

PVD 5440 DO

12G / 6G / 3G / HD
fiber 12G SERIES 5000

CardModules

12G-SDI UPXD Frame Synchronizer Audio Embedder De-embedder with Fiber I/O

Description

The PVD 5440 DO combines a high-performance frame synchronizer, up/down/cross converter, and advanced video processing in a single card module. It includes a crop & zoom, horizontal flip, and built-in test pattern generator with automatic failover.

Built on over 25 years of broadcast expertise, the frame synchronizer supports frame and line synchronization to bi and tri-level reference signals from the rack frame or external input. It automatically detects the reference type, operate in free-run when the reference is lost, and optionally latch back. Video and audio delay adjustments provide flexible timing control.

The integrated Up/Down/Cross scaler delivers high-quality de-interlacing based on Motion-Adaptive and diagonal interpolation algorithms as well as conversion between most broadcast formats, resolution and frame-rate.

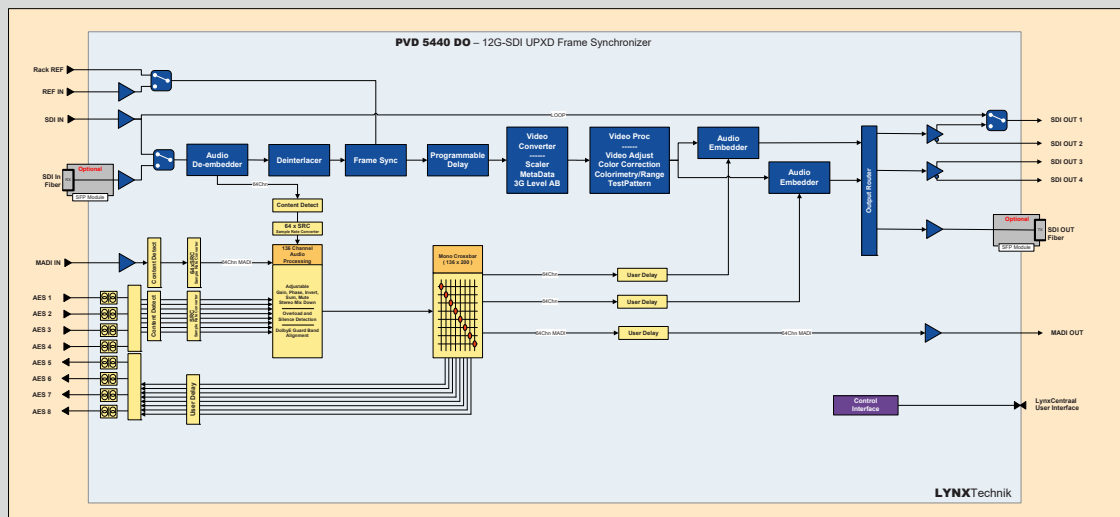
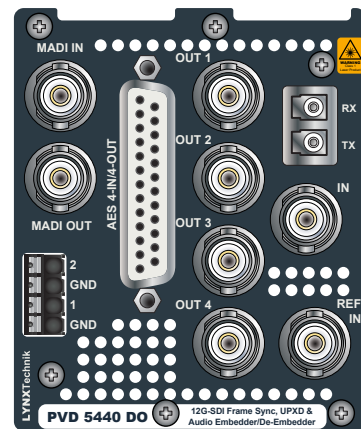
A powerful audio processor with a 136x200 audio crossbar, enables simultaneous embedding, de-embedding, and routing across multiple sources and destinations. The card supports up to 64 audio channels over 12G-SDI, 64 channels via MADI I/O, and 4 AES stereo inputs and outputs (8 mono channels each). Audio channels can be routed, swapped, muted, mixed, and gain-adjusted, with automatic detection of audio presence, silence, and overload.

Two GPI inputs allow remote control of key functions, such as switching between BNC and fiber inputs, freezing the video, enabling the test pattern, or activating minimum-delay mode (frame sync bypass).

The PVD 5440 DO provides one 12G-SDI input and four 12G-SDI outputs, with optional fiber connectivity via SFP modules. Transmitter, receiver, and transceiver SFPs are supported for single-mode, multi-mode, and CWDM fiber with 18 wavelength options.

