

## Main Features

- Intel® Atom™ Dual-Core D2550/1.86GHz processor
- Intel® ICH10R to support software RAID 0/1/5/10
- Dual 204-pins DDR3 SO-DIMMs support max. 4GB SDRAM memory
- Support VGA/HDMI, VGA/LVDS or HDMI/LVDS dual displays
- 8 x USB, 4 x COM, 2 x GbE (Intel), 1 x eSATA/5 x SATA, 1 x LPT
- Audio Mic-in/Line- out, (internal Line-in)
- 1 x Mini-PCIe (1 x full-size/SIM tray), 1 x PCIe4
- Standard ATX v.2.0 input by AT/ATX power mode

## Product Overview

NEX 605 is a Mini-ITX industrial MB embedded Intel® Atom™ D2550 1.86GHz dual-core processor, which integrated Intel® HD graphic controller SGX545 to support 640MHz/DX9.. NEX 605 supports VGA, LVDS (1 x ch. 24-bit up to 1440 x 900 @ 60Hz) and HDMI (1080p) by dual displays interface as standard along with two DDR3 SO-DIMMs for max 4GB memory.

NEX 605 embedded Intel® ICH10R chipset to support Intel® Matrix Storage Technology up to six SATA 2.0 for RAID 0/1/5/10 (default 1 x eSATA/5 x SATA, optional 2 x eSATA/4 x SATA) eight USB2.0 (extra 1 x USB2.0 to mPCIe interfaces), two Intel® 82574L Gigabit Ethernet controller, one Mini-PCIe full-size slot with SIM stray for standard add-on application and one more PCIe4 slot by add-on PCIe riser card for expansion.

NEX 605 is featuring versatile displays, matrix storage devices of eSATA/SATA as RAID for mass storage and riches I/O support for multimedia as well as critical mission of industrial embedded applications.

## Specifications

### Embedded Support

- Intel® Atom™ processor D2550 1.86GHz CPU

### Main Memory

- Dual 204-pin SO-DIMMs support DDR3 up to 4GB SDRAM 800/1066MHz

### Platform Control Hub

- Intel® ICH10R support Intel® Matrix Storage technology of RAID 0/1/5/10 configuration

### BIOS

- AMI BIOS
- Plug & Play support
- Advanced power management
- Advanced configuration & power interface
- 16M bits SPI ROM

