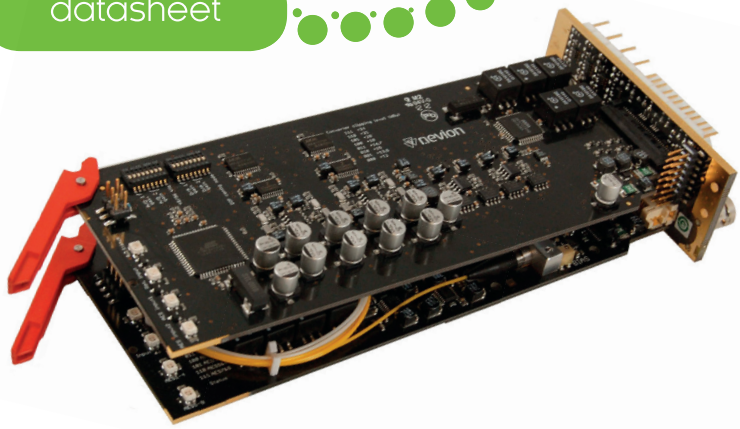
datasheet



FLASHLINK

AAV-3G-XMUX

3G-SDI analog and digital audio embedder / de-embedder

The AAV-3G-XMUX is an analog and digital audio embedder / de-embedder for 3G/HD/SD-SDI signals.

Various configurations of analog inputs and outputs can be achieved by selecting various analog audio piggy back modules. The digital audio ports are bi-directional and can be configured individually.

The AAV-3G-XMUX comes with an extensive audio processing covering a full audio matrix for audio routing, individual channel gain control, channel manipulation and transparent transport of non-audio data like Dolby-E.

The card is easy to use with minimum setup needed and broadcast centric control enabled through Nevion's control panel support.

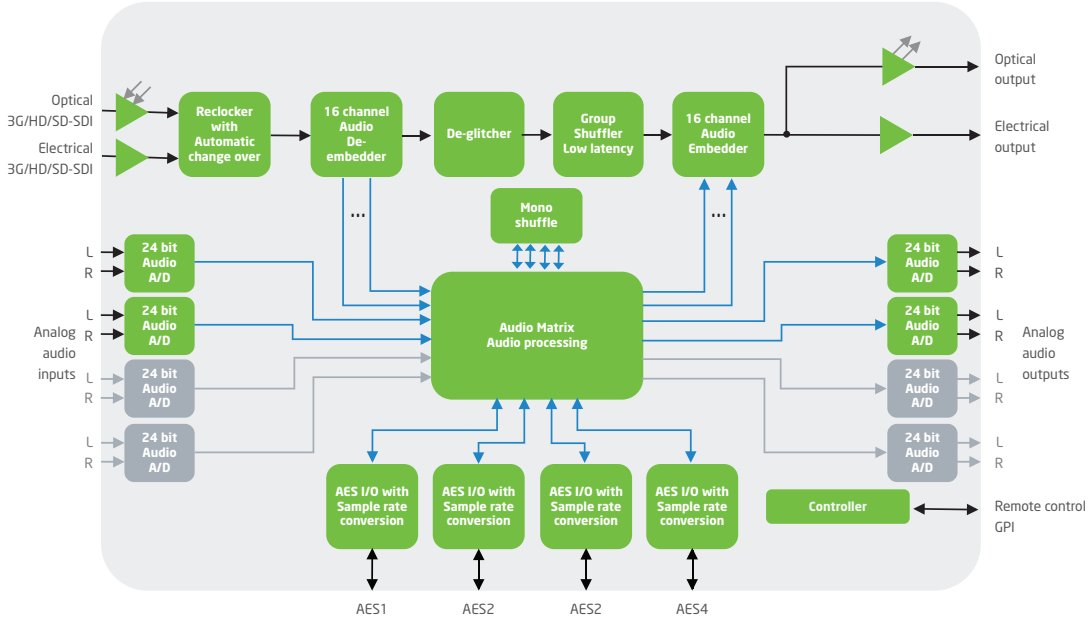
Applications

- Studio infrastructures
- Audio contribution
- Intercom transport

Key features

- 4 configurable AES ports for audio embedding and de-embedding
- 4 analog stereo inputs, 4 analog stereo outputs or 2 analog stereo inputs + 2 analog stereo outputs
- De-embed and embed simultaneously all audio
- De-embed all 8 groups and embed four groups of audio with 3G-SDI
- Sample rate converters when needed on AES inputs
- De-glitcher removing errors from synchronous switching
- CWDM and DWDM support
- Optical short haul or long haul receiver
- Internal video generator with label insertion, moving pattern and time code burner

Flashlink AAV-3G-XMUX



The AAV-3G-XMUX is a highly integrated analog and digital audio embedding module in the Flashlink range, offering simultaneous embedding and de-embedding of four AES3 stereo digital audio channels and 4 analog stereo audio channels on a digital 3G/HD/SD-SDI serial video signal. The product is a two card solution onto a backplane that can be a dual slot backplane for the Flashlink frame, or a single slot backplane for the FlashCase.

