

# RAPTOR RUGGED SYSTEMS

## Rugged Embedded System with Intel Core i7 or Celeron CPU



### Low Power Application Server

This versatile rugged computer system is designed around a rugged SBC offering the choice of a 2.1GHz Intel Core i7-3612QE quad core, 1.7GHz Intel Core i7-3517UE, or 1.4GHz Intel Celeron 827E CPU. A full suite of I/O provides the connectivity for most applications. A wide-range 7-36VDC input provides extra flexibility enabling use in vehicles or harsh environments.

### Operating System

The Raptor rugged system comes with the selected operating system pre-loaded, enabling immediate operation without any development effort.

### Rugged Design

The system was designed with rugged applications in mind. Extended temperature operation of -40°C to +85°C is tested and guaranteed. The system is compatible with MIL-STD-202G for shock and vibration.

### Customization Capabilities

A stackable expansion architecture enables installation of expansion boards for analog, digital, serial, Ethernet, MIL-STD1553, CAN, or other I/O. Custom cable configurations, enclosure modifications and coatings are also available.

Self contained embedded application server in rugged enclosure

Choice of 2.1GHz Intel Core i7-3612QE quad core, 1.7GHz Intel Core i7-3517UE, or 1.4GHz Intel Celeron 827E CPU

Up to 16GB DDR3 SDRAM on-board

Up to 4 Gigabit Ethernet ports

Up to 8 RS-232/422/485 ports and 2 RS-232 ports

4 USB 2.0 ports

VGA display output

On-board flashdisk up to 64GB

Optional 16 16-bit analog inputs

Optional 8 16-bit analog outputs

Optional 30 digital I/O lines

Other optional add-on I/O configurations

+7-36 VDC input voltage

Pre-loaded with a bootable Windows Embedded 7 or Linux 2.16 operating system image

Extremely rugged with -40°C to +85°C (-40°F to +185°F) operating temperature

Aluminum enclosure – IP65 environmental protection

Highly resistant to shock and vibration  
MIL-STD-202G compatible

Dimensions: 8.5" L x 6.5" W x 2.9" H  
(not including mounting flanges)

Custom size and finish available

# Raptor Rugged Systems

## Specifications

<b>Processor</b>	2.1GHz quad core Intel Core i7-3612QE, 1.7GHz Intel Core i7-3517UE, or 1.4GHz Intel Celeron 827E CPU
<b>Memory</b>	Up to 16GB DDR3 SDRAM
<b>Display</b>	VGA
<b>USB</b>	4 USB 2.0 ports
<b>Serial</b>	4 RS-232/422/485 base configuration Can be expanded up to 8 RS-232/422/485 ports and 2 RS-232 ports
<b>Networking</b>	2 Gigabit Ethernet ports base configuration Can be expanded up to 4 Gigabit Ethernet ports
<b>Mass Storage</b>	On-board flashdisk up to 64GB
<b>Keyboard/Mouse</b>	USB
<b>Analog inputs</b>	16 single ended, 8 differential 16-bit
<b>Input ranges</b>	±10V, ±5V, ±2.5V, ±1.25V, 0-10V, 0-5V, 0-2.5V programmable
<b>Sample rate</b>	250KHz maximum
<b>DAQ calibration</b>	Autocalibration values stored in EEPROM
<b>Analog outputs</b>	8, 16-bit resolution
<b>Output ranges</b>	±5V, ±10V, 0-5V, 0-10V
<b>PWM</b>	4 24-bit pulse width modulators
<b>Waveform</b>	8-channel waveform generator
<b>Digital I/O lines</b>	30 lines, programmable direction
<b>Watchdog timer</b>	Non-maskable interrupt or reset modes
<b>General purpose</b>	8 32-bit counter/timers
<b>OS support</b>	Windows Embedded 7 or Linux pre-loaded
<b>Power input</b>	+7V to +36V DC/DC power supply
<b>Power consump</b>	18W typical
<b>Operating temp</b>	-40°C to +85°C (-40°F to +185°F)
<b>Shock</b>	MIL-STD-202G compatible
<b>Vibration</b>	MIL-STD-202G compatible
<b>Environmental</b>	500 hours salt spray resistance
<b>Dimensions</b>	8.5" L x 6.5" W x 2.9" H or 10.0" L x 6.5" W x 3.9" H configuration dependent (not including mounting flanges)
<b>Weight</b>	4.5lbs (2.1kg)
<b>Enclosure</b>	Sealed construction, IP65 rated
<b>Chassis</b>	Aluminum T6061, HBW or anodized
<b>RoHS</b>	Compliant

This versatile rugged embedded computer system is designed around Diamond's Vega single-board computer, a rugged EMX SBC offering the choice of a 2.1GHz Intel Core i7-3612QE quad core, 1.7GHz Intel Core i7-3517UE, or 1.4GHz Intel Celeron 827E CPU. Memory capacity is factory-configurable for up to 16GB of DDR3 SO-DIMM memory.

A full suite of I/O provides flexibility for most applications, while the EMX and PCIe MiniCard expansion connectors inside the box enable installation of expansion boards for analog, digital, serial, Ethernet, MIL-STD1553, CAN, or other I/O.

A wide-range 7-36VDC input provides extra flexibility, while a wide operating temperature range enables use in vehicle applications or harsh environments.

The standard system configuration includes 4 MIL D38999 connectors for all power and I/O. Custom cable configurations, enclosure modifications, and coatings are also available.

