

P VD 5822 UO/DO

Dual Channel Frame Sync + Audio Processing

**Multi-format
SD/HD/3G**

Two channels, one compact module.

The P VD 5822 is a dual channel SDI frame synchronizer for applications that need compact, robust and dependable broadcast quality frame synchronization with full audio processing capability.

The basic module is a single channel SDI multi-format frame synchronizer, with four separate SDI output channels, each with its own independent video processor and 16 channel audio embedder. A second input channel can be added at any time (option).

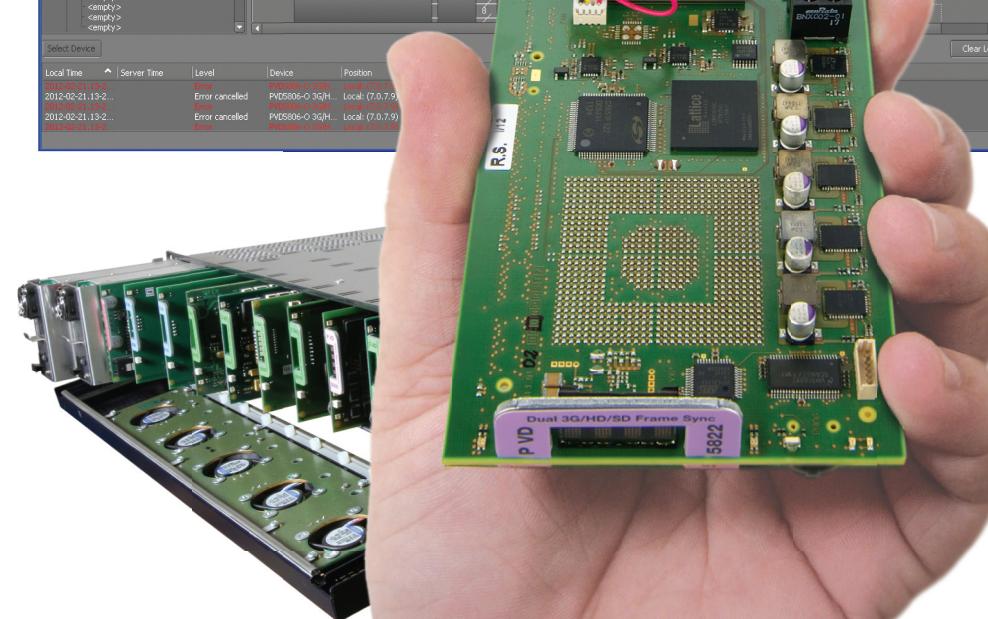
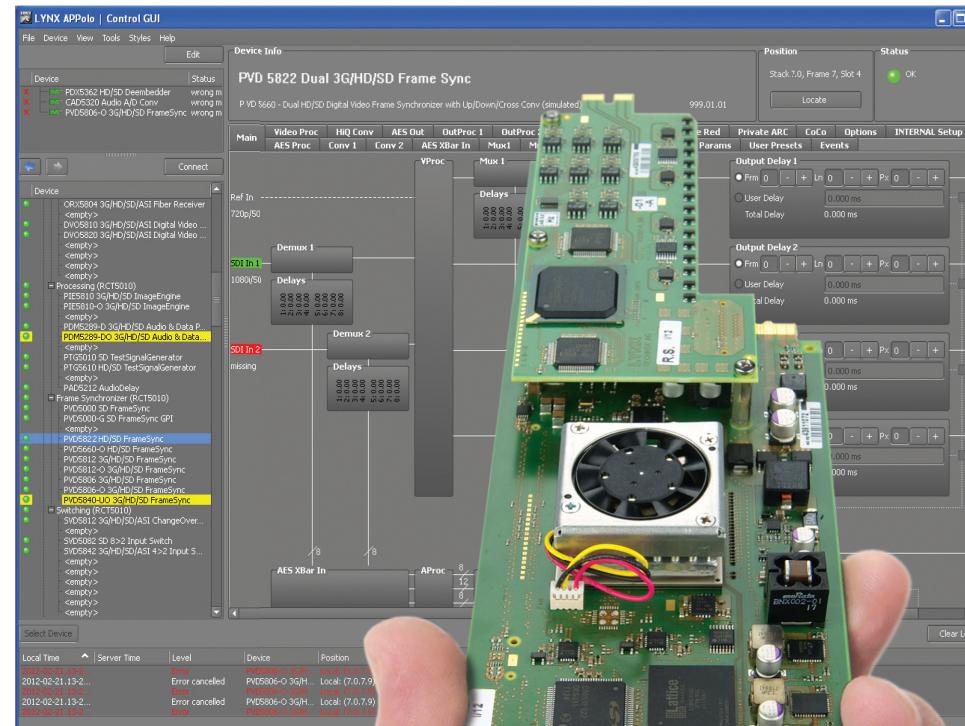
The audio processing capabilities are extensive; the module de-embeds all audio with support for up to eight external AES inputs or outputs. Multiple internal crossbars allow for extensive audio shuffling. The module features content aware audio detection, DolbyE synchronization to maintain critical guard band timing, plus full audio processing capability for PCM audio (gain, mute, swap, phase, stereo mixdown).

