

neVion

Product catalog

2013 – 2014



CERTIFICATIONS



ISO 9001

Nevion is ISO 9001:2008 certified. The ISO 9001:2008 certification of Nevion Europe's systems and internal routines is proof of our commitment to steadfast quality improvement throughout the organization.



In today's demanding business environment, this is an important certification both for the manufacturer and even more important for demanding customers who do not want to spend time auditing suppliers.

As part of the ISO 9001:2008 certification, an independent accredited board will carry out annual audits of the company's systems and routines.



NEBS Level 3

Many products from Nevion have been tested to verify their compliance with the requirements of NEBS (or "Network Equipment Building System") Level 3. Products that meet these stringent environmental safety and electromagnetic compatibility standards are qualified for use in telecom central office environments in the United States, and customers around the world recognize the level of reliability indicated by a NEBS Level 3 certification. The specifications for NEBS are managed by Telcordia Technologies (www.telcordia.com).

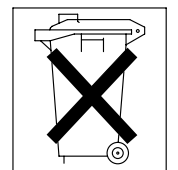


RoHS

RoHS – the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment is an EU directive banning electrical and electronic equipment containing more than agreed level of certain hazardous substances from 1 July 2006.

It is very important that manufacturers show commitment to the outside environment, and many customers, even outside Europe, ask for RoHS compliance at tender stage.

Both Nevion's product lines VikinX and Flashlink are compliant with the requirements of Directive 2002/95/EC on the Restriction of the use of certain Hazardous Substances (RoHS).



WEEE

One of the challenges in the world is the growing amounts of Electronic Equipment (EE) waste that is not sorted and treated properly. Nevion has implemented return facilities for all products that we bring to market.

Nevion is fully compliant with the requirements of Directive 2002/96/EC on the Waste Electrical and Electronic Equipment (WEEE).

Contents

Nevision introduction	2	Ventura	64
Flashlink	4	Product function matrix	66
Product function matrix	6	Chassis	68
Frame	12	IP/Ethernet	69
Enclosures	13	SONET/SDH/PDH	74
Active optical modules	16	Fiber overlay	76
Passive optical modules	17	Video Gateways	82
Optical converters	20	Transport streams over IP	84
Data transport	23	JPEG 2000 over IP	85
Multiplexing	27	cProcessor	86
RF over fiber	31	Transport stream processing (ATSC & DVB)	88
Format conversion	32	DVB-T/T2 adaptation and regionalization	90
Synchronization	34	nSure	92
Embedders/de-embedders	37	Transport stream switching	94
Signal conversion	39	Video signals monitoring	95
Protection	44	Transport stream monitoring	96
Distribution	46	Management systems	98
VikinX	50	Managed video services	100
Sublime 3G-SDI	52	Element management	104
Sublime optical	54	System control	109
SD-SDI digital video	55	Broadcast system control	111
Analog video	56		
Digital audio	57		
Analog audio	58		
RS422 data	58		
Sublime control panels	59		
Modular routers	60		

Building on a heritage of innovation and pioneering firsts, Nevion is a leader in professional media transport—from the camera to the home. The combined entity of two industry-leading companies—Nevion and T-VIPS—Nevion’s approach to innovation is driving the convergence of broadcast, IT and telecoms technologies.

Through long-term strategic relationships with partners and customers, Nevion has ensured the efficient delivery of premium content for every major sporting and live TV event worldwide over the last 20 years. Some of the world’s largest media networks rely on Nevion technologies, including AT&T, Arqiva, BBC, BT, CCTV, EBU, Telefonica, Telenor and NASA.

From live sports to government applications, Nevion creates reliable video networks with intelligence, automation and security built-in, helping customers monetize their content, save resources, and open doors to new revenue streams.

As more complex content, bandwidth constraints and limited budgets strain networks and resources every day, Nevion fully manages all network types, from legacy infrastructure upgrades to entirely new media networks. Video processing, transport and management over IP, optical fiber, legacy systems or a mix of all, Nevion creates the best solution – whether your network needs to span buildings or continents.

Nevion’s world headquarters are in Norway with America’s headquarters in California. Nevion also maintains satellite offices in UK, Dubai, Beijing and Singapore.



Our products

VALUE-BASED, RELIABLE AND SCALABLE SOLUTIONS

Nevion offers comprehensive video transport solutions for all networks—fiber, SONET/ SDH, IP and 3G—as well as signal processing, routing and sophisticated system monitoring, control and management. We specialize in helping you generate more value out of your network, integrating legacy infrastructures with the newest technologies.

THE MARKETPLACE'S GREENEST SOLUTIONS

A relentless commitment to resource- and power-efficiency has led to Nevion's position as the green leader in video transport.



Flashlink

Our Flashlink transport system family offers solutions ranging from simple CWDM/DWDM point-to-point links to nationwide optical networks, with industry-low power requirements and compact form factors.

VikinX routing

The VikinX product family provides professional broadcast routers for almost any application in the largest array of sizes and formats in the market today.

Ventura

Our award-winning and modular Ventura carrier-class line of transport solutions increases the flexibility of any video transport network.

Video Gateways

Leveraging the inherent flexibility of IP and high-quality JPEG 2000 compression, Nevion's compact and powerful gateway solutions provide real-time transport of professional video over IP networks.

cProcessor

Our award-winning transport stream processing and multiplexing products are designed to make the complex simple.

nSure

By adding intelligence to monitoring and switching, our nSure products protect both the content owner and the network operator.

Management systems

Nevion offers a complete portfolio of service, network and element management for contribution and distribution media networks. Nevion also provides control solutions for broadcast environments encompassing routing, signal processing and distribution.

Flashlink

SIGNAL TRANSPORT, PROCESSING AND DISTRIBUTION



Since its introduction to the broadcast market in 1999, Nevion's Flashlink product family has earned a reputation for ease of use, power and reliability. The series now leads the worldwide industry for signal processing and optical distribution, featuring the market's broadest range of 3G-SDI fiber solutions. With numerous prestigious awards and an impressive installed base of products, Flashlink's track record speaks for itself.

The fundamental design philosophy behind Flashlink always has been to provide advanced technology that is easy to use and meets real-world signal processing and video distribution requirements. Flashlink modules feature ultra-low power consumption, attractively small but feature-packed form factors, and extensive control and monitoring capabilities through Simple Network Management Protocol (SNMP) support for all modules as standard.

Broadcast infrastructure

The ever-changing media landscape has put new burdens on content providers. In the face of increasingly complex content formats, the need to push more content through network infrastructures, and handle rapidly-evolving requirements has propelled the need for greater transport, processing, monitoring and management efficiencies, capabilities and speed. Nevion has wrapped industry-leading products into a seamless distributed routing environment for a complete broadcast infrastructure solution.

Nevion's broadcast infrastructure solution is a scalable, end-to-end system allowing flexible use of all infrastructure resources. Its flexibility comes from an underlying in-house or campus network solution based on Nevion's concept of mixed electrical/optical distributed routing. An underlying timeline management system such as VideoPath maps out virtual routers to all resource access points enabling access of all resources through simple routing control. This allows for production scaling by gaining access to unused equipment or resources at a different location such as a neighboring studio.

Live production networking

- In house/campus networking
- Studio infrastructure
- Contribution networking

Smart engineering makes all the connections so you know your source and destination—not all the complexity in between.

Benefits snapshot

- Virtual router mapping of the underlying distributed routing network maintains localized workflow
- High-quality, end-to-end content distribution system
- Hidden underlying network details
- Highly scalable system
- Invest as needed—and for the future
- Zero latency video networking
- True IP networking of Ethernet, data and GPI
- Digital sync distribution
- Broadcast-centric control and management

Live media networking

Live media networking is taking on increasing importance in today's media landscape. From global sports and entertainment to news and major political events, streamlined, nimble and cost-effective live media networking is critical to success. Nevion's Flashlink live media networking solution encompasses all live signal production—regardless of location—for productions where synchronicity, low latency, high reliability and operation ease are critical.

The solution delivers streamlined management of the full production process, significantly speeding and improving the live production workflow. Moreover, the solution can be integrated seamlessly with broadcasters' in-house networks to provide a comprehensive offering that also includes signal processing, routing and contribution.

Nevion's Flashlink live media networking solution encompasses all live production signals—sync, Intercom, RS422, RS485, RS232, Ethernet, AES, analog audio and multiple 3G/HD/SD-SDI—for studios, events, and campus networks, reducing system build time through an easily configured, streamlined solution.

Its unique system architecture allows seamless integration of live media services with broadcasters' in-house or campus networks. In combination with Nevion's extensive portfolio of studio infrastructure products and video/audio routing systems, this makes for a complete solution that delivers the high fiber utilization, zero latency and premier quality required by today's live video broadcasting.

Low power consumption for savings

Low power consumption that significantly lowers operational costs has been a Flashlink hallmark since the product line's inception. This increases product lifetime. When it comes to saving energy, Flashlink is in a class of its own. Flashlink products have no fans to clean or replace, reducing power needs while eliminating noise and the time required for engineers to service units. Alternative products in the market require 50% to more than 100% higher power consumption compared to Flashlink—including solutions that claim to be "low power."

In addition to saving costs, Flashlink customers reduce the environmental impact of their equipment. Flashlink has the smallest and most lightweight 2RU frame in the market, so cargo weight and volume is kept at a minimum. Even before your shipment arrives, Flashlink begins reducing your carbon footprint.

6

[illegible]

Flashlink Product Function Matrix

[illegible]

8

[illegible]

Flashlink Product Function Matrix

[illegible]

Flashlink Product Function Matrix

PRODUCT FUNCTION MATRIX		Page	Function	Video	Audio	Format Conv.	Optical	Input	Output
Model	Embedder/De-Embedder								
13089	AV-SD-XMUX-13T,-7.5	38	Frame Synchronizer						
50066	AV-SD-XMUX-C1xxx	38	De-glitcher						
13093	AV-SD-XMUX-R-13T-7.5	38	Reclocker						
50103	AV-SD-XMUX-R-C1xxx	38	Automatic changeover						
12260	AV-HD-XMUX	38	Signal Integrity						
12264	AV-HD-XMUX-R	38	Time Division Multiplexing						
12261	AV-HD-XMUX-13T,-7.5	38	Ethernet switch						
50005	AV-HD-XMUX-C1xxx	38	Video delay						
12265	AV-HD-XMUX-R-13T-7.5	38	Video Processing						
50104	AV-HD-XMUX-R-C1xxx	38	Video Generator						
50130	AV-3G-XMUX-Cx	38	Video Label Generator						
50130	AV-3G-XMUX-Cx-R	38	Audio Embedder						
50132	AV-3G-XMUX-Cx-R-L	38	Audio De-embedder						
19770	AV-3G-XMUX-Cx-13T,-5dBm	38	Audio delay						
50134	AV-3G-XMUX-Cx-C1xxx	38	Audio Processing						
50133	AV-3G-XMUX-Cx-R-13T,-5dBm	38	Audio generator						
	AV-3G-XMUX-Cx-R-C1xxx		SD->SD Aspect Ratio Conversion						
	AV-3G-XMUX-Cx-R-L-13T,-5dBm		SD/HD->SD/HD Aspect Ratio Conversion						
	AV-3G-XMUX-Cx-R-L-C1xxx		SD->HD Format Conversion						
19429	3GHD-CHO-2x3-G	44	HD->SD Format Conversion						
19431	3GHD-CHO-2x3-PB-G	44	HD->HD Format Conversion						
19425	3GHD-CHO-2x4	44	50Hz->60Hz/60Hz->50Hz						
19427	3GHD-CHO-2x4-PB	44	Standard optical receiver						
18088	FRS-HD-CHO	44	Long haul optical reviver						
21243	ASI-CHO-2x1-PB	45	1310nm -7.5/-5dBm optical transmitter						
19729	PGM-HD-2x1-PB	45	0dBm, CWDM optical transmitter						
11169	HDSDI-CHO-2X1		0dBm, DWDM optical transmitter						
19221	HDSDI-CHO-2X1-PB		+5dBm, DWDM optical transmitter						
11388	SDI-CHO-2X1		SD-SDI						
19220	SDI-CHO-2x1-PB		HD-SDI						
			3G-SDI						
			DVB-ASI						
			Passive bypass relay/loop						
			AES						
			Analog Video						
			Analog audio						
			GPI						
			RS-422 data						
			10/100Base-T						
			10/100/1000Base-T						
			10GbE						
			SD-SDI						
			HD-SDI						
			3G-SDI						
			DVB-ASI						
			AES						
			Analog Video						
			Analog audio						
			GPI						
			RS-422 data						
			10/100Base-T						
			10/100/1000Base-T						
			10GbE						

Flashlink Product Function Matrix

																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

Frame

FLASHLINK 2RU FRAME

Compact and comprehensive



10 module slots

- Mix and match modules according to your needs
- All cabling at the rear
- A fully functioning 16-channel CWDM system in only 2RU with dual converters

Easy configuration

- Short time to get on air

No fans

- Low power consumption means that the most common single point of failure has been removed; the fans

Two power supply slots

- Single or redundant, AC, DC or a mix

Hot-swappable architecture

- Shortened replacement times due to hot-swapping of modules and front loading power supplies
- No re-cabling needed for module replacement/re-configuration
- No electrical disturbance on other modules during hot-swapping, particularly important in on-air situations

Comprehensive control and monitoring

- Status monitoring through front LEDs, GPI and RS422 simultaneously
- Address setting of each frame allows for simultaneous control of 8 frames
- SNMP—Simple Network Management Protocol support for use with larger network management systems is standard on all modules
- Multicon GYDA system controller provides Web interface/SNMP for all modules connected to the controller at a remote location
- Remote configuration and monitoring saves time and makes trouble-shooting easier

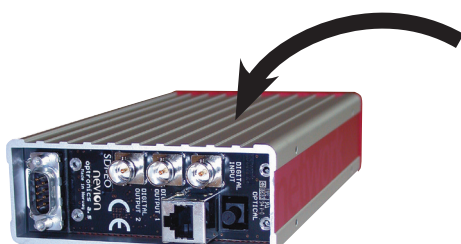
Enclosures

N-BOX

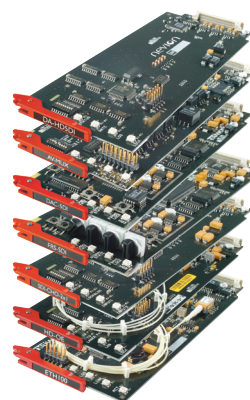
N-BOX is an ultra-compact, ruggedized and cost effective housing for Flashlink modules.

The same Flashlink modules and backplanes can be used in the Flashlink FR-2RU-10-2 frame and in N-BOX. This allows for easy migration and system expansion from N-BOX to the Flashlink FR-2RU-10-2 frame.

All Flashlink modules have the same feature set regardless of housing.



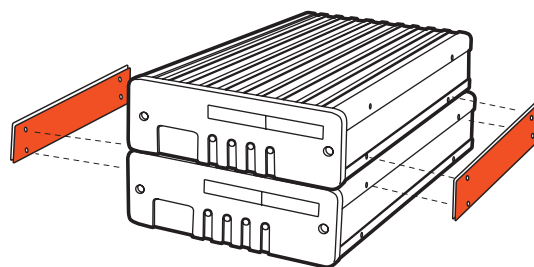
- Distribution amplifiers
- Embedders / de-embedders
- Video converters
- Audio converters
- Synchronization modules
- Automatic changeover modules
- EO and OE converters
- Datacom interfaces
- HD-SDI down converters



N-BOX-PL3

INTERCONNECTING PLATE

Interconnecting plate for N-BOX, allows stacking of N-BOX's, complete set with 2 plates and screws.



N-BOX-CABLE

CABLE

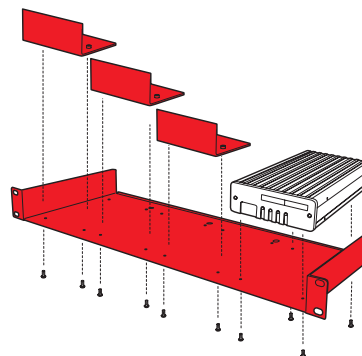
Cable for centralized powering of 4x N-BOX, includes break-out for Multicon GYDA control interface.



N-BOX-SH1RU

1RU SHELF

1RU shelf for up to 4x N-BOX, including 3 front panels for empty slots.



Enclosures

FLASHCASE II



Portable rugged enclosure for live outdoor events

The NeviON FlashCase II is a ruggedized fiber optical stagebox solution for live event productions. The FlashCase design is modular and it is customizable to fit each application. It supports all Flashlink modules, covering a complete range of 3G-SDI video and audio processing as well as dark fiber video, data and Ethernet transport.

The FlashCase II features an in-band management solution enabling control and monitoring of equipment in remote locations.

FLASHCASE II

- New improved housing for up to 5 Flashlink modules
- Compact and lightweight—fully populated weight is under 5 kilograms / 11 pounds
- Flexible back plane and fiber options with built-in GPI alarms remote monitoring and control with Web interface and SNMP supported through in-band management application
- Rugged water resistant housing for reliable performance in harsh environment
- CWDM support
- Internal fans and power supply monitoring

MOT- BOX



Lightweight mobile transport enclosure

MOT-BOX houses one Flashlink 2RU frame with modules for optical transport, signal processing and distribution.

Ruggedized design

With its ruggedized design it is the logical choice for all mission-critical mobile and outside broadcast applications.

Ideal for outside broadcast events

Nevion is known as the supplier of routing and signal transport solutions to all major sports events in the world. Events like the Olympic Games, FIFA World Cup, and Skiing World Cups have been broadcasted to millions of viewers with Nevion equipment. The MOT-BOX is the ideal solution for coverage of these applications and any other outside broadcast event.

Minimized spares holding

The MOT-BOX can be pre-configured to meet specific requirements, and it can be shared among several vans for news gathering, substantially lowering investment costs.

Since the modules of the mobile system are exactly the same as those used in the studio, the number of spares can be minimized.

Lightweight

The MOT-BOX is designed with rugged connectors like—XLRs for audio and a hermaphroditic (both male and female) fiber connector holding four fibers—allowing for use in outdoor environments. The low weight gives maximum mobility. One person can easily carry the MOT-BOX. In a fully loaded van close to exceeding its weight limits, the low weight of the MOT-BOX will be appreciated.

Robust fiber cable

The MIL specified fiber with hermaphroditic connectors has 4 fibers and can be delivered in lengths of 150m, 250m or 500m. The extremely robust fiber cable ensures a reliable connection.

Multiple fibers, multiple signals

The 4 fibers allow uni- or bidirectional video with associated audio and RS422 signals. By utilizing TDM (electrical multiplexing) and CWDM (optical multiplexing) the number of signals can be increased to meet specific demands.

MOT-BOX

- The most compact and lightweight 3RU mobile transport housing available
- Holds a Flashlink 2RU frame
- AC and DC power supply options
- Supports the full set of Flashlink modules
- Ruggedized connector backplanes for outdoor use
- MIL specified fiber cable reels with 4 fibers (optional)
- Breakout panels to various connectors like SC/PC or E2000 available
- Only 12kg fully populated with redundant power supply

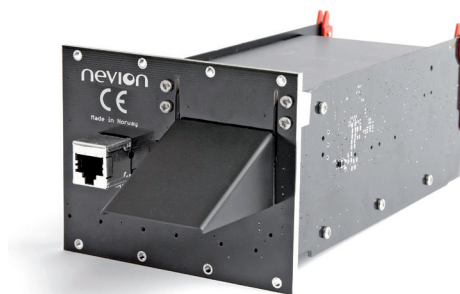
Active optical modules

EDFA-B-C 17dBm

ERBIUM DOPED FIBER AMPLIFIER FOR DWDM SYSTEMS

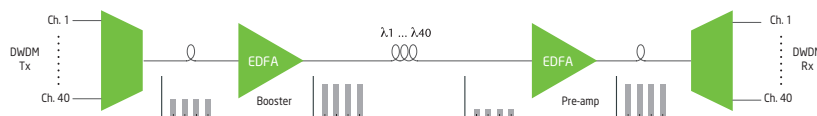
Application overview

The Flashlink EDFA-B-C 17dBm is an erbium doped fiber amplifier with a special control circuit making it better for SDI signals than normal EDFAs. It is a +17dBm booster that is typically used at the beginning or in the middle of a link. At the receiving end of a link, a low power / low noise preamp would typically be needed instead. The EDFA is unidirectional by nature, but can amplify up to 40 DWDM channels on a single fiber, at 100GHz spacing. Ideal gain flatness is achieved with input power close to the nominal input power. Various safety measures are implemented, like automatic shutdown if rear lid is opened to access the fiber connectors, or manual shutdown by the use of GPI, GYDA, RS422 or turning the safety key to the "off" position.



Key features

- Full-band EDFA covers all 40 C-band DWDM channels (1528 – 1562nm)
- Flat gain over whole spectrum
- Ideal for multistage and full-band amplification
- SC/UPC optical interface



WOS-2x2

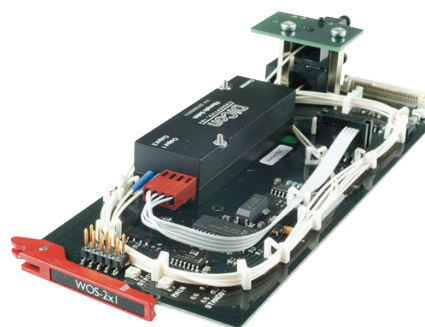
2X2 WIDEBAND OPTICAL SWITCH

Application overview

The Flashlink 2x1 wideband optical switch and 2x2 wideband optical switch are fiber optical SPDT (Single Pole Double Throw) changeover modules for use in optical networks. It comes as versions with latching and non-latching switch function.

Key features

- Optical redundancy switch
- Controlled via GPI alarm input, RS422 or GYDA-SC control system
- Tally output
- Latching and non-latching version available
- SC/UPC optical interface



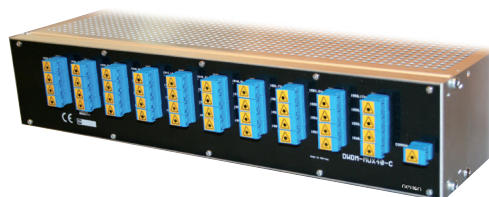
Passive optical modules

DWDM-40C

2RU 40CH LOW LOSS DWDM FILTER WITH UPGRADE PORT, CHANNEL 20-59

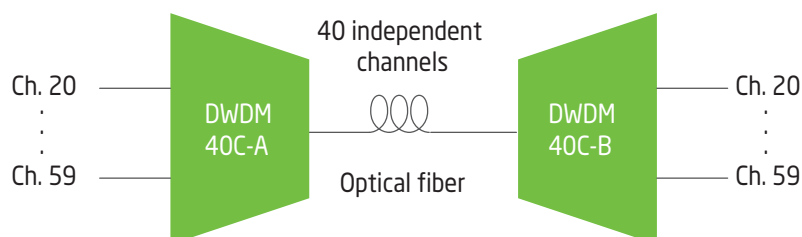
Application overview

The Flashlink DWDM-40C is a high performance 40-channel DWDM (Dense Wavelength Division Multiplexing) multiplexer and demultiplexer. The DWDM-40C has industry leading back-to-back insertion loss of 6 dB including connector losses, making it the ideal solution for broad-casters who need to squeeze every extra kilometer out of their DWDM, and for network owners that provide backhaul services for broadcasters and channel owners. DWDM significantly reduces the number of fibers needed thus reducing fiber lease cost.



Key features

- C-band 100GHz channel spacing according to ITU-T G.694.1 ensuring interoperability with other standards-based DWDM systems
- Flat spectrum allowing use with Erbium Doped Fiber Amplifiers (EDFAs)
- 2RU compact solution
- No maintenance needed, no power needed
- Signals can be uni- or bidirectional
- SC/UPC optical interface



DWDM-8C

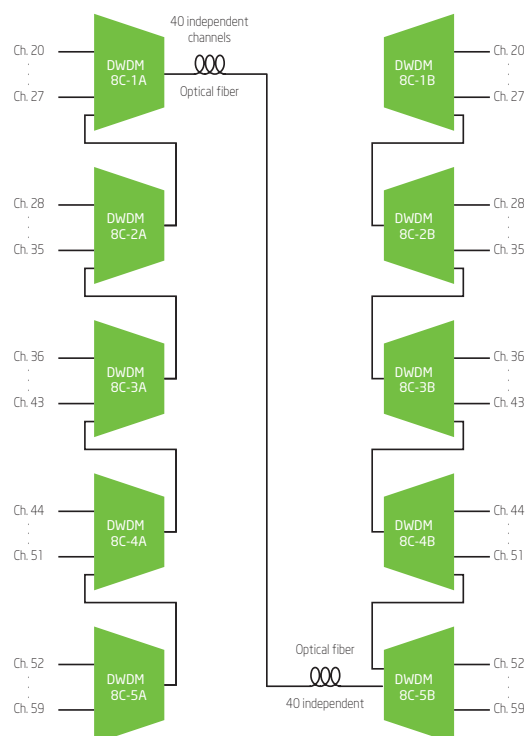
8CH LOW LOSS DWDM SYSTEM EXPANDABLE TO 40CH

Application overview

The Flashlink DWDM-8C is a set of optical modules for multiplexing and demultiplexing 100GHz spaced DWDM (Dense Wavelength Division Multiplexed) signals. The modules are divided into multiplexers and demultiplexers, which form a complimentary pair. There are a total of 5 different pairs, each with their own set of wavelengths and an upgrade port. By use of the upgrade port, up to 40 optical signals can be run over a single fiber. The units are passive and all-optical devices, requiring no power supply or control.

Key features

- Scalable to 40 channels
- Single slot in Flashlink frame
- Low insertion loss
- Passive device
- Bidirectional traffic
- SC/UPC optical interface



Passive optical modules

CWDM-18

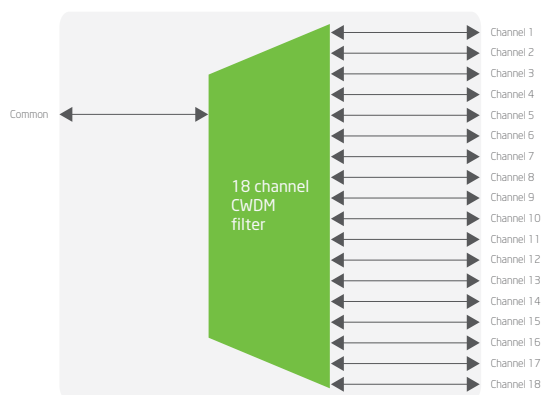
18CH LOW LOSS CWDM FILTER, 1270-1610NM

Application overview

The CWDM-18 is an optical multiplexer that can multiplex up to 18 CWDM sources on a single optical fiber for the Flashlink range with only 5.4dB link insertion loss. The CWDM filter has high channel isolation and can therefore be used in a bidirectional system. The module can be used as a multiplexer or demultiplexer, using a single slot in a Flashlink frame or as a standalone unit in an N-BOX. The CWDM-18 can be used together with the Flashlink optical converter, including the L-band, and with Flashlink Compact and VikinX Optical Sublime with CWDM SFP to transmit 18 signals over a single fiber.

Key features

- 18 channels per fiber
- 5.4dB link insertion loss
- Bidirectional
- Can be used as multiplexer or demultiplexer
- Occupies a single shot in a Flashlink frame
- Can be used standalone in an N-BOX
- SC/UPC optical interface



CWDM-8 MkII

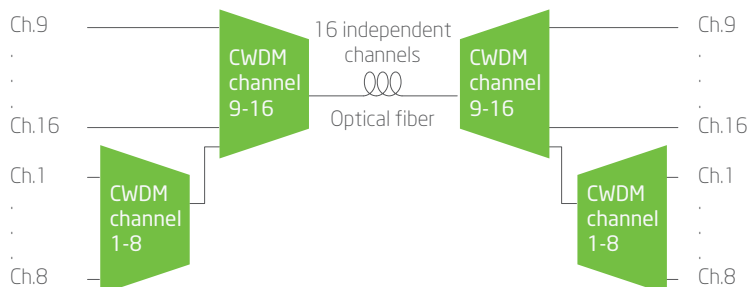
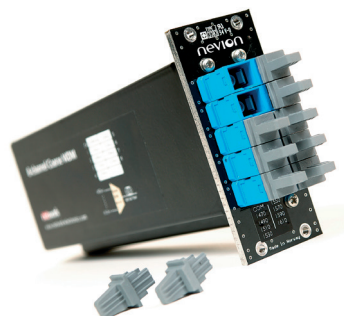
8CH LOW LOSS CWDM SYSTEM EXPANDABLE TO 16CH

Application overview

The CWDM system is based on 8-channel optical filters, with one upgrade port for the easy addition of more channels at a later stage. The wavelengths are chosen according to the ITU-T G.694.2 standard to ensure maximum interoperability. The wavelengths of the signal cards must correspond to the wavelengths of the optical filters, whereas the signal formats running on those wavelengths can be chosen to suit the signal transport needs. The filters come with SC/UPC connections.

Key features

- Low insertion loss max 3.5dBm end-to-end 8 channel system max 5.5dBm end-to-end 16 channel system
- High isolation allowing bidirectional traffic
- Up to 16 channels per fiber
- SC/UPC optical interface



WDM-2-MKII

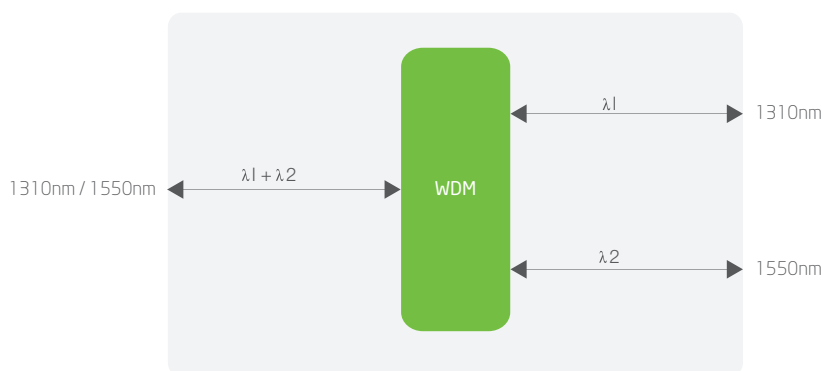
2CH WAVELENGTH DIVISION MULTIPLEXER FOR 1310/1550NM

Application overview

The WDM-2 is a 2 channel wavelength division multiplexer for 1310nm and 1550nm, combining the two wavelengths to a single fiber. The multiplexer is format, bitrate and direction agnostic, and enables bidirectional traffic of any format or bitrate on a single fiber.

Key features

- Low insertion loss
- Bidirectional
- Bit transparent
- Fully passive
- SC/UPC optical interface



WOC-X

WIDEBAND OPTICAL COUPLER SERIES

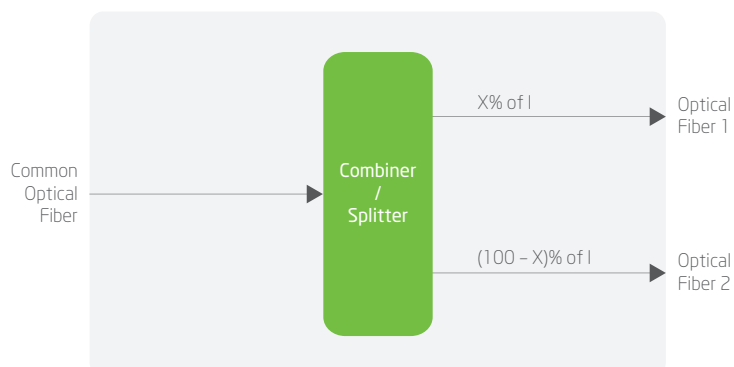
Application overview

The WOC-X series are wideband optical couplers/splitters covering 1260 – 1620nm suitable for both CWDM and DWDM applications. The optical couplers are cost-efficient building blocks in optical networks that allow the splitting of multiple signals transported over CWDM with one module into two redundant paths. The couplers are bidirectional devices.



Key features

- Wide optical band suitable for WDM, CWDM and DWDM
- Directivity better than 55dB
- Low insertion loss
- Available as dual 50/50, 90/10 and quad 25/25/25/25 coupler/split
- SC/UPC optical interface



Optical converters

3GHD-EO-D15xx

3GHD ELECTRICAL TO OPTICAL DWDM CONVERTER

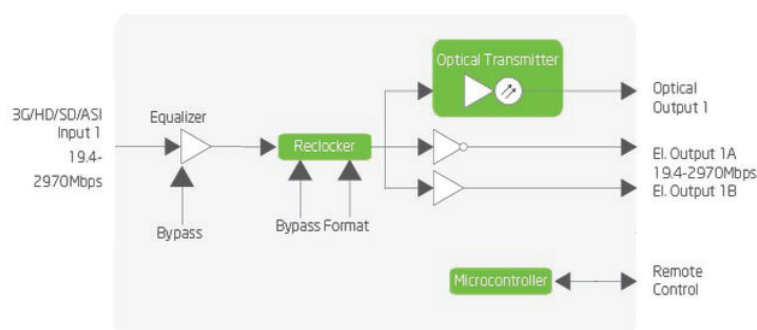
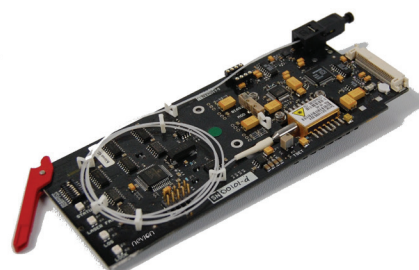
Application overview

The Flashlink 3GHD-EO-D15xx.xx is a single multi-bitrate electrical to optical converter module providing high performance media conversion for various signal formats from 19.4Mbps up to 2970Mbps. Unmatched signal accuracy, even in critical applications with pathological signal patterns makes the 3GHD-EO-D15xx.xx first choice for all optical transport demands.

The 3GHD-EO-D15xx.xx can transport all HD and SD signal formats in addition to DVB-ASI and SMPTE 310M. It performs electrical equalizing and signal reclocking, which is selectable on application. The open system platform of Nevion Flashlink system allows easy interoperability with third party fiber optical systems.

Key features

- +5dBm laser for extended reach
- Automatic input equalization
- Automatic reclocking of all video signals including DVB-ASI
- Automatic reclocker bypass of non-video signals


3GHD-EO-2-SFP

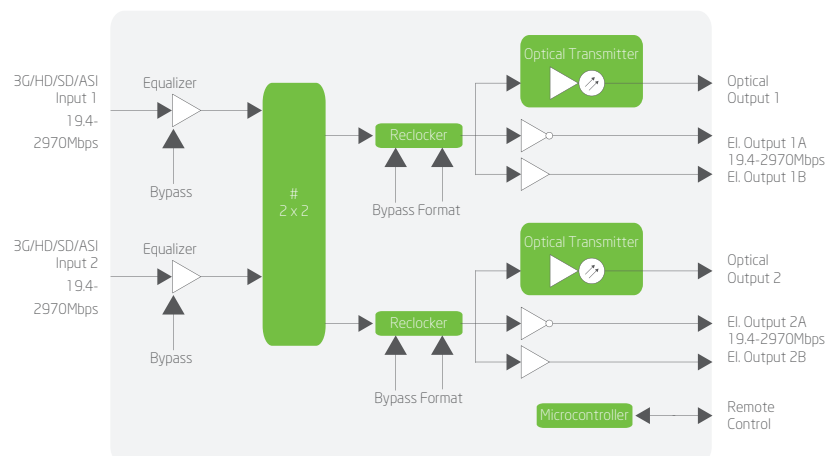
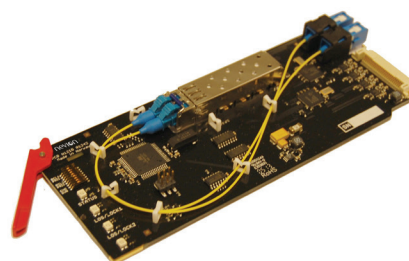
DUAL 3G/HD/SD-SDI ELECTRICAL TO OPTICAL CONVERTERS

Application overview

The Flashlink 3GHD-EO-2 is a dual multi-bitrate electrical to optical converter module providing high performance media conversion for various signal formats from 19.4Mbps up to 2970Mbps. Unmatched signal accuracy, even in critical applications with pathological signal patterns makes the 3GHD-EO-2 the first choice for all optical transport demands. The 3GHD-EO-2 can transport all HD and SD signal formats in addition to DVB-ASI and SMPTE 310M. It performs electrical equalizing and signal reclocking, which is selectable on application. High quality optical transmitters using FP or DFB lasers are suitable for short and medium haul applications. The open system platform of Nevion Flashlink system allows easy interoperability with third party fiber optical systems.

Key features

- Automatic change-over on inputs
- 2x2 input switch
- Support for CWDM and 13T
- Electrical 1x2 DA of both inputs
- Signal generator on loss of input for fiber breakage monitoring
- SFP based



3GHD-OE-2-SFP

DUAL 3G/HD/SD-SDI OPTICAL TO ELECTRICAL CONVERTER

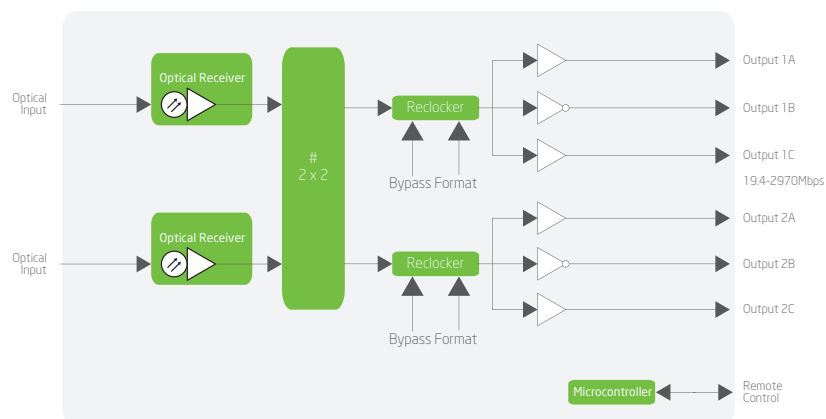
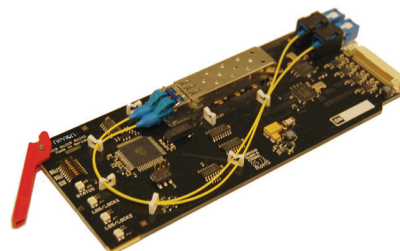
Application overview

The Flashlink 3GHD-OE-2 is a dual multi-bitrate optical to electrical converter module providing high performance media conversion for various signal formats from 19.4Mbps up to 2970Mbps. Unmatched signal accuracy, even in critical applications with pathological signal patterns makes the 3GHD-OE-2 the first choice for all optical transport demands.

The 3GHD-OE-2 can transport all HD and SD signal formats in addition to DVB-ASI and SMPTE 310M. It performs optical refreshing and signal reclocking, which is selectable on application.

Key features

- Automatic change-over on inputs
- 2x2 input switch
- SD/HD/3G reclocker
- 1x3 electrical DA per converter
- SFP based optics
- Available also with discrete optics for extended range
- Available as single channel



FC-3G-E0/OE-36

36 CHANNEL OPTICAL CONVERTER IN 1RU

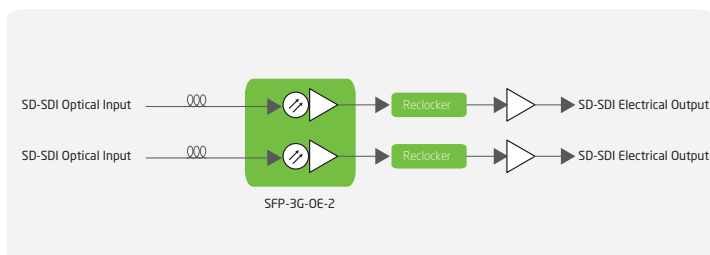
Application overview

Flashlink Compact is a 36 channel optical converter in 1 RU perfect for transporting multiple SD/HD/3G-SDI signals in-house or through campus. The product gives easy access to all optical SFP modules from the front of the chassis enabling easy upgrade of the system. In addition two optical 18 channel CWDM filters can be fitted in the front, allowing all signals to be transported over two fibers. With the electrical cabling at the back, the more fragile optical cabling are also separated from the rest of the cables ensuring easier and safer cable routing in the broadcast facility.

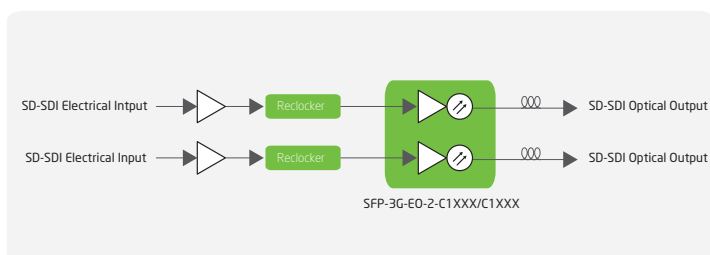


Key features

- High density, 36 channels on 1RU
- Built-in 2x 18 channel CWDM filters (optional)
- Nevion advanced SFP range supported
- Reclocking of 3G/HD/SD-SDI, DVB-ASI
- External redundant power supply
- Field replaceable fans
- SNMP and Web interface control and monitoring supported thru Multicon GYDA
- Signal status LED in front for each optical signal



FC-3G-OE



FC-3G-E0

Optical converters

FC-3G-E0/OE-28

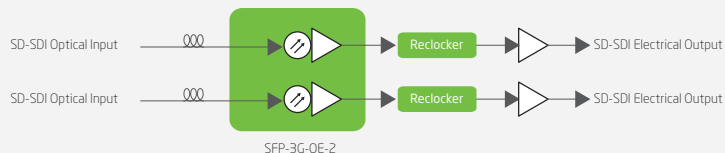
1RU 28CH OPTICAL CONVERTER PLATFORM

Application overview

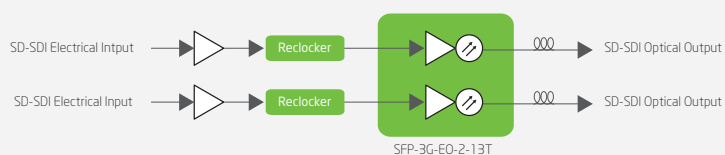
The Flashlink Compact is a 1RU multi-channel optical converter that is the perfect choice for transporting multiple SD-SDI/HD-SDI/3G-SDI signals in-house or through campus. The Flashlink Compact is available in five different versions with various optical in/out port configurations. All variants have options for redundant power supply and support Multicon GYDA configuration and monitoring. This solution overcomes the limitations of coaxial cable in inter/intra-facility optical fiber transport when transitioning from SD-SDI to HD-SDI/3G-SDI.

