

Digital IEM Transmitter with Encryption

M2T-X Dante

M2T-X/E01 Dante

M2T-X/E02

M2T-X Non Dante

M2T-X/E01 Non Dante

M2T-X/E06



The special firmware version M2T-X provides AES 256 bit encryption. When transmitting audio, there are situations where privacy is essential, such as during professional sporting events, in court rooms or private meetings. High entropy encryption keys are first created by the M2T-X Transmitter. The key is then synced with an encryption capable receiver via the IR port. The audio will be encrypted and can only be decoded and heard if both the transmitter and the receiver have the matching key.

The M2T Digital Half-Rack Transmitter with analog and digital Dante™ (optional) network audio inputs presents an excellent sounding IEM system with a unique level of performance in a wireless in-ear monitor system. With ultra-low latency, digital RF modulation and two stereo digital channels, the M2T provides a truly unique IEM product for demanding, professional applications.

The M2T boasts a USB port for firmware updates and an IR port for fast setup. A large, high resolution, backlit LCD and large membrane switches provide an intuitive interface that is highly visible in daylight or dimly lit conditions.

The half-rack transmitter provides four audio inputs which can be individually configured to be analog or Dante compatible. The input connectors are full size XLR/TRS combo types for balanced line level analog signals. Input preamp circuits use a special balanced amplifier with very high common mode rejection to minimize hum and noise. Analog signals are converted to an internal digital format which is then encoded, encrypted, organized into packets, and passed to an RF modulator. The modulated RF signal is filtered before and after amplification to suppress out-of-band noise and spurious signals.

- IEM (Wireless Monitor) with digital RF transmission
- 2 independent stereo audio transmissions per 1/2 RU enclosure
- 256-bit encryption - AES 256-CTR
- USB port for firmware updates
- Fully Dante™ compatible (optional)
- IR (infrared) port for fast setup
- Up to 50 mW per RF carrier
- Solid machined aluminum housing
- Compatible with Wireless Designer™ Software

Conventional in-ear wireless monitor systems rely on decades-old technology: FM transmission with multiplexed, companded audio. The M2T Transmitter employs unique technology to provide ruler-flat frequency response and maximum channel separation. In addition, the digital audio eliminates a compandor and the associated artifacts. The result is crystal clear sound, rock solid stereo imaging, and extremely low distortion of <0.15%.

The M2T is designed and developed with the professional touring, installation, theater and broadcast customers in mind. The transmitter chassis is all-metal. The front panel is an aluminum extrusion with a durable powder coat finish.

*M2T-X is a firmware option for the M2T allowing encryption and removing the flexlist feature.



The M2T half-rack transmitter features transmission power of up to 50 mW for extended operating range. Locking XLR/TRS Combo connectors facilitate up to four channels of analog audio sources to be applied to the transmitter. A large, high resolution, backlit LCD and large membrane switches provide an intuitive interface.

Firmware updates are made via the USB port on the front panel of the housing. The procedure is very simple using a menu item on the transmitter and a standard micro USB cable connected to a PC.

Setup and adjustment are enabled through a backlit LCD, membrane switches and an intuitive menu structure. Input gain is adjustable over a wide range in 1 dB steps to optimize modulation and limiting for maximum signal to noise ratio and minimum distortion.

Summary of Dante Benefits

- Plug-and-play technology – automatic discovery and simple signal routing
- Reduced Cost & Complexity- No special skills required to set up audio networking
- Sample accurate playback synchronization
- Lowest latency available from any networking technology
- Add/remove/rearrange components at will
- Deterministic latency throughout the network
- Support mixed bit depths and mixed sample rates over one network
- Scalable, flexible network topology supporting a large number of senders and receivers
- Supports 1Gbps networks
- Supports a single integrated network for audio, video, control, monitoring
- Uses inexpensive, off-the-shelf computer networking equipment

Specifications

RF Power Output:

- Two carriers; two audio channels each
- M2T, M2T/E02: Power adjustable on each carrier to 10, 25 or 50 mW
- M2T/E06: Power adjustable on each carrier to 20, 50 or 100 mW EIRP

Antenna Output:

2 x BNC sockets

Operating Frequencies:

M2T: 470.100 – 607.975 MHz
 M2T/E01: 470.10 – 614.375 MHz
 M2T/E02: 470.150 – 614.375 MHz
 M2T/E06: 520.000 – 614.375 MHz

NOTE: It's the user's responsibility to select the approved frequencies for the region where the transmitter is operating

Frequency Selection

Steps: 25 kHz

Frequency Stability: $\pm 0.002\%$

Modulation: 8 PSK

Emission Designator: 200KG7E

Spurious Radiation: Compliant with ETSI EN 300 422-1

Encryption: AES 256-CTR (per FIPS 197 and FIPS 140-2)

Equivalent input Noise: -128 dBV

Latency: (overall system)

Digital Source: 1.0 ms plus Dante network (on Dante unit)

Analog Source: <1.4 ms

Audio Frequency Response: 10 Hz – 11.5 kHz, -1 dB

Audio Input: -10 dBV or +4 dBu settings w/ ± 5 dB trim

Audio Input Jack: 4 x combo XLR/TRS connectors

Input impedance: Line: 2k Ohm

Dante Connection: 2 x RJ45, 4 audio RX channels, internally routable

Ethernet Connection: RJ45

USB Connection: Micro USB on front panel for firmware updates

IRDA: IR transceiver for sync of receivers

Headphone jack: 3.5 mm stereo jack

Power Requirements: 9-18 VDC

Power Consumption: 5 Watts

Weight: 2.2 lbs (997.903 grams)

Dimensions: Height: 1.750 in. / 44.45 mm

Width: 8.375 in. / 212.7 mm

Depth: 7.750 in. / 196.8 mm

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Specifications subject to change without notice.



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