



FEATURES

- 1080p 50/60 capable out of the box
- 10-bit, 4:2:2 at all resolutions and frame rates
- Ultra-low delay H.264 decoder <1 frame end to end with BSI's Real Freedom Camera Back Transmitter
- DVB-T2 demodulation
- 4 or 8 RF inputs
- 5-inch front panel LCD for video preview and control
- Record and playback from USB stick, stream video over Ethernet
- Over-the-air remote control and configuration of transmitters
- Built in CCU capability with support for Sony, Grass Valley/Thomson, Panasonic, Ikegami, and Hitachi RCPs
- Dual receive and decode for 3D or twin camera operation

General Description

The Real Freedom Receiver, which forms the heart of the system, is a next generation Integrated Receiver Decoder (IRD) comprising up to eight UHF inputs, DVB-T and T2 demodulators, and both MPEG-2 and H.264 video decoders. The UHF inputs can be connected to a variety of Real Freedom Downconverters, providing wireless receive in a selection of frequency bands. The internal video decoders provide ultra-low latency performance and when used in conjunction with a Real Freedom Transmitter, can achieve one frame end to end delay or two frames when using receiver frame sync.

Eight RF inputs allow for diversity reception from four independent locations and decoding of a single video stream. The receiver also supports demodulation of dual pedestal RF signals, either as a single or dual video stream. In dual stream mode, you can select which stream is presented to the decoder, while the other stream can be passed to the ASI output for decoding elsewhere.

Designed with the hire customer in mind, the receiver features a simple interface with easy adjustment of the main system parameters. A 5-inch color panel displays the video and shows a Connection Map, audio peak meters and other key parameters when required. An integrated camera control feature allows you to configure the data transmitters and fine-tune the image remotely without using any additional cables.

Unique to the industry, the receiver also includes full camera control capability out of the box. A third-party camera Operator Control Panel/Remote Control Panel (OCP/RCP) can be connected to the receiver over Ethernet. Connecting a Real Freedom Data Transmitter to one of the system's downconverters provides a UHF back channel to the mobile camera and provides full remote control of the camera transmitter and the camera paint functions.

As the manufacturing source, experienced engineers and field technicians are available to quote you on the product needs. You'll find the best prices as all our Real Freedom products are manufactured in house.

For further details and pricing, contact the Broadcast Sports International representative in your region. For more information about the Real Freedom Receiver, see <https://www.bsintl.com/>.

Demodulation

Scheme	DVB-T2, DVB-T
Carriers	1K, 2K, 4K, 8K
Modes	QPSK, 16-QAM, 64-QAM, 256-QAM
Bandwidth	1.7, 5, 6, 7, 8, 10 MHz
Dual Pedestal	3.4, 10, 12, 14, 16, 20 MHz
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval	1/128, 1/32, 1/16, 1/8, 1/4

RF Inputs

Inputs*	2, 4 or 8
Impedance	75 Ohm
Tuning Range	50 – 850 MHz
Tuning Step	250 KHz
Connector	BNC (F)
Downconverter	External (various bands) *Optional (8 allows dual receive capability)

Control

Local Control	Color LCD & keypad
Remote Control	Built-in HTTP web server USB (wired configuration connects to Tx) Bi-directional comms (RF I/Ps)
Connectors	RJ45 (1000 BaseT), USB type A, BNC (F)

Camera Control (with optional Data Tx)

OCP Support	Sony HD & 3D Panasonic HD & 3D LDK, Ikegami, Hitachi
RCPs/Receiver	2 (maximum)
Networked RCPs	6 (maximum per single channel Data Tx)
Connector	RJ45 (1000 BaseT)
Tallys / Receiver	2 wet, 2 dry
Connector	9-way D-Type (F)

Framelock

Type	Black & Burst
Connector	BNC (F) x1 (Single Frame Lock all video Outputs)

Physical

Size (WxHxD)	(8.27 x 3.46 x 13.39) in
(1/2 width 2RU)	(210 x 88 x 340) mm
Weight	8.16 lb. / 3.7 kg

Environmental

Temperature	14° to 140°F /-10° to +60°C
Humidity	95% non-condensing

Video Decompression

Standards	Dual H.264 or dual MPEG-2 decoders
Profile	H.264 Hi422P & MPEG-2 high profile (HP)
Resolution	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
Frame Rates	23.976/24/29.97/30/50/59.94/60 Hz
Latency	<1 frame end to end
Chroma	4:2:0/4:2:2
Sample Depth	8- or 10-bit

Video Outputs

Outputs	4 x SDI, 1 x ASI (overlay switchable on 2)
Format (auto-select)	SD-SDI (SMPTE -259M) HD-SDI (SMPTE-292M) 3G-SDI (SMPTE-424M) 3D (dual SDI), ASI
Connectors	BNC (F) x 5 - 75 Ohm

IP Video - Inputs / Outputs / Save to File / ASI In

Format	ASI, ASI over IP, IP Diversity*
Connectors	RJ45, USB (read to/from File) BNC (F) *Optional

Audio Outputs

Analog Out	2 channels
Format	Line level, balanced
Connectors	XLR3 (M) x 2
AES Out	8 channels
Format	Balanced and unbalanced
Connector	XLR3 (M), BNC (F)
Embedded Out	8 Channels
Format	SDI embedded audio
Connector	BNC (F)

Audio Decompression

Standard	LPCM, MPEG-2 layer I & II Dolby AC3 (optional)
Audio Channels	8 maximum divided among all Inputs

Power Supply

AC Supply	90-264 VAC, 47-63Hz
Connector	IEC 60320, C14
DC Supply	10-36 V DC
Connector	XLR-4 (M)

NOTE: Specifications are subject to change without notice.