

BAD WOLF TECHNOLOGIES LLC

Corsair™

COTS DVR with external SSD storage for shipborne, aviation and harsh environment use



Technical specification for **P/N: 9090106** is shown below. Other configurations are available in accordance with customer requirements ⁽¹⁾

- **Purpose-built DVR for shipborne, aviation and harsh environment use**
- **Non-ITAR COTS & modified COTS units**
- **Modular Design**
- **Video Configuration for P/N: 9090106101**
 - 4 x CVBS (RS170, RS170A, CVBS, NTSC/PAL) via TNC connectors
- **Optional video configurations**
 - 2 x HDSDI and 2 x CVBS via TNC connectors, or
 - 1 x HDSDI and 3 x CVBS via TNC connectors
- **Video Out** ⁽²⁾
 - May be configured instead of 1 x or 2 x TNC connectors
 - NTSC 720x480i and PAL 720x576i
- **Audio Input** ⁽²⁾
 - 1 x Audio In, microphone level
- **Video/Audio Information (abridged)**
 - Codec: MPEG-4 Part 10 Advanced Video Coding (H.264)
 - Resolution: NTSC/PAL, 1080p30/p25, 1080i60, 1080p30, 720p60, 720i60, 720p30
 - Compression: CBR and VBR
 - Video Bitrate: up to 23 Mbps CBR, VBR
 - File Format: Transport Stream (.ts)
 - Audio Codec: G711, G726, mp2, mp3, opus
 - Sample Rate: 8000/41000/48000, 8 bits or 16 bits per sample
- **Streaming, low latency**
 - TS, RTP or RTSP unicast and multicast
 - Stream and/or Record single or multiple video streams to/from other network devices
 - 100 ms, low latency Video Player available upon request
- **I/O**
 - 1 x RS232 – Console (ENGINEERING USE), API/SDK programming access
 - 1 x RS232 – GPS, Sensor, Data

- 1 x Ethernet/RJ45 – API/SDK programming access, web server, video download (may be removed or disabled for Cyber Security compliance)
- **GPIO (14)**
 - 4 x Input ⁽²⁾
 - 10 x Output
- **Storage Type**
 - 1 x Removable, Universal Serial Bus 2.0 interface with locking 38999 MILSPEC connector
 - 2 x Internal SD Slot (engineering use – other options available, access via Ethernet/API)
 - Additional customizations and re-design may be performed in accordance with customer requirements ⁽¹⁾
- **Recording Media (configurable)**
 - Detachable USB 2.x/3.x SSD
 - Built-in Secure Digital with retrieval via Ethernet or USB OTG (instead of engineering use)
 - Additional customizations and re-design may be performed in accordance with customer requirements ⁽¹⁾
- **File System Support**
 - FAT, FAT32, exFAT, EXT3 and EXT4
- **Status LED (4x2), NVIS Bi-Color**
 - NVIS (night vision compatible)
 - 2-in-1, Top/Bottom: Green/Green, Yellow/Yellow, Yellow/Yellow, and Green/Green
 - Embedded in stainless steel protective housing
 - Custom manufactured for Bad Wolf Technologies by Oxley Group UK
- **Chassis (6061-T6 Aluminum Alloy)**
 - Coating: MIL-DTL-5541F Type II Class 3, using an AC7108 Nadcap approved chemical process
 - Main chassis
 - **Part Numbers**
 - **Procurement: 9090106101**
 - **Vendor: BW-CORS-4A**
 - **Connectors:** 3xMIL-DTL-D38999 Series III (QPL) and 4xTNC
 - **Option:** Replace 4xTNC with coaxial four (4) contact MIL-DTL-38999⁽¹⁾
 - **Weight:** < 4.75 pounds, approximate.
 - **Dimensions:** 6" x 1.75" x 8" not including SSD, 1U tray, side mounting flanges and connectors ⁽¹⁾
 - SSD, External
 - **Part Numbers**
 - **Procurement: 90901062**
 - **Vendor: BW-CORS-SSD**
 - **Connectors:** 1xMIL-DTL-D38999 Series III (QPL)

