

Flashlink optical solutions

Nevion's optical solutions have helped hundreds of organizations across the globe to transport their signals reliably and cost efficiently.

The challenge

- Do you want to transport your signals from A to B, but the distance is a challenge?
- Do you have too many signals and too few fibers to carry them?
- Do you have a mix of signals, and struggle to find a cost efficient platform to support that mix?
- Do you want to do remote productions over your fiber network?

Solution overview

For hundreds of organizations across the world, Nevion's Flashlink is the go-to solution for optical transport of video, audio, data, intercom, Ethernet and sync signals. This modular solution transports signals reliably, transparently and with close to zero latency.

Flashlink handles anything from a few channels over a short distance, to hundreds of multiplexed services per fiber over many miles. It has built in changeover and protection mechanisms to provide ultimate service assurance for critical services, and it can be managed easily in a variety of ways, including Nevion's renowned media network management solution, VideoPath.

With the ability to handle the mix of signals and the distances required for any live production, and housings to suit any need, Flashlink provides an unbeatable, cost effective optical transport solution for any occasion.

Solution components

Optical multiplexing

Optical multiplexing is used to bring several signals of different format and data rate together on a single fiber. Optical multiplexers merge light of different colors and allows light to pass the filters in both directions enabling bi-directional transport on a single fiber.

Nevion provides both CWDM and DWDM multiplex systems for multi-channel transport, and where CWDM is often used for links around 50km, DWDM provides solutions for transport above 100km

Benefits snapshot



- High-fiber utilization, offering the potential for network cost saving
- Up to 240 HD-SDI signals over a single fiber
- >100km of distance
- Cost effective, all-in-one solution for the transport of all the signals required for the production of live-content

CWDM – Coarse Wavelength Division Multiplexing

Flashlink CWDM solutions are modular and cover 8, 16 and 18-channel optical multiplex systems with wavelengths from 1270nm to 1610nm and low insertion loss allowing 10Gbps signals to travel with ease above 50km without regeneration.

In addition to being fitted in the regular Flashlink frames, 2x 18-channel CWDM filters can be fitted inside the 1RU 36-channel optical converter Flashlink Compact II.

DWDM – Dense Wavelength Division Multiplexing

The Flashlink DWDM solution provides a 40-channel optical multiplex system, both through modular 8-channel filters that can be linked together into 40-channels, and a 2RU 40-channel filter unit.

Nevion's DWDM solution also offers optical amplification through EDFA that extends transport to above 100km. With ultra-long transport of high data-rates, optical dispersion becomes an issue and Nevion's DCM (Dispersion Compensation Modules) compensates for this effect.

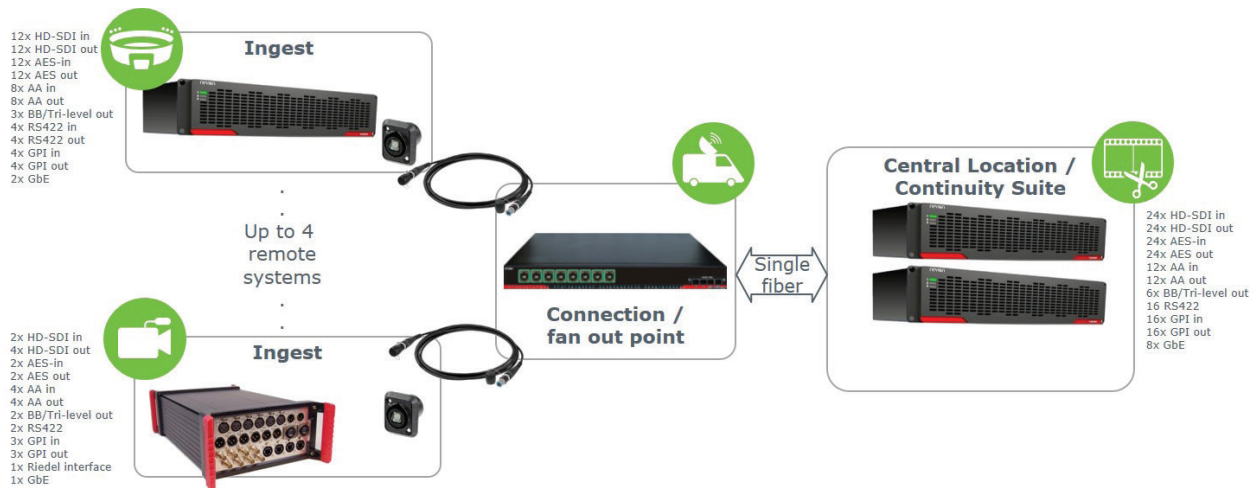
Electrical multiplexing

Nevion's Flashlink multiplexers aggregate video, audio, data and GbE to higher bit-rates before converting them to optical signals.

