



KEY ADVANTAGES

- Low latency UHD/HD Resolution encoding
- SFP Interface supporting 12G, Dual 6G, Quad 3G interfaces
- Interchangeable RF Modules
- Interchangeable Camera Control modules including Bi-directional IP
- Supports Anton Bauer and V Lock battery plates
- Support for UHD/HD HDR and also Timecode (film industry) signal insertion
- Upgradeable to support DTC low-latency H.264 encoding.
- Interoperability with existing DTC systems, including ultra-low latency HD H.264

SapphireTX Camera Back Transmitter

The SapphireTX camera-back transmitter, integrates a True 4K HEVC encoder with a COFDM modulator creating a single, slimline package, suitable for camera-back mounting whilst supporting twin SFP cages, thus allowing video input in formats of Single 3G/HD-SDI, Quad 3G/HD-SDI, 12G and Dual 6G (Arri format).

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.

SapphireTX 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.

SapphireTX-D additionally supports legacy DTC low-latency HD H.264 encoding.

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 SapphireTX whilst analogue audio inputs with power are included for direct microphone connection.

Camera control and functionality is accessible through a single colour panel on the side or using the web browser interface; BWS' camera control being supported as standard with the option of future upgrade to Bi-directional IP camera control.



Connectors

RF out	N Type Female
RF In (Cam Control)	SMA Female
Video	Twin SFP Cage Single HD-BNC 3G/HD-SDI Quad HD-BNC 3G/HD-SDI Dual HD-BNC 6G-SDI Single HD-BNC 12G-SDI
Analogue audio in	Hirose 6 way female
Power and CTRL	Hirose 6 way male
Auxiliary Data	Hirose 10 way female
Camera CTL	Hirose 10 way male
Tally	Hirose 4 way male
Ethernet	RJ45

RF

Frequency Bands	2-2.7GHz, 3-3.5GHz, 5.5-6GHz (others on request)
Tuning Step Size	250kHz
O/P Power	100mW

DVB-T Modulation

DVB-T Bandwidth	Dual Ped, 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 40Mbps
DVB-T2	Available in non TXD versions only as future upgrade.

Video

Video Coding	H.264 (DTC optional) and H.265
Input Format H.264	1920x1080p 59.94/50Hz 1920x1080i 59.94/50Hz 1920x1080p 30/29.97/25/24/23.97Hz 1920x1080psf 30/29.97/25/24/23.97Hz 1280x720p 60/59.94/50Hz
Input Format H.265 4K UHD	4:2:2/4:2:0, 8/10-bit 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

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

IP Streaming

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

Camera Control

Type	BWS 400MHz UHF Optional Bi-directional IP
Camera Type	Hitachi, Panasonic others on request

Control

Local	Joystick and menu screen
Remote	IP web browser Control

Dimensions

Size (WxDxH)	193 x 116 x 49mm
Weight	700g
Mounting	AB / VLock Plate / mounting plates

Power

DC In:	9-18V 36W typical @ 4K encoding
--------	------------------------------------

Environment

Temperature Range	-10 to +50 °C
Sealing	Unsealed

Product Codes

SapphireTX-198270	1.98 to 2.7GHz TX
SapphireTX-300350	3 to 3.5GHz TX
SapphireTX-550600	5.5 to 6GHz TX
SapphireTXA-198270	1.98 to 2.7GHz TX Anton Bauer
SapphireTXA-300350	3 to 3.5GHz TX Anton Bauer
SapphireTXA-550600	5.5 to 6GHz TX Anton Bauer
SapphireTXD-198270	1.98 to 2.7GHz TX with DTC HD H.264
SapphireTXD-300350	3 to 3.5GHz TX with DTC HD H.264
SapphireTXD-550600	5.5 to 6GHz TX with DTC HD H.264
SapphireTXDA-198270	1.98 to 2.7GHz TX with DTC HD H.264 and Anton Bauer
SapphireTXDA-300350	3 to 3.5GHz TX with DTC HD H.264 and Anton Bauer
SapphireTXDA-550600	5.5 to 6GHz TX with DTC HD H.264 and Anton Bauer

Note: Other frequencies available on request