nanoHydra-SD4

Ultra Low Latency 4-channel Video Streaming Appliance

The nanoHydra-SD4 is a 4-channel Ultra Low Latency (ULL) IP video streaming appliance, capable of capturing, compressing and concurrently streaming up to 4 channels of NTSC/PAL/RS-170 video with a latency of under 40ms. This rugged video appliance is ideal for rapid deployment in demanding applications in Military, Communications, Transportation and Energy industries.

The nanoHydra-SD4 features a dedicated hardware H.264 compression engine that can encode all 4 video channels at full size and frame-rate. The flexible RTSP/RTP streaming engine supports Unicast and Multicast and streams each channel over the GigE Ethernet to client systems for low latency viewing and analysis. The nanoHydra-SD4 also supports 4 channels of audio which can be captured and streamed with the video data.

The nanoHydra-SD4 has an integrated power supply and can be driven from a 12-28V DC input. The system is housed in a rugged, watertight, conduction cooled, IP67 rated enclosure with sealed MIL-D38999 connectors and is ready to be installed into mobile platforms and harsh environments.

The nanoHydra-SD4 is also available with support for 8 full size and frame-rate video channels as an option.

Key Features

- 4 PAL/NTSC/RS-170 video channels
- High quality, Ultra Low Latency H.264 video compression
- Video Encode Latency less than 40ms
- Gigabit Ethernet
- Rugged IP67 enclosure
- 4 channels audio input
- 12-28V DC Power Supply
- MIL-D38999 connectors for secure cabling
- Rapid Deployment

RVAP

The nanoHydra-SD4 is one of AMP's Ready Video Appliance Platforms (RVAP). Using proven rugged PC/104 modules with a custom designed IP67 enclosure, our RVAP are SWaP optimised COTS solutions for a wide range of embedded video requirements.

Contact us for details on how RVAP can help in your project.

Rev A.00
Subject to change without notification

Advanced Micro Peripherals
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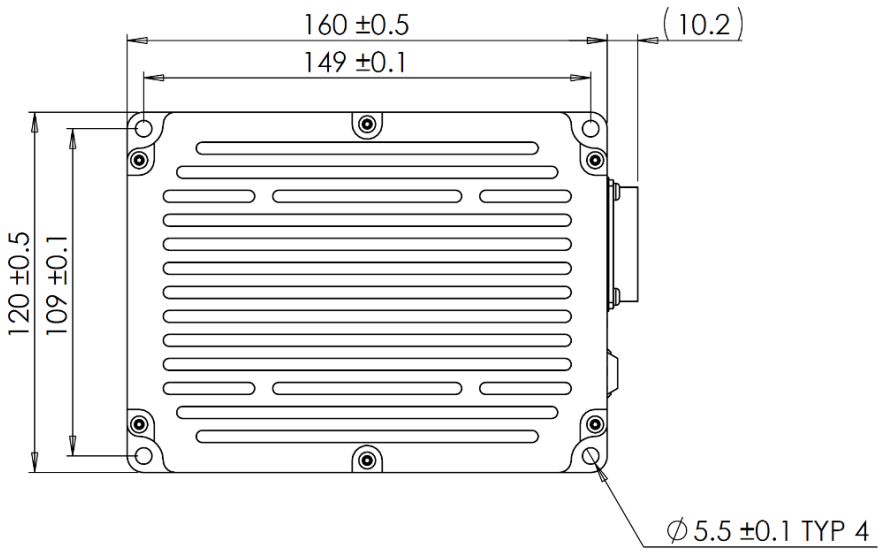
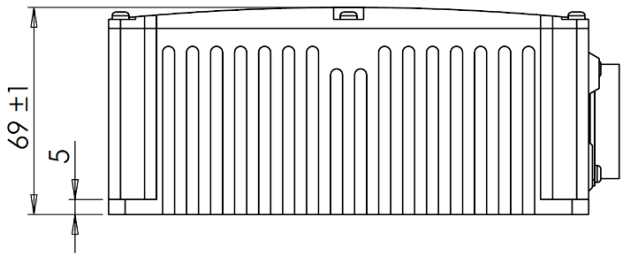
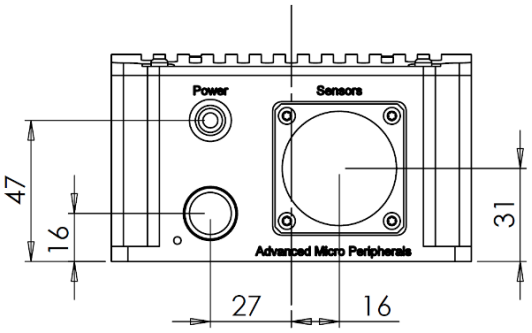
Mechanical Drawing







