



VENTURA

VS909

IP Media edge processor

Nevion's IP Media Edge Processor (VS909-IPME) is a new multi-functional processing module in the Ventura family of modular video solutions.

The VS909-IPME incorporates advanced techniques for the processing and protection of any media flow interfaced to IP onto a single module. The VS909 provides an unprecedented range of security, protection, duplication, translation and quality assurance features including forward error correction (FEC), Nevision's proprietary Streaming Intelligent Packet Switching (SIPS), launch delay offset (LDO), and network address translation including multicast, unicast, VLAN, RTP, and many more.

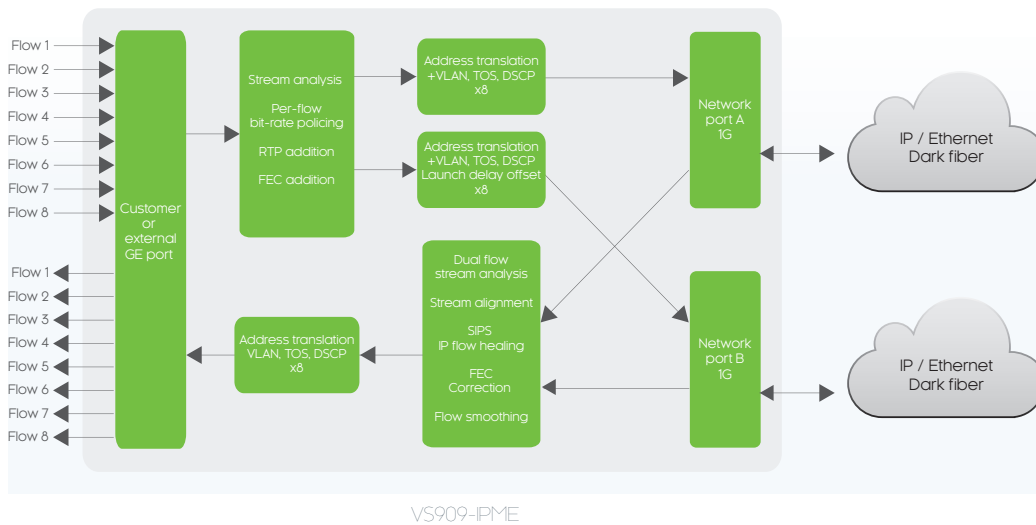
Focusing entirely on processing IP flows to optimize network performance, the VS909 is a key addition to Nevision's media over IP adapter. Due to its dedicated hardware packet processing and complete isolation between Ethernet ports, the VS909 is ideal for protecting the media network edge and providing the technology for IP networks to deliver the continuous quality performance demanded by professional broadcasters.

Applications

- Professional broadcast contribution
- Studio-to-studio media exchange
- Live sports and event contribution
- Managed video services over IP

Key features

- Transport of any real time media flow on IP
- Standards-based Forward Error Correction supporting SMPTE 2022-1 for protection against packet loss created by occasional network errors
- Streaming Intelligent Packet Switching (SIPS) providing perfect video over IP protection switching using dual network feeds
- Dual network interfaces supporting Gigabit Ethernet using SFP technology
- Full IP Media Edge interface isolation with Bastion host level performance



High density

Simultaneous processing of 8 x IP/UDP or IP/UDP/RTP streams over Gigabit Ethernet.

Stream smoothing

Provides optimal linearization (reduction of packet jitter) of received IP media ensuring maximum decodability by downstream equipment.

Stream monitoring

Provides analysis of received IP media and protected network flows on packet loss and packet jitter.

Real Time Protocol (RTP)

Supports the insertion of RTP headers to UDP streams to provide packet timing and sequencing information allowing FEC or SIPS to be added for protection.

Encoder partner protection

Provides 1+1 hardware protection leveraging SIPS for even higher levels of protection against faults. This enables two encoder cards (in different chassis in different racks) to partner with each other via an Ethernet cross-strap and provide dual network feeds with RTP coherence.

Launch delay offset

Provides the ability to delay the second network feed by a configurable amount, ensuring that the actual data packets transiting the network at any time are different so any simultaneous network events will not impact the same data on each path.

Network address translation

Support for hardware translation of unicast to multicast or multicast to unicast address changes.

