Bluebell ✳
OPTICOM LIMITED
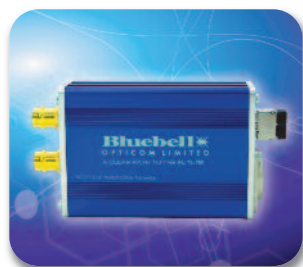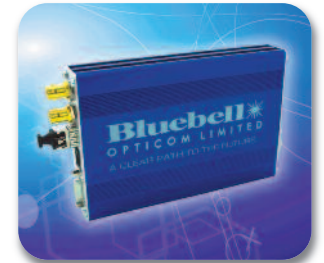### A CLEAR PATH TO THE FUTURE...

Outside Broadcast Applications

Broadcast Fibre Optic Solutions

Products

PART NUMBER		DESCRIPTION	3G	HD	SD	Video	AES	AA	Data	UTP	Tally/GPI	Rack	Stand Alone
Universal Chassis and Power Supplies													
BC-100		19" 3RU Chassis for up to 15 BC Series Cards										x	
BC-160		19" 1RU Chassis for up to 6 BC Series Cards.										x	
BC-160P		19" 1RU Chassis for up to 6 Passive BC Series Cards.										x	
BC110		Single Slot Chassis with Universal Mains Power Supply											x
BC120		Triple Slot Chassis with Universal Mains Power Supply											x
High Density 3G 1RU Transport System													
WB170-1RU		19" 1RU Chassis for up to 28 3G-SDI links										x	
WB172T/S/13/13	WB172R/S	Dual Channel 3G/HD/SD-SDI High Density Fibre Optic Links	< 2 >									x	
Modular BC Series Cards													
Time Division Multiplexing HD-SDI, Video, Audio and Data Multiplexing													
TDM-300T	TDM-300R	Video multiplexing card.		1 >	3 >							x	x
TDM-300TA	TDM-300RA	Video, audio and data multiplexing card.		1 >	3 >			8 >	1 >			x	x
TDM-710CE		HD-SDI module with composite video, data + tally		1 >		< 1			< 2 >		< 1 >		x
TDM-700CE		HD-SDI module with composite video, ethernet, data + tally		1 >		< 1			< 2 >	< 1 >	< 1 >		x
TDM-710C		HD-SDI cards with composite video, data + tally		1 >		< 1			< 2 >		< 1 >	x	x
TDM-700C	TDM-700B	HD-SDI cards with composite video, ethernet, data + tally		1 >		< 1			< 2 >	< 1 >	< 1 >	x	x
3G/HD/SD-SDI Transmitters and Receivers													
BC360T	BC360R	Single Channel 3G-SDI Fibre Optic Link	> 1									x	x
BC362T	BC362R	Dual Channel 3G-SDI Fibre Optic Link	> 2									x	x
BC360	BC360IB	Bi-directional 3G-SDI, HD-SDI Fibre Optic Link	< 1 >									x	x
BC360IBT	BC360IBR	Single Channel 3G-SDI Fibre Optic Link	> 1									x	x
BC362IBT	BC362IBR	Dual Channel 3G-SDI Fibre Optic Link	> 2									x	x
High power versions available - Contact the Sales Office for details													
3G/HD/SD-SDI Transmitters and Receivers with Audio Embedding													
BC450T	BC450R	3G-SDI Optical Link with 8 x Analogue Audio Channels	> 1					> 8				x	x
BC460T	BC460R	3G-SDI Optical Link with 4 x AES Audio Channels	> 1				> 4					x	x
SDI/ASI, HD/SDI Transmitters and Receivers													
BC300T	BC300R	Dual Channel SD-SDI/ASI Fibre Optic Link			> 2							x	x
Distribution Amplifiers and Converters													
BC350		1 in, 5 out reclocking HD-SDI, SDI and ASI distribution amplifier										x	x
BC12-ADC		Component or Composite Analogue to SD-SDI converter										x	x
BC12-DAC		HD-SDI/SD-SDI to Component or Composite Analogue converter										x	x
BC500 Composite Video, Audio and data													
BC500T	BC500R	Composite Video + 2 x Line Level Analogue Audio Link				> 1		> 2				x	x
BC500T/S/A/232	BC500R/S/A/232	Composite Video + 1 x Analogue Audio + 1 x RS232 Link				> 1		> 1	> 1			x	x
BC500T/S/232/422	BC500R/S/232/422	Composite Video + 1 x RS232 + 1 x RS422 Link				> 1			> 2			x	x
BC551 HD-SDI, Audio or data													
BC551AT/S	BC551AR/S	Singlemode 3G/SDI, HD/SDI Fibre Optic Link with reverse audio channel	> 1					< 1				x	x
BC551DT/S	BC551DR/S	Singlemode 3G/SDI, HD/SDI Fibre Optic Link with reverse data channel	> 1						< 1			x	x
