Sapphire-BTX
Camera Back Transmitter

KEY ADVANTAGES

Low latency UHD/HD Resolution encoding (Typically 35mS input to output)

Single input Interface supporting 3G HD-SDI, 6G and 12G

Interchangeable RF Modules

Optional Bi-directional Camera Control modules

Supports Anton Bauer and V Lock battery plates

Support for UHD/HD HDR and also Timecode (film industry) signal insertion

ASI Out for onward connectivity

IP Streaming and Web browser control

The Sapphire-BTX camera-back transmitter, integrates a True 4K HEVC encoder with a COFDM modulator creating a single, compact package, suitable for camera-back mounting. The Sapphire-BTX is equipped with a single video input capable of 3G HD-SDI, 6G and 12G, thus allowing video formats to UHD.

Back to back V Lock or Anton Bauer battery plates facilitate pass-through power whilst an additional external power connector is provided at the base. Analogue stereo audio inputs are supported as well as camera control and Tally interfaces. An ASI transport stream interface is provided to facilitate easy connection to other modulation systems.

Sapphire-BTX is equipped with a high-quality, low-latency H.265 (H.264 is also available) encoder capable of UHD and HD formats in 10bit 4:2:2 with automatic HDR support.

Up to 8 stereo pairs of audio in either MPEG-1 layer 1, or PCM format (4 stereo pairs in AAC-LC) can be extracted and encoded by The Sapphire-BTX whilst analogue audio inputs with power are included for direct microphone connection.

Camera control and transmitter settings are accessible through a single colour panel on the side or using the web browser interface.

Bi-directional camera control is a hardware option in the Sapphire-BTX.

DOMO
BROADCAST SYSTEMS

For the moments that matter

Connectors

RF out	N Type Female
RF In (Cam Control)	SMA Female
Video In	BNC 3G/6G/12G
ASI Out	BNC
Analogue audio in	Hirose 6 way female
Power and CTRL	Hirose 6 way male
Auxiliary Data	Hirose 6 way male
Camera CTL	Hirose 10 way male
Tally	Hirose 4 way female
Ethernet	RJ45

RF

Frequency Bands	2-2.9GHz, 5.5-6GHz (others on request)
Tuning Step Size	250kHz
O/P Power	100mW

Modulation

Modulation Modes	DVBT, Dual Pedestall, UMVL and ISDB-T
DVB-T Bandwidth	8MHz, 7MHz and 6MHz modes
DVB-T Guard	1/32, 1/16, 1/8, 1/4
DVB-T FEC	1/2, 2/3, 3/4, 5/6, 7/8
DVB-T Modulation	QPSK, 16QAM, 64QAM
DVB-T Bit-rates	3.6Mbps to 32Mbps

Video

Video Coding	H.264 and H.265
H.265 4K UHD	2160p 23.98/24/25/29.97/30/50/59.94/60 HD. 4:2:2/4:2:0, 8/10-bit 720p 50/59.94/60 1080i 50/59.94/60 1080p 23.98/24/25/29.97/30/50/59.94/60 1080psf 23.98/24/25/29.97/30
Latency	Typically 35mS input to output

HDR/WGC

We support	Rec. ITU-R BT.2100-2 (PQ and HLG) Rec. ITU-R BT.2020

Audio

Format	Embedded
Encoder	MPEG-1 Layer 1, MPEG-1 Layer 2, AAC-LC, Linear PCM
Quantity	4 pairs (8 pair if MPEG or Linear PCM)
Analogue	1 pair line / mic level
Power Out	P48 phantom power

IP Streaming

Format	Unicast / Multicast / UDP / RTP / SRT
Bitrate	25Mb/s maximum

Camera Control

Type	VideoSys Bi-directional 400MHz UHF
Camera Type	Sony / Grass Valley / Hitachi Panasonic / Ikegami

Control

Local	Joystick and menu screen
Remote	IP web browser Control

Dimensions

Size (WxDxH)	155 × 95 × 33mm
Weight	500g
Mounting	AB / VLock Plate / mounting plates

Power

DC In:	9-36V 25W typical @ 4K encoding

Environment

Temperature Range	-10 to +50 °C
Sealing	Unsealed

Product Codes

BTX-200290-V	2-2.9GHz TX VLock
BTX-310360-V	3.1-3.6GHz TX VLock
BTX-550600-V	5.5-6GHz TX VLock
BTX-200290-AB	2-2.9GHz TX Anton Bauer
BTX-310360-AB	3.1-3.6GHz TX Anton Bauer
BTX-550600-AB	5.5-6GHz TX Anton Bauer

Note: Other frequencies available on request