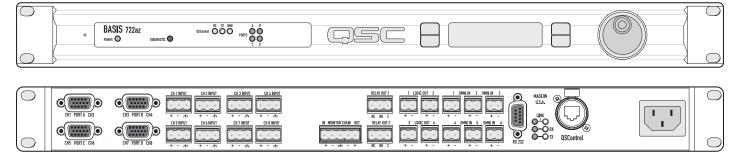# BASIS 722az
QSControl.net Digital System

THX

QSControl.net, QSC's next generation network audio system, achieves the seamless integration of the company's control, processing, and monitoring technologies. QSControl.net brings together QSC's digital, power amplification and loudspeaker products into a unified system that enables the user to administrate it all via a fully integrated graphical user interface. The new generation BASIS devices are designed to operate under the company's QSControl.net platform.

BASIS 722az

The BASIS platform meets the control, monitoring and processing needs of amplification and loudspeaker systems over an Ethernet network. The BASIS 722az units combine two distinct QSC technologies within a single hardware unit. Amplifier and loudspeaker control, monitoring and protection, and configurable DSP are seamlessly integrated into one powerful single RU package.

Through QSControl.net, QSC's BASIS and next-generation RAVE and DSP products can be networked together and controlled from a single software interface. In addition, multiple networked computers can be set up to control and monitor all of the units simultaneously.

Fixed Latency DSP

Users of most other configurable DSP systems are familiar with a variable latency inherent in the processing configuration. Add more processing blocks and you also add delay, whether you want it or not. QSC's DSP engine is unique in having a short and fixed processing latency through the DSP subsystem. When the A/D and D/A converters are included, the total analog-to-analog latency of a single unit is a negligible 2.354 milliseconds. QSC's fixed latency DSP is configurable DSP that stays fast and predictable from one configuration to the next.

For more information, visit www.qscontrol.net

Inputs	DSP	Outputs
Analog		DataPort
8 line level	24 x 24	4(8 channels)

Features

- Amplifier and loudspeaker control, monitoring and protection

- Configurable DSP functions and signal paths

- Fixed latency DSP engine

- Ethernet controllable

- Each unit can store eight design configurations that can be changed on the fly

- Snapshots can recall config or block and/or parameter settings

- THX™ approved for professional cinema applications

DSP functions include, but are not limited to:

- Matrix mixer – any size, up to 24 x 24

- Automixers – gain sharing

- Routers – any size, up to 24 x 24

- Gain controls – any channel count, up to 24

- Graphic equalizers

- Filters – high-pass, low-pass, all-pass, shelf, parametric, parametric shelf, Butterworth high and low-pass, Linkwitz-Riley high and low-pass, Bessel-Thomson high and low-pass

- Crossovers – Linkwitz-Riley, Butterworth, Bessel-Thomson in-phase, Bessel-Thomson symmetrical, 2-way, 3-way, and 4-way general purpose adjustable

- Compressors, peak limiters, AGC's, gates, dynamics processor

- Duckers – up to 8 channels, up to 60 seconds fade in and fade out times, priority mix

- Pink noise, white noise, sine generators

- Delays

- Macros – user-definable custom blocks with password protection

BASIS 722az

PERFORMANCE

Dynamic Range (AES-17, -60 dB method, all sensitivities)	In	Out	Thru
Unweighted	> 115 dB	> 112 dB	110 dB
A weighted	> 118 dB	> 115 dB	113 dB
Distortion (20 Hz – 20 kHz, all sensitivities)			
+4 dBu (maximum)	< 0.009% THD+N	< 0.009% THD+N	< 0.009% THD+N
2 dB below clip (maximum)	< 0.009% THD+N	< 0.009% THD+N	< 0.009% THD+N

Crosstalk (20 Hz – 20 kHz)
- Inter-channel (maximum): > 75 dB
- Inter-channel (typical): > 90 dB
- Intra-channel (maximum): > 85 dB
- Intra-channel (typical): > 100 dB

Frequency Response
- 20 Hz – 20 kHz (maximum): +/- 0.5 dB
- 20 Hz – 20 kHz (typical): +/- 0.2 dB

