

Nuvo-2000+ Series

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



Features

- Intel® Atom™ D525 1.8GHz dual-core processor
- Rugged, -20°C to 70°C 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!

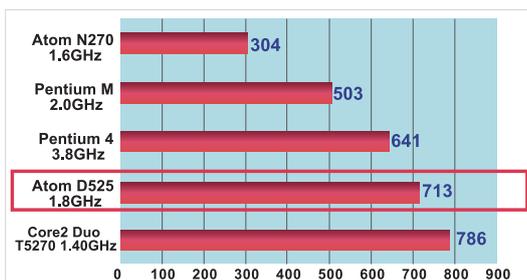
Nuvo-2000+, the enhanced version of our previous Nuvo-2000, presents new features such as dual Gigabit Ethernet ports and dual independent VGA outputs. It also comes with a newly-designed chassis for better user experience, as well as superior system stability in various environments. Leveraging Intel® 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°C to 70°C 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>)

Small and 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.



3x Expansion Slots for Add-on Cards

Nuvo-2000+ accommodates three 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+.



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 provide more network connectivity and bandwidth. Or you can use its isolated digital I/O for device control.



Applications



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

Specifications

System Core		Expansion Bus	
Processor	Intel® Atom™ D525 1.8GHz dual-core processor	PCI	3x PCI slots (Nuvo-2030+) 2x PCI slots (Nuvo-2021+)
Chipset	Intel® ICH8-M I/O Control Hub	PCI Express	1x PCI Express x4 slot (Nuvo-2021+ only)
Graphics	Integrated Intel® GMA 3150	Power Supply	
Memory	1x 204-pin SO-DIMM socket, up to 4GB DDR3 800MHz SDRAM	DC Input	Built-in 8~25V DC input
Front-panel I/O Interface		Input Connector	1x 2-pin pluggable terminal block for DC input 1x DC jack (ø2.5) for AC/DC adapter input
Ethernet	2x Intel® 82574L Gigabit Ethernet port	Power Consumption	26.4W (1.1A@24V)
Video Port	1x DB-15 connector for VGA output, supporting 2048 x 1536 resolution	Mechanical	
Serial Port	1x software-programmable RS-232/422/485 (COM1) 1x RS-232 (COM2)	Dimension	138 mm (W) x 225 mm (D) x 159 mm(H)
USB	4x USB 2.0 ports	Weight	2.9 kg (including one 2.5" HDD and DDR3 SO-DIMM)
Audio	1x Mic-in and Speaker-out	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
Internal I/O Interface		Environmental	
Video Port	1x Optional 2nd VGA output via flat cable, supporting 1366 x 768 resolution	Operating Temperature	-20°C ~ 70°C, 100% CPU loading **/**
Serial Port	2x RS-232 (COM3 & COM4)	Storage Temperature	-40°C ~ 85°C
Parallel Port	1x Parallel port	Humidity	10%~90% , non-condensing
Isolated DIO	Optional 8-CH isolated DI + 8-CH isolated DO	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)
Storage Interface		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)
SATA HDD	2x Internal SATA ports for 2.5" HDD/SSD installation	EMC	EN/IEC 61000-6-4(Emission Standard for industrial environments) EN/IEC 61000-6-2(Immunity Standard for industrial environments)
CompactFlash	1x Type I & II CF socket		

* The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology
 ** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order 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 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