Audio delays automatically track the frame synchronizer with fixed manual offsets possible in multiple zones of the audio processing signal path. The auto tracking delay and manual adjustments do not introduce any "pops", "clicks", or audio disturbance whatsoever.

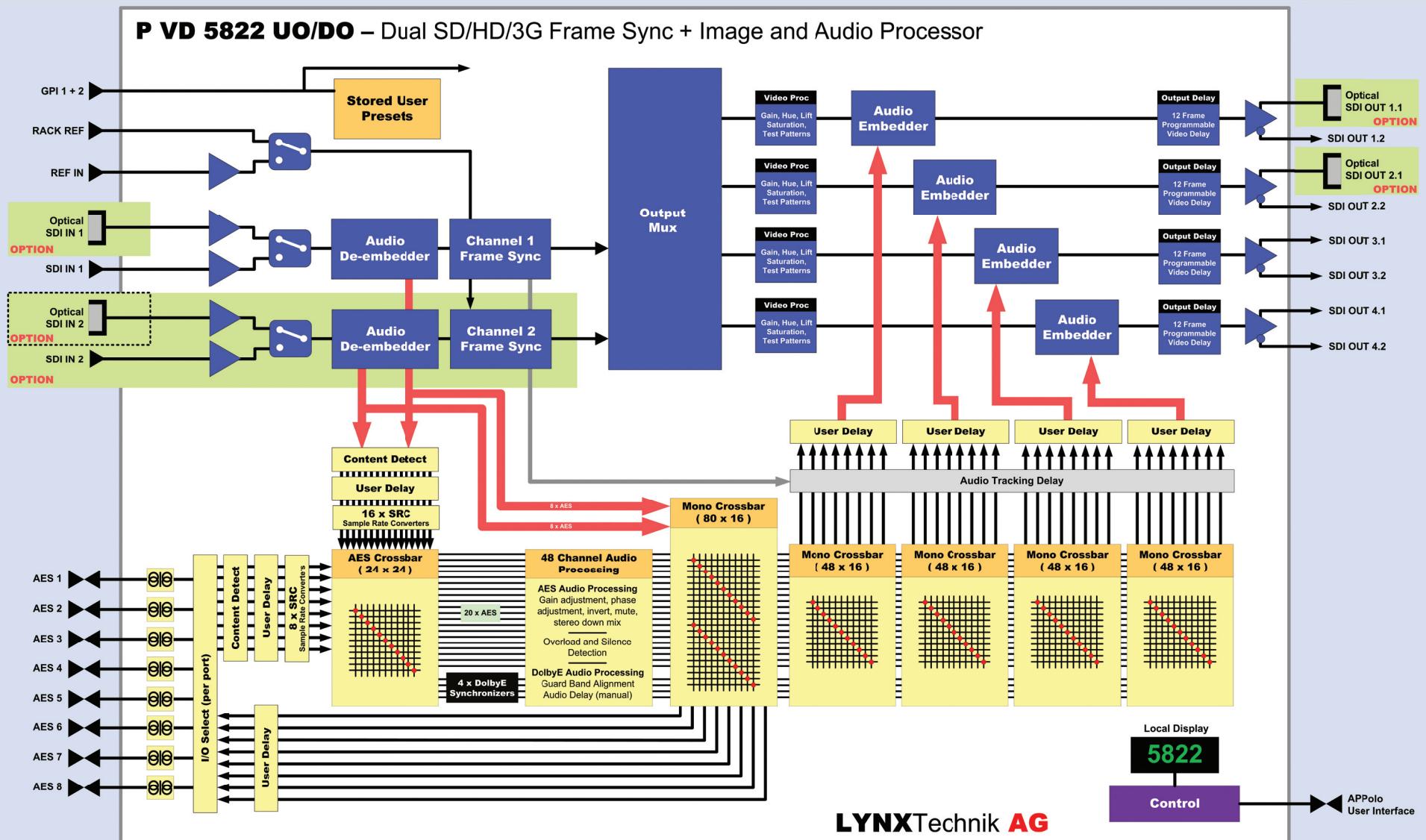
Optional SDI fiber I/O is also available, including full CWDM support with 18 wavelength selections. All modules are supplied "fiber ready" and this can be added at any time by simply plugging in the optional SFP fiber module.

