

ASI/AES Access Module

Efficient ASI, AES and MADI transport for Nimbra 600 MSRs

MODULE



The 8-port ASI/AES access module enables efficient transport of DVB-ASI, AES and MADI for high-quality video or audio production, contribution and distribution, with 100% Quality of Service.

The 8-port ASI/AES Access Module for the Nimbra 600 series of multiservice MSRs enables efficient transport of DVB-ASI video and AES and MADI audio with guaranteed Quality of Service.

The 8-port ASI/AES Access Module is a plug-in module for the Nimbra 600 family of multiservice MSRs. The module provides either DVB-ASI transport for video contribution and distribution, or high-quality AES and MADI audio transport.

Dual ASI/AES Transport Mode

In ASI transport mode, the module enables digital multimedia transport with guaranteed Quality of Service in studio, contribution and distribution networks. The module features a unique bandwidth preservation mechanism to keep the network overhead to a minimum for optimal use of network resources.

The 8-port ASI/AES Access Module allows MPEG transport streams to be transported in tailored and secured logical channels. Network capacity can easily be configured to fit the requirements of DVB-T broadcasting, distribution, or professional studio to studio contribution.

When configured for AES transport, the 8-port ASI/AES Access Module enables up to 8 AES/EBU (AES3) or up to 7 MADI digital audio signals to be transported at various sampling rates with guaranteed Quality of Service, independent of network load.

The unique timing properties of a Nimbra network provide a low-latency, jitter-free transport service without the need for external synchronization and extensive playout buffering. Support for MADI allows transparent forwarding of up to 7 MADI signals, each including up to 64 AES channels at 48 kHz sample rate.

Availability and Flexibility

Availability is a key issue for all professional video and audio services and media networks. With built-in network redundancy and support for sub 50 ms 1+1 protection, the 8-port ASI/AES Access Module offers a comprehensive set of protection mechanisms.

For highest flexibility and cost efficiency, each port can be individually configured as In, Out or Monitor, and each port can monitor any other port. Support for multicast enables point-to-multipoint distribution of high quality content.

Network management features include end-to-end service provisioning, fault- and performance monitoring and flexible monitoring and loopback options, as well as protection configuration per service.

KEY FEATURES

8 configurable ports.

Each port can be configured as In, Out or Monitor.

Full DVB-ASI range.

Each port can be configured to handle an ASI transport stream of bandwidth 2-212 Mbps.

Highest bandwidth utilization.

Since only the actual MPEG-2 TS packets are transported, large amounts of infrastructure bandwidth are preserved.

Full range of AES sample rates.

Each port can independently be configured to handle an audio channel of any of the standard sample rates.

Full transparency.

The transport is fully transparent with respect to all the bits of the AES3-2003 blocks/frames/sub-frames. Thus alternative/compressed formats are also supported, as for example Dolby® E and Dolby® Digital.

Support for MADI.

The board offers transparent transport of up to 7 MADI signals at various sample rates.

Extremely low jitter and wander.

The module utilizes the unique synchronous timing performance of the Nimbra switches in order to deliver video streams with extremely low jitter, wander and latency.

Carrier class.

The Nimbra 600 Series switches and its modules are designed to meet NEBS level 3 specifications for trouble-free operation.

Performance monitoring.

Standard performance metrics to ITU-T G.826 both at each video input interface and for individual services end-to-end.

Backwards compatible.

The module is fully compatible with other ASI and AES products in the Nimbra platform.

TECHNICAL SPECIFICATIONS

Form factor: Plug-in unit for Nimbra 600 Series switches, 1 interface slot

Interface:
Ports: 8 x BNC, 75 ohm, configurable In/Out/Monitor

Interface, ASI:
Standard: DVB-ASI, CENELEC EN 50083-9
Frequency: 270 Mbps
Input freq. tolerance: ± 100 ppm
Output frequency: ± 20 ppm
Return loss: >20 dB (27-270 MHz)
Signal amplitude: 800 mV $\pm 10\%$
DC offset: +0.5 to -0.5 V
Rise and fall times: (20%-80%) max 1.2 ns
Reach: 275 m (900 feet), Belden 1694A

Interface, AES:
Standards: AES3/5/11-2003, AES-3id-2001
Sample rates: 32/48/96/192/44.1/88.2/176.4 kHz
Input freq. tolerance: ± 10 ppm
Return loss: >20 dB
Reach: 330 m (1000 feet), Belden 1694A

Interface, MADI:
Standards: AES10-2008
Sample rates: 32/48/96/44.1/88.2 kHz
Input freq. tolerance: ± 100 ppm
Return loss: >20 dB (5 – 62.5 MHz)
Reach: 330 m (1000 feet), Belden 1694A

Mapping:
Transport: DTM (ETSI ES 201 803)
ASI TS bandwidth: 2 – 212 Mbps

Jitter:
AES Out intrinsic: < 0.025 UI pp @ 48 kHz
AES Input tolerance: 0.25 UI @ >8 kHz
ASI PCR: $< \pm 150$ ns (no PCR re-stamping)

Performance management:
ITU-T G.826 based
Bins: 24h, 15min
Parameters: ES, SES, BBE, UAS

Management:
SNMP: v1/v2c/v3
Element Manager: Web GUI, CLI

Maintenance:
Hardware: Hot-swap
Firmware: Remote download

Environmental Conditions:
Operating Temp: 5 to 40°C (41 to 104°F)
(short term): -5 to 55°C (23 to 131°F)
Storage Temp: -40 to 70°C (-40 to 156°F)
Relative Humid: 10% to 90% (non-condensing)

Regulatory Compliance:
Safety: UL60950
EN60950
EMC: FCC 15 Class A
EN 300 386
CE marking: 93/68/EE
Environment: RoHS directive 2002/95/EC

Ordering Information:
NPS0042-6001 8 x ASI/AES Access Module
NPM0032-ASI1 ASI FW option for 8 x ASI/AES Access Module
NPM0032-AES1 AES FW option for 8 x ASI/AES Access Module
NPM0033-6001 MADI Feature license

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