

DuraCOR 810

Rugged MIL-STD-810 COTS Processor Platform with Mobile Pentium

- Intel Pentium-M Processor
- MIL-STD-810F Compliant
- Internal PC/104 Card Cage with up to 6 Spare Slots for PC/104(+) I/O
- Water Tight Aluminum Chassis with Hardened Finish & DTL-38999 Connectors
- -40°C to +71°C Ambient Operation
- Qualified to MIL-STD-461E, 704E & 1275D



FEATURES

CPU: Low-Power, Conductively Cooled Intel Pentium-M

MIL-STD-810 COMPLIANCE: MIL-STD-810F Compliant (Crash Safety Shock, Functional Shock, Vibration, Temperature, Humidity, Dust and Water Ingress)

MODULAR/EXPANDABLE: Internal PC/104 Card Cage with up to 6 Spare Slots for PC/104(+) Expansion Cards; 79-pin MIL-38999 Connector Pre-Wired to Internal Breakout Board for Add-On Cards

MECHANICAL: Water Tight Aluminum Chassis with Hardened Finish; MIL-DTL-38999 (I/O) and IP68 (Power) Connectors

MIL-STD-461E COMPLIANCE: Qualified to MIL-STD-461E for Radiated and Conducted Emissions and Susceptibility

POWER: Vehicle Grade DC/DC Converter, Voltage/Surge Protection and Filtering, MIL-STD-704E, MIL-STD-1275D Compliant

CONNECTIVITY & I/O: Fast Ethernet, USB, Serial, Video, Audio

OPERATING SYSTEM: Pre-loaded Linux or Windows XP-Pro / Windows XPe Eval License to Boot-up Out of Box

RELIABLE SIGNAL INTEGRITY: PCB Interconnect Scheme with Rugged Internal Edgemount Connectors (Cable-less) to Improve Signal Integrity and Reduce Customization Cycle Time for 79-pin Expansion Connector

The DuraCOR® 810 is a rugged military-grade processor system designed for high reliability applications requiring MIL-STD-810F environmental compliance with extreme temperatures, shock/vibration, and ingress. Mechanically designed with considerations for dust exposure, water immersion, EMI/EMC, corrosion resistance, power protection, and system mobility, this field-ready mission computer builds on years of experience by Parvus in developing and qualifying similar systems for harsh ground vehicle and aerospace installations.

This high-performance Commercial off the Shelf (COTS) tactical subsystem integrates a low-power 1.4GHz Pentium-M processor (equivalent to a 2.8GHz Pentium 4) together with a MIL-STD-704/1275 compliant power supply securely mounted in an aluminum PC/104 card cage. Up to 6 spare slots are available for PC/104(+) expansion cards. To enable rapid deployment, a solid state disk comes ready to boot with Linux, Windows XP-Pro or Windows XP Embedded eval.

Locking MIL-DTL-38999 circular connectors bring out a rugged RJ-45 Ethernet connection, 4 USB ports, 2 RS-232 ports, VGA Video, Keyboard, Mouse, and Audio signals, as well as an expansion connector for up to 79 signals from optional add-on cards. A cable-less internal interconnect scheme is used to ensure high reliability, signal integrity, and ease of customization. The 79-pin connector is conveniently routed to an internal breakout board and headers so that application specific PC/104(+) cards can be easily integrated. A set of five LED indicators on the connector panel displays power and user-defined status outputs.

Professional services are available by Parvus to deliver semi-customized versions of this product, including mechanical changes, alternative mass storage options, and integration of application-specific PC/104 Modules (i.e. Ethernet Switch, MIL-STD-1553 interface, Video Encoders, GPS, discrete I/O, etc.).

