3G SDI Frame Synchronizer

Description

The PVD 5802 is a low cost utility SDI frame synchronizer which can be used for basic SDI synchronization issues in broadcast. The module offers multi-format support for SDI formats up to 3G (auto-detect)

The module utilizes robust "flywheel" synchronization which can accommodate a wide variety of poor quality asynchronous SDI sources. All embedded audio is extracted and delayed automatically to match the video processing delay. Audio is free from disturbances even when dropping and adding frames.

The module also provides up to 62 frames of programmable output delay, adjustable in frames, lines and pixels.
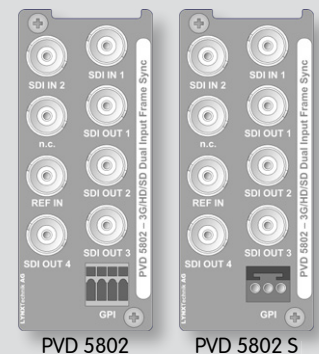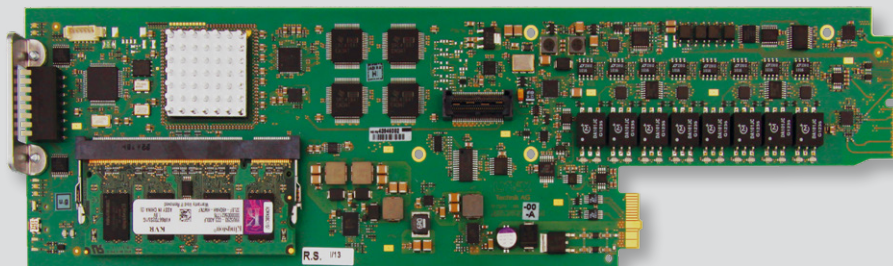
The "Expected Input Format" feature will monitor the input standard and output a test pattern unless the expected input format is detected.
Microprocessor control and on-board Flash RAM enable configurations and settings to be stored within the module.
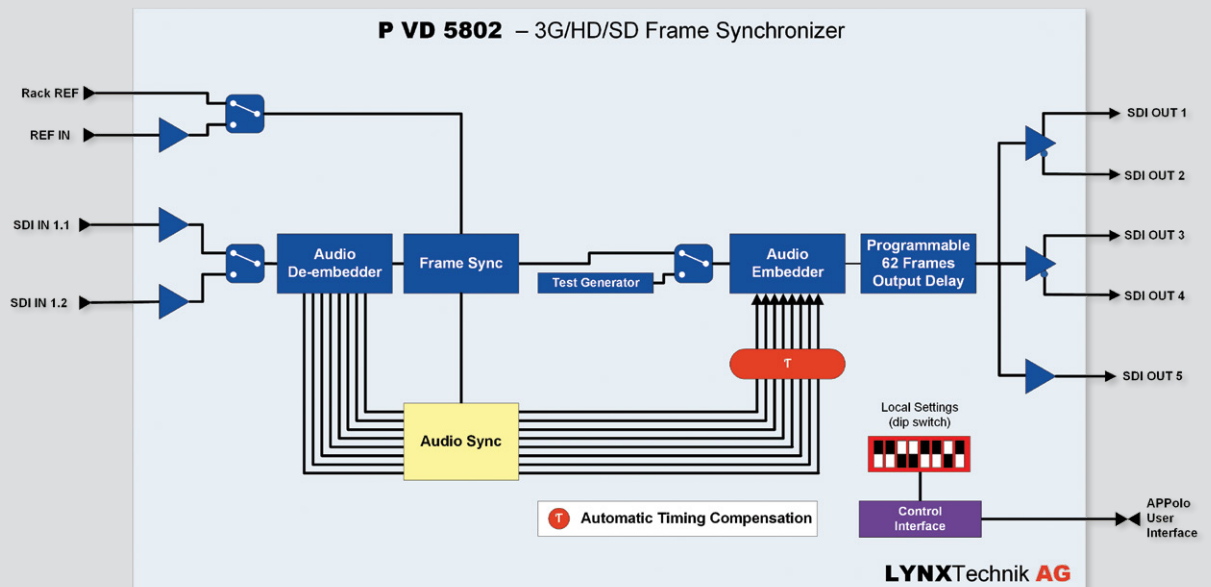
Remote control, status monitoring and error reporting is possible when using the LYNX APPolo Control System.

Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Two SDI inputs (switchable)
- Robust "flywheel" synchronization for a wide variety of problematic sources
- "Cross lock" compatible reference input
- "Expected Input Format" feature
- All 16 channels of audio de-embedded from SDI input, delayed to match video processing delay and re-embedded
- 5 x SDI outputs provided

- Integrated test pattern generator
- Auto-tracking audio delay with no "pops" or "clicks" in audio even when dropping and adding frames
- Up to 62 frames of programmable delay
- 2 external GPI inputs, with choice of connector
- Remote control, status monitoring and error reporting possible with LYNX APPolo control system
- Full SNMP support when used with APPolo control system
- Hot swappable

PVD 5802   PVD 5802 S

P VD 5802 – 3G/HD/SD Frame Synchronizer

Specifications

Video Input

Signal type	Serial digital video SMPTE, 292M, 424M, 259M with automatic video format and standard detection
Supported formats	SDI formats up to 3Gbit/s* (see table)
No. of inputs	2 (switchable)
Input impedance	75 Ohm
Connector	BNC
Return loss	>15dB from 5MHz to 1.5GHz, >10dB from 1.5GHz to 3GHz

Video Outputs

No. of outputs	5
Signal type	Serial digital video SMPTE, 292M, 424M, 259M
Output format	Follows input format
Connector	BNC
Impedance	75 Ohm
Timing jitter	< 0.2UI (270Mbit) < 1.0UI (1.48Gbit) < 2.0UI (2.97GBit)
Alignment jitter	< 0.2UI (270Mbit) < 0.2UI (1.48Gbit) < 0.3UI (2.97GBit)
Return loss	>15dB from 5MHz to 1.5GHz, >10dB from 1.5GHz to 3GHz

Reference Input

Signal type	Analog bi-level (SDTV) or tri-level (HDTV) Auto-detect and cross lock compatible
No of inputs	1 external or 1 internal (rack frame reference)
Connection	BNC
Impedance	75 Ohm

Audio Processing

De-embedder	All 16 audio channels are de-embedded from SDI input
Audio delay	Auto track video processing delay
Embedder	All 16 audio channels re-embedded into output (1 to 1)

GPI Inputs

Number of inputs	2
Connector	PVD 5802 = Screw terminal on rear panel PVD 5802 S = Removable 3 pin weco connector
GPI Trigger	External connection between GPI input and Ground (short circuit)

Video Delay

Fixed delay	Frame sync mode = 1 Frame Line sync mode = 0.5 Frame
Adjustable delay	Up to 62 frames of delay manually adjustable in frame / line / pixel increments

Performance

Cable equalization	Up to 250m (820ft) using Belden 8281 (270Mbit) Up to 140m (459ft) using Belden 1694A (1.48Gbit) Up to 80m (262ft) using Belden 1694A (2.97Gbit)
Control	Basic local configuration using dip switch. Full remote control / status monitoring possible when using the LYNX APPolo control system
Status monitoring	Module edge LED indicators

Electrical Specifications

Operating voltage	12 VDC
Power consumption	< 10W
Safety	IEC 60950/ EN 60950/VDE 0805

Mechanical

Size	283mm x 78mm
Weight	CardModule 120g, (4.2oz) connector plate 50g (1.8oz)

Ambient

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

Settings and Control

Control

Local controls	Dip switch for setting basic module functions.
Remote control	Full remote control and status monitoring supported with the APPolo control system
External GPI inputs	GPI inputs (Function configurable with APPolo)
Store user settings	Store up to 7 sets of user settings in module flash ram, switch between any two sets with external GPI input

On Board Indicators / LEDs

General status / alarm LED - (visible with rack door closed)
SDI status LED
Ref status LED
Power status LED

* 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)

Ordering Information

Model #	Description	Includes
PVD 5802	3G/HD/SD - SDI Frame Synchronizer (GPI- Screw Terminal connector)	CardModule, Rear Termination Panel
PVD 5802 S	3G/HD/SD - SDI Frame Synchronizer (GPI- Weco 930HFL connector)	CardModule, Rear Termination Panel

Specifications subject to change