

Specifications

4th Generation Intel® Core™ Processors

PROCESSOR

- LGA 1150 socket for:
 - 4th generation Intel® Core™ processors (22nm process technology)
 - : 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™ i5-4570S (6M Cache, up to 3.6 GHz); 65W
 - : Intel® Core™ i5-4570TE (4M Cache, up to 3.3 GHz); 35W

CHIPSET

- Intel® Q87 Express Chipset

SYSTEM MEMORY

- Four 240-pin DDR3/DDR3L DIMM sockets
- Supports DDR3/DDR3L 1333/1600MHz when operating at 1.5V
- Supports dual channel memory interface
- Supports up to 32GB 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)
 - x16 signal
- 2 PCIe x4 Gen 2 slots (PCIe 2.0)
 - 1 x4 signal and 1 x1 signal
- 3 PCI slots (PCI 2.3)

ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: HDMI and DVI-I
- DVI-I supports up to 1920x1200 @ 60Hz resolution
- HDMI supports up to 4096x2304 @ 24Hz resolution or 2560x1600 @ 60Hz resolution
- VGA display resolution up to 1920x1200 pixels with 24-bit color @ 60Hz
- Supports 6 Graphics Execution Units (EUs)
- Intel® Clear Video Technology
- DirectX Video Acceleration (DXVA) support for accelerating video processing

ONBOARD AUDIO FEATURES

- Realtek ALC886 5.1-channel High Definition Audio
- Audio outputs: Mic-in/Center+Subwoofer, line-in/surround and line out
- S/PDIF audio interface

ONBOARD LAN FEATURES

- Intel® I210 PCI Express Gigabit Ethernet controller
- Intel® I217LM with iAMT9.0 Gigabit Ethernet Phy
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

SERIAL ATA (SATA) INTERFACE

- 6 SATA 3.0 ports with data transfer rate up to 6Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller
- Supports RAID 0/1/5/10
- Supports Intel® Smart Response Technology

INTEL ACTIVE MANAGEMENT TECHNOLOGY (AMT)

- Supports iAMT9.0
- Out-of-band system access
- Remote troubleshooting and recovery
- Hardware-based agent presence checking
- Proactive alerting
- Remote hardware and software asset tracking

TRUSTED PLATFORM MODULE (TPM) - optional

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

REAR PANEL I/O PORTS

- 1 mini-DIN-6 port for PS/2 mouse/keyboard
- 2 DB-9 serial ports
 - Supports RS232/422/485 (RS232 and/or Power)
- 1 HDMI port
- 1 DVI-I port
- 2 RJ45 LAN ports
- 4 USB 3.0/2.0/1.1 ports
- 2 USB 2.0/1.1 ports
- Line-in/Surround, Line out, Mic-in/Center+Subwoofer jacks

I/O CONNECTORS

- 2 connectors for 4 external USB 2.0/1.1 ports
- 4 connectors for 4 external RS232 serial ports
- 1 8-bit Digital I/O connector
- 1 front audio connector for line-out and mic-in jacks
- 1 S/PDIF connector
- 1 LPC connector
- 6 Serial ATA ports
- 1 24-pin ATX power connector
- 1 4-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 3 fan connectors

BIOS

- AMI BIOS
 - 64Mbit SPI BIOS

WATCHDOG TIMER

- Software programmable from 1 to 255 seconds

ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving (optional)
- 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 V_{CORE}/5V/3.3V/V_{DIMM}/12V/5V_{SB} voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed

OS SUPPORT

- Windows XP Professional x86 & SP3 (32-bit)
- Windows XP Professional x64 & SP2 (64-bit)
- 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%

DIMENSIONS

- ATX form factor
- 305mm (12") x 244mm (9.6")

Packing List

- 1 HD631 motherboard
- 1 Serial ATA data cable
- 1 I/O shield
- 1 DVD
- 1 QR (Quick Reference)

Optional Items

- USB port cable
- COM port cable
- Serial ATA data cable
- Serial ATA power cable
- I/O shield
- 1 LPC module kit