Example Applications

- Vehicle surveillance
- Driver monitoring
- Situational Awareness
- Perimeter Surveillance
- Industrial Process Monitoring
- Worker Safety
- Airport Operations
- Infrastructure inspection
- Traffic Monitoring
- Public Space Security
- Wildlife observation
- Environmental Surveys
- Law Enforcement
- Infrastructure Protection

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Technical Specification

Analog Video Input

4 independent PAL/NTSC/RS-170 inputs
8 independent PAL/NTSC/RS-170 inputs (option)

Audio inputs

4 independent mono audio inputs
Line level inputs

H.264 Video Compression

ITU-T H.264 (ISO/IEC 14496-10)
Supported profiles:
- Baseline profile
- Main profile (I,P frame coding only)
- High profile (I,P frame coding only) at level 4.1

4x D1 full size encode at full frame rate (25/30fps)
8x D1 full size encode at full frame rate (option)
Supports Variable Bit Rate (VBR)
Support Constant Bit Rate (CBR)
Real-time multi stream H.264 Ultra Low Latency capture

Ultra Low Latency (ULL)

Less than 40ms video encode latency [1]

Streaming

RTSP/RTP Multicast or Unicast streaming

Network Interface

100/1000MBit Ethernet for RTSP/RTP streaming and control

Control

Web front end
RTSP command interface

Power

12-28V regulated DC input
Less than 15W power consumption

Mechanical

Milled from solid Aluminium Alloy block
Size: 160 x 120 x 69 mm (6.3 x 4.7 x 2.7 inch) LWH
MIL-D38999 Connectors

Environmental

Operating temp –40˚C to +70˚C
IP67 dust-proof, water immersion to 1m

Standards Compliance

MIL-STD-810G[2]

Ordering Information

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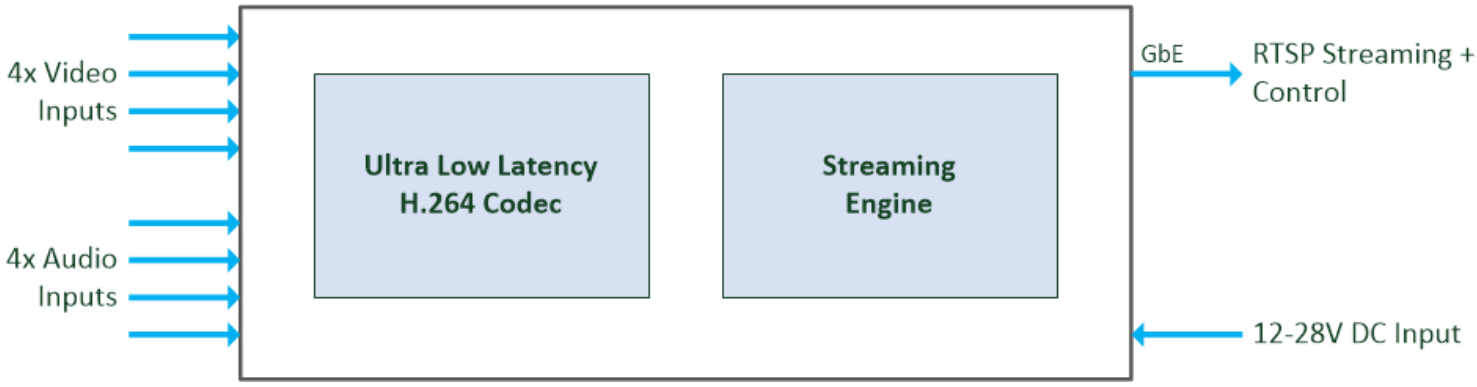
Ultra Low Latency 4-channel video streamer

Functional Diagram



[1] Streaming latency is less then 40ms. When audio is included in the stream, overall system Glass-to-Glass streaming latency can be higher due to audio buffering at the remote client.
[2] The AMP nanoHydra family is designed to meet MIL-STD-810G requirements. Individual configurations are qualified through similarity with a base nano-Hydra configuration.

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