There are 4 AES ports and each may be used as either an input or an output. The sample rate converters may be inserted by the module when needed, or the user can disable them. Data signals such as Dolby-E will always be embedded transparently without using the sample rate converters.

There are 4 analog stereo audio channels that can be selected as 2 stereo inputs plus 2 stereo outputs, or 4 stereo inputs or 4 stereo outputs through different piggy back modules. The audio conversion is broadcast quality with more than 105dBA dynamic range for any conversion.

All embedding and de-embedding is with synchronous 48 kHz audio. The unit may be ordered with optical transmitter and receiver options. The laser options range from the standard -5dBm 1310nm to the DWDM units. The receivers may be either PIN or APD for extra high optical budget.

The module has signal generators for audio, video, test and line-up applications. The internal video generator may be used as a fall-back source that is used if the both the electrical and the optical input signals fail. This allows uninterrupted transmission of embedded audio.

The card can be setup through DIP switches, web interface or SNMP. The audio control is provided as a router level to the control system allowing for panel control. Signal status can be monitored through the front LEDs, the web interface or through SNMP.

General

Power	+5V/5.6W, +15V/0.82W, -15V/0.82W

Supported standards

AES	AES3-2003
SD-SDI	270Mbps SMPTE 259M
HD-SDI	1485Mbps SMPTE 292-2008
3G-SDI	2970Mbps SMPTE 424M
Optical	SMPTE 297

Electrical video input

Number of inputs	1
Connectors	BNC
Impedance	75 Ohm

Electrical video output

Number of outputs	1
Connectors	BNC
Impedance	75 Ohm

Optical video input

Number of inputs	1
Input signal	SD/HD/3G-SDI
Connector	SC/UPC
Transmission circuit fiber	Single mode 9/125 um
Sensitivity SD/HD/3G	-33/-30/-28dBm (option R-L) -25/-20/-17dBm (option R)
Detector overload	-9dBm (option R-L) -3dBm (option R)
Detector damage	> +1dBm
Optical wavelength	1200 – 1620nm

Optical video output

Number of outputs	1
Signal polarity	Non-inverting
Connector	SC/UPC
Transmission circuit fiber	Single mode 9/125 um
Light source	F-P/DFB laser
Optical power	-5dBm @1310nm (F-P laser) 0dBm CWDM (DFB laser) +5dBm DWDM (cooled DFB laser)
Optical center wavelength	1310nm CWDM according to ITU-T G.694.2 DWDM according to ITU-T G.694.1
Max wavelength	13T: ±20nm CWDM: ±6nm DWDM: ±0.16nm
Jitter (UI=unit interval)	Max. 0.2 UI
Connector return loss	40dB w/SM fiber

Electrical digital audio in/out

Number of ports	4
Connectors	BNC or DSUB depending on backplane
Impedance	75 Ohm or 110 Ohm depending on backplane
Direction	Configured direction form Multicon GYDA

Electrical analog audio in

Number of ports	4 stereo (ADC-AES-8 option) 2 stereo (ADDA-AES-8 option)
Differential input impedance	24 kOhm
Common mode input impedance	50 kOhm
Maximum signal level	+12, +13.5, +15, +16.7, +18, +20, +21 or (0dBFS) +24dBu

Electrical analog audio in (cont.)

Level precision	± 0.1dB where Zsource < 40 Ohm
Common mode voltage tolerance	± 30V – (Maximum peak signal level)
Frequency response	20Hz – 20kHz ± 0.1dB
Pass-band ripple	± 0.005dB
Stop band attenuation	80dB
Dynamic range	Min. 103dB (A) Typ. 107dB (A) 0dBFS = +18dBu
THD+N @ -1dBFS	Max. -90dB, typical -96dB
Intermodulation distortion	Max. -90dB, typical -95dB
Crosstalk	Max. -90dB, typical -99dB
CMRR (20Hz – 15kHz)	Max. 70dB @ 15kHz, typical -90dB @ low frequencies
Sampling frequency	48 or 96kHz

