

P VD 5822 U/D

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.

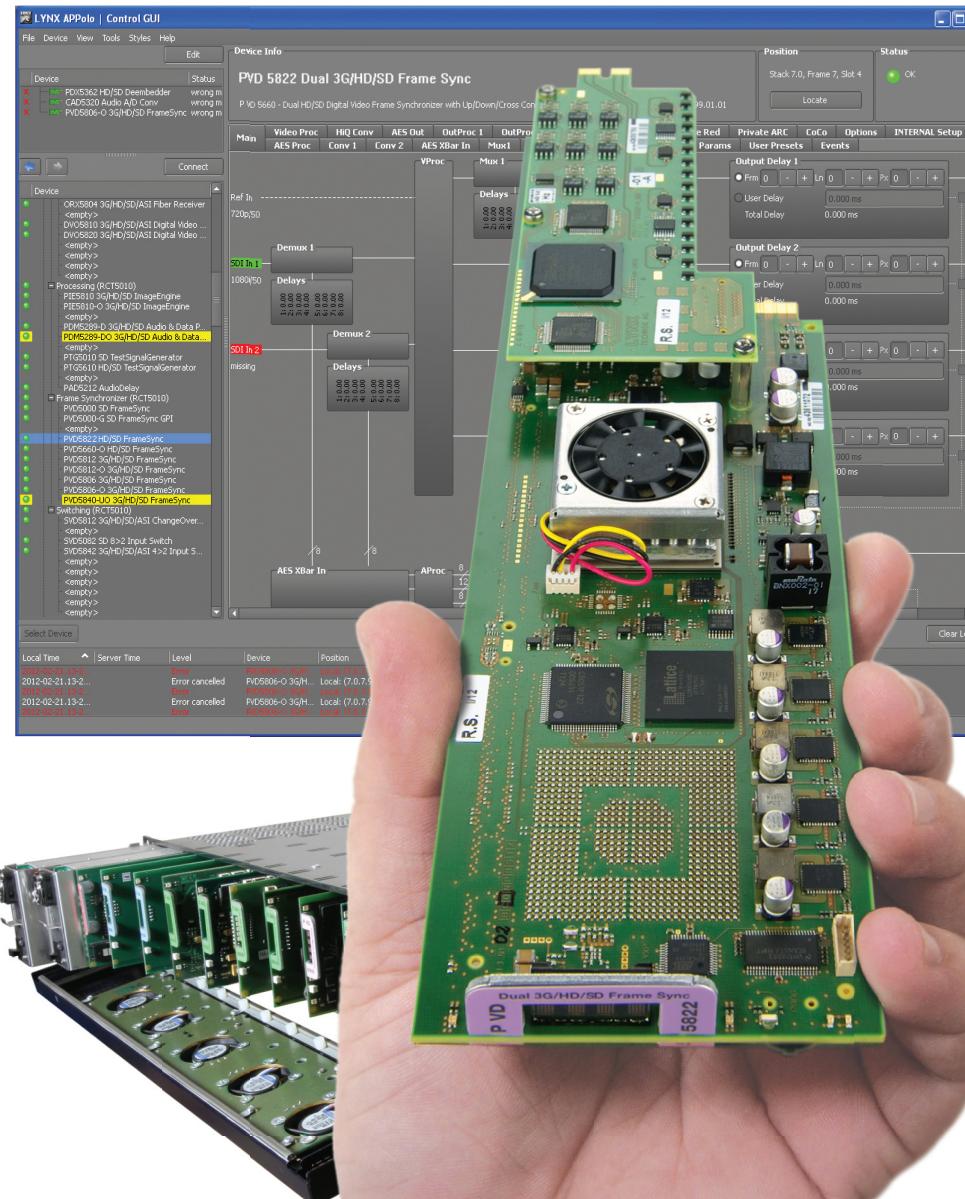
The basic module is a single channel SDI multi-format frame synchronizer, with four separate SDI output channels, each with its own independent video processor and 16 channel audio embedder. A second input channel can be added at any time (option).

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).