Features

- Supports video formats up to 4K and UHD (auto-detect)
- 1x 12G-SDI BNC input, 4x 12G-SDI BNC outputs
- Optional 12G-SDI Fiber input/output
- 64-Channel MADI I/O, 4-In/4-Out AES on D-Sub
- 2x GPI inputs for fast remote setting
- External and Internal Reference inputs
- Robust "flywheel" frame synchronizer with 64 frames delay
- Up/Down/Cross conversion with advanced motion de-interlacer
- "Cross lock" compatible reference input
- Crop & Zoom. H-Flip video processing
- Internal Test Pattern Generator
- AFD / WSS / VI / Closed Caption and Timecode metadata support
- CRC error counters, Active Picture Change Detection
- SNMP v2 and Lynx Centraal compatible



12G-SDI UPXD Frame Synchronizer Audio Embedder De-Embedder with Fiber I/O

Features

Image Processing			
Adjustable Gain	Adjustable Black Level	Aperture Correction	H-Flip
Adjustable Saturation	Adjustable Hue	Clip to Narrow Range	H & V Blanking
Test Signal Generator			
Audio Processing (per channel)			
Mute		Stereo Invert	
Mono Mixing (down mix)		Gain Level	
Audio content, silence, and overload detection			
Error Monitoring			
CRC Error Count	Active Picture Change Detection		Active Picture CRC
Input and Reference loss detection			

Specifications

Video Input				
Signal type	SMPTE 424M, SMPTE 292M, SMPTE 2081-1, SMPTE 2082-1 automatic video format and standard detection			
No. of inputs	1x 12G-SDI BNC or 1x optional fiber receiver			
Input connector (electrical)	75 Ohm BNC			
Input connector (optical)	SFP with LC/PC connections (optional)			
	5 Mhz-1.5GHz	1.5-3 GHz	3-6 GHz	6-12 GHz
Return loss	> 15dB	> 10dB	>7dB	>4dB
Cable equalization	250m	130m	100m	70m
Video Outputs				
No. of outputs	4x 12G-SDI BNC, 1x configurable loop-through, 1x fiber transmitter			
Signal type	SMPTE 424M, SMPTE 292M, SMPTE 259M, SMPTE 2081-1, SMPTE 2082-1			
Connector (electrical)	75 Ohm BNC			
Connector (optical)	SFP with LC/PC connections (optional)			
	5 Mhz-1.5 GHz	1.5-3 GHz	3-6 GHz	6-12 GHz
Timing jitter	< 0.1UI	< 0.2UI	< 0.2UI	< 0.2UI
Alignment jitter	< 0.1UI	< 0.1UI	< 0.1UI	< 0.2UI
Return loss	> 15dB	> 10dB	>7dB	>4dB
Reference Input				
Signal type	Analog bi-level (SDTV) or tri-level (HDTV) Auto-detect and cross lock compatible			
No of inputs	1 external or 1 internal (rack frame reference)			
Connection	75 Ohm BNC			

Monitoring and Control

Monitoring and Control	
LynxCentraal	Full remote control / status monitoring through LynxCentraal
SNMP v2	Full SNMP v2 support through LynxCentraal

Ordering Information

Model #	Description
PVD 5440 DO	12G-SDI UPXD Frame Synchronizer and MADI/AES Embedder De-embedder with Fiber I/O

De-Interlacer		
Motion Adaptive and Diagonal Interpolation		
Metadata Support		
Close Captioning CDP & RAW	Teletext S2031 OP47	VPID auto and manual
Time-Code ATC LTC and ATC VITC	Dolby S2020	
Video Delay		
Device Latency	1 frame	
User Video Delay	Up to 63 frames adjustable in millisecond, frame and line increments	
User Audio Delay	Up to 2sec adjustable in milliseconds	

Audio	
MADI	1x MADI input, 1x MADI output. Each with 64 audio channels
AES	4-In/4-Out AES Stereo (8/8 mono channels) on 25 pin D-Sub
Embedder/De-embedder	All 64 audio channels are extracted from the 12G-SDI video input
Electrical Specifications	
Operating voltage	12 V DC
Power consumption	< 15W
Safety	IEC 60950/ EN 60950/VDE 0805
Mechanical	
Size	Double slot (double width) 2RU card
Ambient	
Temperature	5°C to 40°C (41°F - 104°F) maintaining specifications
Humidity	90% maximum, non-condensing
Supported Video Standards	
Bit-Depth / Chroma	YCbCr 4:2:2 10-Bit
Broadcast Video Formats	
1.5G-SDI	HD 720p 23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60 Hz HD 1080i 50 / 59.94 / 60 Hz HD 1080p 23.98 / 24 / 25 / 29.97 / 30 Hz HD 1080psF 23.98 / 24 / 25 Hz
3G-SDI	HD 1080p 50 / 59.94 / 60 Hz (Level A and Level B-DL) 2K 1080p 23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60 Hz
6G-SDI	UHD 2160p 23.98 / 24 / 25 / 29.97 / 30 Hz
12G-SDI	UHD 2160p 50 / 59.94 / 60 Hz 4K 2160p 23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60 Hz

LED Status Indicators	
SDI input status LED	MADI input status LED
Fiber RX status LED	Power status LED
Reference input status LED	