Audio & Data Converters													
BC030T/S	BC030R/S	Single Fibre 2 x Balanced Line Level Analogue Audio Link						> 2				x	x
BC030T/S/D	BC030R/S/D	Single Fibre Dual Unidirectional RS232 Link							> 2			x	x
BC040T/S/D	BC040R/S/D	Single Fibre Dual Unidirectional RS422 Link							> 2			x	x
BC050T/S/D	BC050R/S/D	Single Fibre Unidirectional 1 x RS232 + 1 x RS422 Link							> 2			x	x
Audio Converters													
BC620T	BC620R	Fibre Optic Link for 8 x Analogue Audio Channels						> 8				x	x
BC630T	BC630R	Fibre Optic Link for 4 x AES Audio Channels					> 4					x	x
Data													
BC720		Multichannel GPI and Multiformat Data Transceiver Card.							< 4 >		< 4 >	x	x
BC730T	BC730R	6 x Contact Closure Fibre Optic Link										x	x
BC800		10/100BaseT Ethernet to Fibre Converter Card								< 1 >		x	x
BC850		1000BaseT Ethernet to Fibre Converter Card								< 1 >		x	x
Audio Transceivers													
BC700		Dual Fibre Duplex Multirate AES Digital Audio Transceiver Card					< 2 >					x	x
BC710		4-Wire Comms Talkback to Optical Transceiver Card						< 2 >				x	x
RF/L Band Converters													
BC920T	BC920R	L-Band Fibre Optic Link										x	x
Wave Division Multiplexing Products													
BC2	BC2/M	Wave Division Multiplexer Two Channel Device										x	x
Coarse Wave Division Multiplexing Products													
BC-4		4-Channel CWDM Card-Wavelengths to suit ITU grid spacing										x	x
BC-8		8-Channel CWDM Card-Wavelengths to suit ITU grid spacing										x	x
Splitters and Switches													
BC2x1SW		2 input, 1 output Optical Switch										x	x
BCSPLIT		1 input, 2 output Optical Splitter										x	x
BCSPLIT1xn		1 input, n output Optical Splitter - contact Sales for options										x	x
Analogue Audio & AES Digial Audio Multiplexing Transmitters and Receivers in 1RU frame													
BB600T	BB600R	12-Channel Balanced Analogue Audio Fibre Optic Link XLR Inputs						> 12				x	
BB610T	BB610R	6-Channel AES Digital Audio Fibre Optic Link BNC Inputs					> 6					x	
BB610T	BB610R	6-Channel AES Digital Audio Fibre Optic Link XLR Inputs					> 6					x	
Field Depoloyable Products													
BBOX QUAD3G		4 channel 3G-SDI, HD-SDI, SD-SDI multiplexer - SMPTE or tactical	> 4										x
BC313T	BC313R	Single Channel 3G/SDI, HD/SDI Fibre Optic Link	> 1										x
BC323T	BC323R	Dual Channel 3G/SDI, HD/SDI Fibre Optic Link	> 2										x
BC323TR		Bi-directional 3G/SDI, HD/SDI Fibre Optic Link	< 1 >										x
BC550AT/S	BC550AR/S	Singlemode 3G/SDI, HD/SDI Fibre Optic Link with reverse audio channel	> 1					< 1					x
BC550DT/S	BC550DR/S	Singlemode 3G/SDI, HD/SDI Fibre Optic Link with reverse data channel	> 1						< 1				x
SHAX	SHAXx (with power insertion)	SMPTE Hybrid Alternative Extension Kit - allows fibre enabled cameras to be connected to the CCU over standard networks.											x
SOCX		SMPTE Hybrid Optical Cable Extender											x
Field Depoloyable Enclosures													
Optical 2U Flightcase	Optical 3U Flightcase	Ruggedisded aluminium flight case housing a Bluebell frame											x
PROBE-BASE3	PROBE-BASE6	A ruggedized portable fibre optic system ideally suited to OB, ENG and SNG applications.											x
Cables and Drums													
		We also supply a wide range of fibre cables available in a variety of fibre counts, connector types and lengths.											x

