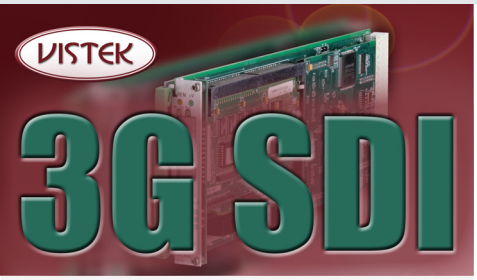
V1676TT
V1676RR

Dual HD/SD-SDI Fibre Transmitter & Receiver



FEATURES

- SMPTE 297-2006 compliant
- 2.97Gb/s SMPTE 424M
  1.485Gb/s SMPTE 292M
  270Mb/s SMPTE 259M
  270Mb/s DVB-ASI
- V1676TT Dual Transmitter
- V1676RR Dual Receiver
- '2-Part' SC bulkhead connectors – retention of optical cabling for module removal/exchange
- SFP Optical modules

The **V1676TT** and **V1676RR** are dual channel transmitter and receiver modules respectively for implementing optical links compliant with SMPTE 297-2006. Both modules have been specifically designed for robust performance with SDI 'pathological' test patterns at 2.97Gb/s (SMPTE 424M), 1.485Gb/s (SMPTE 292M) and 270Mb/s (SMPTE 259M) data rates. Input data rate detection is automatic and independent for each channel. Furthermore, the V1676 can accept other signal formats at the same data rates such as DVB-ASI (270Mb/s) by disabling the 're-clocking' circuitry (link selectable) on each channel of the transmitter and receiver.

All fibre inputs and outputs use '2-part' **SC** style bulkhead connectors allowing the V1676 to be removed from its enclosure without the need to disconnect optical cabling. The V1676 uses SFP (Small Form-Factor Pluggable) type optical modules with LC optical connections. The SFP optical inputs/outputs are coupled to the inner half of the 2-part bulkhead connector using 'flying lead' pigtails terminated with LC/PC connectors. This allows the SFP modules to be replaced or exchanged by simply removing the V1676 from its enclosure, unplugging the LC optical connections and extracting it from its mounting cage. The V1676TT, for example, is usually supplied with a dual 1310nm SFP laser transmitter. The mechanism described above means that a different SFP with alternative laser wavelengths (e.g for CWDM applications) can be supplied or exchanged without alteration to the V1676 base module. *[Please consult Pro-Bel Sales for further information.]*

GPO connections are provided on the rear panel(s) providing remote detection of SDI/Optical input and Laser output fail.

The V1676 can be fitted in **V1606** or **V1606RV** 3RU frame where they can be mixed with any other modules from Pro-Bel's modular infrastructure range. In addition, a single module can be housed in the 'stand-alone' **V6011 1-Box** or two modules in the **V6012 2-Box**. Both boxes utilise the standard V1606 3RU rear panels.

Technical Specification

SDI Inputs	**Dual TX = 2 (1 per Transmitter)**
	Dual RX = 0
Standards	Compliant with:
	SMPTE 259M (SD)
	SMPTE 292M/424M (HD)
	DVB-ASI
Connectors	BNC
Impedance	75 Ohms
Return Loss	<15dB (5MHz to 1.5GHz)
	<10dB @ 3GHz
Max. Cable	SD-SDI/ASI 250m (Belden 8281)
Receive Length	HD-SDI (292M) 100m (Belden 1694A)
	HD-SDI (424M) 60m (Belden 1694A)
Data Rates	270Mb/s, 1.485Gb/s, 2.97Gb/s
SDI Outputs	**Dual TX = 2 (1 per Transmitter)**
	Dual RX = 4 (2 per Receiver)
Standards	As SDI Inputs
Connectors	BNC
Impedance	75 Ohms
Return Loss	<15dB (5MHz to 1.5GHz)
	<10dB @ 3GHz
Amplitude	800mV +/- 5% pk/pk terminated
DC Offset	0V +/- 0.5V
Min. Cable	SD-SDI/ASI 250m (Belden 8281)
Drive Length	HD-SDI (292M) 100m (Belden 1694A)
	HD-SDI (424M) 60m (Belden 1694A)
Data Rates	As SDI Input