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Specifications



Optional Starter Breakout Cables set



LOW POWER X86 PROCESSOR	<ul style="list-style-type: none"> Intel Pentium M738, 2048k L2 cache 1.4 GHz clockspeed with Speedstep Technology Equivalent to a 2.8GHz Pentium 4 performance
RAM MEMORY	1024MB DDR-SODIMM
SOLID STATE DISK	8GB / 1GB Non-Volatile Industrial CompactFlash (Capacity Upgrades Available)
OPERATING SYSTEM	<ul style="list-style-type: none"> Pre-installed Linux / WindowsXP-Pro/ XP Embedded (120-day eval license WinXPe) Hardware compatible with all x86 embedded and real-time operating systems (Windows XPe, WinCE, Linux, QNX, VxWorks)
BUS ARCHITECTURE	PCI/ISA Bus complying with PC/104-Plus standard
NETWORK	100Mbps Ethernet interface
SERIAL	2x RS-232 serial ports
USB	4x USB 2.0 ports
AUDIO	AC97 audio set: Line In, Line Out, Microphone (Reliable Audio Functionality Limited to -15C to +71C Operating Temp)
VIDEO	VGA Analog Video Output
STATUS INDICATORS:	Five LED indicators: one for power, four user defined
POWER	<ul style="list-style-type: none"> 28V Nominal (13.5 - 33 VDC Input) Reverse, Over voltage, Surge Protected MIL-STD-704E, MIL-STD-1275D Filtering/Surge Compliant 25 Watts Power Consumption (max) for base system (up to 40W add'l available for expansion cards)
TEMPERATURE	<ul style="list-style-type: none"> Qualified to meet MIL-STD-810F: Operating: -40°C to +71°C Ambient (-40°F to +160°F) Non-Operating: -40°C to +85°C (-40°F to +185°F) Cooling: Passive Conductive, No Moving Parts.
HUMIDITY	<ul style="list-style-type: none"> Meets MIL-STD-810F, Method 507.3 Up to 100% RH @ 40°C (Condensing) All Boards are Conformally Coated
PHYSICAL	<ul style="list-style-type: none"> Dimensions: Chassis - 10.60" (L) x 5.30" (W) x 5.30" (H) with connectors and heatsink; Mounting Plate - 5.30" (L) x 6.45" (W) x 0.375" (H) Installation: Flange Mount Baseplate Weight: ~7.8 lbs (3.5 kgs) Finish: Anodized per MIL-A-8625, Type II, Class 2 Chassis: Aluminum Alloy, Corrosion Resistant, Sealed
EMI/EMC ISOLATION	<ul style="list-style-type: none"> Qualified to meet MIL-STD-461E: CE102, Power Leads, 10 KHz to 10MHz, basic curve CS101, Power Leads, 30 Hz to 150 KHz, curve 2 (28V and below) RE102, Electric Field, 10 KHz to 18 GHz RS103, Electric Field, 30 MHz to 18 GHz
SHOCK/VIBRATION	<ul style="list-style-type: none"> Qualified to meet MIL-STD-810F (Jet & Helicopter Test Profiles) Operating Shock: 20g, 10ms, ½ Sine Wave, 3 Positive/Negative per Axis Crash Safety Shock: 40g, 11ms, 2 Pulses per Axis, Total 12 Shock Pulses Random Vibration: 0.022-G²/10-Hz to 0.0026-G²/2000-Hz
LEAKAGE/IMMERSION	<ul style="list-style-type: none"> Meets MIL-STD-810F, Method 512 (1 Meter, 30 Minutes) Fully Gasketed and Sealed Chassis/Connectors
WARRANTY	1 Year RTF Warranty (Extended Service Contracts Available)
STARTER CABLE SET	<ul style="list-style-type: none"> Starter Cable Set Provides I/O Break-out for CPU I/O (on J1) and Power Input (on J5): 4 USB, 2 Serial, VGA, PS2 Keyboard/Mouse Mates with System MIL-DTL-38999 / IP68 Hirose Connectors to Provide Standard PC-Style Interfaces for Lab or Bench Testing Purposes
SPECIAL ORDER/ CUSTOM OPTIONS	<ul style="list-style-type: none"> Breakout Cable for User Defined Expansion I/O (on J2) with Professional Services Subsystem Integration Projects DTL-38999 Connector Caps, Mechanical Changes, Custom Metal Finishes Removable CF Storage Media (Behind Sealed Cover on Connector Panel) SSD Storage Capacity Upgrades (up to ~32GB CompactFlash) 2.5" ATA Solid State Disk (SSD) up to ~ 160GB Capacity 2.5" Seagate EE25 Mobile Hard Disk Drive (HDD) up to ~ 80GB Capacity Integrated Data Device Corp (DDC) MIL-STD-1553 Databus Controllers (1 to 4 channels) Other Integrated PC/104, PCI-104 or PC/104+ I/O or Datacom Modules Program-specific Mil-Certifications / Environmental Testing

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