The P VD 5822 is configured and driven using the LYNX APPolo control system, which provides an intuitive graphical visualization for the status, control, monitoring and configuration of the module.

With two rack frame choices the packing density will accommodate multiple channels in a very limited space; up to 10 channels in a 2RU frame and up to 4 channels in a 1RU frame. The perfect solution for OB vans or any application where space is at a premium.



P VD 5822 Dual Frame Synchronizer

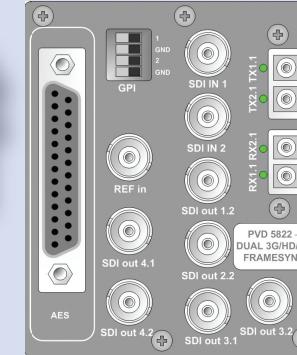


Content Aware Audio Processing: The PVD 5822 features automatic detection of the audio content and distinguishes between standard PCM / DolbyE and other compressed bitstreams. If a compressed audio bitstream such as DolbyE is detected, the module automatically disables the sample rate converters and any audio processing functions in the selected channel to prevent corruption of the bitstream. Operators are also alerted in the APPolo Control System of potential conflicts.

P VD 5822 Dual Frame Synchronizer

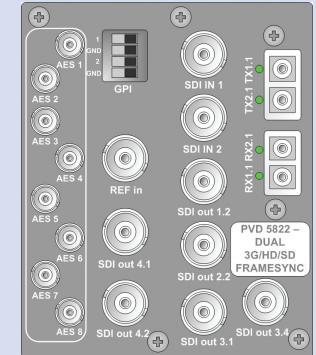


P VD 5822 DO



Balanced AES3 Audio
25 pin SubD Connector

P VD 5822 UO



Unbalanced AES3id Audio
Mini Din 75Ω Connectors

CONNECTION PANEL OPTIONS

Note: Double width panels - occupies two rack slots

Features

- Compact dual channel frame synchronizer
 - Second input optional
- Supports SDI video formats up to 3Gbit/s
- Optional fiber I/O, basic fiber or CWDM with 18 wavelength selections
- Bi-level or tri-level reference input, auto detect, cross lock compatible
- Robust "flywheel" frame synchronizer functionality
- Seamless switching between input sources (with second input option)
- 4 independent SDI outputs, user mapped to inputs as required
- Each output (4) has independent 10 bit digital video processing providing:
 - Adjustable gain, saturation, black level and hue
 - Integral test pattern generator with multiple patterns
 - Adjustable output timing delay (12 frame)
- Automatically detect audio content PCM / DolbyE / compressed bitstream
- De-embed complete audio payload from each SDI input (16 channels)
- 8 x external AES inputs and / or outputs (transformer coupled)
- Individually selectable sample rate converters (on/off) for de-embedded audio and external audio inputs
- 24 x 24 AES audio input crossbar
- Selectable audio pathways through synchronizer
 - 20 x AES - Internal
 - 4 x AES - Through 4 x DolbyE synchronizers
 - 8 x AES bypass channels synchronized to SDI input 1
 - 8 x AES bypass channels synchronized to SDI input 2
- 48 channel audio processing with adjustable gain / phase / mute / sum

