

# Nuvo-1000 Series



Intel® Core™ i7 / i5 Fanless Embedded Controller with 5x GbE and 2x eSATA ports



- Rugged, -25°C to 70°C fanless operation
- Up to five Intel® 82574L Gigabit Ethernet ports
- VGA+DVI/HDMI dual display
- One RS-232/422/485 port and three RS-232 ports
- Dual eSATA ports
- Mini-PCIE expansion with SIM support
- Optional on-board isolated DIO
- Optional PCI-104 expansion bus

## - Introduction -

Boosting your computing engine to a new era! Incorporating Intel Core™ i7/i5 processor, the Nuvo-1000 controller offers extraordinary performance for arithmetic-intensive applications, while its fanless design provides superb reliability and durability.

Nuvo-1000 integrates versatile I/O interfaces in a compact chassis. It provides up to 5 Gigabit Ethernet ports and 2 eSATA ports, which is particularly useful for surveillance and security applications. The VGA+DVI/HDMI dual display accomplishes an easy way of high-resolution content output for image or media applications. In addition, Nuvo-1000 also features additional functions, such as optional isolated DIO and PCI-104 expansion bus, to fit a broader range of applications.

The fanless design of Nuvo-1000 gives it exceptional long-term durability and tolerance to vibration, and its -25/70 temperature range provides a more reliable operation in various environments. For a quest of performance and reliability, Nuvo-1000 is the answer!

## - Product Highlights -

### ■ Performance Advantage

Nuvo-1000 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® Performance Test 7.0 based on Win7 64bit OS.

### ■ 5x Intel® 82574L Gigabit Ethernet controller

The extraordinary computing power of Nuvo-1000 is suitable for image-related applications such as AOI and surveillance/security. For these applications, GbE camera is an important device to acquire high-resolution images. Nuvo-1000 provides up to five GbE ports using Intel® 82574L controllers for sufficient connections and great compatibility with cameras.

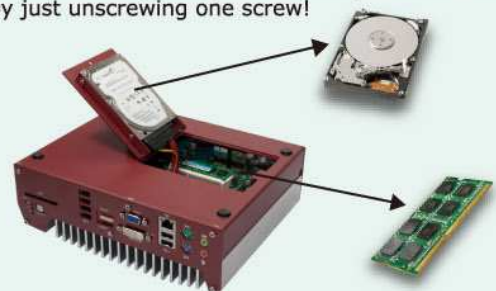


## - Application -



### ■ Fanless and Pet Door Design for Easy Maintenance

In most circumstances, "fanless" stands for a more reliable and durable operation. Nuvo-1000 features a compact and fanless structure, and its Pet Door design allows an easy maintenance for replacing the memory module and hard drive by just unscrewing one screw!



### ■ Extensive functions -- mini-PCIE and optional DIO and PCI-104 expansion

In some cases, you need to enrich functions of Nuvo-1000. Its mini-PCIE with SIM support provides an easy way for wireless communication. Optional isolated digital I/O is a good fit for device control. And the PCI-104 option allows you to install any PCI-104 module inside so you can have a compact, rugged platform for a wider range of applications.



## - Nuvo 1000 Series Specification -

System Core	
Processor	Intel® Core™ i7-620M (2.66GHz) , Intel® Core™ i5-520M (2.4GHz), or Intel® Celeron™ P4500 (1.86GHz)
Chipset	Intel® HM55 Platform Controller Hub
Graphics	Integrated Intel® HD Graphics Controller
Memory	1x 204-pin SO-DIMM socket, up to 4GB DDR3 1066MHz SDRAM
I / O Interface	
Ethernet	UP to 5x Intel® 82574L GbE ports
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)
USB	6x USB 2.0 ports
KB/MS	1x PS/2 keyboard and 1x PS/2 mouse
Audio	1x Mic-in and 1x Speaker-out
Digital I/O	8x isolated DI and 8x isolated DO (optional)
Storage Interface	
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation
eSATA	2x eSATA ports for storage expansion
CompactFlash	1x Type I CF socket
Expansion Bus	
Mini PCI-E	1x internal mini PCI Express socket with SIM socket
PCI-104	1x Internal PCI-104 socket (optional)

Power Supply	
DC Input	Built-in 8~26 VDC DC input
Input Connector	1x 4-pin pluggable terminal block with remote on/off control 1x DC jack ( Ø2.5) for AC/DC adapter input

Mechanical	
Dimension	240 mm (W) × 195 mm (D) × 76 mm (H)
Weight	2.7 Kg (including 2.5" HDD and DDR3 SODIMM)
Mounting	Wall-mount by mounting bracket

Environmental	
Operating Temperature	Ambient with air flow (> 0.5 m/s or 1.8 km/hr), 100% CPU loading* -25°C ~ 70°C (Nuvo-1005S-620M & Nuvo-1003S-520M) -25°C ~ 60°C (Nuvo-1003S-4500P)
Storage	Ambient without air flow, 100% CPU loading* -25°C ~ 60°C (Nuvo-1005S-620M & Nuvo-1003S-520M) -25°C ~ 50°C (Nuvo-1003S-4500P)
Humidity	-40°C extended temperature option is also available. Please contact Neosys for further information
Vibration	-40°C ~ 85°C
Shock	10%~90%, non-condensing
EMC	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
	CE/FCC Class A, according to EN 55022 & EN 55024

\* The 100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology.

## - Ordering Information -

- Nuvo-1005S-620M  
Intel® Core™ i7-620M fanless controller with 5x GbE, 2x eSATA, 4x COM, 2GB DDR3 and 250GB HDD
- Nuvo-1003S-520M  
Intel® Core™ i5-520M fanless controller with 3x GbE, 2x eSATA, 4x COM, 2GB DDR3 and 250GB HDD
- Nuvo-1003S-4500P  
Intel® Celeron™ P4500 fanless controller with 3x GbE, 2x eSATA, 4x COM, 2GB DDR3 and 250GB HDD
- Option of Isolated digital input/output (8DI + 8DO)
- Option of PCI-104 expansion
- Option of customized Panel for Mini-PCI and PCI-104 module
- Option of -40°C extended temperature operation
- 60W AC/DC power adapter

## - Package List -

- 1x Nuvo-1003S/1005S Unit
- 1x Accessory Box
- 1x Driver CD
- 1x Quick Installation Guide