



#### FEATURES

- High quality HEVC codec
- Low Latency (60ms 'glass to glass') for live applications
- Transmission of true 4K UHD signals with HDR
- Transmission of 4x simultaneous 1080p50/59 HD
- IP and DVB-ASI in/out
- Camera back clip on chassis format

#### APPLICATIONS

- Multi-camera on-boards in high quality
- Ariel Relay
- Super Slo-Mo
- Low Delay 4K Wireless

## Sapphire HEVC Camera Back

Sapphire HEVC is a broadcast quality HEVC codec system. Offering exceptional compression ratios on video resolutions up to 4K UHD. The Sapphire HEVC Camera Back allows existing wireless camera back systems to be conveniently upgraded to HEVC and 4K.

HEVC compression offers significant bitrate savings over traditional H.264 solutions, this saves broadcasters money on storage and contribution bandwidth. HEVC also supports the new 4K UHD formats required for contribution. The additional efficiency of HEVC makes wireless transmission of 4K possible. Broadcasters need a simple and reliable HEVC codec to move their contribution systems forward, the Sapphire Codec from BWS is the ideal solution.

Latency is critical in many broadcast applications and the Sapphire Codec is built to minimise latency without compromising quality. The 60ms end to end latency (70ms in 4K) makes the Sapphire solution suitable for all live events,

The Sapphire Codec system compresses a single 4K UHD input or up to 4 HD inputs in one unit. Each input can support 2 stereo pairs of embedded audio. Compressed streams are available as IP or on DVB\_ASI for interoperability.

The cameraback unit is supplied with a bracket to mount your existing COFDM transmitters - enabling users to convert even legacy SD systems into HEVC/4K operation!

**Connectors**

HDSI 3G 1-4	DIN 1.0/2.3 Female 75 ohm
ASI	BNC Female 75 ohm
Network	RJ45
Audio	Hirose 6 Way Female
DC In	Hirose HR10 Male

**Video Encoder / Decoder**

Profiles	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
	SD 4.2.2/4.2.0 480i / 29.97 576i / 25
Legacy encoding modes	H.264

**Latency**

Encoder + Decoder	60ms (70ms in 4K mode)
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**Audio Encoder / Decoder**

Format	Embedded
Encoder	MPEG-1 Layer2, AAC-LC, Linear PCM
Quantity	4 pairs (8 pair if MPEG or Linear PCM)

**Analogue Audio**

Format	2 pairs line / mic level
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**Stream Inputs / Outputs**

DVB_ASI	Transport stream to 100Mb/s
IP Interface	10/100/1000 base-T
IP Stream Format	Unicast / Multicast / RTSP (to 30Mb/s)

**HDR/WGC**

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

Display	Hi-brightness OLED
4x LED	Video Input Active

**Control**

Local	Joystick and menu screen
Remote	IP web-browser Control RS232 (module only)

**Dimensions**

Size (WxDxH)	164 x 118 x 62mm
Weight	700g
Mounting	Screw fixings for battery plate

**Power**

DC In:	9 – 18V 18W typical @ 4K encoding
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**Product Codes**

SAPPH-E-CB	L1500 Base Unit, HEVC HD and Low Latency
LIC-4K	Software License for 4K
LIC-QUAD	Software license for Quad Mode
LIC-PSF	Software License for PSF

**Kit Contents**

SAPPH-E-CB	Camera Back Base Unit
DIN to BNC Cable	
DTap Power Cable	
Audio In Cable	

