Nuvo-1300af Series

Intel® Core™ i7/i5 Fanless Embedded Controller with 4x integrated Gigabit PoE ports

Features

- Intel® i7 superb computing performance
- Integrated four GigE PoE ports and one GigE port by Intel® 82574L controller
- Rugged, -25°C to 70°C fanless operetion
- Isolated/non-isolated PoE power design
- Integrated 8-CH isolated DI and 8-CH isolated DO
- One RS-232/422/485 port and three RS-232 ports
- Dual SATA ports to accommodate two 2.5” SATA hard drives

Introduction

Neousys Nuvo-1300af is world’s first i7 fanless embedded controller with integrated Gigabit PoE ports. PoE, or Power over Ethernet, is a technology to supply electrical power along with data on a standard CAT-5e/CAT-6 Ethernet cable. Nuvo-1300af integrates four GigE PoE ports compliant with IEEE 802.3af standard. Each PoE port can deliver 15.4 W of power to a PoE device, such as a PoE camera. Nuvo-1300af also features unique design of isolated PoE power, which allows users to alternatively supply two sets independent power to PoE function and to the system. This minimizes the risk of an external power surge on Ethernet cable which may damage the system.

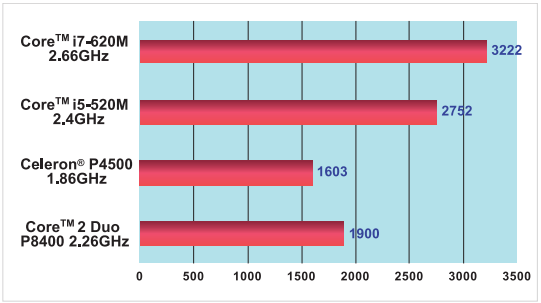
In addition, Nuvo-1300af integrates versatile I/O interfaces in its compact chassis. It has one additional GigE port for data communication and two SATA ports for accommodating two 2.5” SATA hard drives inside. Nuvo-1300af also features on-board isolated DIO and serial ports for device control/communication.

The PoE capability of Nuvo-1300af reduces the cost of deployment of Ethernet-based devices since power outlet is no longer needed. Its fanless design gives exceptional long-term durability, vibration resistance, and an operating temperature from -25°C to 70°C. For machine vision, surveillance, and network-intensive applications, Neousys Nuvo-1300af is definitely your best solution!

Product Highlights

Performance Advantage

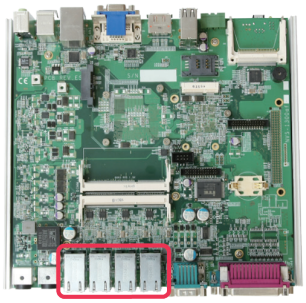
Nuvo-1300af inherits remarkable features introduced to Intel Core™ i7/i5 platform, such as new 32nm micro-architecture, Turbo Boost and Hyper-Threading (2 cores/4 threads). The result is a significant performance improvement over previous Core™2 Duo platform. In addition, the new, integrated Intel® HD Graphics engine also doubles the graphics performance.



** The CPU benchmark is performed using Passmark PerformanceTest 7 based on Win7 64bit OS.*

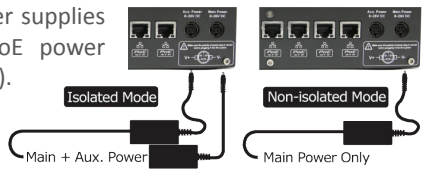
4x Gigabit 802.3af PoE Ports

Nuvo-1300af integrates four Gigabit PoE ports compliant with IEEE 802.3af standard. Each port can deliver 15.4 W of power and 1000 Mb/s bandwidth over a CAT-5e/CAT-6 cable of up to 100 meters. Our highly integrated design, moreover, allows us to effectively manage the heat PoE circuit generates by conducting it to the heat sink, and consequently makes Nuvo-1300af a very reliable i7 fanless controller possessed of PoE capability.



