

HD/SD Frame Sync with Full Audio Support

Description

The P VD 5612 is a flexible frame synchronization solution for multiformat digital environments. This is a single channel device with an optional fully featured second input, which converts the module to a dual channel device with seamless input switching. Full audio support is provided for embedded audio and external AES.

The module will accept a variety of digital video sources from SDTV (525/625) as well as HDTV formats with fully automatic input standard and format detection. The auto sensing reference capability supports bi-level analog SD sync or tri-level HD sync with full cross lock capability. Two output channels are provided which can be independently mapped to the inputs. Each channel provides four HDSDI outputs and has its own multiformat test generator as well as digital proc amps with adjustable gain / saturation / hue and lift controls and programmable video delay.

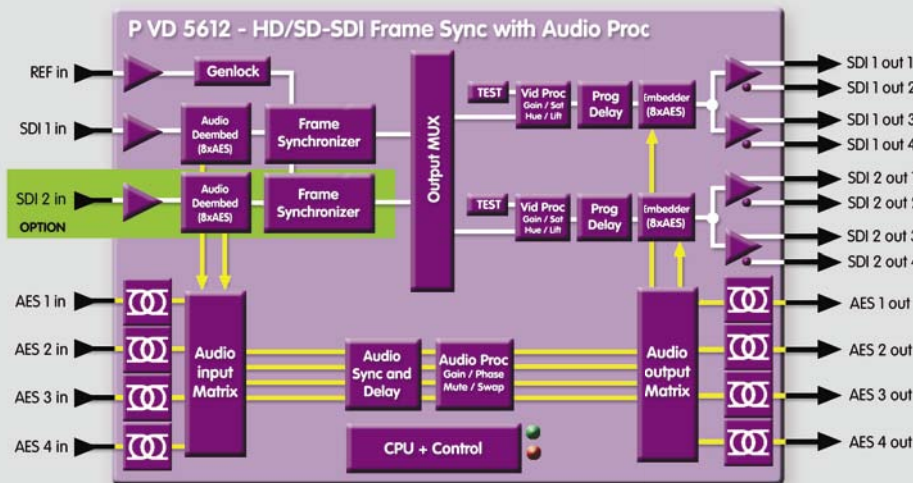
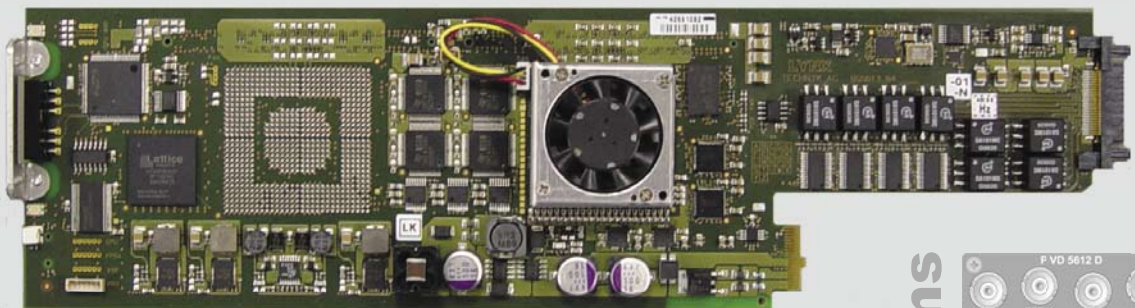
All audio (16 channels) is de-embedded from each SDI input and passed through a 20x28 AES input matrix then into a full audio processing stage with adjustable gain / mute / phase invert controls with silence and overload detection. Selectable sample rate converters ensure compatibility with DolbyE bit streams. Each output channel has its own 16 channel audio embedder with mono audio selection crossbar. External AES inputs and outputs are also provided which are fully isolated through transformers.

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

This is an extremely flexible and powerful module which can address a multitude of applications in Broadcast.