Optical Inputs	**Dual TX = 0**
	Dual RX = 2 (1 per Receiver)
Standards	Compliant with:
	SMPTE 297-2006/259M (SD)
	SMPTE 297-2006/292M/424M (HD)
	DVB-ASI
Connectors	SC/PC with Shutter
Receiver Type	SFP ROSA PIN+TIA
Wavelength	1260-1620nm
Sensitivity	-20dB typical @3Gb/s (max. -18dB)
Optical	Dependant on Tx type/datarate
Receive Length	>10km worst case @ 2.97Gb/s
	using 'Pathological Test Signal'
Data Rates	270Mb/s, 1.485Gb/s, 2.97Gb/s
Optical Outputs	**Dual TX = 2 (1 per Transmitter)**
	Dual RX = 0
Standards	As Optical Inputs
Connectors	SC/PC with Shutter
Laser Type	SFP TOSA FP (Fabry-Perot)
Wavelength*	1310nm (nominal)
Output Power	-2dB typical (min. -5dB, max. 0dB)
Extinction Ratio	7.5dB typical (min. 5dB)
Optical	SD-SDI/ASI 30km max. (Single-Mode)
Drive Length	HD-SDI 20km max. (Single-Mode)
	>10km worst case @ 2.97Gb/s
	using 'Pathological Test Signal'
Data Rates	As Optical Inputs

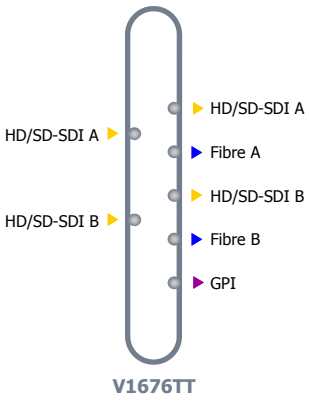
* Other wavelengths available on request

Ordering Information

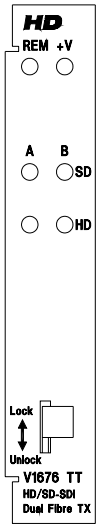
V1676TT	Dual HD/SD-SDI to Fibre Transmitter
ST31ST31-3*	SFP Dual TX Module
V1676RR	Dual Fibre to HD/SD-SDI Receiver
SRR-3*	SFP Dual RX Module
	*SFP code should be stated on order.

Rear Modules
All Pro-Bel's quoted prices for interface modules include the supply of one suitable rear module. Please specify type required when placing order.

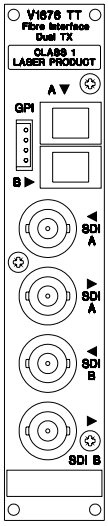
V16FR3J*	Dual TX (or RX) for V1606 **3RU** frame * Different rear labels/overlays are supplied when ordering the V1676TT or V1676RR.



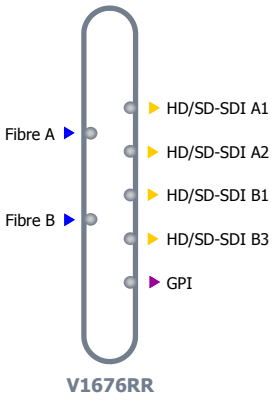
V1676TT



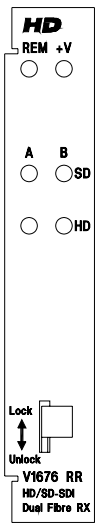
Dual TX
Front Panel



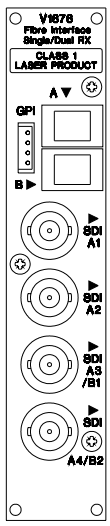
V16FR3J



V1676RR



Dual RX
Front Panel



V16FR3J

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