- 48 channel overload and silence detection
- Audio is delayed to track video synchronizer automatically
- User adjustable audio delays in multiple zones
- DolbyE synchronizers automatically maintain guard band timing
- No "pops and clicks" in audio even when frames are dropped / added
- 4 independent output embedders (16 channel) for each output
- 4 independent 48 x 16 mono output crossbars
- 80 x 16 mono crossbar for external AES outputs
- Store 7 module user presets, and switch between four with GPI
- Two external GPI inputs, user configurable:
 - Seamless switch between inputs (with second input option)
 - Freeze input 1 (or 2 with second input option)
- Powerful and intuitive user interface using APPolo control system
- Full SNMP if used with RCT 5031 Master Controller option
- Hot swappable

Fiber I/O Options

The P VD 5822 provides single channel or dual channel fiber transmitter and receiver options, as well as CWDM versions with 18 wavelength selections.

OH-TX-1

Fiber SFP Module: Single channel transmitter
1310nm wavelength (non CWDM).
TX power = -5dBm. Singlemode up to 10km

OH-TT-1

Fiber SFP Module: Dual channel transmitter
1310nm wavelength (non CWDM).
TX power = -5dBm. Singlemode up to 10km

OH-TX-4-xxxx

CWDM Fiber SFP Module: Single channel transmitter.
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
Singlemode up to 40km

OH-TT-4-xxxx-xxxx

CWDM Fiber SFP Module: Dual channel transmitter
xxxx-xxxx designates wavelength pair. Select from 1270-1290, 1310-1330, 1350-1370, 1390-1410, 1430-1450, 1470-1490, 1510-1530, 1550-1570, 1590-1610nm
TX power = -1dbm
Singlemode up to 40km

OH-RX-1

Fiber SFP Module: Single channel receiver
Rx sensitivity -3dBm to -19dBm

OH-RR-1*

Fiber SFP Module: Dual channel receiver
Rx sensitivity -3dBm to -19dBm

* Note: The use of the dual channel fiber SFP receiver module **OH-RR-1** requires the second input option **OC-5822-SCND**

Specifications



Video Inputs / Outputs (electrical)

Signal Type	Serial digital video SMPTE 292M, 424M, 259M Automatic video format and standard detection
Supported Formats	SDI formats up to 3Gbit/s* (see table)
No. of Inputs	2 (second input optional)
Connector / Impedance	BNC, 75 Ohms
Return Loss	>15dB (270Mbit) , >10dB (2.97Gbit)
No. Of Outputs	6 (Ch 1+2 = 1 output, Ch 3+4 = 2 outputs)
Signal Type	Serial digital video SMPTE 292M, 424M, 259M
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)

Video Inputs / Outputs (optical - optional)

Signal Type	SMPTE 297M - 2006
Connector	LC/PC (singlemode)
No. of inputs	2 (one per channel)
No. of outputs	2 (one each for channel 1 and 2)
Wavelengths	Non CWDM and CWDM versions available. Please see options

AES Audio Inputs / Outputs

No. of Inputs / Outputs	8 (Individually assign 8 external channels as inputs or outputs)
Signal	PVD 5822 UO = 8 x AES3id unbalanced (single ended) PVD 5822 DO = 8 x AES3 balanced
Connectors	PVD 5822 UO = Mini DIN1.0/2.3, 75 Ohm PVD 5822 DO = Female 25 pin SubD, 110 Ohm balanced
Output Level	PVD 5822 UO = 1v peak to peak nominal PVD 5822 DO = 4 v peak to peak nominal
Coupling	Transformer (isolated) inputs or outputs