Key features

- Up to 28 channels in 1RU
- 18ch CWDM support
- Long haul optical receiver support
- Low power
- Ultra compact
- Redundant power supply option
- SNMP and WEB interface for configuration and alarm



FC-3G-OE



FC-3G-E0

Data transport

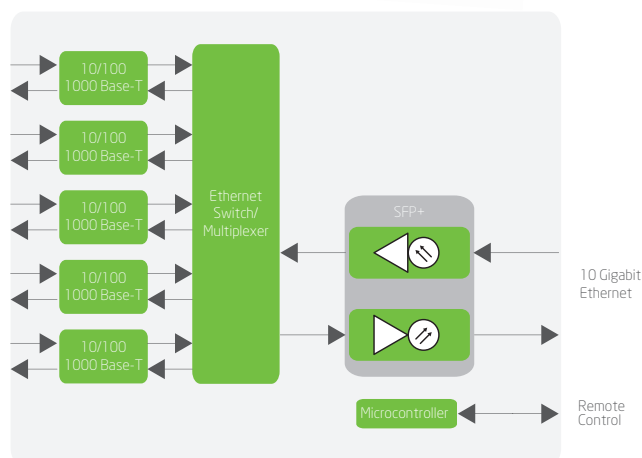
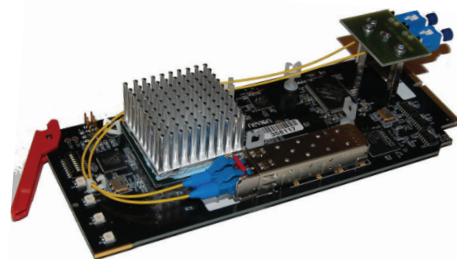
ETH1000-SW-10G GIGABIT ETHERNET SWITCH WITH 10-GIGABIT OPTICAL UPLINK

Application overview

The ETH1000-SW-10G provides a highly integrated solution for aggregating and transporting up to 5 Gigabit Ethernet (GbE) signals over an 10 Gigabit Ethernet or fiber-based network. The 5 GbE ports are aggregated onto a single 10-Gigabit Ethernet (10GbE) network facing port which can be populated with Nevia SFP+ modules to facilitate optical transmission over a range of distances and optical wavelengths. All Gigabit Ethernet ports can auto-negotiate 10/100/1000 Base-T (full duplex) signals and the aggregation onto 10GbE can be in either multiplexed mode or switched mode.

Key features

- 2 slot solution for Nevia Flashlink frame
- 5 auto-negotiating Gigabit Ethernet ports
- 10-Gigabit Ethernet aggregation port
- SFP+ module for user selectable optical interfacing
- Supporting VLAN
- Time division multiplexer mode for transparent transport
- Separate bandwidth limitation of each port
- Supporting jumbo frames upto 9k



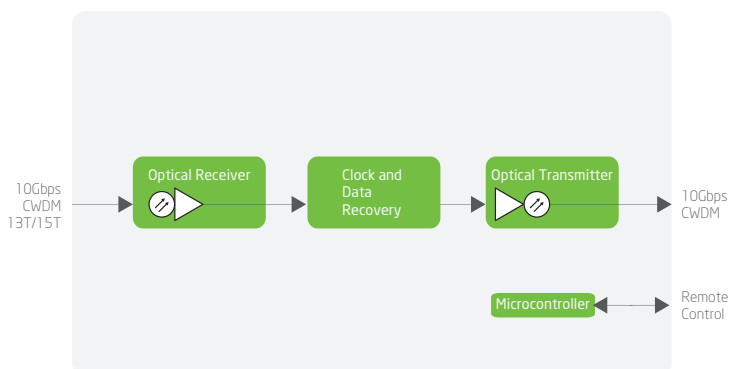
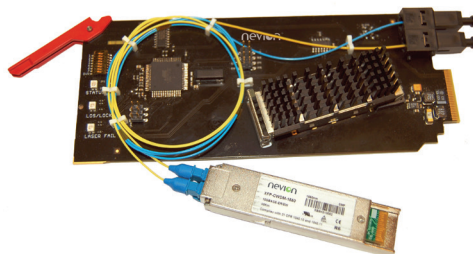
10G-TR-C1XXX OPTICAL TO OPTICAL 10GBPS CWDM TRANSPONDER

Application overview

The Nevia Flashlink 10G-TR-C1XXX is a 10Gbps optical transponder for wavelength conversion applications.

The modular design with the ability to quickly replace a whole unit with its optical modules attached makes the 10G-TR-C1XXX the first choice for mission critical applications. The product supports all 18 CWDM channels, and is available in 10km, 40km and 70km versions.

A typical application converts the optical outputs from 10GbE switches to CWDM wavelengths, enabling transport over a Flashlink CWDM network.



Key features

- 18 channel CWDM support
- 10km, 40km and 70km option
- SC/UPC optical interface

Data transport

ETH1000-SW-COM GBE SWITCH WITH IP ENCAPSULATION OF RS485/422/232 AND GPI

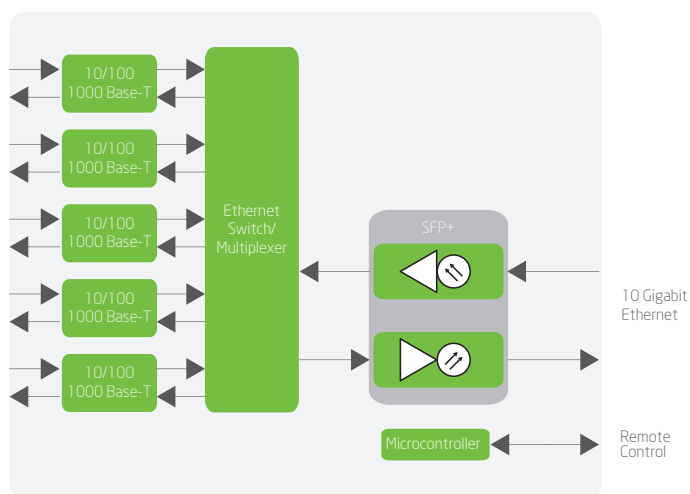
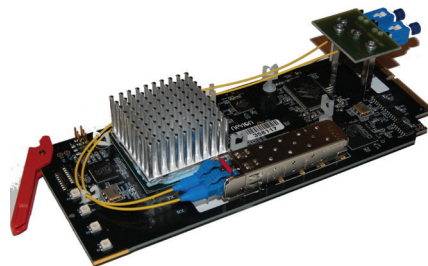
Application overview

The ETH1000-SW-COM is a true IP networking card for multiple RS422, RS485, RS232, GbE and GPIs providing a compact and powerful solution for device control. The IP protocol allows central control of multiple devices, such as camera control. This control removes the need for additional data routers. The card can also be used for point-to-point optical transport of data.

Different backplane options are available to fit the amount of connectors to the application.

Key features

- Optical and electrical GbE ports
- Multiple RS422, RS485 and RS232 ports for transport for device control
- Multiple GPI I/O ports for transport for tally and joystick
- Supports optical or electrical network topology
- Built-in GbE switch



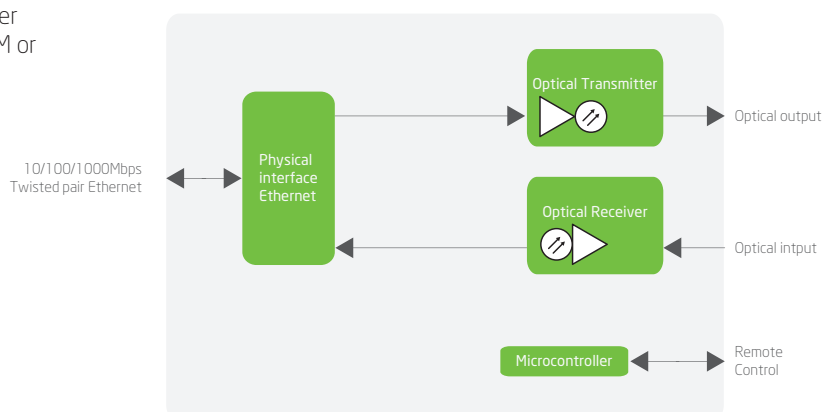
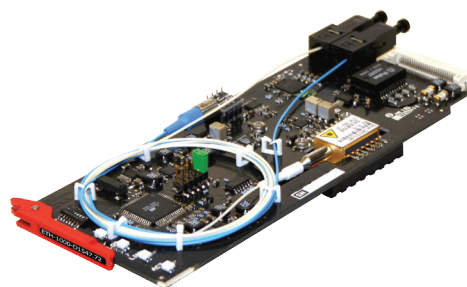
ETH1000 GBE MEDIA CONVERTER WITH OPTICAL TRANSCEIVER

Application overview

The Flashlink ETH1000-MKII is a 10/100/1000 Base-T to 1000 Base-X media converter module. The module converts a 10/100/1000Mbps Ethernet signal on copper to 1000Mbps optical on fiber suitable for medium haul applications. The module has one electrical Ethernet port, and one optical fiber transceiver port (receiver fiber connector and transmit fiber connector). The speed on the electrical connector is dependent of the DIP switch setting or GYDA control. Speed will, upon link connection, automatically be set at the highest possible speed. User can independently enable or disable 10Mbps, 100Mbps or 1000Mbps. The fiber link can be used in one or two fiber installations, or occupy two wavelengths in a WDM, CWDM or DWDM installation.

Key features

- 10 Base-T/100 Base-Tx/1000 Base-T auto sensing, compliant with IEEE 802.3 and IEEE 802.3u, auto MDI/MDI-X
- CWDM and DWDM transmitter option
- Receiver sensitivity better than -25dBm
- Receiver sensitivity better than -25dBm
- Supporting jumbo frames upto 9k



ETH100

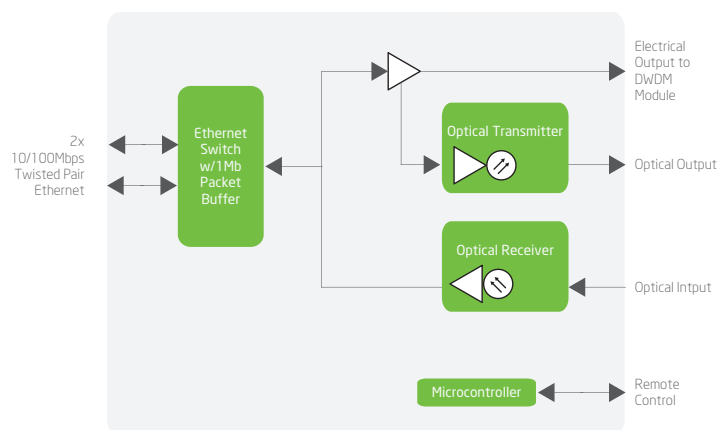
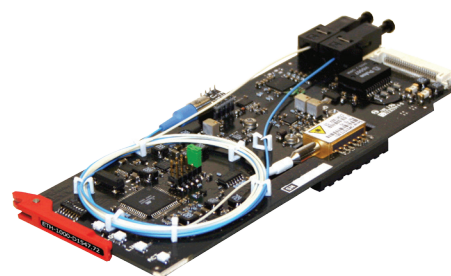
10/100MBPS ETHERNET 3 PORTS SWITCH WITH OPTICAL TRANSCEIVER

Application overview

The Flashlink ETH100 is a 10 Base-T/100 Base-TX to fiber converter module in the Network Flashlink family. The module converts a standard 10 or 100 Mbit/s Ethernet signal on copper to fiber suitable for long haul applications. The module has two electrical Ethernet ports. The ports are independent of each other, and can be used for 10 or 100Mbit/s Ethernet. Both ports can be used simultaneously. The fiber link is always 100Mbit/s, and can be used in one or two fiber installations, or occupy two wavelengths.

Key features

- 1310nm, -7.5dBm and CWDM, 0dBm lasers
- Electrical output for use in DWDM systems
- Two electrical inputs
- Onboard switch
- Sensitivity better than -32dBm



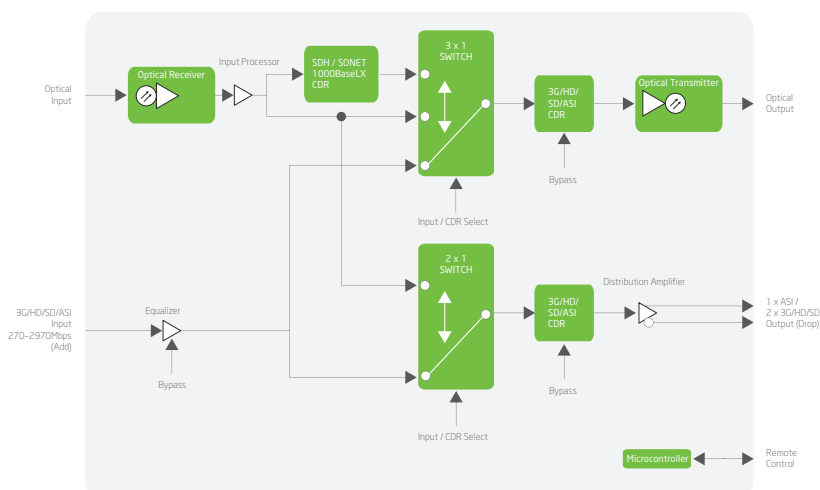
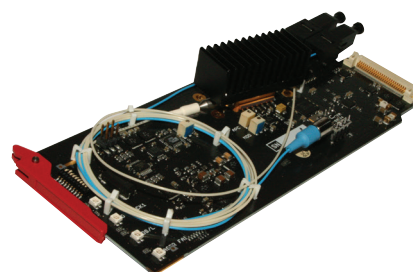
MULTIRATE OPTICAL CONVERTER AND TRANSPONDER WITH OPTICAL RECEIVER AND DWDM TRANSMITTER

MR-TR-3G-D15xx

Application overview

MR-TR-3G supports bidirectional signals, thereby allowing for full add/drop capabilities in a CWDM or DWDM ring structure. MR-TR-3G allows for up to 40 uncompressed 3G-SDI signals on a single strand of fiber using DWDM. The product features a long haul receiver that allows for >100km transport without regeneration of the signal.

The open system platform of Nevion's CWDM and DWDM multiplexing technology allows easy interoperability with third party fiber optical systems.



Key features

- Bidirectional SD/HD/3G-SDI converter
- Video, data and telecom with the same module
- DWDM and CWDM option
- Add/drop capabilities
- Long haul receiver
- Dual 3G/HD/SD-SDI output
- SC/UPC optical interface

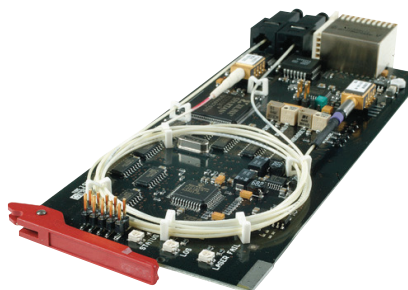
Data transport

D-422-MG

RS422 DATA OPTICAL TRANSCEIVER WITH GPI MULTIPLEXER

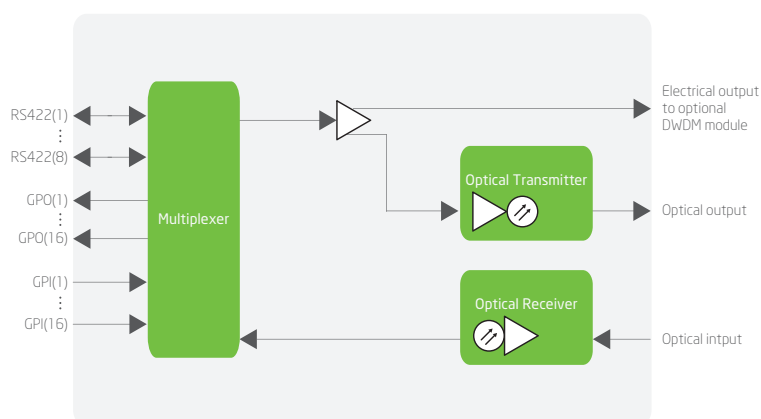
Application overview

The Flashlink D-422-MG module provides an economical solution for transmitting RS422 and GPI data signals via fiber optic cable. A pair of D-422-MG allows bidirectional transmission of up to 8 RS422 and 16 GPI data lines for distances over 60km. When access to fiber is limited, D-422-MG can be combined with the Flashlink optical multiplexing WDM, CWDM or DWDM products. The D-422-MG module multiplexes up to 8 RS422 and 16 GPI inputs into an outgoing data stream while at the same time demultiplexing an incoming data stream into 8 RS422 and 16 GPI outputs.



Key features

- 8 x RS422 bidirectional data streams
- 16 x GPI in each direction
- Ultra low latency
- CWDM laser type is optional
- Electrical output for use in DWDM system



Multiplexing

HD-TD-10GMX-6

6CH HD-SDI TIME DIVISION MULTIPLEXER

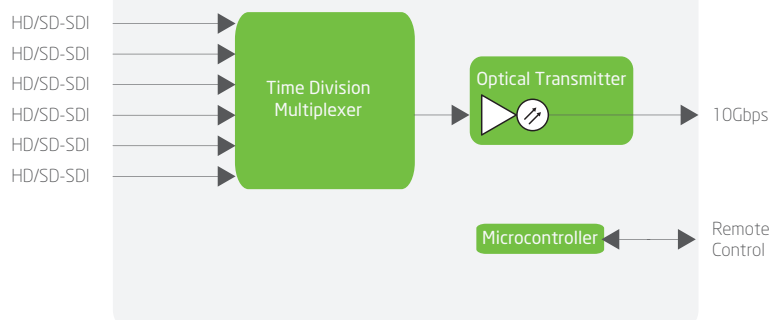
Application overview

The HD-TD-10GMX-6 is a high density 6 channel HD/SD-SDI multiplexer into a 10Gb/s optical stream. All streams can be asynchronous to each other allowing multi-standard video transport over the same fiber. The products optical converters are SFP based allowing for minimum spare parts. CWDM and long haul optics are available as options.



Key features

- 6x HD/SD-SDI over 1 wavelength
- Transparent
- Low latency
- Supporting 18ch CWDM



HD-TD-10GDX-6

6CH HD-SDI TIME DIVISION DEMULTIPLEXER

Application overview

The HD-TD-10GDX-6 is a high density 6 channel HD/SD-SDI demultiplexer from a 10Gb/s optical stream. All streams can be asynchronous to each other allowing multi standard video transport over the same fiber. The products optical converters are SFP based allowing for minimum spare parts.



Key features

- 6x HD/SD-SDI over 1 wavelength
- Transparent
- Low latency
- Option for long haul receiver

Multiplexing

SDI-TD-3GMX-5

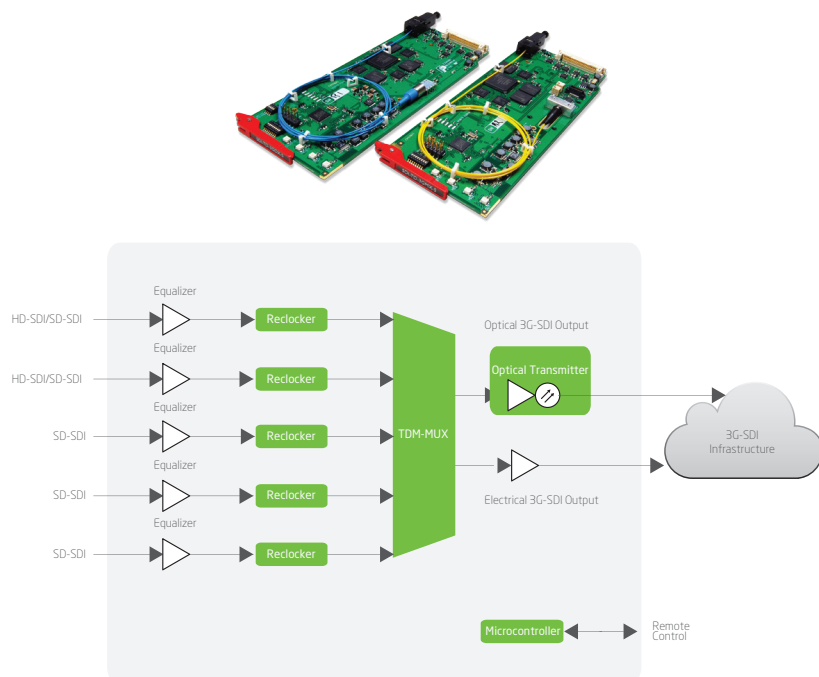
2CH HD/SD + 3CH SD TIME DIVISION MULTIPLEXER

Application overview

This Flashlink 3G-SDI time division multiplexer offers transport of synchronous or asynchronous SD-/HD-SDI signals over a 3G-SDI infrastructure. The 3G-SDI TDM signal is a fully compliant SMPTE 1080p level B signal stream. The card can be configured to multiplex two HD-SDI signals into one 3G-SDI, or four SD-SDI and one HD-SDI signals into 3G-SDI. By combining these new modules with the existing SDI-TD-MUX-4 / SDI-TD-DMUX-4, one can transport eight SD-SDI signals over one 3G-SDI link. The product has optical transmitter options for 13T, CWDM and DWDM.

Key features

- 4 x SD-SDI + 1 x HD-SDI or 2 x HD into 3G-SDI
- Transport of up to 8 x SD-SDI over 3G-SDI when combined with SDI-TD-MUX-4/SDI-TD-DMUX4
- Fully SMPTE compliant 3G-SDI TDM link
- Bit transparent asynchronous transport
- Optional optical transmitter supporting 13T, CWDM and DWDM



SDI-TD-3GDX-5

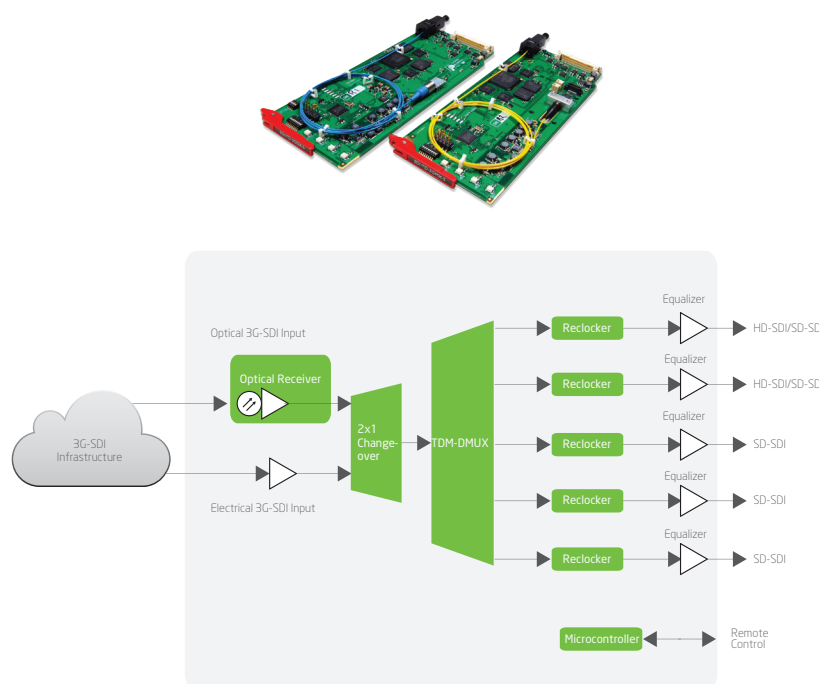
2CH HD/SD + 3CH SD TIME DIVISION DEMULTIPLEXER

Application overview

This Flashlink 3G-SDI time division demultiplexer offers transport of synchronous or asynchronous SD-/HD-SDI signals over a 3G-SDI infrastructure. The 3G-SDI TDM signal is a fully compliant SMPTE 1080p level B signal stream. The card can be configured to multiplex two HD-SDI signals into one 3G-SDI, or four SD-SDI and one HD-SDI signals into 3G-SDI. By combining these new modules with the existing SDI-TD-MUX-4 / SDI-TD-DMUX-4, one can transport eight SD-SDI signals over one 3G-SDI link. The product has options for both short haul and long haul optical receiver.

Key features

- 4 x SD-SDI + 1 x HD-SDI or 2 x HD into 3G-SDI
- Transport of 8 x SD-SDI over 3G-SDI when combined with HD-TDM
- Fully SMPTE compliant 3G-SDI TDM link
- Optional optical short haul or long haul receiver



SDI-TD-MUX-4

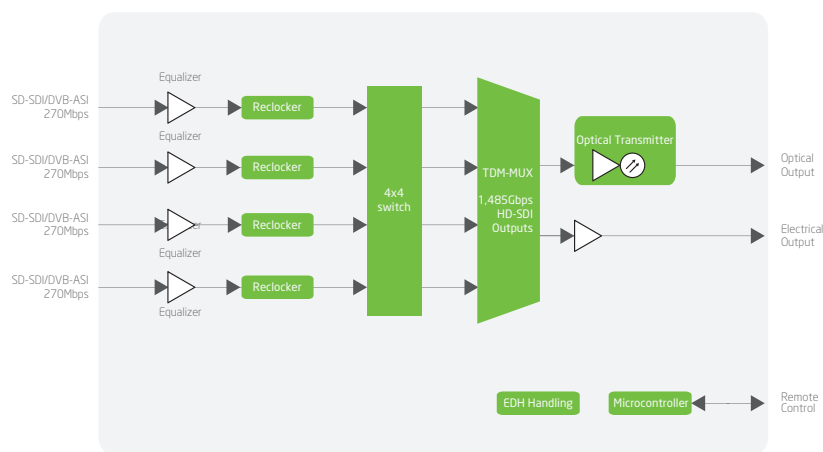
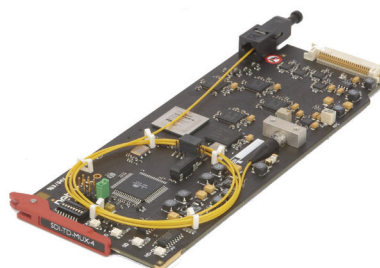
4CH 270MB/S TIME DIVISION MULTIPLEXER

Application overview

The Flashlink SDI-TD-MUX-4 is a compact 4 channel time division multiplexer for SD-SDI, SDTI, DVB-ASI and/or 270Mbps raw serial streams. Each output from the demultiplexer is a bit transparent copy of its respective input of the multiplexer. The multiplexer is also fully asynchronous, regenerating the exact timing of the inputs for all four streams.

Key features

- 4-Channel SDI/ SDTI/ DVB-ASI/ 270Mbps time division multiplexer
- Multiplexed output is fully HD-SDI compliant and can be transported over any HD-SDI video network
- Complies with SMPTE 346M-2000 standard for TDM of video, audio, data over HD
- Uninterrupted signal transport by loss of any input feed at transmitter (MUX)
- Fully asynchronous



SDI-TD-DMUX-4

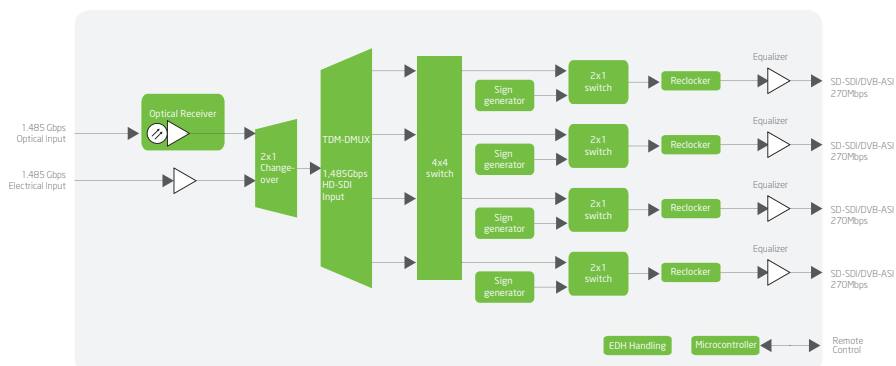
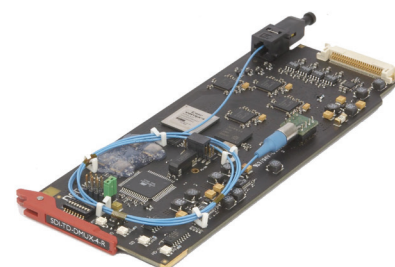
4CH 270MB/S TIME DIVISION DEMULTIPLEXER

Application overview

The Flashlink SDI-TD-DMUX-4 is a compact 4 channel time division demultiplexer for SD-SDI, SDTI, DVB-ASI and/or 270Mbps raw serial streams. Each output from the demultiplexer is a bit transparent copy of its respective input of the multiplexer. The demultiplexer is also fully asynchronous, regenerating the exact timing of the inputs for all four streams.

Key features

- 4-Channel SDI/ SDTI/ DVB-ASI/ 270Mbps time division multiplexer
- Multiplexed output is fully HD-SDI compliant and can be transported over any HD-SDI video network
- Complies with SMPTE 346M-2000 standard for TDM of video, audio, data over HD
- Uninterrupted signal transport by loss of any input feed at transmitter (MUX)
- Fully asynchronous



Multiplexing

AES-VMUX

MULTI-CHANNEL AUDIO OVER SDTI MULTIPLEXER

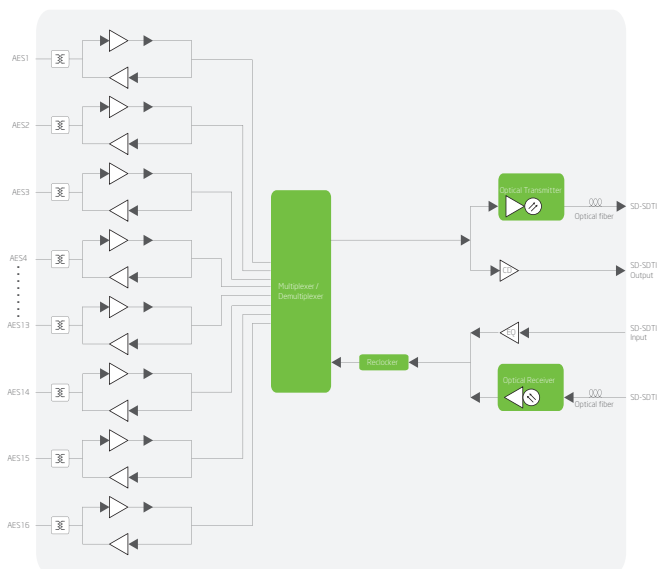
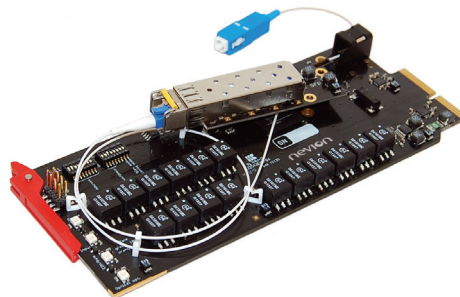
Application overview

The AES-VMUX is an audio multiplexer that enables low latency audio networks. The AES-VMUX is used to transport a large number of digital audio signals and can flexibly both add and drop audio channels on the same board ensuring an optimized fit to need. Its multiplex design is optimized for ensuring minimum latency in the audio network, by adding delay only at ingest point. The audio signals are transported completely asynchronously and bit transparently ensuring optimized audio quality and enabling transport of intercom systems utilizing AES.

The board supports both optical and electrical networks, and can utilize existing SDI network for transport. The card is easy to use with minimum setup needed and broadcast centric control enabled thru Nevion's control panel support.

Key features

- Up to 64 AES over SDTI per fiber
- Supporting ring network topologies
- Fully asynchronous audio transport of all channels
- 16 configurable AES ports
- Ingests up to 16 AES signals on one card
- All 64 channels on the multiplex available to any of the 16 AES ports
- CWDM support
- Optics removable with main board without detaching fiber connections



RF over fiber

LB-E0

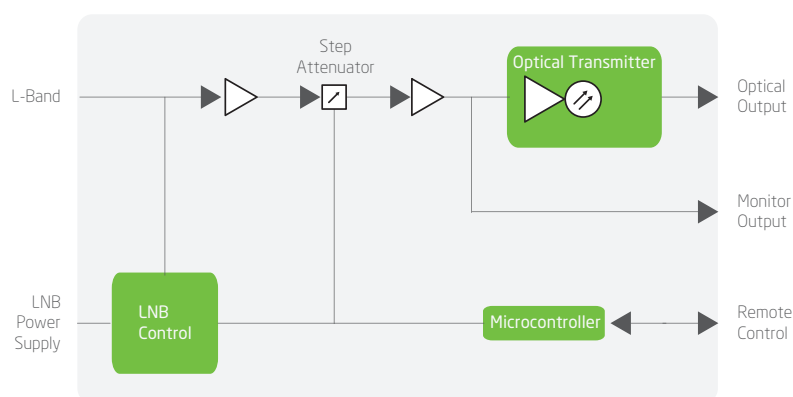
L-BAND ELECTRICAL TO OPTICAL CONVERTER

Application overview

The Flashlink LB-E0 is an electrical to fiber optical converter module providing high performance media conversion for analog signals with bandwidth from 950 to 2150 MHz. This state of the art unit offers low noise amplifiers and a high quality laser diode technology with low distortion and capable of amplifying large signal levels. The attenuator is a high performance digitally controlled device, giving low distortion and flat frequency response. The Flashlink LB-E0 is therefore the first choice for all optical transport demands on L-band.

Key features

- CWDM support
- 16dB/50km budget
- LNB control
- Automatic and manual gain control
- Monitoring output
- SNMP support
- Web control and monitoring
- Full DIP switch control for stand-alone applications



LB-OE

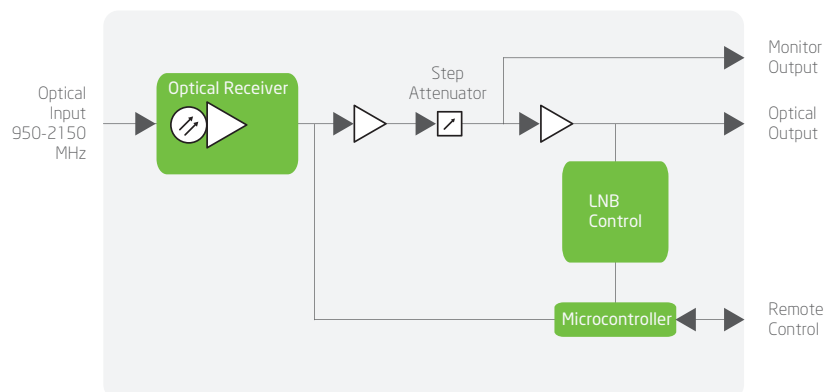
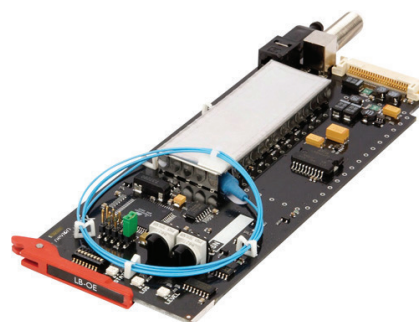
L-BAND OPTICAL TO ELECTRICAL CONVERTER

Application overview

The Flashlink LB-OE is an optical to electrical converter module providing high performance media conversion for analog signals with bandwidth from 950 to 2150 MHz. This state of the art unit offers a high sensitivity PIN diode technology followed by amplifiers with low noise, low distortion and capable of amplifying large signal levels. The attenuator is a high performance digitally controlled device, giving low distortion and flat frequency response. The LB-OE is therefore the first choice for all optical transport demands on L-band.

Key features

- 16dB/50km budget
- Automatic and manual gain control
- Monitoring output
- SNMP support
- Web control and monitoring
- Full DIP switch control for stand-alone applications
- GPI output for card and signal alarms



Format Conversion

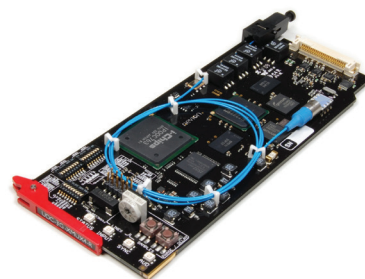
UDC-3G-XMUX4+

3G-SDI UP/DOWN/CROSS CONVERTER WITH FRAME SYNCHRONIZER AND EMBEDDER/DE-EMBEDDER

Application overview

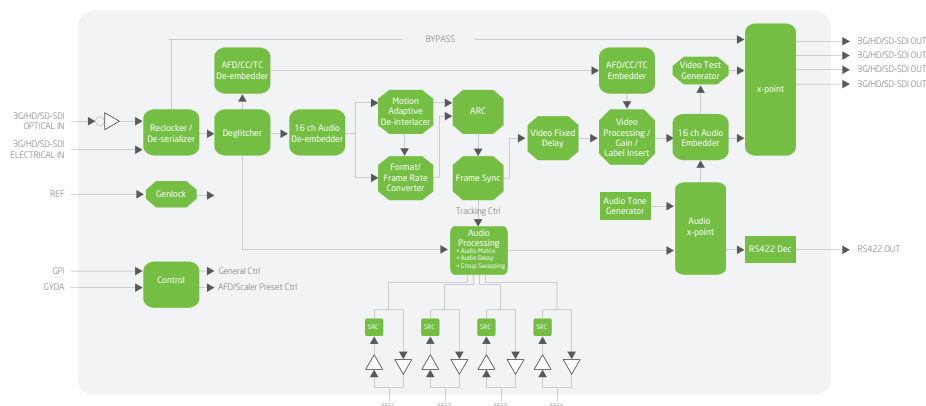
Nevion's all-in-one signal processing platform supports standard conversion and format conversion between 50Hz and 59.94Hz/60Hz frame rates and 525i/625i/720P/1080i/1080P formats.

The built-in frame synchronizer with Deglitcher and the audio embedder/de-embedder capabilities make the UDC-3G-XMUX4+ the preferred choice for format conversion applications. When used in front of or after a routing switcher the output is always error-free, even when switching between different input formats. Additionally, all synchronous switching is seamlessly presented at the output of the UDC-3G-XMUX4.



Key features

- Motion adaptive de-interlacing
- 50/60Hz frame rate conversion
- Full AFD support
- Audio de-embedding/embedding with delay and processing
- Audio routing with processing of embedded audio
- Deglitching of video input ensuring error-free output



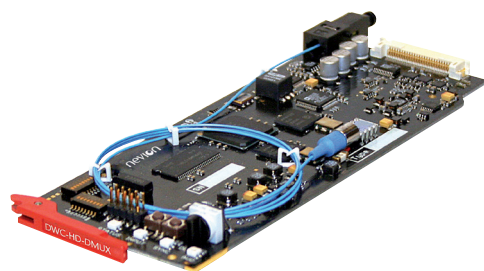
DWC-HD-DMUX

HD-SDI TO SD-SDI DOWN CONVERTER WITH DIGITAL AND ANALOG VIDEO AND AUDIO OUTPUTS

Application overview

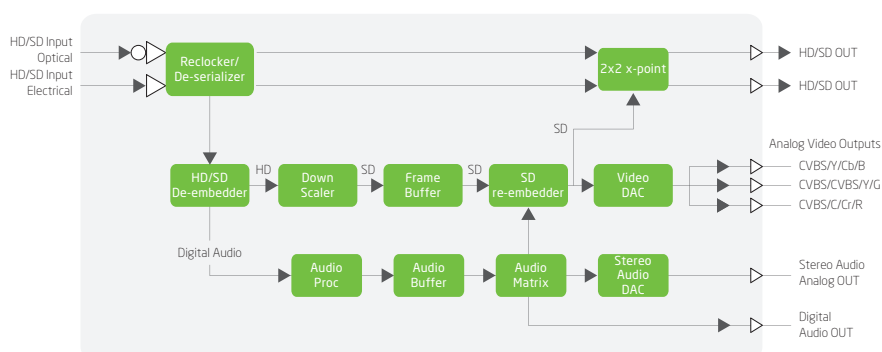
The DWC-HD-DMUX is a full featured down-converter, from HD-SDI to SD-SDI, with CVBS monitoring and audio decoding. This down-converter can play a part in a wide range of video transportation networks. Cutting-edge algorithms are used ensuring that the unit provides a very high feature/cost ratio.

The DWC-HD-DMUX combines both the feature-set and industry leading reliability that the industry expects from the Nevion's Flashlink range, which is why more and more broadcasters routinely rely on Flashlink products.



Key features

- Broadcast quality HD to SD down converter
- 12 bit D/A video converter
- Audio de-embedding of any embedded audio channels to audio outputs
- Optional optical receiver
- 3 analog video outputs supporting 3x CVBS, YCbCr, RGB or S-video



ARC-SD-XMUX4 SD-SDI ASPECT RATIO CONVERTER

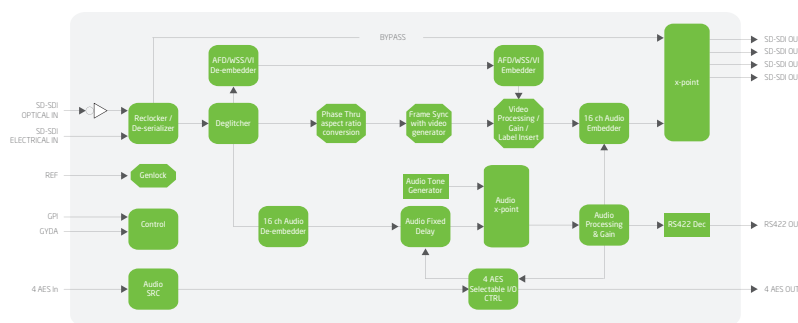
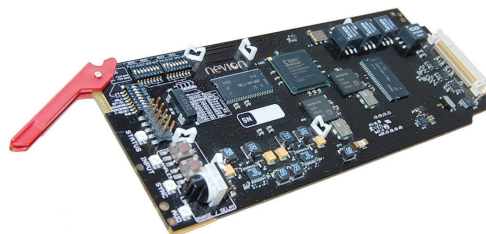
Application overview

The Flashlink ARC-SD-XMUX4 converts the aspect ratio of an SD-SDI signal. The module instantaneously changes the scaling during the vertical blanking period. The module addresses the need to convert between standard 4:3 and widescreen 16:9 formats employed by different digital TV standards. Flexible aspect ratio control is available for either 4:3 or 16:9.

The ARC-SD-XMUX4 small form factor makes the ARC-SD-XMUX4 ideal for use with SD cameras (typically in an N-BOX housing). 4 x bidirectional AES ports for audio embedding and de embedding are also available.

