



Digital Wireless System

TECHNICAL DATA

- 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 4-channel 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 and can be set up as a 2-channel or 4-channel system with options that provide:

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

In the 4-channel mode, the D4 system operates on one of four 4 MHz channels in the 902 to 928 MHz band. Each channel carries four separate audio signals, digitally multiplexed on a common carrier.

902 to 928 MHz Band			
907.776	912.384	916.992	921.600

Center frequencies of the RF channels

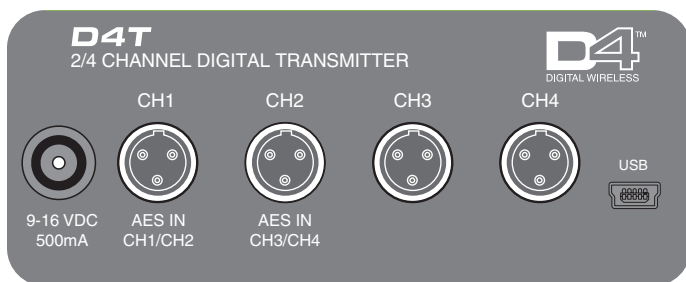
The audio quality is suitable for any professional application in film, television and live sound. 48 kHz/24-bit audio, ruler-flat 20-20000 Hz frequency response, ultra-low distortion and high dynamic range assure excellent audio reproduction.

Operating range is slightly better than top-of-the-line Digital Hybrid Wireless® microphone systems in field tests under line-of-sight and obstructed conditions.

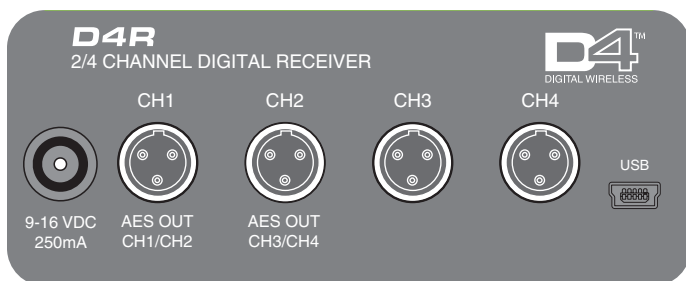
The LCD interface makes setup simple and straightforward. Any external power source in the 9 to 16 Volt range may be used.

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





D4T Rear Panel



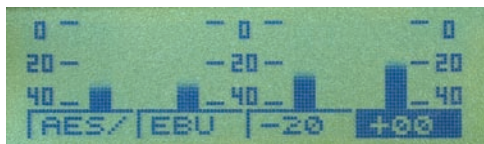
D4R Rear Panel

Mixed Modes

The analog and digital input and output modes on the transmitter and receiver do not have to be the same. 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):	907.776, 912.387, 916.992, 921.600 Four 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):	Less than 1 mS
Digital In/Digital Out:	2.2 mS
Analog In/Analog Out:	
Selectable Audio Channels:	<ul style="list-style-type: none"> • 4 digital • 2 digital, 2 analog • 4 analog
Audio Performance (overall system):	
Frequency Response:	20 Hz - 20 kHz, +/- 0.5 dB
THD+N:	< 0.05% (1 kHz @ -10 dBFS)
Dynamic Range:	> 104 dB A-weighted
Adjacent Channel Isolation:	> 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, clip 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.