Features

- Multi-format operation. SDTV and HDTV inputs (auto-detect).
- Single input with optional second input providing seamless input switching.
- 2 user mapped output channels with 4 outputs per channel
- 2 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.
- All audio (16 channels) is de-embedded from each SDI input.
- 20x28 AES audio input crossbar
- 4 x external AES inputs and outputs
- Audio processing includes gain / swap / mute and invert with selectable sample rate converters.
- Each output channel has its own 16 channels embedder.
- DolbyE transparency
- Programmable user settings stored in flash RAM (8 sets)
- Remote control and status monitoring via LYNX control system.



Backplane Options



SD/HD Frame Sync with Full Audio Support Specifications

Video Inputs	
Signal Type	Serial digital video SMPTE 292M, 344M, 259M-C
Input standards	SDTV: 525 59.94Hz / 625 50Hz HDTV: 1080i 59.94Hz / 1080i 60Hz / 1080i 50Hz / 720P 59.94Hz / 720P 60Hz / 720P 50Hz (upgradable for additional format support)
No. Of inputs	1 input (with optional second input)
Connector	BNC
Impedance	75 Ohm
Cable Equalization	Up to 250m Belden 8281 (270MHz) Up to 140m Belden 1694A (1.485GHz)
Return Loss	> 15 dB (270MHz) > 10dB (1.485GHz)

Reference Input	
Signal Type	Analog Bi-level / Tri-level (auto detect) cross lock compatible
No of inputs	1 x External or internal rack reference
Connection	BNC
Impedance	75 Ohm

Video Outputs	
Signal Type	Serial digital video SMPTE 292M, 344M, 259M-C
Output standards	SDTV: 525 59.94Hz / 625 50Hz HDTV: 1080i 59.94Hz / 1980i 60Hz / 1080i 50Hz / 720P 59.94Hz / 720P 60Hz / 720P 50Hz
No. Of outputs	2 channels, 4 x HDSiD each channel
Connector	BNC
Impedance	75 Ohms
Jitter	< 0.2 ui (270MHz) < 0.25 ui (1.485GHz)
Return Loss	> 15 dB (1.5GHz)

AES Inputs and Outputs	
Signal	P VD 5612 B: Unbalanced AES3id P VD 5612 D: Balanced AES3
Number of inputs / outputs	4 x AES inputs + 4 x AES outputs (transformer coupled)
Connector	P VD 5612 B: BNC (75 Ohm) P VD 5612 D: Female SubD (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

Audio Processing	
De-embedding	All audio (16 channels) de-embedded from each SDI input
Input audio matrix	De-embedded and External AES on selection matrix
Audio Proc	Adjustable gain / mute and phase invert functionality
Embedder Output Matrix	Mono output matrix feeds (2) 16 channels embedders for each channel (source only from Audio Pathway 1 and 2 below)
Sample rate converters	Selectable ON/OFF
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 (+ bypass for DolbyE transparency)
Audio Pathway 3	4 x AES wide synchronized to SDI 1 input
Audio Pathway 4	4 x AES wide synchronized to SDI 2 input
External AES output Matrix	Select 4 x AES from any audio pathway

Operating Modes	
Frame Sync	Single channel Frame Synchronizer with full audio support (included)
Dual Channel Frame sync	Requires second input option

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 8 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	Card/Module 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

Options

Firmware upgrade (field upgradable)	
OC-5612-SCND	Second Input. Provides a fully featured second input with de-embedder (16 channels), frame synchronizer and seamless switching between the two input channels. Fully integrated option (firmware licence code activation)

Note. This module utilizes a double width rear connection plate and will take up two slots in the standard RFR 5011 Rack Frame.

Note. The use of the control system for the setup and use of this module is **mandatory**. Its not possible to provides all the settings and features into the local controls.

Ordering Information

Model #	Part Number	Description	Includes
P VD 5612 D	6155047261	HD/SD Frame Sync with Audio Support (SubD, balanced AES3)	CardModule, Rear termination Panel and Reference Manual (on CD)
P VD 5612 B	6155005612	HD/SD Frame Sync with Audio Support (BNC, unbalanced AES3id)	CardModule, Rear termination Panel and Reference Manual (on CD)
OC-5612-SCND	1000000022	Second input option (licence code)	Activation licence key

Specifications subject to change