Nuvo-2000+ Series

Intel® Atom™ D525 Fanless Shoe-Box IPC with Dual VGA, Dual GbE and Triple PCI/PCIe Slots

- Intel® Atom™ D525 1.8GHz Dual-core processor
- Rugged, -20 ºC to 70 ºC fanless operation
- Three PCI slots or one x4 PCIe + two PCI slots
- Dual VGA and dual GbE ports
- Two SATA ports to accommodate two 2.5" HDD
- One RS-232/422/485 port and three RS-232 ports
- On-board isolated DIO option
- Wide range 8~25V DC input

Introduction

It is a fanless Atom™ D525 box-PC with expandability, usability and durability!

Nuvo-2000+, the enhanced version of our previous Nuvo-2000, presents new features such as dual Gigabit Ethernet ports and dual independent VGA outputs. It is also come with a newly-designed chassis for better user experience, as well as superior system stability in various environments.

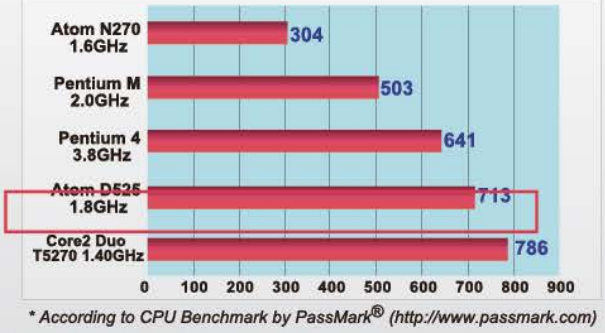
Leveraging Intel® Atom™ D525 1.8GHz dual-core processor, Nuvo-2000+ accommodates three PCI/PCIe cards and two 2.5" hard drives in its shoe-box size. More than that, it provides versatile I/O interfaces, such as COM ports, USB ports, parallel port, dual GbE ports and isolated digital I/O, to fulfill general industrial requirements. Dual independent VGA outputs of Nuvo-2000+ bring more feasibility for machine vision or HMI/SCADA applications.

Nuvo-2000+ also features an ingenious mechanical design, which allows -20 to 70ºC fanless operation and the flexibility of wall-mounting or DIN-Rail mounting. Its compact size, PCI/PCIe slots and simple yet useful I/O functions fit most applications where a reliable platform is needed.

Product Highlights

Adequate Performance

Nuvo-2000+ utilizes the latest Atom D525 processor. It is a 2-cores/4-threads CPU works with DDR3-800 memory. According to benchmarking result, Atom D525 has better performance than previous Pentium M CPU and is very close to entry-level Core 2 Duo CPU. This gives Nuvo-2000 adequate computing power for most industrial control applications.



** According to CPU Benchmark by PassMark® (http://www.passmark.com)*

3x Expansion Slots for Add-on Cards

Nuvo-2000+ accommodates 3 PCI/PCIe slots in its compact chassis. Two configurations, three PCI slots, or two PCI slots plus one x4 PCIe slot, can be chosen according to your application requirements. With capacity of installing three add-on cards, you can expand a much wider range of applications with Nuvo-2000+.

Small & Smart Chassis Design

Nuvo-2000+ has an ingenious mechanical design which gives consideration to small dimension, superior heat dissipation, flexible wall-mounting or DIN-Rail mounting, and intuitive pattern of use. Furthermore, its compact chassis can accommodate two 2.5" SATA hard drives to expand your storage capacity.

Dual VGA, Dual GbE, and Isolated DIO

Nuvo-2000+ offers rich I/O configuration for industrial usage. Its dual VGA supports independent display output which is particularly useful for machine vision or SCADA applications. Dual GbE ports provides more Ethernet connectivity and bandwidth. Or you can use its isolated digital I/O for device control.

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▪ Application

1. Tollgate Control
2. Factory Plant Monitoring
3. Machine Automation
4. Automatic Fare Collection

▪ Nuvo 2000+ Series Specification

System Core	
Processor	Intel® Atom™ D525 1.8GHz dual-core processor
Chipset	Intel® ICH8-M I/O Control Hub
Graphics	Integrated Intel® GMA 3150 graphics
Memory	1x 204-pin SO-DIMM socket, up to 4GB DDR3 800MHz SDRAM
Front-panel I/O Interface	
Ethernet	2x Intel® 82574L Gigabit Ethernet port
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1563 resolution
Serial Port	1x software-programmable RS-232/422/485 (COM1) 1x RS-232 (COM2)
USB	4x USB 2.0 ports
Audio	1x Mic-in and 1x Speaker-out
Internal I/O Interface	
Video Port	1x Optional 2nd VGA output via flat cable, supporting 1366 x 768 resolution
Serial Port	2x RS-232 (COM3 & COM4)
Parallel Port	1x Parallel port
Mini-PCIe	1x mini PCI Express slot with SIM socket
Isolated DIO	8-CH isolated DI + 8-CH isolated DO
Storage Interface	
SATA HDD	2x Internal SATA ports for 2.5" HDD/SSD installation
CompactFlash	1x Type I & II CF socket

Expansion Bus	
PCI	3x PCI slots (Nuvo-2030+) 2x PCI slots (Nuvo-2021+)
PCI Express	1x PCI Express x4 slot (Nuvo-2021+ only)
Power Supply	
DC Input	Built-in 8~25 VDC DC input
Input Connector	1x 2-pin pluggable terminal block for DC input 1x DC jack (ø2.5) for AC/DC adapter input
Mechanical	
Dimension	141 mm (W) x 157mm (H) x 226 mm (D)
Weight	2.9 kg (including one 2.5" HDD and DDR3 SODIMM)
Mounting	Wall-mount by mounting bracket
Environmental	
Operating Temperature	-20°C ~ 70°C, 100% CPU loading */**
Storage Temperature	-40°C ~ 85°C
Humidity	10%~90%, non-condensing
Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)
Shcok	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)
EMC	CE/FCC Class B, according to EN 55022 & EN 55024

** The CPU loading is applied using Intel® Thermal Analysis Tool. 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.*

▪ Ordering Information

- Nuvo-2021+
  Intel® Atom™ D525 fanless IPC with two PCI slots and one PCI Express x4 slot, single VGA version
- Nuvo-2030+
  Intel® Atom™ D525 fanless IPC with three PCI slots, single VGA version
- Nuvo-2021DV+
  Intel® Atom™ D525 fanless IPC with two PCI slots and one PCI Express x4 slot, dual VGA version
- Nuvo-2030DV+
  Intel® Atom™ D525 fanless IPC with three PCI slots, dual VGA version
- Option of isolated DIO for Nuvo-2000+
  Option of isolated digital input/output (8 DI + 8 DO) with panel/cable kit
- Option of DIN-Rail mounting
  Option for DIN-Rail mounting clip for Nuvo-2000+
- Panel/cable kit for 2x COM ports
- Panel/cable kit for 1x COM + 1x LPT ports
- 60W AC/DC power adapter with 12V, 5A DC output

▪ Package List

- 1x Nuvo-2021+/2030+ Unit
- 1x Accessory Box, including
  - 1x SATA cable for 2nd HDD installation
  - 1x HDD bracket
  - 1x Driver CD
  - 2x Wall-mount brackets
  - 1x Screw set

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