WILLIAMS SOUND®

FM SPECIFICATION DATA

Churches • Schools • Auditoriums • Conference Rooms • Theaters

PPA T45 / T45NET

Personal PA™ DSP FM Wideband Transmitter

The cutting-edge PPA T45NET* takes hearing assistance to a whole new level, with network control capability from any remote location, multiple digital and analog audio input options, and an OLED high-res screen with easy-to-manage menu navigation.

The PPA T45NET fully integrates with modern networked sound systems. It features 3 powerful microprocessors and the same high-quality audio and RF performance you've come to expect from Williams Sound. It also offers an adjustable RF output and a sleep mode for energy conservation. It's technology that takes the guesswork out of complex audio installation. Simply select between voice, music, or hearing assistance in the application preset menu, and this transmitter quickly configures itself.

With an operating range of up to 1000 feet, the PPA T45NET is ideal for auditoriums, stadiums, theaters, or other large venues where superior coverage is essential. Designed to meet ADA (Americans with Disabilities Act) accessibility requirements for hearing assistance. Covered by a Lifetime PLUS Limited Warranty. Made in the USA.

*Also available as the PPA T45 without network control. The ethernet module is the only difference between these two models.

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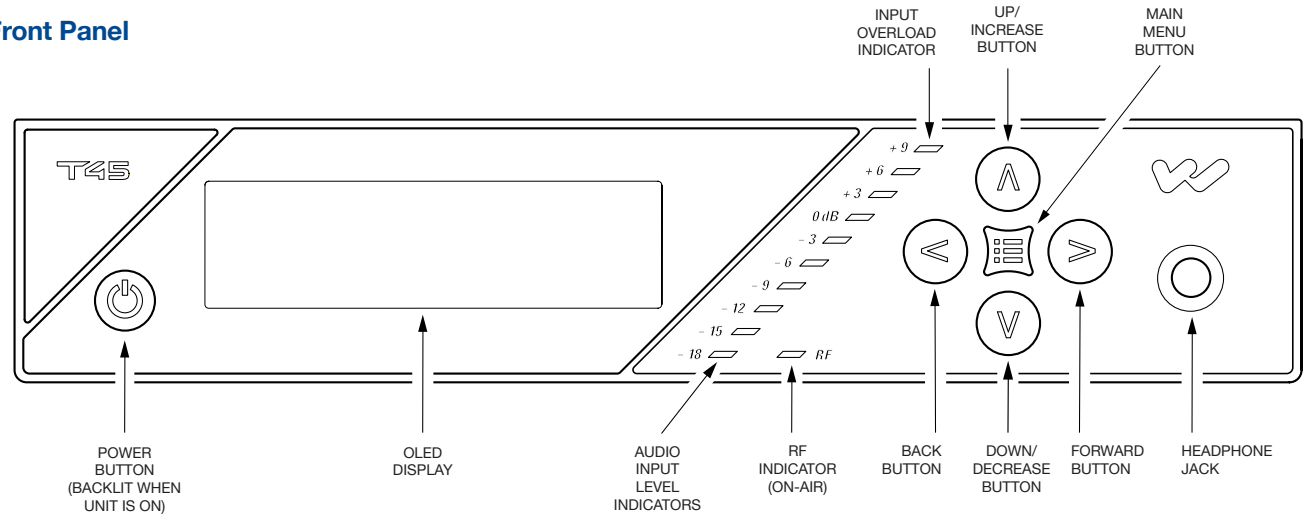
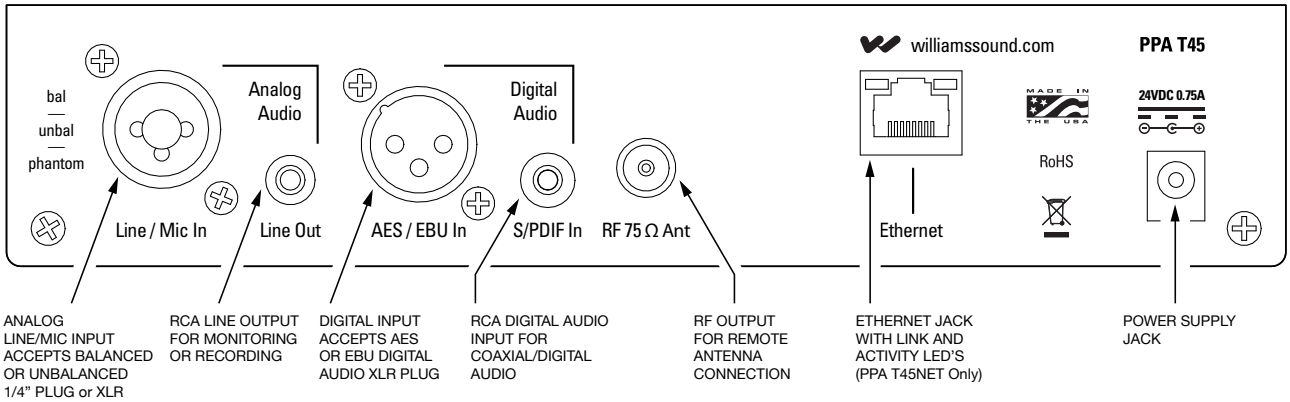
Features / Benefits