Key features

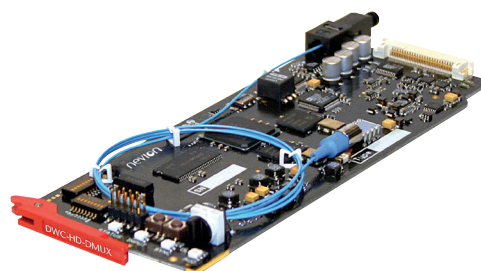
- Automatic and user configurable modes of operation
- Full AFD support
- Audio de-embedding/embedding with delay and processing
- Audio routing with processing of embedded audio
- Deglitching of video input ensuring error-free output



ARC-SD-DMUX SD-SDI ASPECT RATIO CONVERTER WITH ANALOG AND DIGITAL VIDEO AND AUDIO OUTPUTS

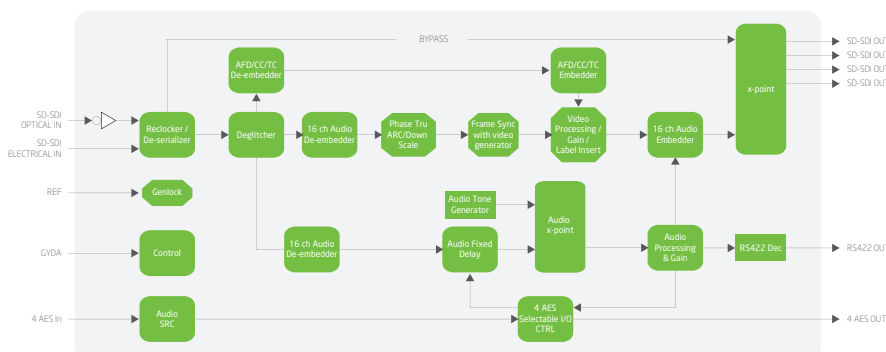
Application overview

The Flashlink ARC-SD-DMUX converts the aspect ratio of a SD-SDI signal. The module instantaneously changes the scaling during the vertical blanking period. The module addresses the need to convert between standard 4:3 and widescreen 16:9 formats employed by different digital TV standards. Flexible aspect ratio control is available for either 4:3 or 16:9. The ARC-SD-DMUX has applications in both contribution and distribution networks. Its small form factor makes the ARC-SD-DMUX ideal for use with SD cameras (typically in an N-BOX housing). An analog monitor output is also available for viewing the converted video shots. This makes the card a powerful tool for small-scale productions.



Key features

- Automatic and user configurable modes of operation
- Full AFD support
- 12 bit D/A video converter
- Audio de-embedding of any embedded audio channels to audio outputs
- Optional optical receiver
- 3 analog video outputs supporting 3x CVBS, YCbCr, RGB or S-video



Synchronization

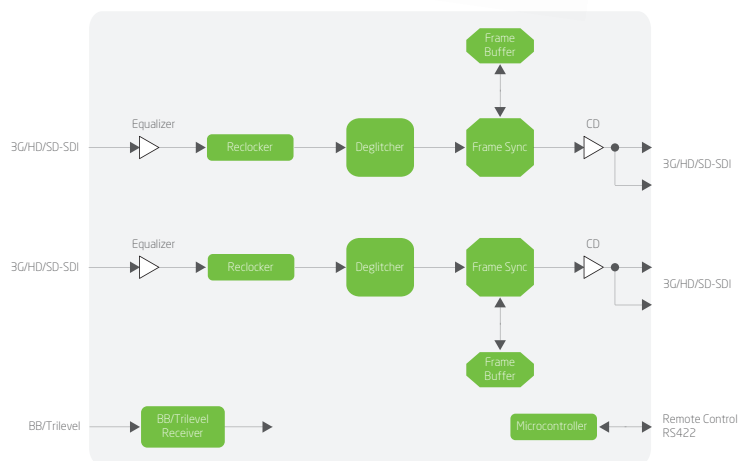
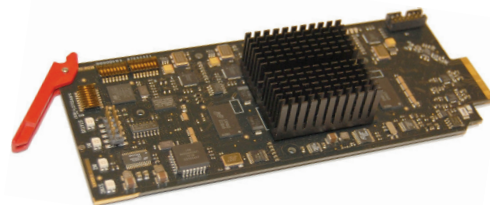
FRS-3G-DUAL

DUAL 3G-SDI FRAME SYNCHRONIZER

Application overview

The Flashlink FRS-3G-DUAL is a high density frame synchronizer module holding two 3G-SDI frame synchronizers. The onboard deglitcher removes any glitches from switching and ensures error-free video outputs making the module ideal for applications in conjunction with video routers.

The module can be configured and monitored through SNMP or a Web interface when connected to the Flashlink controller Multicon GYDA. The main features are also available through DIP switches enabling manual configuration of the module.



Key features

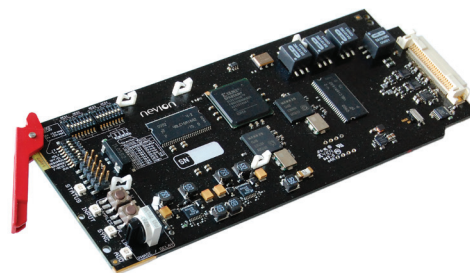
- SD/HD/3G-SDI support (level A only)
- Dual frame synchronizer
- Up to 8 frames delay per channel
- Deglitcher ensures error free outputs
- 2 3G/HD/SD-SDI inputs
- 4 3G/HD/SD-SDI compliant outputs
- 1 sync input supporting tri-level and black & burst

HD-SDI FRAME SYNCHRONIZER WITH DIGITAL AUDIO EMBEDDER/DE-EMBEDDER

FRS-HD-XMUX4

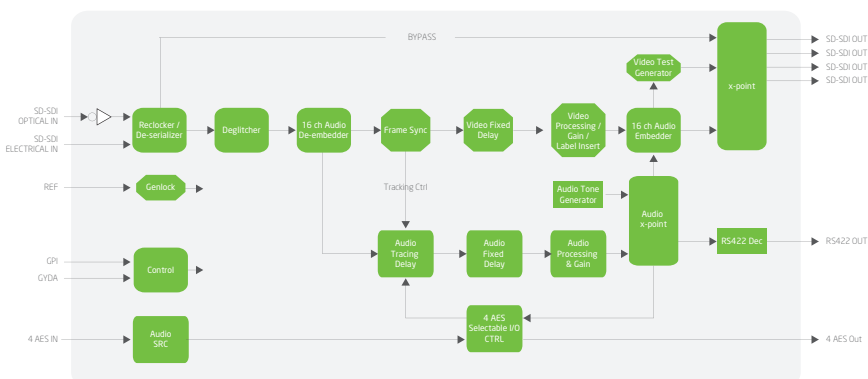
Application overview

Nevion's Flashlink FRS-HD-XMUX4 is a feature rich frame synchronizer for HD-SDI and SD-SDI with built-in audio embedder/de-embedder. The Nevion technology for configurable AES ports makes the product configurable to most embedding/de-embedding applications. Its ability to do simultaneously embedding and de-embedding together with the feature of delaying audio and video separately makes the product well suited for use in line with audio processing gear.



Key features

- Upto 8 frames delay
- Audio de-embedding/embedding with delay and processing
- Audio routing with processing of embedded audio
- DVB-ASI support in through-mode
- Deglitching of video input ensuring error-free output
- 1 HD/SD-SDI electrical input
- 1 HD/SD-SDI optical long haul/ short haul input (optional)
- 4 HD/SD-SDI electrical outputs
- 4 transformer balanced 110 Ohm AES I/O, user configurable



FRS-HD-DMUX

HD-SDI FRAME SYNCHRONIZER WITH ANALOG AND DIGITAL AUDIO OUTPUTS

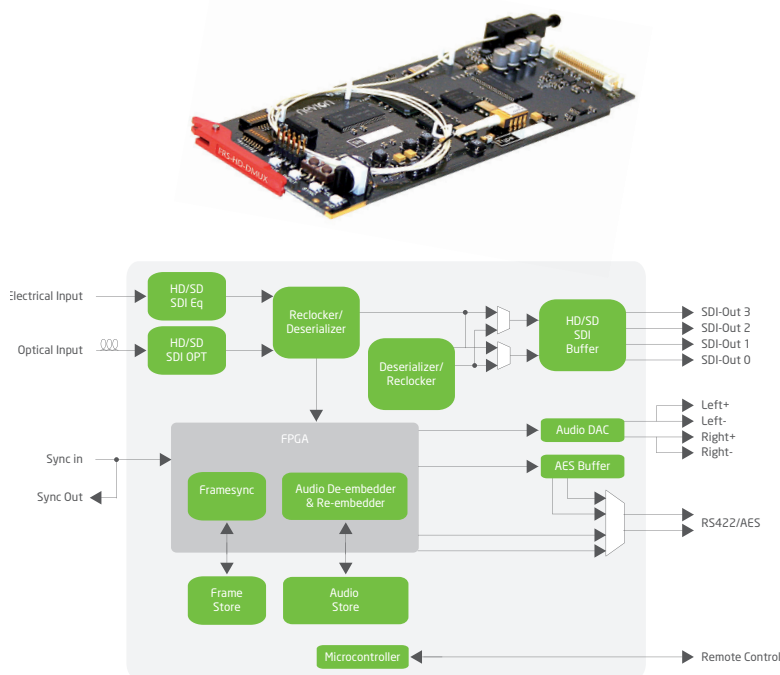
Application overview

The Flashlink FRS-HD-DMUX platform is an ultra low power HD-SDI/SD-SDI frame synchronizer with analog and digital audio monitoring outputs. The Deglitcher capabilities make the FRS-HD-DMUX the preferred choice for frame synchronization applications when used in front of or after a routing switcher as the output is always error-free. Additionally, all synchronous switching is seamlessly presented at the output of the FRS-HD-DMUX.

FRS-HD-DMUX offers option for short haul optical receiver making it a suitable in both in-house optical networks and intra-facility optical networks.

Key features

- Upto 8 frames delay
- Analog and digital audio de-embedding
- Audio routing with processing of embedded audio
- DVB-ASI support in through-mode
- Deglitching of video input ensuring error-free output



FRS-HD-CHO

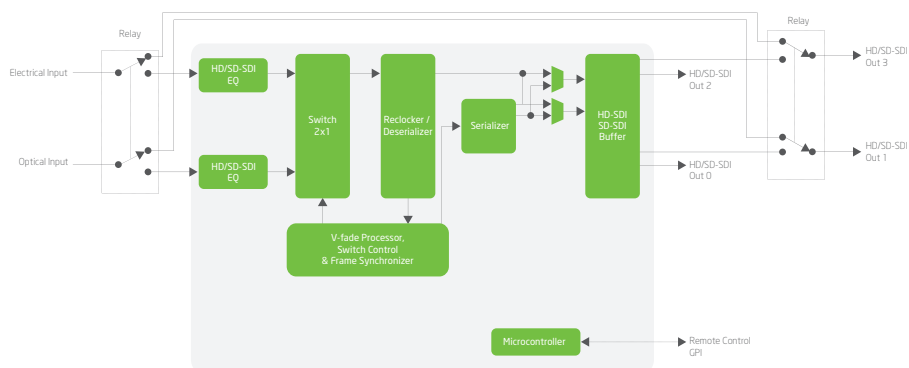
2X1 HD-SDI CHANGE-OVER WITH FRAME SYNCHRONIZER

Application overview

The Flashlink FRS-HD-CHO is a feature rich 2x1 HD/SD-SDI change-over module with built in frame synchronizer providing error-free switching between two sources. The FRS-HD-CHO is ideal for use with SNG vans where it is mission critical to provide an uninterrupted signal feed to downstream equipment like MPEG-2 encoders. Its space saving design and best-in-class low power consumption adds to an impressive feature set. FRS-HD-CHO can be added to any field-deployed unit and is ideal for on-air applications. The HD/SD frame sync solution provides a feature for deglitching of the input source, providing seamless, error-free synchronous switching between two sources.

Key features

- Passive bypass from both inputs to outputs with less than 25m loss of cable length
- HD/SD video support, including DVB-ASI in through mode
- ASI mode with error detection according to ETR.290 1.1 and 1.2
- Separate ASI-only version available with a much simplified user interface
- 4 HD/SD-SDI outputs



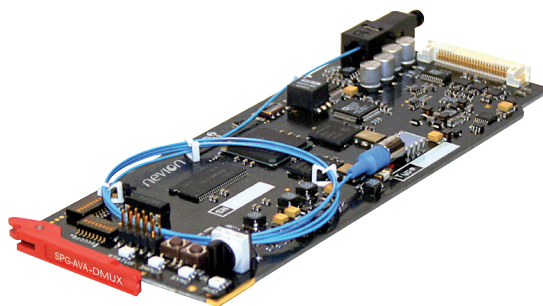
Synchronization

SPG-AVA-DMUX

SYNC-PULSE GENERATOR/REPLICATOR WITH LINEAR TIME CODE AND AES REFERENCE OUTPUTS

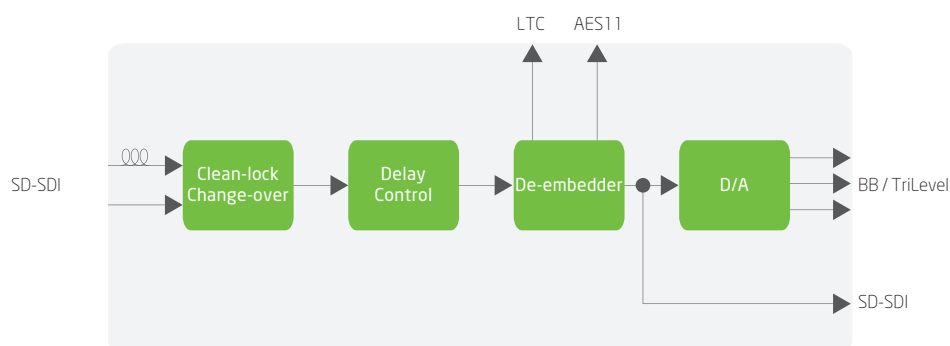
Application overview

The Flashlink SPG-AVA-DMUX is a multi-format sync pulse replicator, generating Black&Burst, TriLevel, AES11 and LTC from an input reference source. The SPG-AVA-DMUX contributes to a reliable sync distribution over a digital SDI infrastructure. The card features Nevion's clean-lock change-over functionality providing a continuous reference output when switching between different input references. This ensures support of redundancy in any network topology. The module has option for both optical and electrical inputs making it useful in a variety of sync distribution application.



Key features

- Clean-lock change-over
- Adjustable delay compensation
- 3 analog video reference outputs
- Supports Black and Burst or TriLevel
- LTC and AES11 support
- Cascadable for more outputs
- Option for optical input
- 3 analog video reference outputs supporting Black & burst or tri-level
- LTC and AES11/Wordclock output
- 2 SD-SDI outputs



Embedders / de-embedders

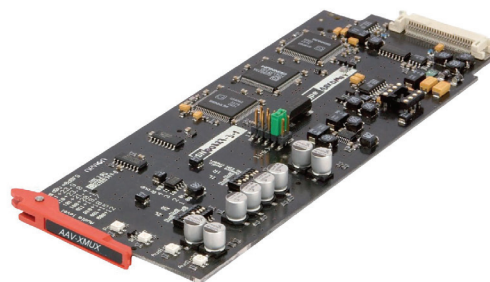
AAV-HD-XMUX

HD-SDI AUDIO EMBEDDER FOR ANALOG AND DIGITAL AUDIO

Application overview

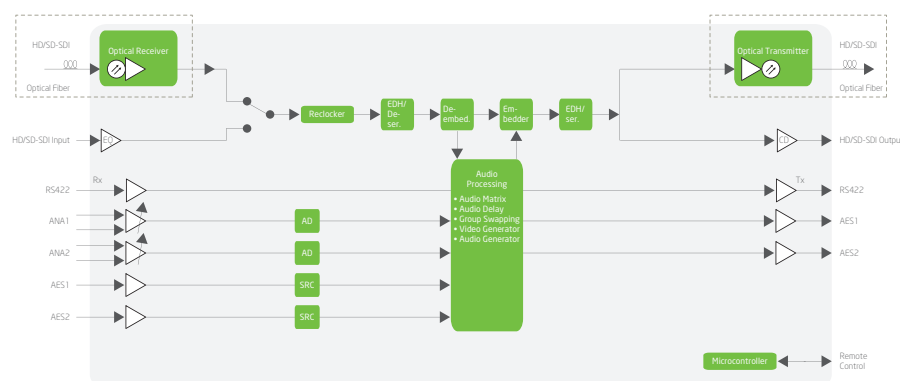
The AAV-HD-XMUX is a multi-rate highly integrated audio embedding module in the Flashlink range, offering simultaneous embedding and de-embedding of audio from a digital HD or SD serial video signal.

The AAV-HD-XMUX's small footprint, low power and Nevion panel control support are ideal for outside broadcast applications. The extensive manual control through DIP switches enables the module to be efficiently used as a stand-alone unit enclosed in the small Flashlink N-BOX enclosure. The built-in Deglitcher makes the AAV-HD-XMUX the preferred choice for analog audio embedding applications since any switching is presented seamlessly at the AAV-HD-MUX output.



Key features

- Embed 4 analog audio signals
- Embed 2 AES3 digital audio or non-audio signals
- De-embed 2 AES3 digital audio or non-audio signals
- Deglitch correctly synchronized switched video

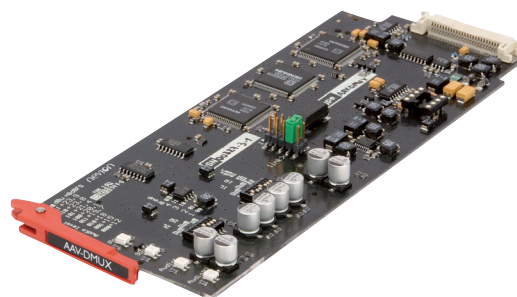


AAV-HD-DMUX

HD-SDI AUDIO DE-EMBEDDER FOR ANALOG AND DIGITAL AUDIO

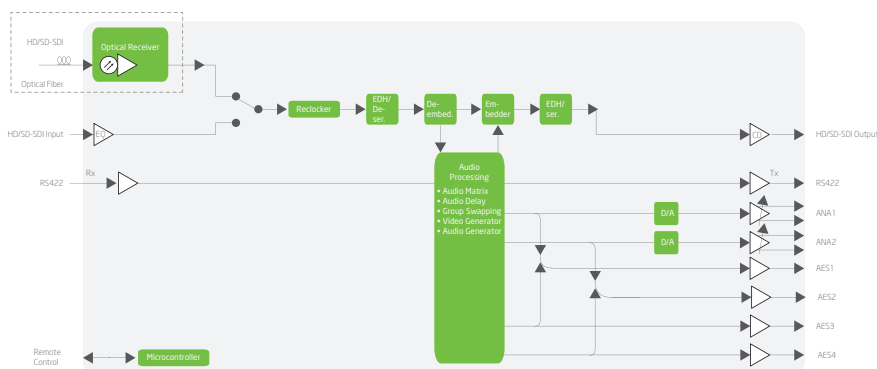
Application overview

The AAV-HD-DMUX is a highly integrated multi-rate audio de-embedding module in the Flashlink range, offering de-embedding of audio into AES or analog audio from a digital HD or SD serial video signal. The module is featured with optional optical receiver enabling easy integration into any optical video network.



Key features

- De-embed 4 analog audio signals
- De-embed 4 AES3 digital audio and non-audio signals
- De-embed all groups of audio from an HD or SD serial video stream
- Copy or move audio groups without additional delay
- Apply extra audio delay
- Swap stereo channels
- Make mono or sum from stereo signals
- Transport asynchronous serial data
- Video and audio signals generator
- Deglitch correctly synchronized switched video



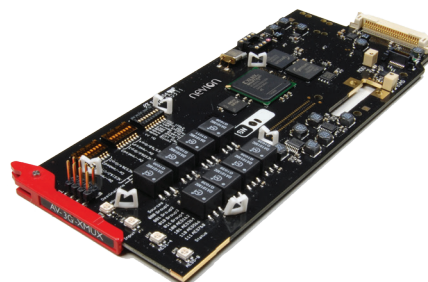
Embedders / de-embedders

AV-3G-XMUX

3G-SDI DIGITAL AUDIO EMBEDDER/DE-EMBEDDER

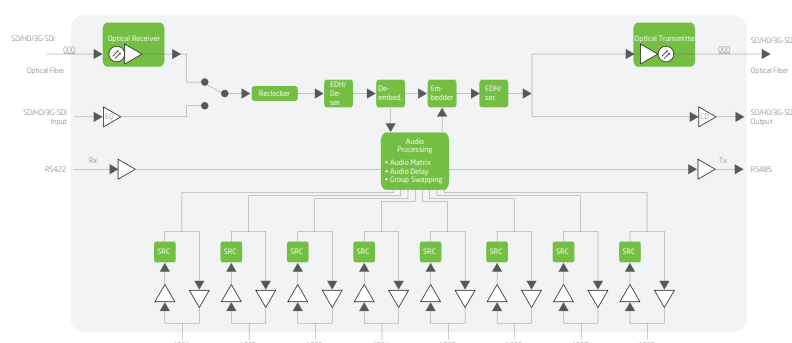
Application overview

AV-3G-XMUX is a multi-rate audio embedder and de-embedder supporting 3G-SDI level A and B. The feature rich card includes configurable AES I/O functionality, making this multi-purpose card suitable for most audio embedding / de-embedding applications. The AV-3G-XMUX's small footprint, low power and Nevion panel control support are ideal for outside broadcast applications.



Key features

- Configurable AES I/O for audio embedding and de-embedding
- De-embed and embed simultaneously all audio from HD and SD video
- De-embed all eight groups and embed four groups of audio with 3G video
- Sample rate converters when needed on AES inputs
- De-embed and embed and transport asynchronous
- Serial data (RS422/RS485)
- Deglitch correctly synchronized switched video
- 8 configurable AES I/O for audio embedding/ de-embedding

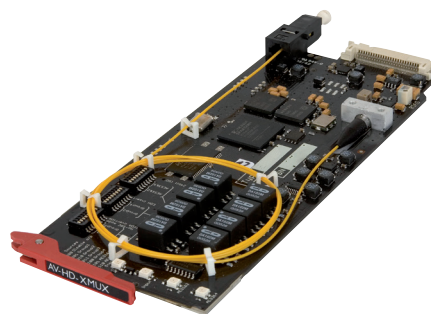


AV-HD-XMUX

HD-SDI DIGITAL AUDIO EMBEDDER/ DE-EMBEDDER

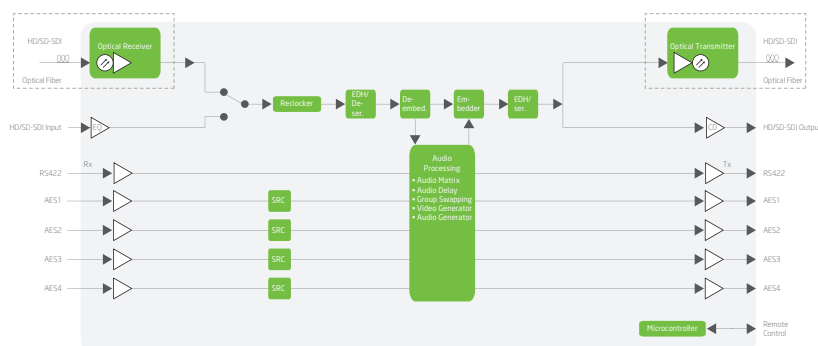
Application overview

The AV-HD-XMUX is a highly integrated audio embedding module in the Flashlink range, offering simultaneous embedding and de-embedding of four AES3 stereo digital audio channels from a digital HD or SD serial video signal. With its small footprint, low power and Nevion panel control support the AV-HD-XMUX is ideal for outside broadcast applications.



Key features

- Multi-format SD/HD support
- Embeds and de-embeds 4 AES signals
- AES inputs with sample rate conversion allowing sampling rates from 24 to 96kHz (8kHz-216kHz)
- Sample rate conversion bypass for Dolby E audio
- Transformer coupled AES in- and outputs
- Accepts 20 or 24 bit audio
- RS422 input for embedding of serial data or GPI information
- Uninterrupted transport of AES audio in case of loss of SDI signal
- Optional optical receiver
- Deglitch correctly synchronized switched video



Signal conversion

DAC-AVA-DMUX

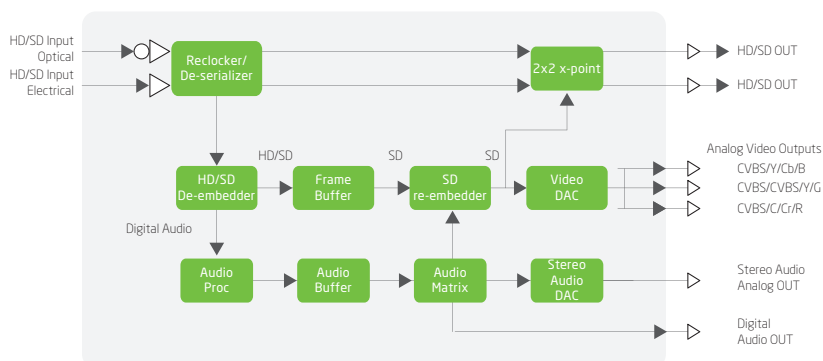
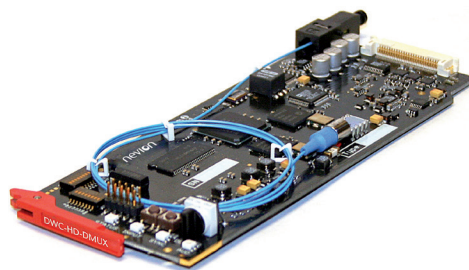
12 BIT HD/SD-SDI TO ANALOG VIDEO CONVERTER WITH ANALOG AND DIGITAL AUDIO DE-EMBEDDING

Application overview

The DAC-AVA-DMUX is a 12bit HD/SD-SDI to analog video converter with integrated frame synchronizer and analog and digital audio de-embedder occupying one slot in the Flashlink frame. The product output supports both CVBS, YCbCr, RGB and S-video for SD formats, and YCbCr for HD formats. The HD/SD-SDI outputs are frame synchronized to an incoming sync reference supporting both black and burst or Tri-level. The SDI output can also be a delay version of the input of upto 8 frames. The AES and analog audio outputs can reach any of the embedded audio inside the incoming SDI stream.

Key features

- 12 bit D/A video converter
- HD and SD format support (optional)
- Audio de-embedding of any embedded audio channels to audio outputs
- 1 electrical HD/SD-SDI video input
- 1 wideband optical receiver (optional)

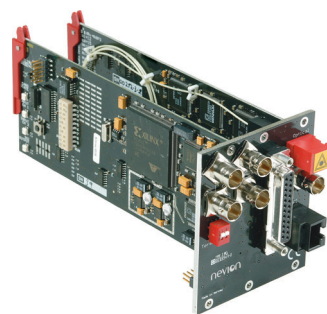


AVA-MUX

ANALOG VIDEO TO SDI CONVERTER WITH ANALOG AND DIGITAL AUDIO EMBEDDER

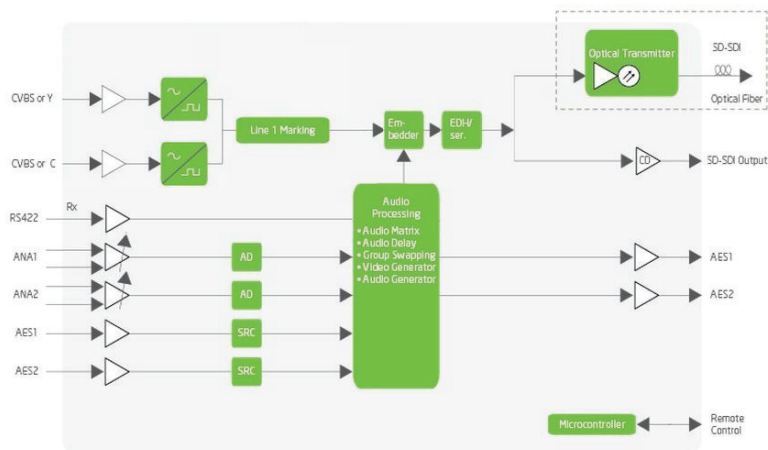
Application overview

The AVA-MUX is an analog video to SDI converter with an analog audio and AES embedder built in that occupies two slots in a Flashlink frame. The product adds a line one marking that enables a SDI to analog Flashlink converter to re-generate the burst phase correctly. This together with the optical transmitter option makes the module well suited for Black and burst transport over an optical dark fiber network.



Key features

- Optical transmitter supporting CWDM
- 1 SDI output
- 2 analog CVBS or Y inputs w/ passive loop and internal termination
- 2 balanced high impedance (>20kOhm) analog audio inputs
- 2 transformer balanced 110 Ohm AES inputs



Signal conversion

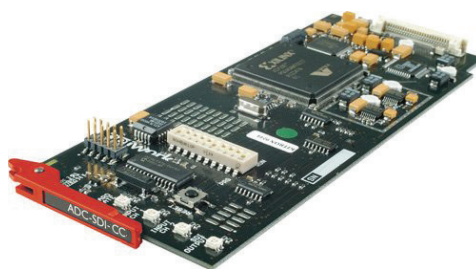
ADC-SDI-CC

ANALOG VIDEO TO SDI CONVERTER

Application overview

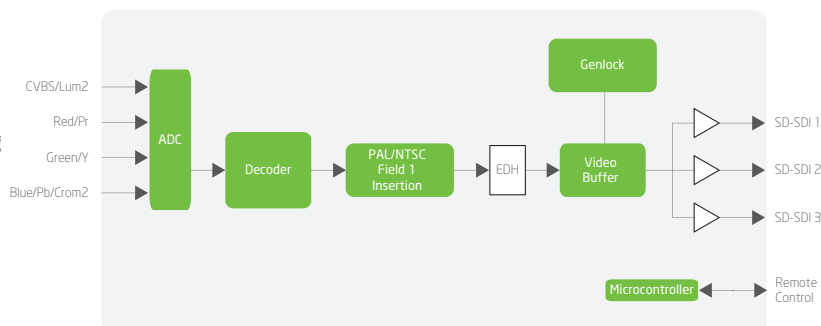
The Flashlink ADC-SDI-CC is a high quality digital video decoder that digitises and decodes all popular baseband video formats into SDI 4:2:2 digital component video. The ADC-SDI-CC supports the analog-to-digital conversion of component RGB and YPbPr signals, as well as the decoding of NTSC and PAL composite and S-video into component digital video.

This decoder features four 10-bit A/D converters running with 2 x oversampling (27MHz), which are then digitally filtered and decimated to the 1 x pixel rate giving a higher signal-to-noise ratio for each input channel.



Key features

- Multi-standard NTSC, PAL, YPbPr, RGB decoder/converter
- 10 bit 4:2:2 SDI video quality
- 5 line adaptive comb filter for NTSC/PAL decoding
- EDH generation and insertion
- 2 x oversampling of both composite and component video
- 10 bit component 8:8:8 oversampling with digital 4:2:2 decimation and down-conversion

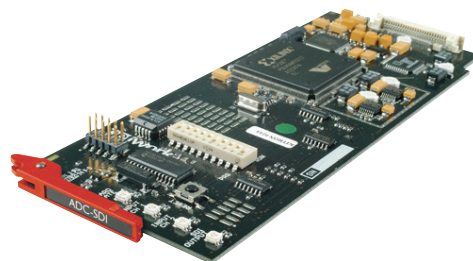


ADC-SDI

NTSC/PAL TO SDI DECODER

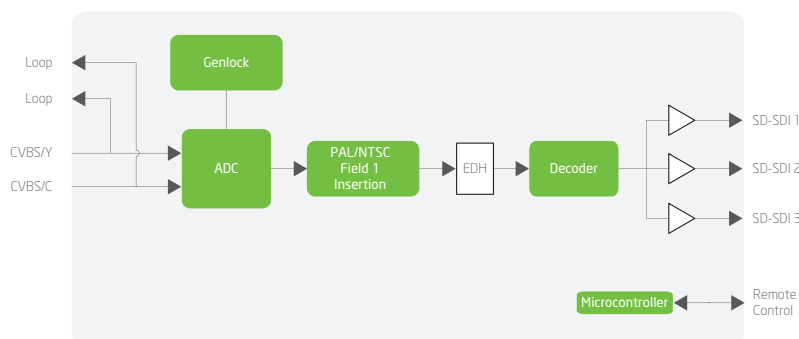
Application overview

ADC-SDI is a high quality analog video to SDI converter with two inputs supporting either CVBS or Y/C. It can also serve as a change-over between the two inputs when using CVBS. Both inputs are protected by passive loops. The decoded SDI is distributed to three outputs.



Key features

- 10-bit composite to SDI decoder
- Automatic standards detection
- EDH processing
- 2x oversampling (27MHz)
- 2 Analog inputs w/ loop-through
- 3 SDI outputs
- 3-line adaptive comb filters and selectable filter settings



ADDA-AES-8

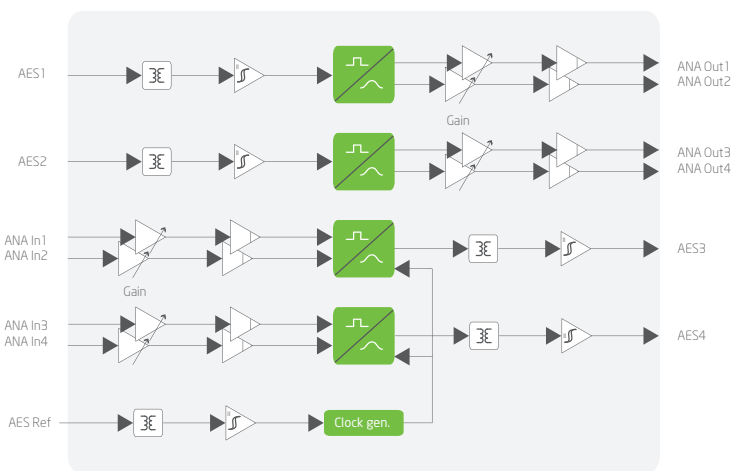
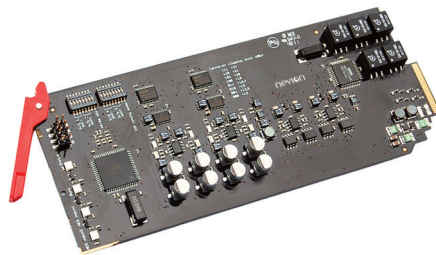
DUAL STEREO AUDIO TO AES / DUAL AES TO STEREO AUDIO CONVERTER

Application overview

The Flashlink ADDA-AES-8 is an audio converter with both 2x stereo A/D and 2x stereo D/A converters located on a single module. The module may be used as a stand-alone module well suited for high density modular audio conversion or stand-alone applications with the one slot N-BOX. It may also be used as an auxiliary module to the AV-3G-XMUX on a dedicated connector panel. With the second generation FlashCase this option only occupies one module slot.

Key features

- 4 high impedance (>10 kOhm) balanced analog audio input (2 stereo)
- 4 low impedance (<550hm) balanced analog audio outputs (2 stereo)
- 2 transformer balanced 110 Ohm AES inputs
- 2 transformer balanced 110 Ohm AES outputs
- External AES reference input
- 107dB(A) dynamic range A/D conversion
- 105dB(A) dynamic range D/A conversion
- 48 or 96kHz sampling frequency



ADC-AES-8

QUAD STEREO AUDIO TO AES CONVERTER

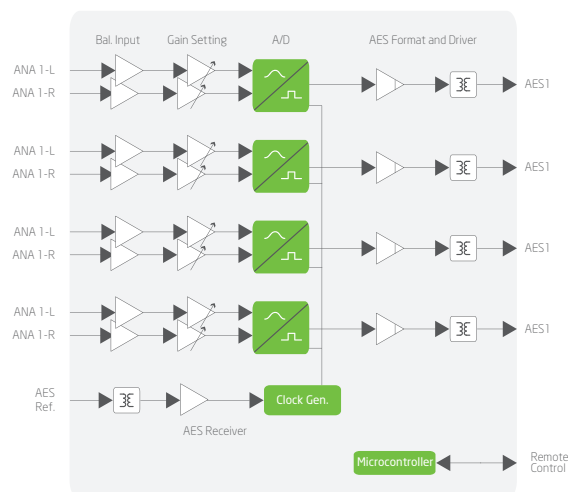
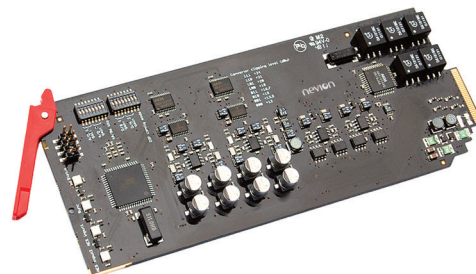
Application overview

The Flashlink ADC-AES-8 is a quad stereo audio converter with 4 stereo A/D converters located on a single module. The module may be used as a stand-alone module well suited for high density modular audio conversion or stand-alone applications with the one slot N-BOX.

It may also be used as an auxiliary module to the AV-3G-XMUX on a dedicated connector panel. With the second generation FlashCase this option only occupies one module slot. Also available in this family are the ADDA-AES-8 and DAC-AES-8.

Key features

- 8 high impedance (>10 kOhm) balanced analog audio input (4 stereo)
- 4 transformer balanced 110 Ohm AES outputs
- External AES reference input
- 107dB(A) dynamic range A/D conversion
- 48 or 96kHz sampling frequency
- SUB-D25 for analog audio connections
- SUB-D15 for AES connections



Signal conversion

ADC-AES

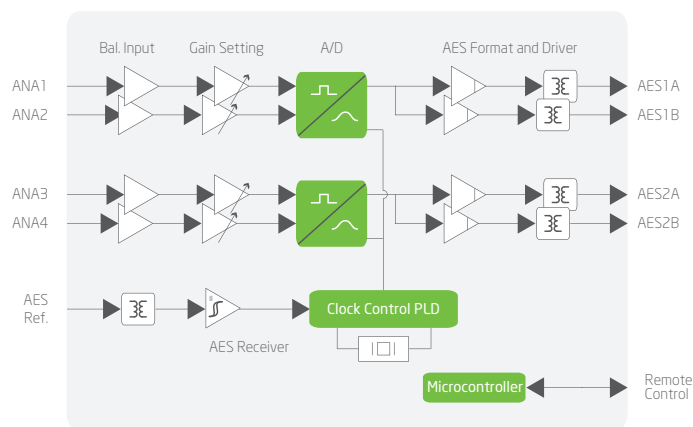
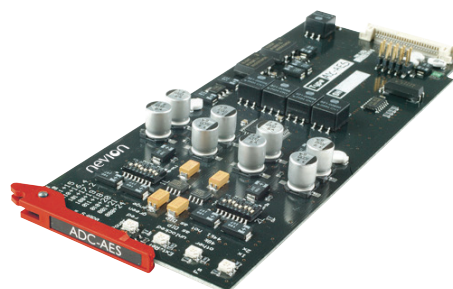
DUAL STEREO AUDIO TO AES CONVERTER

Application overview

The ADC-AES card is a reference quality audio A/D converter that will convert four analog audio channels with the highest possible quality and produce two AES3 stereo digital audio signals. Each converter has dual AES outputs which are available on the balanced backplane. Only one output per converter is available on the unbalanced backplane. The card may be used with, or without an external AES clock signal and may be run at nominal or double sampling rates. The ADC-AES has internal clocks for 48 kHz and 44.1 kHz based rates but can be used with any external sampling rate 29 kHz – 100 kHz.

Key features

- 4 high impedance (>10 kOhm) balanced analog audio input (2 stereo)
- 2 dual transformer balanced 110 Ohm AES outputs
- External AES reference input
- SUB-D25 for analog audio connections
- SUB-D15 for AES connections
- Available with unbalanced AES ports



DAC-AES-8

QUAD AES TO ANALOG AUDIO CONVERTER

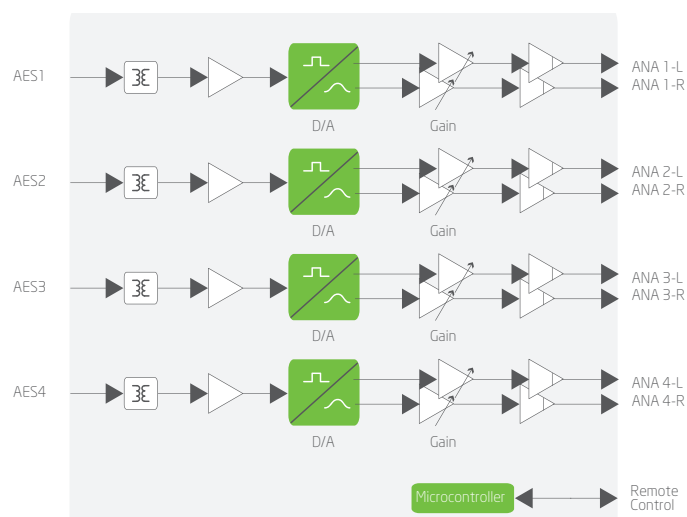
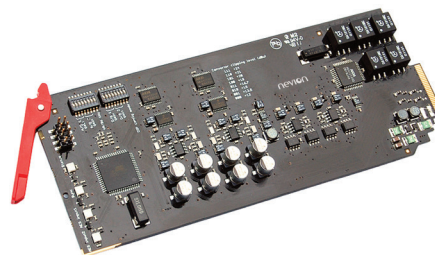
Application overview

The Flashlink DAC-AES-8 is a quad audio converter with 4x D/A converters located on a single module. The module may be used as a stand-alone module well suited for high density modular audio conversion or stand-alone applications with the one slot N-BOX.

It may also be used as an auxiliary module to the AV-3G-XMUX on a dedicated connector panel. With the second generation FlashCase this option only occupies one module slot. Also available in this family are the ADC-AES-8 and ADDA-AES-8.

