## SDI Frame Synchronizer with Fiber I/O

### Description

The P VD 5800 O is a low cost utility SDI frame synchronizer which can be used for basic SDI synchronization issues in broadcast. The module offers multiformat support for SDI formats up to 3Gbit/s (auto-detect). The P VD 5800 O also features optional fiber optic I/O.

The module utilizes robust "flywheel" synchronization that will accomodate a wide variety of low 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.
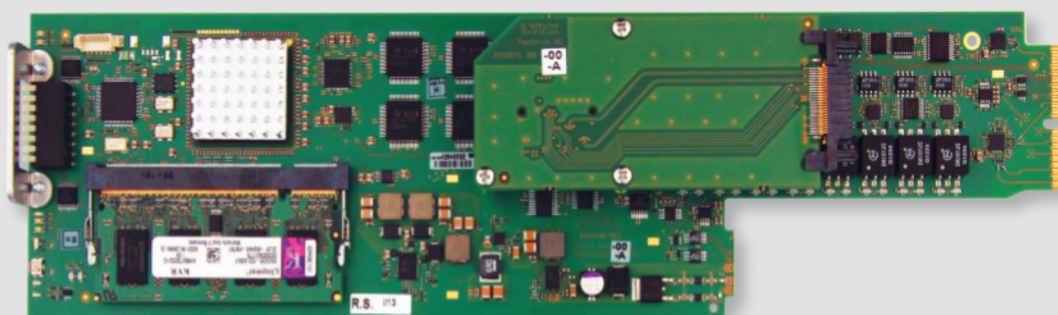
The module also provides up to 62 frames of programmable output delay, adjustable in frames, lines and pixels.

Microprocessor control and on-board Flash RAM enable configurations and settings to be stored within the module.
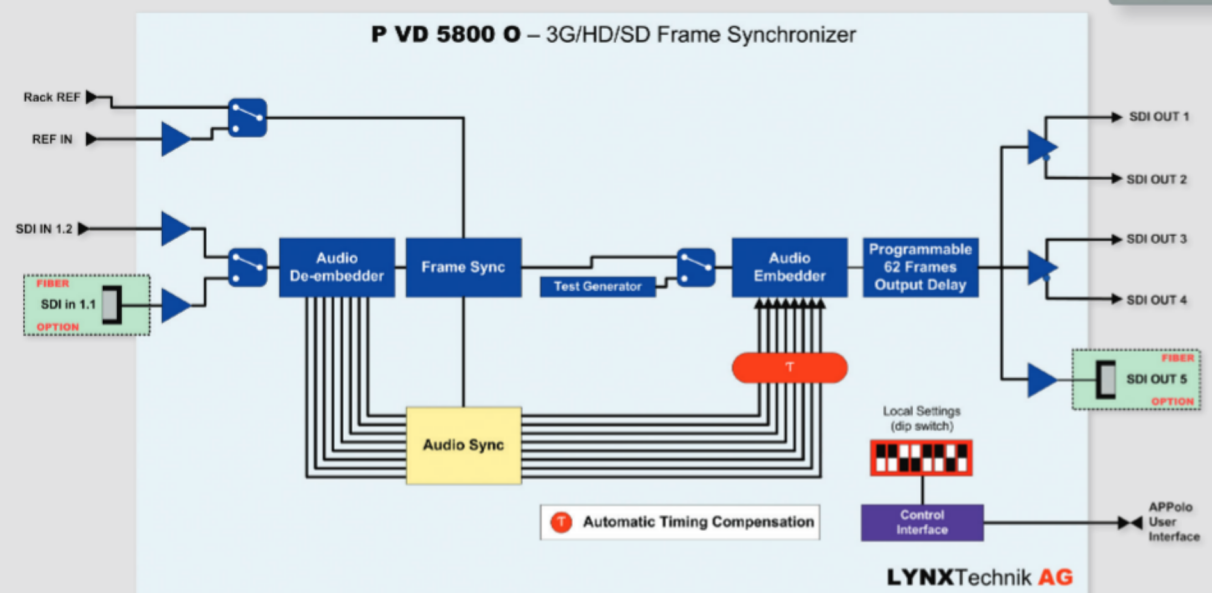
Remote control, status monitoring and error reporting is possible when using the LYNX APPolo Control System.

