

PDM 5348 O

12G / 6G / 3G / HD

fiber

12G

SERIES 5000

CardModules

12G-SDI Analog Audio Embedder / De-Embedder

Description

The PDM 5348 is a versatile 8 channel analog audio embedder or de-embedder which can be used to address a variety of audio issues in broadcast. The module has multiformat support for SDI formats up to 4K DCI(auto detect) and features an optional 12G-SDI SFP cage for fiber input and/or output.

The module can be switched between an 8 channel embedder or an 8 channel de-embedder, or used as a combination of both. 8 channels of audio are always de-embedded from the SDI input and passed into a audio processing stage. In embedder mode 8 channels of external audio are passed into the audio processing stage. Audio processing includes adjustable gain, phase invert, and mute for all 72 channels as well as a selectable

mono mixdown function for each left and right pair.

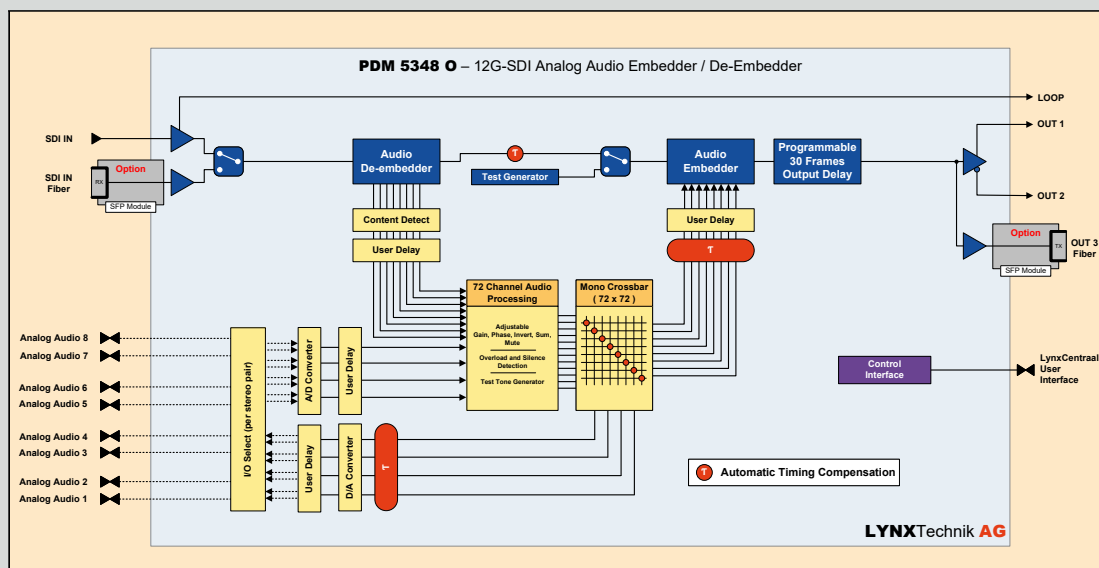
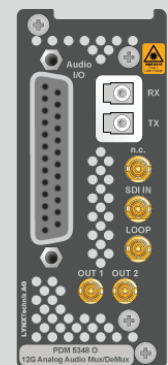
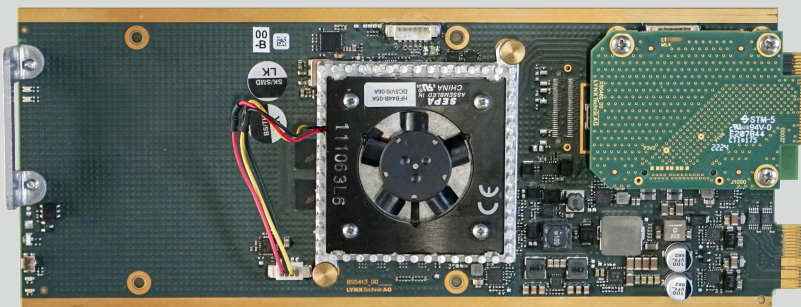
The processed audio is passed onto a 72 x 72 output crossbar where the audio for the embedder, and/or audio for the external outputs can be user mapped.

The module also provides up to 30 frames of programmable output delay.

Microprocessor control and on board Flash RAM enable configurations and settings to be stored within the module. Remote control, status monitoring and error reporting is possible when using the LynxCentral Control System.

Features

- Supports 12G-SDI formats up to 4K 4096x2160p60 (auto-detect)
- Optional 12G-SDI fiber input/output
- Switch between 8 channels embedder or de-embedder
- 72 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown, provides overload and silence detection
- 72 x 72 mono output crossbar for embedder and external audio channel assignment
- Selectable "Auto Pattern Function" - When no input video is present the module will embed audio on a test pattern
- Up to 30 frames of programmable delay
- Up to 1.3s (1334ms) of total audio delay
- Fully compatible with Lynx Centraal for remote control, status monitoring and error reporting
- Full SNMP support when used with master controller option.
- Hot swappable



