airmod
Where Trust Meets Technology

AIR
EXTEND
AWARENESS

MARITIME
MONITOR
PROTECT
DELIVER

LAND
OBSERVE
SECURE
RESPOND

NEXUS-4

Rugged Video Encoder, Recorder & Streamer

MISSION-CRITICAL VIDEO PROCESSING

- **4 × HD/SDI Video Capture** — Up to 1080p60
- **HEVC / H.264** — Low Latency Encoding
- **Internal storage (optional)**
- **IP Streaming** — Up to 4 streams, IP / SRT / RTSP
- **Metadata** — KLV, MISB 0601, STANAG 4609



RUGGED & RELIABLE — Designed for harsh environments

WIDE TEMPERATURE RANGE — -40°C to +70°C

DESIGNED FOR SAFETY — DO-160

Deliver superior situational awareness with our **rugged quad channel, pre-qualified** Nexus-4, engineered for **low-latency video capture, encoding, recording** and streaming in mission-critical environments.

Low latency critical Mission

AIRMOD Nexus-4 is a fanless rugged quad-channel video gateway designed for reliable low-latency streaming in embedded and mission-critical applications.

The Nexus-4 provide all necessary capabilities for capturing, processing, encoding, recording and streaming video in the most efficient format for Surveillance, and Reconnaissance (ISR) or Situational Awareness (SA) video generated by manned or unmanned airborne, ground vehicles, platforms and marine vessels in extreme conditions.

Designed for Safety

“Designed for safety” is an Airmod Systems core competency. From the outset, Nexus-4 has been engineered with DO-160 design safety rules, documentation and independent verification and validation applied across the whole development process to make it flight safety certifiable.

Overlay & Metadata

The Nexus-4 supports real-time video overlays, timestamp insertion and metadata integration (KLV/STANAG 4609) to enhance situational awareness and simplify video source identification.





VIDEO

- 4x 3G-SDI inputs
- Up to 1080p60 video capture
- H.264 / H.265 (HEVC)
- Multi channel streaming with overlay
- Hardware based resolution and frame rate scaling
- Flexible hardware resolution scaling, frame rate sampling and cropping
- Time synchronized playback of multiple streams

NETWORK MANAGEMENT

- DHCP or fixed IP address (IPv4, IPv6)
- Secured Interface (HTTPS + password)
- Remote SW upgrade
- MPEG TS over UDP or RTP
- REST API remote control
- System and channel event logging
- Error correction, packet recovery

PHYSICAL

- Dimensions 220mm x 150mm x 50mm
- Enclosure : Military-grade rugged aluminium
- 4 integrated wall-mounting holes
- IP 67
- Built-in memory to store video (optional)

INTERFACES

- 4x SDI inputs (BNC)
- 2x Gigabit Ethernet (MIL38999)
- DC Input: 16-40VDC, +28VDC Nominal (MIL38999)
- Dedicated ground return

ENCRYPTION

- Real-time AES encryption for video and metadata
- 128 and 256-bit encryption key support

POWER

- DC Input: 16-40VDC, +28VDC Nominal (MIL38999)
- Dedicated ground return

METADATA

- KLV metadata over IP and SDI
- UAS Datalink Metadata (MISB ST 0601)
- Precise video timestamping & synchronization
- Metadata overlay & source identification
- STANAG 4609 compliant streaming

ENVIRONEMENTAL

- Operating temperature -40°C to +70°C
- Storage temperature -55°C to +85°C
- Temperature variation DO-160 Cat B
- Altitude DO-160 Cat B 25000Ft
- Vibrations DO-160 Cat U2
- Operational shocks DO-160 Cat D
- Crash safety DO-160 Cat D
- Humidity DO-160 Cat B
- Waterproofness DO-160 Cat W
- EMI/RFI DO-160 Cat H/P

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