P VD 5812 BO/DO

fiber 3G

SDTV / HDTV

SERIES 5000

CardModules

Dual Frame Sync with Full Audio Support

Description

The P VD 5812 is a flexible dual channel frame synchronizer for multi-format digital environments. The module features one fiber SDI input (with a second optional copper input). Two output channels are provided, one with a fiber optic output (CWDM). Full audio support for embedded audio and external AES.

The module supports SDI formats up to 1.5Gbit/s (optional upgrade for the support of 3Gbit formats) with fully automatic input standard and format detection. The reference input is auto sensing, and supports analog bi-level SDTV or tri-level HDTV sync signals with full cross lock capability. Two independent output channels are provided which have multi-format test generators as well as digital proc amps with adjustable gain / saturation / hue and lift controls and 16 channel audio embedders.

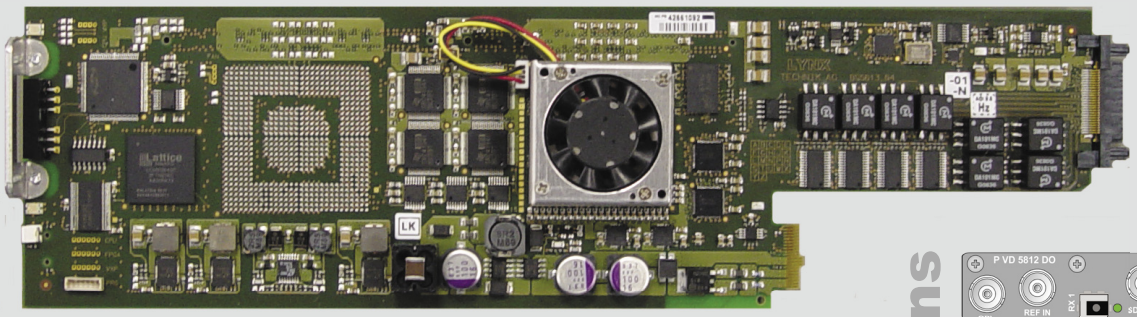
All of the 8 embedded AES streams from each SDI input and 4 external AES inputs are fed into a 20x28 AES input matrix for audio mapping before being fed into the processing stages. The audio processor provides 24 channels of adjustable gain / mute / phase invert and stereo mixdown functionality with silence and overload detection. Eight selectable sample rate converters are provided if required. 4 x DolbyE synchronizers can be used for asynchronous DolbyE streams, and will maintain the correct guard band alignment. Each output channel has its own 16 channel audio embedder with mono crossbar. Four external AES outputs are also provided with full audio mapping capability.

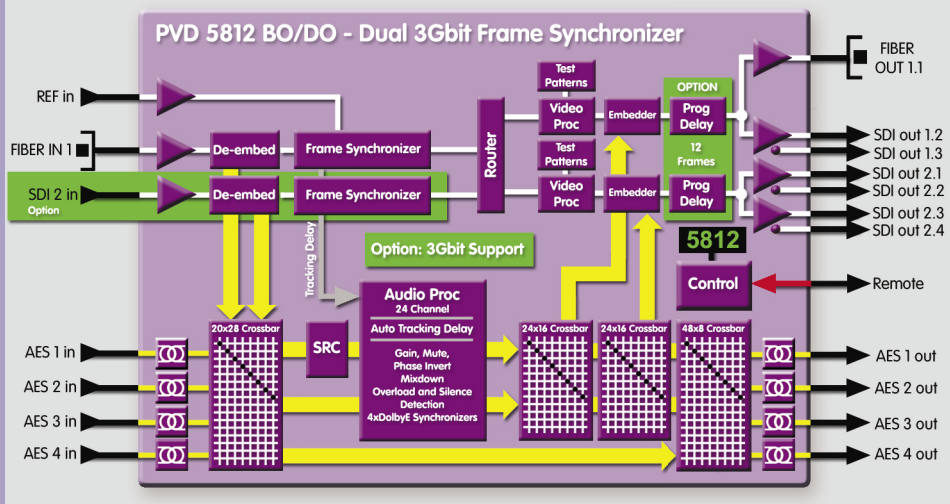
Audio delay is automatically tracked to the video delay (with user adjustable audio delay offsets if needed).

12 frames of adjustable video delay (for each channel) can be added with the addition of the video delay option.

