



Q-SYS NV-32-H

Network Video Endpoint
for the Q-SYS Ecosystem

Features

- Native integration and control for the Q-SYS Ecosystem
- Q-SYS Shift™ adaptive video compression codec
- Software-configurable as encoder or decoder
- Simultaneous streaming capabilities
- Enterprise scalability without additional hardware
- Q-SYS Reflect Enterprise Manager ready



The Q-SYS NV-32-H is a network video endpoint native to the Q-SYS Ecosystem, serving as a multi-stream, software-configurable HDMI encoder/decoder that enables network-based video distribution. Optimized for the meeting room, the NV-32-H delivers the right balance of high quality (supporting resolutions up to 4K60 4:4:4), low-latency and network-efficient video distribution across a standard gigabit infrastructure.

- **Streamlined Video Integration for the Q-SYS Ecosystem:** The Q-SYS NV-32-H enables native HDMI video and audio distribution for the Q-SYS Ecosystem without additional control processors, bridges or complicated programming.
- **Optimized for the Connected Meeting Space:** The Q-SYS NV-32-H delivers the right balance of quality, latency, network efficiency for meeting room video applications, and offers the scalability to fit the needs of your enterprise.
- **Unique Flexibility and Interoperability in a Single Device:** The NV-32-H is software-configurable as either an encoder or decoder inside Q-SYS Designer Software, and offers I/O capabilities that provide maximum design flexibility with less hardware.

Benefits

Quality: The NV-32-H provides high-quality, low latency video streaming with resolutions of up to 4K60 4:4:4 over a standard gigabit network.

Network optimized compression scheme: Q-SYS Shift™ video compression codec actively adjusts network bandwidth resources according to content, affording massive network savings for common meeting room content without compromising on the ability to stream full-motion video.

Consolidated processing: The network-based video endpoint integrates seamlessly into the Q-SYS Ecosystem, which provides native audio, video and control in a single processor.

Native integration and control: Q-SYS software-based control allows you to add native Q-SYS peripherals, including the NV-32-H, to your system design and route them anywhere on the network with simple drag-and-drop components. This simplifies setup, configuration, and firmware management and eliminates the need for additional hardware or advanced programming knowledge.

Single device solution: The NV-32-H is configurable as an encoder or decoder, simplifying the ordering and specification process and providing flexibility for meeting spaces.

Simultaneous streaming: With 3x HDMI inputs and 2x HDMI outputs, the NV-32-H enables flexible room design scenarios, such as simultaneous 1080p60 streaming for dual-monitor rooms, with a single device. It also enables soft codec applications that support dual video output.

Q-SYS web conference integration: The NV-32-H features built-in connectivity for Q-SYS web conference integration, allowing for driverless USB connectivity to a PC for plug-and-play access to Q-SYS audio and conference camera feeds from soft codec applications; removing the need for a Q-SYS I/O USB Bridge and reducing hardware (and cost).

Q-SYS audio integration: The NV-32-H allows audio feeds from connected video sources to be routed natively, along with the video stream, to any other endpoint on the network, or use the decoder HDMI output as a Q-LAN audio destination for source audio, paging or any other Q-SYS asset.

Local output switching: When set as a decoder, the NV-32-H can provide local video source selection in addition to displaying content from network streams.

Enterprise scalability without hardware: As a Q-SYS peripheral, unlimited NV-32-H units can be added to enterprise designs without a separate, hardware-based video endpoint manager.

Q-SYS Reflect Enterprise Manager ready: Utilize Q-SYS Reflect Enterprise Manager to remotely monitor and manage all Q-SYS peripherals and third-party devices, including the Q-SYS NV-32-H network video endpoints.



Control

RS-232: Three-pin Euro terminal connection to control third-party devices with Q-SYS Control, user configurable.

GPIO: Three inputs and two outputs for control of third-party devices via Q-SYS Control, user configurable.

Bridging

In addition to HDMI video distribution, the NV-32-H can act as an endpoint for the Q-SYS Web Conferencing solution, similar to the Q-SYS Core 110f processor and Q-SYS I/O-USB Bridge. This mode is available when configured as an encoder or decoder. The NV-32-H emulates a webcam video driver (for video streams from the Q-SYS PTZ-IP conference cameras), AEC speakerphone audio driver and multi-channel soundcard driver over a single, driverless USB connection.

Audio

HDMI audio input: Each HDMI input is able to receive up to eight channels of PCM audio, which are routable within Q-SYS Designer Software.

HDMI audio output: Each HDMI output has the ability to output up to eight channels of PCM audio, making each HDMI output a full-featured Q-SYS audio destination for source audio content, or any other Q-SYS audio feature such as paging, audio playback etc.

Analog audio input: Mic/line input on a 3.5 mm TRS connector, routable within Q-SYS Designer Software, for direct connection of microphones or audio players.

Analog audio output: Line output on a 3.5 mm TRS connector, routable within Q-SYS Designer Software, for direct connection of QSC non-networked amplifiers, external speakers or audio recorders.

Q-SYS Shift™ adaptive video compression codec

- **Modes:** Multicast and unicast
- **Bitrates:** 10 Mbps – 800 Mbps
- **Streaming Protocol:** RTP
- **Content Protection:** HDCP 2.2 compliant, AES-128 encryption for all audio and video signals between encoders and decoders.

