

Starlink SL9003Q



Multi-Channel Audio & Data
RF Digital STL

Clear, digital audio...

For decades, you've depended on the Moseley name for outstanding Studio-Transmitter Link performance. Now we're proud to offer the **Starlink SL9003Q**—the world's first open-architecture, all-digital, multi-channel linear audio STL in exciting new HD Radio™ configurations.

UNCOMPROMISING LINEAR AUDIO

The SL9003Q is a fully transparent link in your all-digital air chain, allowing the clarity of your audio to shine through. AES/EBU inputs and outputs combine with a built-in variable rate converter to offer seamless, compression-free connectivity. Front panel audio metering with RF and Modem diagnostics continually monitor the quality of your signal, assuring easy initial installation and maintenance.

EXCEPTIONAL SPECTRAL EFFICIENCY

Utilizing spectrally efficient Quadrature Amplitude Modulation technology, the SL9003Q can be configured to deliver linear audio channels, UDP for HD Radio™, plus RS-232 for remote control and RBDS over narrow-bandwidth RF STL channels. User-selectable modulation rates of 16, 32, 64, and 128 QAM allow the end-user to maximize payload for RF channel allocations.

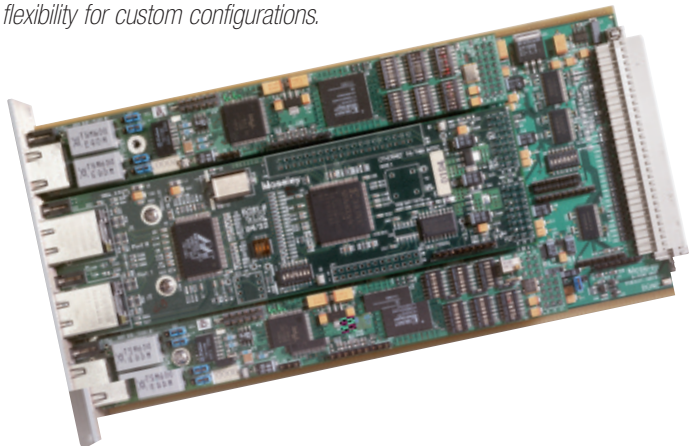
INTELLIGENT MULTIPLEXING

An optional digital multiplexer allows the SL9003Q to convey additional UDP/LAN, compressed programs, voice, FSK, as well as asynchronous and synchronous data channels in a variety of user-defined configurations.

ROBUST PERFORMANCE

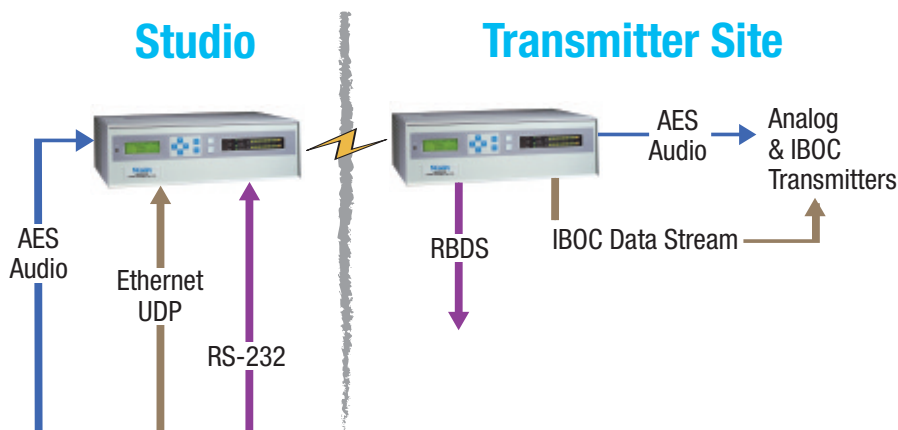
Powerful Reed-Solomon Error Correction, coupled with a 20 tap adaptive equalizer, provides unsurpassed signal robustness. An optional Starlink Bandpass Cavity is recommended for extremely hostile RF environments.

*The **SL9003Q**'s Open Architecture design allows for simple, cost-effective upgrades and exceptional flexibility for custom configurations.*



MULTI-HOP SYSTEMS WITH STARLINK SL9003Q

STL paths over long distances or in difficult terrain can be accomplished using one or more Starlink repeaters. A Starlink repeater consists of a SL9003Q receiver and transmitter in a single chassis. Repeaters can be configured with source decoders to create a drop-and-pass of the payload at the repeat site. In a Starlink repeater system, audio integrity is preserved throughout the system without decoding and re-encoding at each site.



Starlink SL9003Q-2SLAN supports digital audio, RBDS, plus the IBOC data stream.

COMMON CONFIGURATIONS

Start from one of the four most-requested configurations to build your station's ideal mix of audio/data channels:

SL9003Q-2S provides one stereo pair with 44.1 kHz audio sampling at 16 QAM.

SL9003Q-4S provides two stereo pairs with 32 kHz audio sampling at 32 QAM or 44.1 kHz sampling at 128 QAM.

SL9003Q-2SLAN provides one 44.1 kHz stereo pair with RS-232 channels, plus 544 kbps simplex Ethernet data.