Audio Converters: 24 bit, 48 kHz, in and out
Mute: Infinite attenuation
Delay
- *Analog input through full DSP chain to analog output*: 2.354 milliseconds (default group delay)

INPUTS/OUTPUTS

Program Inputs: 8 inputs
- Connector type: 3-pin "phoenix style" (a.k.a. "euro style") detachable terminal blocks
- Type: Electrically balanced
- Grounding: All shield terminals connected to chassis
- Pinout: 1:+ / 2:- / 3:CHASSIS GND
- Input Impedance: Balanced: 10k ohms / Unbalanced: 10k ohms
- Common-mode Rejection: 20 Hz - 20 kHz (minimum): > 54 dB / 20 Hz - 20 kHz (typical): > 60 dB
- Input Sensitivities (variable): Vrms: 1.5, 3, 9, 18 / dBu: 5.7, 11.8, 21.3, 27.3 / dBV: 3.5, 9.5, 19.1, 25.1

Program Outputs: 8 outputs
- Connector Type: 4 HD-15 DataPort connections
- Cable Type: QSC DataPort cable, QSC p-n DPC-x ("x" designates cable length in feet)
- Available "Stock" Lengths: 1, 2, 3, 4, 5, 6, 10, and 20 ft., custom lengths available
- Maximum Qualified Length: 328 ft. (100 m) using QSC DP cable only / Non QSC cable limited to 6 ft. (audio only)

MONITOR

Control Room Foldback Monitoring
- Connector type: 5-pin "phoenix style" (a.k.a. "euro style") detachable terminal blocks
- Pinout: 1:+(input) / 2:-(input) / 3:CHASSIS GND / 4:-(output) / 5:+(output)
- Tap Points: 8 internal input / 8 internal output / 8 amplifier (pre-, post-, amplifier) software selectable

Monitor Input
- Monitor Signal (unit off): Unity gain connection, relay bypass
- Maximum Level: +21 dBu
- Impedance (nominal): 10k ohms
- CMRR, 20 Hz – 20 kHz: > 54 dB

Monitor Output
- Monitor: Sum of monitor input and signal from internal monitor tap point(s)
- Frequency Response (20 Hz – 20 kHz): +/- 0.5 dB
- Distortion (20 Hz – 20 kHz): < 0.05% at +4 dBu
- Noise Floor: > 90 dB
- Output Impedance (nominal): 100Ω
- Output Load (minimum): 600Ω

Monitor Level
- Control Range (nominal): 0 dB to -95.5 dB in 0.5 dB steps

CONTROL INPUTS/OUTOUTS

Relay Outputs: 2 discrete floating relay switch outputs
- Connector Type: 3-pin "phoenix style" (a.k.a. "euro style") detachable terminal blocks
- Configuration: Electromechanical relay
- Pinout: 1:NC / 2:NO / 3:COM
- Switching Capacity (nominal): 1A 30 VDC

Logic Outputs: 4 discrete outputs
- Connector Type: 2-pin "phoenix style" (a.k.a. "euro style") detachable terminal blocks
- Configuration: Single-ended, TTL compatible
- Pinout: 1:+(Signal) / 2:-(CHASSIS GND)

Omni Inputs: 6 discrete inputs for TTL logic, voltage control or passive resistance
- Connector Type: 2-pin "phoenix style" (a.k.a. "euro style") detachable terminal blocks
- Configuration: Single-ended, ground referenced
- Pinout: 1:+(Signal) / 2:-(CHASSIS GND)
- Normal Operating Range: Reads signals between 0-5 V nominally
- Potentiometer Operation: Use 10k ohms for full range
- Voltage Tolerance: +/- 48 V
- Current Output: 0.5 mA with 10k pot (for passive resistive controls)

RS-232 Port: Female DB9 connector (setup and diagnostics purposes only)
QSControl Port: Neutrik Ethercon RJ45 ruggedized data connector

Indicators
- QSControl Status: Yellow Link, Tx, Rx, front panel / Green Link, Tx, Rx, rear panel
- Power: Blue, front panel
- Diagnostic: Red, front panel
- DataPort Status (port): Tri-state (red, green, yellow), front panel
- LCD Data Display: 2 line x 16 character, backlit, front panel

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Specifications subject to change without notice.

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QSC
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