

WIR TX90 DC

Large-area multi-channel infrared transmitter



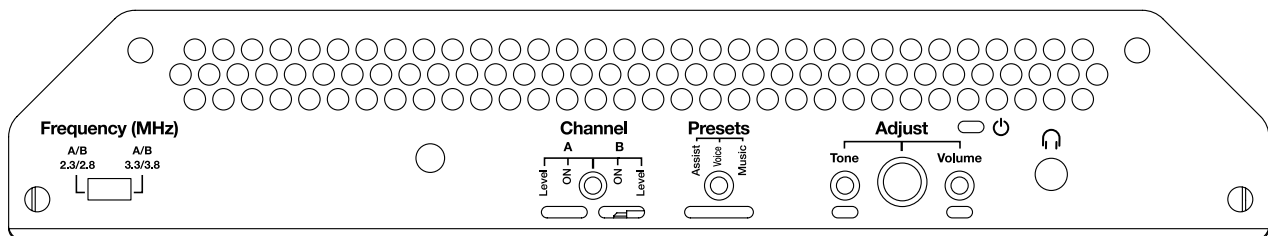
The WIR TX90 DC two channel IR transmitter combines modulator and emitter technology into a single operating unit, which reduces operating cost and eliminates precious rack space. The WIR TX90 DC transmitter produces a wide-angle infrared signal that concentrates the IR energy efficiently in the listening area. By modulating with frequencies 2.3-3.8 MHz bandwidth, the WIR TX90 DC is less susceptible to radio and lighting interference. Each WIR TX90 DC transmitter can cover up to 30,000 sq ft (2,787 sq m) in single-channel operation. The coverage area can be easily increased by connecting additional WIR TX9 DC emitters. A wall/ceiling mounting bracket is included, and stand kits are available for portable operation.

Infrared Transmitter

WIR TX90 DC Transmitter Specifications

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|-----------------------------------|---|
| Dimensions, Weight: | 11.25" W x 6.25" H x 2.125" D (28.6 cm x 15.9 cm x 5.4 cm), 1.8 lbs (0.8 kg) |
| Color: | Black with white legends, black acrylic lens (optional white enclosure available) |
| Power Supply: | Desktop-style, universal power supply. Input: 100-240 VAC, 50/60 Hz, 0.6 A. Line cord specified by country of use. Output: 24 VDC, 1.0 A, 25 W. Barrel connector. 50 ft DC power supply extension cable available (WCA 123). |
| Modulation: | FM Wideband, +50 kHz deviation max., 50 uS pre-emphasis |
| Carrier Frequency: | Channel A: Selectable, 2.3/3.3 MHz, Channel B: Selectable, 2.8/3.8 MHz |
| Emitter IR Power: | 3.5 W |
| Coverage Area: | 30,000 sq. ft. (2,787 sq. m) in single channel mode when using the RX22-4 Receiver 19,000 sq. ft (1,765 sq. m) in two channel mode when using the RX22-4 Receiver 11,000 sq. ft (1,022 sq. m) in four channel mode when using the RX22-4 Receiver 3,350 sq. ft (311 sq. m) in single channel mode when using the RX18 Receiver |
| Signal-to-Noise Ratio: | >75 dB, +3 dB |
| Frequency Response: | 80 to 15,000 Hz, electrical response |
| Total Harmonic Distortion: | Less than 0.2%, electrical response at 1 kHz |
| Compression: | Music preset 1:1, Voice preset 1.5:1, Hearing Assist preset 2:1 |
| Auto Carrier Shut-Off: | 20 minute timer shuts off carrier when no audio is present |