SL9003-4SLAN provides two 32 kHz stereo pairs with RS-232 channels, plus 384 kbps of simplex Ethernet data.

Contact Moseley marketing for custom configurations.

FEATURES

- Linear uncompressed audio
- HD Radio™ Data Streams
- 32, 44.1, or 48 kHz sample rates
- Input AES/EBU Digital or Analog (L+R)
- Output AES/EBU Digital and Analog (L+R)
- Built in RS-232 data channels
- User-Selectable 16, 32, 64, 128 QAM modulation
- User-selectable 200-500 kHz channel bandwidth
- Adaptive Equalizer
- Powerful Reed-Solomon Error Correction
- Low processing delay

HD RADIO™ READY TODAY

Starlink SL9003Q meets all the requirements for IBOC digital radio. Starlink transports AES/EBU digital audio at all the approved sample rates along with simplex Ethernet data to provide all the signals necessary for the audio, multicasting, and data-casting services. With Starlink, stations can get the most out of HD Radio™ conversion now and in the future.

MOSELEY ASSOCIATES IS THE LEADER IN DIGITAL STL TRANSMISSION SYSTEMS FOR THE BROADCASTING INDUSTRY. FOR MORE INFORMATION VISIT US AT www.moseleysb.com.

...linear and uncompromising.

SYSTEM

AUDIO CAPACITY	4 linear (32 kHz sample rate) + 2 data channels; or 4 linear (44.1 kHz sample rate) <i>Contact Moseley for other audio configurations.</i>
FREQUENCY RESPONSE	0.5 Hz to 22.5 kHz (48 kHz sample rate), >0.5 Hz to 15 kHz (32 kHz sample rate)
DISTORTION	<0.01%
DATA CODING METHOD	Selectable 32, 44.1, 48 kHz built-in rate converter
DYNAMIC RANGE	90 dB static encoder/decoder
TIME DELAY	Linear 0 ms, ISO/MPEG 22ms
CROSS TALK	-80 dB
BIT ERROR IMMUNITY	>10E-04 with no subjective loss in audio quality
LEVEL STABILITY	>0.2 dB

SOURCE ENCODER

AUDIO INPUT CONVERSION	XLR Female
AUDIO INPUT SAMPLE RATES	32/44.1/48 kHz selectable, built-in rate converter
ANALOG AUDIO INPUTS	Electronically balanced, 600/10k Ohm selectable, CMRR>60 dB
ANALOG AUDIO LEVELS	-10 dBu to +18 dBu, rear panel accessible
DIGITAL AUDIO INPUTS	AES/EBU or SPDIF selectable
AES/EBU INPUTS	Transformer balanced, 110 Ohm input impedance
SPDIF INPUTS	Unbalanced, 75 Ohm input impedance
DATA INPUT CONNECTORS	9-pin D Male RS-232 levels
DATA INPUT RATES	Async, 300-4800 bps selectable
TRUNK OUTPUT CONNECTOR	15-pin D Female
TRUNK OUTPUT RATES	Uncompressed Linear (1.024, 1.4112 or 1.536 Mbps) & Compressed (ISO/MPEG or ADPCM)
TRUNK OUTPUT TYPES	Synchronous V.35 or RS-449

SOURCE DECODER

XLR Male
Output Rates same
Electronically balanced low/600 Ohm selectable
Levels same
Levels same
Outputs same
Outputs same
Output Connectors same
Output Rates same
Input Connectors same
Input Rates same
Input Types same

INTELLIGENT MULTIPLEXER

CAPACITY	6 Local Ports, can multiplex 8 audio cards
AGGREGATE RATES	Up to 2.048 Mbps
RESOLUTION	8000 bps, 768-2048 kbps; 4000 bps, 384-768 kbps; 2000 bps, 192-384 kbps
CLOCKS	Internal, Derived, External Port
INTERFACES	Choice of: Voice; Low Speed Async Data (RS-232); High Speed Sync Data (V.35, RS-449)
SPEEDS	Low Speed 300-38400 bps; Voice 16, 24, 32, 64 kbps
TRUNK	V.35 or RS-449

TRANSMITTER

FREQUENCY	215-235, 335-512, 800-960, 1350-1525 MHz synthesized
POWER OUT/THRESHOLD	+30 dBm standard, +27 dBm (1.5 GHz)
STEP SIZE	25 kHz
OCCUPIED BANDWIDTH	200/300/500 kHz. Rate/QAM mode dependent
MONITORING	Fwd, Rev Power, Tx Lock, Radiate

RECEIVER

215-235, 335-512, 800-960, 1350-152 MHz synthesized
-93 dBm/16 QAM; BER 10 ⁻⁶
-90 dBm/64 QAM (10 ⁻⁶) 2 Channels
25 kHz
200/300/500 kHz. Rate/QAM mode dependent
RSL, BER, Rx Lock

MODULATOR

FREQUENCY	70 MHz
MODULATION/DEMODULATION	User Selectable: 16, 32, 64, 128 QAM
ERROR CORRECTION	Reed-Solomon t=8
EQUALIZER	N/A

DEMODULATOR

70 MHz
Coherent 16, 32, 64, 128 QAM
Reed-Solomon t=8
20 tap Adaptive