Network Edge Security

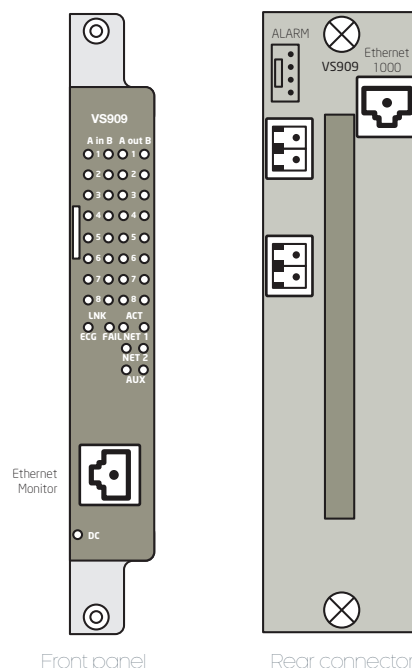
Complete segregation of media and network infrastructure to guarantee separation of customer and transport networks. This ensures that there is no possibility for access into the private transport network whether intentional or accidental.

Remote upgrade

Supports remote firmware upgrades via the AEMS (Ventura shelf element manager) for the latest in function upgrades and fault resolution.

NEBS Level 3

Certified to perform in telecommunication installations providing reliable performance in harsh environments.



IP Interfaces

Number of ports	4 x Ethernet ports (Front panel not used) 2 x Network interface ports 1 x Customer data interface 1 x Maintenance port
Connector type	2 x SFP (optical or CU) network interfaces 1 x RJ45 customer port 1 x RJ45 (front panel maintenance port)
Interface type	Gigabit Ethernet (GbE) IEEE 802.3ab (Electrical) or IEEE 802.3z (optical) Fast Ethernet (FE) IEEE 802.3u Ethernet IEEE 802.3i
Protocols	IP/UDP/RTP, ARP, IGMPv2/v3, Diffserv/TOS, 802.1p (PCP), 802.1Q (VLAN)

Front panel LED status indicators

STREAM1	Input 1 Local	In 1-Partner	Output 1-A	Output 1-B
STREAM2	Input 2 Local	In 2-Partner	Output 2-A	Output 2-B
STREAM3	Input 3 Local	In 3-Partner	Output 3-A	Output 3-B
STREAM4	Input 4 Local	In 4-Partner	Output 4-A	Output 4-B
STREAM5	Input 5 Local	In 5-Partner	Output 5-A	Output 5-B
STREAM6	Input 6 Local	In 6-Partner	Output 6-A	Output 6-B
STREAM7	Input 7 Local	In 7-Partner	Output 7-A	Output 7-B
STREAM8	Input 8 Local	In 8-Partner	Output 8-A	Output 8-B
NWA	Network A Link	Network A Activity		
NWB	Network B Link	Network B Activity		
AUX	Auxiliary Link	Auxiliary Activity		
ECG	Card Status			
FAIL	Card Fail			
DC	Power			

Network status information (on each port, per flow)

Packet loss - detected using RTP discontinuities
PDV (jitter)
Packet-rate-per-flow and bit rate
Packet length (for CPL streams)
RTP payload type detection

Alarms

Loss of stream (on each port, per flow)
Packet loss (on each port, per flow)
Jitter threshold exceeded (on each port, per flow)
SIPS non coherent streams
SIPS time alignment error
Post-FEC errors

External alarms

Normally open relay contacts. Closed for major and minor alarm signals.

Element management

The Ventura AEMS shelf element managers, FCS183-AEMS and FCS101-AEMS, provide a comprehensive set of status, control and alarm variables through a Web interface. The AEMS is a powerful Linux based embedded management system that also supports SNMP and XML. It also acts as an agent for card upgrades, storing multiple images for each card in the VS103 or VS101 chassis. Users can apply these images to install upgrades from a remote location.

Physical and environmental

Resides in a single slot of a VS101 or VS103 Ventura series chassis	
Power consumption	17W max
Operating temperature	0°C to 50°C chassis ambient
Storage temperature	-40°C to 85°C ambient
Relative humidity	5% to 85%
Compliance	NEBS Level 3, UL, CSA, CE, FCC (Part 15, Class A), C-Tick, RoHS

Ordering option

VS909-IPME-xCH	IP Media Edge Processor, x = 2, 4, 6 or 8 channels
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