### Features

- Supports SDI formats up to 3Gbit (auto-detect)
- Optional fiber I/O
- Robust "flywheel" synchronization for a wide variety of problematic sources
- "Cross lock" compatible reference input
- All 16 channels of audio de-embedded from SDI input, delayed to match video processing delay and re-embedded
- 4 x electrical 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
- Remote control, status monitoring and error reporting possible with LYNX APPolo control system
- Full SNMP support when used with APPolo control system
- Hot swappable





P VD 5800 O – 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 | 1 (or 1 x optional fiber input - LC connector / singlemode) |
| Input impedance | 75 Ohm |
| Connector | BNC |
| Return loss | > 15dB (270Mbit)<br>> 10dB (2.97Gbit) |

## Video Outputs

| | |
|---|---|
| No. of outputs | 4 (plus 1 x optional fiber output - LC connector / singlemode) |
| Signal type | Serial digital video SMPTE, 292M, 424M, 259M |
| Output format | Follows input format |
| Connector | BNC |
| Impedance | 75 Ohm |
| Timing jitter | < 0.2UI (270Mbit)<br>< 1.0UI (1.48Gbit)<br>< 2.0UI (2.97GBit) |
| Alignment jitter | < 0.2UI (270Mbit)<br>< 0.2UI (1.48Gbit)<br>< 0.3UI (2.97GBit) |
| Return loss | > 15dB (270Mbit), >10dB (2.97Gbit) |

## Reference Input

| | |
|---|---|
| Signal type | Analog bi-level (SDTV) or tri-level (HDTV)<br>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) |

## Video Delay

| | |
|---|---|
| Fixed delay | Frame sync mode = 1 frame<br>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)<br>Up to 140m (459ft) using Belden 1694A (1.48Gbit)<br>Up to 80m (262ft) using Belden 1694A (2.97Gbit) |
| Control | Basic local configuration using dip switch<br>Full remote control / status monitoring possible when using the LYNX APPolo control system |
| Status monitoring | Module edge LED indicators |

*Specifications subject to change*

## 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<br>**1080i** / 60 / 59.94 / 50 Hz<br>**1080p** / 30 / 29.97 / 25 / 24 / 23.98 Hz<br>**1080psF** / 25 / 24 / 23.98 Hz |
| Formats : 3.0 Gbit | **1080p** / 60 / 59.94 / 50 Hz  (Level A) |

# Ordering Information

| Model # | Description |
|---|---|
| **P VD 5800 O** | 3G/HD/SD - SDI Frame Synchronizer with Fiber I/O |
| **Fiber Optic I/O Options** (Select one only - Module has single SFP socket: Fiber output only. Fiber input only. Fiber input and output | |
| Option: **OH-TX-1** | **Fiber Optic Output**: 1310nm - non CWDM. TX Power -5dBm (SFP module) |
| Option: **OH-RX-1** | **Fiber Optic Input**: 1260-1620nm. RX Sensitivity -3dBm to -19dBm (SFP module) |
| Option: **OH-TR-1** | **Fiber Optic Input and Output**: non CWDM. TX wavelength 1310nm / power -5dBm. RX Input Range 1260-1620nm / Sensitivity -3dBm to -19dBm (SFP module) |
| Option: **OH-TX-4-XXXX** | **Fiber Optic Output CWDM** xxxx Designates wavelength. Select from: 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610nm.<br>TX power: -1dbm (SFP module) |
| Option: **OH-TR-4-XXXX** | **Fiber Optic Input and Output CWDM** xxxx Designates wavelength. Select from: 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610nm.<br>TX power: -1dbm. RX range: 1260-1620nm, RX sensitivity -3dBm to -19dBm (SFP module) |