

## FEATURES

- 4K UHD encoder
- High quality HEVC codec
- DVB-T2 modulation\*
- Record / playback from USB stick\*
- Streaming video over Ethernet\*
- User Swappable RF Modules:
  - 1GHz
  - 2GHz
  - 3GHz
  - 5.5-7.5GHz
  - Ultra-Wideband

## General Description

The Real Freedom 4K Camera Back Transmitter is a compact wireless transmitter is equipped with a full range of customizable settings that can be easily adjusted through a user-friendly interface. It is designed with the most demanding applications and operating environments in mind, but its intuitive interface can be operated by a novice, making it an ideal solution for a variety of applications.

With the ability to receive and send UHD images over a low delay UHD wireless link, the Real Freedom 4K Camera Back Transmitter avoids the need to capture images at the 1080p/50/3G standard, and then upscale to UHD.

Providing 12G, dual 6G UHD as well as quad 3G inputs, the Real Freedom 4K Camera Back Transmitter consistently delivers low latency, high-quality images. Supporting both HEVC and H.264, the unit mounts easily on the back of most hand-held broadcast cameras. HEVC compression offers significant bitrate savings and supports the new 4K UHD formats.

The Real Freedom 4K Camera Back Transmitter's user swappable modules enable total flexibility across the full range of microwave frequency bands. The device's user selectable output power and DVB-T/DVB-T2 modulation scheme ensure robust and reliable signals regardless of the production environment.

The transmitter comes equipped with a built-in camera control module which makes the unit capable of wireless Camera Control Unit (CCU) functionality when paired with the Real Freedom Receiver's optional UHF data module. With the CCU functionality built into the transmitter, the unit is more streamlined and easier to deploy.

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

For further details and pricing, contact the Broadcast Sports International representative in your region. For more information about the Real Freedom 4K Camera Back Transmitter, see <https://www.bsintl.com/>.

# TECHNICAL SPECIFICATIONS | Real Freedom 4K Camera Back Transmitter

## Video Compression

Standard	HEVC, H.264
Profile	High 4:2:2 Profile (Hi422P*)
Resolution	720p, 1080i, 1080p, 1080p(3G), 2160p
Frame Rates	23.976/24/25/29.97/30/50/59.94/60Hz
Chroma	4:2:0/4:2:2
Sample Depth	8-bit, 10-bit
Connectors	BNC (F)

## Video Outputs/Save to File

Format	ASI/ASI over IP*
Connectors	BNC (F), RJ45, USB (save to file)

## Audio Inputs

Digital Inputs	8 Channel Embedded SDI
Analog Inputs	2 (with Phantom Power)
Connector	2 x XLR-3 (M), BNC (F) or optional LEMO

## RF Output

Output Power	10-250mW* (Selectable) *100mW ETSI, 250mW FCC
Connector	N (F)
HPA Power	Built-in Bias T/Phantom Power to power External Booster Amps
Additional Features	RF Predistortion (band specific) *, Dynamic RF Level Control*

## Frequency Band

Band Options*	1050 MHz to 1525 MHz, 2000 MHz to 2700 MHz
*User swappable options,	3200 MHz to 3900 MHz, 5500 MHz to 7500 MHz
Additional bands available upon request	
Tuning Step	250 KHz

## Modulation

Scheme	DVB-T2*, DVB-T
*Licensable Option(s)	
Carriers	1K, 2K, 4K, 8K
Modes	QPSK, 16-QAM, 64-QAM, Rotated QPSK, Rotated 16-QAM, Rotated 64-QAM
Bandwidth Rates	5, 6, 7, 8 MHz (Single Pedestal) 1.7, 5, 6, 7, 8, 10MHz (Dual Pedestal)
Interleaving	DVB-T2 Standard – Part Compliant
FEC	1/2, 2/3, 3/4, 4/5, 5/6
Guard Interval	1/32, 1/16, 1/8, 1/4

## Video

Size (WxHxD)	(3.93 x 5.82 x 1.9) in (100 x 148 x 48.38) mm
Weight	2.75 lb. / 1.251 Kg
Weather Proofing	Fully sealed

## Camera Control

Type	Built in UHF Data Receiver
Frequency Band	410-490 MHz
Bandwidth	12.5kHz
Step Size	6.25 & 10kHz
Input/Output	Remote Paint & Tally of connected camera
Connectors	LEMO 5 pin 0B HGG.0B.305
Camera Support	Sony, BSI POV, Ikegami, & Grass Valley

## Audio Compression

Standard	PCM, MPEG-1, Layer I & II, Dolby AC3 (optional)
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## Video Input

Format	SD-SDI (SMPTE-259M)
(Auto-select)	HD-SDI (SMPTE-292M)
	3G-SDI (SMPTE-424M)
	ASI

## Control

Local Control	Color LCD & keypad
Remote Control	Via UHF Data Receiver Built-in HTTP Web Server
Connectors	RJ45, USB type A

## Additional Features

Type	Serial I/O & Steadicam Tally
Connector	LEMO 0B 6-pin HGG.0B.306

## Environmental

Temperature	-20 °C to +55 °C
Humidity	95% Non-Condensing

## Compliance

Radio (RF/UHF)	EN302064, EN300113
EMC	EN301489

## Power Requirements

Supply	9-18 VDC, 43 W
Connector	LEMO 0B 2 pin HGG.0B.302

### NOTE:

*\*Future Upgrade Options.*

*Specifications are subject to change without notice.*