Supported video formats

Resolution	Frame Rate (Hz)	Chroma Sampling Level
3840 x 2160 (4K UHD)	60, 59.94, 50, 30, 29.97, 25, 24	4:4:4
2560 x 1600	60	4:4:4
2560 x 1440	60	4:4:4
1920 x 1200	60	4:4:4
1920 x 1080 (1080p)	60, 59.94, 50, 30, 29.97, 25, 24	4:4:4
1280 x 720 (720p)	60, 59.94, 50, 30, 29.97, 25, 24	4:4:4
640 x 480	60	4:4:4

*All video formats are progressive

Scaler

Each HDMI output features a robust, polymorphic 4K60 4:4:4 scaler that can accommodate the most challenging resolution and frame rate conversions.



Connectors

- **USB type A:** For direct connection of USB audio peripherals, such as headsets, microphones or speakers to integrate with the Q-SYS Ecosystem.
- **USB type B:** For Q-SYS Web Conference integration, delivering video feeds from Q-SYS PTZ-IP conference cameras and audio feeds from Q-SYS to host PC for web conference applications such as Zoom, WebEx and Microsoft Teams and/or for capturing and recording needs.
- **Analog audio input:** 3.5 mm TRS connection for PC-Level audio input from a microphone or media player, such as mobile phone or tablet.
- **Analog audio output:** 3.5 mm TRS connection for audio output to external loudspeakers or audio recorders.
- **LAN A:** Connection to Q-LAN (Q-SYS Ecosystem network); includes PoE++ capability for the NV-32-H via 802.3bt Type 4 midspan injector or network switch.
- **LAN B:** No functionality at this time.
- **Power input:** Two-pin euroblock terminal connection for external 48 V DC, 1.5 A power supply (not included).
- **RS-232:** Three-pin euroblock terminal connection for extension of Q-SYS Control to third-party devices.
- **General purpose I/O:** Euroblock terminal connection for extension of Q-SYS Control to third-party devices.

Software-configurable I/O configurations

When set as an encoder:

- **Encode:** Encode one 4K60 HDMI video stream or up to three 1080p HDMI videos streams for distribution across a standard gigabit network.
- **Courtesy monitor:** Use one of the HDMI outputs as a “courtesy monitor”, displaying any of the three locally connected HDMI sources at resolutions up to 4K60.

When set as an decoder:

- **Decode:** Decode one 4K60 network stream or up to two simultaneous 1080p60 streams (for dual display rooms) for displaying at formats up to 4K60 on a connected display.
- **Local source switching:** Toggle between network streams or locally connected HDMI sources (single 4K60 or dual 1080p60 sources).

Specifications

Video I/O		General	
HDMI 2.0 inputs	3x HDMI capable of receiving source input video formats up to 4K60 4:4:4	Dimensions	8.66 in x 11.28 in x 1.72 in 220 mm x 286.6 mm x 43.6 mm
HDMI 2.0 outputs	2x HDMI capable of scaling and outputting video formats up to 4K60 4:4:4	Weight	4.0 lb (1.81 kg)
Scaler	Each HDMI output features a robust, polymorphic 4K60 4:4:4 scaler that can accommodate the most challenging resolution and frame rate conversions.	Mounting options	Rack-mountable, 1 RU half-rack width Surface-mountable, table or wall-mount All mounting hardware is included
Color formats	RGB Full or Limited, BT.601 & BT.709 (supported in Q-SYS Designer Software v8.3 or higher)	Regulatory compliance	CE, FCC Part 15 Class B, RoHS
Audio I/O		Environmental	
HDMI inputs	8-channel PCM audio, Q-SYS routable	Ambient operating temperature range	0-50° C
HDMI outputs	8-channel PCM audio, Q-SYS routable	Humidity	5 to 85% non-condensing
Analog audio input	3.5 mm unbalanced stereo mic/line input Q-SYS routable Signal-to-noise: 80 dB THD+N: 0.009% @ 0 dB Input frequency response: 20 Hz to 20 kHz +0.05% / -0.5% Input Impedance (unbalanced): 5 kΩ nominal Analog to digital converters: 24 bit, 48 kHz	Storage temperature	-20 to 70° C
Analog audio output	3.5 mm unbalanced stereo line output Q-SYS routable Signal-to-noise: 90 dB THD+N: 0.0167% @ 0 dB Output frequency response: 20 Hz to 20 kHz +0.2% / -0.5%	Other Connectors	
		RS-232	Three-pin Euroblock terminal connector for extension of Q-SYS Control to third-party devices, user configurable
		GPIO	Euroblock terminal connector for extension of Q-SYS Control to third-party devices, user configurable
		LAN A	Gigabit LAN connection for interface with Q-LAN; PoE++ 802.3bt Type 4 for power
		LAN B	No functionality at initial release
		Power over Ethernet specification/wattage	Conforms to IEEE 802.3bt Type 4
		Physical power supply info	48 V DC Nominal, 1.5 A on 2-pin Euro connector

What's in the box

- NV-32-H network video endpoint
- Euro-terminal connectors for RS-232, GPIO and power
- Rack mounting accessories (side-by-side with other QSC device or standalone)
- Surface mounting accessories
- Safety and warranty statement



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