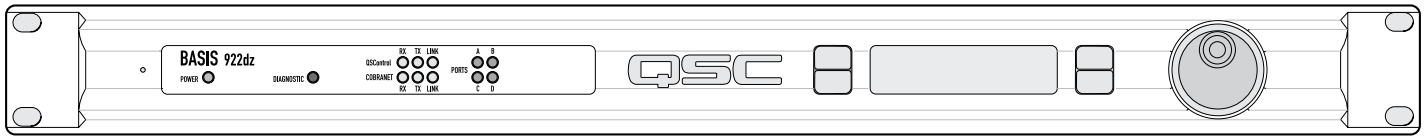
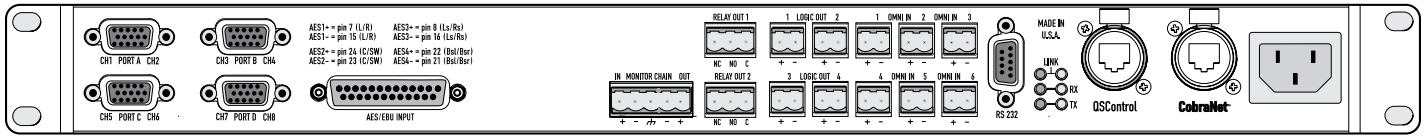
BASIS 922dz

QSControl.net Digital System





QSControl.net, QSC's next generation network audio system, achieves the seamless integration of the company's signal transport, 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 922dz

The BASIS platform meets the control, monitoring, signal transport and processing needs of amplification and loudspeaker systems over an Ethernet network. The BASIS 922dz units combine three distinct QSC technologies within a single hardware unit. Amplifier and loudspeaker control, monitoring and protection, configurable DSP, and CobraNet™ audio transport 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 digital-to-analog latency of a single unit is a negligible 2.167 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

CobraNet is a trademark of Cirrus Logic, Inc.
THX is a trademark of THX Ltd.

Inputs		DSP	Outputs	
AES/EBU	CobraNet		DataPort	CobraNet
8 digital	16 of 32	24 x 24	4(8 channels)	32

Features

- Amplifier and loudspeaker control, monitoring and protection
- Configurable DSP functions and signal paths
- Fixed latency DSP engine
- Ethernet controllable
- CobraNet audio transport with new intuitive GUI
- Two Ethernet ports – CobraNet and control can be run over a single cable or be divided between the two ports. The CobraNet port is 100Base-T. The control port is 10Base-T
- 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

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Specifications

PERFORMANCE			
Dynamic Range (AES-17, -60 dB method, all sensitivities)	**In**	**Out**	**Thru**
Unweighted	> 140 dB	> 112 dB	112 dB
A weighted	> 140 dB	> 115 dB	115 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	**Standard CobraNet™ latency**		**Low latency**
BASIS to Network	6.917 milliseconds		4.250 milliseconds
Digital input through full DSP chain to CobraNet output			
Network to BASIS	6.313 milliseconds		3.646 milliseconds
CobraNet input through full DSP chain to analog output			
BASIS to BASIS	7.896 milliseconds		5.229 milliseconds
Digital input through full DSP chain, over CobraNet network, through full DSP chain, to analog outputs			
BASIS in stand-alone mode	2.167 milliseconds (default group delay)		
Digital input through full DSP chain to analog outputs			

INPUTS/OUTPUTS	
Program Inputs	4 AES/EBU pairs (8 channels)
Connector type	25-pin DB-25 style
Type	Electrically balanced
Grounding	All shield terminals connected to chassis
Pinout	AES1+ = pin 7 (L/R) / AES1- = pin 15 (L/R) AES2+ = pin 24 (C/SW) / AES2- = pin 23 (C/SW) AES3+ = pin 8 (Ls/Rs) / AES3- = pin 16 (Ls/Rs) AES4+ = pin 22 (Bsl/Bsr) / AES4- = pin 21 (Bsl/Bsr)
Input Impedance	120Ω (terminated)
Input Sample Rate	AES/EBU sample rate must be 48 kHz and is internally synchronized
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
CobraNet Port	Neutrik Ethercon RJ45 ruggedized data connector
Indicators	
QSControl Status	Yellow Link, Tx, Rx, front panel / Green Link, Tx, Rx, rear panel
CobraNet Status	Yellow Link, Tx, Rx, front and 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

Specifications subject to change without notice.

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