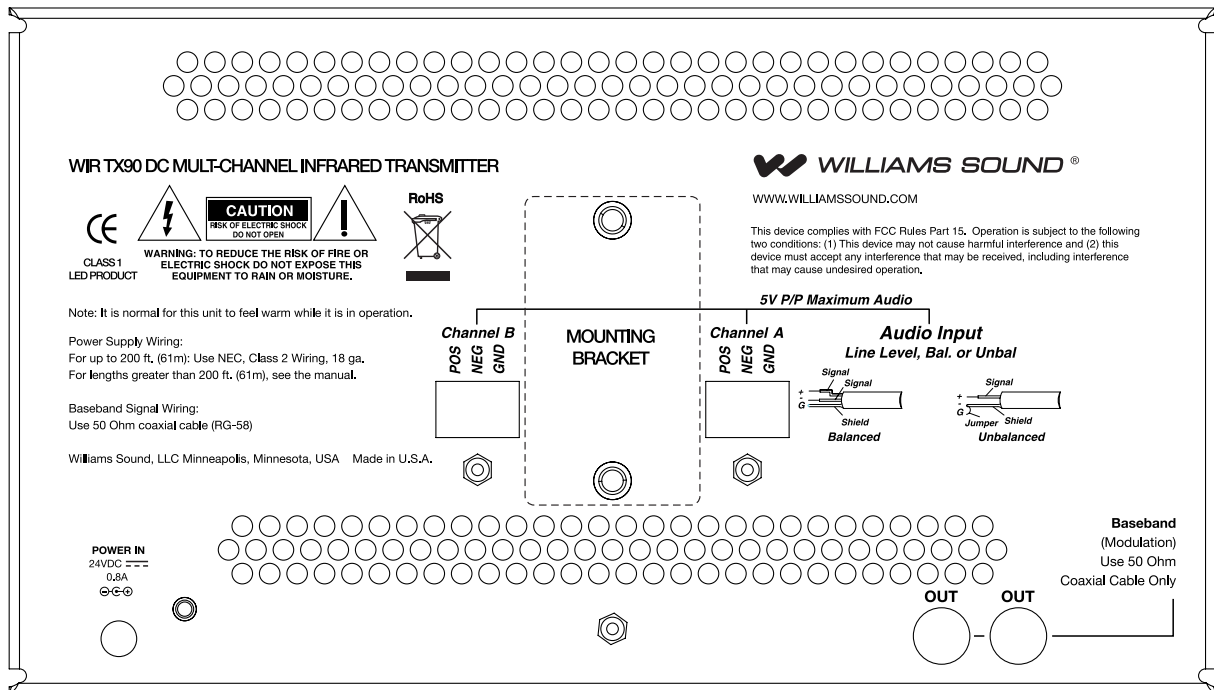
WIR TX90 DC Bottom View



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|-------------------------------------|---|
| Power Indicator: | Red LED |
| Audio Volume Level Controls: | CH A and CH B Input Level, press to select, 28 dB adjustable range |
| Audio Indicators: | CH A and CH B Audio Level, yellow LED, flash |
| Carrier LEDs: | 2 green LED carrier "on" indicators |
| Phones Output: | 3.5mm TRS headphone jack. CH A tip, CH B ring on jack, 32 ohm headphone (min) |
| Application Preset: | Music, Voice, Hearing Assist. Frequency response; Music: Flat; Voice: Mid-range boost; Hearing Assist: High frequency boost |
| Tone Control: | Press to select, 21 dB adjustable range (1 kHz between low boost/hi-cut and low cut/hi boost). |

