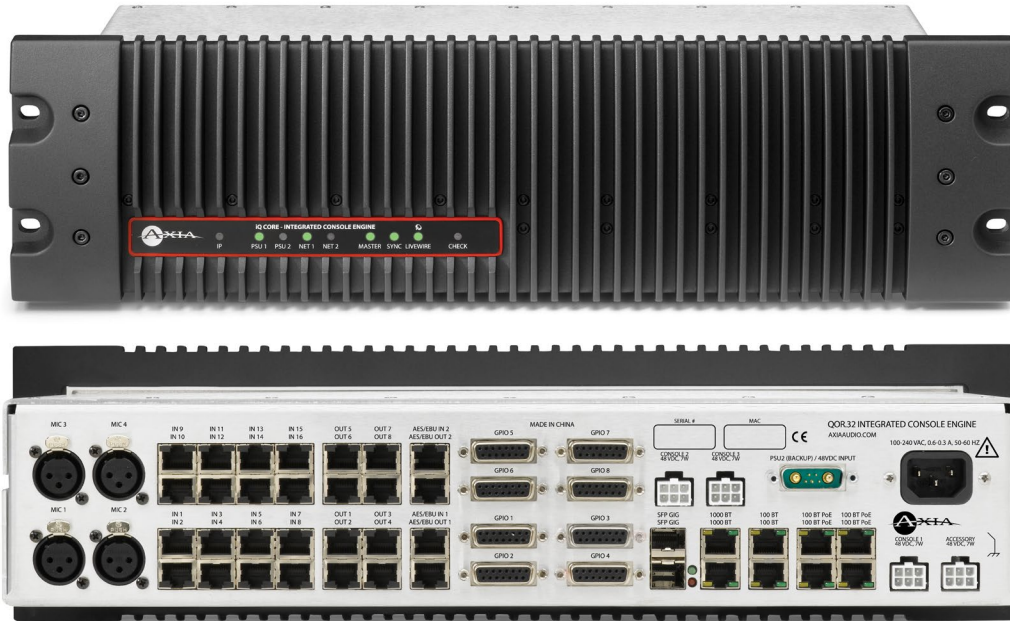


Axia® QOR.32

Integrated Console Engine



OVERVIEW

QOR.32 is an Axia integrated console engine for iQ mixing consoles that combines audio I/O, a console power supply, mixing engine and built-for-broadcast network switch into one easy-to-deploy package. Each QOR.32 provides 16 Analog inputs and 8 Analog outputs, 2 AES/EBU inputs and 2 AES/EBU outputs, 4 Microphone inputs with selectable Phantom power, 8 GPIO machine-control logic ports, each with 5 inputs and 5 outputs, an integrated network switch with 6 Livewire® 100BASE-T Ethernet ports and 2 1000BASE-T (Gigabit) ports with SFP, a heavy-duty Telecom-grade power supply with fanless convection cooling, and an industrial-grade CPU designed for harsh-environment reliability.

Use QOR.32 with an Axia iQ mixing console as a standalone studio solution, or connect to other Axia equipment as part of a larger IP-Audio network. Simple Networking allows daisy-chain connection of up to 4 QOR-based studios without the use of an external network switch. Connecting a QOR Backup adds auto-switching redundant backup power. I/O can easily be expanded using Axia Audio Nodes.

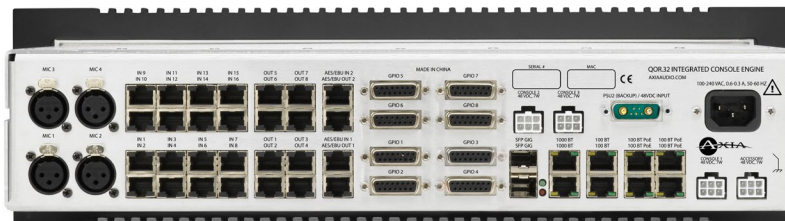
FEATURES

- Fanless design with heavy machined heat-sinks is completely silent in-studio.
- Front-panel LED display monitors power and network status.
- Telecom grade power supplies are designed for maximum uptime under harsh conditions.
- Add an Axia Console Power Supply Backup to QOR.32 for dual-redundant power supply with automatic, seamless switching.
- Built-in, zero-configuration network switch with Gigabit and SFP for long-distance fiber connection.
- Large variety of built-in audio I/O boasts studio-grade audio performance specs.
- Add more I/O a la carte using Telos Alliance® xNodes.
- Software upgrade adds AES67 support, allowing the QOR.32 integrated console engine to receive and transmit AES67 streams via Livewire+™ AES67.
- Automix allows operators to automatically and efficiently balance the levels of on-air-sources when more than one source is open at a time in a studio.

