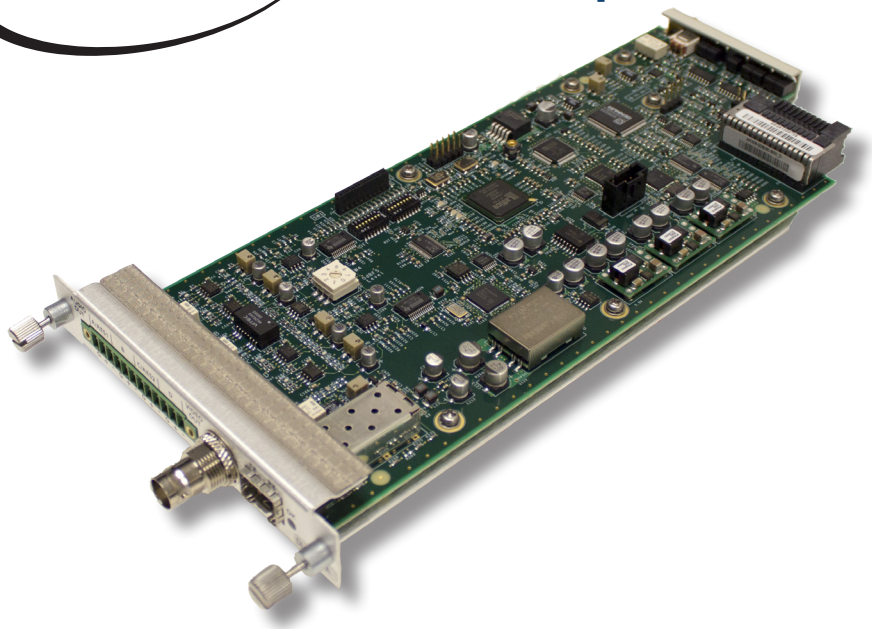
DigiLink DLC170DA - SDI to Composite Video (NTSC/PAL) Analog Audio Conversion with Optical Receiver/Repeater

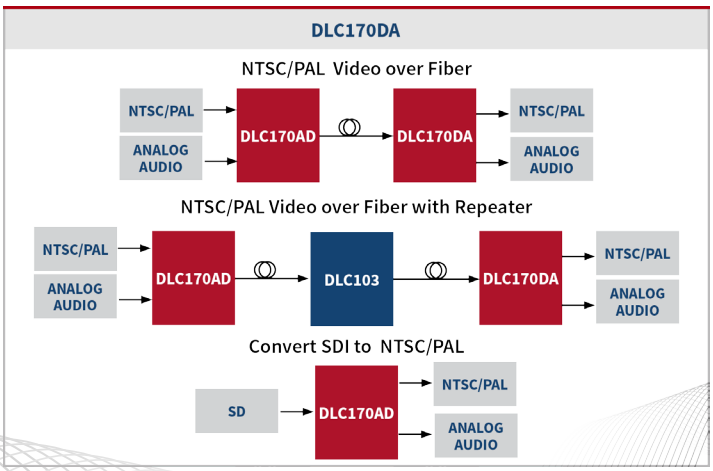


The DLC170DA converts optically received SDI to composite analog video (NTSC or PAL) and analog or AES audio. Used with the DLC170AD, the design insures full TV-1 RS250-C "short haul" analog performance over a true SMPTE 259M SD-SDI optical transport link.

The innovative module uses advanced video and audio processing for exceptional quality conversion of SDI (SMPTE 259M) to composite video and analog audio. It accepts a 270Mb/s 525/625 line SDI input from either the optical SFP receiver or the backplane, then converts it to composite analog and audio signals.

Additionally, it can be used as an optical receiver for all digital signals from 19.39 ATSC to 1.485Gb/s HD-SDI making the DLC170DA ideal for conversion from analog to digital video transport. The received optical signal can be directed to the backplane for additional channel groups to be processed by other cards in the DigiLink chassis. Audio embedded per SMPTE 272M levels A, B, and C can be extracted as either four balanced analog audio channels or two stereo AES digital audio streams.

A front panel video monitor with analog or digital selector switch allows the incoming digital (with embedded audio) or composite analog output to be monitored using conventional digital/analog video equipment.



