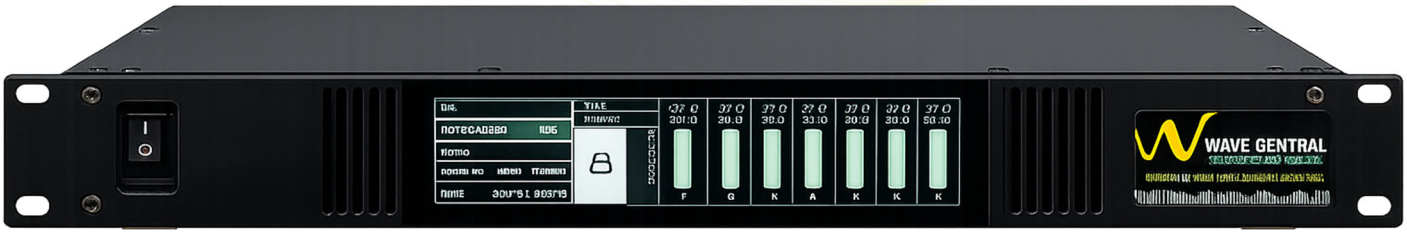
SAPPHIRE

RXD5

COFDM 8/16-Way Diversity HEVC Receiver



Sapphire-RXD5 is a broadcast-quality receiver decoding system, combining class-leading RF technology with ultra-low-latency H.264 and HEVC decoding, presented in a compact 1U 19" chassis.

The Sapphire-RXD5 combines an 8-way (optional 16-way) diversity COFDM receiver and DBS' Sapphire ultra-low-latency decoder in a single 1RU 19" package, offering end-to-end latency of less than 40mS which makes it ideal for live action scenarios.

Eight-way (optional 16-way) MRC diversity inputs ensure reception in the most difficult RF environments with configurable LO frequencies and variable power to ensure support for a variety of external downconverters.

The HEVC decoder license enables support for resolutions up to 4K in 10 bit 4:2:2 formats with full support for HDR reinsertion. Video interfaces are 12G capable. A monitoring port is available on a SFP module which can be downsampled to HD in the case of a 4K signal.

The Sapphire-RXD5 will decode up to eight stereo pairs and output them embedded on SDI. One pair of analogue audio outputs is available on a 2-pin XLR connector.

The Sapphire-RXD5 has a web-browser control interface for remote control. Local control is achieved with a touch screen interface offering immediate status on transmitter performance and receiver status.

The Sapphire-RXD5 enables onward streaming video and audio. It supports multiple streaming formats including ST2022-7 redundant streaming and SRT. Timecode and HDR signaling are fully supported. The Sapphire-RXD5 can support ST2110 interfaces for users requiring high-rate video over IP networks using the SFP interface provided.

LIVE APPLICATIONS

- **Live sports coverage**
- **Events and entertainment**
- **Remote production**
- **Live production houses**

KEY FEATURES

- **8/16-way diversity receive antennas**
- **Optional HEVC 4K UHD processing**
- **Support for HD HDR and Timecode (film industry) signal insertion**
- **Touch screen control**
- **Web browser control**
- **ST2022-7 redundant streaming**
- **ST 2110 high-rate video over IP interface via SFP**

CONNECTORS

12G/HDSDI Output	4 x micro-BNC Female 75 Ω
SFP	1 x SFP Interface
ASI Out	BNC Female
Genlock In	BNC Female
RF Input	8 x BNC Female 16 x BNC Female Optional
Audio Out	2 x 5-pin Lemo
Control	RJ45
Stream	2 x RJ45
Data	Hirose
Power In	4-pin XLR

RF

UHF Input	8 or 16 Inputs Maximum Ratio Combining

DVB-T DEMODULATION

Bandwidth	Dual Pedestal 5/6/7/8 MHz
Guard Interval	1/32, 1/16, 1/8, 1/4
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Constellation	QPSK, 16 QAM, 64 QAM

UMVL DEMODULATION

Bandwidth	5/6/7/8MHZ
Guard Interval	1/16, 1/8
FEC	1/3, 1/2
Modulation	BPSK, QPSK, 16QAM, 64QAM

VIDEO

Compression	HEVC and H.264
Video Formats HEVC	4:2:2/4:2:0, 8/10-bit 2160p 23.98/24/25/29.97/30/50/59.94/60 1080p 60/59.94/50Hz 1080i 59.94/50Hz 1080p 30/29.97/25/24/23.97Hz 1080psf 30/29.97/25/24/23.97Hz 720p 60/59.94/50
Video Formats H.264	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

Supports	Rec. ITU-R BT.2100-2 (PQ/HLG) Rec. ITU-R BT.2020

DVB ASI

Transport stream to 100Mb/s

AUDIO

SDI Embedded	8 Pairs
Analog	1 Pair, Line Level (+18/+24 dBu)
Compression Type	MPEG 1 Layer 1 MPEG 1 Layer 2 Linear PCM

MONITOR

SFP	MSA or non-MSA modules 12G-SDI secondary output for monitoring including down sampling to HD

IP STREAMING

Formats	Unicast / Multicast / UDP / RTP / SRT
Bitrate	50Mbps Maximum

GENLOCK

Tri Level / Black Burst

CONTROL

Local	Front Panel OLED, Push Buttons
Remote	Web GUI, IP RJ45

PHYSICAL

Size	19”1RU
Weight	8.8lbs, 4kg
Cooling	Forced Air Front to Rear

POWER

DC Input	12VDC
Power Consumption	50 – 80W BDC Number Dependent

ENVIRONMENT

Temperature Range	14 - 122° Fahrenheit, -10 - 50° Celsius

PRODUCT CODES

RXD5-2	Sapphire RXD5 H.264 HD decoder, 2-way diversity
RXD5-4	Sapphire RXD5 H.264 HD decoder, 4-way diversity
RXD5-6	Sapphire RXD5 H.264 HD decoder, 6-way diversity
RXD5-8	Sapphire RXD5 H.264 HD decoder, 8-way diversity
RXD5-DEMOD-8	Sapphire RXD5 1RU Full-width Demodulator 8-way inc. Dual Pedestal, Demod 1

OPTIONS	
LIC-RXD5-HEVC	Add HEVC Decoding
LIC-RXD5-4K	Add 4K Decoding
LIC-RXD5-ST2022-7	ST2022-7 Redundant Streaming
LIC-RXD5-BISS2	BISS 2 Encryption / Decryption for Streaming / Decoding
LIC-RXD5-PACDIV	Add ASI Packet Diversity
LIC-RXD5-INTERL	Deep time interleaving demodulation
LIC-RXD5-4WAY-DIV	Upgrade 2 Way to 4 Way RF Diversity
LIC-RXD5-6WAY-DIV	Upgrade 4 Way to 6 Way RF Diversity
LIC-RXD5-8WAY-DIV	Upgrade 6 Way to 8 Way RF Diversity
RXD5-16-UP	Sapphire RXD5 upgrade from 8-way to 16-way diversity (hardware)
RXD5-ST2110-10G-SFP	SFP module video over IP ST2110-10G HD only
HWOPT-25G	Dual ST2110-25G video over IP Output
LIC-RXD5-DEMOD2	Add demodulator 2
LIC-RXD5-DEMOD3	Add demodulator 3
LIC-RXD5-DEMOD4	Add demodulator 4
CA4097	Bi-Directional Camera control return cable Single channel
CA4098	Bi-Directional Camera control return cable Four channel



RXD5 Rear Connector View