Key features

- 8 low impedance (<550hm) balanced analog audio outputs (4 stereo)
- 4 transformer balanced 110 Ohm AES inputs
- 105dB(A) dynamic range D/A conversion
- 48 or 96kHz sampling frequency
- SUB-D25 for analog audio connections
- SUB-D15 for AES connections

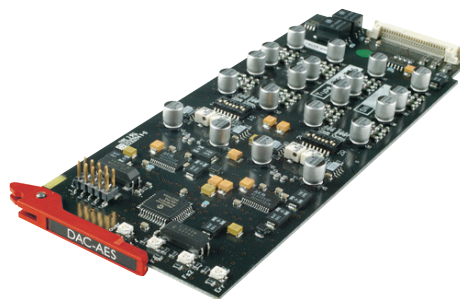


DAC-AES

DUAL AES TO ANALOG STEREO CONVERTER

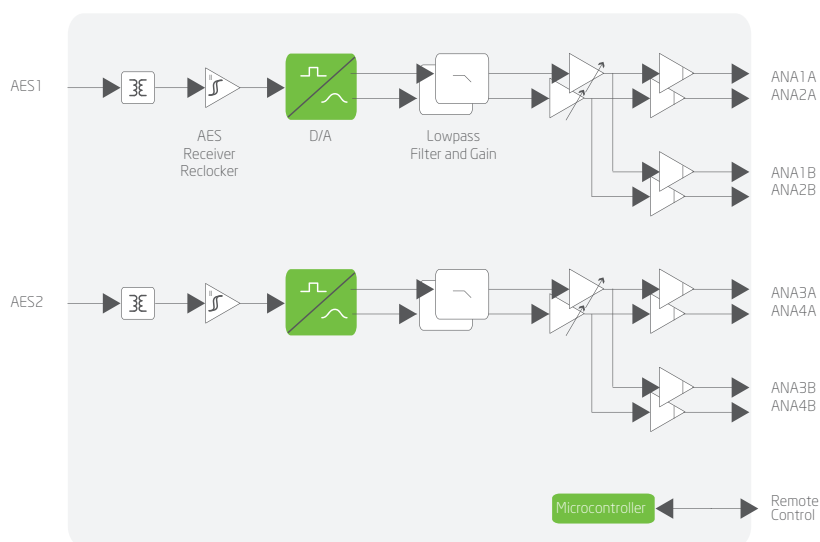
Application overview

The DAC-AES card is a reference quality audio D/A converter that will convert two AES3 (or AES-3id) stereo digital audio signals into four analog audio channels with the highest possible quality. Dual analog outputs for each converter are available on the backplane connector. The card may be used with nominal or double sampling rates. The product comes with options for balanced or unbalanced AES inputs.



Key features

- 2 transformer balanced 110 Ohm AES inputs
- 4 dual balanced low impedance (<55 Ohm) analog audio outputs (2 stereo)
- SUB-D25 for analog audio connections
- SUB-D15 for AES connections
- Available with unbalanced AES ports



Protection

3GHD-CHO-2xX

2X1 INTELLIGENT 3G/HQ/SD-SDI CHANGE-OVER WITH DISTRIBUTION AMPLIFIER AND PASSIVE INPUT BYPASS

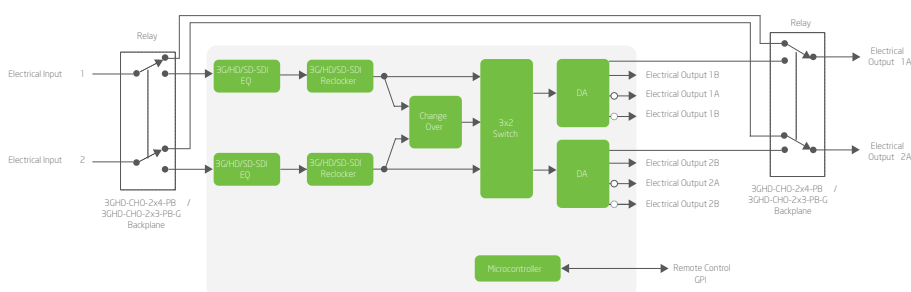
Application overview

The Flashlink 3GHD-CHO-2xX are multi-bitrate change-over providing intelligent input switching in studio and broadcast applications. The unit provides the ability to change between inputs based on input signal integrity of both inputs, and features a 1x8 distribution amplifier of its output. A passive bypass protects both inputs in case of mains or card failure. The product can also be configured as a dual 2x4 distribution amplifier, or a 2x1 change-over and 1x4 distribution amplifier of any of the inputs. A passive relayed bypass of both inputs enables full redundancy in case of mains or card failure.



Key features

- Intelligent change-over based upon signal integrity of both inputs
- 2x1 change-over with 1x8 (1x6) DA
- 2x2 reclocked router with DA
- GPI I/O (optional)
- Passive bypass of both inputs to outputs on backplane (-PB version))
- On board LED for status


FRS-HD-CHO

2X1 HD-SDI CHANGE-OVER WITH FRAME SYNCHRONIZER

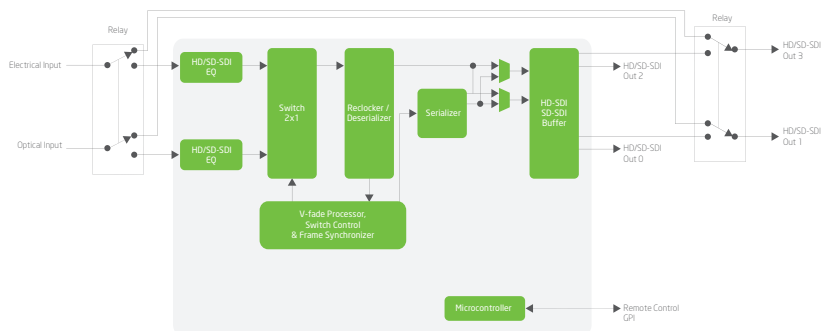
Application overview

The Flashlink FRS-HD-CHO is a feature rich 2x1 HD/SD-SDI change-over module with built in frame synchronizer providing error-free switching between two sources. The FRS-HD-CHO is ideal for use with SNG vans where it is mission critical to provide an uninterrupted signal feed to downstream equipment like MPEG-2 encoders. A passive bypass protects both inputs in case of mains or card failure. Its space saving design and best-in-class low power consumption adds to an impressive feature set. FRS-HD-CHO can be added to any field-deployed unit and is ideal for on-air applications. The HD/SD frame sync solution provides a feature for deglitching of the input source, providing seamless, error-free synchronous switching between two sources.



Key features

- Passive bypass of both inputs to outputs on backplane
- HD/SD video support, including DVB-ASI in through mode
- ASI mode with error detection according to ETR.290 1.1 and 1.2
- Bypass equivalent to less than 25m of cable



ASI-CHO

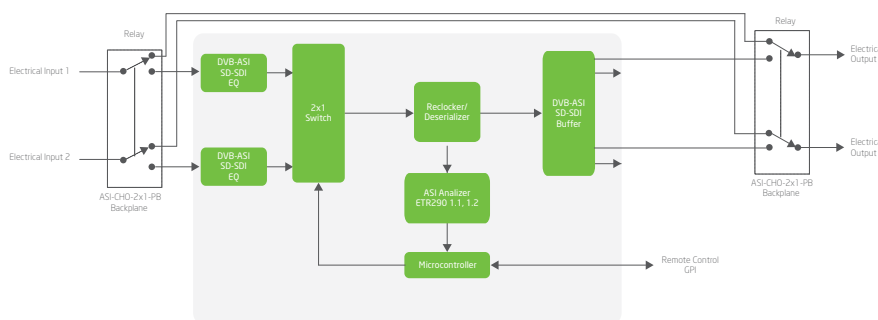
2X1 INTELLIGENT DVB-ASI CHANGE-OVER WITH PASSIVE INPUT BYPASS

Application overview

The Flashlink ASI-CHO-2x1-PB is an easy to use 2x1 intelligent change-over switch for ASI formats able to switch inputs based on error detection according to ETR290 1.1 and 1.2. A passive bypass protects both inputs in case of mains or card failure. Input and switch monitoring is available through LEDs, GPI and Web interface or SNMP through Multicon GYDA element management system. With its minimal setup requirements, space saving design and best-in class low power consumption, the ASI-CHO-2x1-PB is ideally suited for both fixed installations and field-deployed units.

Key features

- Passive bypass of both inputs to outputs on backplane
- Less than 25m drop in cable length in loop-thru mode (Belden 8281/1694A)
- Intelligent change-over function based on error detection according to ETR290 1.1 and 1.2
- Bypass equivalent to less than 25m of cable



V-FADE SWITCH

PGM-HD-2x1-PB

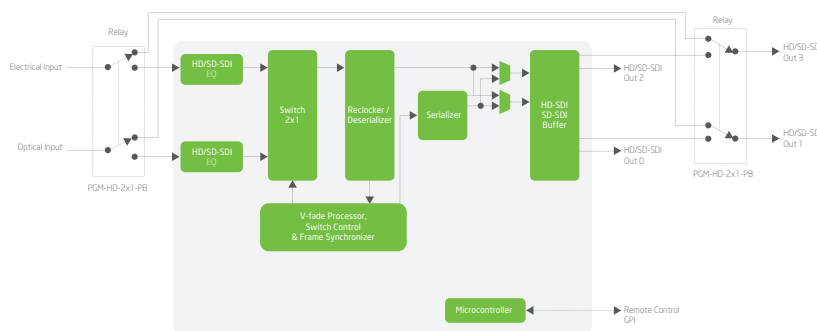
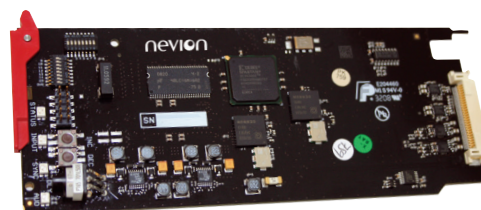
WITH INPUTS BYPASS PROTECTION FOR BACK-UP SWITCHING

Application overview

The Flashlink PGM-HD-2x1-PB is an affordable back-up mixing unit, intended for in-program mixing applications. The unit applies fade out/fade in of video and embedded audio, controlled by two GPI lines. The fade in and fade out times are independently adjustable for both inputs with an adjustable period of all-black. The audio gain can be set independently for the two video inputs to match their perceived audio volumes. The PGM-HD-2x1-PB has a built-in frame synchronizer, enabling error free switching between asynchronous sources, which is fully controlled by onboard switches and buttons. A passive bypass protects both inputs in case of mains or card failure.

Key features

- 2 electrical inputs
- V-fade switching with adjustable fade timings
- GPI control
- Adjust audio gain independently per input channel
- Frame synchronizer with output phase adjustment and frame store
- Video generator
- OSD label generator
- Easy-to-use Web interface and manual interface
- Passive bypass of both inputs to outputs on backplane



Distribution

DA-3GHD-8

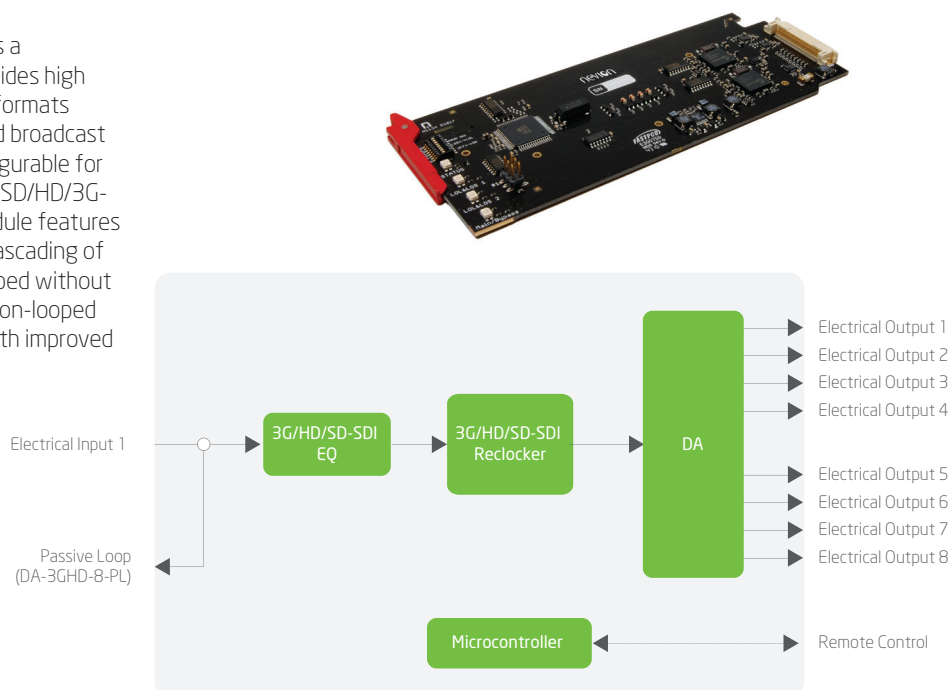
1X8 3G/HD/SD-SDI AND DVB-ASI DISTRIBUTION AMPLIFIER

Application overview

The Flashlink DA-3GHD-8/DA-3GHD-8-PL is a multi-bitrate distribution amplifier that provides high performance media distribution—for signal formats from 19.4Mbps to 2970Mbps—in studio and broadcast applications. This unit is automatically configurable for cable equalizing and reclocking of DVB-ASI, SD/HD/3G-SDI signal formats. The DA-3GHD-8-PL module features a passive loop-thru function that enables cascading of several units. One module can be hot-swapped without affecting other modules in the cascade. A non-looped version, the DA-3GHD-8, is also available with improved cable equalization.

Key features

- 1 x 8 distribution amplifier
- ASI support on all outputs
- Passive loop-through on backplane (DA-3GHD-8-PL)
- On board LED for status
- On board DIP for configuration
- Passive loop-thru on backplane (-PL version)



DA-3GHD-2x4-PB

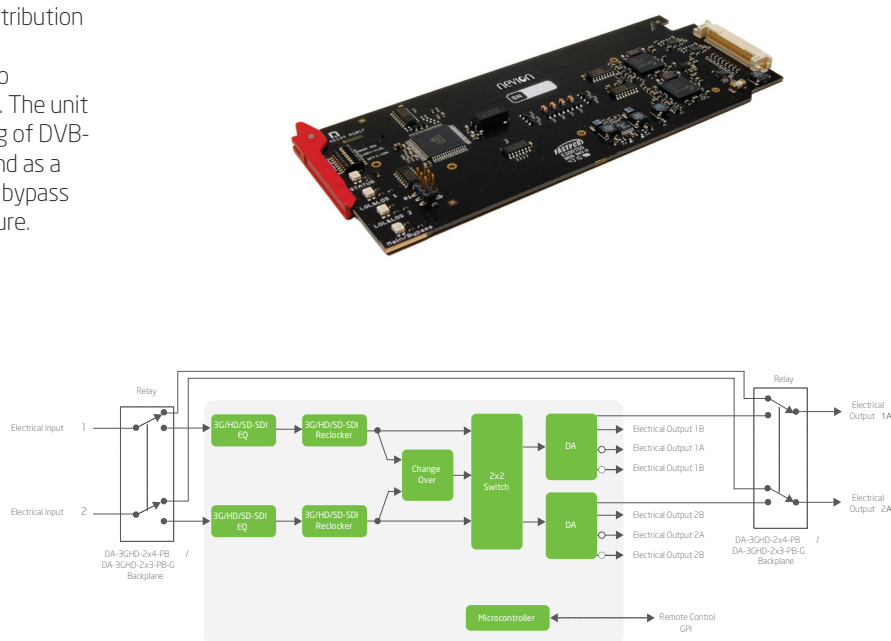
2X4 3G-SDI DISTRIBUTION AMPLIFIER WITH PASSIVE INPUT BYPASS

Application overview

The Flashlink DA-3GHD-2x4 is a multi-bitrate distribution amplifier that provides high performance media distribution—for signal formats from 19.4Mbps to 2970Mbps—in studio and broadcast applications. The unit is configurable for cable equalizing and reclocking of DVB-ASI, SD-SDI, HD-SDI and 3G-SDI signal formats and as a 2x4/3 or 1 x 8/6 distribution amplifier. A passive bypass protects both inputs in case of mains or card failure.

Key features

- Dual 1x4 distribution amplifier
- Single 1x8 distribution amplifier
- 2x2 reclocked router with DA
- Passive bypass of both inputs to outputs on backplane (-PB version)
- On board LED for status
- On board DIP for configuration



DA-SDI

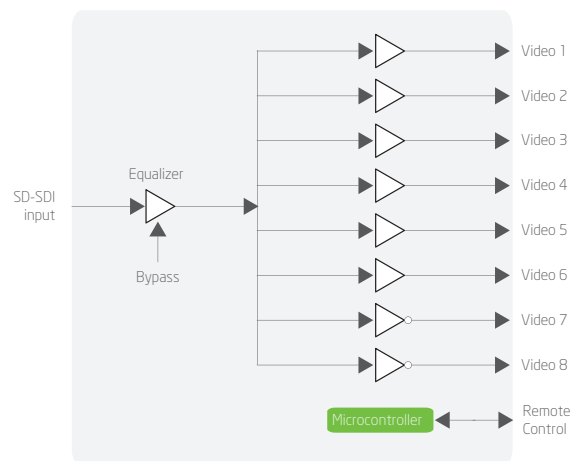
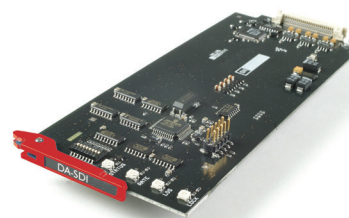
1X8 SD-SDI DISTRIBUTION AMPLIFIER

Application overview

DA-SDI is a 1x8 SD-SDI distribution amplifier that is DVB-ASI compatible on 6 outputs. 75 Ohm AES-3id is also supported. The input features automatic cable equalizer and reclocker.

Key features

- 6 non-inverting outputs, 2 inverting outputs
- Reclocking rates 143, 177, 270, 360, 540Mbps
- Configurable reclocker bypass for non-video bitrates
- Configurable EQ defeat for low bitrates



DA-VAEQ-6

ANALOG VIDEO DISTRIBUTION AMPLIFIER
WITH EQUALIZER AND PASSIVE INPUT LOOP

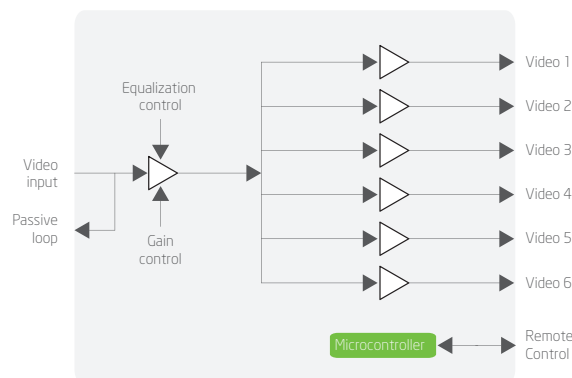
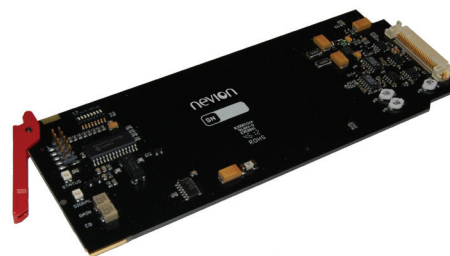
Application overview

The Flashlink DA-VAEQ-6 is a 1x6 analog video distribution amplifier with input equalizer, gain, black level clamping and passive input loop. It provides high performance media distribution for analog standard definition video signals. Adjustable equalization and gain allows bringing back a signal to proper shape after up to 300m of cable. Automatic clamping ensures correct black level at all times.

The DA-VAEQ-6 is designed for all standard definition analog video distribution purposes and is also well suited for distribution of AES-3id signals.

Key features

- DC to 6MHz analog video
- 6 non-inverting outputs
- Input equalization for up to 300m of cable
- +/-3dB gain adjustment
- Automatic black level clamping
- Passive loop-through on backplane



Distribution

DA-VA

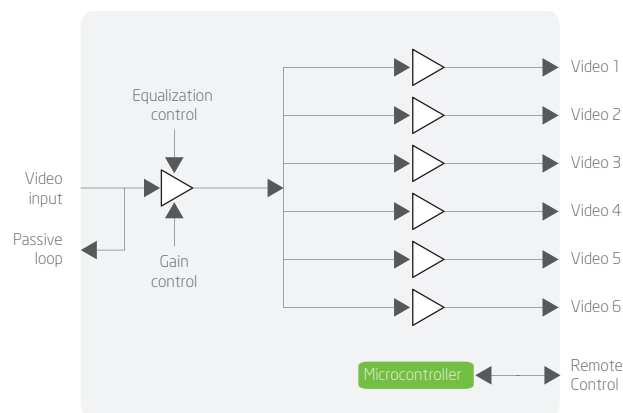
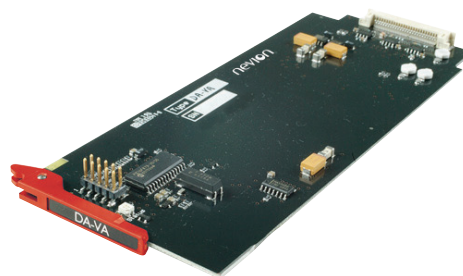
1X6 ANALOG DISTRIBUTION AMPLIFIER WITH PASSIVE LOOP-THRU

Application overview

The Flashlink DA-VA is an analog video distribution amplifier module providing high performance media distribution for analog signals from DC to 200 MHz. The module also complies with the SMPTE 259M specification for SDI signals. The input signal is distributed to 6 equivalent outputs, all with 75 Ohms impedance. The input can be switched between 75 Ohms or high impedance for multi-drop purposes. A signal detector will indicate if a signal is present (LED and GPI).

Key features

- DC to 200MHz analog video
- 6 non-inverting outputs
- Also suitable for SDI according to SMPTE-259M



DA-AES

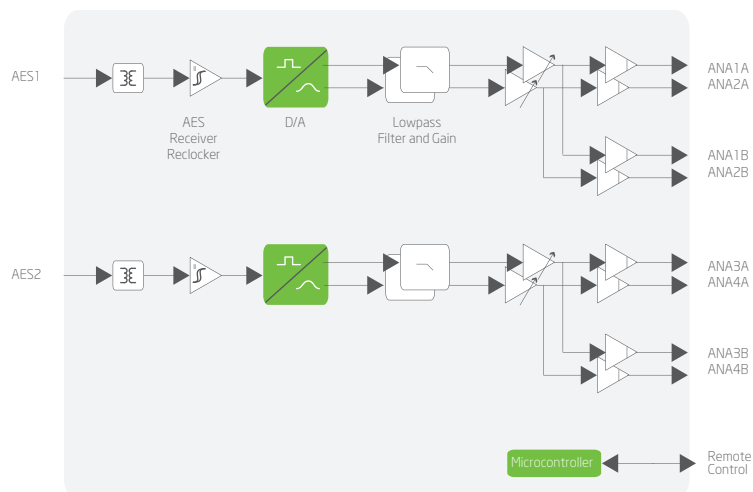
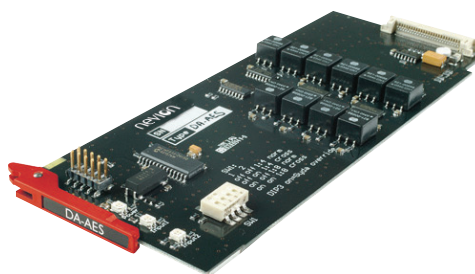
2X4 DIGITAL AUDIO DISTRIBUTION AMPLIFIER

Application overview

The DA-AES is a digital audio distribution amplifier. The DA-AES can be configured as either 1 input and 8 outputs or dual 1 input and 4 outputs. The distribution amplifier supports sample rate 15 – 96 kHz and has balanced inputs and outputs. The DA-AES is designed for all digital audio distribution purposes in studio, duplication and broadcast applications.

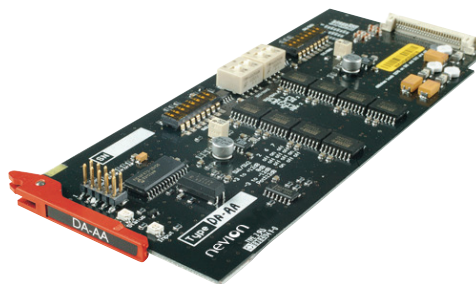
Key features

- Configurable as dual 1x4 or single 1x8
- Reports signal presence
- Supports sample rate from 15 to 96kHz
- Supports bit rate from 16kbps to 14Mbps
- 2 transformer balanced 110 Ohm AES inputs
- 4 transformer balanced 110 Ohm AES outputs



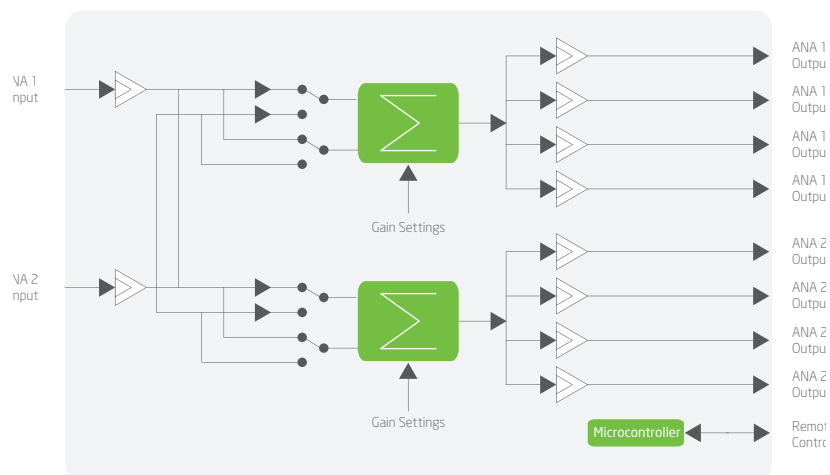
Application overview

The DA-AA is a dual 4 output analog audio distributor. The DA-AA can be configured as either a dual 1x4 or a single 1x8 amplifier. The latter configuration is made by connecting the inputs in parallel or using DIP switch on PCB. The distribution amplifier has differential inputs and differential outputs. Overall gain can be set by DIP switches or by potentiometer for high precision gain setting. The gain range setting is from -12 to +12 dB. The input signal can be mixed to the other channel using a DIP switch. The distribution amplifier handles analog audio signals from 20Hz to 80 kHz. The DA-AA is designed for all audio distribution purposes in studio, duplication and broadcast applications.



Key features

- High quality audio distribution.
- Configurable dual 1x4 or single 1x8 distribution amplifier
- Left/right swapping capability
- Gain setting for professional and consumer equipment
- DIP switch gain compensation 10kOhms / 600 Ohms load
- Precision gain adjustment
- 2 high impedance (>10 kOhm) balanced analog audio input
- 8 low impedance (<550hm) balanced analog audio outputs





AUDIO, VIDEO AND DATA ROUTING



The VikinX product family provides professional broadcast routers for almost any application. VikinX routers are available for any professional broadcast signal; 3G/HD/SD-SDI, DVB-ASI, AES, analog video, analog audio, and RS422 machine control.

Nevion was the first company to introduce compact routing, setting a new standard for delivering value in broadcast signal routing. After more than 10 years in the market, VikinX has a proven worldwide track record for reliability and ease of installation and use.

VikinX routers are also known for their low power consumption and low heat dissipation. The combination of low power consumption and compact size make VikinX routers very popular in installations where space and temperature control are limited.

VikinX routers are easy to integrate with third-party control systems and to operate with third-party equipment. In addition, we provide a variety of control panels and software applications giving users a flexible, cost effective way to control their routers.

Nevion routing products are the choice of the world's leading broadcasters for their high quality, unmatched reliability and low operational expenses. Home to the industry's first ultra-compact low-power switcher, our VikinX line provides flexible, powerful routing solutions for wide-ranging signal formats and myriad applications. Nevion has taken optical fiber's inherent benefits and engineered a new generation of VikinX routing solutions securing more cost-efficient and higher density routing and conversion, scalable to the redundancy needs and cost parameters of any given application, as well as greater overall flexibility. This versatility is critical to current mixed optical/electrical environments, enabling broadcasters to scale their systems as needed. With the Multicon management platform, you have full control of routing and signal processing equipment through hardware- or software-based control panels. It enables the setup of any scale of routing system and integrates also easily with existing routing systems consisting of third-party equipment and automation systems. This makes it the industry's most flexible management solution.

Sublime routers

The VikinX Sublime series marks a new era in small and medium sized routing, raising the standard for reliability and affordability. With flexible routing solutions for general purpose facility and on-air routing, mobile outside broadcast applications, and sophisticated A/V applications, VikinX Sublime provides next-generation technologies including Ethernet control, 3Gbps single link support for 1080p HDTV, and ultra-low power consumption. VikinX Sublime provides the most extensive range of matrix sizes available – from 8x8 up to 128x128, with optional optical I/O available. Ideal for users requiring comprehensive control and configuration features, the routers also fully integrate with Nevion's Multicon control system.

VikinX Modular

For increased flexibility in deployed configurations the Modular platform offers various sizes from 32x32 to 256x256. VikinX Modular routing products have been designed and built for the utmost flexibility, reliability and affordability, making it the router of choice for mission-critical applications. Accommodating a wide range of signal formats, including 3G-SDI, HD-SDI, SD-SDI and AES/EBU audio. VikinX Modular features fully redundant control architecture and extremely low power consumption. An array of IP-based control panels plus Web-based control panels are offered to make this a comprehensive routing experience.

System controller for VikinX

The control system for VikinX systems, Multicon is based on an open and distributed architecture, providing control panel access to VikinX levels and parameters as well as Flashlink parameters. The system offers the popular GYDA Web interface to routers as well as Flashlink signal processing modules. It also brings a range of important control features to VikinX routers, including third-party equipment control using software plugins, making it the industry's most flexible integrated control system.

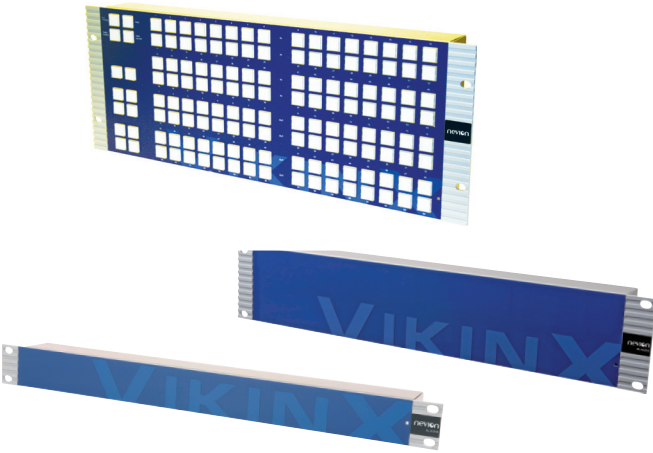
Optical routing solutions

With the high bit rate demands of 3G-SDI and, coaxial cable no longer an option due to jitter, optical interfaces enable broadcasters to rely on broadcast quality transmissions over longer distances. Nevion has introduced a group of video routers with both electrical and optical interfaces supporting 3G-SDI, HD-SDI, SD-SDI and DVB-ASI.

Sublime

COMPACT 3G-SDI DIGITAL VIDEO ROUTERS

VikinX Sublime provides many of the powerful control features that drove the VikinX Modular range to success. VikinX Sublime is ideal for general purpose facilities, on-air routing, mobile outside broadcast applications and sophisticated A/V applications. By providing critical third-party control interfaces through third-party management software Sublime enables the utilization of existing routers and management systems from other manufacturers and maintains the advantages of implementing VikinX Sublime in routing applications. With the ultra-slim, multi-format and flexible product range, Sublime fulfils the most demanding requirements from the professional broadcast market.



3G-SDI routers

- Router range from 8x8 to 128x128
- Software-based Configurator for easy system set-up
- Embedded X/Y control panel available on 16x16 to 64x64
- Supported bitrates: 143Mbps – 3Gbps
- Reclocking on standard 3G/HD/SD-SDI and DVB-ASI signals
- TCP/IP, RS232 and NCB control (RJ45)
- Ultra-slim frame depth
- Low power, high reliability design
- Redundant power supply system with front indicators
- Interoperability with existing VikinX routers
- Future proof and flexible product range

SL-3GHDxxxx

3G-SDI ROUTER WITH REDUNDANT SYSTEM CONTROLLER SUPPORT

- **SL-3GHD0808** – 8x8 3G-SDI 1RU router with redundant system controller support
- **SL-3GHD1602** – 16x02 3G-SDI 1RU router with redundant system controller support
- **SL-3GHD1616** – 16x16 3G-SDI 1RU router with redundant system controller support
- **SL-3GHD3232** – 32x32 3G-SDI 2RU router with redundant system controller support
- **SL-3GHD6464** – 64x64 3G-SDI 4RU router with redundant system controller support
- **SL-3GHD128128-RC** – 128x128 3G-SDI 8RU router with redundant system controller support

SL-3GHDxxxx-CP

3G-SDI ROUTER WITH CONTROL PANEL AND REDUNDANT SYSTEM CONTROLLER SUPPORT

- **SL-3GHD0808-CP** – 8x8 3G-SDI 1RU router with control panel and redundant system controller support
- **SL-3GHD1602-CP** – 16x02 3G-SDI 1RU router with control panel and redundant system controller support
- **SL-3GHD1616-CP** – 16x16 3G-SDI 1RU router with control panel and redundant system controller support
- **SL-3GHD3232-CP** – 32x32 3G-SDI 2RU router with control panel and redundant system controller support
- **SL-3GHD6464-CP** – 64x64 3G-SDI 4RU router with control panel and redundant system controller support

COMPACT 3G-SDI DIGITAL VIDEO ROUTERS

The Sublime SL-3GHD128128 and its versions are 3G/HD/SD/ASI video routers intended for post production and small studio services with its thin depth, low power and built in system controller. It easily connects to other routers and panels, including third-party equipment and can be installed into existing routing systems or control systems due to its extensive third-party support. Its ultra-low power consumption also makes it a reliable and low operational cost router and underlines Nevion's commitment to ensure customers environmental initiatives.



Routers with embedded controller

- Embedded Multicon controller
- Multi-rate support; 3G/HD/SD-SDI
- Supports DVB-ASI
- Reclocking on standard 3G/HD/SD-SDI signals. Reclockers may be turned off, for support of E4/STM-1e
- Ethernet and RS232 control interfaces
- Ultra-slim frame depth
- 8 RU
- Low power consumption (<150W); high reliability design
- Supported bitrates: 143Mbps – 3Gbps

8RU 3G-SDI ROUTER WITH EMBEDDED SYSTEM CONTROLLER UPGRADABLE TO 128X128

SL-3GHDxxxx

- **SL-3GHD128128** – 128x128 3G-SDI router with embedded system controller
- **SL-3GHD12832** – 128x32 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD12864** – 128x64 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD12896** – 128x96 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD32+** – 32x32 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD32128** – 32x128 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD3264+** – 32x64 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD3296** – 32x96 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD64+** – 64x64 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD64128** – 64x128 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD6432+** – 64x32 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD6496** – 64x96 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD96128** – 96x128 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD9632** – 96x32 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD9664** – 96x64 3G-SDI router with embedded system controller, upgradable to 128x128
- **SL-3GHD9696** – 96x96 3G-SDI router with embedded system controller, upgradable to 128x128

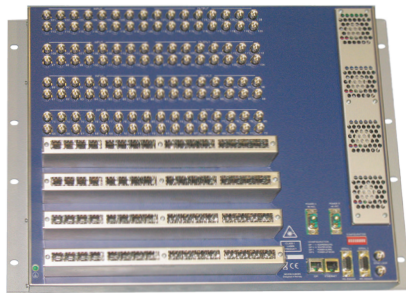
Sublime

COMPACT 3G-SDI DIGITAL VIDEO ROUTERS

Sublime optical is a compact router solution ranging from 16x16 in 1 RU to 128x128 in 8RU. The optical extension ports are built up as modules of 16 in +16 out, and ranges upto 64 in+64 out.

The optical transmitter range includes all 18 channels of CWDM, making large interconnections in outside broadcast environments feasible. Its high density, low weight and low power makes Sublime optical an ideal choice for OB applications as well as studio routing networks.

Nevion's Sublime optical range of compact routers brings together the flexibility and cost savings of the dongle products with the high reliability and management level that broadcasters require in professional video transport equipment.



Optical routers

- Optical I/O with hot swappable SFP modules
- Embedded X/Y control panel available on 16x16 to 64x64
- Ranging from 16x16 in 1RU to 128x128 in 8RU
- Supported bitrates: 143Mbps – 3Gbps
- Reclocking on standard 3G/HD/SD-SDI and DVB-ASI signals
- Reclockers may be turned off, for support of E4/STM-1e
- Ethernet and RS232/NCB control interfaces
- Ultra-slim frame depth
- Software-based configurator for easy system set-up

3G-SDI ROUTER WITH

SL-3GHDxxxx-OPT

OPTICAL PORTS AND REDUNDANT SYSTEM CONTROLLER SUPPORT

- **SL-3GHD128128-RC-1120PT** – 128x128 3G-SDI 8RU router with 112 optical I/O
- **SL-3GHD128128-RC-1280PT** – 128x128 3G-SDI router with 128 optical I/O
- **SL-3GHD-128128-RC-160PT** – 128x128 3G-SDI 8RU router with 16 optical I/O
- **SL-3GHD128128-RC-320PT** – 128x128 3G-SDI 8RU router with 32 optical I/O
- **SL-3GHD128128-RC-480PT** – 128x128 3G-SDI 8RU router with 48 optical I/O
- **SL-3GHD128128-RC-640PT** – 128x128 3G-SDI 8RU router with 64 optical I/O
- **SL-3GHD128128-RC-960PT** – 128x128 3G-SDI 8RU router with 96 optical I/O
- **SL-3GHD1616-RC-160PT** – 16x16 3G-SDI 1RU router with 16 optical I/O
- **SL-3GHD3232-RC-160PT** – 32x32 3G-SDI 2RU router with 16 optical I/O
- **SL-3GHD3232-RC-320PT** – 32x32 3G-SDI 2RU router with 32 optical I/O
- **SL-3GHD6464-RC-160PT** – 64x64 3G-SDI 4RU router with 16 optical I/O
- **SL-3GHD6464-RC-320PT** – 64x64 3G-SDI 4RU router with 32 optical I/O
- **SL-3GHD6464-RC-480PT** – 64x64 3G-SDI 4RU router with 48 optical I/O
- **SL-3GHD6464-RC-640PT** – 64x64 3G-SDI 4RU router with 64 optical I/O

3G-SDI ROUTER WITH OPTICAL PORTS,

SL-3GHDxxxx-OPT

CONTROL PANEL AND REDUNDANT SYSTEM CONTROLLER SUPPORT

- **SL-3GHD1616-CP-160PT** – 16x16 3G-SDI 1RU router with 16 optical I/O and control panel
- **SL-3GHD3232-CP-320PT** – 32x32 3G-SDI 2RU router with 32 optical I/O and control panel
- **SL-3GHD3232-CP-160PT** – 32x32 3G-SDI 2RU router with 16 optical I/O and control panel
- **SL-3GHD6464-CP-160PT** – 64x64 3G-SDI 4RU router with 16 optical I/O and control panel
- **SL-3GHD6464-CP-320PT** – 64x64 3G-SDI 4RU router with 32 optical I/O and control panel
- **SL-3GHD6464-CP-480PT** – 64x64 3G-SDI 4RU router with 48 optical I/O and control panel
- **SL-3GHD6464-CP-640PT** – 64x64 3G-SDI 4RU router with 64 optical I/O and control panel

COMPACT HD/SD-SDI DIGITAL VIDEO ROUTERS

HD-SDI routers

- Router range from 8x8 to 64x64
- Embedded X/Y control panel available
- Supports HD-SDI, SD-SDI and DVB-ASI
- Software-based Configurator for easy system set-up
- TCP/IP, RS232 and NCB control (RJ45)
- Ultra-slim frame depth
- Low power, high reliability design
- Redundant power supply system with front indicators

SD-SDI routers

- Router range from 8x8 to 64x64
- Embedded X/Y control panel available
- Supports SD-SDI and DVB-ASI
- Reclocking of SD-SDI and DVB-ASI available
- Software-based Configurator for easy system set-up
- TCP/IP, RS232 and NCB control (RJ45)
- Ultra-slim frame depth
- Low power, high reliability design
- Redundant power supply system with front indicators

SL-HDxxxx-N

HD-SDI NON-RELOCKED ROUTER

- **SL-HD0808-N** – 8x8 HD-SDI 1RU non-reclocked router
- **SL-HD1616-N** – 16x16 HD-SDI 1RU non-reclocked router
- **SL-HD3232-N** – 32x32 HD-SDI 2RU non-reclocked router
- **SL-HD6464-N** – 64x64 HD-SDI 4RU non-reclocked router

SL-HDxxxx-N-CP

HD-SDI NON-RELOCKED ROUTER WITH CONTROL PANEL

- **SL-HD0808-N-CP** – 8x8 HD-SDI 1RU non-reclocked router with control panel
- **SL-HD1616-N-CP** – 16x16 HD-SDI 1RU non-reclocked router with control panel
- **SL-HD3232-N-CP** – 32x32 HD-SDI 2RU non-reclocked router with control panel
- **SL-HD6464-N-CP** – 64x64 HD-SDI 4RU non-reclocked router with control panel

SL-SDxxxx-N

SD-SDI NON-RELOCKED ROUTER

- **SL-SD0808-N** – 8x8 SD-SDI 1RU non-reclocked router
- **SL-SD1616-N** – 16x16 SD-SDI 1RU non-reclocked router
- **SL-SD3232-N** – 32x32 SD-SDI 2RU non-reclocked router
- **SL-SD6464-N** – 64x64 SD-SDI 4RU non-reclocked router

SL-SDxxxx-N-CP

SD-SDI NON-RELOCKED ROUTER WITH CONTROL PANEL

- **SL-SD0808-N-CP** – 8x8 SD-SDI 1RU non-reclocked router with control panel
- **SL-SD1616-N-CP** – 16x16 SD-SDI 1RU non-reclocked router with control panel
- **SL-SD3232-N-CP** – 32x32 SD-SDI 2RU non-reclocked router with control panel
- **SL-SD6464-N-CP** – 64x64 SD-SDI 4RU non-reclocked router with control panel

SL-SDxxxx-R

SD-SDI RELOCKED ROUTER

- **SL-SD0808-R** – 8x8 SD-SDI 1RU reclocked router
- **SL-SD1616-R** – 16x16 SD-SDI 1RU reclocked router
- **SL-SD3232-R** – 32x32 SD-SDI 2RU reclocked router
- **SL-SD6464-R** – 64x64 SD-SDI 4RU reclocked router

SL-SDxxxx-R-CP

SD-SDI RELOCKED ROUTER WITH CONTROL PANEL

- **SL-SD0808-R-CP** – 8x8 SD-SDI 1RU reclocked router with control panel
- **SL-SD1616-R-CP** – 16x16 SD-SDI 1RU reclocked router with control panel
- **SL-SD3232-R-CP** – 32x32 SD-SDI 2RU reclocked router with control panel
- **SL-SD6464-R-CP** – 64x64 SD-SDI 4RU reclocked router with control panel

Sublime

COMPACT ANALOG VIDEO ROUTERS

Nevion's Sublime analog video routers are low power, high reliability products providing high signal quality for professional broadcast analog video routing applications. As with all sublime routers the audio routers are controllable thru Ethernet-RS232 or NCB-fitting it into most analog video routing applications. Its extensive third-party support together with high configurability ensures easy integration with already existing larger routing systems.

