

Architects & Engineers Specification

S-4000S Digital Snake System

Digital Snake

The digital audio transmission system (Digital Snake) shall be a modular system that can be configured in groups of 8 channels up to a maximum of 40 channels per transmission cable. The system shall consist of one Input or Stage Box Module, with XLR or AES/EBU inputs, as well as the option for multiple line-level "returns" or Outputs. It will also consist of at least one Output or Front-of-House (FOH) Module that will have line level outputs as well as the option for some line level inputs or returns.

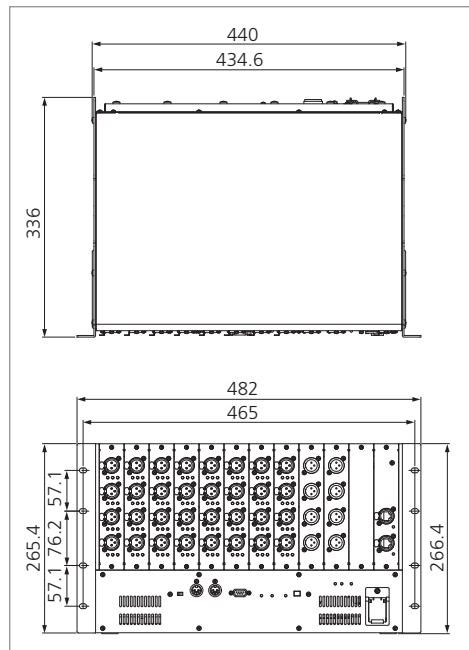
The modularity shall allow for different configurations of the Input Module or Stage Box including 40 inputs and 0 outputs, 32 inputs and 8 outputs, or 24 inputs and 16 outputs. The transmission cable between the Input or Stage Box Module and the Output or FOH Module(s) shall be a Cat5e or Cat6 cable.

The inputs shall be of very high quality and accept both line and microphone level inputs with individually selectable phantom power. The input gains or trims for the inputs as well as their phantom power settings, shall be remotely controllable from the Stage or FOH Module using either a hardware remote control unit or a computer. The gain level shall be controllable in 1 dB steps. The system shall also offer at least 10 preset memories of different configurations of the input gain and phantom power settings.

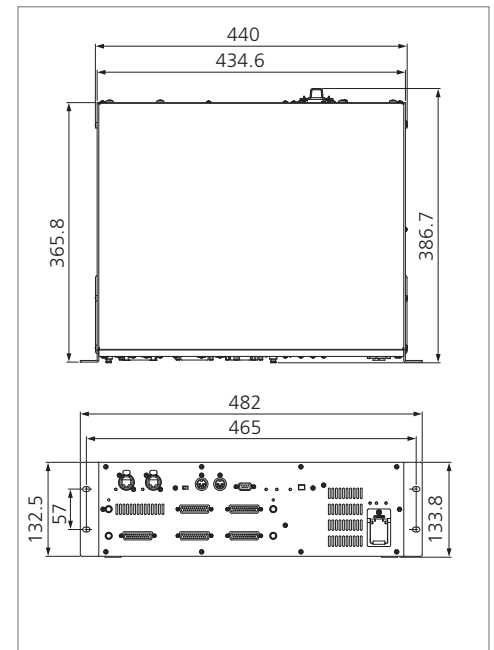
The audio protocol for a 40-channel system shall have a 96 kHz sampling rate, provide 24-bit audio, and have a protocol latency of 375 microseconds from the stage unit to the FOH unit. The system shall have redundant Ethernet ports allowing the connection of two Cat5e or Cat6 cables from the Input unit to the FOH unit. The system shall be designed to switch automatically from one cable to the other in the case of damage to one of the cables. The system shall allow the user to copy or "split" the input sources to several Output Modules using a fast gigabit Ethernet switching hub.

The system shall be the Roland S-4000S Digital Snake System.

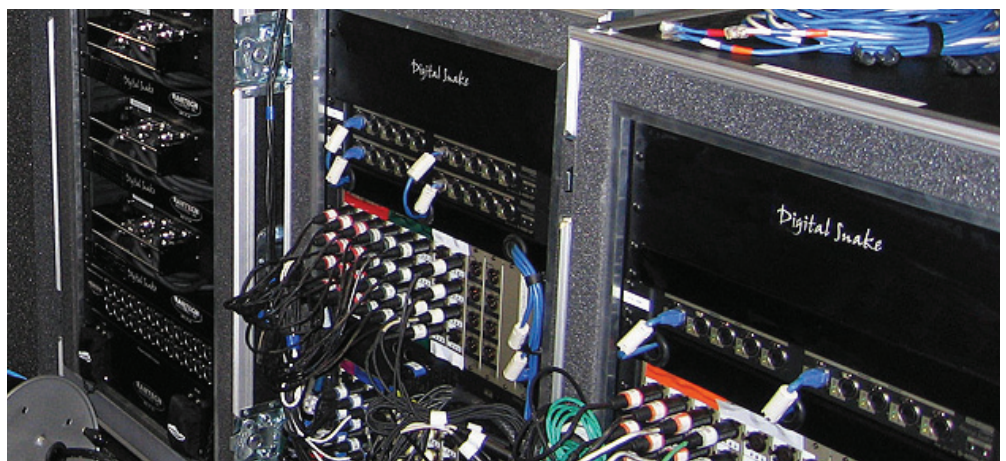
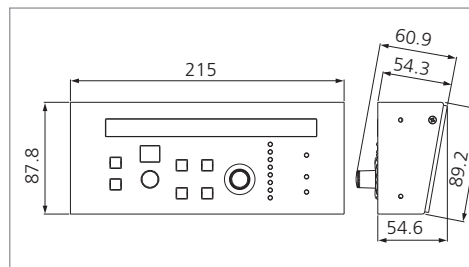
S-4000S-3208 Stage Unit Dimensions



