Digital Snake
Multi-Channel Digital Audio Transfer Systems
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The superior quality and reliability of RSS Digital Snakes is made possible by coupling high quality preamps with Roland’s REAC digital transmission technology. RSS Digital Snake systems are immune to the hums, buzzes and general impedance and capacitive losses that plague analog snakes. By having the mic preamps close to their source and by avoiding the transmission losses of long runs of analog cables, your audio has a chance to sound its best throughout your whole system. The system provides superior clear sound, great intelligibility with minimum latency and the freedom to easily split or extend your source audio. Digital Snakes are the next generation of audio quality for concerts, corporate events, houses of worship and any kind of audio installation.

Superior Sound Quality

High Quality Pre-amps on each input channel

In an analog system, low-level microphone signals are boosted using a mic preamp only after the long, arduous journey down the analog snake. For this reason it’s difficult to avoid degradation and cross talk. The digital snake is equipped with high quality and remote controllable pre-amps that boost the input gain very close to the source, where the highest quality signal is found. This ensures that your audio will sound its best. And of course once the signal is in digital form, it is immune to analog cabling losses. The preamp has been specially designed for live audio applications and is made of high quality components carefully selected by Roland’s engineers.

Digital Transport Advantages

Limitless splitting of all input sources

The RSS Digital Snake systems are designed to provide splits of source audio using standard Ethernet hardware. Using a standard switching hub, you can send source audio to multiple recording consoles, a monitor position, broadcast location and more. No signal degradation will occur from the source’s master output to the recording or any other split output.

High quality and low noise digital transfer

In the analog domain, it is impossible to avoid signal degradation during long distance audio transfer at concerts or events in large halls or arenas. Digital transfer of REAC provides extremely flat and pure audio transfer for the whole distance audio transfer at concerts or events in large halls or arenas. Digital Snakes are the next generation of audio quality for concerts, corporate events, houses of worship and any kind of audio installation.

Minimize a signal’s damage due to “noise pollution”

Hums and buzzes from external noise sources can often be a problem for analog snake installation. It can be difficult to know where potential noise sources might be before installing a snake. Solving subsequent noise problems requires vast amounts of trial and error. REAC provides an effective solution to these installation problems. Technically, the risk of noise pollution such as the induction of hums and buzzes into a digital snake is much lower than in an analog snake, and cross talk is minimal or non-existent. This provides almost complete routing freedom for your cable installations.

Simple and low cost installation with Cat5e cabling

REAC brings another revolution to audio installations by eliminating the need to use thick, heavy and hard to handle analog multi-pair cables by transmitting audio using fiber optic cables. On one very thin Ethernet cable, REAC can transfer 40 channels of high quality 24bit/96kHz audio signal plus MIDI and remote control signals. Since the cable used for REAC transfer is ordinary Ethernet cable, the low cost and easy availability of the cable is a big advantage compared with using analog cable. From temporary installations in outdoor concerts to permanent installations in arenas or halls, REAC provides the benefit of light weight, inexpensive and easy to install cable.

Very long distance snake systems can be designed using an S-OPT REAC Optical converter

The S-OPT is a REAC optical converter that converts RSS Digital Snake System REAC signals to and from optical signals for long distance digital audio transmission. By using the REAC optical converter and optical cables (sold separately), the REAC transmission distance can be extended to a maximum of 2 kilometers (1.2 miles).

40 Channels of Digital Recording

**SONAR REAC Recording System**

The SONAR REAC Recording System when used in conjunction with the RSS Digital Snakes provides the most comprehensive live recording, mixing, mastering and delivery product available. Capture up to 40 channels of audio from your Digital Snake/V-Mixing System directly into SONAR via a simple Cat5e connected to the network port on your PC.
S-4000 Digital Snake System

**S-4000S-3208**

40CH I/O Modular Rack

This unit has 32 inputs + 8 outputs and is typically installed at stage side. The AD/DA conversion is 24bit/96kHz. High quality XLR pre-wraps are provided for each input channel, which can accept both mic and line level inputs, eliminating the need for direct boxes. Phantom power and an input PAD is available for each channel.

