P VD 5806 B/D

SDTV / HDTV

fiber 3G SERIES 5000

CardModules

3Gbit Frame Sync with Full Audio Support

PROCESSING P VD 5806

Description

The P VD 5806 is a flexible frame synchronizer for multiformat digital environments. The module features one SDI input and 2 output channels with optional optical I/O capability. (CWDM support with 18 wavelength selections) Full audio support is provided for embedded audio and external AES.

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

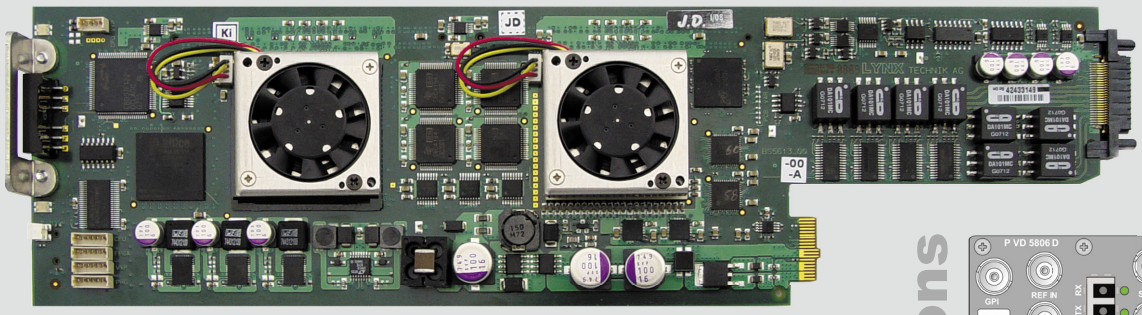
All of the 8 de-embedded AES streams as well as 4 external AES inputs are fed into a 12x16 AES input matrix for input audio mapping before being fed into the processing stages. The audio processor provides 24 channels of adjustable gain/mute/phase invert and stereo mixdown functionality with silence and overload detection. Four integrated DolbyE synchronizers can be used for asynchronous DolbyE streams, and will maintain the correct guard-band alignment. Each output channel has a 16 channel audio embedder with mono crossbar. Four external AES outputs are also provided with full audio mapping capability.

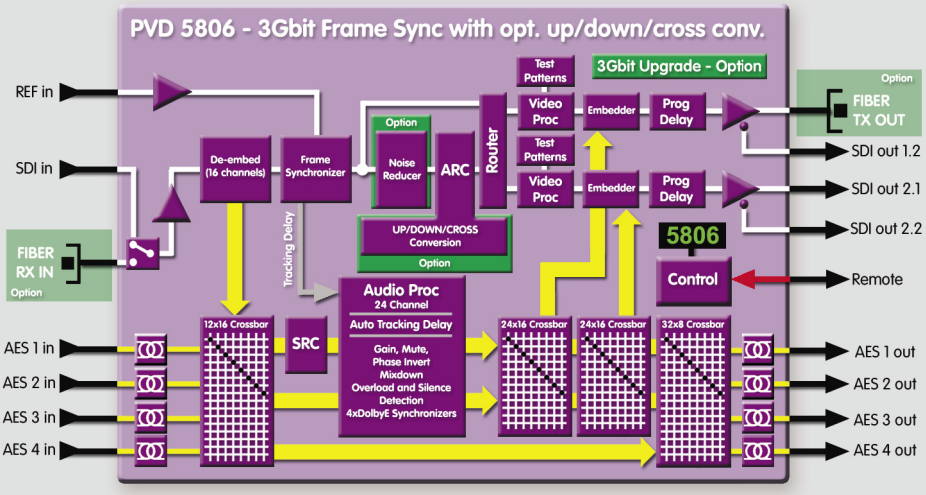
Audio delay is automatically tracked to the video delay (with user adjustable audio delay offsets if needed). DolbyE guard band alignment is always maintained.

Firmware options include an internal high quality up/down/cross converter and noise reduction stage.

