

Main Features

- Support Socket LGA 1150 for 4th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® Processors
- 4 x DDR3 DIMM Socket up to 32 GB
- Support DisplayPort/HDMI/VGA dual displays
- 2 x Intel® GbE, 5 x SATA3.0, mSATA, 12 x USB3.0/2.0, 6 x COM, 8 x GPIO
- 1 x PCIe16(Gen. 3.0), 1 x PCIe4, 1 x PCIe1, 4 x PCI (v2.3)
- Support AT/ATX mode by ATX Power Input

Product Overview

NEX 981 is an industrial motherboard with Standard ATX form factor, which support 4th generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors. NEX 981 support dual channel DDR3 1600/1333/1066MHz memory in four long DIMMs up to 32GB system memory and PCIe16 (Gen. 3.0). The Q87 PCH supports three Independent displays, by three DDI (digital display interfaces) for HDMI/DP ports as well as legacy VGA. Intel® Q87 PCH manages up to 5 x SATA 3.0 with software RAID 0/1/5/10 supported and performs up to 12 x USB (4 x USB3.0/8 x USB2.0) ports. NEX 981 support PCIe16(Gen. 3.0), PCIe4, PCIe1, legacy 4 x PCI slots, dual Intel® GbE ports and up to 6 x COM incl. 2 x RS232/422/485. NEX 981 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

- 4 x 240-pin dual channel long DIMMs support DDR3 1066/1333/1600MHz up to 32GB 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 graphics
- 1 x HDMI
- 1 x DisplayPort
- 1 x VGA

Expansion

- 1 x PCIe16 (Gen. 3.0)
- 1 x PCIe4
- 1 x PCIe1
- 4 x PCI (v2.3)

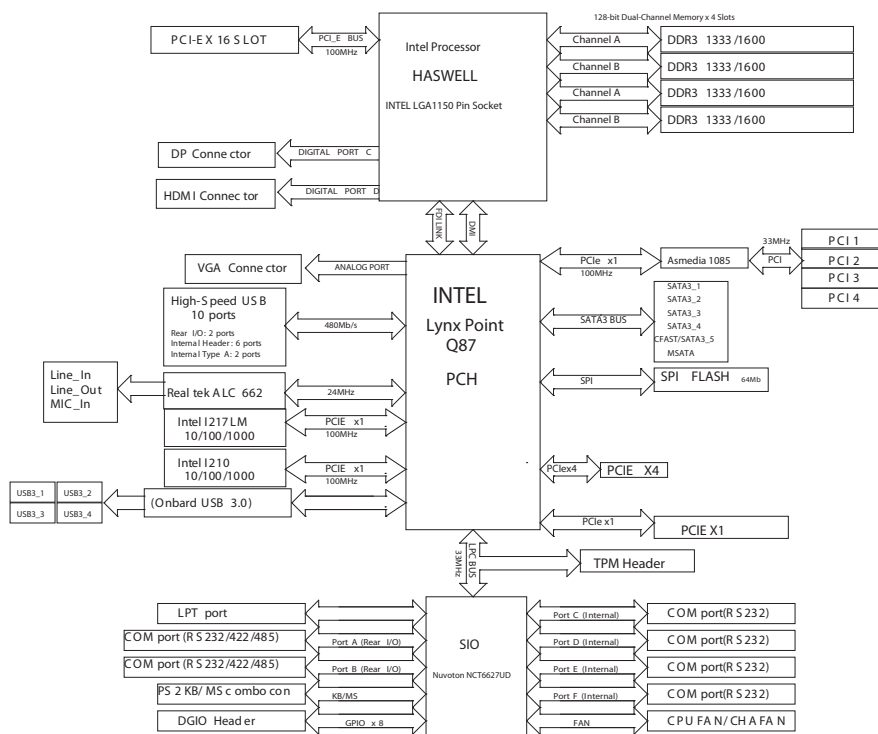
Edge I/O Interfaces

- 1 x Combo for PS2 KB/MS
- 2 x stack DB9 for COM1 & COM2
- 1 x DisplayPort
- 1 x HDMI with dual stack USB2.0 (black)
- 1 x VGA
- 2 x RJ45 with dual stack USB3.0 (blue) connectors
- Line-In/Line-out/Mic-in phone jack

I/O Interfaces

- Serial port : 6 ports
COM1/2 : RS232/422/485 with DB9 male connector on edge I/O
COM3/4/5/6 : RS232 2 x 5/2.54mm box header
- USB2.0/3.0 : 12 ports
4 x USB3.0 ports by edge connectors
2 x USB2.0 ports by edge connectors, 4 x USB2.0 ports by 2 x 5-pin header pitch 2.54mm, 2 x Vertical Type A USB Connectors
- GPIO : Support 4 x GPI and 4 x GPO with TTL level(0/5V)
- 1 x 3-pin and 1 x 4-pin fan connectors for CPU
- 1 x 3-pin and 1 x 4-pin fan connectors for System

Block Diagram



- 1 x 18-pin header for TPM
- 1 x 26-pin header for Parallel port
- 1 x Onboard buzzer
- Power LDE/Power On/Reset/HDD LED pin header

Watchdog Timer

- Watchdog timeout can be programmable by Software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

Storage

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

System Monitor

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

On-board RTC

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

System Monitor

- 4 Voltages (+3.3V, +5V, +12V, Vcore)
- 2 Temperatures (CPU and System)
- 4 FAN speed monitors (2 for CPU and 2 for System)

Power Input

- Support AT/ATX mode
- Standard ATX 24-pin connector for +12V/+5V/+3.3V/+5VSB/-12V
- ATX 4-pin connector for +12V

Dimensions

- ATX
- Dimension: Lx W, 305mm x 244mm; 12" x 9.6"

Environment

- Board level operating temperatures: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: 10% to 90%, (Non-condensing)

Certifications

- CE approval
- FCC Class A

Ordering Information

• NEX 981-10PBK (P/N : 10G00098100X0)

Bulk-Packed 10 x pcs ATX, LGA1150 of 4th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors, Q87 with 4 x DDR3/DIMM, HDMI/DP/VGA, PCIe16/PCIex4/PCIex1/4PCI/5 x SATA3.0, 4 x USB3.0/8 x USB2.0, 2 x GbE, 6 x COM, mSATA, and ATX Power Input