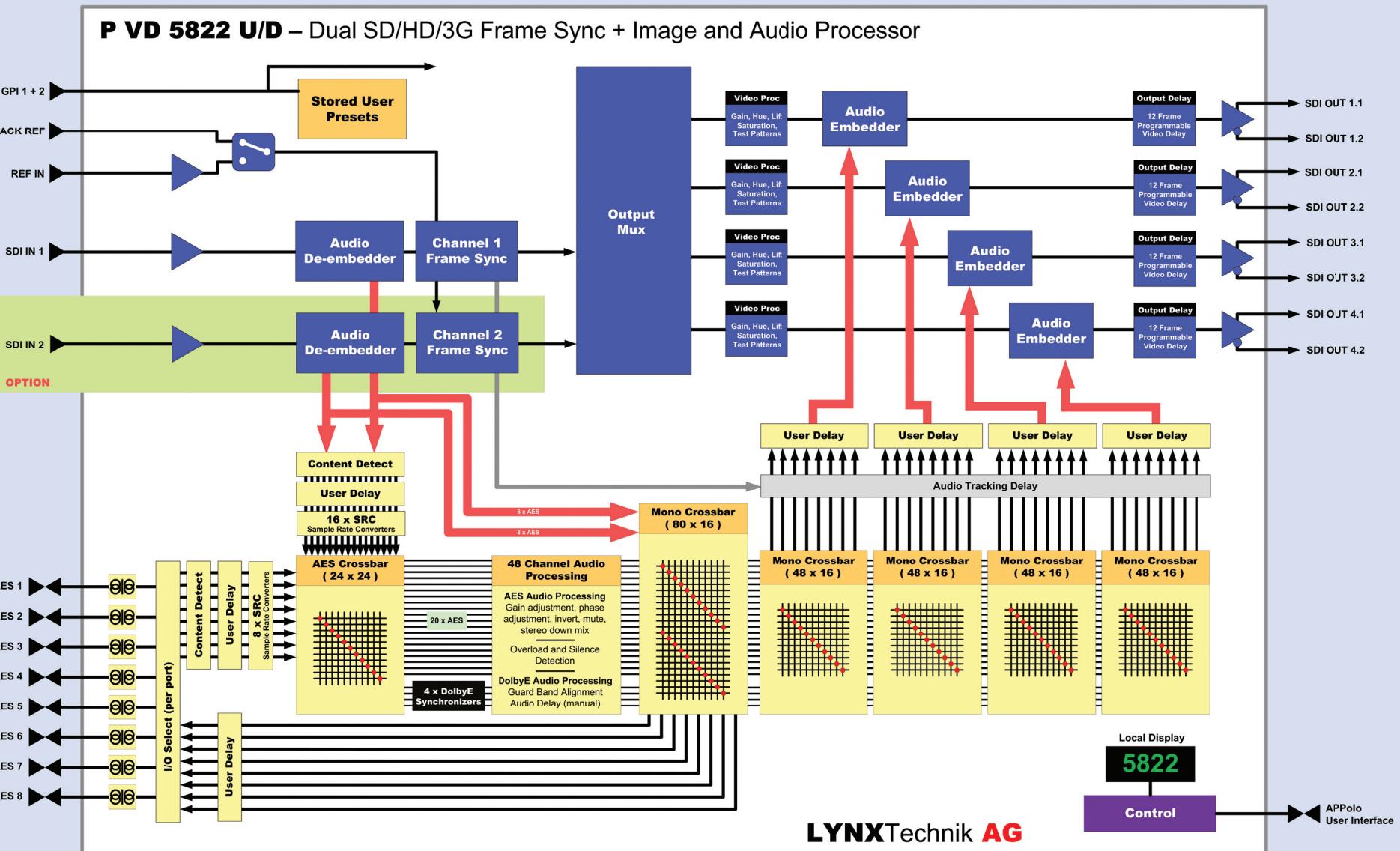
Audio delays automatically track the frame synchronizer with fixed manual offsets possible in multiple zones of the audio processing signal path. The auto tracking delay and manual adjustments do not introduce any "pops", "clicks", or audio disturbance whatsoever.

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

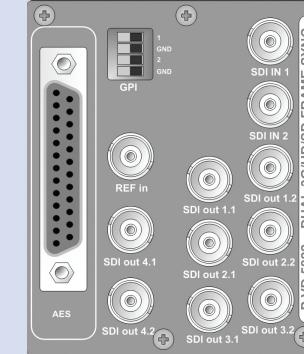


Content Aware Audio Processing: The PVD 5822 features automatic detection of the audio content and distinguishes between standard PCM / DolbyE and other compressed bitstreams. If a compressed audio bitstream such as DolbyE is detected, the module automatically disables the sample rate converters and 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

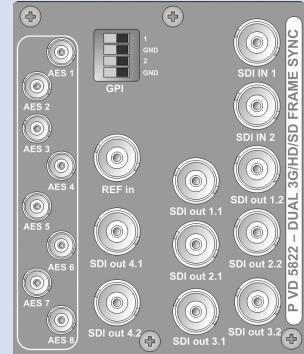


P VD 5822 D



Balanced AES3 Audio
25 pin SubD Connector

P VD 5822 U



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
- 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)
- 24 x 24 AES audio input crossbar
- Individually selectable sample rate converters (on/off) for de-embedded audio and external audio inputs
- 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



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	8 (2 per channel)
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)

AES Audio Inputs / Outputs

No. of Inputs / Outputs	8 (Individually assign 8 external channels as inputs or outputs)
Signal	P VD 5822 U = 8 x AES3id unbalanced (single ended) P VD 5822 D = 8 x AES3 balanced
Connectors	P VD 5822 U = Mini DIN1.0/2.3, 75 Ohm P VD 5822 D = Female 25 pin SubD, 110 Ohm balanced
Output Level	P VD 5822 U = 1 v peak to peak nominal P VD 5822 D = 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 (4)
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
5155095822	P VD 5822 U	Dual 3G Frame Sync + Audio Processor (unbalanced AES)
5155085822	P VD 5822 D	Dual 3G Frame Sync + Audio Processor (balanced AES)
1000000012	OC-5822-SCND	Option: Second Input firmware option (licence code)

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