Infrared Transmitter

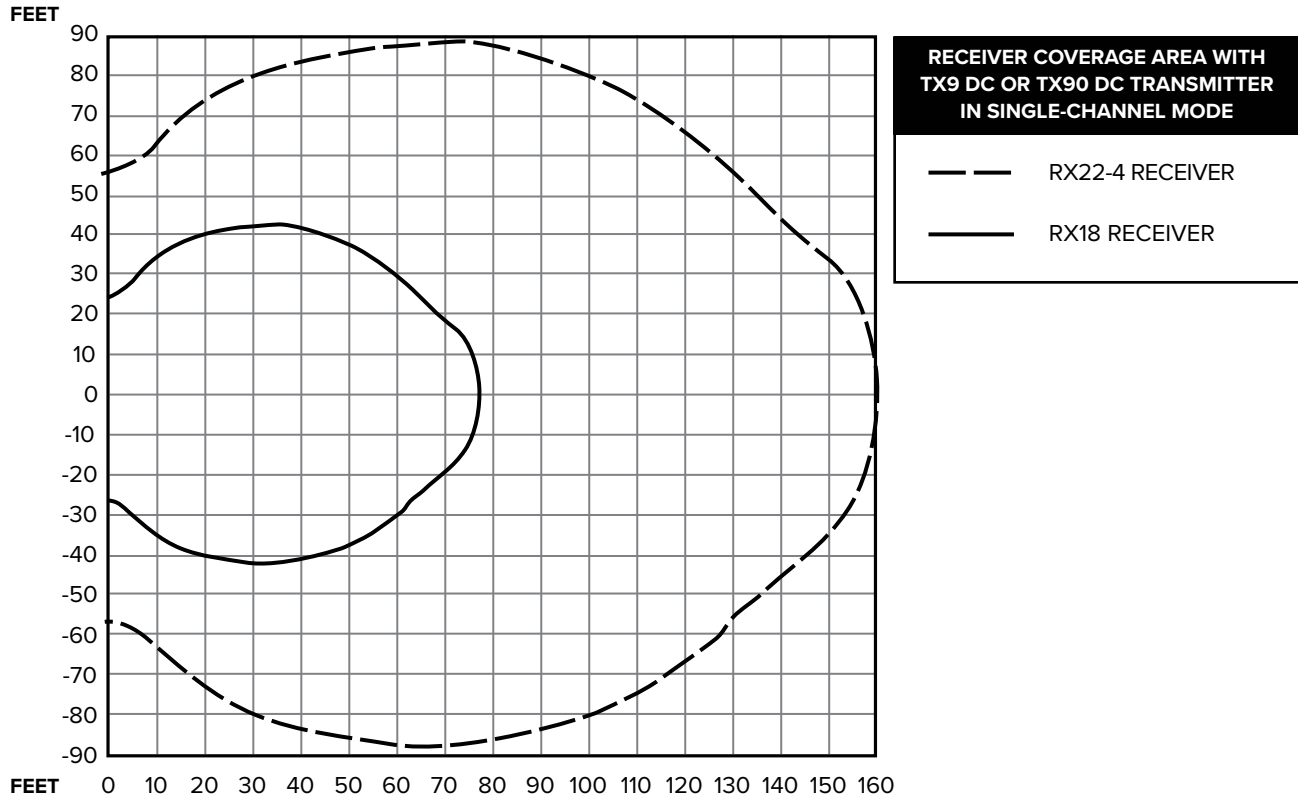
WIR TX90 DC Rear View



| | |
|--------------------------------|--|
| Power Input: | 24 VDC, 0.8 A, 25 W |
| Audio Input Connector: | CH A and CH B, 3 wire Phoenix |
| Input Level: | Balanced or unbalanced, 316 mVRMS (-10 dBV) nominal, 5.7 k Ω input impedance; max input (over volume range) -21 to +7 dBV. |
| Baseband Output: | BNC, 50 Ω, for use with TX9 or TX9 DC only |
| Baseband Cable: | RG 58 Coax, BNC connectors, maximum 1000 ft. (300 m) length |
| Operating Requirements: | 0-50° C (+32 °F to 122 °F) ambient temperature, non-condensing, non-corrosive atmosphere |
| Mounting Kits: | Wall or Ceiling Mount: BKT 024 Omnidirectional mount; Optional: Tripod Stands: SS-11 or SS-6 |
| Warranty: | 5 years on transmitter (90 days on accessories) |
| Approvals: | CE, FCC, RoHS, WEEE |
| Compatible Receivers: | WIR RX22-4 Four-Channel Receiver WIR RX18 Two-Channel Receiver |
| Notes: | Specifications: Single end input, volume & tone controls at mid point, 1 kHz, "Music" Preset |

Infrared Transmitter

Receiver Coverage Area with WIR TX90 DC Transmitter in Single Channel Mode



The coverage area for the WIR TX90 DC will vary depending on the receiver being used. The diagram above demonstrates the receiver coverage when operating a single WIR TX90 DC transmitter in single channel mode. Patterns are direct radiation patterns.

Note: Reflections of the infrared light from walls, ceilings and floors may change these patterns.

Infrared Transmitter

Architectural/Engineering Specifications

The transmitter shall consist of an all-in-one modulator and emitter operating on switchable carrier frequencies of 2.3/2.8 MHz or 3.3/3.8 MHz. The carrier frequency shall use 50 kHz deviation and 50 μ s pre-emphasis.

The transmitter shall have a range of up to 30,000 sq. ft. (2,787 sq. m.) in single channel mode when using the RX22-4 receiver. The transmitter shall be contained in a metal housing with a durable plastic lens. The transmitter shall be convection cooled without fans. The transmitter shall include an omni-directional mounting bracket for permanent installations. Additional brackets shall be available for different mounting options.

The transmitter shall provide two channels of selectable carrier frequencies: CH A 2.3/3.3 MHz or CH B 2.8/3.8 MHz. Two transmitters used in tandem shall provide up to 4 simultaneous channels.

The transmitter shall have two Phoenix connectors on the back for balanced or unbalanced line input. All controls and indicators shall be accessible on the bottom of the panel of the transmitter.

The transmitter shall have three application presets: Music, Hearing Assistance and Voice accessible by thumbscrew adjuster.

There shall be a 3.5 mm stereo headphone jack for monitoring the processed audio before being transmitted.

Two BNC (50 Ω) baseband output jacks shall be provided on the back panel for more coverage needs. The TX9 DC emitter panels must be used with the TX90 DC transmitter via RG-58 coax cable.

The transmitter shall be powered by an external 24 VDC, 1.0 A power supply. The power connector shall be a barrel type. Additional emitters shall require individual external power supplies.

The transmitter shall be covered by a five-year warranty on parts and labor. The transmitter shall be the Williams AV model WIR TX90 DC.

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