IN DEPTH

QOR.32 Integrated Console Engine

The QOR.32 integrated console engine is a DSP-based mixing engine with onboard I/O, GPIO, console power supply and custom-built, configuration-free Ethernet switch. You'll find plenty of I/O, including mic inputs with selectable Phantom power, analog and AES/EBU inputs and outputs, plenty of GPIO machine-control logic ports, and that powerful integrated Ethernet switch with Livewire ports to add local sources, and Gigabit ports for networking with the rest of your plant. That's a lot of I/O, but if you need more you can instantly add it just by plugging in Telos Alliance xNode audio interfaces. And QOR.32 is convection-cooled for utterly silent, fan-free operation.



Let's take a look around back, shall we? You'll find everything you need for an average, medium-sized studio: 4 mic inputs with selectable Phantom power, 16 stereo analog inputs and 8 stereo analog outputs, 2 AES/EBU inputs and 2 AES/EBU outputs, 8 GPIO machine-control logic ports (each with 5 opto-isolated inputs and 5 outputs).

QOR.32 | Integrated Console Engine

There's Livewire I/O as well: the QOR.32 has an integrated Ethernet switch with 6 Livewire 100BASE-T ports. 4 of those ports have PoE (Power over Ethernet) that you can use to connect and power networked devices compatible with the IEEE 802.1af PoE standard (like our xNode audio interfaces, or Telos VSet phones). You'll also find 2 1000BASE-T Gigabit ports (RJ-45 & SFP) that you can use to connect to other studios. 4 CANBus ports provide for connection of up to 3 Axia iQ console frames, allowing construction of consoles up to 24 faders in size.

By the way, that zero-configuration Ethernet switch is built specifically to handle IP-Audio. No settings to tweak, no configuration code to upload – just plug it in and go. The built-in configurable network gateway allows loading sources from other studios, while simultaneously exporting audio streams for use elsewhere; the gateway can be configured for 12-in, 4-out or 8-in, 8-out modes. You can even daisy-chain up to four QOR-based studios directly, for a self-contained network that doesn't require an external Ethernet switch. No other console company makes AoIP this easy.



For installations that require redundant backup power, there's the Axia Console Power Supply. Connect it to the QOR.32 and you've added a redundant backup power supply with auto-switchover. Single-cable connection to QOR.32 console engine provides backup power with automatic switching. (Auto-sensing power supply, 90VAC to 240VAC, 50 Hz to 60 Hz. 250 Watts. Rackmount, 2RU.) Most redundant supplies protect only the console, but with Axia's integrated console engine concept, the mixing engine, local audio I/O and network switch are protected as well.

SPECIFICATIONS

QOR.32 Connections

- Microphone Inputs: 4x balanced XLR-F, with selectable Phantom power
- Analog Inputs: 16x RJ-45, StudioHub+ standard.
- Analog Outputs: 8x RJ-45, StudioHub+ standard.
- AES/EBU Inputs: 2x RJ-45, StudioHub+ standard.
- AES/EBU Outputs: 2x RJ-45, StudioHub+ standard.
- GPIO: 8x DB-15

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- Livewire:
 - 4x 100BASE-T with PoE, RJ-45
 - 2x 100BASE-T, RJ-45
 - 2x 1000BASE-T, RJ-45
 - 2x Gigabit, SFP (Small Form Pluggable)
- Console Frame Connections: 3x, 6-pin "latch and lock" style
- Accessory Connections: 1x, 6-pin "latch and lock" style

