

TAVPC_ONX Dual-CH Video/Audio Encoder



- HEVC, H.264, and AV1 hardware encoding
- Low-latency, real-time network streaming
- 2-channel analog video and 2-channel IRST video inputs



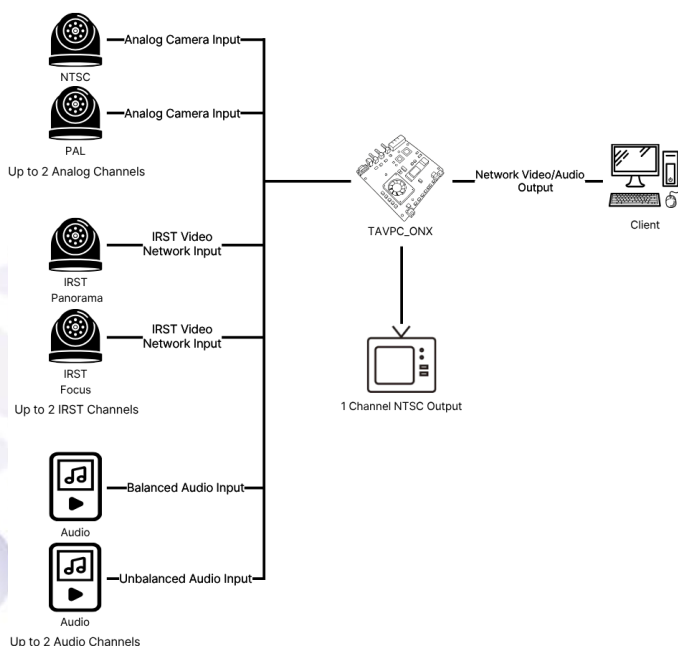
Interface

Serial	1x RS-422
Display	1x HDMI 2.0
Ethernet	4x 10/100/1000 BASE-T (IRST)
Video	2x BNC input (NTSC/PAL), 1x BNC output (NTSC)
Audio	2x 3.5mm jack (Balanced/Unbalanced)
USB	1x USB 3.0

Specification

Hardware	NVIDIA Jetson Orin NX
Storage	mSATA SSD 230S 64GB
Power Supply	12V DC, 60W MAX

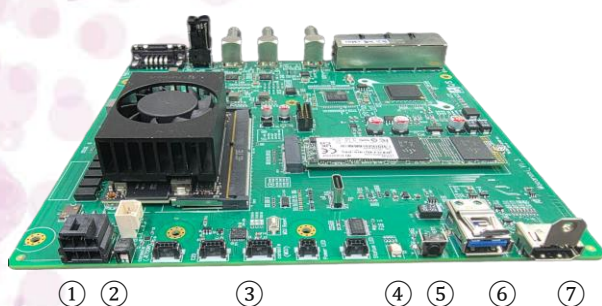
Application Diagram



Compression and Processing

Encode	H.265(HEVC) – 720p30 6ch
Bit Depth	16/20/24/32-bit
Streaming	Multi Streaming Service
Sample Rate	32kHz to 192kHz
Low Latency	Average latency of less than 100 ms
Pre-processing	De-interlace, Resize, Crop, YUV format conversion
Redundancy	Active-Active, Active-Standby

I/O Layout



Port Description

1	Power Port	Power supply for TAVPC
2	Status LED 1	Power status monitoring
3	Console	Debugging and LED extension
4	Status LED 2	Device status monitoring
5	Reset Button	Device reset
6	USB Port	Peripheral connection for debugging
7	HDMI Port	Monitoring connection for debugging

8	Ethernet Port	IRST input, compressed video transmission, and data communication
9	Video Out	Analog video output
10	Camera In 2	Analog camera input
11	Camera In 1	Analog camera input
12	Audio In	Unbalanced input(top) Balanced input(bottom)
13	RS-422 Port	RS-422 communication

UP TO

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TOPS AI PERFORMANCE

VIDEO INPUT

Maximum Hardware Input Capacity

MEDIA ENGINE

H.264, HEVC, AV1 Encoding

CONNECTIVITY

Gigabit Ethernet, RS-422



Solution

AI Analytics	Detection, Tracking, Classification, Anomaly Detection
Video Processing	Enhancement, Filtering, Compositing, Resizing, Crop, YUV Conversion
Multi-Channel Video	Analog/IRST Analysis, Event Streaming, Recording Control
Remote Operation	Remote Control, Health Monitoring, Sensor/Controller Integration
Data Collection	Video Selection, Compression, Metadata, Storage, Data Transfer
System Software	Device Management, Streaming Control, Status Display, User Interface