Analog video routers

- Ranging from 8x8 in 1RU to 64x64 in 4RU
- Partitioning (for square routers only)
- SL-V1602: expandable up to 64x2
- Control via IP/Ethernet, RS232, NCB
- 5cm (2in) frame depth allowing front and rear rack mount
- Ultra-low power high-reliability design
- Redundant power supplies (brick or frame) with front indicators
- Interoperability with VikinX Modular range of routers

SL-Vxxxx

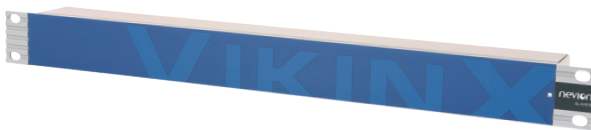
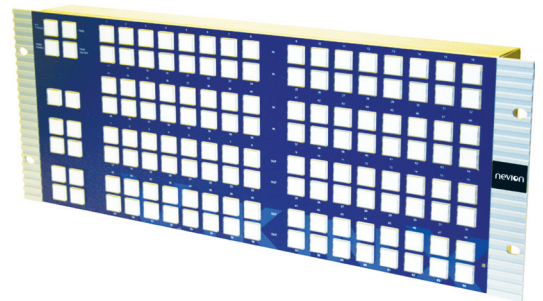
ANALOG VIDEO ROUTER

- **SL-V0808** – 8x8 analog video 1RU router
- **SL-V1602** – 16x2 analog video 1RU router
- **SL-V1616** – 16x16 analog video 1RU router
- **SL-V3232** – 32x32 analog video 2RU router
- **SL-V6464** – 64x64 analog video 4RU router

SL-Vxxxx-CP

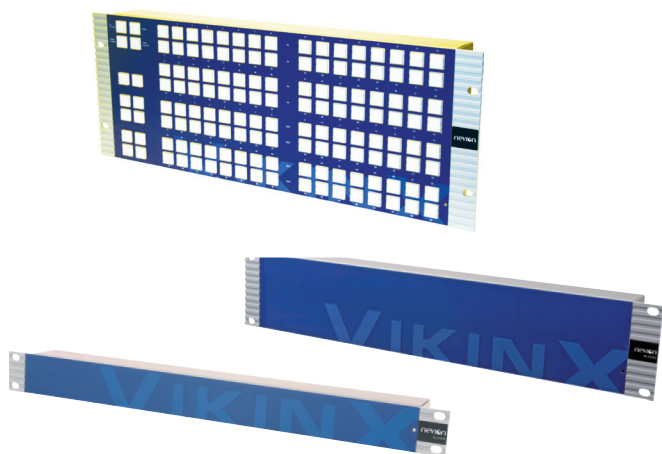
ANALOG VIDEO WITH CONTROL PANEL

- **SL-V0808-CP** – 8x8 analog video 1RU router with control panel
- **SL-V1602-CP** – 16x2 analog video 1RU router with control panel
- **SL-V1616-CP** – 16x16 analog video 1RU router with control panel
- **SL-V3232-CP** – 32x32 analog video 2RU router with control panel
- **SL-V6464-CP** – 64x64 analog video 4RU router with control panel



COMPACT DIGITAL AUDIO ROUTERS

Nevion's Sublime digital audio routers covers most studio routing application with a router series ranging from 8x8 to 64x64 both in balanced and unbalanced versions. Its option for embedded control panel, combined with the extensive third-party support given by all Nevion routers makes the routers fit in many applications, and also ease the installation into existing systems.



Digital audio routers

- Balanced 110 Ohm on DB25 female connectors
- Unbalanced 75 Ohm on BNC
- Embedded XY control panel
- Ethernet/RS232/NCB control
- Extensive third-party support
- Size: 1.9 inch - 1RU, 2RU or 4RU - depth 5cm
- Router range from 8x8 to 128x128
- Software-based Configurator for easy system set-up
- Low power, high reliability design
- Redundant power supply system with front indicators
- Interoperability with existing routers system

SL-ADxxxx-110

BALANCED DIGITAL AUDIO ROUTER

- **SL-AD0808-110** – 8x8 balanced digital audio 1RU router
- **SL-AD1602-110** – 16x2 balanced digital audio 1RU router
- **SL-AD1616-110** – 16x16 balanced digital audio 1RU router
- **SL-AD3232-110** – 32x32 balanced digital audio 2RU router
- **SL-AD6464-110** – 64x64 balanced digital audio 4RU router

SL-ADxxxx-110-CP

BALANCED DIGITAL AUDIO ROUTER WITH CONTROL PANEL

- **SL-AD0808-110-CP** – 8x8 balanced digital audio 1RU router with control panel
- **SL-AD1602-110-CP** – 16x2 balanced digital audio 1RU router with control panel
- **SL-AD1616-110-CP** – 16x16 balanced digital audio 1RU router with control panel
- **SL-AD3232-110-CP** – 32x32 balanced digital audio 2RU router with control panel
- **SL-AD6464-110-CP** – 64x64 balanced digital audio 4RU router with control panel

SL-ADxxxx-75

UNBALANCED DIGITAL AUDIO ROUTER

- **SL-AD0808-75** – 8x8 unbalanced digital audio 1RU router
- **SL-AD1602-75** – 16x2 unbalanced digital audio 1RU router
- **SL-AD1616-75** – 16x16 unbalanced digital audio 1RU router
- **SL-AD3232-75** – 32x32 unbalanced digital audio 2RU router
- **SL-AD6464-75** – 64x64 unbalanced digital audio 4RU router

SL-ADxxxx-75-CP

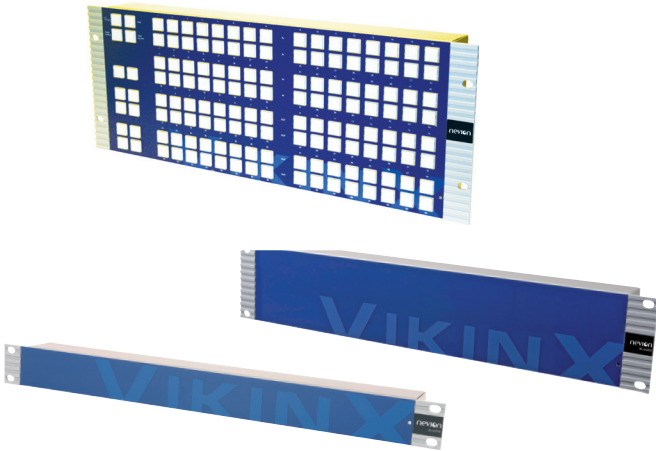
UNBALANCED DIGITAL AUDIO ROUTER WITH CONTROL PANEL

- **SL-AD0808-75-CP** – 8x8 unbalanced digital audio 1RU router with control panel
- **SL-AD1602-75-CP** – 16x2 unbalanced digital audio 1RU router with control panel
- **SL-AD1616-75-CP** – 16x16 unbalanced digital audio 1RU router with control panel
- **SL-AD3232-75-CP** – 32x32 unbalanced digital audio 2RU router with control panel

Sublime

COMPACT ANALOG AUDIO ROUTERS

Nevion's Sublime analog stereo audio routers are low power, high reliability products providing high signal quality for professional broadcast audio routing applications. As with all Sublime routers the audio routers are controllable thru Ethernet–RS232 or NCB–fitting it into most analog audio routing applications. Its extensive third-party support together with high configurability ensures easy integration with existing larger routing systems.



Analog audio routers

- Balanced stereo analog audio router ranging from 8x8 in 1RU to 64x64 in 4RU
- Embedded control panel
- Can be used for TimeCode routing
- Partitioning (for square routers only)
- SL-A1602: expandable up to 128x2
- Control via IP/Ethernet, RS232, NCB
- 5cm (2in) frame depth allowing front and rear rack mount
- Ultra-low power high-reliability design
- Redundant power supplies (brick or frame) with front indicators
- Interoperability with VikinX Modular range of routers

SL-Axxxx

ANALOG AUDIO ROUTER

- **SL-A0808** – 8x8 analog audio 1RU router
- **SL-A1602** – 16x2 analog audio 1RU router
- **SL-A1616** – 16x16 analog audio 1RU router
- **SL-A3232** – 32x32 analog audio 2RU router
- **SL-A6464** – 64x64 analog audio 4RU router

SL-Axxxx-CP

ANALOG AUDIO ROUTER WITH CONTROL PANEL

- **SL-A0808-CP** – 8x8 analog audio 1RU router with control panel
- **SL-A1602-CP** – 16x2 analog audio 1RU router with control panel
- **SL-A1616-CP** – 16x16 analog audio 1RU router with control panel
- **SL-A3232-CP** – 32x32 analog audio 2RU router with control panel
- **SL-A6464-CP** – 64x64 analog audio 4RU router with control panel

SL-D32P+

DATA ROUTER

The versatile SL-D32P+ is a RS422 router expandable to 128 ports providing customers with a range of router sizes to best match individual requirements—now and into the future



RS422 expandable 2RU data router

- Expandable to 128 ports using TDM technology
- Connect up to 4x routers to form 32-/64-/96-/128 ports
- IP-based system configurator
- RS422 machine control
- Expansion capability allows installations to expand as needs and budgets grow

SUBLIME CONTROL PANELS

Nevion series of Sublime control panels provides powerful control features to a large range of routing applications with their high flexibility thru their programmability, multi-router/ multi vendor support and multiple control interfaces. Sublime control panels support both serial and IP-based control. The panels are compact and lightweight, easily mounted in desks or racks. They are all 19" wide, and ranges from 1RU 8x8 single bus to 4RU 64x64 CY multibus. They are equipped with robust buttons designed to handle everyday use.

The panel is well fitted with small routing systems—one control panel can control up to four individual routers over IP. The Sublime panels can also be merged into large routing systems with Multicon. One Sublime control panel can control any router that Multicon controls; Sublime, Modular or any third-party router. This gives you great flexibility, both for existing and new installations.

The panel provides several levels of protection with the ability to lock and protect outputs from a Sublime control panel as well as assigning control confirmation, using "Take" as an extra action whenever a switch is initiated. This ensures that video feeds are not interrupted, making the panels ideal for live switching.

The configurability of the panel is extensive, with its "any button - any function" philosophy, allowing the assignment of any input, output or multiple crosspoint to a button. The button provides live feedback when it's active. Nevion Configurator enables configuration of control panels, supporting custom layouts, assignment of button configurations and changing between configurations to keep up with daily work. It also keeps track of all panels and helps maintain the network.

Control panels with singlebus layout have only input buttons enabling easy selection of inputs to a dedicated output. Current output is easily changed to any available output.

PROGRAMMABLE SINGLEBUS CONTROL PANELS WITH GPI/ JOYSTICK/ TALLY INTERFACE

SL-xxS-CP-GPI

- **SL-8S-CP-GPI** – 8 input singlebus 1RU control panel with GPI interface
- **SL-16S-CP-GPI** – 16 input singlebus 1RU control panel with GPI interface
- **SL-32S-CP-GPI** – 32 input singlebus 1RU control panel with GPI interface
- **SL-64S-CP-GPI** – 64 input singlebus 2RU control panel with GPI interface



Control panels

- Ranges from 8 buttons in 1RU to 64 buttons in 2RU
- Ethernet/RS232/NCB control
- Programmable
- Full button flexibility
- Robust buttons
- Live button status feedback
- Size: 19inch–1RU, 2RU–depth 5cm
- Low power

PROGRAMMABLE SINGLEBUS CONTROL PANELS

SL-xxS-CP

- **SL-8S-CP** – 8 input singlebus 1RU control panel
- **SL-16S-CP** – 16 input singlebus 1RU control panel
- **SL-32S-CP** – 32 input singlebus 1RU control panel
- **SL-64S-CP** – 64 input singlebus 2RU control panel

PROGRAMMABLE DUALBUS CONTROL PANEL

SL-16D-CP

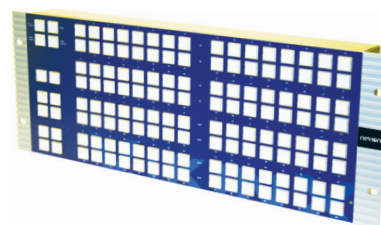
- **SL-16D-CP** – 16x2 Dualbus 1RU control panel



PROGRAMMABLE MULTIBUS X-Y CONTROL PANELS

SL-xxXY-CP

- **SL-16XY-CP** – 16x16 Multibus XY 1RU control panel
- **SL-32XY-CP** – 32x32 Multibus XY 2RU control panel
- **SL-64XY-CP** – 64x64 Multibus XY 4RU control panel
- **SL-8XY-CP** – 8x8 Multibus XY 1RU control panel



Modular

256X256 MODULAR ROUTERS

The Modular 3GHD256256L router is part of the VikinX Modular range, offering up to 256x256 3G-SDI, HD-SDI or SD-SDI X-points. This top-of-the-line router provides a very compact frame, fully hot-swappable architecture, built-in dual redundant power supply and fully redundant controller functions. Starting with the size of 32x32, the router can be expanded under operation with 32x32 increments. Advanced control features like TCP/IP interface and SNMP agent, as well as comprehensive surveillance of the router's vital parameters are available via the Multicon monitoring and control system. The Modular 3G/HD/SD-SDI router provides output reclocking and input (cable) equalization; which can be turned on/off on an individual basis. As with our well known VikinX compact router series, low power consumption has been important. VikinX Modular provides a fully hot-swappable architecture—all components are front loaded without any active components on the rear panel. VikinX Modular provides important third-party control interfaces allowing the control of our routers through third-party management software. Additionally, the THOR management package allows control of most common third-party routers. This enables you to utilize existing routers and management systems from other manufacturers and still draw the advantages of implementing VikinX Modular in your routing application.

256x256 routers

- 256x256 3G/HD/SD-SDI router
- Uses VikinX Modular components I/O boards, PSU and controller
- Additional eight monitor outputs
- Extended router lines (16x8); makes it possible to add standard Flashlink cards in the router and control them like a regular router input/output
- Provides all main features known from VikinX Modular HD/SD routers
- Lowest power consumption available, approx. 560W
- 3G-SDI, HD-SDI, SD-SDI, DVB-ASI, MADI and AES-3id audio in one frame
- All active components hot-swappable and front loaded

3GHD256256L

3G-SDI 21 RU MODULAR ROUTER

- **3GHD256256L** – 256x256 3G-SDI fully equipped modular router with single power supply and Multicon VX-MOD
- **XC-M256256-3GHD** – Main X-point module for 3GHD256256L

SD256256L

SD-SDI 21RU MODULAR ROUTER

- **SD256256L** – 256x256 SD-SDI fully equipped 21RU modular router with single power supply and Multicon VX-MOD

128X128 MODULAR ROUTERS

The Modular 3GHD128128M router is part of the VikinX Modular range, offering up to 128x128 3G-SDI, HD-SDI or SD-SDI X-points. This top of the line router provides a very compact frame, fully hot-swappable architecture, built-in dual redundant power supply and fully redundant controller functions. Starting with the size of 32x32, the router can be expanded under operation with 32x32 increments. Advanced control features like TCP/IP interface and SNMP agent, as well as comprehensive surveillance of the router's vital parameters are available via the Multicon monitoring and control system. The Modular 3G/HD/SD-SDI router provides output reclocking and input (cable) equalization; all of which can be turned on/off on an individual basis. As with our well known VikinX compact router series, low power consumption has been important. VikinX Modular provides a fully hot-swappable architecture—all components are front loaded without any active components on the rear panel. VikinX Modular provides important third-party control interfaces allowing the control of our routers through third-party management software. Additionally, the THOR management package allows control of most common third-party routers. This enables you to utilize existing routers and management systems from other manufacturers and still draw the advantages of implementing VikinX Modular in your routing application.

128x128 routers

- Up to 128x128 3G/HD/SD-SDI router
- Extensive third-party support
- Extended router lines (16x8); makes it possible to add standard Flashlink cards in the router and control them like a regular router input/output
- Lowest power consumption available, approx. 275W
- 3G-SDI, HD-SDI, SD-SDI, DVB-ASI, MADI and AES-3id audio in one frame
- All active components hot-swappable and front loaded

3GHD128128M

3G-SDI 9RU MODULAR ROUTER

- **3GHD3232M** – 32x32 3G-SDI expandable 9RU modular router with single power supply and Multicon VX-MOD
- **3GHD6464M** – 64x64 3G-SDI expandable 9RU modular router with single power supply and Multicon VX-MOD
- **3GHD9696M** – 96x96 3G-SDI expandable 9RU modular router with single power supply and Multicon VX-MOD
- **3GHD128128M** – 128x128 3G-SDI fully equipped 9RU modular router with single power supply and Multicon VX-MOD

SD128128M

SD-SDI 9RU MODULAR ROUTER

- **SD128128M** – 128x128 SD-SDI fully equipped 9RU modular router with single power supply and Multicon VX-MOD

AD128128

DIGITAL AUDIO 9RU MODULAR ROUTER

- **AD128128** – The Modular AD128128 router is part of the VikinX Modular products range, offering up to 128x128 digital audio X-points

Modular

64X64 MODULAR ROUTERS

The modular 3GHD6464S router is part of the VikinX Modular range, offering up to 64x64 3G-SDI, HD-SDI or SD-SDI X-points. This top of the line router provides a very compact frame, fully hot-swappable architecture, built-in dual redundant power supply and fully redundant controller functions. Starting with the 32x32 size, the router can be expanded under operation with 32x32 increments. Advanced control features like TCP/IP interface and SNMP agent, as well as comprehensive surveillance of the router's vital parameters are available via the Multicon monitoring and control system. The modular 3G/HD/SD-SDI router provides output reclocking and input (cable) equalization; all of which can be turned on/off on an individual basis. As with our well known VikinX compact router series, low power consumption has been important. VikinX Modular provides a fully hot-swappable architecture—all components are front loaded without any active components on the rear panel. VikinX Modular provides important third-party control interfaces allowing the control of our routers through third-party management software. Additionally, the THOR management package allows control of most common third-party routers. This enables you to utilize existing routers and management systems from other manufacturers and still draw the advantages of implementing VikinX Modular in your routing application.

64x64 routers

- Up to 64x64 3G/HD/SD-SDI router
- Extensive third-party support
- Extended router lines (16x8); makes it possible to add standard Flashlink cards in the router and control them like a regular router input/output
- Lowest power consumption available, approx. 275W
- 3G-SDI, HD-SDI, SD-SDI, DVB-ASI, MADI and AES-3id audio in one frame
- All active components hot-swappable and front loaded

3G-SDI 5RU MODULAR ROUTER

3GHDxxxxS

- **3GHD3232S** – 32x32 3G-SDI expandable 5RU modular router with single power supply and Multicon VX-MOD
- **3GHD6464S** – 64x64 3G-SDI fully equipped 5RU modular router with single power supply and Multicon VX-MOD

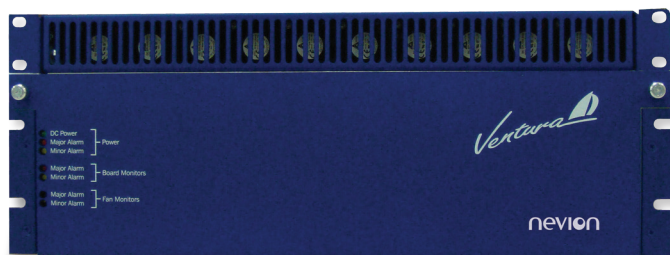
SD-SDI 5RU MODULAR ROUTER

SD6464S

- **SD6464S** – 64x64 SD-SDI fully equipped 5RU modular router with single power supply and Multicon VX-MOD



CARRIER-CLASS MEDIA TRANSPORT SOLUTIONS



Our Ventura carrier-class product line increases the flexibility of any video transport network. Whether deployed for fiber-overlay transport, telco interfacing to SONET/SDH or IP, with or without signal multiplexing, Ventura products deliver unequalled scaling and flexibility. As a telco-grade solution, Ventura exceeds the engineering requirements of the harshest operating environment with NEBS Level 3 certification, providing an extensive range of fiber overlay, SONET/SDH and video over IP solutions.

Standards based and NEBS Level 3 Certified

Ventura solutions adhere to strict industry standards ensuring interoperability. The Ventura family is also the most extensive range of NEBS Level 3 certified video transport products on the market. It is the only NEBS Level 3 platform with an extensive range of fiber overlay SONET/SDH and video-over-IP/Ethernet solutions.

FPGA-based core advantages

Nevion's development of intellectual property rights (IPR) core designs integrate functions such as high speed clock recovery, SONET framing, RTP/UDP/IP processing, high speed time division and transport stream multiplexing. These IPR cores allow for unprecedented levels of integration, power efficiency, reliability and design flexibility. These FPGA/IPR platforms allow rapid development of new products and remote firmware for delivery of new features and functions without service interruption.

SFP, SFP+ and XFP optical interfaces

Ventura products are equipped with small form factor pluggable (SFP), enhanced form factor pluggable (SFP+) or 10 Gigabit small form factor pluggable (XFP) optical interfaces to facilitate convenient wavelength selections for customer deployed equipment. This simplifies adding and scaling services on an incremental, as required basis.

Internet Protocol networking—unprecedented quality and flexibility

Nevion stands alone as a provider of a comprehensive range of NEBS Level 3 compliant video-over-IP/Ethernet solutions. Contribution or distribution, JPEG 2000, H.264 or MPEG-2, Ventura products for IP/Ethernet video transport provide efficient aggregation of video signals across IP/Ethernet networks for content distribution of any kind—unidirectional, bidirectional, unicast or multicast—plus key compression and multiplexing technologies. These features ensure the contribution quality that has been frequently lacking but is critical to efficient, high-quality transport over IP/Ethernet networks.

SONET/SDH networking

Nevion provides extensive options for converting diverse video signals into a common format for efficient multiplexing and mapping to various SONET/SDH speeds. Integrated protection switching for optical path protection and the ability to absorb pointer projections without an external timing source simplify system integration.

Fiber overlay–optical multiplexing

In the optical domain, Nevion's Ventura platform has adopted the ITU standardized WDM, CWDM and DWDM wavelengths to provide 1310/1550 WDM, 4, 8 and 18 CWDM, and 16 and 32 DWDM solutions. Working with the field's leading manufacturers, Nevion provides a family of single-slot solutions that integrates with all other modules. Together with Ventura's SFP optical interfaces, this enables the user to add and scale services on an incremental—as required basis—any service can run on any open wavelength.

JPEG 2000 compression

Ventura uses advanced JPEG 2000 compression to reduce the bandwidth requirements of 3G-SDI, HD-SDI and SD-SDI so that lower bandwidth network connections become useful. With JPEG 2000's visually lossless compression (12:1 compression ratio) viewers receive images with no visible artifacts such as blocking, tiling or motion dependence. At 45ms, Ventura's JPEG 2000 solution offers very low latency, a critical requirement for transport of live content. Extremely efficient bandwidth optimization techniques yield the highest video quality at given bandwidths. The Ventura implementation of JPEG 2000 requires less than 10 watts of power for compression, encapsulation, and protection per channel, allowing it to be switched into service and scaled as required. In contribution applications with less emphasis on bandwidth cost, JPEG 2000 is a superior alternative to MPEG-2 and MPEG-4 compression engines.

MPEG-2 and H.264 compression

Ventura supports legacy MPEG-2 compression and next generation H.264 compression offering a complete transport solution for any application over any infrastructure. Ventura MPEG-2/H.264 codec's continue the philosophy of modular based solutions with codec and network interfacing built onto a single device. Ventura's MPEG-2/H.264 solution scales from 4:2:0/8bit to 4:2:2/10bit compression at bit rates between 2 and 80Mbps, along with choices for 750 or 250ms of end-to-end latency. The quality of these codec's provide unmatched quality versus efficiency in the industry today allowing contribution grade video to be transported over severely bandwidth limited infrastructure.

Signal aggregation

Recognizing the continuing importance of 270Mbps in digital video transport, Nevion offers a suite of Ventura fiber and SONET/SDH TDM multiplexers that uses 270Mbps as the standard time slot. These solutions enable easy signal aggregation of varying formats and bandwidth requirements into SD-SDTI or DVB-ASI for signals that can be efficiently transmitted over IP/Ethernet, SONET/SDH or fiber. This allows customers to maximize existing 270Mbps infrastructures while expanding their networks in new directions.

Comprehensive management

Nevion provides a layered approach to system monitoring and management, including built-in test and monitoring in each function module, element and in-band management, nonintrusive in-service monitoring, and high level network management for instant overview and event/element database management.

66

PRODUCT FUNCTION MATRIX		Page	F-Function	I/P-U/T/O-I/P-U/T	Network Interface Rate (mbps)
VS722-SFP-TRX	71	Management		ATSC (Electrical)	34 (E3)
VS901-IED-GEP	72	(VEMS) Inband Management		DVB-ASI	45 (DS3)
VS901-IED-GE-LXP	72	Optical Multiplexing		SD-SDI	155 (OC3)
VS901-AIED-GEP	72	TDM Multiplexing		SD-SDTI	2488 (OC48)
VS902-1G	73	ASI Multiplexing		HD-SDI	9952 (OC192)
VS902-10G	73	Audio Embedding		HD-SDTI	10 (10Base-T)
VS904-AIE	74	Audio Compression		3G-SDI	100 (100Base-TX)
VS904-AID	74	Data Transport		CVBS Video	1000 (1000Base-T\1000Base-LX)
VS906-DA	75	JPEG 2000 Compression		Analog audio	10000 (10GBase-SR\10GBASE-R\SFP+Cu)
VS906-AA	75	H.264 Compression		AES audio	270 (DVB-ASI\SD-SDI\SD-SDTI)
VS906-E1	75	MPEG-2 Compression		10/100 Ethernet	1302 (Proprietary)
VS811-SHM-48	76	Protection Switching - Network		10/100/1000 Ethernet	1485 (HS-SDI)
VS811-SHD-48	76	Protection Switching - SIPS		RS422	2970 (3G-SDI)
VS861-SM-192	76	Test Pattern Generation		E1	3125 (Proprietary)
VS861-SD-192	76	Signal Test & Verification			10000 (Proprietary)
VS9155-AM	77	Optical Transmitter			
VS9155-AD	77	Optical Receiver			
VS9345-AM	77	Optical Repeater			
VS9345-AD	77	Optical Transceiver			
		Single channel			
		Multi-channel			

Ventura Product Function Matrix

[illegible]

Chassis

VERSATILE, CARRIER-CLASS CHASSIS

The Nevia Ventura™ family of chassis are carrier class, NEBS Level 3 certified platforms. Designed to meet the exacting requirements of the central office environment. The VS101 and VS103 are also ergonomically and technically ideal for integrating into broadcast and production facilities. With an available powerful network management system and supporting an expanding number of functional cards, the platform is a future-proof solution for professional video processing and transport.

The VS101-3 and VS103 chassis are designed for fixed rack mounting applications that adhere to the philosophy that all connections are to be made from the back with modular cards accessible from the front of the chassis.

For outdoor applications, a ruggedized enclosure, the MOT-BOX, supports the installation of the Ventura VS101-3 and VS103 chassis to enable the deployment of optical transport, signal processing and distribution functions.

With the VS101-1, a single module can be installed in a highly portable enclosure for occasional use or in deployments where there is limited space but a requirement for professional video processing and transport.

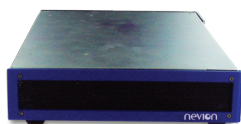
Chassis

- Both AC and DC versions available
- Available dual redundant load sharing power supply
- Hot swappable cards in any slot
- Field serviceable fans
- Optional Advanced Element Management System that provides remote status, alarms and configurations via SNMP and Ethernet, without occupying a card slot
- NEBS Level 3-certified for central office applications

VS101-1

PORTABLE CHASSIS

- One slot for any card from the Ventura series
- Portable system with available rack mount solution



VS101-3

1 RU CHASSIS

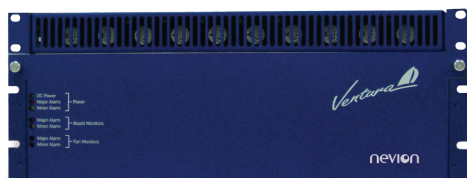
- Three slots for any combination of cards from the Ventura series
- Optional AEMS does not require a slot



VS103

4RU CHASSIS

- Ten slots for any combination of cards from the Ventura series
- Optional AEMS requires one slot



MOT-BOX

HARD CASE SHELL

- Compact and lightweight 2RU or 4RU enclosures
- Holds a Ventura 1RU or 4RU frame
- Available with patch panel for easy access



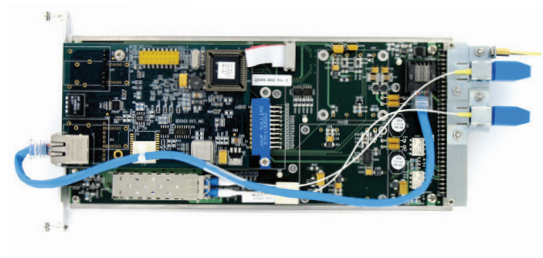
IP/Ethernet

VS722-SFP-TRX OPTICAL TRANSCEIVER

Application overview

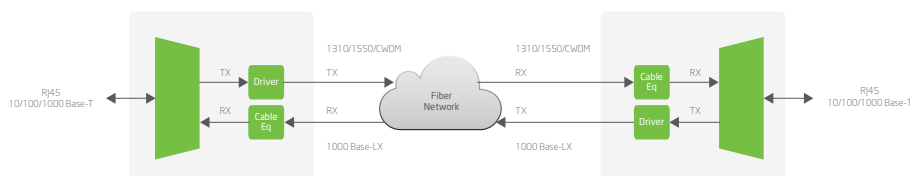
The VS722 is a single-slot transceiver card providing 10/100/1000Mbps Ethernet interfacing to all supported wavelengths. The optical link budget is matched to other Ventura fiber transport cards to ensure distance compatibility of all signal formats.

Two of the VS722 cards provide a full-duplex GigE fiber communication link with auto-negotiation. The customer interface can be rate-controlled to match the services being provided.



Key features

- Full-featured Gigabit Ethernet metropolitan transport solution
- SFP optics allows for optimum sparing and fast configuration to available Ventura wavelengths
- UTP port supports 10/100/1000 and half/full duplex and auto-negotiation
- Bandwidth control allows service providers to configure UTP rate to 10 or 100 or 1000Mbps



VS909 IP MEDIA EDGE PROCESSOR

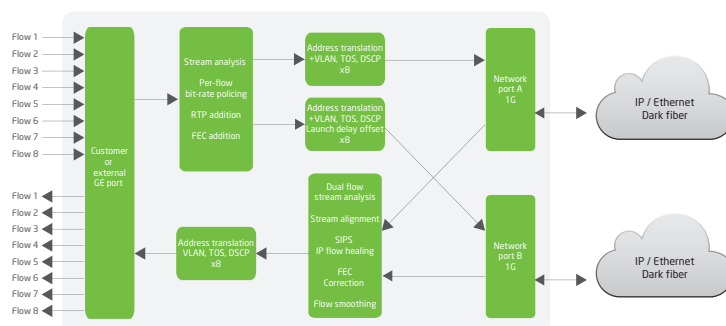
Application overview

Nevion's IP Media Edge Processor (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), Streaming Intelligent Packet Switching (SIPS), launch delay offset (LDO), and network address translation including multicast, unicast, VLAN, RTP, and many more.



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

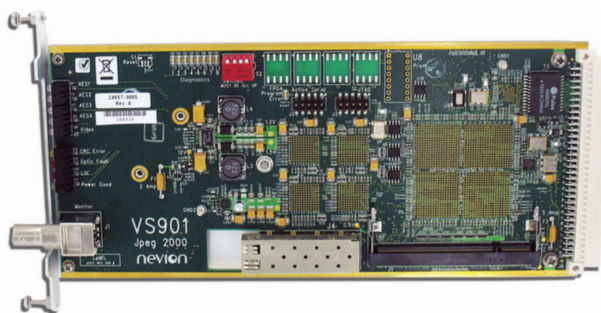


IP/Ethernet

HD/SD JPEG 2000 COMPRESSION

VS901

The VS901 is the most flexible solution for interfacing HD and SD-SDI to 270Mbps SDTI, ASI, and IP/Ethernet networks through JPEG 2000 compression. With the VS901, Neveon customers can choose to deploy multiple high quality HD or SD videos over band limited networks through ASI multiplexers, or high quality HD videos with SDTI mapping over 270Mbps networks. In addition, JPEG 2000 can be directly deployed over IP/Ethernet with SMPTE compliant encapsulation. The combination of Neveon network multiplexers and the VS901 provides users with enormous flexibility, allowing them to deploy high quality video over any network infrastructure over any distance while maintaining a single card for spares.



JPEG 2000 compression

- Artifact-free JPEG 2000 compression of HD-SDI—no blocking, tiling or motion dependence
- Visually lossless HD compression as low as 12:1 compression ratio
- Near mathematically lossless compression at a 2:1 compression ratio for SD video
- Supports all HD and SD video framing formats at 1485Mbps, 1483.52Mbps and 270Mbps
- Automatic detection of SD and HD inputs and compression to user defined rates

VS901-TAED-27 SDTI AND ASI

- DVB-ASI network interfaces compliant to EN50083-9 with MPEG-2 transport stream rates configurable between 10 to 213Mbps
- SDTI network interfaces compliant to SMPTE 305M for use in standard 270Mbps infrastructure
- Input can be HD, SD or ASI; ASI signals bypass JPEG 2000 compression in both SDTI and ASI modes, SD signals bypass JPEG 2000 compression in SDTI mode

VS901-IED-GEP IP

- IP/Ethernet network interface with encapsulation compliant to SMPTE 2022-2 with forward error correction compliant to SMPTE 2022-1
- Configurable MPEG-2 transport stream rates between 10 to 204Mbps
- Configurable packet buffer for tolerance of network specific packet delay variation

VS901-AIED-GEP IP OR ASI

- Configurable as an ASI encoder, ASI decoder, IP encoder, or as a IP decoder
- Supports all capabilities in the ASI and IP modes

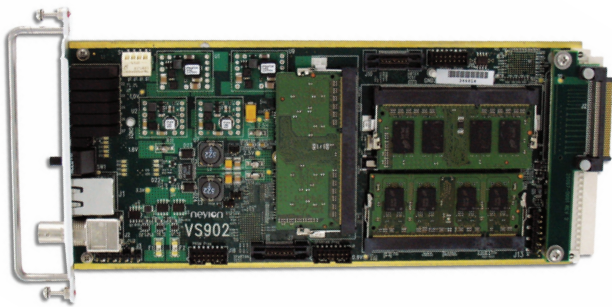
VS901-IED-GE-LXP OPTICAL ETHERNET

- Supports all functions found in the JPEG 2000 over IP encoders and decoders
- Optical Ethernet support through an onboard SFP cage with singlemode fiber
- SFP wavelengths of standard 1310nm, 1550nm wideband and CWDM wavelengths

MULTI-FORMAT VIDEO TRANSPORT FOR IP/ETHERNET

VS902

The VS902 is a modular multi-format contribution codec for IP/Ethernet networks. The VS902 provides linear encapsulation of uncompressed SD-SDI, HD-SDI, and 3G-SDI signals over 10Gigabit Ethernet. In addition, the VS902 also encapsulates DVB-ASI Signals or JPEG 2000 compression for contribution video over Gigabit Ethernet. With the VS902, users can deploy multiple video circuits in point to point local loop applications or over long-distance packetized networks. This flexible platform enables highly cost-efficient video transport over a common unified platform accessing virtually any environment—including long distance, metro area and campus networks.



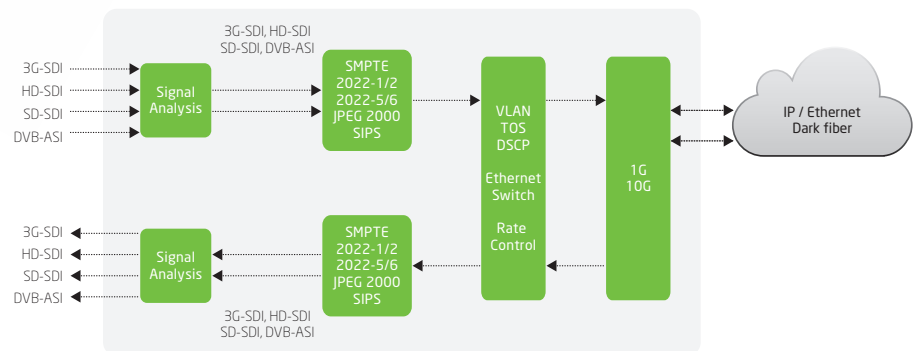
Multi-format video transport

- Multi-rate support; 3G/HD/SD-SDI
- Supports DVB-ASI
- Reclocking on standard 3G/HD/SD-SDI signals. Reclockers may be turned off, for support of E4/STM-1e
- Ethernet and RS232 control interfaces
- Ultra slim frame depth
- 8 RU
- Low power consumption (< 150W); high reliability design
- Supported bitrates: 143Mbps – 3Gbps

VS902-1G-4L

ASI OVER GE

- IP/Ethernet encapsulation of 4 x bidirectional DVB-ASI signals compliant to SMPTE 2022-2 with forward error correction compliant to SMPTE 2022-1
- Configurable MPEG-2 transport stream rate ceilings up to 213Mbps in 1Mbps increments
- SFP cages accessible from the rear supporting electrical and optical pluggable components with greater than 100km of reach



VS902-10G-4L

SD/HD/3G OVER 10GE

- IP/Ethernet encapsulation of 4 x bidirectional SD/HD-SDI or 3 x bidirectional 3G-SDI signals compliant to SMPTE 2022-6 with forward error correction compliant to SMPTE 2022-5
- Transparent handling of the SDI signal with no processing requiring less than 1 millisecond for end-to-end encapsulation and de-encapsulation
- SFP+ cages accessible from the rear supporting electrical and optical pluggable components with 80km of reach

VS902-1G-4JL

JPEG 2000 OVER GE

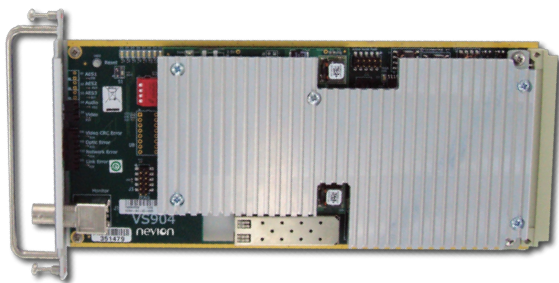
- IP/Ethernet encapsulation of 2 x unidirectional JPEG 2000 compressed signals compliant to SMPTE 2022-2 with forward error correction compliant to SMPTE 2022-1
- Configurable JPEG 2000 bitrates up to 300Mbps in 1Mbps increments
- Transparent transport of four AES audio groups

IP/Ethernet

MPEG-2/H.264/AVC-INTRA ENCODER/DECODER OVER ASI AND IP

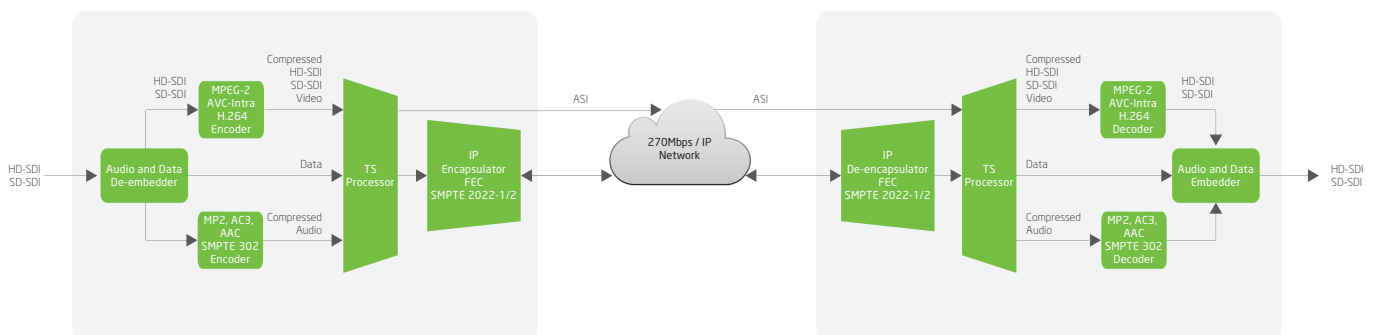
VS904

The VS904 is a modular MPEG-2, H.264, AVC-Intra encoder or decoder that provides professional high quality SD/HD-SDI video transport through state of the art compression. The VS904 provides a choice of IP or DVB-ASI network interfaces allowing deployment of services over IP networks or traditional video networks. The VS904 supports Hi422 Profiles at Level 4.1 for HD and Level 3.2 for SD. With configurable transport stream rates from 2.5 – 128Mbps, the VS904 provides users the capability to deploy contribution SD or HD video over bandwidth limited infrastructure while delivering the highest possible quality. In addition, the VS904 is available with low latency configurations to support real-time contribution applications.



Multi-format video transport

- High quality H.264/MPEG-2/AVC-Intra codec optimized for contribution and primary distribution applications
- Audio codecs supporting MPEG-1 Layer 2, AAC-LC, HE-AAC compression, and SMPTE 302/Dolby pass through
- Licensable options with upgrade path for a highly cost effective solution
- Transport stream to IP mapping compliant to SMPTE 2022-2-2007 and fully configurable FEC per SMPTE 2022-1-2007
- User selectable video transport stream rate with automatic video rate specification



VS904-AIE

ENCODER

- Supports CAVLC, CABAC, MBAFF and advanced weighted prediction for H.264 encoding
- Highly configurable transport stream rates supporting 2.5Mbps to 128Mbps with 1Kbps resolution
- Multiple audio codecs and pass through options with configurable audio compression rates supporting 32Kbps to 448Kbps
- Latency options for 150ms news gathering or live content transport applications and 650ms for the highest quality contribution transport applications

VS904-AID

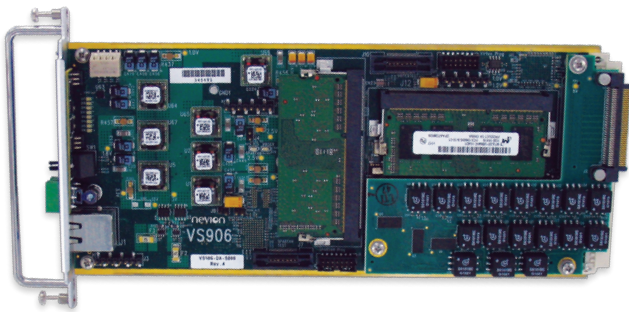
DECODER

- User selectable ASI or IP/Ethernet network interfacing
- Configurable jitter buffer to accommodate network induced packet jitter
- Supports IGMP v2/v3 for multicast applications,
- Latency options for 100ms news gathering or live content transport applications and 300ms for the highest quality contribution transport applications

E1/T1 AND ANALOG/DIGITAL AUDIO TRANSPORT OVER IP

VS906

The VS906 is a family of modular, multichannel data/audio contribution codec for IP/Ethernet networks. With the VS906 users can deploy multiple data or audio circuits in point-to-point local loop applications or over long-distance packetized networks. This flexible platform enables highly cost-efficient data or audio transport and with companion video transport cards, provides a comprehensive media delivery platform for virtually any environment including—long distance, metro area and campus networks.



