

# NEX 613

Mini-ITX, Socket LGA1150 4th Generation Intel® Core™ i7/i5/i3 with Q87, 2 x DDR3 SO-DIMM, VGA/HDMI/LVDS, PCIe16/mPCIe, 2 x GbE/4 x SATA3.0/12 x USB/6 x COM/mSATA



## Main Features

- 4th Generation Intel® Core™ processor family
- Intel® Q87 chipset
- 2 x 204-pin SO-DIMM support DDR3 1333/1600Mhz up to 16GB system memory
- Support VGA/HDMI/LVDS three displays
- 2 x Intel® GbE, 4 x SATA3.0, 1 x mSATA, 12 x USB3.0/2.0, 6 x COM, 8 x GPIO
- 1 x PCIe16 (Gen. 3.0), 1 x mPCIe
- Support AT/ATX mode by ATX Power Input

## Product Overview

NEX 613 is a Mini-ITX form factor with 4th generation Intel® Core™ processor family, which support DDR3 1600/1333MHz memory, along with integrated graphics controller, Intel® HD Graphic 4600, along with integrated graphics for large display application to support three display output simultaneously.

Intel® Q87 chipset provides 4 x SATA 3.0, 1 x mSATA (share with mPCIe), 12 x USB (4 x USB3.0/8 x USB2.0) ports, 6 x COM, 2 x GbE, 1 x PCIe16 (Gen. 3.0) and 1 x mPCIe. NEX 613 could be integrated into 1U/2U/4U rack mounted chassis or Desktop Towers as completed system solution for widely industrial applications in the new era of digital infrastructure with NEXCOM.

## Specifications

### CPU Support

- Socket LGA1150, 4th generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors

### Main Memory

- 2 x 204-pin SO-DIMM support DDR3 1333/1600Mhz up to 16GB system memory

### Chipset

- Intel® Q87 Platform Controller Hub

### BIOS

- AMI BIOS UEFI
- Plug and play support

### On-board LAN

- 1 x Intel® I217LM PHY for AMT 9.0
- 1 x Intel® I210 PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LEDs

### Display

- 4th generation Intel® Core™ socket LGA1150 processors Integrated HD 4600 graphics engine
- 1 x HDMI
- 1 x VGA
- 1 x LVDS: dual (24-bit) LVDS panel, resolution up to 1920 x 1200 by 40-pin connector

### Expansion

- 1 x PCIe16 (Gen. 3.0)
- 1 x mPCIe

### I/O Interface

- Serial port: 6 ports  
COM1/2/3: RS232/422/485 with DB9 male connector on edge I/O  
COM4/5/6: RS232 2 x 5/2.54mm box header
- USB2.0/3.0: 12 ports  
4 x USB3.0 ports by edge connectors  
8 x USB2.0 ports by 2 x 5-pin header pitch 2.54mm
- GPIO: Support 4 x GPI and 4 x GPO with TTL level (0/5V)
- Onboard Power LED and HDD Active LED Pin Header
- 1 x 4-pin fan connector (For CPU)
- 1 x 4-pin fan connector (For System)
- 1 x 18-pin header for TPM
- 1 x Keyboard/Mouse pin header
- Onboard Buzzer/SMBus2.0/reset SW/on & Off switch button

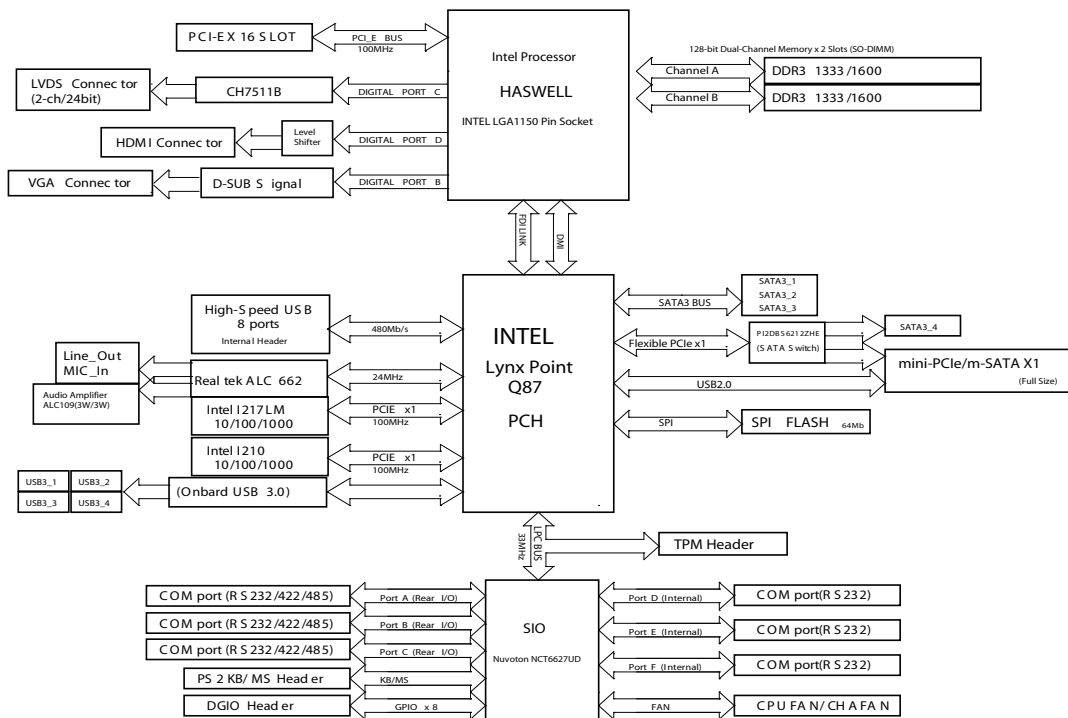
### Edge I/O Interfaces

- 1 x VGA + HDMI
- 2 x stack DB9 connector for COM1 & COM2
- 1 x DB9 male connector for COM3 + DVI-I connector
- 2 x RJ45 with dual stack USB3.0 (blue)
- Line-out/Mic-in phone jack

### Watchdog Timer

- Watchdog timeout can be programmable by Software from 1 second

## Block Diagram



to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

### Storage

- 4 x SATA3.0 ports with RAID 0,1,5,10 function

### System Monitor

- Monitoring of 4 voltages and 2 temperatures and 2 fan speed detection
- 4 voltages (Vcore, +12V, +3.3V, 5V)
- 2 temperatures (CPU, System)
- 2 fan speed detection

### On-board RTC

- On-chip RTC with battery backup
- 1 x External Li-Ion battery

### Power Input

- Support AT and ATX mode

### Power Requirements

- Power requirement: ATX Input, jumper AT/ATX (default) mode
- Onboard 2 x 12-pins standard ATX version 2.0 power connector

### Dimensions

- Mini-ITX M/B form factor
- 170mm (L) x 170mm (W)

### Environment

- Operating temperatures: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: operating 10% to 90%, non-condensing

### Certifications

- CE approval
- FCC Class A

## Ordering Information

### ♦ NEX 613-20PBK (P/N: 10G00061300X0)

Bulk-Packed 20 x pcs Mini-ITX, LGA1150 of 4th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors, Q87 with 2 x DDR3/SO-DIMM, HDMI/VGA/LVDS, PCIe16/mPCIe, 4 x SATA3.0, 4 x USB3.0/8 x USB2.0, 2 x GbE, 7 x COM, mSATA, and ATX Power Input