

## Flashlink

ARC-SD-DMUX

# Aspect ratio converter for SD-SDI with monitor output

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.

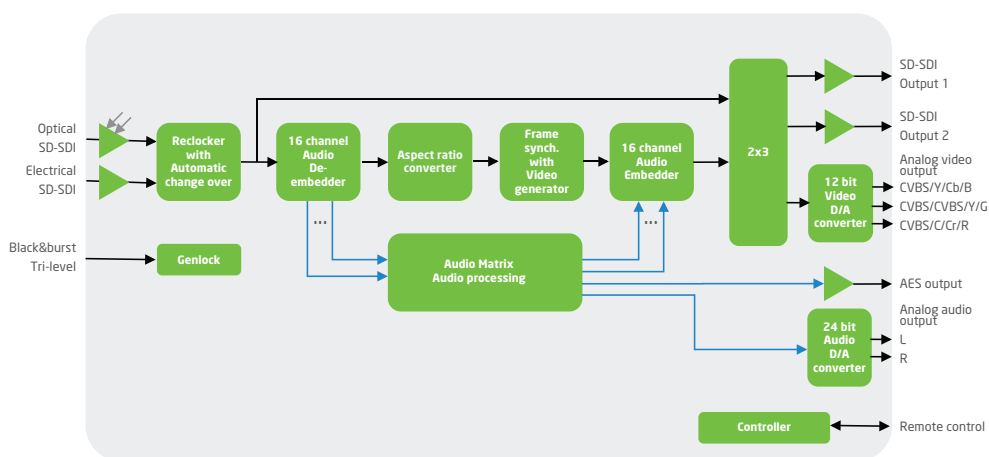
The ARC-SD-DMUX has applications in both contribution and distribution networks. Its small form factor makes the ARC-SD-DMUX ideal for use with SD cameras (typically in an N-BOX housing). An analog monitor output is also available for viewing the converted video shots. This makes the card a powerful tool for small-scale productions.

### Applications

- Studio infrastructure
- Studio interconnection
- OB production
- Aspect ratio conversion

### Key features

- Aspect ratio converter for SD-SDI with monitor output
- Automatic and user configurable modes of operation
- Built-in frame synchronizer with de-glitcher ensures error-free switching
- Audio de-embedding, processing and cross-point matrix
- Based on Nevision's unique PhaseTru scaling technology
- Active format description support



ARC-SD-DMUX

The module accepts either optical or electrical SD-SDI input signals and outputs two aspect ratio converted SD-SDI signals and a set of configurable analog video outputs. The ARC-SD-DMUX is also a frame synchronizer with an adjustable offset relative to the sync signal and includes a de-glitcher to give error-free synchronous switching.

The audio embedded in the SD-SDI stream is de-embedded and can be delayed relative to video. The stereo audio channels can be swapped in the audio matrix before they are re-embedded in the SD-SDI data output stream. The module may be controlled either by DIP switch settings for static configurations or remotely using the Multicon GYDA element manager.

## Features

- Optical or electrical SD-SDI inputs
- 2 x SD-SDI, 1 x AES, 3 x analog video and 1 x analog audio outputs
- De-glitching of input video signal (always seamless output)
- Automatic aspect ratio conversion (AFD, WSS, WSS-EXT VI, etc.)
- Built-in AFD stamping
- Pre-defined and user-definable aspect ratio settings
- Frame sync with video/audio delay (8 frames max)
- Luma/chroma gain and level adjustment
- 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

Input	Conversion	Output
	No conversion	
	4:3 cropped to 16:9 full frame	
	4:3 to 16:9 with 4:3 pillar box	
	4:3 cropped to 16:9 with 14:9 pillar box	
	16:9 to 4:3 with 16:9 letterbox	
	16:9 cropped to 4:3 full frame	
	16:9 cropped to 4:3 with 14:9 letterbox	
	4:3 with 16:9 letterbox cropped to 4:3 with 14:9 letterbox (zoom 1.143)	
	16:9 with 4:3 pillar box cropped to 16:9 with 14:9 pillar box (zoom 1.167)	
	4:3 with 16:9 letterbox cropped to 4:3 full frame (zoom 1.333)	
	Top 4:3 cropped to 16:9 full frame	
	Top 4:3 cropped to 16:9 with 14:9 pillar box	

### Analog audio input/output

Number of outputs	1 stereo pair
Frequency response	20Hz – 20kHz +/-0, 5dB
Maximum signal level	24dBu +/-1dB
Dynamic range	>100dB(A)
THD+N	-70dB
Crosstalk	< -60dB 20Hz – 20kHz
Output impedance	< 66R
Gain adjustment	0 -24dBu with 1db step
Common mode voltage tolerance	0 -48V
Audio connector	2 x WECO audio connectors

### Digital audio input/output

Number of outputs	
Jitter	<0,0025UI peak
Audio connector	1x WECO audio connector

### Electrical input

Return loss	>15dB, 5MHz – 270MHz
Cable equalization	Automatic, >300m at 270Mbps w/Belden
Connector	75 Ohm BNC

### Electrical output

Number of outputs	2 SDI; 1 Component RGB/YUV or 3 CVB
Signal level	800mV +/-10%
Return loss	>15dB; 5MHz -270MHz (SDI); >35dB at 1
Jitter	Timing jitter: SD: <0,2 UI; Alignment jitter
Rise/fall time	SD limit: [0,4ns -1,5ns]; <0,5ns rise/fall v
Connector	75 Ohm BNC

### Optical input

Transmission circuit fiber	9/125um Single mode fiber
Optical wavelength	1200 – 1620nm
Connector return loss	>40dB w/ SM fiber
Data rate	270 Mbps
Sensitivity	Better than -22dBm
Detector overload threshold	Min. -3dBm
Detector damage threshold	>+1dBm
Connector	SC/UPC

### Reference input

Number of inputs	1, looped
Return loss	>35dB at < 10MHz; 30dB at < 30MHz
Signal format	Black & Burst, Tri-level
Connector	75 Ohm BNC

### Supported standards

SD-SDI	SMPTE 259M, SMPTE 272M-AC
Analog video	SMPTE 170M, SMPTE 274M, ITU-R. BT.
AES	AES3-1996
CE	EN 55103-1:1996; EN 55103-2:1996
Safety	EN 60950-1:2006
Center of picture definition	SMPTE RP187, ITU-R. BT.470
Aspect ratio preservation	SMPTE RP199-1999, SMPTE RP221
Video synchronization	SMPTE RP168 (tri-level), SMPTE 170M
EDH	Compliant to SMPTE RP165
Video payload identification	SMPTE 352M-2002

### General

Maximum power consumption	4.9W/5V, 2.55W/15V, 0.7W/-15V; without optics
Weight	150g

### Ordering options

ARC-SD-DMUX	SD-SDI aspect ratio converter. With 2XSD-SDI out, analog video outputs, internal audio handling, analog audio outputs, AES (or RS-422 data) out, and frame synchronizer functionality.
ARC-SD-DMUX-R	As above with the addition of a high sensitivity 9/125µm single mode optical input



## CONTACT INFORMATION

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