Multi-format video transport

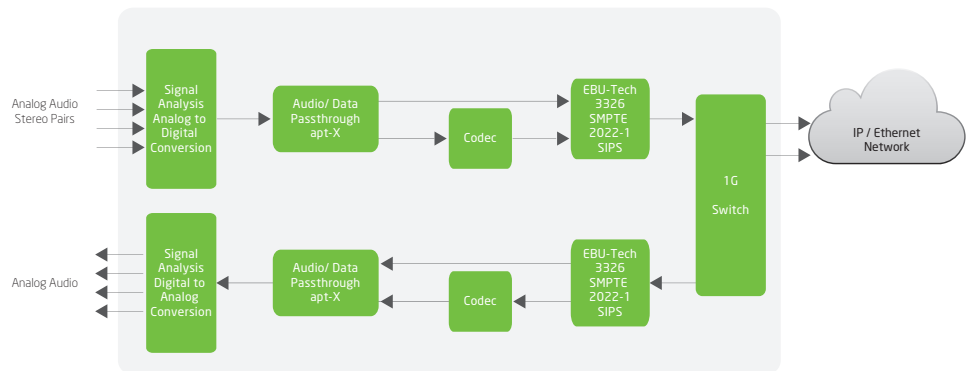
- Multichannel data and audio encapsulation using standards based circuit emulation, EBU – TECH 3326
- Streaming Intelligent Packet Switching (SIPS) providing perfect video over IP protection switching using dual network feeds
- Encoder partner protection (EPP) for 1+1 hardware redundancy in combination with SIPS
- Dual Gigabit Ethernet networks interfaces using SFP technology for up to 80km of reach. Gigabit Ethernet or Fast Ethernet electrical network interface option

VENTURA

VS906-AA

ANALOG AUDIO

- 4 x bidirectional analog stereo pairs encapsulated and transported per EBU TECH 3356
- Forward error correction according to SMPTE 2022-1
- Optional audio compression support through Enhanced apt-X
- Support for 600 Ohm impedance and high impedance audio inputs



VS906-DA

DIGITAL AUDIO

- 8x bidirectional AES streams encapsulated and transported per EBU TECH 3356
- Forward error correction according to SMPTE 2022-1
- Optional audio compression support through enhanced apt-X
- Support for balanced 110 Ohm and unbalanced 75 Ohm audio input impedance

VS906-E1

E1

- Eight x bidirectional E1 circuits encapsulated and transported per EBU TECH 3356
- Forward error correction according to SMPTE 2022-1

SONET/SDH/PDH

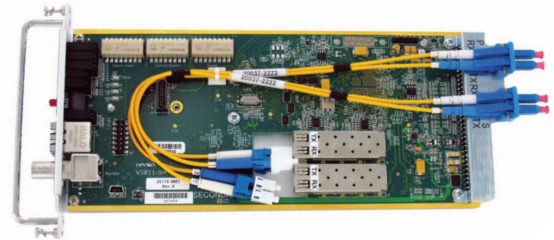
VS811-SHx-48

HD/SD MULTIPLEXER OVER OC-48C/STM-16

Application overview

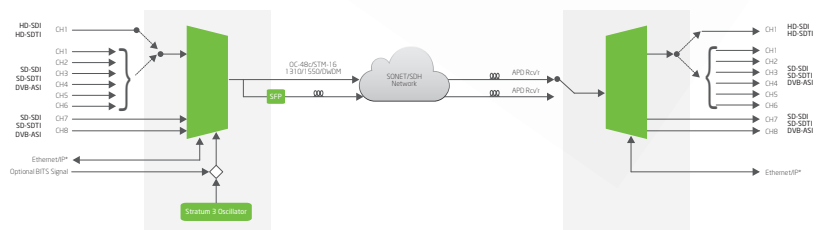
The integrated VS811-SHM-48 multiplexer and VS811-SHD-48 demultiplexer are used in applications that require transport of a mix of signals over OC-48c/STM-16 network infrastructures. They automatically detect and transport HD-SDI, HD-SDTI, SD-SDI, SD-SDTI and DVB-ASI. The VS811-SHx-48 also provides Ethernet transport.

This product is ideal for use in trunking and aggregation of video signals over SONET/SDH networks.



Key features

- Integrated solution for multichannel digital video over OC-48c or STM-16 network tributary, configurable for 8 x 270Mbps or 1 x 1.5Gbps and 2 x 270Mbps
- Enable/disable control for mux input channels
- Single or optional dual optical outputs at mux with single or optional dual optical receivers at demux for path diversity with automatic protection switching



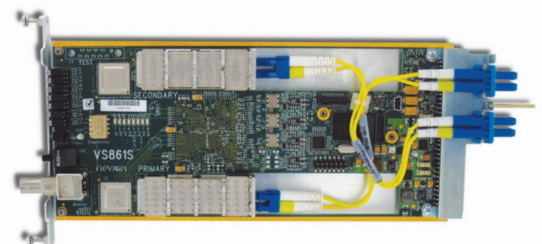
VS861-Sx-192

HD/SD MULTIPLEXER OVER OC-192C/STM-64

Application overview

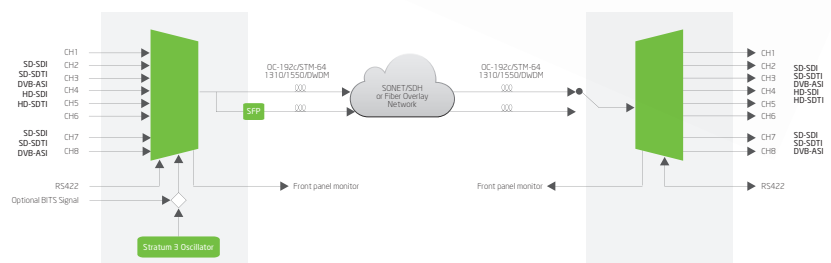
The VS861-SM-192 multiplexer and VS861-SD-192 demultiplexer provides the transport of multiple uncompressed HD and SD signals over SONET/SDH. Users are guaranteed that their video signals are transported in pristine form with signal jitter attenuation and network monitoring. When used with Nevion support modules, high density video transport can be easily effected.

When combined with the VS901-TAED and the VS411-HD, users can transport up to 26 visually lossless HD videos across a single link using JPEG 2000. With the VS9500, up to 416 ASI signals can be transported.



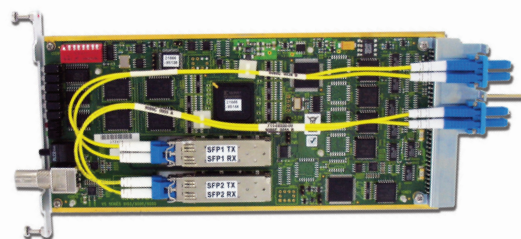
Key features

- Six HD-SDI and two SD-SDI digital video mux/demux over OC-192c or STM-64 network tributary
- Manages SONET/SDH pointer adjustments to allow for flexible and dynamic realignment of frame
- Optional single or dual optical outputs at mux with optional single or dual optical receivers at demux for path diversity with automatic protection switching



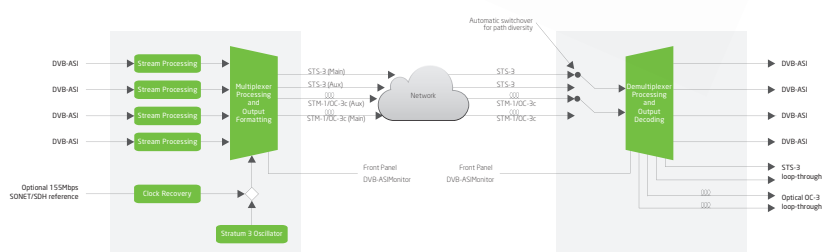
Application overview

The VS9155-AM multiplexer and the VS9155-AD demultiplexer interoperates with other Ventura products to form a layered approach to multiplexing and network interfacing OC-3c rates. With the most efficient use of bandwidth available, these products are designed to squeeze the maximum number of channels into a given capacity. The VS9155 individually manages, controls, and protects each transport stream, enabling multiple customers to be served on a single 155Mbps carrier. The VS9155 does not process the transport streams, ensuring that the output is identical to the received input.



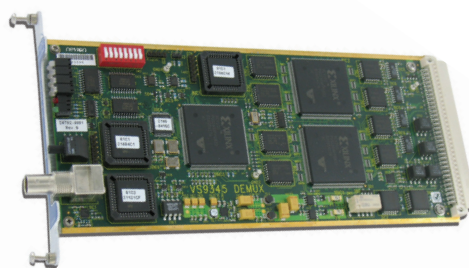
Key features

- Multiplexes four DVB-ASI transport streams (TS) into one OC-3c/STM-1/STS-3c (155Mbps) output
- Maximizes ASI payload capacity (up to 147Mbps over a 155Mbps network)
- Inputs can be fed by VS9500, supporting up to a total of 16 transport streams
- Individual channel bandwidth ceiling provides total control over capacity available to client



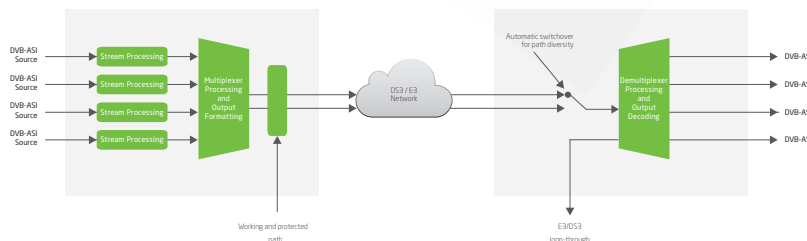
Application overview

The VS9345-AM demultiplexer and the VS9345-AD demultiplexer interoperates with other Ventura products to form a layered approach to multiplexing and network interfacing at E3/DS3 rates. With the most efficient use of bandwidth available, these products are designed to squeeze the maximum number of channels into a given payload. The VS9345 manages, controls and protects each TS individually, enabling multiple customers to be served on a single 34Mbps or 45Mbps circuit. The VS9345 does not process the transport streams, ensuring that the output is identical to the received input.



Key features

- Multiplexes four DVB-ASI inputs into one DS3 (45Mbps) or E3 (34Mbps) output
- Input ports can be fed with a VS9500 sub-multiplexer, supporting up to a total of 16 transport streams
- ASI inputs can be switched to any demux output
- Maximizes ASI payload capacity (up to 43.4Mbps (DS3) or 33.6Mbps (E3) over a 45Mbps network); supports 2 x 19.4Mbps TS signals over DS3 link



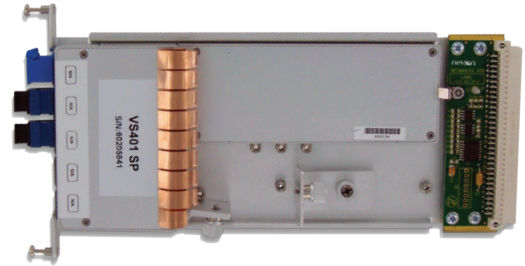
Fiber overlay

VS401SP

OPTICAL SPLITTER

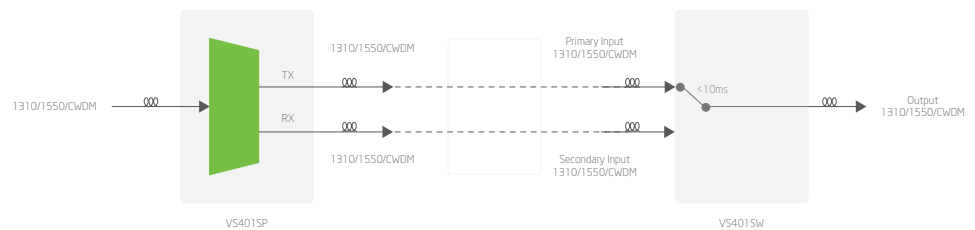
Application overview

The VS401 SP 2 Channel Optical Splitter is designed for integration into metro and access optical communication networks. It provides a high-performance solution for path redundancy in optical networks. Each module has one input and dual outputs and is designed to split a single optical path into a primary optical path and a secondary optical path for requirements in path redundancy for optical networks. The VS401SP supports 1310nm, 1550nm or any CWDM wavelength.



Key features

- Half power split – 50/50
- Environmentally stable
- Low insertion loss, typically less than 3.6dB including split, connector and internal losses
- Wide wavelength range covering all CWDM wavelengths
- Directivity better than 50dB
- Low polarization dependent loss

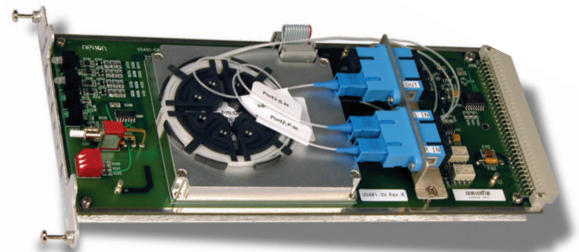


VS401SW

OPTICAL SWITCH

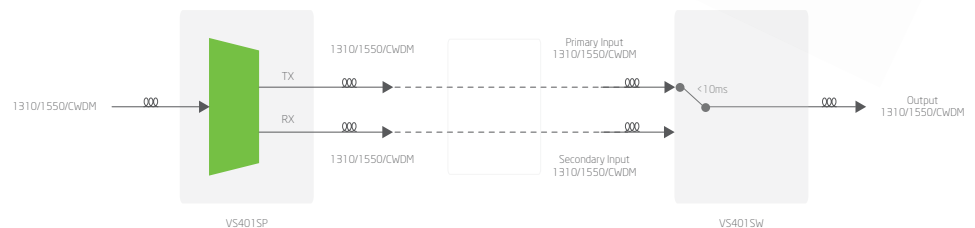
Application overview

The VS401 SW is a bidirectional high-performance optical switch. Each module has dual inputs and a single output with an onboard microprocessor for detection of signal availability and failover in the case of a loss of signal. The VS401SW supports both revertive and non-revertive modes and can also be manually triggered from the AEMS or through a push button. The VS401SW supports 1310nm, 1550nm or any CWDM wavelength.



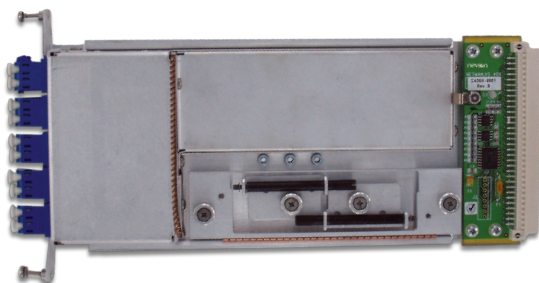
Key features

- Two x 1 optical path protection
- Each path is fully bidirectional
- Accepts all CWDM wavelengths
- Revertive and non-revertive switching modes
- Fast 10ms switching time
- Front panel and remote netman manual switch
- Low loss < 2dB



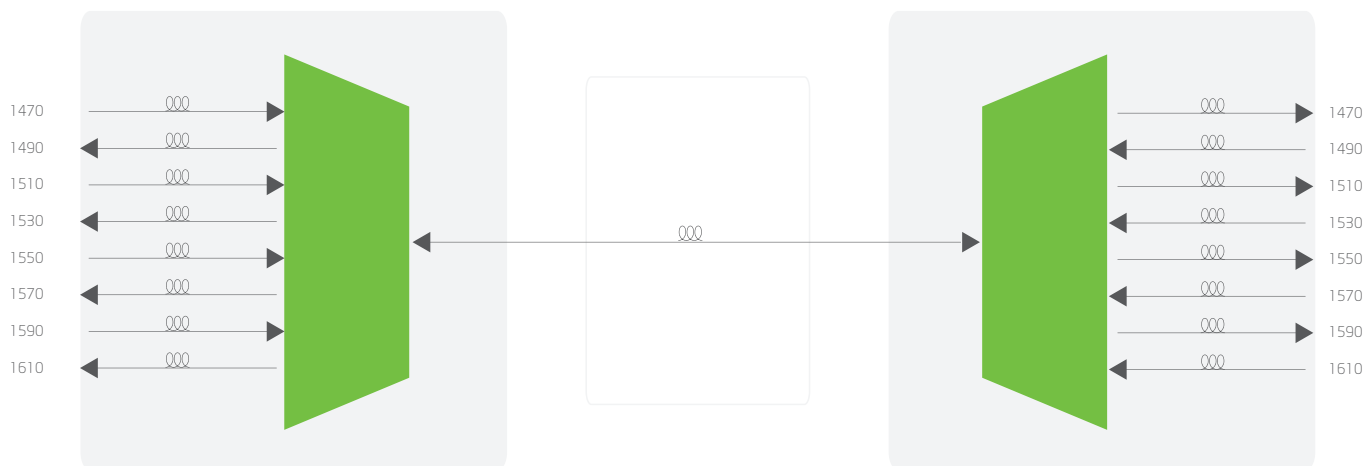
2, 4, 8, 9, 18 CHANNEL OPTICAL MULTIPLEXER

The VS402, VS404, VS408, VS409, and VS418 WDM/CWDM systems are designed for integration into metro and access optical communication networks. These optical multiplexer systems have high channel isolation and very low insertion loss which make them ideal for long optical link transmission with minimal signal cross-talk. All channels are bidirectional and can be used in single fiber applications requiring optical communication in both directions.



Optical multiplexers

- Bidirectional channels
- Environmentally stable
- 20nm channel spacing
- Low return loss
- Very low insertion loss
- ITU G.694.2 standards compliant
- High channel isolation



	VS402-WDM	VS404-CWDM	VS408-CWDM	VS409-CWDM	VS418-CWDM-M/D
Optical wavelengths (nm)	1310nm, wideband, 1550nm, wideband	1510nm, CWDM through 1570nm, CWDM	1470nm, CWDM through 1610nm, CWDM	1310nm, wideband, 1470nm, CWDM through 1610nm, CWDM	1270nm, CWDM through 1610nm, CWDM
Insertion loss (max)	1 dB	1 dB	1.5dB	1.8dB	1.5dB – 3.5dB (varies)
Link loss w/mux/demux combo	≤ 2.0dB	≤ 2.0dB	≤ 2.5dB	≤ 3.0dB	≤ 5.0dB

Fiber overlay

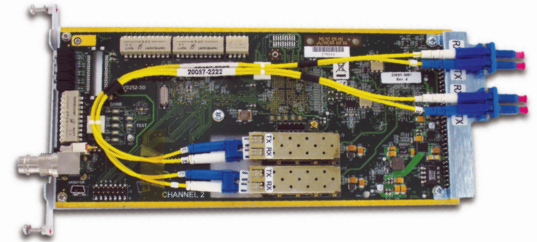
VS252-3G

3G-SDI FIBER OPTIC TX / RX / TRX / SWITCH

Application overview

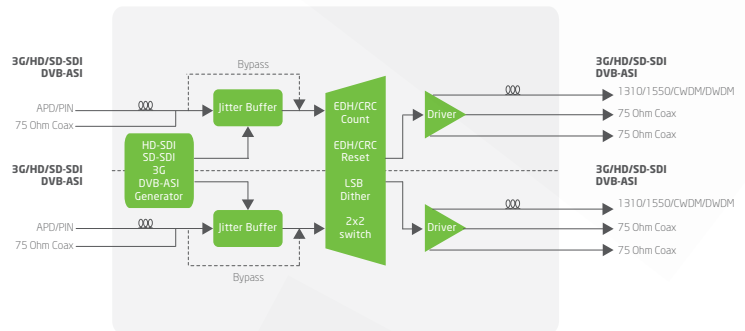
The VS252-3G is a full featured digital video transport processor supporting signal rates from 10Mbps through 3Gbps.

The VS252-3G is ideal for telco environments where both large losses and poor dispersion characteristics associated with legacy fiber plant are overcome with carrier class long-reach optics and unique jitter management techniques ensuring the highest signal integrity possible. With support for 3G video, signal integrity (EDH/CRC) monitoring and test pattern generation, the VS252 supports all optical video transport applications over 1310nm, 1550nm, CWDM and DWDM (LSB dithering) wavelengths.



Key features

- Universal digital video transport supporting 10Mbps to 3Gbps signals with jitter management and non-jitter management modes
- Jitter management at 2.970Gbps and 2.967Gbps 3G-SDI, 1.485Gbps and 1.4835Gbps HD-SDI/HD-SDTI and 270Mbps SD-SDI/SD-SDTI/DVB-ASI
- Full CRC and EDH checks for 3G-SDI, HD-SDI and SD-SDI signals
- Built-in SD-SDI, HD-SDI and 3G-SDI test signal generator

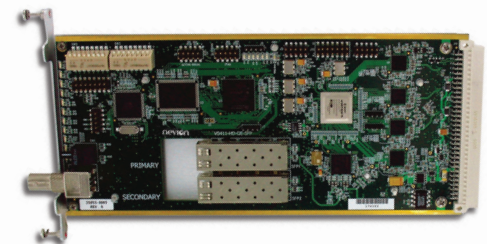


VS411-HD

SDI FIBER TRANSPORT WITH ANALOG VIDEO CONVERSION

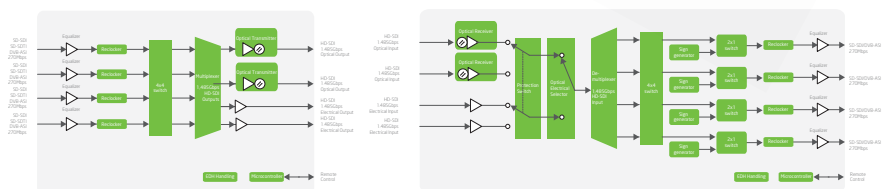
Application overview

The VS411-HD time division multiplexes four 270Mbps signals (SD-SDI, DVB-ASI, SD-SDTI) into a single HD-SDI signal. The VS411-HD allows low rate signals to be efficiently inserted into high bandwidth video circuits. When used with the multiple VS901-TAED-27s, JPEG 2000 codec, up to four visually lossless HD-SDI compressed videos can be transported over a single HD link. In addition, when used with DVB-ASI multiplexers, the VS9500, up to 64 ASI signals can be transported over the same link. These modules can be mixed allowing users to maximize the bandwidth of standard HD infrastructure for transport and switching providing greatly increased efficiency and cost savings.



Key features

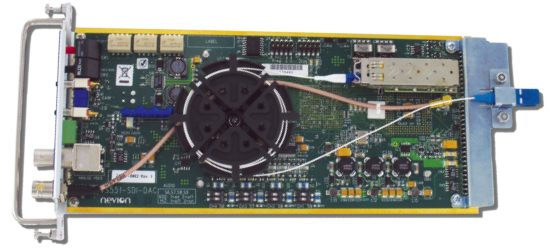
- 4-Channel time division multiplexer/demultiplexer
- SD-SDI, DVB-ASI, SD-SDTI compatible
- Complies with SMPTE-346M 2000 standard for TDM of 270Mbps video over HD
- TDM signal fits into standard HD-SDI infrastructure
- Provides optical and electrical TDM signal
- Accepts 270Mbps asynchronous and synchronous input signals



Application overview

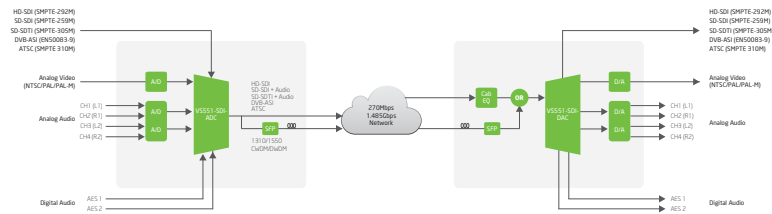
The VS551-SDI provides the most cost-effective, flexible, and future-proof method of managing video and audio fiber transport in a complex and changing environment.

A single card supports multiple services without the need for special-purpose transport cards reducing sparing requirements. The VS551-SDI serves as a bridge by allowing legacy analog video to be transported over existing fiber infrastructure allowing users to provide analog and digital video services without costly special-purpose conversion and transport cards. Completely standards based, deployment of single ended solutions allow unmatched flexibility where systems can be customized using a VS551-SDI-ADC to feed a multitude of processing and transport systems.



Key features

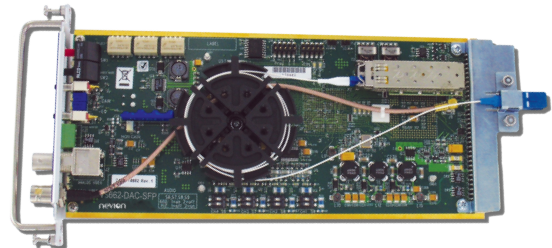
- Transparent fiber transport for NTSC/PAL/PAL-M, ATSC, SD-SDI, HD-SDI and DVB-ASI; supports all 525/625 SD-SDI and 1.485/1.485Gbps HD-SDI
- Composite analog video is converted into SD-SDI using 12 bit processing for optimum linearity and SNR
- On-board test pattern generator (SDI, HD-SDI, ASI, audio tone) and signal integrity checks (EDH, CRC) for link commissioning



Application overview

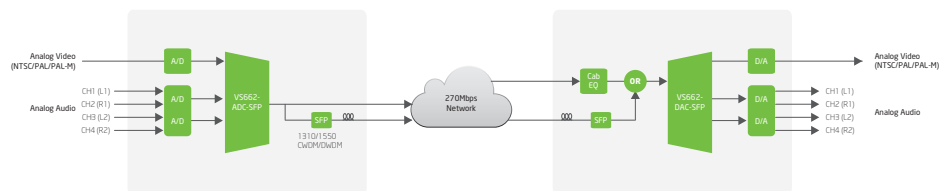
The VS662 provides the most cost-effective, flexible, and future-proof method of adapting analog video and audio fiber transport in an evolving environment.

The VS662 serves as a gateway to transport legacy analog video and audio over existing fiber infrastructure. This allows users to provide analog video services without costly special-purpose conversion and transport cards. Completely standards based, deployment of single ended solutions allow unmatched flexibility where systems can be customized using a VS662 to feed to a multitude of processing and transport systems.



Key features

- Transparent fiber transport for NTSC/PAL/PAL-M
- Composite analog video is converted into SD-SDI using 12 bit processing for optimum linearity and SNR
- On-board test pattern generator (SDI, audio tone) and signal integrity checks (EDH) for link commissioning
- Signal jitter management to ensure highest signal integrity



Fiber overlay

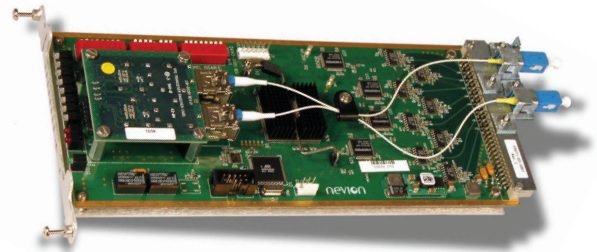
VS811

SD-SDI/DVB-ASI MULTIPLEXER OVER FIBER

Application overview

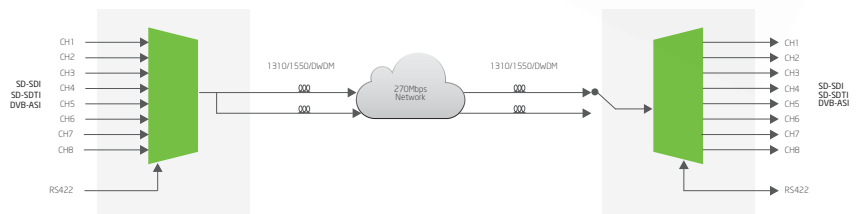
The integrated VS811-EO-SFP multiplexer and VS811-OE-SFP demultiplexer are used in applications that require transport of a mix of signals over fiber network infrastructures. They automatically detect and transport HD-SDI, HD-SDTI, SD-SDI, SD-SDTI and DVB-ASI.

This product is ideal for use in the trunking and aggregation of video signals over fiber networks.



Key features

- Multichannel digital data on a single fiber
- Optional second optical output for network path diversity (mux) and optional second optical receiver for automatic switchover and network resilience (demux)
- Designed to transport 270Mbps signals complying with SMPTE 259M, 305M, and DVB-ASI EN50083-9
- Removes timing and alignment jitter from the SD-SDI signals at the demux output
- Enable/disable control for mux input channels

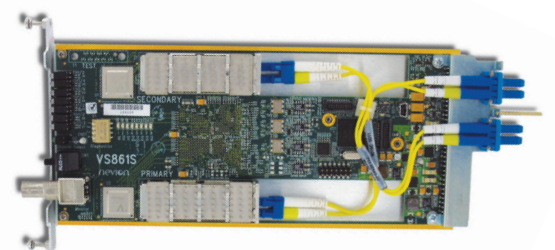


VS861

HD/SD MULTIPLEXER OVER FIBER

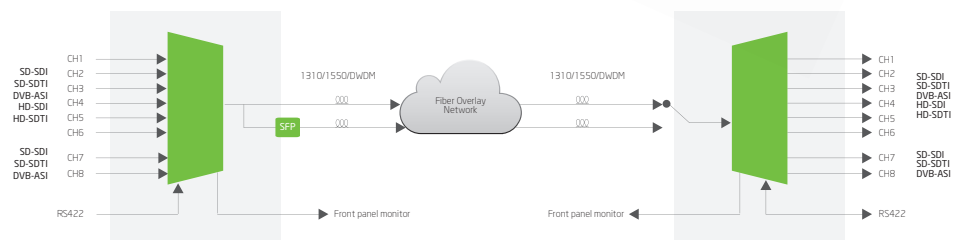
Application overview

The VS861 provides the transport of multiple uncompressed HD and SD signals over CWDM, DWDM or dark fiber. Users are guaranteed that their video signals are transported in pristine form with signal jitter attenuation. When used with Nevion support modules, high density video transport can be easily effected. With the VS901-TAED and the VS411-HD, users can transport 26 visually lossless HD videos across a single link using JPEG 2000. With the VS9500, up to 416 ASI signals can be transported.



Key features

- Six HD-SDI and two SD-SDI digital video mux/demux over CWDM, DWDM or dark fiber
- Ideal for dark fiber overlay at 1310, 1550, CWDM or DWDM wavelengths as TDM HD-SDI multiplexer
- Optional single or dual optical outputs at mux with optional single or dual optical receivers at demux for path diversity with automatic protection switching
- Timing and alignment jitter removed from input 1.485Gbps, 1.4835Gbps and 270Mbps signals

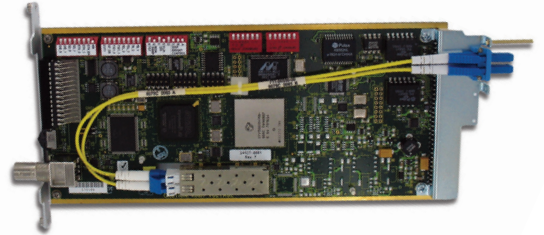
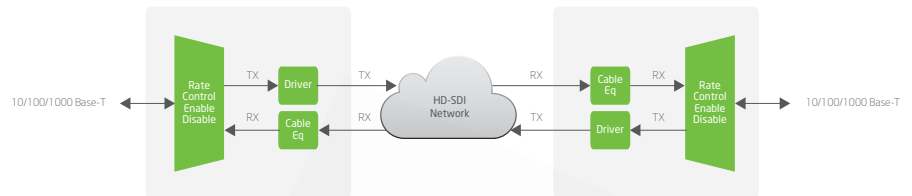


Application overview

This VS731 allows bidirectional IP/Ethernet communication, ideal for data and management purposes, from remote locations into a central site. The VS731 can carry Ethernet traffic up to a full rate of 1000Mbps in 1000 Base-T at very low latency. The VS731 provides the ability to setup Ethernet circuits in a video only environment, enabling remote management capability, file transfers, or even camera control.

Key features

- Provides media conversion from Gigabit Ethernet into standards compliant HD-SDTI and ASI which can then be switched through any existing HD-infrastructure including in-studio video routers or fiber overlay, SONET/SDH metropolitan networks
- Enables broadcasters to utilize temporary video circuits to build a temporary Ethernet infrastructure linking multiple locations for data transfer, management, file transfers, and administrative access
- Provides full line rate capability with extremely low latency, incurring 50µs for packet lengths of 1518bytes and 6.5µs for packet lengths of 64bytes at 100 Base-T and 1000 Base-T

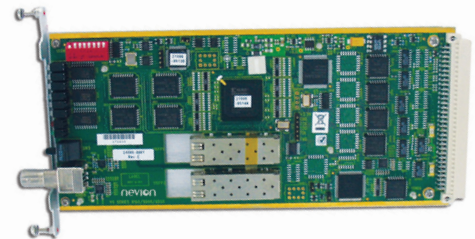
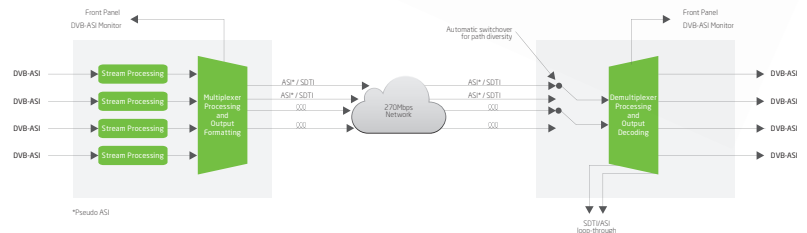


Application overview

The VS9500-AM multiplexer and the VS9500-AD demultiplexer interoperate with other Ventura products to form a layered approach to multiplexing and network interfacing ranging from E3/DS3, OC-3 to OC-192 rates. With the most efficient use of bandwidth available, these products are designed to squeeze the maximum number of channels into a given capacity. The VS9500 can be used as a companion card with the other family members performing the function of sub-multiplexing for ASI bandwidth optimizing and multiplexing into SDTI for adapting to fiber metropolitan or SDI/SONET long-distance networks. The VS9500 does not process the transport streams, ensuring that the output is identical to the received input.

Key features

- As a master mux, the VS9500-AM combines up to four DVB-ASI inputs into one 270Mbps SDTI (SMPTE 305-M) output
- As a submux, the VS9500-AM combines up to 4 DVB-ASI inputs into one pseudo ASI transport stream (TS) for input to a master mux, facilitating the combination of up to 16 DVB-ASI TS into one 270Mbps SDTI output
- The VS9500-AD provides the demultiplexing



Video Gateways

VIDEO COMPRESSION AND TRANSPORT OVER IP NETWORKS



Nevia Video Gateways are a line of compact, powerful and cost-effective products designed for real-time contribution and distribution of broadcast quality video over IP networks.

By taking advantage of the inherent flexibility of IP networking, the Video Gateways provide broadcasters and service providers with flexible, efficient and scalable solutions for high quality professional video transport. Our Video Gateway solutions offer significant financial and operational benefits with savings in both operating expenses and initial capital investment. The Video Gateway portfolio includes the market leading transport stream Gateway—the TVG425—and the industry's first combined SD/HD/3G/3D JPEG 2000 contribution solution—the TVG450.

Nevia Video Gateways can be configured via an easy-to-use Web interface, which also offers extensive built-in monitoring. Connection management can be performed via Connect, VideoPath, or any 3rd party NMS.

Transport streams over IP

Name a high-profile sporting or live event and Nevion has delivered the content. Our video-over-IP equipment has transported signals at all the major live sporting events over the last 20 years, including the Olympic Games, Super Bowls and Oscar telecasts. Needless to say, such high-profile events are extremely sensitive to technical issues and failures. With our world class, carrier grade technologies, Nevion is trusted by broadcasters and telecom operators around the globe to deliver reliable and highly available solutions for contribution quality audio and video transport over any network.

Many customers are attracted to the idea of using IP infrastructure for transporting these critical media feeds, but are uncertain of the quality that IP networks offer when it comes to uptime, latency and packet loss. Nevion has developed a range of technologies to improve the quality of media transport over IP, and implemented them across our product lines.

Advanced forward error correction (FEC) compensates for packet loss in the IP transport network by mathematically recreating lost packets, and efficient jitter management compensates for delay variations across the IP network.

Nevion's patented Streaming Intelligent Packet Switching (SIPS) transmits audio- and video streams across dual, geographically independent routes, and seamlessly switches between the two streams at the receiving end of the connection, thereby maintaining an uninterrupted media stream in the event of a failure on one of the IP links.

JPEG 2000 over IP

In combination with the inherent flexibility of IP networking, our broadcast and service provider customers take advantage of the unmatched quality of JPEG 2000 compression, enabling efficient and reliable transmission of audio and video contribution feeds from live venues to main studio sites. Nevion JPEG 2000 contribution solutions are ideal for fast paced action sports and quick camera movement due to frame-by-frame compression and extremely low end-to-end latency. These ultra-low latency solutions make the production process easier to manage and even facilitate remote production, which provides significant cost-savings for broadcasters by centralizing editing resources and production equipment.

Post production

Nevion has developed solutions that reduce production and operational costs in post production by enabling new real-time workflows. Nevion post-production Video Gateways enable directors to review and approve dailies and other digital intermediates, and collaborate in real-time with colorists and other specialists in remote locations. Enabling immediate feedback and correction is a win-win situation for production companies and post-production houses alike, since it lowers production time and costs for television and movie studios, and enables more efficient use of post-production equipment and colorists.

The solution takes advantage of digital-cinema quality real-time JPEG 2000 compression and readily available and affordable IP-based networks for video transport. Major Hollywood film, television and animation studios—together with many of the top post-production facilities around the world—are using Nevion JPEG 2000 Gateways for working on prime-time television series and blockbuster 2D and 3D feature films.

The high-end Nevion Gateways are a great match for post-production processing since they support HD, 2K and stereoscopic 3D video signals. JPEG 2000 compression accurately preserves color, frame-by-frame detail and enables remote color grading, and the very low end-to-end latency and highly robust video transport over IP networks means everyone on the team can collaborate on the finished product in real time.

Transport streams over IP

TVG420

ASI TO IP VIDEO GATEWAY

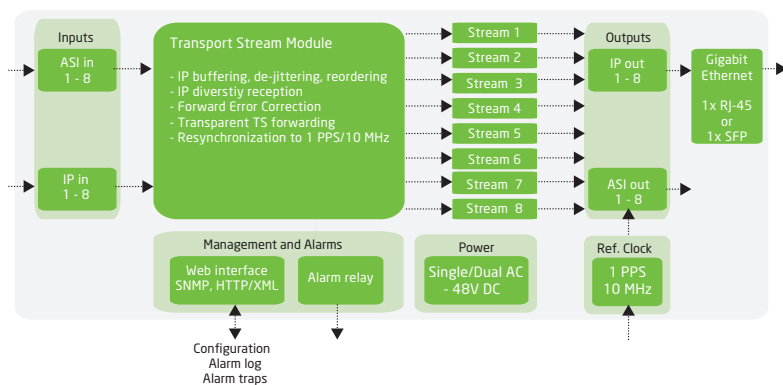
Application overview

The TVG420 provides bidirectional transmission of up to eight independent ASI signals over IP/Ethernet or SONET/SDH.

By taking advantage of the inherent flexibility of IP, broadcasters and service providers are offered an efficient and scalable solution for distribution of ASI signals over IP. The TVG420 has been deployed in numerous DVB-T systems for IP distribution to transmitter sites.

Key features

- Transmission of MPTS/SPTS MPEG-2 transport streams over 100/1000 Mbit/s Ethernet
- Flexible forward error correction – SMPTE 2022-1/2
- Scalable 1 – 8 ASI connections
- Configurable direction per port



TVG425

TRANSPORT STREAM GATEWAY

Application overview

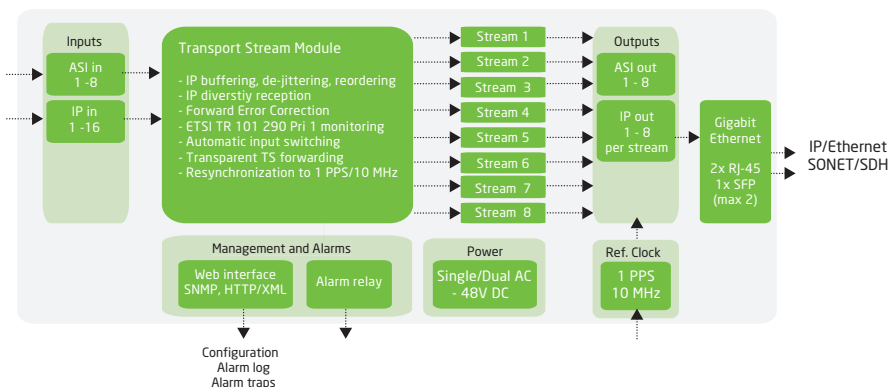
The TVG425 transport stream gateway fortifies Nevion as the market leader for transport of compressed video over IP.

The TVG425 provides transparent handling of up to 8 independent MPEG transport streams, flexible interfacing with support for ASI, Ethernet and SONET/SDH, input signal monitoring as well as output diversity and input switching capabilities that enable cost-effective and highly redundant video transport solutions.