FEATURES

Convert SDI (SMPTE 259M) to composite video

- NTSC or PAL
- Analog composite 75 Ohm video output BNC
- 10-bit component digital 525/625 line to NTSC-M or PAL-B/G conversion
- Composite 12-bit processing

Convert SDI to analog or AES audio

- SMPTE 272M-ABC audio de-embedding with 24-bit audio conversion
- Balanced analog audio outputs (4)
- Balanced AES audio outputs (2)

Optical transport of:

- Analog video and audio
- 1.485Gb/s HD-SDI (SMPTE 292M)
- 270Mb/s
  - SD-SDI (SMPTE 259M-C, ITU 656)
  - SDTI (SMPTE 305M)
  - DVB-ASI
  - Artel 270

Optical to optical repeater

Externally accessible SFP transceiver optics

- Optical budget to 33dB
- WDM (1310nm, 1550nm)
- CWDM ITU G.694.2 (Channels 27-61)

Multiple monitoring options

- Front panel monitor (mini 75 Ohm SMB) selectable between:
  - NTSC or PAL (post-conversion)
  - SDI (pre-conversion)
- Front and rear panel status LEDs

Remote management via DigiLink Manager

- No external software required
- HTTP or SNMPv2
- Monitor
- Configure
- Upgrade firmware

SPECIFICATIONS

SDI-to-Analog Video Conversion (6)

Output format	SMPTE-170M NTSC-M or ITU-R BT.624-4 PAL-B/G composite video
Output amplitude	1.0 V p-p nominal
Output impedance	75 Ohm
Output return loss (0 to 5.5 MHz)	>30 dB, 75 Ohm
Freq amplitude response	
NTSC to 4.5 MHz	<0.10 dB
NTSC to 5.0 MHz	<0.10 dB
PAL to 5.5 MHz	<0.10 dB
PAL to 6.0 MHz	<0.10 dB
Differential gain	<1.0%
Differential phase	<0.7 degrees
Line time distortion	<1.0%
Chroma-luma gain	<±2%
Chroma-luma delay	<5ns
Signal to noise, weighted	>67 dB

SDI Audio-to-Analog Audio Conversion (6)

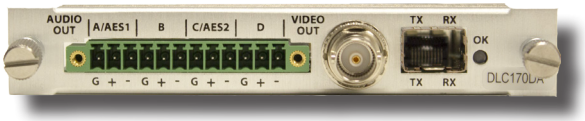
Output signal	Balanced Analog (1)
Output impedance	< 50 Ohm (2)
Nominal (test) level	18 dBm (3)
Maximum level (clip)	+10 to +24 dBm (4)
Insertion gain	±0.25 dB (5)
Freq amplitude response (20 Hz to 20 kHz)	±0.3 dB
THD+N (20-20k @ +18 dBm)	0.01%
SNR (weighted)	>95 dBA
Crosstalk @10kHz	70 dB
Audio to video lead/lag	<2 ms

SDI-Mode

Input/output bit rate	270Mb/s ±100 ppm
Output jitter	<500 ps
I/O connectors	BNC female / 75 Ohm
I/O levels conforms to SMPTE	259M

(1) Specifications are with 48 kHz, 24-bit audio SMPTE 272M-C embedded audio.

Front panel monitoring and status displays



Rear panel includes electrical digital or analog video output, analog or AES audio outputs and SFP transceiver cage

AR206-008080-B00_M

AES Audio Output

Output signal	Balanced digital (1)
Output format	AES3-2003 compliant
Output impedance	110 Ohm

Environmental

Ambient operating temperature	0 to 50°C
Ambient storage temperature	-40 to 80°C
Relative humidity	10 to 95% (non-condensing)
Power dissipation	9 Watts

Physical

Dimensions	0.8" x 5" x 10.8" 1 slot in chassis

Optical Interface

SFP Options	*See SFP Specification*

Regulatory Conformance

Compliance:	Certified NEBS Level 3, CSA 60950, EN60950, EN55022 FCC Part 15 (Class A), CISPR 22

(1) Automatic or manual control.
(2) Specifications are with 48 kHz, 24-bit audio.
(3) Nominal level is +20 dBm for 0 dBFS (clipping) with performance specifications based on a +18 dBm test level.
(4) User selectable maximum (0 dBFS) level in eight 2 dB steps.
(5) Each end set to the same nominal 0 dBFS level.
(6) Analog specifications based on end-to-end performance with DLC170DA

Made in the USA

GSA Schedule Contract GS-03F-016CA

UPDATED 11/04/2016

Ordering Information

DLC 170DA Function Module

Model	Description	Part #
DLC170DA	SDI to Analog Conversion and Optical Transport	390-008080-00

SFP Options *See SFP/SFP+/XFP compatibility chart*

Monitor Cable

Model	Description	Part#
DL100MC-72	Monitor cable, 75 Ohm mini-SMB to BNC, 72"L	396-001001-00

Sales

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