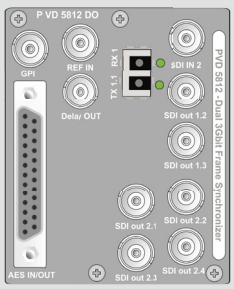
Features

- Supports SDI video signals up to 1.5Gbit
- Upgrade to 3Gbit anytime with a licence code
- One fiber SDI input with 2 output channels (+fiber)
- Optional second (copper) SDI input for dual channel operation
- Output video proc amps with adjustable gain, saturation, hue and pedestal
- Each channel has a 3 frame programmable video delay, with optional expansion to 12 frames. (Pixel/line/frame increments)
- Analog tri-level or bi-level (black) reference sync (auto-detect) cross lock compatible.
- Integrated test pattern generator for each output channel.
- All audio (16 channels) is de-embedded from the SDI inputs.
- 20x28 AES audio input crossbar
- 4 x external AES inputs and outputs (transformer isolated)
- 24 channel audio processing stage includes gain / mute and invert plus stereo mixdown with overload and silence detection.
- Each SDI output channel has its own 16 channel embedder.
- 4 DolbyE synchronizers to maintain guard band alignment
- Remote control and status monitoring provided via the LYNX control system.

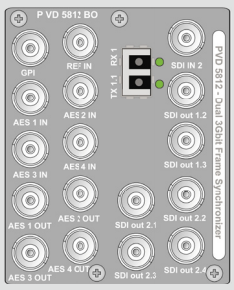




Backplane Options



P VD 5812 DO



P VD 5812 BO

PROCESSING P VD 5812

Processing

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Specifications

Specifications subject to change

SDI Video Inputs / Outputs	
Signal Type	Serial digital video SMPTE, 292M, 424M, 259M with automatic video format and standard detection
Input standards	SDI formats up to 1.5Gbit/s* (see table) - 3Gbit upgrade option
No. Of inputs	1 optical Input, and 1 x electrical input (optional)
No. Of Outputs	1 x optical and 6 x electrical SDI outputs: Channel 1 = 1 x optical and 2 x electrical Channel 2 = 4 x electrical
Connector / Impedance (copper)	BNC 75Ohm
Cable Equalization (copper)	Up to 250m Belden 8281 (270Mbit) Up to 140m Belden 1694A (1.485Gbit) Up to 80m using Belden 1694A (2.97Gbit)
Return Loss (copper)	> 15 dB (270Mbit) > 10dB (2.97Gbit)
Jitter	< 0.20 UI (270Mbit) < 1.0 UI - Timing, < 0.20 UI - Alignment (1.485Gbit) < 2.0 UI - Timing, < 0.30 UI - Alignment (2.97Gbit)
Fiber Optic SDI Input / Output	
Signal Type	SMPTE 297M - 2006
Connectors	LC/UPC
No.of inputs / outputs	1 input and 1 output
Wavelength	(refer to available options)
Reference Input	
Signal Type	Analog Bi-level / Tri-level (auto detect) cross lock compatible
No of inputs	1 x External or internal rack reference
Connector / Impedance	BNC 75 Ohm
AES Inputs and Outputs	
Signal	*P VD 5812 BO:* Unbalanced AES3id *P VD 5812 DO:* Balanced AES3
Number of inputs / outputs	4 x AES inputs + 4 x AES outputs (transformer coupled)
Connector	*P VD 5812 BO:* BNC (75 Ohm) *P VD 5812 DO:* Female SubD 25 pin (110 Ohm)
Video Processing	
Delay adjustment range	Up to 3 frames of prog delay in pixel / line / frame increments (optional expansion to 12 frames of delay)
Minimum delay	1 frame (frame sync mode) 0.5 line (line sync mode)
Video adjustments	Gain / Saturation / Hue / Pedestal (each output channel)
Audio Processing	
De-embedding	All audio (16 channels) de-embedded from SDI input
Input audio matrix	De-embedded and External AES on selection matrix
Audio Proc	24 channels with adjustable gain / mute / phase invert and stereo mixdown + overload and silence detection
Embedder Output Matrix	2 x mono output matrix feeds (2) 16 channel embedders for each channel (source only from Audio Pathway 1 and 2 below)
Sample rate converters	Selectable ON/OFF (8)
Audio delay and synchronization	Automatic (tracking) with user offset adjustments
Audio Pathway 1	8 x AES wide with selectable sample rate converters and full audio proc functions
Audio Pathway 2	12 x AES wide + audio proc (+ 4 DolbyE synchronizers)
Audio Pathway 3	4 x AES wide synchronized to SDI input 1
Audio Pathway 4	4 x AES wide synchronized to SDI input 2
External AES output Matrix	Select 4 x AES from any audio pathway (mono crossbar)

Note. This module utilizes a double width rear connection plate and will take up two slots in the standard LYNX 2RU Rack Frames.