Acquisition Products

Bluebell manufactures a wide range of optical interfaces for the Outside Broadcast markets. Our products are used for the critical live delivery of video, audio and data services at premier world-class events. Applications range from robust multiple outside broadcast links to complex optical infrastructure systems. Some key products are highlighted below;

TDM-700

The TDM-700 provides a rugged and cost effective optical link between a remote "POV" (Point of View) Camera and CCU. The link provides an HD-SDI feed from the camera with a reverse feed for genlock or monitoring plus bi-directional data for full POV control. 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. The camera end can be housed in a robust aluminium enclosure for field use.

BC323/BC550

The BC323 provides a compact and robust link for the conversion of two independent 3G-SDI signals into fibre optical cable. They are particularly suited to 3D productions and have been successfully deployed on many high profile events. The compact design allows the unit to be located close to the action or 3D camera rig.

The BC550 is perfect for adding cost effective fibre I/O to small remote robotic camera systems.
The BC550 links provide transport of a 3G-SDI signal with a reverse audio or data channel being carried on a second fibre. Power from a variety of external DC sources is taken via a standard 4 pin XLR.

BLUE BOX

The Blue Box Quad 3G-SDI allows up to four 3G-SDI signals to be transmitted over a single standard SMPTE Hybrid or military tactical cable and enables interference free transmission over long distances. Applications are found in Outside Broadcast vehicles, special event companies and in pre-fibred venues, particularly with the advent of 3D and the move to a 3G-SDI infrastructure. The four channel configuration allows two separate 3D camera rigs to be transported over one cable. All contained within a robust and rugged aluminium enclosure suited to the demands of constant rigging/de-rigging.

SHAX

The SHAX System allows broadcast cameras fitted with Standard SMPTE 304M hybrid connectors to be deployed using ordinary singlemode fibre. This system allows the user to replace the hybrid cable between the camera and the CCU with standard cables. The SHAX system is perfect for Stadiums, Arenas and Concert Halls that have pre-installed fibre networks. The new SHAXx module allows power to be inserted to the cable.

SOCX

This stand alone device allows operators to extend the distances available on Standard SMPTE Hybrid Cable. Power is supplied via a standard mount camera battery system or 4 pin XLR.