**Optional Configurations for S-4000S**

S-4000S-0832

The 40CH I/O modular rack configured to be used at the Front of House position for connection to mixing console with ordinary power supply. The S-4000S-0832 would be used with an S-4000S-3208 at the stage position.

S-4000S-MR

Modular rack module with no input/output modules and no internal memory, used in configurations such as 24x8 and 40x8.

**Input/Output Modules**

- **SI-A4**
  - Analog Input Module
  - 4-channel AES/EBU input and output modules with Sample Frequency Rate conversion
  - Four-channel AES/EBU input and output modules with Analog Input/Output Modules

- **SO-A4**
  - Analog Output Module
  - 4-channel AES/EBU input and output modules with Analog Input/Output Modules

- **SI-AES4**
  - Analog Input Module
  - 4-channel AES/EBU input and output modules with Analog Input/Output Modules

- **SO-AES4**
  - Analog Output Module
  - 4-channel AES/EBU input and output modules with Analog Input/Output Modules

**Optimal Cables**

- **S-OPT**
  - AES/EBU Optical Converter for distances up to 20m or 2 miles
  - Analog Breakout cables for connecting an S-4000H with a mixing console

- **SC-A0805DF**
  - 25 pin D-Sub Female XLR (8) cable x4 x5 meters

- **SC-A0805DM**
  - 25 pin D-Sub Male XLR (8) cable x4 x5 meters

**Typical Configuration**

- Front of House (FOH)
  - S-4000H
  - S-4000R

**S-4000H**

8x32 FOH Unit

The S-4000H receives signals from the stage and is typically placed next to the FOH mixing console. Its 32 analog outputs are used to send signals from the stage to the mixing console and its 8 inputs for returning signal such as Main audio or monitor mixes to the stage. AD and DA conversions are 24bit/96kHz.

**S-4000R Pre-Amp Remote Controller for the S-4000S or S-1608**

The S-4000R can be connected to any RSS digital snake device via the serial interface. It provides easy remote control of all input gain adjustments, phantom power and PAD settings. Since the remote can save up to 30 setups to internal memory, you can instantly recall the right settings for performance/stage configurations and room defaults instantly.
S-1608 Digital Snake System

The S-1608 and S-0816 Digital Snake are compact versions of the popular S-4000S Digital Snake system. Easy to use and quick to install, the S-1608/0816 Digital Snake system is a small format audio snake solution that offers the highest quality audio signal available in a portable snake system.

S-1608 Stage Unit

The S-1608 Digital Snake system is ideal for bands, corporate A/V events, seminars, rental and staging houses, Houses of Worship and broadcasters that need the best possible sound quality from their audio without the high frequency losses and bulk of analog snakes.

Easy and Expandable

32 x 16 setup

Ideal Channel Count Expansion for the S-4000 Digital Snake System

The S-1608/0816 Digital Snake System can be used to easily expand the channel count of the S-4000 32x8 Digital Snake System to 48x16 or more. Mix and match S-4000 and S-1608/0816 Digital Snake systems for customizable rental and installation systems.

S-0816 FOH Unit

The S-1608/0816 Digital Snake system is ideal for bands, corporate A/V events, seminars, rental and staging houses, Houses of Worship and broadcasters that need the best possible sound quality from their audio without the high frequency losses and bulk of analog snakes.
S-OPT REAC Optical Converter

The S-OPT is an optical converter that converts RSS Digital Snake System REAC signals to and from optical signals for long distance digital audio transmission. By using the REAC optical converter and optical cables (sold separately), the REAC transmission distance can be extended to a maximum of 2 kilometers (1.2 miles.)

