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# DuraCOR™ 820

## Small Form-Factor Tactical Mission Computer

| PRODUCT FEATURES | |
|---|---|
| Small Form Factor: | • Lightweight Metal Chassis: <3lbs (<1.36kg)<br>• Approx. 7" x 5" x 3" in Size |
| x86 CPU: | Low-Power 1.4GHz Intel Pentium M Architecture |
| OS: | Pre-loaded Linux Image or Windows XPe Eval License to Boot-up Out of Box |
| Power: | • Vehicle Grade DC/DC Converter<br>• Voltage/Surge Protection<br>• MIL-STD-704E Compliant |
| MIL Grade: | • MIL-STD-810F: Altitude, Shock, Vibration, Temperature, Humidity<br>• MIL-STD-461E: Radiated Emissions/Susceptibility & Conducted Susceptibility<br>• MIL-STD-704E: Power Supply Voltage and Suppression |
| Connectivity & I/O: | 2x 10/100 Ethernet Interfaces, 3x USB 2.0 port, DIO, 2x RS-232 Serial Ports, VGA Video, Keyboard, Mouse |
| Mechanical: | • Metal Chassis with Hardened Finish<br>• Lightweight, Ultraminiature MIL-D38999-like Connectors<br>• No Moving Parts. Passive Thermal Management<br>• Splash Resistant |
| Applications: | (Un)manned Vehicle Mission Processor<br>Command and Control (C2) On the Move<br>Civil / Military Mobile Rugged Computing<br>C4ISR Situational Awareness<br>12V/24/28V Vehicle / Aircraft Installations |



## PRODUCT INFORMATION

Download Datasheet

**PRODUCT CURRENTLY IN PRE-PRODUCTION**
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, thermal, 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 features 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 XP Embedded operating system image. Rugged watertight ultraminiature Mil-spec performance connectors bring out power, 3x USB, 2x RS-232, 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.

For customer programs requiring expansion capabilities or application specific I/O functionality, Parvus offers the DuraCOR 810 processor platform. Please see **DuraCOR 810** datasheet.

| PRODUCT SPECIFICATIONS | |
|---|---|
| Low-Power x86 CPU: | • Intel Pentium M738, 2048k L2 Cache<br>• 1.4 GHz Clockspeed with Speedstep technology<br>• Equivalent in Performance to 2.8GHz Pentium 4 |
| RAM Memory: | 1024MB DDR-SODIMM |
| Solid State Disk: | 2GB Non-Volatile CompactFlash (Capacity Upgrades Available) |
| Operating System: | • Pre-installed Linux or XP Embedded Image (120-day eval license)<br>• Hardware Compatible with All x86 Embedded and Real-Time Operating Systems (Windows XPe, WinCE, Linux, QNX, VxWorks) |
| Network: | 2x Fast Ethernet Network Interfaces (10/100Mbps) |

| | |
|---|---|
| Serial: | 2x RS-232 serial ports, 115Kbps max |
| USB: | 3x USB 2.0 port |
| Video: | VGA Analog Video Output |
| GP DIO: | 4 Digital Inputs, 4 Digital Outputs |
| Physical: | • Weight: Approx. 2.7lbs (1.23kg)<br>• Dimensions (H x W x L): 2.99” (75.95mm) x 4.30”(109.22mm) x 7.00” (177.8mm) - Including Connectors and Baseplate<br>• Chassis: Aluminum Alloy, Corrosion Resistant<br>• Connectors: Glenair Series 801 Mighty Mouse (MIL-38999-like)<br>• Installation: Flange Mount Baseplate<br>• Finish: Anodized per MIL-A-8625, Type II, Class 2 |
| Power: | • 9-32 VDC Input (28VDC Nominal)<br>• Reverse, Over Voltage, Surge Protected<br>• MIL-STD-704E Compliance<br>• 22 Watts Power Dissipation (max)<br>• Ground: Grounding Lug For Connection to System Chassis Ground |
| Temperature: | Designed to Meet MIL-STD-810F:<br>• Operating: -40ºC to +70ºC ambient (-40ºF to +158ºF)<br>• Storage: -55ºC to +85ºC (-67ºF to +185ºF)<br>• No moving parts. Passive conductive cooling. |
| Humidity: | Designed to Meet MIL-STD-810F:<br>• 5% to 95% (Non-Condensing); 100% (Condensing)<br>• All Boards are Conformally Coated |
| Shock/ Vibration: | Designed to meet MIL-STD-810F (Jet & Helicopter Test Profiles)<br>• Operating Shock: 15g, 15ms, ½ Sine Wave, 3 Positive/Negative per Axis<br>• Crash Safety Shock: 40g, 12ms, 2 Pluses per Axis<br>• Random Vibration: 0.22-G²/10-Hz to 0.0026-G²/2000-Hz |
| EMI/EMC: | Designed to Meet MIL-STD-461E:<br>• CS101, Power Leads, 30 Hz to 150 KHz, Curve 2 (28V and below)<br>• RE102, Electric Field, 10 KHz to 18 GHz,<br>Figure RE102-2 for Fixed Wing Shorter than 25m<br>• RS103, Electric Field, 30 MHz to 18 GHz |
| Altitude: | Designed to Meet MIL-STD-810F:<br>• Up to 60,000 feet (18,288 meters) |
| Ingress: | • Resistant to Dust, Water, and Moisture<br>• Designed to Comply with IP65 and NEMA 4 |
| Warranty: | 1 Year RTF Warranty (Extended Service Contracts Available) |

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