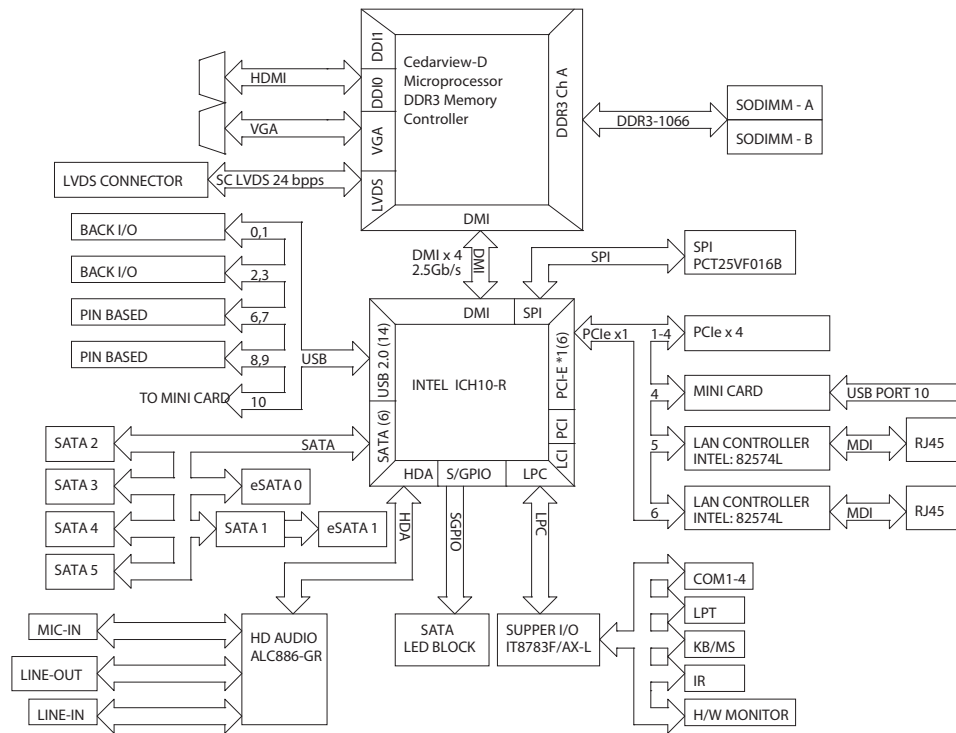
### On-board LAN

- 2 x Intel® 82574L PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LEDs build-in 2 x dual stackable USB type A connectors on edge I/O

### Display

- New 2-chips solution 32nm package Intel® Atom™ processor D2550 integrated 3D graphics engine SGX545, to support up to 640MHz/DX9 and provides multi-options for high-resolution displays
- Analog VGA interface:
  - 1 x VGA by DB15 connector
  - Resolution up to 1920 x 1200 75Hz
- HDMI interface:
  - 1 x HDMI connector
  - Resolution up to 1920 x 1200
- LVDS interface:
  - Single (24-bit) LVDS, resolution up to 1440 x 900 @ 60Hz by DF13 20-pin LVDS
- Inverter (LVDS panel backlight) interface:
  - 1 x 7-pins CCFL for LCD panel backlight inverter
- Audio
  - Realtek ALC886-GR High Definition codec
  - 1 x Mic-in/1 x Line-out by audio jack on edge I/O and 1 x Line-in by internal 4-pins header
- Expansions
  - 1 x Mini-PCIe (1 x full-size/SIM tray)

## Block Diagram



- 1 x PCIe x4 slot
- I/O Interfaces
  - Serial port: 4 ports
  - COM1, RS232 by DB-9 male on edge I/O
  - COM2, 3, 4 support 3 x RS232 ports by 2 x 5-pins box header and dual-JST 10pins wafer
- 8 x USB2.0: Use 9 of 14 ports (ICH10R)
  - 4 x ports by 2 x dual stack USB2.0 on edge I/O (port 0 ~ 3)
  - 4 x ports by 2 x 5-pins header pitch 2.54mm (port 6 ~ 9)
- 1 x ports to Mini-PCIe slots (port 10)
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL Level (0/5V)
- Power LED and HDD active LED/reset/power on-off by 2 x 5-pins header
- 2 x 4-pins fan connector (for CPU and system)
- On board Buzzer and SMBus 2.0 by 1 x 4-pins, IrDA by 1 x 5-pins header
- 2 x 13-pins box header for legacy parallel port/LPT
- 2 x 13-pins header for 6SATA/2GbE LEDs connector

### Edge I/O Interfaces

- 1 x dual stack PS2 For Keyboard/Mouse
- 1 x dual stack DB9 male for COM1 + DB15 female VGA
- 1 x HDMI connector
- 1 x dual stack eSATA (port 1 is default by eSATA)
- 2 x RJ45 LAN + dual stack USB connectors
- 1 x Mic-in/1 x Line-out Jack

### 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

- Default 1 x eSATA by external edge I/O and internal 5 x SATA connectors support software RAID 0, 1, 5 and 10
- Optional by DIP-SW1 setting to 2 x eSATA by external edge I/O and internal 4 x SATA support software RAID 0, 1, 5 and 10
- 2 x 13-pins header for 6 x SATA/2 x LAN LEDs connector

### System Monitor

- Monitoring of 4 voltages and 2 temperatures
  - 4 voltage (Vcore, +12V, +3.3V, 5V)
  - 2 temperatures (CPU, System)
- 2 fans 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 form factor/170mm (L) x 170mm (W) (6.7" x 6.7")

### Environment

- Operating temperature: -15°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 605-2550 (P/N: 10G00060502X0)**  
Mini-ITX, embedded Intel® Atom™ Dual-Core D2550/ICH10R, 2DDR3, VGA/LVDS/HDMI, 2GbE, 1 x eSATA/ x SATA, 4COM, 8USB, mPCIe, PCIe x4, ATX input
- NEX 604/NEX 605 CPU Cooler (P/N: 5050300517X00)**  
Optional CPU cooler for NEX 604/NEX 605