Note

The use of the control system is highly recommended for this module. The local controls provide access to basic setup and configuration only.

Operating Modes	
Frame Sync	Single channel Frame Synchronizer with full audio support One frame min delay
Line Sync	Single channel Frame Synchronizer with full audio support 0.5 line min delay
Control	
Local Controls	Local alphanumeric display with integrated menu system for setting "basic" module parameters. Use of the control system is **recommended** for the operation of this module.
Remote Control	Comprehensive remote control and status monitoring supported when used with a LYNX Controller option
External GPI Input	Single GPI input (Function configurable)
Store User Settings	Store up to 7 sets of user settings in module flash ram, switch between any two sets with external GPI input
Electrical Specifications	
Operating Voltage	12 VDC
Power Consumption	14 W
Safety	IEC 60950/ EN 60950/ VDE 0805
Mechanical	
Size	283mm x 78mm
Weight	CardModule 120g, connector plate 100g **Note.** This Module has a double width rear connection plate and requires two available rack slots.
Ambient	
Temperature	5°C to 40°C Maintaining specifications
Humidity	90% Max non condensing

Options

Firmware and Hardware Upgrades (field upgradable)	
OC-5812-3G	**3Gbit Upgrade.** Upgrades the module to accept 3Gbit SDI video formats (as specified in the table below*). Simple licence code activation.
OC-5812-SCND	**Second Input.** Provides a second (copper) SDI input with independent 16 channel de-embedder and frame synchronizer
OC-5812-VDLY	**Video Delay.** Extends the 3frame programmable video delay to 12 frames of delay, adjustable in frame / line and pixels increments. Simple licence code activation
OH-TR-1**	**Fiber SFP Module.** Fiber I/O module. 1310nm wavelength (non CWDM) TX power = -5dbm. RX sensitivity = -3dBm to -19dBm. Single Mode for up to 10Km (typical)
OH-TR-4-XXXX**	**CWDM Fiber SFP Module.** Fiber I/O module. **XXXX** designates wavelength. [select from 1270,1290,1310,1330,1350,1370,1390,1410,1430,1450,1470,1490, 1510,1530,1550,1570,1590,1610nm] TX power = -1dbm. RX sensitivity = -7.5dBm to -20dBm. Single Mode for up to 40Km (typical)

****Note. Required Selection:** Please Specify the Fiber I/O required. No Fiber I/O is included as standard.

* Supported Video Standards	
Bits / Color	10 Bit / 4:2:2 (Y,Cr,Cb)
Formats : SDTV	**525** / 59.94Hz, **625**/50Hz
Formats : 1.5 Gbit	**720p** / 60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 / 23.98 Hz **1080i** / 60 / 59.94 / 50 Hz **1080p** / 30 / 29.97 / 25 / 24 / 23.98 Hz **1080psF** / 25 / 24 / 23.98 Hz Level A
Formats : 3Gbit (optional)	**1080p** / 60 / 59.94 / 50 Hz

Ordering Information

Model #	Part Number	Description	Includes
P VD 5812 DO	6155035812	Dual 3G Frame Sync with Audio Support (SubD, balanced AES3)	CardModule, Rear termination Panel and Reference Manual (on CD)
P VD 5812 BO	6155025812	Dual 3G Frame Sync with Audio Support (BNC, unbalanced AES3id)	CardModule, Rear termination Panel and Reference Manual (on CD)
OH-TR-1	1155301811	**Option:** Fiber Optic SFP Module 1310nm. (non CWDM) - this option or OH OTR-4-XXXX option required.	SFP Module - Plugs into backplane using socket provided
OH-TR-4-XXXX	-	**Option:** CWDM Fiber Optic SFP Module (XXXX = wavelength see options table) This option or OH-TR-1 option required.	SFP Module - Plugs into backplane using socket provided
OC-5812-3G	1300000026	**Option:** 3Gbit Upgrade	Activation licence key
OC-5812-VDLY	1300000033	**Option:** 12 Frame Programmable Video Delay	Activation licence key
OC-5812-SCND	1300000022	**Option:** Second Input Option	Activation licence key