19" RACK MOUNT MODULAR BROADCAST FIBRE OPTIC SOLUTIONS

The BC Series is a cost effective and flexible modular system designed to accommodate the growing number of broadcast signals that need to be transported over fibre optic cable. With nearly 100 cards in the range, all standard video, audio and data formats can be accommodated with alarm and monitoring via GPI or Ethernet/SNMP. Signals can be electrically multiplexed together as a single wavelength and up to 16 wavelengths can then be multiplexed onto a single fibre using CWDM. Optical splitters and switches also provide redundancy for mission critical situations.
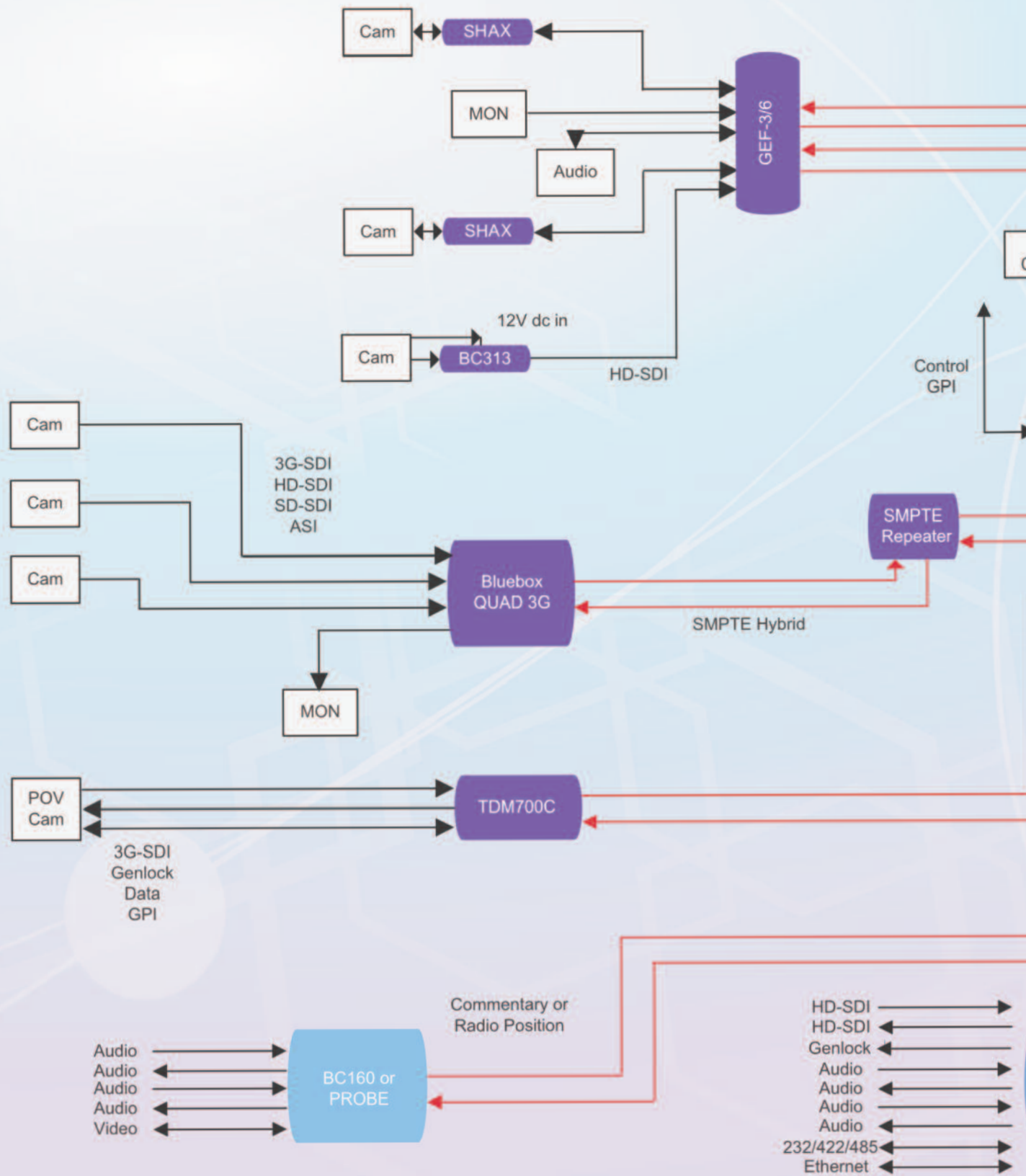
Our equipment supports