Key features

- Transmission of up to eight MPEG-2 transport streams
- Flexible interfacing with support for ASI and IP on dual Gigabit Ethernet interfaces
- Output diversity (multiple output copies on ASI and IP)
- Built-in TS monitoring (ETSI TR 101 290 Pri 1)
- Automatic input switching for source redundancy
- Bidirectional operation on a port-by-port basis



JPEG 2000 over IP

TVG450

JPEG 2000 GATEWAY FOR SD/HD/3D/3G

Application overview

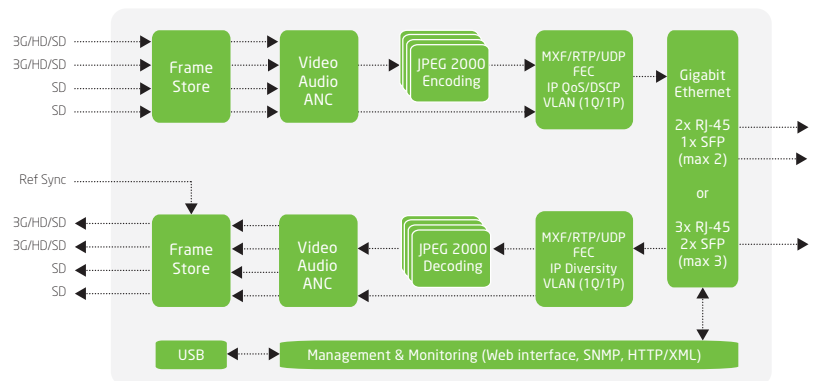
The TVG450 represents the next generation solution for transport of broadcast quality television signals over IP networks. JPEG 2000 compression technology enables transport of SD, HDTV, stereoscopic 3D HDTV and 3 Gbit/s HDTV over Gigabit Ethernet links.

The JPEG 2000 Gateway enables broadcasters to utilize cost-efficient IP links for high quality, low latency contribution. MXF/IP encapsulation ensures perfect synchronization of all video, audio and ancillary data.

TVG450 enables service providers to utilize visually lossless, multi-generation resilient JPEG 2000 compression, and IP/Ethernet technology, to build cost effective managed video services on top of IP-MPLS, metro Ethernet or SDH/SONET transport networks.

Key features

- Multi-channel JPEG 2000 compression for SD and HD
- Visually lossless 4:2:2 10-bit video quality
- Very low end-to-end latency
- Robust transmission of HDTV signals over IP
- Forward error correction with no additional latency



TVG480

POST PRODUCTION GATEWAY

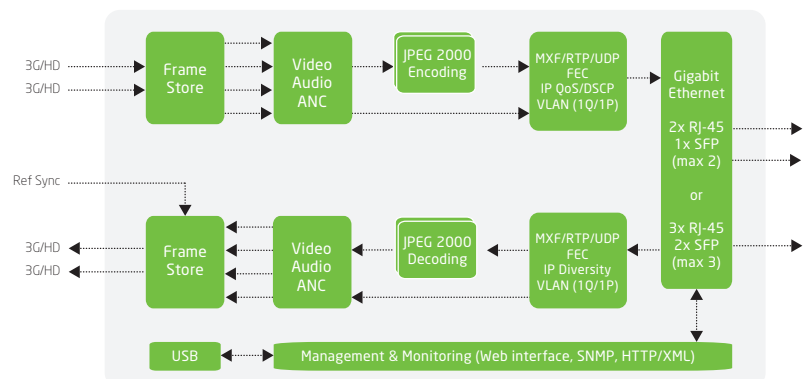
Application overview

TVG480 enables real-time remote color correction and approvals in post production workflows. By enabling real-time transport of high quality HD and 2K video over low cost IP networks, directors and colorists view the same accurate, consistent colors and image quality as if they are working in the same place.

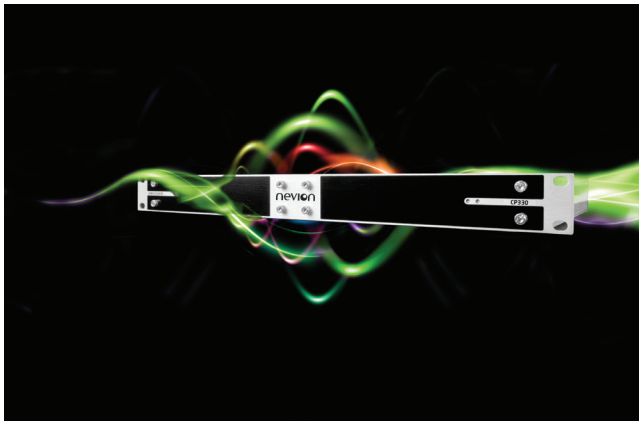
The TVG480 takes advantage of the unmatched quality of JPEG 2000 compression for high-quality low-delay video transmission over IP. Supported video signals include HD television, stereoscopic 3D left and right video, or 2K video signals used in digital cinema production.

Key features

- High quality JPEG 2000 video
- Multiple compressed video channels
- Robust transmission of HD-SDI, 3G-SDI and stereoscopic 3D left/right video signals
- Very low delay
- MXF encapsulation
- Ancillary data support



TRANSPORT STREAM PROCESSING AND ADAPTATION



Our award-winning cProcessor transport stream processing and multiplexing products make the complex simple. Even better, they enable tailoring of regional and local service packages, component filtering, advanced updating of PSI/SI/PSIP tables and enhanced quality of service.

User friendly, highly robust and cost effective—combining simplicity and performance—the cProcessor products have secured our place in some of the world's most advanced terrestrial networks.

TS processing and remultiplexing

Nevion transport stream processing products make it easy to build any TS multiplex by simply adding and dropping services and components. Our transport stream processing can be tailored to different application requirements and networks, wrapping in all necessary service and component dropping, multiplexing, service bit rate policing, scrambling, PSI/SI/PSIP insertion and bit rate shaping.

Transport stream processing and multiplexing allows transport stream customization to address challenges ranging from PID remapping, to service filtering, new service insertion or component modification. Terrestrial operators can process the streams to build local or regional multiplexes.

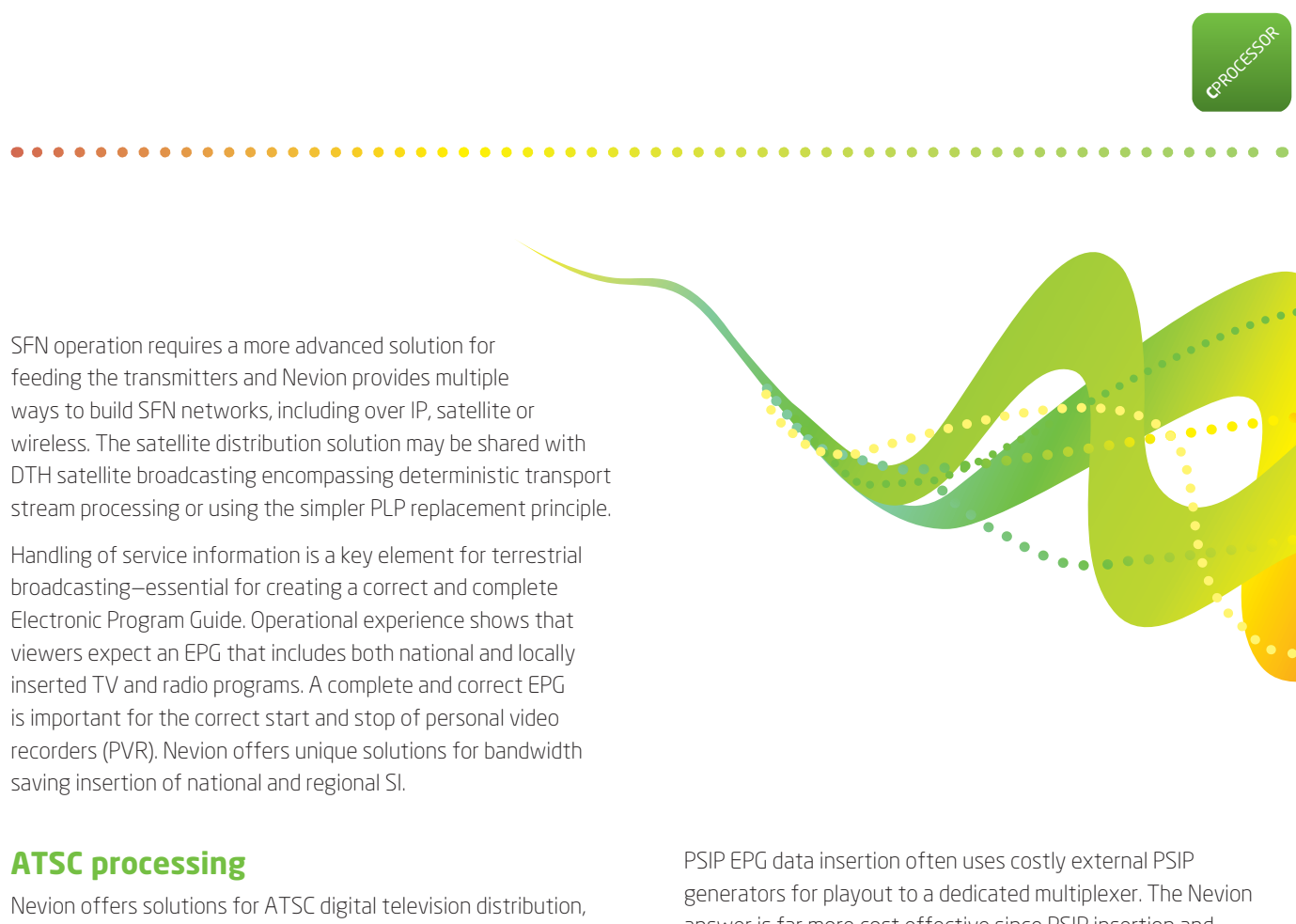
Traffic policing prevents serious loss of service when several broadcasters are sharing a multiplex. CP525 remultiplexer traffic policing achieves this automatically by managing any input overflow, dropping low priority packets.

Complete service information (PSI/SI/PSIP) provides an overview of the broadcast schedule and an EPG (Electronic Program Guide). The EPG is essential both for programming and the operation of domestic personal video recorders (PVRs). Nevision CP505, CP524 and CP525 handle and edit PSI/SI/PSIP information to customize multiplexes efficiently and cost effectively.

DVB-T / T2 adaptation and regionalization

DVB-T2 is the world's most advanced digital terrestrial television standard offering high efficiency, improved robustness and increased flexibility. The standard also introduces techniques for more efficient use of valuable frequencies for audio, video and data delivery. The DVB-T2-Lite profile offers additional improvements for radio and video content broadcast to mobile receivers and hand-held devices.

Facing a very strong demand for spectrum in the VHF/UHF bands, Single Frequency Network (SFN) is the primary choice for digital terrestrial television today. SFN can simplify the addition of gap filler transmitters to cover shadow areas in valleys or city centers. SFN operation will be even more important when broadcasting to the increasing number of portable receivers as this will require a higher carrier-to-noise level.



SFN operation requires a more advanced solution for feeding the transmitters and Nevion provides multiple ways to build SFN networks, including over IP, satellite or wireless. The satellite distribution solution may be shared with DTH satellite broadcasting encompassing deterministic transport stream processing or using the simpler PLP replacement principle.

Handling of service information is a key element for terrestrial broadcasting—essential for creating a correct and complete Electronic Program Guide. Operational experience shows that viewers expect an EPG that includes both national and locally inserted TV and radio programs. A complete and correct EPG is important for the correct start and stop of personal video recorders (PVR). Nevion offers unique solutions for bandwidth saving insertion of national and regional SI.

ATSC processing

Nevion offers solutions for ATSC digital television distribution, including EPG and PSIP handling as well as flexible ASI, SMPTE 310 and IP interface adaptation, regional multiplexing and service filtering, TS monitoring and redundancy switching.

Studio-to-transmitter links (STL) may use a microwave, satellite or IP connection, requiring the broadcaster to convert signals from SONET, ASI or IP to SMPTE 310. The Nevion STL network adaptors support SMPTE 310 conversion and can also support PSIP processing and manipulation, monitoring and redundancy control.

Local program insertion is a key requirement for broadcasters wanting to offer their viewers customized services. The insertion of local content and PSIP processing and playout by Nevion solutions ensures that bandwidth is saved by inserting PSIP data as efficiently as possible. Efficient PSIP editing can be carried out at any stage in the transmission chain as our solutions combine PSIP processing features with multiplexing and/or interface adaptation.

PSIP EPG data insertion often uses costly external PSIP generators for playout to a dedicated multiplexer. The Nevion answer is far more cost effective since PSIP insertion and editing is built into the Nevion multiplexer or interface adapters. This way, our products are able to merge the encoded services with the PSIP information in a coherent and reliable manner in compliance with the FCC regulations on a hardware platform built for 24/7 use in business critical operations.

Transport stream processing (ATSC & DVB)

CP505

ATSC PROCESSOR

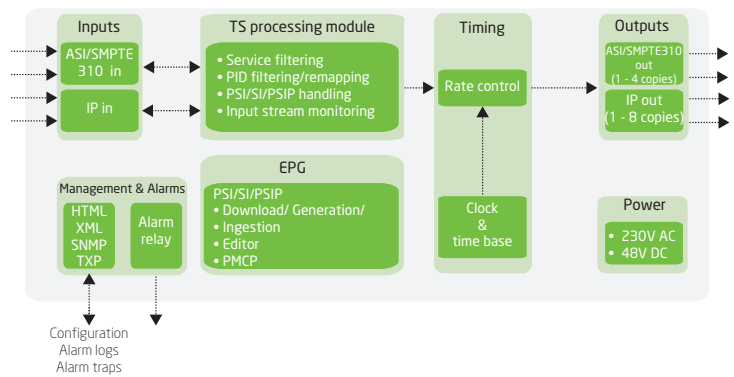
Application overview

The CP505 ATSC processor offers flexible ASI, SMPTE 310 and IP network adaptation and advanced transport stream processing in a user-friendly and compact 1RU solution.

The CP505 provides a powerful solution for adaptation of transport streams to ATSC broadcast and other transport stream processing applications. The CP505 is offered in two different variants.

The basic model provides format conversion between SMPTE 310M, ASI, transport stream over IP using RJ45 electrical connections as well as SFP optical interfaces, SDH and PDH interfaces.

The advanced model offers the basic features plus powerful PID and service filtering with PSIP and PSI processing and handling.



Key features

- Format conversion of transport streams between SMPTE 310, ASI and IP interfaces
- FEC insertion and decoding on IP signals
- Input switching between TS input signals

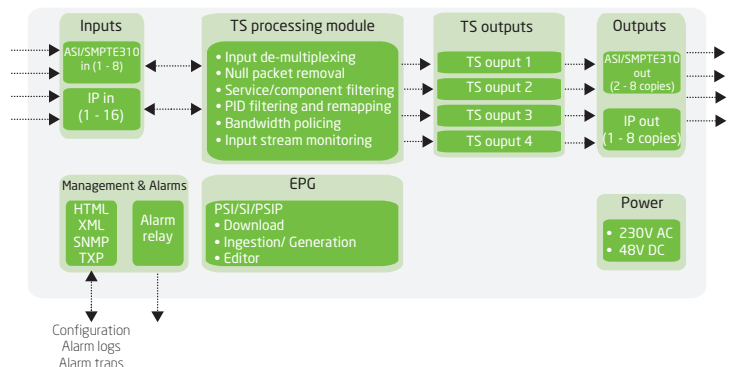
CP524

TS ADAPTER

Application overview

The CP524 TS adapter has been designed to meet the requirements of operators and service providers for flexible repacking, and delivery of content for multiple end points. Its multi-channel (any input to any output) and filtering/remultiplexing features enable operators and service providers to save valuable bandwidth in their networks.

The variety of network infrastructures used in the broadcast industry today has also led to an increasing demand for network adaptation and format conversion between formats and interfaces. The CP524 solves these tasks, for up to four transport streams, by offering powerful network adaptation between ASI, IP, SONET/SDH and SMPTE 310.



Key features

- Flexible transport stream processing
- Flexible transport stream interfacing and adaptation
- Advanced traffic policing
- Powerful PSI/SI/PSIP handling
- Transport stream monitoring

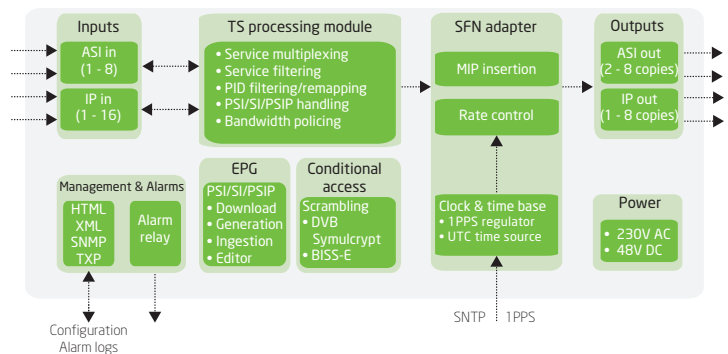
Application overview

The CP525 is a powerful tool for intelligent processing, multiplexing and scrambling of transport streams. It provides service and component filtering, multiplexing, as well as PSI, DVB-SI and ATSC PSIP table handling. The CP525 multiplexer provides flexible interfacing to both DVB ASI, SMPTE 310 and IP networks. CP525 also has integrated support for SFN network adaptation (MIP insertion). Advanced features are present for improving system robustness, e.g. hitless protection with IP diversity reception, input port switching on loss of signal and individual bit rate policing of services in the transport stream.



Key features

- Flexible multiplexing and processing
- Powerful PSI/SI/PSIP handling
- Advanced traffic policing
- Scrambling
- Input stream monitoring and port redundancy
- Integrated SFN adaptation
- IP multicast and unicast support
- Multiple TS output copies on ASI and IP (smallcasting)



DVB-T/T2 Adaptation and regionalization

CP330

T2-BRIDGE

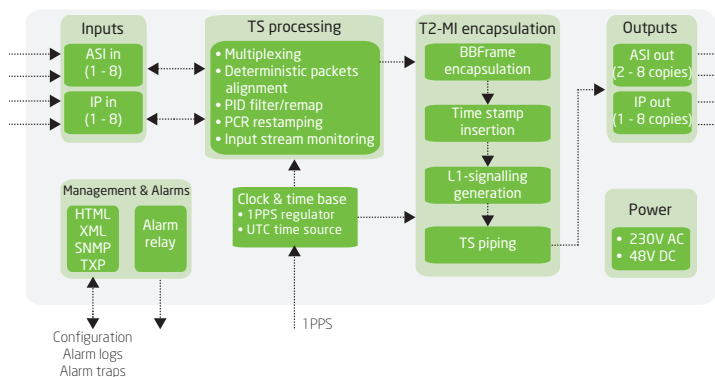
Application overview

Regional adaptation in DTT networks is a key differentiator for network operators wishing to provide their viewers with local TV services. The CP330 T2-bridge offers operators great flexibility both in the design of their distribution networks and the insertion of regional and local content. The T2-bridge enables the distribution of signals to digital terrestrial transmitters using satellite or hybrid infrastructures (satellite, fiber and microwave).

With the CP330, it is now possible to reuse a direct to home (DTH) satellite signal to directly feed terrestrial transmitters. By utilizing the DTH satellite and the advanced deterministic multiplexing techniques of the CP330, terrestrial operators now have a highly cost-effective distribution solution that is SFN compliant.

Key features

- Deterministic remultiplexing for DVB-T and DVB-T2
- PLP replacement for regionalization
- T2-MI generation including time stamps for SFN operation
- MIP insertion for DVB-T SFN operation



CP560

DVB-T2 GATEWAY

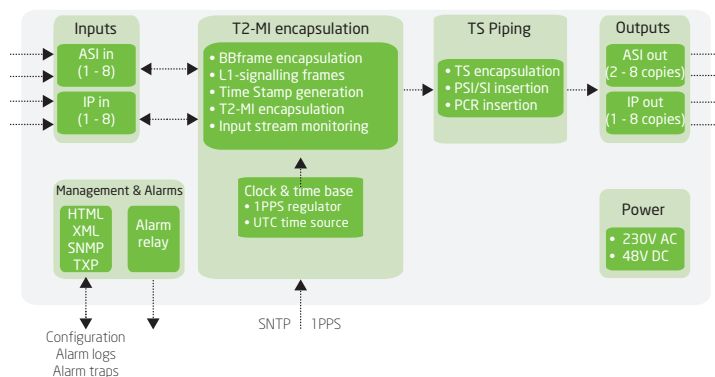
Application overview

The CP560 DVB-T2 gateway provides a central point of control for DVB-T2 networks, enabling the operator to take advantage of the more efficient spectrum utilization promised by next-generation terrestrial broadcasting technology. The CP560 utilizes the advanced processing capabilities of the cProcessor family to adapt the transport stream into the DVB-T2 modulator interface format (T2-MI).

The CP560 also enables the DVB-T2 modulator interface to control the modulator parameters and provides the accurate timing and rate control required for SFN (Single Frequency Network) operation. The CP560 is part of Nevion's cProcessor product family, a line of compact and powerful and cost-effective, products designed for advanced processing and handling of transport streams.

Key features

- DVB-T2 MI interface to the DVB-T2 and DVB-T2-Lite modulators
- Single and multiple PLP operation
- Synchronized SFN operation between units in 1+1 configuration



MONITORING AND SWITCHING FOR INCREASED RELIABILITY



By adding intelligence to monitoring and switching, our nSure products protect both the content owner and the network operator.

We deliver solutions for service fallback, redundancy switching including seamless switching, and continuous monitoring of transport streams and video signals. In an increasingly complex broadcast infrastructure, our solutions simplify day-to-day operations and provide an ideal tool for transport stream handling, redundancy, error detection and correction, and fast diagnostics of erroneous signals.

Transport stream monitoring

In-service monitoring of audio- and video signals makes it possible to identify issues along a media transport path and sometimes proactively correct problems before they affect services.

These are typically quality issues, which may be difficult to detect by simply monitoring the equipment. In-service monitoring solutions are often used in places where audio or video signals are handed off from one network to another. This could be between two service operators, or between a broadcaster and a service provider. In-service monitoring allows each party to check if the quality of the delivered signals is in line with the agreed service levels.

A complete in-service monitoring solution includes hardware probes that measure the quality of media streams in different points of the network, as well as a management software, collecting data from the probes and compares relevant parameters against the service level agreement. Nevion offers a full range of in-service media monitoring products, including both the hardware and software. These products are widely deployed by both broadcasters and telecom operators around the world, and enable in-service monitoring of ASI, SD-, HD-, and 3G-SDI as well as IP-based media streams. The offered solutions scale from small, local installations to very large, international networks.

As broadcast infrastructures become increasingly complex, our monitoring solutions simplify operations and deliver the highest level of network reliability—continuously monitoring Quality of Service (QoS) at critical points in the terrestrial transmission chain.

The nSure product family provides highly efficient monitoring of all major interfaces, formats and layers found in the network, including the SDI input signal, transport streams in ASI, SMPTE 310 and IP. Our solutions continuously monitor services, PIDs and PSI/SI/PSIP tables and the DVB-T/T2 transmitter input signals, as well as the DVB-T/T2 transmitter off-air signal.

Transport stream switching

The nSure family includes solutions for service fallback and seamless redundancy switching. We simplify day-to-day network operations and provide an ideal tool for transport stream handling, redundancy, error detection and correction and fast problem diagnostics.

Transport stream switching

TNS541

SEAMLESS TS MONITORING SWITCH

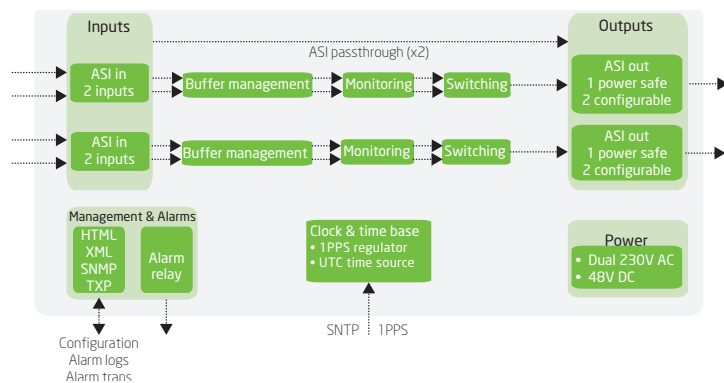
Application overview

The TNS541 enables intelligent 1+1 redundancy switch-over between two MPEG-2 transport streams. With dual power supply and seamless switching, the TNS541 improves the reliability and robustness of your system. Our seamless switch solution continuously monitors both incoming transport streams for status and switches over automatically if required, based upon customer configurable criteria (alarm based switching).

The TNS541 is also capable of performing synchronized switchover between two different SFN streams or T2MI streams so that modulators remain synchronized.

Key features

- Intelligent seamless switch-over between two input signals
- Flexible switching behavior and user configurable switching criteria
- Transport stream monitoring and error detection
- Seamless SFN and DVB-T2 redundancy switching
- Dual power supply
- Relay protected main output ensures signal pass-through even in the event of power loss or power supply failure



TNS544

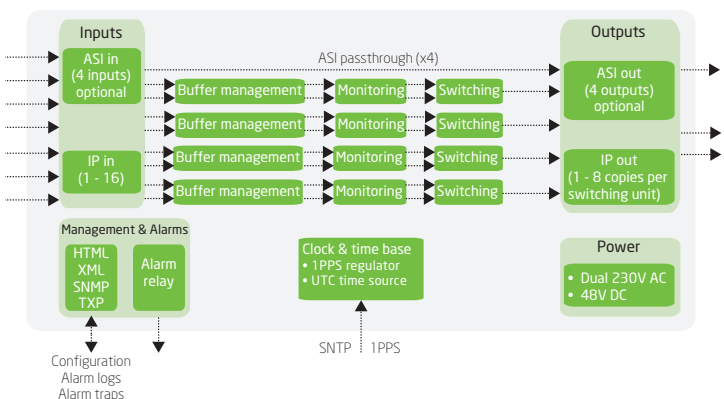
TSOIP SWITCH

Application overview

The TNS544 TSolP switch provides intelligent-redundancy switchover between transport streams delivered over IP-only networks, as well as combined IP/ASI networks. It ensures the robust transmission of transport streams by continuously monitoring all inputs, switching seamlessly to the backup stream if errors are detected or services or components are lost. Network operators now have the ability to monitor and handle multiple transport streams over IP and/or ASI and configure multiple switches per TNS544 unit. This provides greater flexibility and improved reliability within an IP infrastructure or in a hybrid IP/ASI environment.

Key features

- Intelligent seamless switching between multiple ASI and IP input streams
- Multimode operation for adaptive TS matching (SFN/Null packet agnostic/ TS/ PID)
- Flexible switch configuration
- SFN seamless switching in DVB-T/T2 SFN networks
- Integrated TS monitoring and error detection based on ETR 101 290 input monitoring and error detection



Video signals monitoring

TNS460

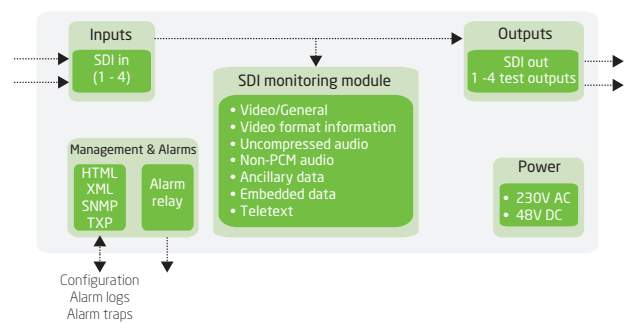
HD/SD-SDI MONITOR

Application overview

The TNS460 HD/SD-SDI monitor answers the need of broadcasters and network operators for monitoring at handover points where signals are delivered from one party to another. The TNS460 provides the data to monitor SLA adherence and also offers stand-alone monitoring for temporary contribution links such as services delivered for a one-off sporting event. The TNS460 is compact and cost-effective, delivering real-time monitoring of four video signals and offering monitoring of video format information, uncompressed audio bitrates and multiple channels. It features a thumbnail view of the video. Templates help the operator set pre-defined parameters for monitoring that can be scheduled to be active at different times of the day.

Key features

- Real-time monitoring of four HD/SD and/or two 3G-SDI signals
- Audio and ancillary data monitoring
- Template monitoring
- Thumbnail view



FCS1000-PLUS

IN-SERVICE MONITORING SYSTEM

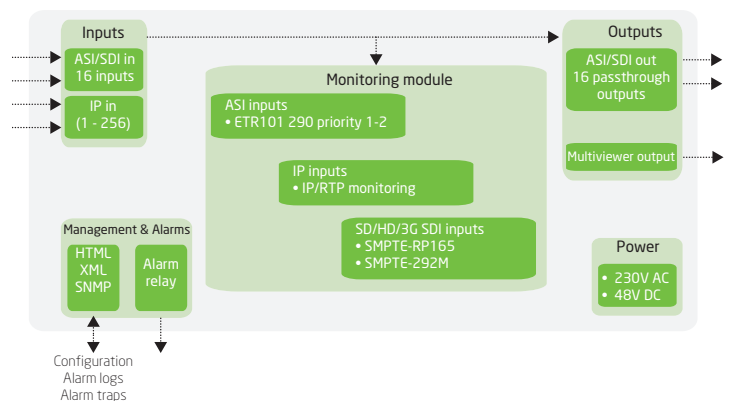
Application overview

The FCS1000-PLUS is a compact, high-density video in-service monitoring solution that includes support for video-over-IP monitoring. With monitoring of integrity, presence and activity on each channel, FCS1000-PLUS helps users pinpoint quality of service issues along the transport path and proactively correct problems before they affect services—a complete solution for monitoring the entire video transport infrastructure.

The FCS1000-PLUS is ideal for central, non-intrusive monitoring of a large number of DVB-ASI, HD/SD-SDI and video-over-IP traffic.

Key features

- Automated SLA compliance monitoring for contribution and distribution video networks
- Monitoring of 16 SD/HD-SDI signals with signal pass-through
- Built-in Web interface for local monitoring and configuration with SNMP and XML for remote access and reporting
- Wire-speed monitoring of video-over-IP traffic at the Ethernet, IP, UDP and RTP layers



Transport stream monitoring

TNS546

TS MONITOR

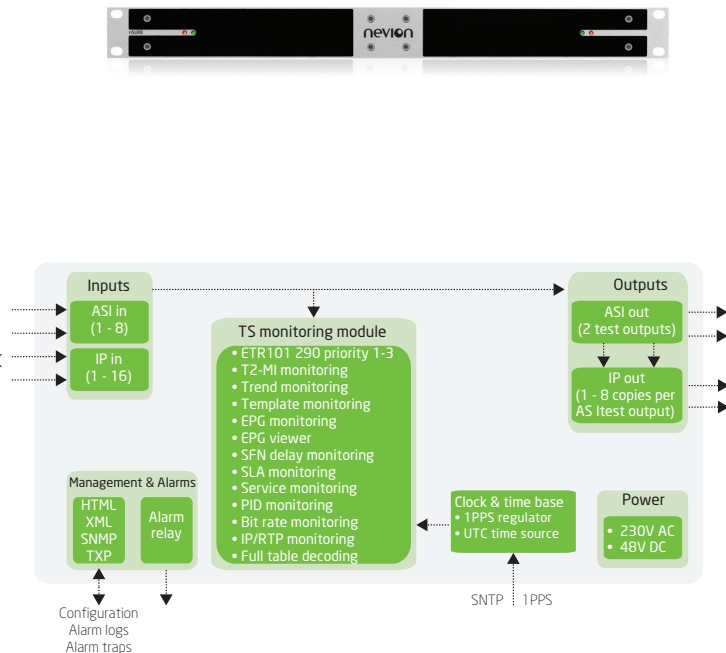
Application overview

The TNS546 TS monitor is a powerful toolbox for continuous monitoring of transport streams, services, PIDs and PSI/SI/PSIP tables. It enables fast fault detection and diagnostics from an easy-to-use and intuitive user interface.

The TNS546 monitors streams on DVB-ASI, SMPTE 310, IP/Ethernet and thereby eliminates the costs for interface adaptation. Thanks to its intuitive user interface operators save time error tracking, resolve issues faster and ensure higher uptimes. Trend monitoring functionalities help operators schedule maintenance and support activities, reducing the OPEX of the system. The TNS546 can be configured via an easy-to-use Web interface and interact with overlaying network management systems. Scheduled software upgrades can be performed via Connect, VideolPath, or any NMS.

Key features

- ETR101 290 priority 1-3
- T2-MI analysis for DVB-T2
- Trend monitoring
- Template monitoring
- SLA monitoring



TNS547

DTT MONITOR

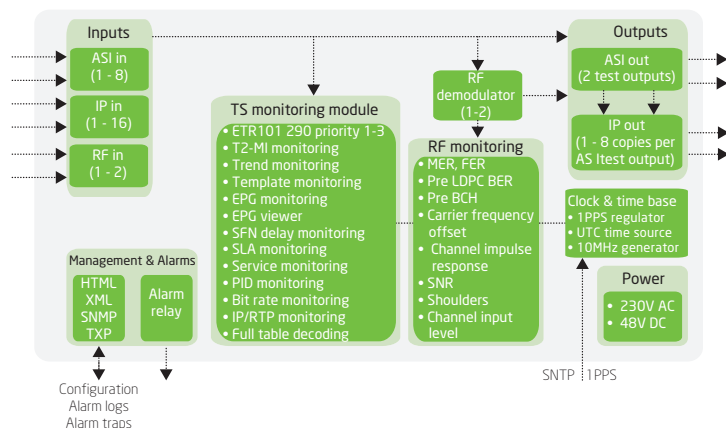
Application overview

As broadcast infrastructures become increasingly complex, the TNS547 DTT monitor simplifies operations by continuously monitoring Quality of Service (QoS) parameters at transmission sites. The TNS547 provides efficient monitoring of all major interfaces, formats and layers found in DVB terrestrial networks, including transmitter input signals and off-air RF signals, simplifying operations and increasing network reliability.

In addition to providing accurate measurements, the TNS547 includes many features designed to facilitate network operations. Template monitoring, trend monitoring, SLA monitoring and SFN monitoring are some of the features that provide useful information to the operator in an intuitive way..

Key features

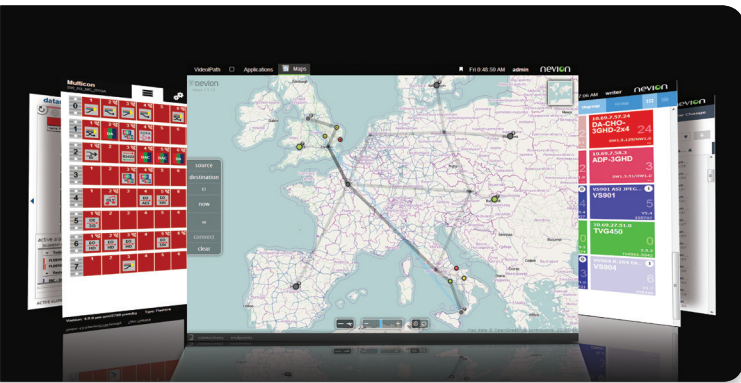
- Analysis and monitoring of transmitter input and output signals for up to six multiplexes
- Up to two demodulators to run advanced measurements on both DVB-T and DVB-T2 signals
- Graphical display of channel spectrum, constellation diagram and channel impulse response
- Template monitoring of transmission parameters



Management systems

SERVICE, NETWORK AND ELEMENT MANAGEMENT

Nevion offers a complete service and network management system, including element managers for media networks. Our management platform is a fully integrated system providing an innovative new approach for management of media networks based on recent cloud computing technologies, delivering managed



services and customer access, consolidating data across the entire network, providing a service perspective on operations, and service delivery capabilities to efficiently provision occasional use or permanent services.

Nevion also provides control systems for studio and outside broadcast environments to put you in control of your video transport, routing, signal processing and distribution infrastructure. This includes an integrated control system for Flashlink and VikinX systems, providing control panel access for routing and signal processing control, and Web based access for equipment monitoring and configuration.

Managed media services

Nevion's VideolPath system provides one platform for management of any underlying network infrastructure, integrating Nevion's extensive portfolio of hardware products and third-party products facilitating seamless transport of video and audio across technology boundaries. The VideolPath platform allows operators to transport video and audio across IP-based networks and bridge across optical networks at the baseband video layer, ensuring that quality-of- service is maintained across "the cloud" and not limited to the edge.

The VideolPath system allows the user to specify source and destination ports, and let the system decide the optimal video transport path from source to destination. The system includes support for provisioning VLAN trunks and MPLS tunnels. In addition, traditional video routers may be used for baseband switching to introduce dynamics for optical networks.

The system combines these connection management capabilities with support for monitoring of network elements. Service correlation is performed for all services provisioned by the system to immediately inform the operator of any potential service affecting issues.

VideolPath also includes inventory capabilities for Nevion's hardware products and supported third-party equipment, enabling full visibility into the installed base of hardware modules coupled with the possibility to centrally manage backup, restore and upgrade of the entire installation.

The Nevion VideolPath NMS provides an overall solution for monitoring the entire video transport chain, interfacing with element managers to put you firmly in control of your network assets. The solution includes advanced correlation, automation and reporting capabilities and comes pre-integrated with Nevion equipment, enabling customers to get up and running in days rather than months, at a fraction of the cost.



Element management

Ventura, Flashlink and VikinX element managers provide advanced Web-based interfaces for monitoring and configuring video transport equipment. They can be integrated with NMS solutions using the industry-standard SNMP protocol. Element managers also play an increasingly important role in efficiently configuring the latest range of advanced Ventura and Flashlink video transport and processing cards.

The FCS183-AEMS is an element management card for the Ventura series. It acts as an SNMP agent for all cards in the chassis, monitors and configures them using a Web browser. AEMS acts automatically as soon as a new card is inserted in one of the slots in the chassis. AEMS also includes advanced alarm handling capabilities and is designed to support telecommunication management principles.

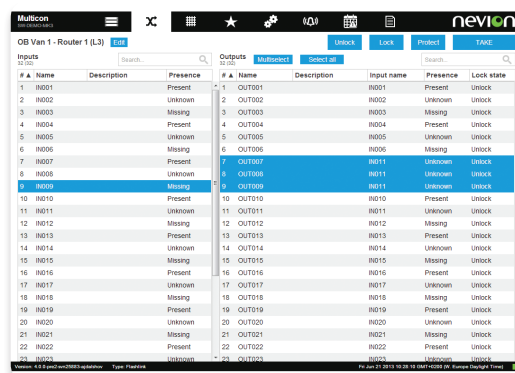
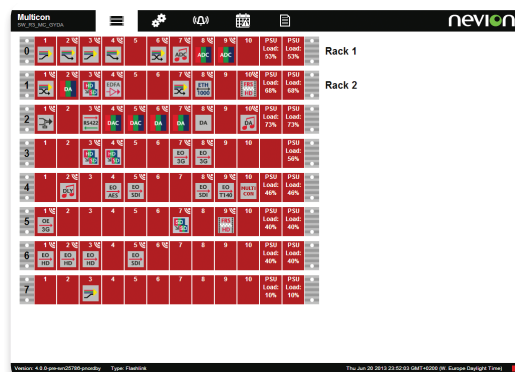
An integrated control system for Flashlink and VikinX systems, Multicon is based on an open and distributed architecture, providing control panel access to Flashlink parameters. The system offers the popular GYDA Web interface and offers a range of important improvements for control of VikinX routers, including third-party equipment control using software plugins, making it the industry's most flexible integrated control system.

Multicon GYDA is an essential part of any Flashlink system that requires monitoring from a remote location, either via the built-in Web-based interface or the industry-standard SNMP protocol. Multicon GYDA is also an essential tool for configuring the latest range of advanced Flashlink signal processing and distribution cards for such functions as video format conversion and audio embedding.

System control

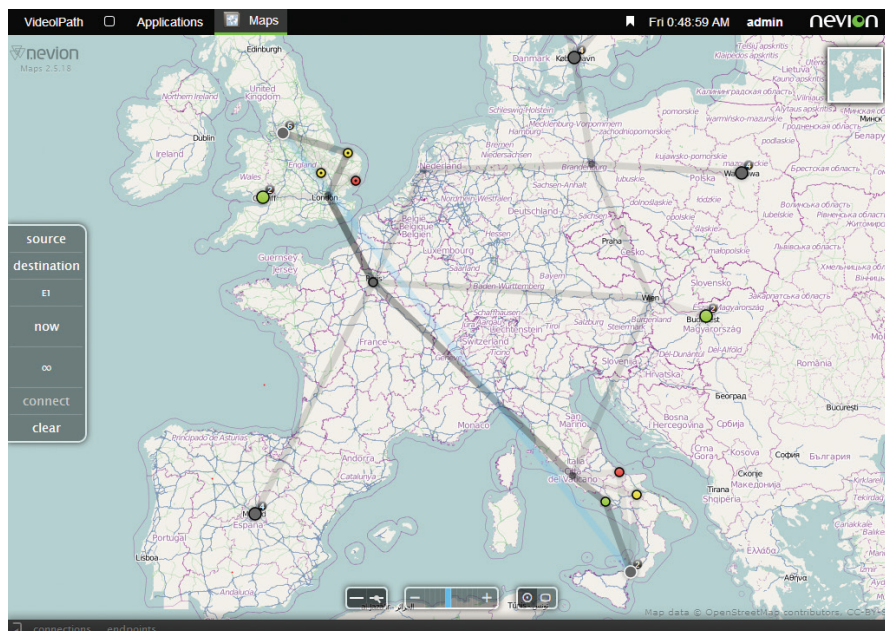
Nevion provides both hardware and software control panels to enable efficient control of VikinX routing and Flashlink signal processing solutions, in studio or outside broadcast environments. All control panels communicate via Multicon controllers over an IP network. The Web Panel is a software based alternative to traditional hardware control panels.

A free tool for Neveon customers, the Neveon Configurator for Flashlink and VikinX systems is a configuration tool for Multicon-based systems, which allows you to graphically configure the control system. This includes control of levels, virtual routing, salvos and parameter control.



Managed video services

VIDEOIPATH CONNECTION MANAGEMENT



VideoIPath-CM

The VideoIPath Connection Management (CM) module includes functionality to establish connections between endpoints at the edge of the network. An endpoint in this context is a video or audio port on a network element, which may be transmitting or receiving over an IP, SDH/SONET, fiber or coaxial network interface.

Connection Management addresses the complexity of provisioning services at the edge removing the need for the user to have detailed knowledge concerning the configuration of each network element involved. VideoIPath adds an abstraction layer that allows users to provision services without having to consider detailed configuration settings in each network element.

