

Digital Wireless System

- 48 kHz, 24-bit audio
- 2 or 4 channel operation
- DTV-free unlicensed ISM band 902-928 MHz
- Digital or analog inputs
- Digital or analog outputs
- Extended operating range
- Channel pairing for stereo monitoring
- Powered by 9 to 16 VDC



The D4 digital wireless system was designed as a special purpose system for location production in film and television.

A typical application for this system is in television production as part of what is commonly called a “bag system.” A portable mixer and several wireless microphone receivers are carried in an over-shoulder carrying case. The D4T transmitter is connected to the outputs of the mixer to transmit up to four audio channels to one or more D4R receivers mounted on video cameras.

The system is designed for line level analog audio signals and AES/EBU digital audio signals with options that provide:

- Digital in/Digital out
- Digital in/Analog out
- Analog in/Digital out
- Analog in/Analog out

The system can be configured to provide either 2 or 4 audio channels. In the 4-channel mode, four different bands may be selected as shown below. Each frequency

carries four audio channels, digitally multiplexed on a common carrier. In the 2-channel mode, eight different frequencies are available as shown below, each with two audio channels.

Multiple D4 systems can be operated in the same location to provide up to 16 audio channels.

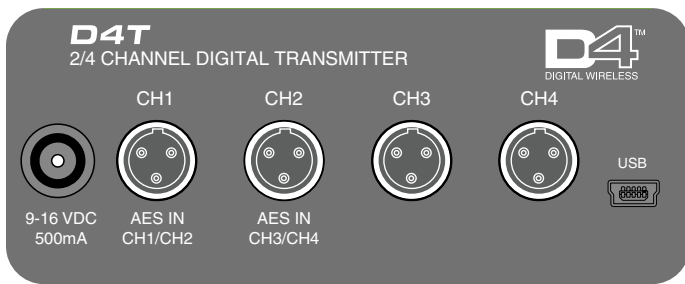
← 902 to 928 MHz Band →

4-CH	907.776		912.384		916.992		923.904	
2-CH	906.324	908.928	911.232	913.536	915.940	918.144	922.752	925.056

Center frequencies of the RF channels

The audio quality is suitable for any professional application in film, television and live sound. 48 kHz/24-bit audio, ruler-flat 20-20000 Hz frequency response, ultra-low distortion and high dynamic range assure excellent audio quality.

Housings and panels are machined aluminum with electrostatic powder coated and anodized finishes and laser etched marking for durability.



D4T Rear Panel



D4R Rear Panel

Mixed Modes

The analog and digital input and output modes on the transmitter and receiver do not have to be identical. For example, analog signals can be fed into the transmitter from a mixer or wireless mic receivers, transmitted to the D4 receiver, which can be configured for four digital outputs to feed a digital recorder. The digital outputs of the receiver will always be 48 kHz/24-bit audio, regardless of the sampling rate of any digital signal fed into the transmitter.

LCD Interface

Setup is quick and simple with the LCD interface, as shown in this example of a typical setup screen:



During operation, levels are indicated for all active channels as shown in the receiver main window:



Inputs and Outputs

The rear panels provide AES/EBU digital and balanced analog audio inputs and outputs, a threaded locking power jack and a USB port, which is used for firmware updates. AES/EBU digital inputs and outputs are connected to the CH1 and CH2 jacks since each connection provides two audio channels. Analog signals are connected to all four jacks with one balanced audio channel per jack.

Specifications

Overall System

Operating Spectrum:	902 - 928 MHz
Center Frequencies (MHz): 4-channel Mode:	907.776, 912.387, 916.992, 923.904 Four 4-channel systems can operate simultaneously for a total of 16 audio channels.
Center Frequencies (MHz): 2-channel Mode:	906.624, 908.928, 911.232, 913.536, 915.840, 918.144, 922.752, 925.056 Eight 2-channel systems can operate simultaneously for a total of 16 audio channels
Modulation Type:	Differential QPSK with Forward Error Correction, spread spectrum
Occupied Bandwidth:	4 MHz (4-channel mode), 2 MHz (2-channel mode)
Audio Sampling:	48 kHz, 24-bit
Latency (overall system): Digital In/Digital Out: Analog In/Analog Out:	Less than 1 mS 2.2 mS
Selectable Audio Channels:	<ul style="list-style-type: none"> • 4 digital • 2 digital, 2 analog • 4 analog
Audio Performance (overall system): Frequency Response: THD+N: Dynamic Range: Adjacent Channel Isolation:	20 Hz - 20 kHz, +/- 0.5 dB < 0.05% (1 kHz @ -10 dBFS) > 104 dB A-weighted > 93 dB

D4T Transmitter

Power output:	200 mW
Audio Input:	Simulated transformer balanced inputs, clip level adjustable +0 to +20 dBu (or AES/EBU digital standard)
Power requirements:	9 - 16 VDC
Power consumption:	500 mA
Dimensions:	4 x 4 x 1.5 inches
Weight:	339 grams; 12 ounces

D4R Receiver

Diversity Type:	Dual receivers with artifact-free digital combining
Audio Output:	Electronically balanced outputs, max. level adjustable -20 to +8 dBu (or AES/EBU digital standard)
Power requirements:	9 - 16 VDC
Power consumption:	250 mA
Dimensions:	4 x 4 x 1.5 inches
Weight:	346 grams; 12.2 ozs.

Specifications subject to change without notice.