- 3G-SDI, HD-SDI, SD-SDI, DVB-ASI
- 10/100/1000 BaseT Ethernet
- Broadcast Quality PAL/NTSC
- Data and RF
- AES/EBU and analogue audio

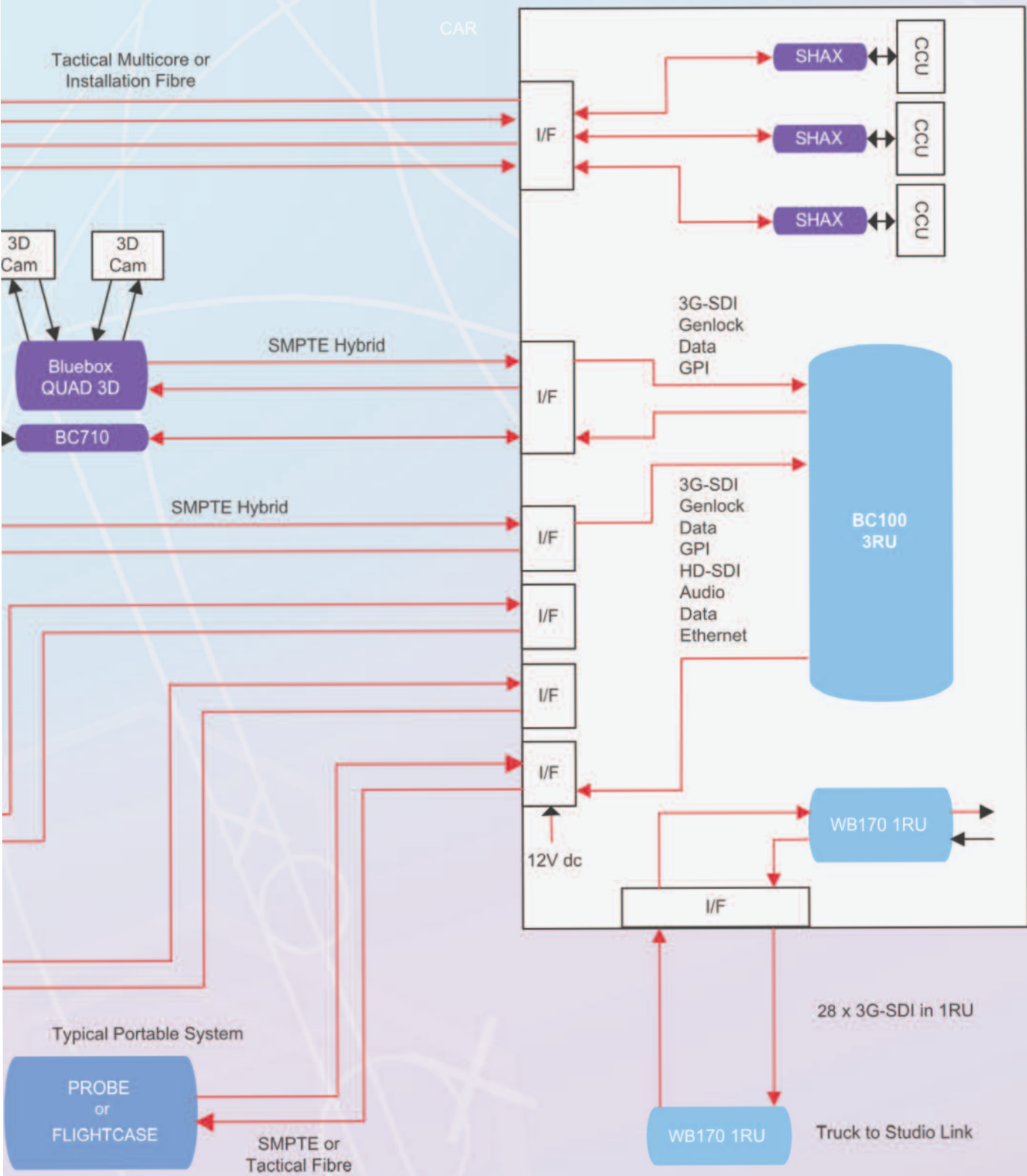## WB170 MODULAR 1RU HIGH DENSITY MEDIA CONVERTER

The WB170 is designed as an ultra compact 19" rack-mount media converter for the conversion of up to 28 independent 3G-SDI signals within 1RU. The WB170 fits applications where space is at a premium but no compromises on the broadcast performance can be accepted.

We offer the portable Probe system and flight case solutions for linking remote positions to an OB. We also provide a wide range of fibre cables available in a variety of fibre counts, connector types and lengths.

Cam ◄► SHAX ◄──── GEF-3/6

MON ──────►

Audio ──────►

Cam ◄► SHAX ◄────

12V dc in

Cam ──► BC313 ──────►
HD-SDI

Control
GPI

Cam ──────┐
3G-SDI
HD-SDI
SD-SDI
ASI

Cam ──────┤

SMPTE
Repeater

Cam ──────► Bluebox
QUAD 3G

SMPTE Hybrid

MON

POV
Cam ◄──► TDM700C

3G-SDI
Genlock
Data
GPI

Commentary or
Radio Position

HD-SDI ──────►
HD-SDI ◄──────
Genlock ◄──────
Audio ──────►
Audio ◄──────
Audio ──────►
Audio ◄──────
232/422/485 ◄──────
Ethernet ◄──────

Audio ──────►
Audio ◄──────
Audio ──────► BC160 or
Audio ◄────── PROBE
Video ──────►

CAR

Tactical Multicore or
Installation Fibre

SHAX — CCU

SHAX — CCU

SHAX — CCU

I/F

3D
Cam

3D
Cam

SMPTE Hybrid

Bluebox
QUAD 3D

I/F

BC710

3G-SDI
Genlock
Data
GPI

BC100
3RU

SMPTE Hybrid

I/F

3G-SDI
Genlock
Data
GPI
HD-SDI
Audio
Data
Ethernet

I/F

I/F

I/F

12V dc

WB170 1RU

I/F

28 x 3G-SDI in 1RU

Typical Portable System

PROBE
or
FLIGHTCASE

SMPTE or
Tactical Fibre

WB170 1RU