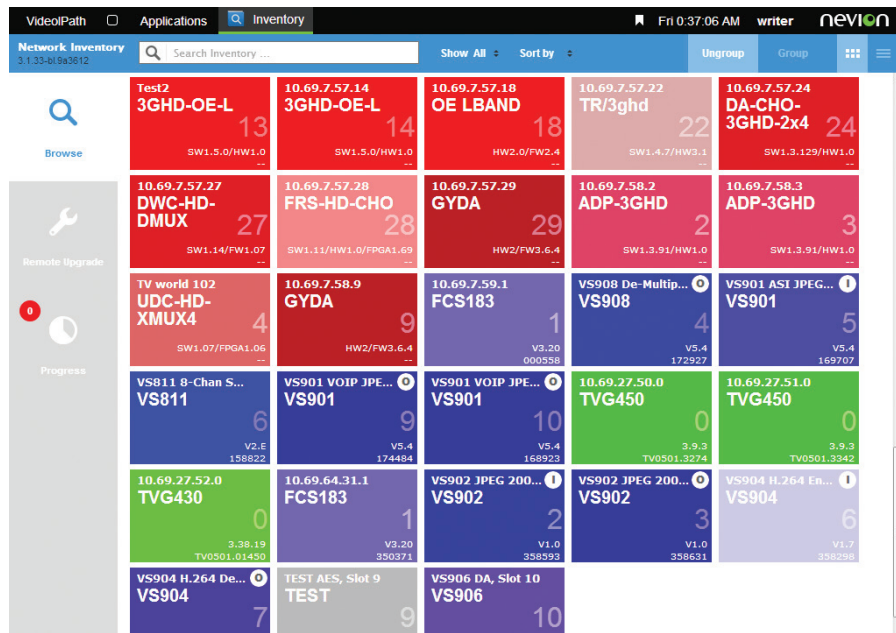
The user is able to create a new service between two or more endpoints and schedule provisioning of this service. The system will automatically setup and tear down the service according to the defined schedule. It is possible to create associations between endpoints in order to connect multiple endpoints in one operation. The system supports both permanent and occasional use services.

Services are provisioned according to the service profile selected. Several pre-defined service profiles may be added to the system for the user to choose from when creating new services. The service profiles contain settings required to configure the network elements required for the service.

Key features

- Automated provisioning of new services (occasional use or permanent)
- Continuous service monitoring and automated disaster recovery
- No need to manually perform configurations in each element
- Intelligent routing decisions based on bandwidth utilization and other network constraints
- Diverse path routing to support end-to-end redundancy
- Secure end-user provisioning of services

VIDEOIPATH INVENTORY MANAGEMENT



VideoiPath-IM

The VideoiPath Inventory Management module auto-detects available nodes and endpoints. The auto-detection is based on a range of IP addresses configured into the system. A node in this context is a device with a number of endpoints. For modular systems like Ventura and Flashlink there is also the concept of slots, which is used for addressing purposes within a node.

When a new node is detected in the network it is added to the inventory and the system starts to retrieve status and configuration data for the node. The user can access the inventory from the user interface and browse or search for particular network elements.

VideoiPath centralizes and simplifies upgrades, making it possible to plan, schedule and upgrade multiple network elements at one time, for coordinated roll-out of new firmware releases in the network. Users can monitor the software upgrade process from a central console without any manual intervention at the network element level.

The system also provides backup and restore capabilities for configuration data. Backup and restore may be scheduled and in case of catastrophic failure, VideoiPath supports automatic restoration of configuration data when network resources are replaced by spare parts.

Key features

- Complete inventory of all network resources auto-detected by the system
- Track network resource changes based on serial number
- Overview all network resources including operational status through a dashboard
- Plan and schedule upgrades of multiple network resources simultaneously
- Backup and restore configuration of multiple network resources simultaneously
- Automatic configuration restore to recover quickly from hardware failures

Managed video services

VIDEOIPATH ALARM MANAGEMENT

The screenshot shows the VideoIPath Alarm Management interface. At the top, there are tabs for 'VideoIPath', 'Applications', and 'Events'. The 'Events' tab is selected. Below the tabs, there are sections for 'Events Management Tool v3.1.31', 'Current Alarm', and 'Alarm Log'. The 'Alarm Log' section shows '1 New Change'. A search bar is present with the text 'Showing 150 docs / total 710 docs'. Below the search bar, there is a table of alarms. The table has columns: Severity, Service, Alarm N..., Alarm D..., Node N..., Device ..., Device ..., Status, Received, and Last Cha... The table contains 15 rows of alarm data, including Major, Information, Warning, and Device Loss events.

Severity	Service	Alarm N...	Alarm D...	Node N...	Device ...	Device ...	Status	Received	Last Cha...
Major	service	Path empty	Path empty				New	2013-Jun-... Fri 00:00:55	2013-Jun-... Fri 00:00:55
Information	service	Connectio...	Connectio...				New	2013-Jun-... Fri 00:00:54	2013-Jun-... Fri 00:00:54
Major	service	Path empty	Path empty				New	2013-Jun-... Fri 00:00:51	2013-Jun-... Fri 00:00:51
Warning	service	Loss of V...	Loss of V...	Ventura S...	V5908 M...	V5908 M...	New	2013-Jun-... Fri 00:00:51	2013-Jun-... Fri 00:00:51
Warning	service	Loss of C...	Loss of C...	Ventura S...	V5908 M...	V5908 M...	New	2013-Jun-... Fri 00:00:51	2013-Jun-... Fri 00:00:51
Information	service	Connectio...	Connectio...				New	2013-Jun-... Fri 00:00:47	2013-Jun-... Fri 00:00:47
Warning	service	Loss of C...	Loss of C...	Ventura S...	V5908 M...	Not Present	New	2013-Jun-... Thur 23:58:07	2013-Jun-... Thur 23:58:07
Warning	service	Loss of V...	Loss of V...	Ventura S...	V5908 M...	Not Present	New	2013-Jun-... Thur 23:58:07	2013-Jun-... Thur 23:58:07
Major	service	Path empty	Path empty				New	2013-Jun-... Thur 17:35:27	2013-Jun-... Thur 17:35:27
Information	service	Connectio...	Connectio...				New	2013-Jun-... Thur 17:35:25	2013-Jun-... Thur 17:35:25
Major	service	Path empty	Path empty				New	2013-Jun-... Thur 17:31:43	2013-Jun-... Thur 17:31:43
Information	service	Connectio...	Connectio...				New	2013-Jun-... Thur 17:30:10	2013-Jun-... Thur 17:30:10
Device Loss	service	Device Loss	Device Loss	Ventura S...	Ch 0	Not Present	New	2013-Jun-... Thur 17:03:22	2013-Jun-... Thur 17:03:22

VideoIPath-AM

The VideoIPath Alarm Management module provides monitoring functionality for services and network elements. Status information is typically retrieved from network elements using regular polling and notification mechanisms (e.g. SNMP traps). Details concerning how status information is retrieved for a specific device is captured in the driver for the device type.

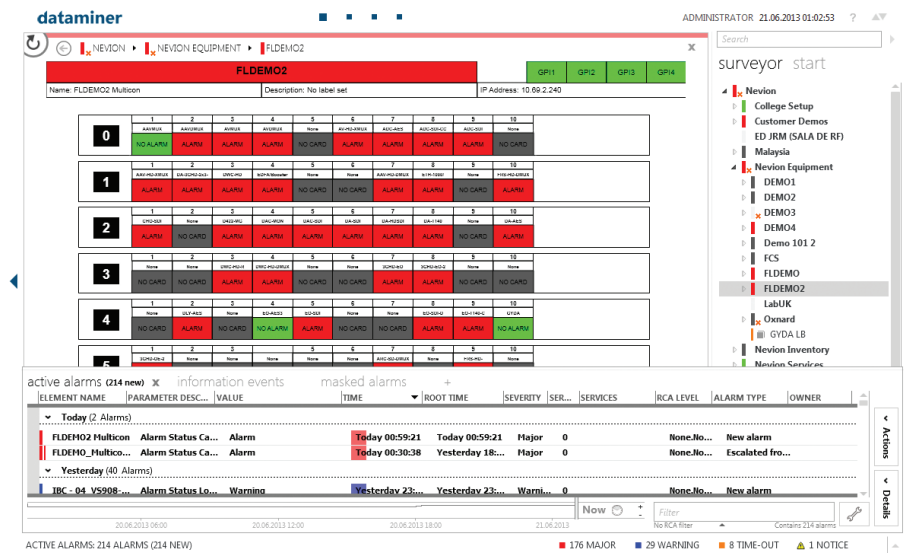
A dashboard provides a centralized overview of the operational status of all equipment in the network. The dashboard is automatically populated based on detected equipment and the user is able to customize multiple dashboards for different parts of the network (e.g. one dashboard per site).

Alarms are presented in an alarm management user interface that allows the user to manage current alarms and browse or search for historic alarms recorded in the log. Alarms are automatically correlated per service allowing the user to view alarms related to a specific service.

Key features

- Overview all network elements including operational status
- Manage alarms related to services and network elements
- View the life-cycle of an alarm from it is raised until it is cleared
- Search for historic alarms in the log
- View alarms related to services (based on correlation)

VIDEOIPATH NETWORK MANAGEMENT



VideolPath-NMS

VideolPath-NMS allows you to access all monitoring and configuration parameters at the element level from the same console. This means that the operator does not have to access any element manager directly to perform detailed configurations or troubleshooting. It also allows you to enforce a security model where some operators have read-only access while others are able to perform configurations of the elements. Another key advantage is that all operator actions are logged by the system providing a complete audit trail log of all configurations performed across the entire network.

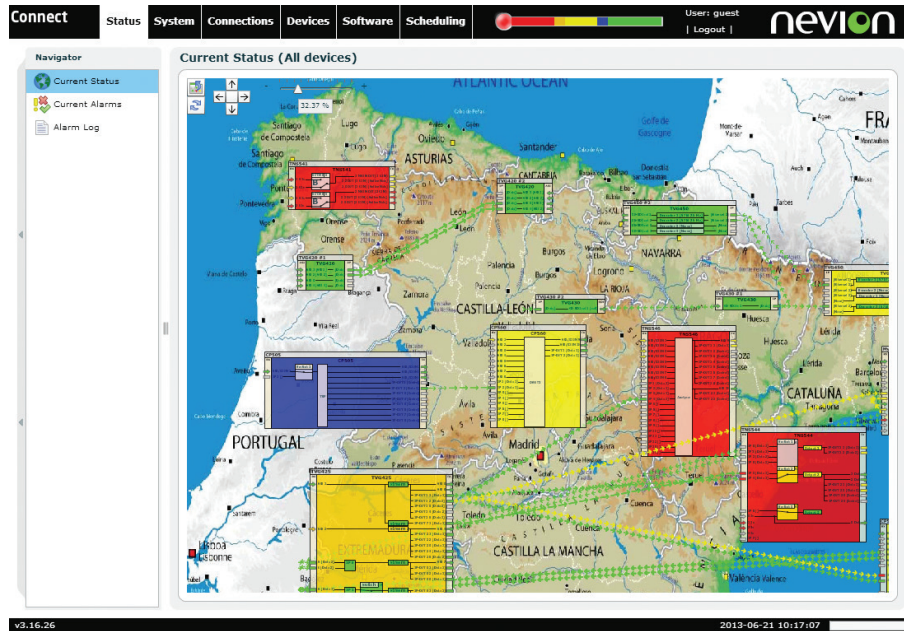
The software provides a function called Visual Overview, which allows the user to create visual drawings for monitoring of network, services and equipment. The functionality also supports a hierarchical structure where operators may drill-down from high-level network or service drawings to detailed equipment drawings. Equipment alarms will bubble-up from the detailed drawings to high-level drawings. The Visual Overview allows the operator to quickly identify issues and pin-point the source of the issue, and allows the user experience to be fully customized to the needs of different operators.

Key features

- End-to-end management capabilities to reduce your operational costs
- Pre-integrated solution to minimize implementation time and costs
- The ability to create visual overviews of your network and services using Visio drawings
- Advanced automation, correlation and reporting capabilities
- Option of supporting multi-vendor equipment (large number of devices available through partnership with Skyline Communications)
- A scalable solution for small- and medium-sized installations to large installations

Element management

CONNECTION MANAGEMENT



Connect

All Nevision cProcessor, nSure and Video Gateway products can be remotely monitored and controlled through our Web-based solution via a user friendly interface. Connect offers a centralized system for management of contribution and distribution networks over IP.

Connect has been deployed in a variety of settings including NOC management and DTT primary distribution networks. Connect includes functionality for inventory management including software upgrades, makes it easy for operators to set-up and tear down connections and gives an overview of connection status for the video equipment in the network.

Key features

- Connection management
- Equipment monitoring
- Inventory management
- User-friendly operator interface
- Security with several user levels

ELEMENT MANAGER FOR VENTURA



Advanced element management system

AEMS is an element management card for the Ventura series. It acts as an SNMP agent for all cards in the chassis, monitors and configures them using a Web browser. The Web interface presents a comprehensive set of status, control and alarm variables from a Ventura chassis. AEMS acts automatically as soon as a new card is inserted in one of the slots in the chassis. 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. AEMS also includes advanced alarm handling capabilities and is designed to support telecommunication management principles.

Key features

- Automatic recognition, control and operation of line cards
- Web browser and SNMP based monitoring and controlling
- Remote firmware download for FCS183 and other line cards using remote and secure Telnet session
- Date time stamped history and data recording in Flash memory (buffer)
- Chassis environment reporting using temperature and fan speed sensor (LED indicators)
- Safe operation transfer to updated firmware (starts using new firmware after validation)
- User definable alarms based on priority (major, minor or no alarm)

Element management

FCS101-AEMS

ELEMENT MANAGER FOR VENTURA VS101

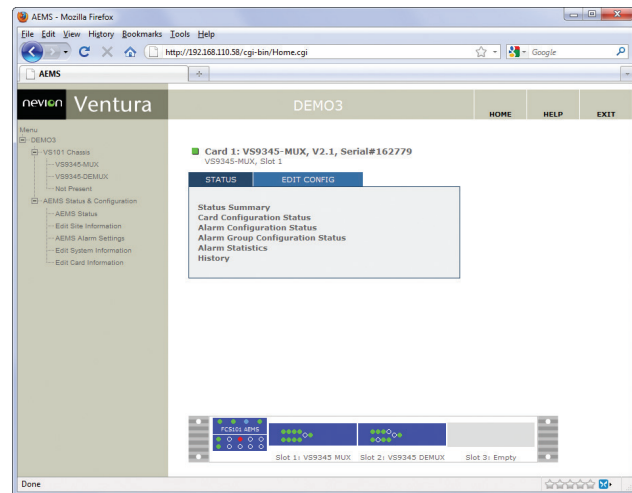
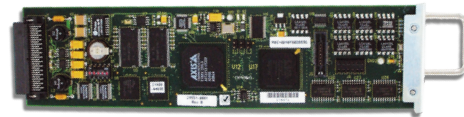
Application overview

A single FCS101-AEMS acts as the proxy agent for up to 3 Ventura line cards, 2 power supplies and the fan assembly placed in the VS101 chassis.

The Ventura AEMS shelf element manager, FCS101-AEMS, provides a comprehensive set of status, control and alarm variables through a Web interface. It also acts as an agent for card upgrades capable of storing multiple images for each card in the VS101 platform and supplying these images under operator control.

Key features

- Web browser user interface, including VS101 chassis display with LED status
- Remote monitoring and configuration of Ventura line cards
- Configurable alarm handling including severity, grouping and filtering
- Identifies issues quickly and logs events for future analysis



FCS183-AEMS

ELEMENT MANAGER FOR VENTURA VS103

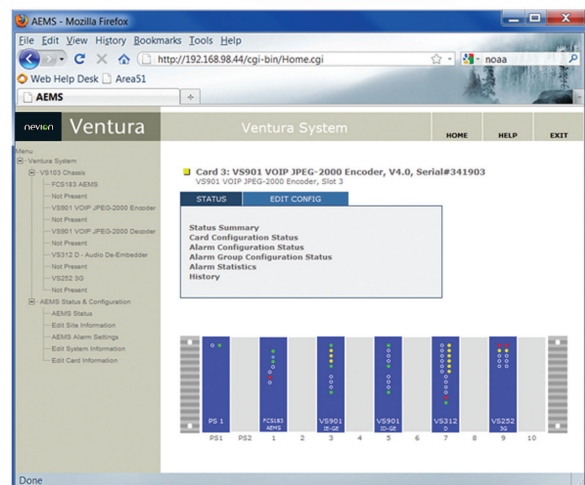
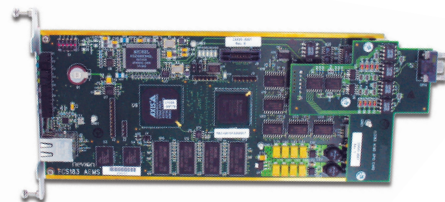
Application overview

A single FCS183-AEMS acts as the proxy agent for up to 9 Ventura line cards, 2 power supplies and the fan assembly are placed in the VS103 chassis.

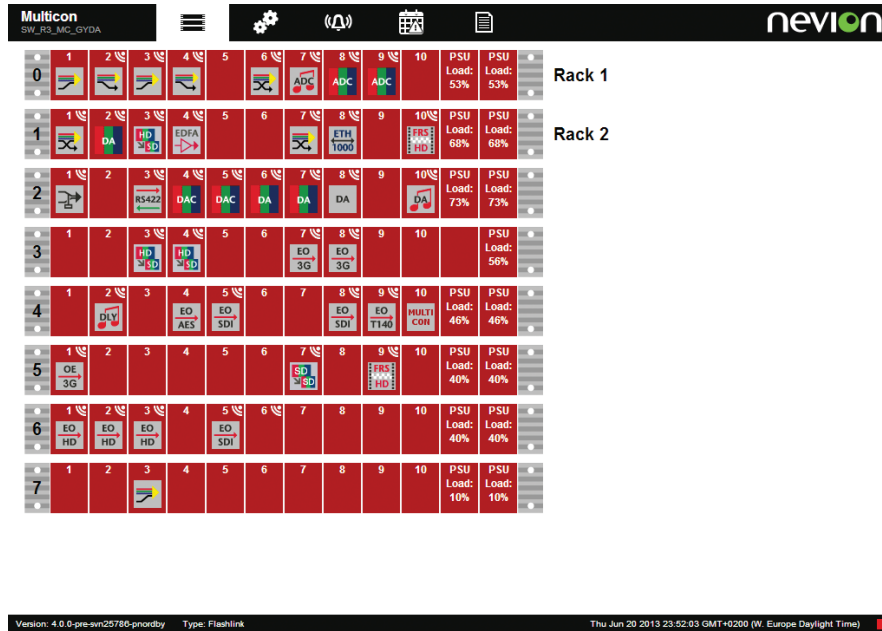
The Ventura AEMS shelf element manager, FCS183-AEMS, provides a comprehensive set of status, control and alarm variables through a Web interface. The FCS183-AEMS is a powerful Linux based embedded management system that also supports SNMP and XML. It also acts as an agent for card upgrades capable of storing multiple images for each card in the VS103 or VS101 platforms and supplying these images under operator control.

Key features

- Web browser interface, including VS103 chassis display with LED status
- Remote monitoring and configuration of Ventura line cards—reduces operational costs
- Configurable alarm handling including severity, grouping and filtering
- Identifies issues quickly and logs events for future analysis



ELEMENT MANAGER FOR FLASHLINK



Multicon Flashlink

An integrated control system for Flashlink and VikinX systems, Multicon is based on an open and distributed architecture, providing control panel access to Flashlink parameters. The system offers the popular GYDA Web interface and a range of important improvements for control of VikinX routers, including third-party equipment control using software plugins, making it the industry's most flexible integrated control system.

Multicon GYDA is an essential part of any Flashlink system that requires monitoring from a remote location, either via the built-in Web-based interface or the industry-standard SNMP protocol. Multicon GYDA is also an essential tool for configuring the latest range of advanced Flashlink signal processing and distribution cards for functions such as video format conversion and audio embedding.

Key features

- One control panel controls the latest range of Flashlink signal processing and distribution (SP&D) cards as well as VikinX routers
- A Web based interface monitors and configures Flashlink equipment
- Salvos are used to define presets for both Flashlink parameters and VikinX routers
- The control system processes virtual routers, salvos and mnemonics; information is updated once and available from any location
- Distributed architecture with redundancy ensures that there is no single point of failure
- Plug-in support for third-party control protocols and control of third-party equipment

Element management

Multicon-GYDA

MULTICON ELEMENT MANAGER FOR FLASHLINK

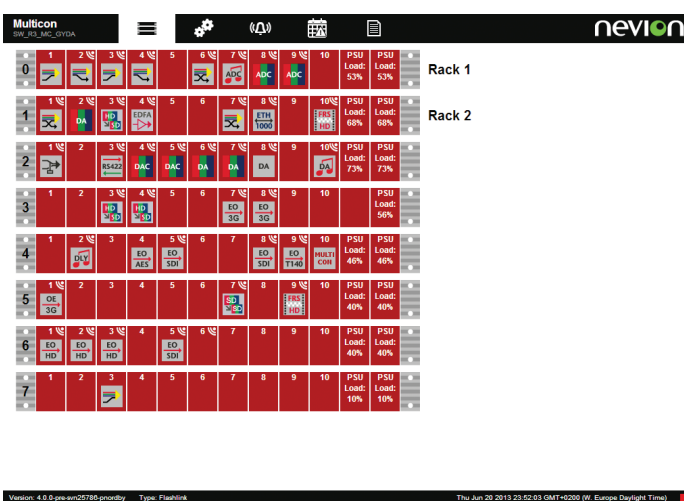
Application overview

Multicon GYDA is an essential part of any Flashlink system that requires monitoring from a remote location, either via the built-in Web-based interface or the industry standard SNMP protocol. Multicon GYDA is also an essential tool for configuring the latest range of advanced Flashlink signal processing and distribution cards for such functions as video format conversion and audio embedding.



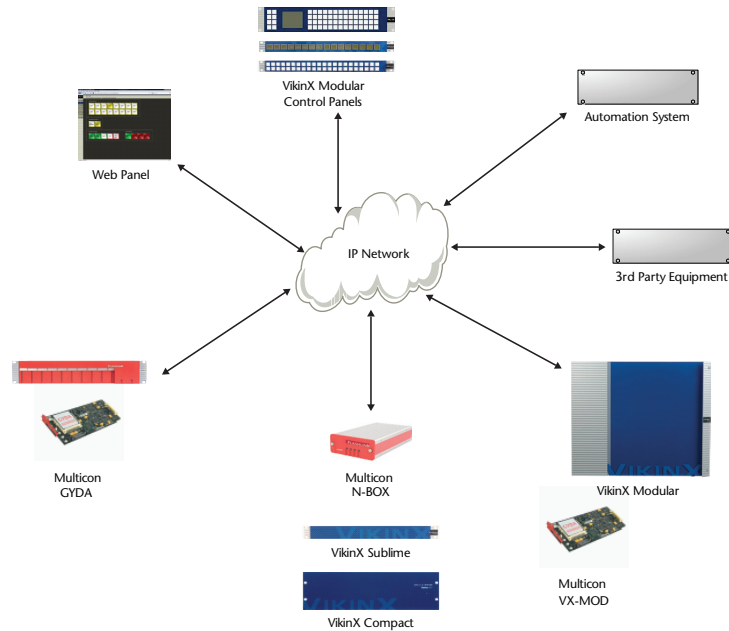
Key features

- User-friendly Web-based monitoring and configuration of Flashlink cards
- Full SNMP monitoring and configuration
- Remote firmware upgrade
- Customizable system overview for visual monitoring
- Supports up to eight Flashlink frames with ten cards each
- Control panel access to Flashlink parameters



System control

SYSTEM CONTROLLER FOR VIKINX



Multicon VikinX

An integrated control system for Flashlink and VikinX systems, Multicon is based on an open and distributed architecture, providing control panel access to Flashlink parameters. The system offers the popular GYDA Web interface and a range of important improvements for control of VikinX routers, including third-party equipment control using software plugins, making it the industry's most flexible integrated control system.

Multicon GYDA is an essential part of any Flashlink system that requires monitoring from a remote location, either via the built-in Web-based interface or the industry-standard SNMP protocol. Multicon GYDA is also an essential tool for configuring the latest range of advanced Flashlink signal processing and distribution cards for such functions as video format conversion and audio embedding.

Key features

- One control panel controls the latest range of Flashlink signal processing and distribution (SP&D) cards as well as VikinX routers
- A Web based interface monitors and configures Flashlink equipment
- Salvos are used to define presets for both Flashlink parameters and VikinX routers
- The control system processes virtual routers, salvos and mnemonics; information is updated once and available from any location
- Distributed architecture with redundancy ensures that there is no single point of failure
- Plug-in support for third-party control protocols and control of third-party equipment
- Industry-standard SNMP support for integration with Nevion DataMiner NMS and other third-party NMS solutions

System control

Multicon-VX-MOD

MULTICON SYSTEM CONTROLLER FOR VIKINX MODULAR

Application overview

This product controls VikinX Modular routers and comes with support for VikinX Sublime/Compact routers. It also includes support for the Pro-Bel protocol commonly used for integration with automation systems. This product replaces the SYSCON 64/128/256 product.

Key features

- Auto-detection of devices
- Control VikinX cross-points
- Virtual routing
- Salvo support (presets)
- Mnemonics support
- Control panel integration
- Distributed and redundant architecture



#	Name	Description	Presence
1	IN001		Present
2	IN002		Unknown
3	IN003		Missing
4	IN004		Present
5	IN005		Unknown
6	IN006		Missing
7	IN007		Present
8	IN008		Unknown
9	IN009		Missing
10	IN010		Present
11	IN011		Unknown
12	IN012		Missing
13	IN013		Present
14	IN014		Unknown
15	IN015		Missing
16	IN016		Present
17	IN017		Unknown
18	IN018		Missing
19	IN019		Present
20	IN020		Unknown
21	IN021		Missing
22	IN022		Present

#	Name	Description	Input name	Presence	Lock state
1	OUT001		IN001	Present	Unlock
2	OUT002		IN002	Unknown	Unlock
3	OUT003		IN003	Missing	Unlock
4	OUT004		IN004	Present	Unlock
5	OUT005		IN005	Unknown	Unlock
6	OUT006		IN006	Missing	Unlock
7	OUT007		IN007	Unknown	Unlock
8	OUT008		IN008	Unknown	Unlock
9	OUT009		IN009	Unknown	Unlock
10	OUT010		IN010	Present	Unlock
11	OUT011		IN011	Unknown	Unlock
12	OUT012		IN012	Missing	Unlock
13	OUT013		IN013	Present	Unlock
14	OUT014		IN014	Unknown	Unlock
15	OUT015		IN015	Missing	Unlock
16	OUT016		IN016	Present	Unlock
17	OUT017		IN017	Unknown	Unlock
18	OUT018		IN018	Missing	Unlock
19	OUT019		IN019	Present	Unlock
20	OUT020		IN020	Unknown	Unlock
21	OUT021		IN021	Missing	Unlock
22	OUT022		IN022	Present	Unlock

Multicon-VX-SLC

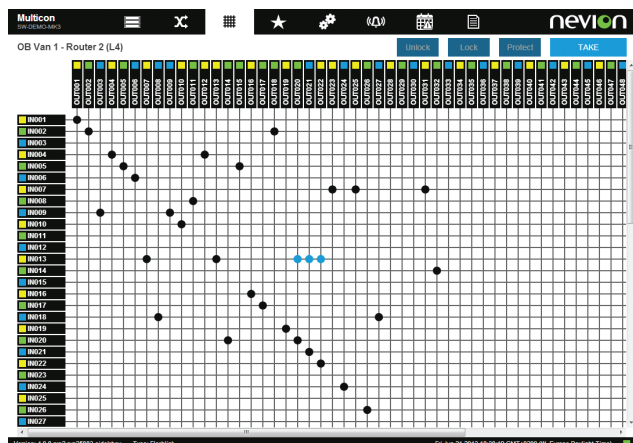
MULTICON SYSTEM CONTROLLER FOR VIKINX SUBLIME

Application overview

Multicon VX-SLC enables you to control your entire VikinX Sublime and Compact router infrastructure over TCP/IP or serial connections from either Multicon or Sublime control panels. Multicon VX-SLC may be deployed in redundant configurations. This product replaces the ETH-CON product.

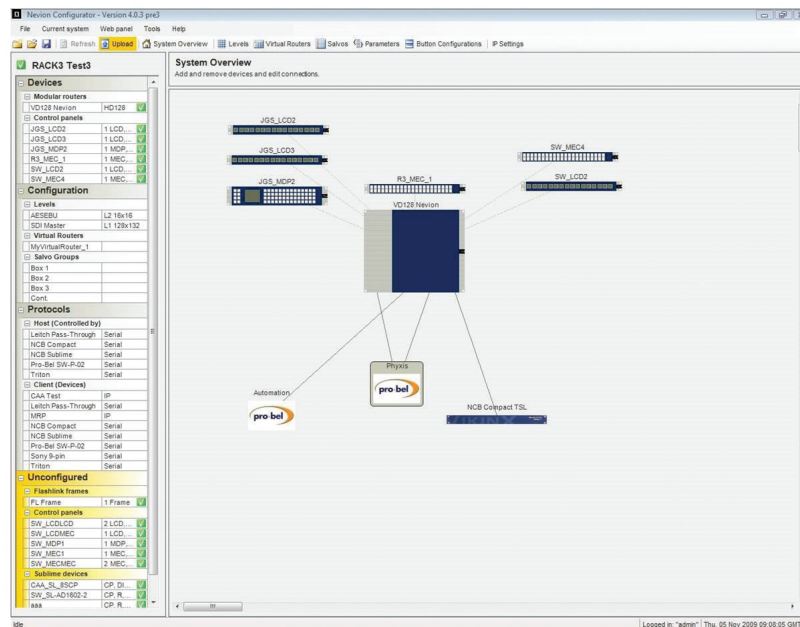
Key features

- Auto-detection of devices
- Control VikinX cross-points
- Virtual routing
- Salvo support (presets)
- Mnemonics support
- Control panel integration
- Distributed and redundant architecture



Broadcast system control

SYSTEM CONFIGURATION FOR FLASHLINK AND VIKINX



Nevion Configurator

The Nevion Configurator is a configuration tool for Multicon-based systems, which allows you to graphically configure the control system. Nevion Configurator is a free tool available for Nevion customers. The Nevion Configurator auto-detects all equipment in your network and allows you to focus on how you want to control your VikinX or Flashlink installation. Note that the Nevion Configurator supports both configuration of VikinX router systems and Flashlink signal processing.

The graphical user interface has been redesigned to make setup of your Multicon system as easy as possible. The software uses specially developed wizards and drag & drop menus to guide operators through an installation process, quickly making all users productive, whatever their experience.

The Nevion Configurator also comes with a tree view of all Flashlink and VikinX devices detected in your network, providing easy access to Multicon element managers and controllers.

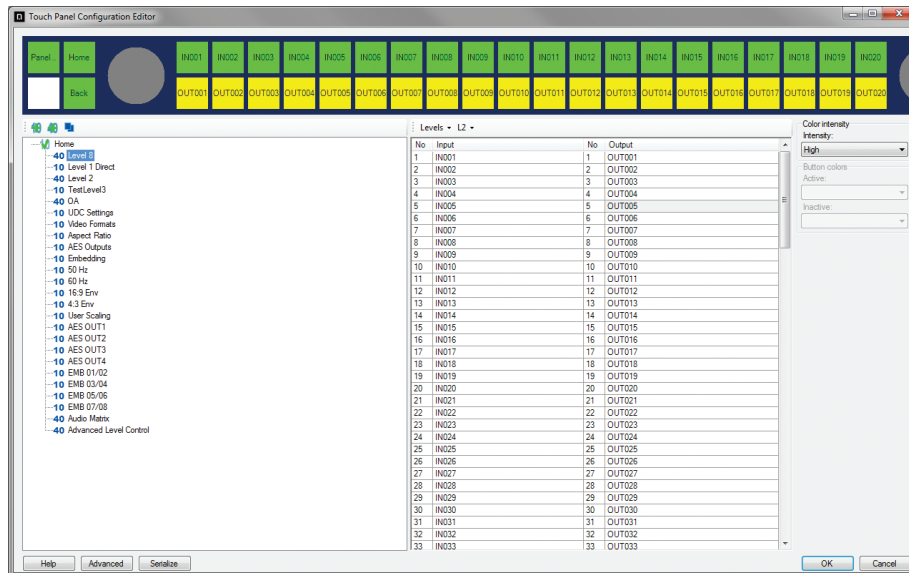
Note: Systems with SYSCON, ETH-CON, GYDA-SC, GYDA-VX controllers must be configured with the System Configurator.

Key features

- Supports configuration of virtual routers, salvos, parameters, levels, and mnemonics
- Automatic redundancy configuration
- Supports online and offline configuration
- Backup configuration may be exported and imported
- Auto-detection of supported equipment
- Button assignments for hardware and software control panels
- Configuration of IP settings
- Firmware upgrade
- License key management

System control

MULTICON IP-BASED CONTROL PANELS



IP Panel

Nevion provides both hardware and software control panels to enable efficient control of VikinX routing and Flashlink signal processing solutions, in studio or outside broadcast environments. All control panels communicate via Multicon controllers over an IP network. The Web Panel is a software based alternative to traditional hardware control panels.

The CP-TOUCH-1U control panel is a highly customizable touch-screen control panel that may be used in a variety of different applications including master control, studio automation and outside broadcast. The control panel is designed for combined control of signal processing and routing equipment.

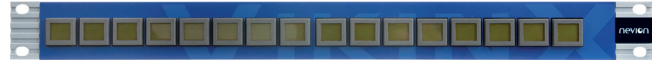
The CP-MDP, CP-16LCD and CP-44MEC control panels are programmable control panels with traditional push-buttons. The CP-16LCD includes LCD push-buttons where the display text may be software controlled. These control panels are also capable of performing combined control of signal processing and routing equipment.

Key features

- Control levels, virtual routers and salvos in VikinX systems
- Control parameters and matrixes in Flashlink systems
- Combine VikinX and Flashlink control on the same control panel
- Multiple configurations may be applied from Nevion Configurator
- Graphical configuration of button assignments from Nevion Configurator
- Apply common configurations to multiple control panels
- Master Display Panel allows you to control levels, virtual routers, salvos and parameters from the menu system without button assignment
- Control third-party routers connected to the Multicon controller

Application overview

Software programmable control panel with 16 LCD buttons. Each button may be programmed to control levels, virtual routers, salvos or parameters. Each button may show associated labels and status information like signal presence indication. The product includes 16 GPIO input/output closures that may be used for joystick override function. This product must be used in combination with Multicon controllers and supports multiple redundant controllers.



Key features

- 16 LCD buttons with text overlay (32x24 pixels)
- Tri-color button illumination
- Connects to one or more Multicon controllers over IP
- GPIO input/output closures for joystick override
- Supports level, virtual router, salvo and parameter control
- Control VikinX routers and Flashlink cards
- Remotely configurable via Nevision Configurator



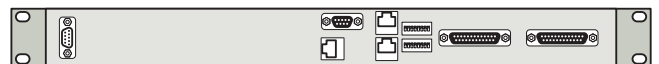
Application overview

Software programmable control panel with 44 buttons. Each button may be programmed to control levels, virtual routers, salvos or parameters. Each button may show associated status information like signal presence indication. The product includes 16 GPIO input/output closures that may be used for joystick override function. This product must be used in combination with Multicon controllers and supports multiple redundant controllers.



Key features

- 44 buttons with exchangeable stickers for labels
- Option for customizable surface design
- Tri-color button illumination
- Connects to one or more Multicon controllers over IP
- GPIO input/output closures for joystick override
- Supports level, virtual router, salvo and parameter control
- Control VikinX routers and Flashlink cards
- Remotely configurable via Nevision Configurator



System control

CP-MDP-CL+

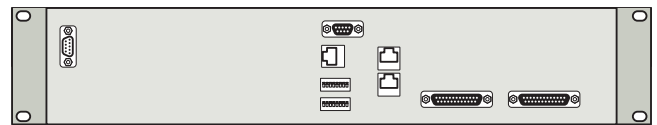
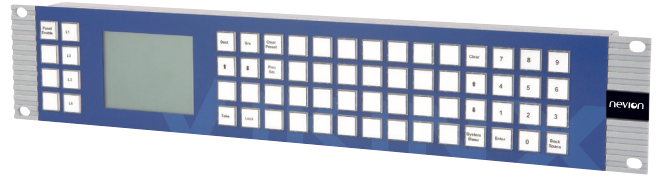
MASTER DISPLAY PANEL

Application overview

Software programmable master display panel with 64 buttons and LCD display. Each button may be programmed to control levels, virtual routers, salvos or parameters. Each button may show associated status information like signal presence indication. The product includes 16 GPIO input/output closures that may be used for joystick override function. This product must be used in combination with Multicon controllers and supports multiple redundant controllers.

Key features

- 64 buttons with exchangeable stickers for labels
- Option for customizable surface design
- Tri-color button illumination
- LCD display that shows status and may be used to control without button assignment
- Connects to one or more Multicon controllers over IP
- GPIO input/output closures for joystick override
- Supports level, virtual router, salvo and parameter control
- Control VikinX routers and Flashlink cards
- Remotely configurable via Nevion Configurator



CP-TOUCH

TOUCH SCREEN CONTROL PANEL

Application overview

The CP-TOUCH control panel is a highly customizable touch-screen control panel that may be used in a variety of different applications including master control, studio automation and outside broadcast. The control panel is designed for combined control of signal processing and routing equipment.

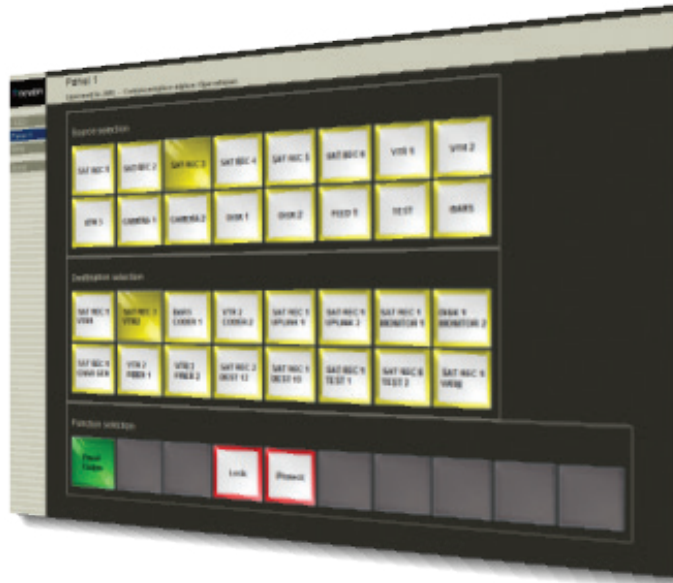
CP-TOUCH occupies one rack-unit and the control surface is based on a wide touch-screen that works in conjunction with two rotary wheels. The touch-screen allows for the customization of the user experience.

Key features

- Touch screen interface with up to 40 virtual buttons
- Adjustable color assignment per button
- Support for multiple button layouts (and navigation between layouts)
- Menu based navigation (no button configuration required)
- Accelerated adjustment of parameters using rotary wheels
- Scrollable input and output selection using rotary wheels (for large router support)



WEB BASED CONTROL PANEL FOR FLASHLINK AND VIKINX



Web Panel

The Web Panel provides a Web-based alternative to traditional hardware control panels and offers more flexibility when it comes to button layout on the screen and accessibility. The Web Panel, combined with a touch screen display, gives you both the ease-of-use of a traditional control panel and the flexibility of the Web Panel.

The Web Panel supports control of Vikinx routers (or any third-party router integrated with Multicon) and Flashlink equipment through invocation of pre-defined setups (so-called salvos).

The Web Panel server software is installed on a Windows server machine, while the user interface is accessed from any client computer running a Web browser. Switching between different control panels is as easy as following a Web link.

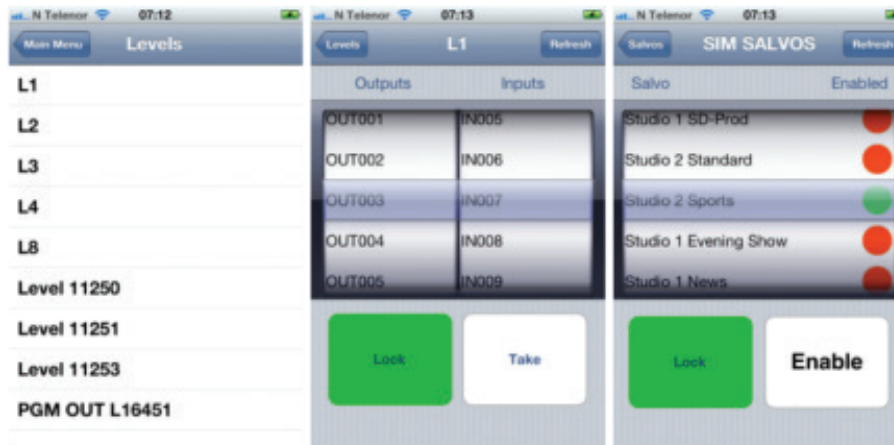
The Web Panel comes with Web templates that can be configured for most router control purposes, but the software also enables you to create fully customized control panels using standard Web technologies.

Key features

- Web-based user interface for Vikinx router control
- Full support for virtual router, categories, salvos, lock and protect of destinations
- Support for multiple users with access control
- Configurable Web Panel templates available (software configurable buttons)
- Customized Web Panels also possible using standard HTML and CSS
- Client log-in via standard Web browser (platform independent router control from PC, Mac or Linux)

System control

MOBILE APP FOR VIKINX AND FLASHLINK CONTROL



XConnect

The XConnect app is able to control VikinX Sublime broadcast routers and Flashlink cards. It uses TCP/IP based communication and Neveion MRP protocol to detect and control levels and salvos. In the settings section, you have to enter the IP address of the Sublime or Multicon controlling your devices. Default port number is 4381. Also make sure that you have a valid username and password. Please refer to product manuals for more information about each product.

Key features

- Perform VikinX router control directly from your iPhone or iPad
- Activate salvos (pre-defined settings) for Flashlink cards
- Supports connectivity to Multicon controller or direct connectivity to Sublime routers
- Support for level routing, virtual routing and salvos
- No special configuration needed—the app will access levels, virtual routers and salvos present in the system



CONTACT INFORMATION

The Americas

ussales@nevision.com

+1 (805) 247-8560

Asia Pacific

asiasales@nevision.com

+65 6872 9361

Europe and Africa

sales@nevision.com

+47 33 48 99 99

Middle East

middle-east@nevision.com

+971 (0)4 3901018

UK

uksales@nevision.com

+44 118 9735831

nevision.com

Nevion reserves the right to make changes without notice to equipment specification or design. The information provided in this document is for guidance purposes only and shall not form part of any contract.
© 2013 Nevion. All rights reserved.

As always, Nevion considers each customer and every project unique. We assess and design before we deploy, ensuring that the solutions we provide best meet your immediate needs, long-term goals, and the overall environment. From there, we're just a phone call away.

nevision