Features

- The S-OPT optical connectors are Neutrik OpticalCon® connectors and support Mobile Fiber Cable from Neutrik. This optical interface provides for transmitting audio over long distances using optical cables while still taking advantage of the RSS Digital Snake System’s mobility.
- OpticalCon® provides a Dual LC optical connector (standard LC-Duplex connector, IEC 61754-20) enabling the use of less expensive optical cables with the RSS Digital Snake System.
- Two S-OPT units can be connected using the proprietary POWER LINK cable (ARC-15, sold separately) so that redundant power can be supplied from one unit to the other. If power to a single unit is interrupted due to an unexpected situation or is damaged, both units will still continue to operate.
- When running two S-OPT units in redundant mode, connect together via this power link to ensure backup power. If you require more than 2 km in distance you can gain an additional 100 meters of Cat5e cable from the stage and FOH positions giving you a total of 2.2 km in distance.

SONAR REAC Recording System

The SONAR REAC Recording System when used in conjunction with the RSS V-Mixing System or RSS Digital Snakes provides the most comprehensive live recording, mixing, mastering and delivery product available. Capture up to 40 channels of audio from your Digital Snake/Digital Snake System directly into SONAR all via a simple Cat6e connected to the network port on your PC.

The SONAR REAC Recording System includes:
- SONAR 7 Producer Edition
- REAC Technology Driver
- Cakewalk SPS-66 Firewire audio interface
- V-Mixer and Digital Snake Templates
- Users Guides
- SONAR 7 Producer Edition DVD-ROM
- SONAR REAC Driver CD-ROM
- Power Supply

SONAR 7 Producer Edition

SONAR 7 Producer Edition places no limits on your track count, bus routing, effect of instrument inserts, and includes all an array of audio effects, virtual instruments, and innovative technologies to power your productions.
- Capture up to 40 channels of audio over REAC (Cat6e)
- Mix, EQ, Master: Burn and Deliver
- Record and non-destructive mixing of audio and MIDI with effects on REAC
- The industry’s first 64-bit dual precision floating point mixer engine
- Smart Mix/Solo—intuitively use one tool for multiple mixing tasks: complete customizable
- Thousands of Instruments—Access thousands of instrument sounds with Cakewalk LE, Flagship LE, DropZone, and more
- Integrated 10-track sequencer view—the most innovative, step sequencer feature set available in any DAW

Cakewalk SPS-66 Firewire Audio Interface

- 6-in/6-Out FireWire Interface
- 1-in/1-out MIDI Interface (24 channels)
- Firewire bus powered for mobile use
- 24-bit/192 kHz audio resolution
- +48v phantom power
- 44.1kHz output for professional integration

PC With SONAR 7

Find out more about the V-Mixing System at www.V-MixingSystem.com
“The fact that there is no noise when I turn the snake on is a vast improvement over previous years. No hums, buzzes or clicks, which means one less place to look when I am trouble shooting.”

Jon Laterza, Freelance Audio Engineer, Lincoln Center Out of Doors Festival, NY

“The sonic quality and clarity of the digital snake is awesome, I feel and hear the dynamics of the sound clearer than any analog snake. Plus it’s extremely easy to move for touring.”

Bernie Sandor
Springfever Productions, Toronto, Canada

“Even though sound quality was an important factor in selecting the RSS Snake, the flexibility of the system was the key selling point. We’re thrilled to have invested at the beginning to have a system to grow with us for years.”

Rick Charleton
Audio Engineer, Grace Lutheran Church

“The 64x16 system is perfect; it’s very flexible, so we can configure the I/Os as needed for ballroom events, our live concert locations and any special audio need.”

Gino Mulcahy
Mohegan Sun Casino

“What can I say… the Digital Snake just worked flawlessly and sounded great!”

Jeffery Bruton
GMB Technical (KPLU), Seattle, WA

Never in my decades of audio experience had I heard such a vast improvement in sound quality.

Art Yeap, Designer/Integrator
Co-Owner of the Novo Group Inc.

“We tested the RSS snake against a 300 foot copper snake. The Cat5 audio was much smoother overall. It has much greater clarity at the top end. We did a blind listening test and chose the RSS Digital Snake every time!”

Jon Garber
FOH Engineer, Rascal Flatts

In the Americas: www.rssamerica.com/snake/
Worldwide: www.rolandsystemsgroup.net