Isolated/Non-isolated PoE Power Design

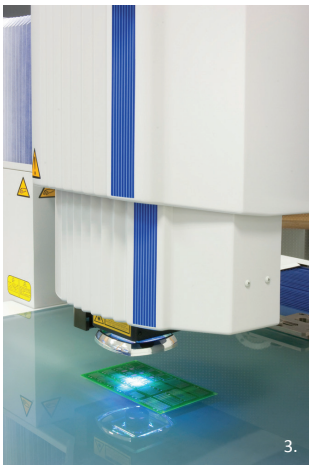
Since PoE can deliver power over a long cable, an unexpected power surge may enter the copper cable and cause system damage. In addition to well-designed surge protection, Nuvo-1300af features an isolated PoE design to minimize the risk. You can alternatively use single power supply for both system and PoE power (non-isolated mode), or use two independent power supplies for system power and PoE power respectively (isolated mode).

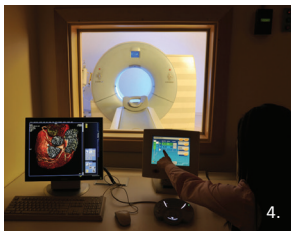


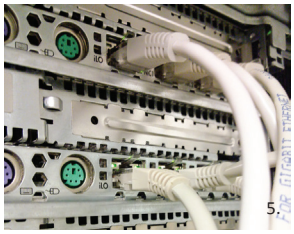
Accommodation of Two 2.5” SATA HDDs

Considering the huge volume of data in a vision or surveillance application, Nuvo-1300af is designed to accommodate two 2.5” SATA hard drives in its compact chassis to offer terabytes of capacity. If that’s not enough, you can have the eSATA port for storage expansion, or the front-accessible CF card for system installation.

Applications







1. Surveillance / Security
2. NVR
3. Machine Vision
4. Medical Imaging
5. Network Platform

Specifications

System Core	
Processor	Intel® Core™i7-620M (2.66 GHz, 4 MB cache) Intel® Core™i5-520M (2.4 GHz, 3 MB cache)
Chipset	Intel® HM55 Platform Controller Hub
Graphics	Integrated Intel® HD Graphics Controller
Memory	2x 204-pin SO-DIMM socket, up to 8 GB DDR3 1066MHz SDRAM

I/O Interface	
PoE	4x Gigabit IEEE 802.3af (15.4W) PoE ports by Intel® 82574L
Ethernet	1x Gigabit Ethernet port by Intel® 82574L
Video Port	1x DB-15 connector for analog RGB, supporting 2560x1600 resolution 1x DVI-D connector for DVI/HDMI output, supporting 1920x1080 resolution
Serial Port	1x software-programmable RS-232/422/485 (COM1) 3x RS-232 (COM2~COM4)
Isolated DIO	8x isolated digital input channels and 8x isolated digital output channels
USB	8x USB 2.0 ports
KB/MS	1x PS/2 keyboard and 1x PS/2 mouse
Audio	1x Mic-in and Speaker-out

Storage Interface	
SATA HDD	2x Internal SATA ports for two 2.5” HDD/SSD installation
eSATA	1x eSATA ports for storage expansion
CompactFlash	1x Type I CF socket

Expansion Bus	
Mini PCI-E	1x internal mini PCI Express socket with USIM socket

Power Supply	
DC Input	Built-in 8~26V DC input, supporting two power mode - Non-isolated mode: Use one power supply for both system and PoE power - Isolated mode: Use two power supplies for system power and PoE power respectively
Input Connector	1x 4-pin power connector for system & PoE power input (Main DC-IN, 8~26 VDC) 1x 4-pin power connector for isolated PoE power input (Aux. DC-IN, 8~26 VDC)
Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Power Consumption	61.8W (3.1A@20V)

Mechanical	
Dimension	240 mm (W) x 225mm (D) x 78 mm (H)
Weight	3.2kg (including one 2.5” HDD and DDR3 SO-DIMM)
Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)

Environmental	
Operating Temperature	Ambient with air flow (> 0.5 m/s or 1.8 km/hr), 100% CPU loading* -25°C ~ 70°C** Ambient without air flow, 100% CPU loading* -25°C ~ 60°C**
Storage Temperature	-40°C ~ 85°C
Humidity	10% ~ 90%, non-condensing
Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
EMC	CE/FCC Class A, according to EN 55022 & EN 55024

** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neousys Technology*

*** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.*

Order Information

Nuvo-1300af-620M

Intel® Core™ i7-620M fanless controller with 4x Gigabit PoE

Nuvo-1300af-520M

Intel® Core™i5-520M fanless controller with 4x Gigabit PoE

Option of DIN-Rail mounting kit

120 W AC/DC power adapter (for isolated PoE and system power)

160 W AC/DC power adapter (for non-isolated PoE and system power)