 2, Method I Case 3
- Environment: GB, GC – Ground B

DIMENSIONS

- microATX form factor
- 244mm (9.6") x 244mm (9.6")

CERTIFICATION

- CE, FCC Class B, RoHS

Ordering Information

Model Name	Memory	VGA	DVI-D	LAN	RS232	RS232/422/485	Power	Thermal	Temperature
MB-HD332-H81X	2 DIMM	2	N/A	2	9	1	24-pin ATX	Active	0°C to 60°C
MB-HD332-H81X	2 DIMM	1	1	2	9	1	24-pin ATX	Active	0°C to 60°C
MB-HD332-H81B	2 DIMM	2	N/A	1	2	N/A	24-pin ATX	Active	0°C to 60°C

Packing List

- 1 MB-HD332 motherboard
- 1 Serial ATA data cable: 332-553001-005G
- 1 I/O shield: A49-HD3320-010G
- 1 DVD

Optional Items

- USB port cable: 332-253010-026G
- COM port cable: A81-015004-005G
- Serial ATA data cable: 332-553001-005G
- I/O shield: A49-HD3320-010G
- Heat sink with fan: 552-200049-000G