- **Technical**
 - Multiple configuration files – ability to save and recall up to four (4) system configuration files via web browser. Program multiple systems from master config file. Restore system in real-time.
 - API/SDK – Application Development Interface available for complete control via UART or Ethernet
 - Operating temp range: -40°C (-40°F) to +85°C (185°F)
 - Qualifications ⁽³⁾:
 - MIL-STD-461E, MIL-STD-810G CH1
 - Additional qualification testing performed in accordance with customer requirements ⁽³⁾
 - Power Supply, MILSPEC:
 - Input: +9.5 VDC to +50 VDC
 - Draw: 10 Watts within operational temperature range
 - Output: Power peripherals or 3rd party devices:
 - 2 x +5 VDC @ 2A, isolated
 - +12 VDC @ 2A [optional], isolated
 - EMI/RFI filter, Aviation – MILSPEC (MIL-STD-461F, -55 °C to +125 °C operating temp)
- **Other**
 - API/SDK Custom Programming services available

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- (1) Additional qualification testing may be required.
- (2) GPIO uses +3.3 VDC LVTTTL with isolated signal ground and pull-down resistors. Pull-up resistor option available. Function reassignment may be performed in accordance with customer requirements.
- (3) Conformance Testing Performed Successfully without relaxation:
 - Conducted Emissions: MIL-STD-461E CE101, Tailored, Power Leads (30 Hz to 10 kHz)

Tailoring:	<u>Frequency</u>	<u>Limit Level</u>
	30 Hz	95 dBuA
	1.1kHz	95 dBuA
	10 kHz	76 dBuA

- Conducted Emissions: MIL-STD-461E CE102, Power Leads (10 kHz to 10 MHz)
- Radiated Emissions: MIL-STD-461E RE101, Magnetic Field (30 Hz to 100 kHz)
- Radiated Emissions: MIL-STD-461E RE102, Radio Frequency Electric Field (10 Hz to 18 GHz)

Tailoring:	<u>Frequency</u>	<u>Limit Level</u>
	10 kHz	70 dBuV/m
	800 kHz	50 dBuV/m
	100MHz	36 dBuV/m
	18 GHz	82 dBuV/m

- Radiated Susceptibility: MIL-STD-461E RS103, Tailored, Antenna Spurious and Harmonic Outputs (10 kHz to 40 GHz)

Tailoring:	<u>Frequency</u>	<u>Limit Level</u>
	2 MHz to 30 MHz	10 V/m
	30 MHz to 1 GHz	10 V/m
	1 GHz to 18 GHz	10 V/m

- Operating Temperature (High): MIL-STD-810G CH1 Method 501.6 Procedure II, 2-hour operating mode @ +40°C
- Operating Temperature (Low): MIL-STD-810G CH1 Method 502.6 Procedure II, 2-hour operating mode @ 4°C
- Storage Temperature (High): MIL-STD-810G CH1 Method 501.6 Procedure I, Category A2, 7 cycles/temperature & humidity @ +40°C
- Storage Temperature (Low): MIL-STD-810G CH1 Method 502.6 Procedure I, Category C2, 4 hours @ -33°C
- Mechanical Shock (Transportation): MIL-STD-810G CH1 Method 516.7 Procedure VI
- Mechanical Shock (Maintenance): MIL-STD-810G CH1 Method 516.7 Procedure 6
- Vibration (Operational): MIL-STD-810G CHG1, Method 514.7, Annex D, Category 21, including vibrations defined in Method 528.1 for Type 1 equipment at Frequency Range: 4 to 14 Hz at 1/2 amplitude
- Vibration (Transportation): MIL-STD-810G CHG1, Method 514.7 Category 4 [4,000 miles equivalent per axis] & Category 7 [30 takeoff/landing equivalent per axis].
 - Category 4 – Truck transportation over US highways – restrained cargo (Annex C 2.1.3 Section A & Test Procedure I)
 - Category 7 – Aircraft – Jet (Annex C 2.4 & Test Procedure I)
- Pressure (Transportation): MIL-STD-810G CHG1, Method 500.6, Procedure I, (57.2 kPa to 101.4 kPa)
- Inclination: +/- 90° in all axes