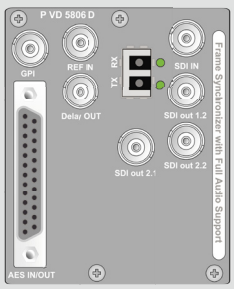
Features

- Supports SDI video signals up to 1.5Gbit
- Simple upgrade to 3G with a licence code (when needed)
- One SDI input with 2 independent output channels
- Optional optical I/O with CWDM support (18 wavelengths)
- Optional up/down/cross conversion and noise reduction
- Output video proc amps with adjustable gain, saturation, hue and pedestal
- Each channel has a 3 frame programmable video delay, adjustable in frames, lines and pixel increments
- Analog tri-level or bi-level (black) reference sync (auto-detect) cross lock compatible
- Integrated test pattern generator for each output channel
- High quality SDTV ARC (Aspect Ratio Converter)
- All audio (16 channels) is de-embedded from the SDI input
- 12x16 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 using the LYNX control system

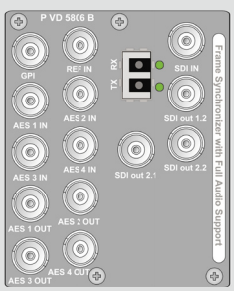




Backplane Options



P VD 5806 D



P VD 5806 B

P VD 5806 B/D

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Specifications

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 (or 1 optical input - optional)
No. Of Outputs	3 (1 x chan. 1 + 2 x chan. 2) + chan. 1 optical output (option)
Connector / Impedance	BNC 75Ohm
Cable Equalization	Up to 250m Belden 8281 (270Mbit) Up to 140m Belden 1694A (1.485Gbit) Up to 80m using Belden 1694A (2.97Gbit)
Return Loss	> 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)
SDI (Optical) Input / Output (Option)	
Signal Type	SMPTE 297M - 2006
Connectors	LC/UPC
No.of inputs / outputs	1 input (selectable) and 1 output
Wavelengths	(Refer to options available)
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 5806 B:* Unbalanced AES3id *P VD 5806 D:* Balanced AES3
Number of inputs / outputs	4 x AES inputs + 4 x AES outputs (transformer coupled)
Connector	*P VD 5806 B:* BNC (75 Ohm) *P VD 5806 D:* Female SubD 25 pin (110 Ohm)
Video Processing	
Delay adjustment range	Up to 3 frames of prog delay in pixel / line / frame increments
Minimum delay	1 frame (frame sync mode) 0.5 line (line sync mode)
Video adjustments	Gain / Saturation / Hue / Pedestal (each output channel)
Noise Reduction	Optional noise reduction internal resource
Up/Down/Cross Conversion	Optional high quality up/down / cross converter resource
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
External AES output Matrix	Select 4 x AES from any audio pathway (mono crossbar)
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

Specifications subject to change

Control	
Local Controls	Local alphanumeric display with integrated menu system for setting "basic" module parameters. Use of the control system is **mandatory** 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-5806-3G	**3Gbit Upgrade.** Upgrades the module to accept 3Gbit SDI video formats (as specified in the table below*). Simple licence code activation.
OC-5806-UPXD	**UP/Down/Cross Conversion**. Provides internal broadcast quality up / down and cross conversion capability. Fixed user presets plus fully adjustable sizing and cropping. Includes color space conversion plus aperture corrector. Full metadata compatibility including closed caption and timecode transcoding and AFD / WSS and V1 metadata support.
OC-5806-NR	High quality noise reduction includes 'mosquito noise' removal, block artefact removal, 2D/3D recursive low pass filtering and detail enhancement.
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. Singlemode for up to 40Km (typical)

* 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 : 3.0 Gbit (optional)	**1080p** / 60 / 59.94 / 50 Hz

Note. This module utilizes a double width rear connection plate and will take up two slots in the standard LYNX 2RU Rack Frames. The use of the control system is mandatory for this module. The local controls provide access to basic setup and configuration only.

Ordering Information

Model #	Part Number	Description	Includes
P VD 5806 D	5155015860	3G Frame Sync with Audio Support (SubD, balanced AES3)	CardModule, Rear termination Panel and Reference Manual (on CD)
P VD 5806 B	5155005860	3G Frame Sync with Audio Support (BNC, unbalanced AES3id)	CardModule, Rear termination Panel and Reference Manual (on CD)
OC-5806-3G	1300000025	**Option:** 3Gbit Upgrade	Activation licence key
OC-5806-UPXD	1300000017	**Option:** HQ Up/Down/Cross Conversion	Activation licence key
OC-5806-NR	1300000036	**Option:** Noise Reduction	Activation licence key
OH-TR-1	1155301811	**Option:** Fiber Optic SFP Module 1310nm. (non CWDM)	SFP Module - Plugs into backplane using socket provided
OH-TR-4-XXXX	-	**Option:** CWDM Fiber Optic SFP Module (XXXX = wavelength see options table)	SFP Module - Plugs into backplane using socket provided

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