

# Bluebell

## BC Series Modular Fibre Optic Interface System



### TDM-700

### POV Camera Links

### HD-SDI, Data, Ethernet, Genlock

The TDM-700 system is designed to provide a compact, rugged and cost effective optical link between a remote POV (Point of View) Camera and an OB van or Control Room.

The link provides an HD/SD-SDI feed from the camera and a reverse composite video feed for genlock or monitoring plus bi-directional RS232 and RS422 data for full control of the POV.

A 10/100 BaseT Ethernet link is provided to allow control of IP based devices while a GPI path can be used to drive a tally light. All signals are multiplexed and transported over two fibres for easy installation or field deployment.

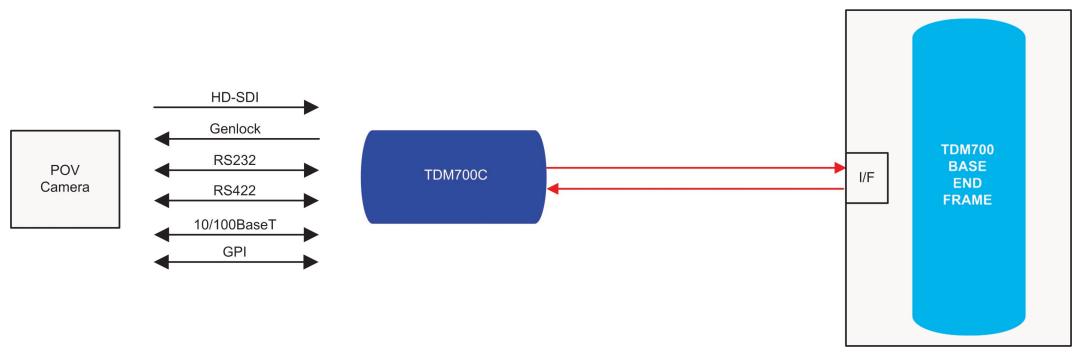
The TDM-700CE remote camera end is supplied in a compact aluminium enclosure with a choice of connectors to suit both Studio and Outside Broadcast applications.

The TDM-700B base unit fits in a single slot of the standard Bluebell 19" rack frame allowing multiple cameras to feed into a central control room or truck.

Alternatively, both ends can be supplied in the standard BC Series card format for cost effective transport of HD, composite video and data whether in a studio or flyaway. They are particularly suited for linking remote video servers to slow motion controllers with the Ethernet used for PC configuration of the server.

TDM-700 links are available in multimode, singlemode, WDM and CWDM to suit any application.

Schematic Diagram TDM-700 Link



Rear Panel TDM-700B/LC



Specifications for each TDM-700 link

Electrical HD/SD Input

Connector	75 Ohm BNC per IEC 60169-8 Amendment 2
Standards	SMPTE 292M, SMPTE 259M, SMPTE 297M
Equalisation	Automatic to 200 m @ 1.485 Gb/s Automatic to 300 m @ 270 Mb/s
Return Loss	> 15 dB @ 1.485 Gb/s

Electrical HD/SD Output

Connector	75 Ohm BNC per IEC 60169-8 Amendment 2
Return Loss	> 15 dB @ 1.485 Gb/s
Polarity	Non inverting
Signal Level	800 mV +/- 10%
DC Offset	0 +/- 0.5 V
Jitter	<0.15 UI line equalised

Electrical Genlock Video Input and Output

Standards	Composite 1V pk-pk PAL, NTSC, SECAM Bi-Level, Tri-Level syncs
Connector	75 Ohm BNC
Diff. Phase	< 1°
Diff. Gain	< 1% (at sub-carrier 3.58/4.43 MHz)

Ethernet Input/Output

Connector	RJ45
Format	Full duplex 100Base-FX Data Transmission with 1-/100 MB/s half/full duplex auto-negotiation

Data Input/Output

Connector	D sub
Format	1 x bidirectional RS232, 1 x bidirectional RS422 1 x bidirectional GPI

General TDM-700B/LC card specifications

Depth	60 mm
Width	20 mm 4TE
Height	129 mm (3RU)
Weight	100 g
Operating Temp	-30 to +70 °C
Power	6 W
Signal detect	LED on for loss of signal
No. of slots	1

General TDM-700CE/NOC and /L3K specifications

Depth	160 mm
Width	120 mm
Height	45 mm
Weight	200 g

Conformance

EMI/RFI	Complies with 89/336/EEC
Electrical	Complies with EN 61000-6-1, EN61000-6-2
Laser Safety	Complies with Class 1 laser product 24 CFR 1040.10 & 1040.11
RoHS	Complies with Directive 2002/95/EC
Warranty	5 years

Optical Input/Output

Wavelength	850 nm, 1310 nm, 1550 nm,
Optical Power	-2 dBm @ 1310 nm (typical) -2 dBm @ 1510 nm (typical) 0 dBm @ CWDM (typical)
Sensitivity	> -25.5 dBm @ 1.485 Mb/s > -26.0 dBm @ 270 Mb/s

Ordering Information

TDM-700CE/xx	Remote end singlemode HD-SDI transmitter, Genlock receiver with bidirectional 232/422 Data and 10/100 BaseT on 2 fibres. Supplied in rugged aluminium enclosure fitted with 4 pin XLR for power.
TDM-700BE/xx	Base end singlemode HD-SDI receiver, Genlock transmitter with bidirectional 232/422 Data and 10/100 BaseT on 2 fibres. Supplied in rugged aluminium enclosure fitted with 4 pin XLR for power.
Key /xx	Use /L3K Lemo 3K Series SMPTE Hybrid Connector <sup>1</sup> Use /NOC Neutrik OpticalCON DUO Hybrid Connector <sup>1</sup> Use /LC Standard LC connectors provided via SFP module
TDM-700C/LC	Remote end singlemode HD-SDI transmitter card, Genlock receiver with bidirectional 232/422 Data and 10/100 BaseT on 2 fibres. Fitted with LC connectors as standard. Fits into standard Bluebell BC Series frames.
TDM-700B/LC	Base end singlemode HD-SDI receiver card, Genlock transmitter with bidirectional 232/422 Data and 10/100 BaseT on 2 fibres. Fitted with LC connectors as standard. Fits into standard Bluebell BC Series frames.

<sup>1</sup> For alternate hybrid connectors please contact the Sales Office.

For Dedicated CWDM Tuned Laser Wavelengths to suit ITU Grid Spacing available - see CWDM Ordering Matrix

Universal Chassis and Power Supplies

BC100-3RU	19" 3RU Chassis for up to 15 BCxxx Cards with optional Network Monitoring and facility for Dual Redundant Power Supplies (not supplied).
BC160	19" 1RU Chassis for up to 6 BCxxx Cards fitted with Dual Redundant Power Supplies.
BM100	Network Monitoring Card with GPI Output on a SCSI Connector for Slot-16
BM101	Network Monitoring Card with Ethernet connection for Slot-16