

### Video Frame / Line Synchronizer

#### Description

Featuring 6 frames of programmable delay the P VD 5000 provides a low cost flexible solution for broadcast video frame synchronization and / or frame delay and system timing applications. 10bit video processing throughout ensures the highest level of quality.

One of two independent SDI inputs can be selected (via external GPI on "G" version) for seamless switching between asynchronous input channels. The Internal proc amp functions include adjustable Gain, Saturation, Hue and Pedestal.

Two modes of operation allow the module to be used as a Line Sync or Frame sync. In Frame Sync mode a maximum delay of 6 frames is possible with frame, line and pixel adjustments. When used in Line Sync mode maximum delay is 7 frames.

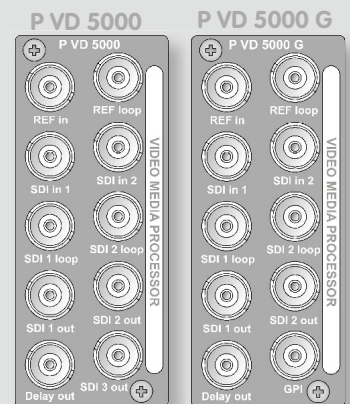
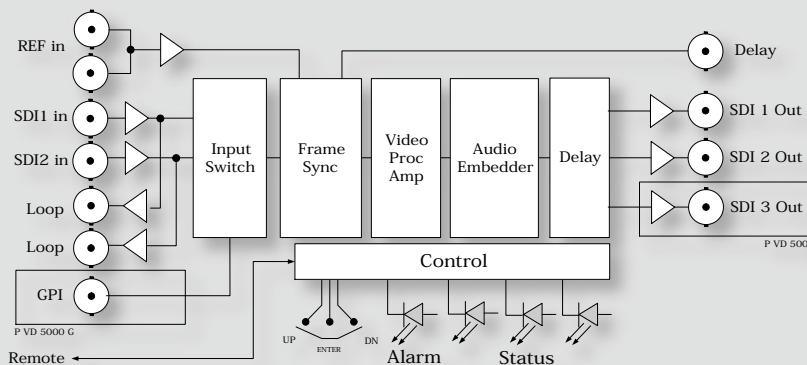
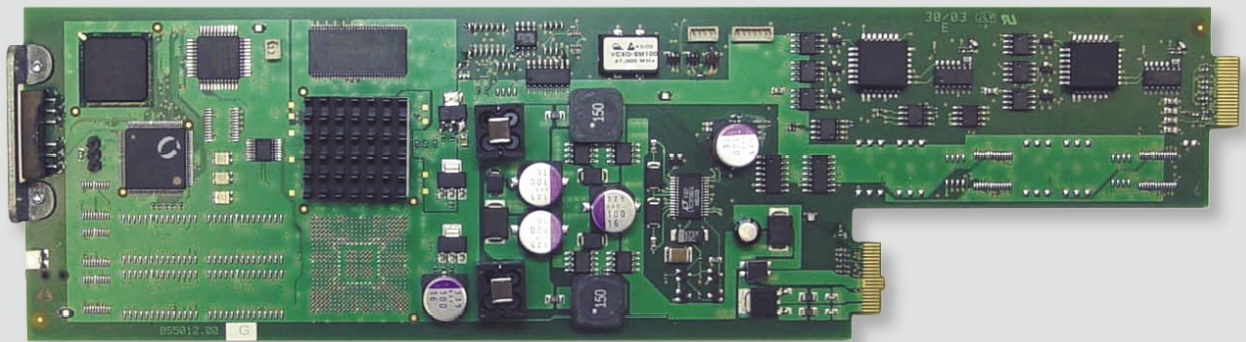
The PVD 5000 is an ideal solution for any broadcast application involving asynchronous SDI video feeds or any application requiring a fixed programmable delay.

A delay output reference is also provided to slave external audio delay hardware.

Microprocessor control and on board flash ram enable configurations and settings to be stored within the module (through power cycles and module removal). Local control capability is provided via the integrated alphanumeric display and control switch. Access to extended feature sets, remote control, status monitoring and error reporting is possible when using the LYNX control system.