Video Processing

Delay adjustment range	Up to 12 frames of programmable delay in pixel/line/frame increments Separate delay provided for each output channel (2)
Nominal Processing Delay	1 frame (frame sync mode) 0.5 line (line sync mode)
Video adjustments	Gain / Saturation / Hue / Black level per output channel

Audio Processing

De-embedding	All audio (16 channels) de-embeddded from each SDI input
Input audio crossbar	De-embedded and external AES on 24 x 24 AES input matrix
Audio Processing	48 channels with adjustable gain/mute/phase invert and stereo mixdown and overload and silence detection
Embedder output crossbar	16 channel mono matrix for each SDI output channel (4) (Source only from audio pathway 1 and 2 below)
Sample rate converters	Selectable ON/OFF (24) for each incoming AES (de-embedded and external)
Audio delay + sync	Automatic (tracking) with user offset adjustments
Audio Pathway 1	20 x AES wide with full audio processing functions
Audio Pathway 2	4 x AES wide with full audio processing functions + 4x DolbyE synchronizers
Audio Pathway 3	Two 8 x AES wide per SDI input. Synchronized from the SDI inputs without audio processing
External AES output matrix	Select up to 8 x AES from any audio pathway
User adjustable audio delay	Up to 1.3s (1300ms) total - provided via individually adjustable delays in various areas of processing path (refer to diagram) Note: These adjustments are offsets to the auto tracking delay timing compensation.

Operating Modes

Frame Sync	Dual channel frame synchronizer with full audio support. 1 frame min delay
Line Sync	Dual channel line synchronizer with full audio support. 0.5 frame min delay

Control

Local Controls	Local alphanumeric display with integrated menu system for setting "basic" module parameters. Use of the APPolo control system is mandatory for the operation of this module.
Remote Control	Comprehensive remote control and status monitoring supported when using the APPolo control system
External GPI Input	2 x GPI inputs (function configurable)
Store user settings	Store up to 7 sets of user settings in module flash ram, switch between any four sets with external GPI input or APPolo control system

Electrical Specifications

Operating Voltage	12 VDC
Power Consumption	25 W
Safety	IEC 60950/ EN 60950/VDE 0805

Mechanical

Size	283mm x 78mm
Weight	Card module 200g (7 oz), connector plate 125g (4.4 oz)

Ambient

Temperature	5°C to 40°C (41 F to 104 F) maintaining specifications
Humidity	90% Maximum, non-condensing

* 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
Formats : 3.0 Gbit	1080p / 60 / 59.94 / 50 Hz (Level A)

Note

The use of the APPolo control system is **mandatory** for full control of this module. The local controls provide access to basic setup and configurations only.

Ordering Information

Part #	Model	Description
5155025822	PVD 5822 UO	Dual 3G Frame Sync + Audio Processor (unbalanced AES)
5155015822	PVD 5822 DO	Dual 3G Frame Sync + Audio Processor (balanced AES)
10000000012	OC-5822-SCND	Option: Second input firmware option (licence code)
1155501811	OH-TX-1	Option: Single channel 1310nm fiber output - non CWDM. TX Power -5dBm
1155401812	OH-TT-1	Option: Dual channel 1310nm fiber outputs - non CWDM. TX Power -5dBm
1155011811	OH-RX-1	Option: Single channel fiber receiver, Input range -3dBm to -19dBm
1155101813	OH-RR-1	Option: Dual channel fiber receiver, Input range -3dBm to -19dBm Note: Requires OC-5822-SCND option
	OH-TX-4-xxxx	Option: CWDM Fiber SFP Module: Single channel transmitter. 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. Singlemode up to 40km (typical)
	OH-TT-4-xxxx-xxxx	Option: CWDM Fiber SFP Module: Dual channel transmitter. xxxx-xxxx designates wavelength pair. Select from 1270-1290, 1310-1330, 1350-1370, 1390-1410, 1430-1450, 1470-1490, 1510-1530, 1550-1570, 1590-1610nm. TX power = -1dbm. Singlemode up to 40km (typical)

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