

INFRARED SPECIFICATION DATA

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Boardrooms • Courtrooms • Schools • Universities • Churches

WIR TX90

SoundPlus® Infrared Transmitter



The TX90 two channel IR transmitter combines modulator and emitter technology into a single operating unit, which reduces operating cost and eliminates precious rack space. The TX90 transmitter produces a wide-angle infrared signal that concentrates the IR energy efficiently in the listening area. Operating on the 2.3-3.8 MHz bandwidth, the TX90 is less susceptible to radio and lighting interference. Each TX90 transmitter can cover up to 28,000 sq ft (2,600 sq m) in single-channel operation. The coverage area can be easily increased by connecting additional TX9 emitters. A wall/ceiling omnidirectional mount is included, and stand kits are available for portable operation.

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WIR TX90 Transmitter:

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 (Available in white)
Power Supply:	Wall Transformer, 24 VAC, 50-60 Hz, 35 VA, 3-pin MOLEX Connector North America: TFP 010, UL/CSA Europe: TFP 027-01, 2-pin Schuko plug, CE UK: TFP 027-02, 3-pin UK plug, CE
Power Cable:	NEC Class 2 wiring, two-conductor, 18 ga., 200' (61m) max. length
Modulation:	FM Wideband, +50kHz deviation max., 50uS pre-emphasis
Carrier Frequency:	Channel A: Selectable, 2.3/2.8 MHz, Channel B: Selectable, 3.3/3.8 MHz
Emitter IR Power:	3.5 watts
Coverage Area:	28,000 sq. ft. (2600 sq. m) in single channel mode when using the RX22-4 Receiver 18,000 sq. ft (1700 sq. m) in two channel mode when using the RX22-4 Receiver 11,000 sq. ft (1000 sq. m) in four channel mode when using the RX22-4 Receiver 3,500 sq. ft (325 sq. m) in single channel mode when using the RX15-2 Receiver 3,063 sq. ft (285 sq. m) in single channel mode when using the RX18 Receiver (See coverage area diagrams)
Signal-to-Noise Ratio:	>75 dB, +3dB
Frequency Response:	80 to 15,000 Hz, electrical response
Total Harmonic Distortion:	Less than .2%, electrical response at 1kHz
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

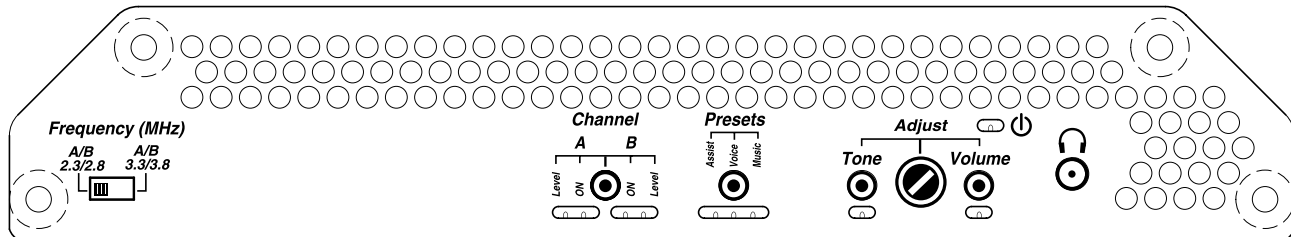


Fig. 1: TX90 Bottom View:

Power Indicator:	Red LED
Audio Volume Level Controls:	CHA and CHB Input Level, press to select, 28 dB adjustable range
Audio Indicators:	CHA and CHB 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).

* 90 days on accessories.

