

DuraCOR 820

Small Form-Factor Tactical Mission Computer
with Mobile Pentium

- **Small Form Factor < 3 lbs.**
- **MIL-STD-810F Compliant**
- **1.4 GHz Intel Pentium M**
- **2x Ethernet Network Interfaces**
- **2x RS-232 Serial Ports**
- **9-32 VDC Input**
- **-40°C to +71°C ambient**
- **Designed to Meet MIL-STD-461E**
- **MIL-STD-704 Avionics Power Supply**



FEATURES

SMALL FORM FACTOR: Lightweight chassis: <3lbs; approx. 7" x 5" x 3" in size.

x86 CPU: Low-Power 1.4GHz Intel Pentium M Architecture

CONNECTIVITY & I/O: 3x USB 2.0 port, 2x RS-232 Serial Ports, VGA Video, Keyboard, Mouse, DIO, 2x 10/100 Ethernet Interfaces

OPERATING SYSTEM: Pre-loaded Linux or Windows Embedded Eval License to Boot-up Out of Box

POWER:

- Vehicle Grade DC/DC Converter with Voltage/Surge Protection
- MIL-STD-704E Compliant

MECHANICAL:

- Metal Chassis with Hardened Finish & Mounting Flanges
- Connectors: Glenair Series 80 (MIL-38999 like)
- Splash resistant

MIL-STD COMPLIANCE:

- MIL-STD-810F: Compliance: Altitude, Shock, Vibration, Temperature, & Humidity (Qualified)
- MIL-STD-461E: Radiated and Conducted Emissions & Susceptibility (Designed to meet)

The DuraCOR® 820 is a rugged mission processor system, optimally designed for space/weight-constrained military/aerospace ground mobile and airborne deployments. Targeting manned and unmanned applications where reliable high performance computing is required, the DuraCOR 820 delivers compliance to MIL-STD-810F environmental conditions (high altitude, extreme temperatures, dust, water, shock, vibration, humidity), MIL-STD-461E EMI/EMC levels, and 28VDC avionics power supply standards (MIL-STD-704E).

Less than 3" in height and 3lbs (<1.36kg) in weight, the DuraCOR 820 tactical computer featured a conductively-cooled 1.4GHz Intel Pentium-M processor (equivalent to a 2.8GHz Pentium 4 performance) and a solid state disk pre-loaded with a Linux or Windows Embedded operating system image. Rugged watertight ultra-miniature Mil-spec performance connectors bring out power, 3x USB, 2x RS-232, video, DIO, Keyboard, Mouse, and dual 10/100 Ethernet network connections. This robust combination of function and small form factor ruggedness enables the DuraCOR 820 to support a wide range of field applications, including Command and Control (C2) On-the-Move, Unmanned Vehicle Operator Control, C4ISR Situational Awareness, etc.

Since the unit is based on a modular PC/104+ architecture, the DuraCOR 820 can be special ordered with a different I/O configuration. Options include integrated MIL-STD-1553 interfaces, additional RS/232/422/485 serial channels, a 12-channel GPS receiver, or other customer-specific I/O limited by available connector pinouts.

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Specifications



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	1GB DDR-SODIMM
SOLID STATE DISK	2GB Non-Volatile CompactFlash (Capacity Upgrades Available); Access Panel Underneath Supports Removal of CompactFlash Disk
OPERATING SYSTEM	<ul style="list-style-type: none"> Pre-installed Linux or Windows Embedded image (120 day eval license) 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	2 Ethernet Network Interfaces (10/100Mbps)
SERIAL	2x RS-232 serial ports, 115Kbps max
USB:	3x USB 2.0 port
PARALLEL/DIO	4 Parallel Port Control Lines, 4 Parallel Port Data lines; Capable of Sinking/Sourcing 12mA
VIDEO	VGA Analog Video Output
POWER	<ul style="list-style-type: none"> 9-32 VDC Input (28VDC Nominal) Reverse, Over Voltage, Surge Protected MIL-STD-704E Compliance <24 Watts Power Dissipation (max) Ground: Grounding Lug for Connection to System Chassis Ground Battery for Real-Time Clock Maintains Time/Day for 30 Days+
ALTITUDE	up to 60,000 feet (18,288 meters) w/ derating
TEMPERATURE	<ul style="list-style-type: none"> Operating: -40°C to +71°C ambient (-40°F to +160°F) Storage: -40°C to +85°C (-40°F to +185°F) No moving parts. Passive conductive cooling
HUMIDITY	<ul style="list-style-type: none"> 5% to 95% (non-condensing); 100% (condensing) All boards are conformally coated
PHYSICAL	<ul style="list-style-type: none"> Weight: Approx. 2.9lbs (1.32kg) Dimensions (H x W x L): 2.99" (75.95mm) x 4.30" (109.22mm) x 7.00" (177.8mm) - Including Connectors and Baseplate Chassis: Aluminium Alloy, Corrosion Resistant Connectors: Glenair Series 801 Mighty Mouse (MIL-38999-like) Installation: Flange Mount Baseplate Finish: Anodized per MIL-A-8625, Type III, Class 2
INGRESS	<ul style="list-style-type: none"> Resistant to Dust, Water, and Moisture Designed to Comply with IP65 and NEMA 4
EMI/EMC ISOLATION	Designed to meet MIL-STD-461E: <ul style="list-style-type: none"> CS101, Power Leads, 30 Hz to 150 KHz, Curve 2 (28V and below) RE102, Electric Field, 10 KHz to 18 GHz, Figure RE102-3 for Fixed Wing Shorter than 25m RS103, Electric Field, 30 MHz to 18 GHz
SHOCK/VIBRATION	Qualified to MIL-STD-810F: <ul style="list-style-type: none"> Operating Shock: 15g, 15ms, ½ Sine Wave, 3 Pos/Neg per Axis, Total 18 Pulses Random Vibration: 0.022-G³/10-Hz to 0.0026-G³/2000-Hz
RELIABILITY (MTBF)	Calculated per MIL-HDBK-217F @ 25°C / @ 71°C: <ul style="list-style-type: none"> 476,542 Hours / 119,574 Hours (Ground Benign, Controlled GB, GC) 74,932 Hours / 38,161 Hours (Airborne Inhabit Fighter) 95,299 Hours / 43,558 Hours (Ground Mobile)
WARRANTY	1 Year RTF Warranty (Extended Service Contracts Available)
SPECIAL ORDER OPTIONS	Optional Integrated PC104(+) I/O / Comm Module (rather than 2nd Ethernet NIC): <ul style="list-style-type: none"> Dual-Redundant MIL-STD-1553 Interfaces (1-4 Channels, DDC BC/RT/MT Architecture, IRIG-B Time Code Inputs) RS-232/422/485 Asynchronous Serial Ports (115 Kbaud max speed; 1-6 channels, depending on protocol and flow control support) 12-Channel GPS (Fastrax iTrax03 Receiver: NMEA and Binary GPS Protocols; L1 frequency & C/A code (SPS)) Other Custom Configurations Possible. Consult Sales@parvus.com for more information

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