

12G-SDI Digital Audio Embedder / De-Embedder

Description

The PDM 5248 is a versatile 12G-SDI audio embedder and de-embedder with 8 external AES ports for 16 channels of audio inputs/outputs. It can be used to address a wide variety of audio requirements in broadcast. The module offers multiformat support for SDI formats up to 4K DCI (auto-detect). The module also features a 12G-SDI SFP cage for optional fiber input/output.

Up to 64 channels of audio are de-embedded from the input SDI signal and passed to the audio processor. In embedder mode, up to 64 channels of audio can be processed (including up to 16 channels from the external AES ports). Audio processing includes adjustable gain, phase invert and mute for all 64 channels as well as a selectable mono mixdown

function for each left and right pair.

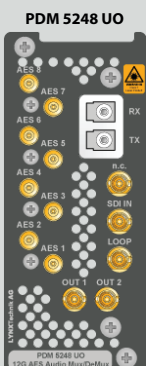
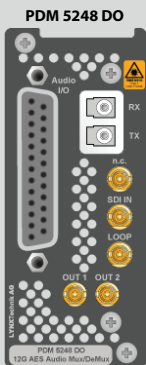
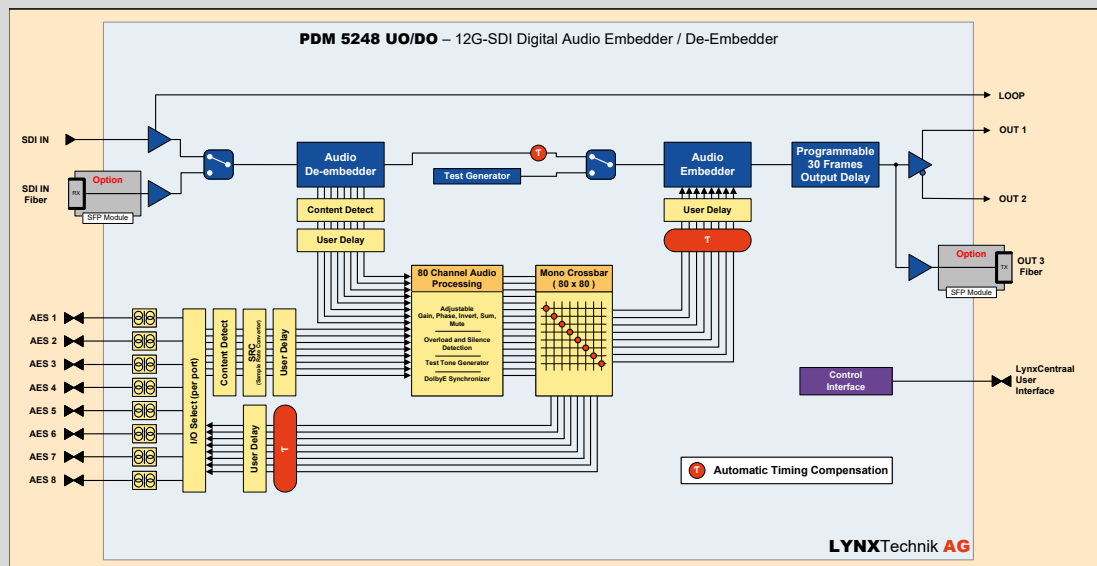
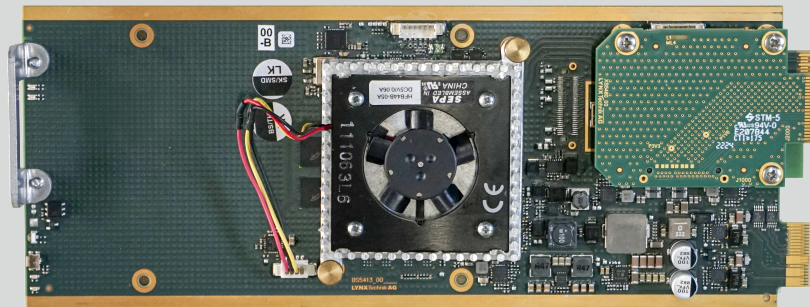
The processed audio is passed into a 80 x 80 output crossbar where the audio for the embedder and the external outputs can be user mapped.

The module also provides up to 30 frames of programmable output delay adjustable in frames, lines and pixels.

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 LynxCentraal Control System.

Features

- Two versions available for balanced and unbalanced AES
- Switch between 64 channel embedder or de-embedder or combination of both
- 80 channel audio processing stage with adjustable gain, phase invert, mute and stereo to mono mixdown plus overload and silence detection
- 80 x 80 mono output crossbar for embedder and external audio channel assignment
- Selectable "Auto Pattern Function". When no audio is present on the input the module will embed audio on a test pattern
- Optional 12G-SDI fiber I/O
- Up to 30 frames of programmable delay
- Up to 1.3s audio total delay (latency)
- Supports 12G-SDI formats up to 4K DCI (auto-detect)
- All external audio inputs / outputs are transformer coupled
- Fully compatible with Lynx Centraal for remote control, status monitoring and error reporting
- Full SNMP support when used with master controller option
- Hot swappable



12G-SDI Digital Audio Embedder / De-Embedder

CardModules

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	12G-SDI video formats up to 4K 4096x2160p60 (see table)			
No. of inputs	1 (+ 1 optional fiber input, swichable)			
Input connector (electrical)	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	70m
Video Outputs				
No. of outputs	PDM 5248 UO = 2 (+ 1 optional fiber output) PDM 5248 DO = 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
AES Audio I/O				
No. of inputs / outputs	16 channels on 8x AES connections. Inputs or ouputs			
Signal type	PDM 5248 UO = 8x AES3id unbalanced (single ended) PDM 5248 DO = 8x AES3 balanced			
Connectors	PDM 5248 UO = Mini DIN 1.0/2.3, 75 Ohm PDM 5248 DO = Female 25 pin D-Sub, 110 Ohm balanced			
Output levels	PDM 5248 UO = 1 v peak to peak nominal PDM 5248 DO = 4 v peak to peak nominal			
Coupling	Transformer (isolated) inputs or outputs			
Audio Processing				
De-embedder	All 16 audio channels are de-embedded from SDI input			
Processing functions	80 channel adjustable: gain, phase, invert, mute, sum plus overload and silence detection.			
Crossbars	80 x 16 channel output select crossbar 80 x 16 channel embedder select crossbar I/O select matrix to configure AES inputs and outputs			
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 1.3s (1300ms) 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	17W
Safety	IEC 60950/ EN 60950/VDE 0805
Mechanical	
Size	289mm x 85mm (12" x 4")
Weight	CardModule 180g (6.35oz), connector plate 90g (3.17oz)
Ambient	
Temperature	5°C to 40°C (41°F - 104°F) Maintaining specifications
Humidity	90% Max non condensing

Settings and Control

Settings Available from 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 / audio status LED / power status LED	
Fiber RX and TX activity (on rear connector panel 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 5248 UO	12G-SDI Multi-format digital Audio Embedder / De-Embedder with Fiber option - Unbalanced Audio Input
PDM 5248 DO	12G-SDI Multi-format digital Audio Embedder / De-Embedder with Fiber option - Balanced Audio Input
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