OCTAGON SYSTEMS®

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Fleet CORE™
Mobile Computer

FEATURES

CPU
- Intel® Atom N270, 1.6 GHz
- 945GSE Chipset

Environmental
- –25°C to 70° C fanless operation
- MIL–202G/214A shock and vibration
- Internal temperature software readable

Power Supply
- 8V to 36V Input voltage
- Extensive transient protection
- Ignition switch input for smart OS shutdown
- Meets ISO-7637-2-2004 & SAE J1113-11
- ATX mode compatible

Wireless
- 50-channel GPS, best in class for fast lock and sensitivity, supplied
- 802.11 b/g WiFi, FCC certified option

Modular/Expandable
- PC/104 and Mini PCI expansion
- DB-9 Connector for user defined I/O
- 32GB - 128GB Flash Drive option

Connectivity and I/O
- COM – four RS-232/RS-485
- USB – four ports, USB 2.0
- Digital I/O – 8 lines, up to 36V operation
- Ethernet – 100 Mb, and 1 Gigabit
- HD Audio – Stereo line in/out, 2W speaker
- Video – CRT displays to 1920 x 1440

Supported Operating Systems
- Windows® XPe or Linux
- Can be shipped preconfigured with drivers installed

Applications
- Police
- Taxi
- AVL
- Mesh
- Medical vehicles
- Trucking
- Transit systems
- Maintenance



DESCRIPTION

The Fleet CORE excels in demanding applications like police, trucking emergency vehicles, mesh networks and other applications where the cost of failure can be unacceptably high. The careful circuit design, component selection, testing and superior heat dissipation maximize reliability and minimize costly downtime .

Long term reliability is at the core of our design philosophy. The Fleet CORE incorporates the field-proven, Octagon Hedgehog© power supply technology providing superior protection from the severe transients common in mobile power systems. It rejects load dumps, repeated transients and over voltage. The high density extrusion becomes the heat sink for the CPU and other heat producing components.

A unique design tightly integrates the electrical, thermal and mechanical components into a complete system with no compromise to any one segment. It was designed for applications where severe environments and high performance meet. This successful design philosophy allows fanless operation over a –25°C to 70° C range.

The fully developed & proven platform accelerates your design process. It can be supplied with Windows XPe or Linux installed with all drivers.

Customs versions are possible through the addition of Mini PCI, Mini PCIe and PC/104 *Plus* modules to increase functionality. This can be done by either Octagon or the user. Extra SMA c onnectors with a ribbon cable interface is included to bring out user-defined signals.

In addition, automotive hard drives or Solid State Disks can be installed using the SATA interface and mounted on the PC/104 stack. Two of the front panel LEDs are reserved for user-defined status or other functions.

SPECIFICATIONS

Low-Power Processor
- Intel Atom N270, 1.6 GHz
- 945 GSE Chipset
- Front-side Bus speed: 533 MHz
- Watchdog timer

DRAM Memory
- 1 GB DDR2, industrial temperature grade

CompactFlash
- Optional, 4 GB, industrial grade, error-correcting

Serial Ports
- Three RS-232, four-wire
- One RS-232/485, configurable

USB Ports
- Four 2.0 ports with secure cable locks for reliable operation in high vibration

Ignition input
- Assures orderly shutdown when engine turned off to prevent data loss

Digital I/O
- Four output lines with common ground, sink 100 mA @ 32V
- Four input lines, 8V to 32V

Ethernet Ports
- One Gigabit port
- One 10/100 Base–T port

Wireless Ports
- 802.11 b/g Wifi: FCC part 15.247 & CE certified, female SMA connector (Optional)
- 50-channel GPS, fast lock, -160 dBm sensitivity, high immunity to jamming, female SMA connector
- Spare SMA connectors for user–added functions

Intel© HD Audio
- Stereo line in
- Stereo line out
- Stereo speaker out - 2W into 8 ohm load

Video
- VGA up to 1920 x 1440 x 24 bpp resolution

Keyboard and Mouse
- Supported through USB ports
- Wake–on keyboard supported

Power Supply
- 8-36VDC input voltage (10-32 VDC continuous)
- Meets SAE J1113-11 and ISO-7637-2-2004 for mobile power protection
- Protection - Load dump, reverse voltage, brown-out, and transient protection
- ATX mode compatible

Status LEDs (bi–color)
- Indicate different power states
- User programmable
- Mini PCIe status
- Mini PCI status
- Hard dish and CompactFlash operation

Environmental
- –25°C to +70°C ambient air temperature (brief excursions outside range are well tolerated)
- Fanless operation over the full temperature range
- Allow 50 mm on five of six sides for natural convection when used in ambients above 50°C
- For user added electronics derate 2°C/W of added dissipation

Shock
- 20g, 3 axis per MIL–STD 202G, Test 213B, condition J

Vibration
- 5g, 3 axis per MIL–214A, Test214A, condition A

Mechanical
- Size: 180 mm wise, 90 mm high, 200 mm deep (7.1" x 3.5" x 7.9")
- Weight: 2.2 kg (4.9 lbs)
- External Finish: Powder coat paint
- Meets FCC & CE Class A requirements

Emissions
- Meets FCC & CE Class A requirements

Ordering Information
- #8204 Fleet CORE computer with 1.5 GHz CPU 4 GB industrial, DDR2 DRAM, 4 GB of industrial grade Compact Flash and GPS
- #8213 Power Cable, 6 feet with Fleet CORE connector on one end and unterminated on the other
- #8205 Technical Manual - Available only in PDF format on the website.

Contact Octagon for information on the optional Mini PCI cards, PC/104 cards, and SATA drives