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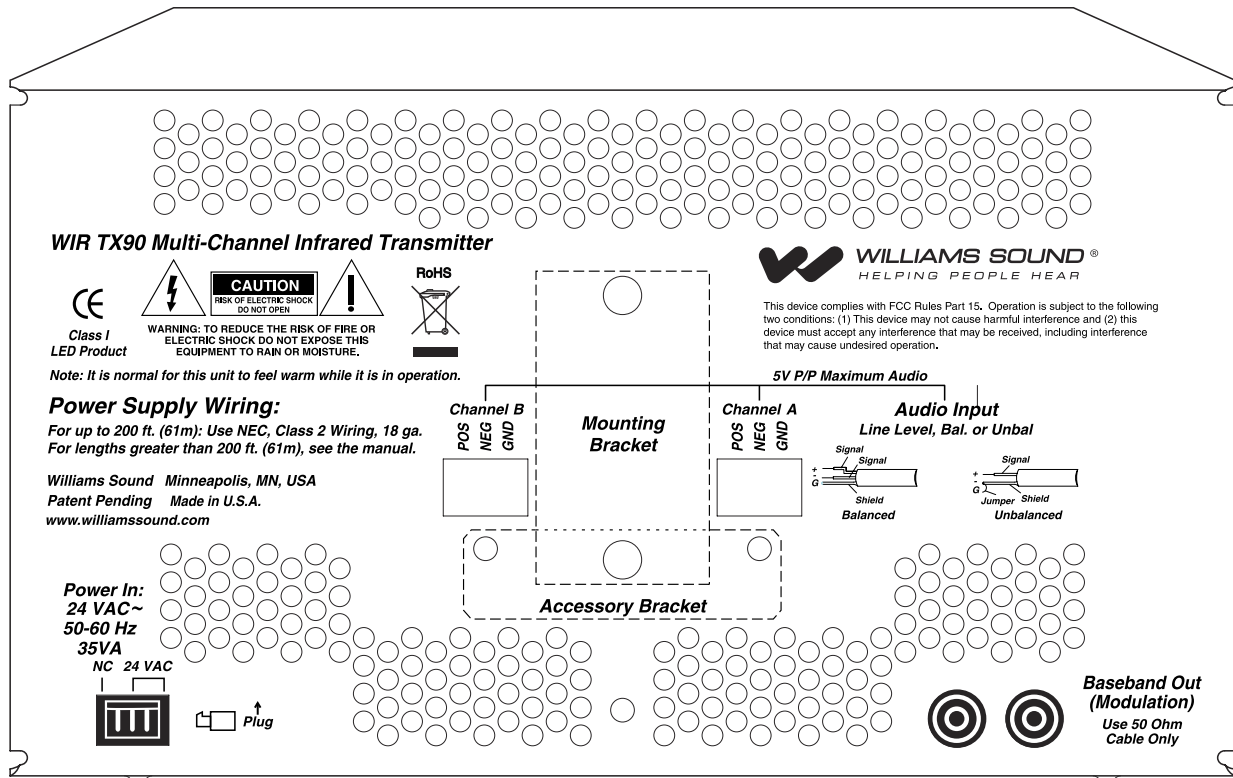


Fig 2: TX90 Rear View

Power Input:	3-Pin Molex, 24 VAC, 50-60 Hz, 35 VA
Audio Input Connector:	CH A and CH B, 3 wire Phoenix
Input Level:	Balanced or unbalanced, 316 mVRMS (-10dBV) nominal, 5.7k input impedance; max input (over volume range) -21 to +7 dBV.
Baseband Output:	BNC, 50 Ω, for use with TX9 only
Baseband Cable:	RG 58 Coax, BNC connectors, maximum 1000' (300m) 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 RX15-2 Two-Channel Receiver WIR RX18 Two-Channel Receiver
Notes:	Specifications: Single end input, volume & tone controls at mid point, 1 kHz, "Music" Preset

NOTE: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE!