This latest video technology also allows changing direction on the video ports without affecting other signals on the same multiplex. This brings great flexibility to the optical networks.

Most multiplexers support both CWDM and DWDM networks.

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Media conversion

Nevion has a large range of media converters from single channel electrical to optical converter for video or Ethernet signals, to 36-channel compact 1RU converter units.

The latest addition to Nevion's media converter portfolio is the Universal Media Converter UMC-EOOE-4, a quad converter product that based on its SFPs allow any combination of E to O, O to E or O to O for both video and Ethernet, and also features flexible change-over functionality.

Optical switching and splitting

To provide cost efficient redundancy directly on the optical layer, the Flashlink solution offers optical couplers and switches to allow bi-directional traffic to be split into redundant paths, without the need to go back to the electrical domain for the redundancy switching.

Electrical change-over switches with passive bypass are also available in the Flashlink range, if full 1+1 equipment redundancy is required.

Management

The system controller and element manager Multicon provides easy access and information through web interface or simple to integrate SNMP with support from NMS systems, such as Dataminer, and Nevion's own VideoPath. Multicon is also newly available with an optical interface allowing in-band management on both CWDM and DWDM systems.

Enclosures

The modular Flashlink cards can be installed in enclosures fit for need, from the regular 2RU Flashlink rack-mount chassis (now also available with more power and controlled front to back airflow through low noise fans) to ruggedized enclosures for event productions or simple single unit throw down boxes.

Product highlights

Enclosures

- **FR202-RP** – 2RU high power Flashlink frame with controlled airflow
- **FR-2RU-10-2-RP** – 2RU Flashlink frame without fans for low power silent applications
- **FLASHCASE II** – Small form factor enclosure with rugged fiber connectors for outside broadcast
- **N-BOX** – Single module enclosure

Electrical multiplexers

- **HD-TD-10GX-8-SFP** – Bidirectional 8-channel HD/SD/ASI multiplexer over 10Gbps
- **ETH1000-SW-10G-SFP** – 5 port GbE multiplexer over 10GbE
- **ETH1000-SW-COM-SFP** – 2 port GbE, 4x RS422 and 4x GPI I/O multiplexer over GbE
- **ADA-VMUX-SFP** – Analog and digital audio multiplexer over SDTI

Optical filters

- **DWDM-8-Cx** – 8-channel DWDM filter with upgrade port for up to 40-channels
- **DWDM-40C** – 40-channel DWDM filter in 2RU Flashlink chassis
- **CWDM-18** – 18-channel CWDM filter from 1270nm - 1610nm
- **Optical components**
- **EDFA-C-17dBm** – Optical to optical 10Gbps wavelength converter with reclocking
- **DCM-G652-80** – Dispersion compensation module for 80km of G.652 single mode fiber
- **WOS-2x2-L** – Dual input GPI controlled optical latching switch
- **WOC-2-50-50** – Optical 50%/50% coupler allowing splitting of optical signals

Media converters

- **10G-TR-XFP** – Optical to optical 10Gbps wavelength converter with reclocking
- **UMC-EOOE-4-SFP** – Quad universal media converter with configurable optical ports supporting 3G/HD/SD-SDI and GbE
- **CONV-SFP-4** – Quad channel SFP converter supporting video and GbE SFPs
- **3GHD-EO-2-SFP / 3GHD-OE-2-SFP** – Dual channel optical video converters
- **3GHD-EO-SFP / 3GHD-OE-SFP** – Single channel optical video converters
- **ETH1000-SFP** – Electrical/Optical Ethernet Converter

Management and SYNC

- **MCON-HW-MK4-SFP** – Element management unit with optical management interface
- **SPG-AVA-DMUX-R** – Sync pulse generator with optical interface