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Specifications

Video Input				
Signal type	SMPTE 424M, SMPTE 292M, SMPTE 259M, SMPTE 2081-1, SMPTE 2082-1 automatic video format and standard detection			
Supported formats	SDI formats up to 12G-SDI* (see table)			
No. of inputs	1 (+1 optional fiber input, switchable)			
Input connector (electrical)	HD-BNC, 75 Ohms			
Input connector (optical)	LC / single-mode (optional)			
	SD (270Mbit)	1.5G (1.48Gbit)	3G (2.97Gbit)	12G (11.88Gbit)
Return loss	> 15dB		>10dB	>4dB
Cable equalization	320m	250m	110m	50m
Video Outputs				
No. of outputs	2 (+1 optional fiber output)			
Signal type	SMPTE 424M, SMPTE 292M, SMPTE 259M, SMPTE 2081-1, SMPTE 2082-1			
Output format	Follows input format			
Connector (electrical)	HD-BNC, 75 Ohm			
Connector (optical)	LC / single-mode (optional)			
	SD (270Mbit)	1.5G (1.48Gbit)	3G (2.97Gbit)	12G (11.88Gbit)
Timing jitter	< 0.2UI	< 1.0UI	< 2.0UI	< 2.0UI
Alignment jitter	< 0.2UI	< 0.2UI	< 0.3UI	< 2.0UI
Return loss	> 15dB		>10dB	>4dB
Cable equalization	320m	150m	120m	40m
Analog Audio I/O				
No. of Inputs / outputs	8x analog audio inputs or 8x analog audio outputs			
Signal type	Balanced Analog Audio			
Connector	Female 25pin D-Sub			
Output impedance	150 Ohms			
Input impedance	>10K Ohm			
0 dB full scale range	Selectable: 12, 15, 18, 20, 22, 24 dBU full Scale Level			
Audio Processing				
De-embedder	All 64 audio channels are de-embedded from input SDI			
Processing functions	72 channel adjustable: gain, phase, invert, mute, sum plus overload and silence detection.			
Crossbars	72 x 72 channel (mono) output select crossbar I/O selection matrix to configure analog inputs and outputs			
A/D quantisation	24 bit			
Sampling rate	48 kHz			
Video / Audio Delay				
Automatic	Automatic AV timing compensation			
Output delay	Up to 30 frames of delay manually adjustable in frame / line / pixel increments			
Audio delay	Up to 1334 ms total latency Adjustable for each incoming and outgoing audio channel Note: These adjustments are offsets to the automatic processing compensation			

Performance	
Control	Full remote control / status monitoring through LynxCentraal control system
Status monitoring	Module edge LED indicators
Electrical Specifications	
Operating voltage	12 V DC
Power consumption	15W
Safety	IEC 60950/ EN 60950/VDE 0805
Mechanical	
Size	289mm x 85mm
Weight	CardModule 180g, (6.35oz) connector plate 85g (3oz)
Ambient	
Temperature	5°C to 40°C (41°F - 104°F) Maintaining specifications
Humidity	90% Max non condensing

Settings and Control

Settings Available via LynxCentraal	
Audio I/O port configuration / audio shuffling (mono crossbar)	
Test pattern select / audio delay / audio processing / output delay	
On Board Indicators / LEDs	
General Status / Alarm LED - (visible with rack door closed)	
SDI status LED / Power Status LED	
Fiber RX and TX activity (on backpanel next to fiber connections)	

* Supported Video Standards		
Bit-Depth / Chroma	YCbCr 4:2:2 10-Bit	
Broadcast Video Formats		
SD	SD 525 SD 625	59.94 Hz 50 Hz
1.5G-SDI	HD 720p HD 1080i HD 1080p HD 1080psF	23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60 Hz 50 / 59.94 / 60 Hz 23.98 / 24 / 25 / 29.97 / 30 Hz 23.98 / 24 / 25 Hz
3G-SDI	HD 1080p 2K 1080p	50 / 59.94 / 60 Hz (Level A and Level B-DL) 23.98 / 24 / 25 / 29.97 / 30 / 47 / 48 / 50 / 59.94 / 60 Hz
6G-SDI	UHD 2160p	23.98 / 24 / 25 / 29.97 / 30 Hz
12G-SDI	UHD 2160p 4K 2160p	50 / 59.94 / 60 Hz 23.98 / 24 / 25 / 29.97 / 30 / 47 / 48 / 50 / 59.94 / 60 Hz

Ordering Information

Model #	Description
PDM 5348 O	12G-SDI Multi-format Analog Audio Embedder / De-Embedder
Fiber Optic I/O Options(Select one only - Module has single SFP socket: Fiber output only Fiber input only. Fiber input and output	
OH-TX-12G-LC	Fiber Optic Output: TX Wavelength: 1310nm TX Power: -5 to +0.5dBm (SFP module)
OH-RX-12G-LC	Fiber Optic Input: RX Input Range: 1260-1620nm RX Sensitivity: -10dBm(12G), -14dBm(6G, 3G) -16dBm(1.5G) (SFP module)
OH-RX-12G-ST	Fiber Optic Input: RX Input Range: 1260-1620nm RX Sensitivity: -10dBm(12G), -14dBm(6G, 3G, 1.5G) (SFP module)
OH-TR-12G-LC	Fiber Optic Input and Output: TX Wavelength 1310nm TX Power -5 to +0.5dBm RX Input Range: 1260-1620nm RX Sensitivity: -10dBm(12G, 6G) -14dBm(3G, 1.5G) (SFP module)
OH-TR-12G-XXXX-LC	Fiber Optic Input and Output, CWDM TX Power: -2 to +3dBm RX Input Range: 1260-1620nm RX Sensitivity -10dBm (12G, 6G) -14dBm(3G, 1.5G) (SFP module) XXXX Designates wavelength. Select from: 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610nm

Other modules also available