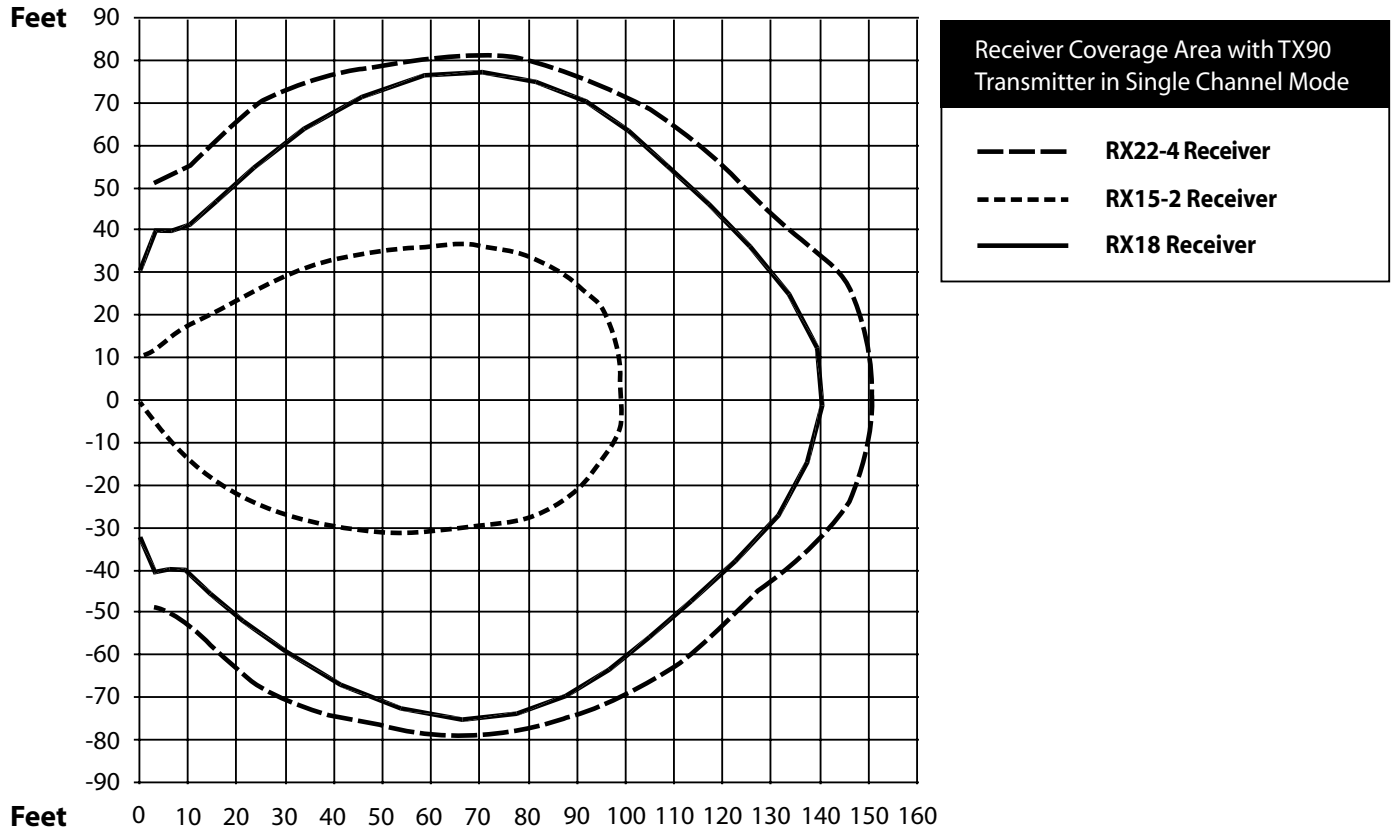


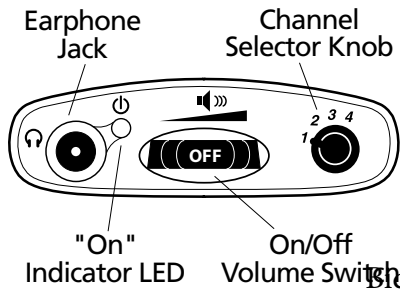
Fig. 3: Receiver Coverage Area with TX90 Transmitter in Single Channel Mode