#### Features

- 2 x 10 bit SDI inputs with seamless input switching
- GPI input for input switching or Freeze (G version)
- Dual mode operation Frame or Line synchronizer
- Dual standard (525/625) auto detect
- Up to 6 frames of programmable delay in Frame Sync mode with adjustments provided for pixel, line and frame delay (37ns steps).
- Up to 7 frames of programmable delay in Line Sync mode
- Video processing functions include adjustable gain, saturation, hue and pedestal.
- 3 x 10 bit SDI outputs (2 on G version)
- Delay output for synchronization of external devices
- Microprocessor controlled with internal flash ram for storing configuration
- Remote control, status monitoring and error reporting possible when used with LYNX control system
- Full SNMP support when used with master controller option
- Hot swappable



Backplane Options

### Video Frame / Line Synchronizer

#### Specifications

##### Video Inputs

Signal Type	Serial digital video SMPTE 259M-C (270Mbit)
Input standards	Dual standard (525/625) auto detect
No. Of inputs	2 (with active loop through)
Connector	BNC
Impedance	75 Ohm
Cable length	250m Belden 8281 (270MHz)
Return Loss	> 15 dB (270MHz)

##### Reference Input

Signal Type	Composite analog sync (with passive loop through)
Input standards	525/60Hz or 625/50Hz - auto detect
Connection	BNC
Impedance	75 Ohm

##### Video Outputs

Signal Type	Serial digital video SMPTE 259M-C (270Mbit)
Output standards	525 / 625 (follows input standard)
No. Of outputs	P VD 5000 = 3 P VD 5000 G = 2
Connector	BNC
Impedance	75 Ohms
Jitter	<=0.2 ui
Return Loss	> 15 dB (270MHz)

##### Delay Output

Signal	TTL pulse. Duty cycle equals delay from input to output
Connector	BNC
Impedance	75 Ohms

##### Video Processing

Delay adjustment range	Up to 7 frames in 37ns steps. Frame sync mode provides In dependant pixel / line and frame adjustments. Line sync mode provides pixel adjustment only.
Minimum delay	Line Synchronizer mode = 1 Line Frame Synchroniser mode = 1 Frame
Video adjustments	Gain / Saturation / Hue / Pedestal
Input switching	Seamless input changeover via GUI control (or external GPI trigger on P VD 5000G)

##### Operating Modes

Line	Line Synchronizer (With 7 frame delay total)
Frame	Frame Synchronizer (With 6 frame delay total)

##### Control

Local Controls	Local alphanumeric display with integrated menu system for setting module parameters
Remote Control	Comprehensive remote control and status monitoring supported when used with a LYNX Controller option
External GPI	Can be configured for Input switching or external freeze **

##### Electrical Specifications

Operating Voltage	12 VDC
Power Consumption	10 W
Safety	IEC 60950/ EN 60950/ VDE 0805

##### Mechanical

Size	283mm x 78mm
Weight	CardModule 120g, connector plate 50g

##### Ambient

Temperature	5°C to 40°C Maintaining specifications
Humidity	90% Max non condensing

Specifications subject to change

#### Settings and Control

##### Local Settings (using local matrix display and menus)

Input standard	525 / 625 / Auto
Input select	Input 1 / Input 2 / GPI Select
Vertical blanking	VBI Transparent pass / VBI Blanked
Freeze mode	Field 1 repeat / Field 2 repeat / Frame
Operation Mode	Line Sync / Frame Sync
Reference select	External / Rack Reference
Pixel Delay	Enter value 0...1711 (525) 0...1727 (625)
Line Delay	Enter value 0...524 (525) 0...624 (625)
Frame Delay	Enter value 0...6
Adjust Video Gain	Enter value -50%.....+150%
Adjust Video Saturation	Enter value -50%.....+150%
Adjust Video Pedestal	Enter value -10%.....+10%
Adjust Video Hue	Enter value -30%.....+30%
Reset to Neutral Values	Reset
Restore Factory Defaults	Yes / no

##### Settings Available from Control System

Set Error Threshold (TRS)	Enter value (Set errors per 500 lines)
Output on TRS Error	Freeze / Black / Transparent

##### On Board Indicators / LEDs

SDI input 1 Status : 525 / 625 / input missing
SDI input 2 Status : 525 / 625 / input missing
External Ref input : 525 / 625 / input missing
4 Digit Alphanumeric Display : Used for module configuration
General Alarm Indicator – 3 Color

##### \*\*Note.

GPI function (Switch or Freeze) is configured in control system.

**When GPI configured to Switch input** - Normally high selects input 1 (default). Low switches to input 2. External relay closure or may be driven with TTL. (Minimum pulse width to switch is 4 frames duration. Switch takes place on next vertical interval).

**When GPI Configured for Freeze.** Low freezes output(s). Both or any output or can be frozen independently. (Configured in the control system). External relay closure or may be driven with TTL. (Minimum pulse width to freeze is 4 frames duration. Freeze takes place on next vertical interval).

#### Ordering Information

Model #	Part Number	Description	Includes
P VD 5000	6155008267	Video Frame / Line Synchronizer	CardModule, Rear termination Panel, + Mounting Screws, and Reference Manual
P VD 5000 G	6155008266	Video Frame / Line Synchronizer	CardModule, Rear termination Panel, + Mounting Screws, and Reference Manual