

VETA Transmitter – 2 Watts (VT-2W)

COBHAM

The most important thing we build is trust.

Applications

- High-Security Surveillance Applications
- Helicopter links
- UAV/UGV Applications
- Mobile and Portable AV Applications

Key System Features

- COFDM Modulation: 2K or 400 (optional) Carriers
- Bandwidths: 6 MHz, 7 MHz or 8 MHz (1.25 & 2.5MHz optional)
- Output Frequency: 0.34 to 7.2 GHz (In-Bands)
- Output Power: Programmable up to 2 W (Up to 10W with external PA)
- Built-in MPEG-2/ MPEG-4 Optional
- Low End to End System Latency (~44 mS)*
- Rugged Compact Design: 2.8" X 3.1" X 1.1"
- Local Control Interface
- Secure – AES with Seed Code



GMS' Very Efficient Transmissions Apparatus (VETA) product line provides several key features that enable high quality and low latency wireless Audio//Video (A/V) transmission for the most demanding short or long distance point to point or point to multipoint transmission applications. VETA uses a robust digital modulation system known as Coded Orthogonal Frequency Division Multiplexed (COFDM) that provides a robust link that is immune to multi-path interference and provides crisp clear pictures in the most difficult terrains!

The VETA product line supports the standard DVD-T 2K carriers with bandwidths of 6, 7, or 8 MHz. Additionally an optional 1.25 or 2.5 MHz RF bandwidth with 400 carriers may be user selected that allow a large quantity of simultaneous A/V links to operate in the same frequency band.

One of the biggest problems encountered in the transition from analog to digital A/V systems has been the inherent digital coding/decoding delays that in some digital systems are 400 ms or more. The VETA Transmitters & Receivers employ internal MPEG-2 or MPEG-4 (user selectable) Encoder

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and Decoders with specially designed “low-delay” coding technology, which provides an end to end latency of approximately 44 ms without the introduction of any further MPEG encoding artifacts. This ensures that the picture you see is what is happening now – crucial for applications such as sports coverage, surveillance, and law enforcement, where personnel are reacting to real-time events.

The VT-2W is a VETA Transmitter that has been designed to have a low profile and a rugged housing that can survive the harshest field environment. The VT-2W includes a simple control panel that allows the selection of up to 8 set-up (frequency & modulation) configurations, Encryption, Enable/Disable and 4 power modes. Status indicators are provided for the presence of input Video and RF output. Companion compact Power Amplifiers are also available to boost the output power of the VT-2W up to 10 W!

The VT-2W accepts a composite or S-Video input, analog stereo audio inputs and a RS232 user data input. The video is compressed according to MPEG-2 or MPEG-4 specifications. The audio is sampled and compressed. The audio, video and data package streams are multiplexed with basic service data to indicate the service name. The stream can be scrambled with AES scrambling system to give basic protection in sensitive applications. The transport stream is sent for FEC pre-processing and COFDM modulation. The modulated signal is amplified and output through a SMA-F connector.

Specifications:

Video Encoding

Video Input: Composite or S-Video
Standards: NTSC or PAL
Connector: Lemo 5 Pin 0B, 75 Ω input impedance
Compression Standard: MPEG-2 or MPEG-4
Chrominance Profile: 4:2:0
Line Standard: 525 and 625
Horizontal Resolution: 704, 528, 480 and 352 pixels
Vertical Resolution: 576(625 line) and 480(525 line)
Systems Latency end to end delay: ~44 ms*
Video Frequency Response: 10 Hz to 4 MHz +/- 1.0 dB

Audio Encoding

Analogue Audio Inputs:
Dual, Line Level or Mic Level, Single Ended, Clip Level 12 dBm
(Mic connection via breakout cable)
Bits Per Sample: 12 or 8
Sampling Frequency: 32 KHz, 16 KHz or 8 KHz
Audio Frequency Response: 20Hz to 15 KHz +/- 1.0 dB
Mic Bias: 2 V

RS232 Data Input

Baud Rate: Up to 115 Kbaud.

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Security Option

ABS is standard. The VT-2W can optionally be provided with Advanced Encryption System (AES) 128/256 for protecting the signal in sensitive applications.

COFDM RF Output

Output Frequency: 0.34 to 7.2 GHz (In-Bands)
Bandwidth: Selectable 6, 7, 8 MHz (1.25 & 2.5 MHz Optional)
RF Output Power: Programmable up to 2 W
(Optional PA boosts PWR up to 10 W)
Connector: SMA-F
Frequency Stability: 10ppm, -10° C to +70° C
Output Impedance: 50 Ω, unconditionally stable, open & short circuit protected

Modulation

Modulation Type: C-OFDM 2K: QPSK, 16-QAM
FEC: 1/2, 2/3, 3/4, 5/6
Guard Intervals: 1/32, 1/16, 1/8, 1/4
Optional Narrow Band (1.25 & 2.5 MHz BW)
Modulation Type: COFDM 400: QPSK, 16-QAM
FEC: 1/3, 2/3,
Guard Intervals: 1/16, 1/8

Physical

Dimensions: 2.8" wide x 3.1" long x 1.1" high
7.1 cm wide x 7.9 cm long x 2.8 cm high
Weight: 0.5 lbs
227 grams

Environmental

Operational Temperature: -20°C to 70 °C
Humidity: Up to 95% non-condensing

DC Power

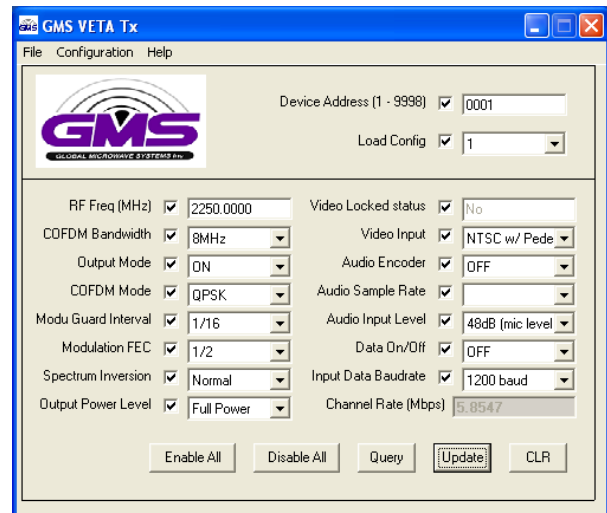
DC Voltage Range: 9 -32 V
Reverse Polarity Protection up to 30 V
Power Consumption: Depends on Output Power
15.6 W @ 2 W output
12 W @ 1 W output
9.8 W @ 200 mW output
Connector: Lemo 4 Pin 0B

Control

Local – Easy to use local control and status panel allows up to 8 user-defined operating modes covering most programmable parameters including center frequency, 4 RF power settings, Encryption ON/OFF, status of Video in and Output Power Level.

Remote (User Interface) – VT-2W can be controlled through its RS-232 control port via an optional MS Windows-based control application.

Connector: Hirose 16 Pin, HRS



* Only when using VETA RXs