S-4000H FOH Unit Dimensions



S-4000R Remote Control Dimensions



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S-4000 Digital Snake System Main Specifications

S-4000S-3208 40CH I/O MODULAR RACK		
Number of Channels	32 in 8 out	
AD Conversion	Sample Rate: 96.0 kHz Signal Processing: 24 bit	Connectors
DA Conversion	Sample Rate: 96.0 kHz Signal Processing: 24 bit	Input: 32 (XLR type, balanced, phantom power, 4 ch input module x 2) Output: 8 (XLR type, balanced, 4 ch output module x 2) REAC: MAIN, BACKUP (RJ-45 EtherCon type) Remote Connector: 1 (RS-232C, DB-9 type) MIDI Connectors: IN, OUT (5-pin DIN type)
Frequency Response	-2 dB / +0 dB (@ +4 dBu, 20 Hz to 20 kHz)	Indicator
Total Harmonic Distortion + Noise	0.05 % or less (Pad: On, Input Gain: +4 dBu, 22 to 20000 Hz)	EXT Indicator (External Power Supply Unit) INT Indicator REAC Indicator CTRL Indicator ALARM Indicator MUTE ALL OUTPUTS Indicator
Dynamic Range	110 dB	AC Power Supply
Cross Talk	-80 dB	DC Power Supply
Nominal Input Level	-65 to -10 dBu (PAD: Off) -45 to +10 dBu (PAD: On) (1 dB step, Max. +28 dBu)	Power Consumption
PAD	20 dB On/Off	Current Draw (for an optional external power supply unit; Model S-240P)
Input Impedance	20 k ohms	Phantom Power
Nominal Output Level	+4 dBu, Max. +22 dBu	Dimensions
Output Impedance	150 ohms	Weight
Recommended Load Impedance	10 k ohms or greater	Operation Temperature
Residual Noise Level (IHF-A, typ.)	-90 dBu	Accessories
Equivalent Input Noise Level (E.I.N.)	-128 dB	
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)	

* 0 dBu = 0.775 V



S-4000H 8X32 FOH UNIT		
Number of Channels	8 in 32 out	
AD Conversion	Sample Rate: 96.0 kHz Signal Processing: 24 bit	Indicators
DA Conversion	Sample Rate: 96.0 kHz Signal Processing: 24 bit	EXT Indicator (External Power Supply Unit) INT Indicator REAC Indicator CTRL Indicator ALARM Indicator MUTE ALL OUTPUTS Indicator
Frequency Response	-2 dB / +0 dB (@ +4 dBu, 20 Hz to 20 kHz)	AC Power Supply
Total Harmonic Distortion + Noise	0.05 % or less (Input Gain: +4 dBu, 22 to 20000 Hz)	DC Power Supply
Dynamic Range	110 dB	Power Consumption
Cross Talk	-80 dB	Current Draw (for an optional external power supply unit; Model S-240P)
Nominal Input Level	+4 dBu, Max. +22 dBu	Dimensions
Input Impedance	30 k ohms	Weight
Nominal Output Level	+4 dBu, Max. +22 dBu	Operation Temperature
Output Impedance	600 ohms	Accessories
Recommended Load Impedance	10 k ohms or greater	
Residual Noise Level (IHF-A, typ.)	-90 dBu	
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)	
Connectors	Input: 1 (DB-25 type, balanced, 8 channels) Output: 4 (DB-25 type, balanced, 32 channels each) REAC: MAIN, BACKUP (RJ-45 EtherCon type) Remote Connector: 1 (RS-232C, DB-9 type) MIDI Connectors: IN, OUT (5-pin DIN type)	

* 0 dBu = 0.775 V



S-4000R REMOTE CONTROL UNIT	
Connector	Remote Connector: 1 (RS-232C, DB-9 type)
Indicators	CLIP Indicators, SIG Indicators, POWER Indicator, REAC Indicator, CTRL Indicator, Level Meter
Power Supply	Supplied from connected device. (S-4000S, S-4000H; through the remote cable)
Dimensions	215.0 (W) x 87.0 (D) x 54.6 (H) mm, 8-1/2 (W) x 3-7/16 (D) x 2-3/16 (H) inches
Weight	0.8 kg, 1 lb 13 oz
Operation Temperature	0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Accessories	Remote Cable (3 m), Rack Mount Brackets, Installation Manual

