FEATURES

High quality HEVC encoder with COFDM transmitter

Record and Playback facility to mass storage USB device

Low Latency (<40ms 'glass to glass') for live applications

Optional CyanView operator camera control

Transmission of 4K or 4x simultaneous 1080p50/59 HD

COFDM or DVB-ASI out

Built in microphone to capture vehicle audio

Rugged Chassis suitable for motorsport and mobile applications

Motorsport

Mobile Applications

Sapphire-TXRPM HEVC Transmitter Record & Playback Module

Sapphire-TXRPM is a HEVC encoder with COFDM transmitter specifically designed for motorsport and mobile applications. The Sapphire-TXRPM offers ultra low latency HEVC encoding and transmission of a single 4K image, or can synchronise and encode images from four separate HD cameras simultaneously.

As well as live transmission the Sapphire-TXRPM records to solid state medium and offers real time over air playback. All these features packed into a compact rugged chassis, make the Sapphire-RPM the ideal choice for operators not wishing to miss a moment of the action.

Containing a 4K HEVC encoder the Sapphire-RPM offers exceptional compression ratios on video resolutions up to 4K UHD. The Sapphire Codec system compresses a single 4K UHD input or up to 4 HD inputs in one unit. This allows multiple camera angles such as Front, Rear, Driver and Instruments to be transmitted simultaneously or individually with a seamless switching mechanism built in.

Recording employs a USB mass storage device and recording times of 12 hours are typical. Users can initiate over air playback of pre-recorded material enabling exiting scenes that may have been missed live to be recalled instantly. 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 optional built in CyanView camera control module, allows the four cameras to be controlled remotely by the operator for colour balancing, gain and black level control.

Latency is critical in many broadcast applications and the Sapphire Codec is built to minimise latency without compromising quality. The <40mS end to end latency makes the Sapphire solution suitable for all live events,

The rugged design of the Sapphire-TXRM make it ideal for physically demanding applications such as motorsport. The built in 100mW COFDM transmitter can operate in DVBT mode or UVML (ideal for high speed applications).

DOMO BROADCAST SYSTEMS

For the moments that matter

Connectors

HDSDI 3G 1-4	DIN 1.0/2.3 75 ohm
ASI Out	DIN 1.0/2.3 75 ohm
RF Out	SMA Female
Data	Binder 3 pin Male
USB	Lemo OB 5 pin Female
Audio	Lemo OB 6 pin Female
DC In	Lemo OB 42 pin Female
Camera	Control 4 × 7pin Lemo OB Female
Ethernet	Binder 4 pin Male

RF Out

Frequency Bands	2-2.7GHz, 3-3.5GHz, 5.5-6GHz (others on request)
Tuning Step	Size 250kHz
O/P Power	100mW
Modulation	DVBT 8MHz, 7MHz and 6MHz or UVML 8MHz
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

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	<40ms

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
Built in Microphone	Omni-Directional 6mm, 100 ¨ 16000 Hz-40dB

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)

Indicators

Power	LED Green

HDR/WGC

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

Record / Playback

Recording Media	Generic Mass-Storage USB device
Interface	USB 2.0
Max Recording	Time Depends on bitrate and device size, typical 12 hours
Playback	granularity 1 minute

Control

Remote	IP web-browser Control RS232 to initiate Recording and Playback

Dimensions

Size (WxDxH)	175 × 174 × 60mm
Weight	1Kg
Mounting	Strap down recess, locating lugs

Power

DC In:	9 – 18V
	25W typical @ 4K encoding

Product Code

RPMTX-200270	TXPRM 2-2.7GHz
RPMTX-300370	TXPRM 3-3.7GHz