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# FLASHLINK

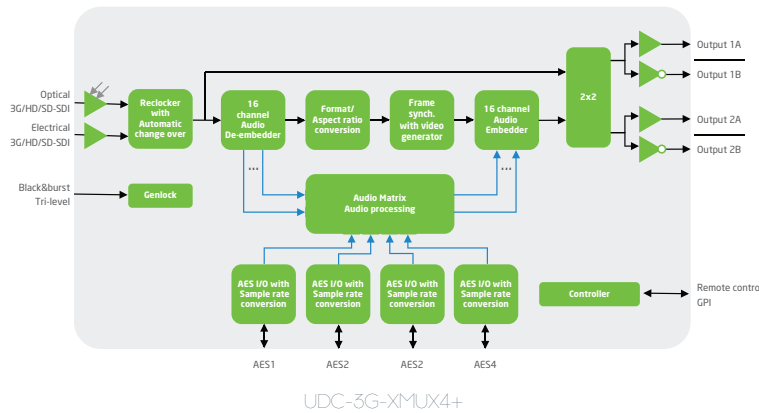UDC-3G-XMUX4+

## Up/down/cross-converter

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 de-glitcher 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. Its small footprint, low power consumption and Nevion panel control support makes it ideal for outside broadcast applications.

The extensive manual control thru DIP, push and rotary switches enables the module to be efficiently used as a stand-alone unit, enclosed in the small Flashlink N-BOX enclosure.

## Key features

- Broadcast quality format conversion with motion adaptive de-interlacer
- Frame-rate conversion between 50Hz and 59.94/60Hz video standards
- Aspect ratio conversion controllable by AFD, WSS, VI and GPI
- Automatic and user configurable modes of operation
- Four configurable AES /I/Os for audio embedding and de-embedding
- Built-in frame synchronizer with de-glitcher ensuring error-free switching even between input formats
- Extensive audio processing core including individual gain, left-right manipulation and stereo cross-point matrix
- Full Active Format Description (AFD) support
- On screen label generator
- Time code and closed caption conversion between formats
- Video generator with moving pattern and OSD

UDC-3G-XMUX4+

The Flashlink UDC-3G-XMUX4+ is a broadcast quality signal processing platform converting video and audio between 50Hz and 59.94Hz/60Hz frame rates and 3G, HD and SD formats.
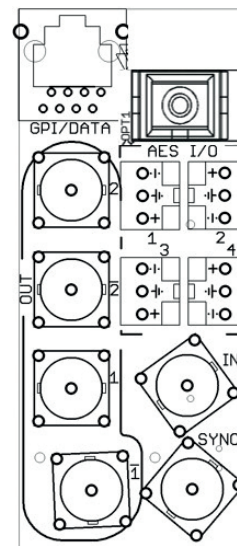
Its aspect ratio conversion is controlled automatically by active format description (AFD) information present in either VI or SMPTE-2016 packets, or manually through user settings. The UDC-3G-XMUX4+ holds 12 standard conversions and 12 user scaling presets that are reachable through the Multicon GYDA Web interface or GPI.

The module also features 4 AES I/O ports that can be separately configured to either AES inputs or outputs. All embedded audio channels can be reached through the audio cross-point matrix that can be controlled as an audio router from a panel through Multicon.

The built-in frame synchronizer enables the module to lock and phase adjust its output to an external black and burst or tri-level. The de-glicher removes switching noise from in front routing switchers, and the output stays error-free even between switching of different input formats.

## Features

- ITU Rec 709 <-> 601 color space conversion

- Optical long haul input (< -28dBm sensitivity)

- 4 x SD-SDI outputs

- 4 x AES I/O

- De-glitching of input video signal (always glitch-free output)

- Pre-defined and user-definable aspect ratio settings

- Luma/chroma gain and level adjustment

- Synchronous / asynchronous audio support

- Audio delay enabling Dolby-E processing delay correction

- Audio router for embedded audio

- Embedded audio gain adjustment

- Audio fade out/fade in at frame-wrap

- SD-SDI in-monitor label inserter

- EDH processing



UDC-3G-XMUX4+ backplane

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# Specifications

## General

| | |
|---|---|
| Power consumption max | 9.0W |
| Control and monitoring | SNMP, web interface, manual thru DIP interfaces switches and LEDs |

## Supported standards

| | |
|---|---|
| SD-SDI, 270Mbps | SMPTE-259M, SMPTE-272M-AC |
| HD-SDI, 1485Mbps | SMPTE-292M, SMPTE-274M, SMPTE-291M, SMPTE-296M, SMPTE-299M |
| 3G-SDI, 2970Mbps | SMPTE-424M-2006, SMPTE-425M-2008 |
| Color space conversions | BT.601, BT.709 |
| Video switch point definition and sync | SMPTE-RP168 (tri-level), SMPTE-170m, ITU-R. BT.470 |
| AES | AES3-1996 |
| Optical | SMPTE-297M, SMPTE-292M |
| EDH | Compliant to SMPTE-RP165 |
| Video payload identification | SMPTE-352M-2002 |
| Time code | SMPTE-12M |
| Closed caption | SMPTE-334, CEA-708, CEA-608 |
| VANC mapping | SMPTE-2010, SMPTE-2020 |

## Optical SDI input

| | |
|---|---|
| Data rate optical | 270 – 2970Mbps |
| Sensitivity | Better than -20dBm (short haul) /-28dBm (long haul) |
| Detector overload threshold | Min. -3dBm (-7.5dBm long haul version) |
| Detector damage threshold | >+1dBm |
| Optical wavelength | 1200 – 1620nm |
| Transmission circuit fiber | 9/125um single mode |
| Connector return loss | >40dB w/ SM fiber |
| Connector | SC/UPC |

## Electrical SDI input

| | |
|---|---|
| Connectors | 75 Ohm BNC |
| Equalization | Automatic<br>>270m SD-SDI w/Belden 8281<br>>100m HD-SDI w/Belden 1694A<br>>70m 3G-SDI w/Belden 1694A |

## Electrical Sync input

| | |
|---|---|
| Connector | 75 Ohm BNC |
| Format | Black & Burst, Tri-level |
| Input return loss | >35dB @ < 10MHz,<br>30dB @ < 30MHz |
| Termination | Selectable internal or external 75 Ohm termination |

## Electrical SDI outputs

| | |
|---|---|
| Number of outputs | 4 |
| Connectors | 75 Ohm BNC |

## AES I/O

| | |
|---|---|
| Number of inputs/ outputs | 4 |
| Connectors | WECO |
| Impedance | 110 Ohm transformer balanced |
| Input audio data rate | 24 kHz to 100kHz, converted to 48kHz if not isochronous to either SDI input or sync input. |
| Embedded audio word length | 24 bits |
| Embedded audio channels status | As received when isochronous, otherwise replaced by a static value. |

## Ordering options

| | |
|---|---|
| 21003 | UDC-3G-XMUX4+ |
| 21004 | UDC-3G-XMUX4-R+ |
| 21005 | UDC-3G-XMUX4-R-L+ |
| 21006 | UDC OPT INPUT SD |
| 21007 | UDC OPT INPUT HD |
| 21008 | UDC OPT INPUT 3G |
| 21009 | UDC OPT OUTPUT SD |
| 21010 | UDC OPT OUTPUT HD |
| 21011 | UDC OPT OUTPUT 3G |
| 21012 | UDC OPT AES I/O |

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