

Video Access Module J2K

JPEG2000 compression for the Nimbra 600 MSR

MODULE



The 8-port Video Access Module offers a flexible transport mix of uncompressed and compressed video, supporting 270 Mbps to 3 Gbps SDI and ASI.

The 8-port JPEG2000 enabled Video Access Module provides simultaneous transport of uncompressed 3G/HD/SD-SDI and ASI, as well as high-quality JPEG2000 compression, with industry's highest video quality and with guaranteed quality of service.

While uncompressed video transport has many advantages in the production chain, the high bandwidth may be prohibitive in contribution and distribution applications. By using JPEG2000 compression as a transport option, contribution and distribution of high quality video streams becomes viable over commonly available transport infrastructures.

With high-quality 10-bit 4:2:2 compression, low end-to-end latency and image quality that sustains multiple encoding/decoding iterations, JPEG2000 is the preferred compression method for contribution, production and high-end distribution.

Flexible multi-purpose video interfaces

The board transparently transports up to eight independent 3G-, HD-, SD-SDI and ASI streams, in any mix and in any direction. In addition, it is possible to enable up to four JPEG2000 encoders or decoders for flexible transport of both compressed and uncompressed video.

High capacity transport

Each SFP Video Access Module is capable of transporting up to 10+10 Gbps uncompressed or JPEG2000 compressed video. A Nimbra 600 series MSR can be equipped with up to 15 modules, which makes the Nimbra 600 series switches a true carrier-class media transport

platform. Scalable configuration and pricing enables cost efficient solutions for live event contribution, inter-studio connect and remote production.

Unprecedented Quality of Service

Availability is a key issue for all professional media applications. With the Nimbra unique lossless routing over SDH/Sonet and IP/Ethernet together with built-in network restoration and integrated hitless 1+1 protection, Net Insight offers a robust solution with unprecedented quality of service.

The JPEG2000 Video Access Module is hot-swappable and can be configured for various interface and hardware redundant options. Network management features include end-to-end service provisioning, service centric protection and performance management, as well as flexible monitoring and loopback capabilities.

KEY FEATURES

Flexible multi-purpose video interfaces.

8 ports for uncompressed or compressed video are accommodated on a single board. Each port can be individually configured as ASI or 3G/HD/SD compressed or uncompressed within the total capacity limits.

Low-latency JPEG2000 compression.

ISO/IEC 15444-1 compliant JPEG2000 encoding/decoding of up to four streams. Support for compression of 3G-SDI, HD-SDI and SD-SDI with very low encoding/decoding latency.

Quality of service protected transport.

Implements Nimbra MSR QoS and re-clocking mechanisms for lossless media transport over both SDH/Sonet and IP/Ethernet

Autosense support.

The board supports automatic detection and forwarding of 3G/HD/SD-SDI and ASI signals.

Integrated video frame synchronizer.

Up to 7 individual video frame synchronizers enable synchronous playout of SDI streams aligned to an external synch reference or studio clock.

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. Equipment protection with redundant hot-swappable hardware ensures trouble-free operation.

Service Centric Performance Monitoring.

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

Hitless 1+1 protection.

Supports multiple protection options, configurable per service, including hitless 1+1 protection (JPEG2000, ASI), standby 1+1 protection (all services).

TECHNICAL SPECIFICATIONS

Form factor:	Plug-in unit for Nimbra 600 Series, 1 interface slot
Interface, common:	8 x BNC, 75 ohm, configurable 3G/HD/SD-SDI or ASI, In/Out/Monitor
Ports:	8 x BNC, 75 ohm, configurable 3G/HD/SD-SDI or ASI, In/Out/Monitor
Return loss:	>10 dB @ 3G, >15 dB @ HD, > 20 dB @ SD
Interface, 3G SDI:	
Standard:	SMPTE 424M 3 Gbps SDI
Frequency:	2.97 or 2.97/1.001 Gbps
Interface, HD SDI:	
Standard:	SMPTE 292M HD-SDI, SMPTE 348M HD-SDTI
Frequency:	1.485 or 1.485/1.001 Gbps
Interface, SD SDI:	
Standard:	SMPTE 259M SD-SDI, SMPTE 305M SD-SDTI
Frequency:	270 Mbps
Interface, ASI:	
Standard:	DVB-ASI, CENELEC EN 50083-9
Frequency:	270 Mbps
JPEG2000:	
Standard:	ISO/IEC 15444-1
Capacity:	Max compressed bitrate 1000 Mbps
Ranges:	SD-SDI: 10 – 125 Mbps (max 4 streams) HD-SDI: 10 – 250 Mbps (max 4 streams) 3G-SDI: 10 – 500 Mbps (max 2 streams)

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:	
NPS0074-6F01	Video Access Module J2K
NPM0037-64VF	Video Port Feature License
NPM0031-6H1F	J2K Processing Feature License
NPM0021-6FSF	Frame Synchronizer Feature License
NPM0035-EH6F	Hitless 1+1 Feature License

Net Insight AB (publ)
Phone +46 (0)8 685 04 00, info@netinsight.net, www.netinsight.net

The information presented in this document may be subject to change without notice. For further information on product status and availability, please contact info@netinsight.net or visit www.netinsight.net ©Copyright 2015, Net Insight AB, Sweden. All rights reserved. Net Insight and Nimbra are trademarks of Net Insight AB, Sweden. All other registered trademarks are the property of their respective owners.