Electrical analog audio out

Number of ports	4 stereo (DAC-AES-8 option) 2 stereo (ADDA-AES-8 option)
Differential output impedance	53 Ohms
Common mode output impedance	20 kOhm
Level precision	± 0.1dB where Zload > 10 kOhm
Maximum signal level (0dBFS)	+24dBu or lower in 1dB steps
Common mode voltage tolerance	+50V, -0V
Frequency response	20Hz – 20kHz ± 0.1dB
Pass-band ripple	± 0.002dB
Stop band attenuation	82dB
Dynamic range	Min. 99dB(A) Typ. 105dB(A) 0dBFS = +18dBu
THD+N @ -1dBFS	Max. -85dB, typical -96dB
Intermodulation distortion	Max. -90dB
Crosstalk	Max. -90dB, typical -95dB
CMRR (1kHz BBC method)	Max. 46dB, typical 65dB

Ordering options

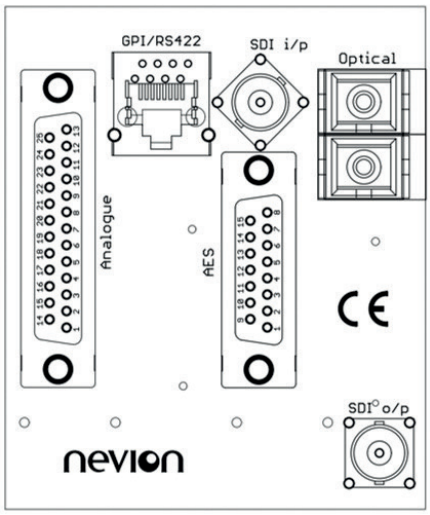
22924 AAV-3G-XMUX-Cx	3G/HD/SD-SDI emb/de-emb w/ 8ch an. audio + 4ch AES
22925 AAV-3G-XMUX-Cx-R	3G/HD/SD-SDI emb/de-emb w/ 8ch an. audio + 4ch AES and optical receiver
22926 AAV-3G-XMUX-Cx-C1xxx	3G/HD/SD-SDI emb/de-emb w/ 8ch an. audio + 4ch AES and CWDM 0dBm transmitter
22927 AAV-3G-XMUX-Cx-R-L	3G /HD/SD-SDI emb/de-emb w/ 8ch an. audio+ 4ch AES and L.H. optical receiver
22928 AAV-3G-XMUX-Cx-R-13T,-5dBm	3G/HD/SD-SDI emb/de-emb w/ 8ch an. audio + 4ch AES optical receiver and 13T, -5dBm transmitter
22929 AAV-3G-XMUX-Cx-R-L-C1xxx	3G/HD/SD-SDI emb/de-emb w/ 8ch an. audio + 4ch AES, L.H. optical receiver and 0dBm CWDM transmitter
22930 AAV-3G-XMUX-Cx-13T, -5dBm	3G/HD/SD-SDI emb/de-emb w/ 8ch an. audio + 4ch AES and 13T, -5dBm transmitter

Order configurator options

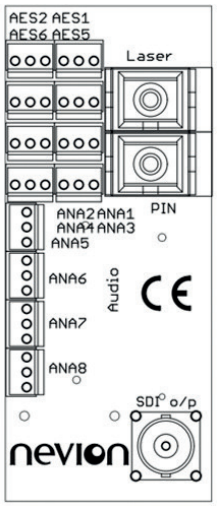
1 Backplane	C1, C2, C3
2 Analog audio option	ADC-AES-8 – 4 analog stereo inputs DAC-AES-8 – 4 analog stereo outputs ADDA-AES-8 – 2 analog stereo inputs and outputs
3 Optical wavelength (CWDM option only)	C1270, C1290, C1310, C1330, C1350, C1370, C1390, C1410, C1430, C1450, C1470, C1490, C1510, C1530, C1550, C1570, C1590, C1610

Backplane options

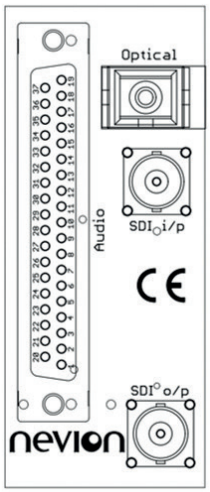
- C3 – Dual slot backplane with 2 optical ports and electrical video input and output, DB25 for analog audio and DB15 for digital audio
- C2 – Single slot backplane for FlashCase II with, 2 optical ports, electrical video output and 3 pin KK connectors for audio (only for "–R "products)
- C1 – Single slot backplane for FlashCase II with 1 optical port, electrical video in and out and DB37 for audio (only for products with one optical port)



AAV-3G-XMUX C3



AAV-3G-XMUX C2



AAV-3G-XMUX C1

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