Microphone Preamplifiers

- Source Impedance: 150 ohms
- Input Impedance: 4 k ohms minimum, balanced
- Nominal Level Range: Adjustable, -75 dBu to -20 dBu
- Input Headroom: >20 dB above nominal input
- Output Level: +4 dBu, nominal

Analog Line Inputs

- Input Impedance: 20 k Ohms
- Nominal Level Range: Selectable, +4 dBu or -10dBv
- Input Headroom: 20 dB above nominal input

Analog Line Outputs

- Output Source Impedance: <50 ohms balanced
- Output Load Impedance: 600 ohms, minimum
- Nominal Output Level: +4 dBu
- Maximum Output Level: +24 dBu

Digital Audio Inputs And Outputs

- Reference Level: +4 dBu (-20 dB FSD)
- Impedance: 110 Ohm, balanced (XLR)
- Signal Format: AES-3 (AES/EBU)
- AES-3 Input Compliance: 24-bit with selectable sample rate conversion, 20 kHz to 216kHz input sample rate capable.
- AES-3 Output Compliance: 24-bit

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- Digital Reference: Internal (network timebase) or external reference 48 kHz, +/- 2 ppm
- Internal Sampling Rate: 48 kHz
- Output Sample Rate: 48 kHz
- A/D Conversions: 24-bit, Delta-Sigma, 256x oversampling
- D/A Conversions: 24-bit, Delta-Sigma, 256x oversampling
- Latency <3 ms, mic in to monitor out, including network and processor loop

Frequency Response

- Any input to any output: +0.5 / -0.5 dB, 20 Hz to 20 kHz

Dynamic Range

- Analog Input to Analog Output: 102 dB referenced to 0 dBFS, 105 dB "A" weighted to 0 dBFS
- Analog Input to Digital Output: 105 dB referenced to 0 dBFS
- Digital Input to Analog Output: 103 dB referenced to 0 dBFS, 106 dB "A" weighted
- Digital Input to Digital Output: 125 dB

Equivalent Input Noise

- Microphone Preamp: -128 dBu, 150 ohm source, reference -50 dBu input level

Total Harmonic Distortion + Noise

- Mic Pre Input to Analog Line Output: <0.005%, 1 kHz, -38 dBu input, +18 dBu output
- Analog Input to Analog Output: <0.008%, 1 kHz, +18 dBu input, +18 dBu output
- Digital Input to Digital Output: <0.0003%, 1 kHz, -20 dBFS
- Digital Input to Analog Output: <0.005%, 1 kHz, -6 dBFS input, +18 dBu output

Crosstalk Isolation, Stereo Separation And CMRR

- Analog Line channel to channel isolation: 90 dB isolation minimum, 20 Hz to 20 kHz
- Microphone channel to channel isolation: 80 dB isolation minimum, 20 Hz to 20 kHz
- Analog Line Stereo separation: 85 dB isolation minimum, 20Hz to 20 kHz
- Analog Line Input CMRR: >50 dB, 20 Hz to 20 kHz
- Microphone Input CMRR: >50 dB, 20 Hz to 20 kHz

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Audio Processing

- Mic Equalizer (applicable to up to 6 faders)
- Frequency Bands: 20Hz to 320Hz, 125Hz to 2KHz, 1.25KHz to 20KHz.
- Cut/Boost range on each band: -25dB to +15dB.
- Q-factor: Automatic - bandwidth varies based on amount of cut or boost.

Power Supply AC Input, QOR.32

- Auto-sensing supply, 90VAC to 240VAC, 50 Hz to 60 Hz, IEC receptacle, internal fuse
- Power consumption: 100 Watts

Axia Console Power Supply

- Auto-sensing supply, 90VAC to 240VAC, 50 Hz to 60 Hz, IEC receptacle, internal fuse
- Power consumption: 250 Watts

Operating Temperatures

- -10 degrees C to +40 degrees C, <90% humidity, no condensation

Regulatory

North America: FCC and CE tested and compliant, power supply is UL approved.

Europe: Complies with the European Union Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), as amended by Commission Decisions 2005/618/EC, 2005/717/ EC, 2005/747/EC (RoHS Directive), and WEEE.