Truck to Studio Link

Broadcast Specialists

Bluebell Opticom designs, manufactures and distributes high quality fibre optic transmission equipment for the broadcast, telecommunications and satellite industries.

Bluebell Opticom Ltd is a UK based, privately funded company, and has been designing and manufacturing fibre optic equipment since 1994.

We are specialists in "point to point" fibre technology for the broadcast television industries around the world. We pride ourselves on being a reliable and innovative supplier with an excellent quality to price ratio.

We have always maintained a flexible attitude and approach, often working with customers to provide an application specific solution on tight timescales.

We have thousands of links in daily operational use for key on-air applications and live events. Our customers include leading Broadcasters, Play-Out Centres and service providers, supported through a network of professional Distributors and Partners around the world.

Our products are also used for the critical delivery of video, audio and data services at most premier live world-class sporting events. The applications range from robust multiple outside broadcast links to complete and complex optical infrastructure systems.

All products are supplied with a 5 year factory warranty and are manufactured to ISO 9000 standards. All products are lead-free and RoHS/WEEE compliant.

Our equipment supports

- 3G-SDI, HD-SDI, SD-SDI, DVB-ASI
- Broadcast Quality PAL/NTSC
- AES/EBU and analogue audio
- 10/100/1000 BaseT Ethernet
- Data and RF

Local Contact

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