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

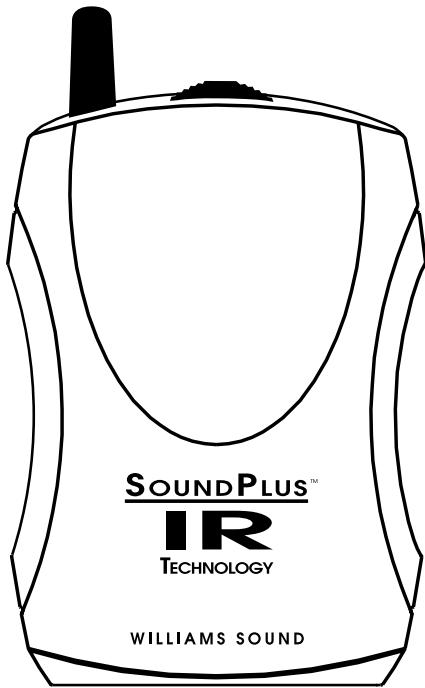
Note: Reflections of the infrared light from walls, ceilings and floors may change these patterns.

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Optional WIR RX22-4 Receiver:



RX22-4 Top



RX22-4 Front

Receiver Style:	Body-Pack, dual-lens detector, lanyard
Size:	4.5" L x 2.85" W x 1.2" H (114.3 mm x 72.4 mm x 30.4 mm)
Weight:	4.6 oz (130 g) with batteries
Color and Material:	Black
Lanyard:	3 ft (.91 m), allows receiver to be worn around the neck
Operating Temperature:	-10° C to +50° C
Battery Type:	2 x AA, alkaline (BAT 001) or NiMH (BAT 026)
Battery Life:	Alkaline: 60 hours, NiMH: 30 hours/charge
Battery Drain:	25 mA, nominal
Charging Contacts:	For use only with CHG 3512
Carrier Frequency:	Channel 1: 2.3 MHz, Channel 2: 2.8 MHz Channel 3: 3.3 MHz, Channel 4: 3.8 MHz
De-Emphasis:	50 uS
FM Deviation:	±50 kHz
Signal-to-Noise Ratio:	60dB min.
Squelch:	Receiver squelches (mutes) at 40 dB S/N ratio
Frequency Response:	25 Hz to 16 KHz, +1 dB, -3 dB, electrical response
Total Harmonic Distortion:	Less than 1%, electrical response
Controls:	ON/OFF/VOLUME: combination thumbwheel knob Channel Selector: four-position rotary switch
Indicators:	Red LED "ON" indicator, flashes to indicate Low battery
Audio Output Jacks:	3.5 mm stereo mini phone jack Accepts 3.5 mm mono or stereo phono plug
Audio Output Power:	15 mW max at 32 Ω
Acoustic Output:	110 dB SSPL90 w/ EAR 013
Sensitivity:	Better than 1 nW/cm2 for 40 dB signal-to-noise ratio
Approvals:	CE, FCC, RoHS, WEEE
Warranty:	5 years on receiver, 90 days on accessories
Compatible Headphones/Earphones:	Mono or stereo, 8-32 ohms, 3.5 mm mini phone plug, HED 021, HED 026, EAR 013, EAR 014, EAR 022, NKL 001

Fig. 8: WIR RX22-4 Receiver

SoundPlus® Infrared Transmitter

Bid Specs

The Williams Sound WIR TX90 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 50µs pre-emphasis.

The transmitter shall have a range of up to 28,000 ft² (2,600 m²) 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 2.3/2.8 MHz or CH B 3.3/3.8 MHz. Two transmitters used in tandem shall provide up 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 3.5mm stereo headphone jack for monitoring the processed audio before being transmitted.

Two BNC (50Ω) baseband output jacks shall be provided on the back panel for more coverage needs. The TX9 emitter panels must be used with the TX90 transmitter via RG58 coax cable.

The transmitter shall be powered by an external 24VAC, 50-60 Hz, 35VA power supply. The power connector shall be a three pin Molex 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 Sound model WIR TX90.

***DISCLAIMER: FCC RULES LIMIT USE OF THIS EQUIPMENT TO AUDITORY ASSISTANCE**

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