- NEW! Network Control Capability* via Ethernet (10-base-T) using any web browser
- NEW! Multiple Digital Audio Inputs (AES, S/PDIF) provide direct connection to digital signal sources
- NEW! OLED high-resolution screen with simplified menu navigation, offers comprehensive and convenient access to full system functions
- DSP Audio Processing
- Sleek and stylish new design

T45 Front Panel



T45 Rear Panel



Personal PA™ DSP FM Wideband Transmitter

PPA T45 / PPA T45NET

Dimensions:	8.45” W x 8.25” D x 1.72”H (21.5 cm x 21 cm x 4.4 cm)
Weight:	**Transmitter:** 3.0 lbs (1.36 kg)
	Shipping Weight: 4.50 lbs (2.04 kg) (Transmitter, Power Supply, Antenna and packaging)
Color:	Black/Silver with black legends on the front, white legends on the back
Rack Mount:	Standard 19” Rack, one EIA rack space high, 1/2 space wide 1–2 units can be mounted in a single rack space with optional RPK 005 (single) or RPK 006 (double) Rack Mount Kits
Power Supply:	Desktop Style Transformer (TFP 048).
	Input: 100-240 VAC, 50/60 Hz. IEC Line Cord.
	Output: 24 VDC, 750 mA, 18W. 2.5mm ID center positive barrel connector.
	Approvals: UL, CUL, Energy Star V, CSA listed.
Power ON Indicator	Push On/Push Off latching power button, backlit Green indicates Power ON, backlight off indicates power OFF.
Temperature Range:	Operating: +32° F to +104° F (0° C to 40° C)
	Storage: -4° F to +158° F (-20° C to 70° C)
Menu Settings:	Audio Presets (Music, Voice, Hearing Assist, Custom), Frequency/Channel selection, Frequency/Channel mode, Audio Input Source (Microphone, Line, Phantom, Digital AES/EB, Digital S/PDIF), High Pass Filter, Low Pass Filter, Compression, RF Output Power, Screen Saver Delay, Test Tone (400 Hz), Headphone Volume, Headphone Source

RF Section

Operating Frequencies:	72.1-75.9 MHz , 17 wideband channels (selectable)
Frequency Accuracy:	± 2 ppm stability, 0-50˚ C
Deviation:	± 75 kHz maximum.
Pre-Emphasis:	75 µsec.
RF Field Strength:	Does not exceed 80 mV/m at 3 m
Compatible Antennas:	ANT 005, ANT 021, ANT 024, or ANT 025.
Transmission Range:	Up to 1000 ft (304 m) with ANT 005 coaxial antenna mounted on rear chassis connector.
RF Timer:	Menu selectable - 30 Min, 4 Hours, or Always On. Timer starts when no audio is present.
RF Power:	Menu selectable - High, Medium, Low, OFF.
RF Outputs:	(1x) #10-32 stud connector in center of unit (pcb mounted) (1x) F-connector on rear chassis
RF Transmit Indicator:	1 Green LED, indicates RF “ON”

Audio Section

Audio Processor Functions:	DSP. Compression: 1:1, 1.5:1 or 2:1. High Pass and Low Pass Filter Frequency control.
Frequency Response:	31 – 16000 Hz, ±3 dB (“Music” Audio Preset)
Signal-to-Noise Ratio:	≥74 dB Transmitted RF
Total Harmonic Distortion:	Less than 0.25% @ 1 kHz (RF output)
Common Mode Rejection:	>57 dB @ 1 kHz, Mic or Line
Audio Inputs:	(1x) Combination 3-pin XLR, 1/4” TRS jack for Mic or Line Level Analog Audio. Balanced or Unbalanced Line Level, or Microphone with Selectable Phantom Power. (1x) XLR for Digital Audio, AES3/EBU, supported sample rates 44.1 kHz and 48 kHz. (1x) RCA for Digital Audio, S/PDIF, supported sample rates 44.1 kHz and 48 kHz.
Audio Input Gain Adjust:	In menu, adjustable to 0 to -50 dB, in 1dB steps
Phantom Power:	14.4 VDC applied through 2.2 kΩ resistors to analog combo jack: Pin 2 and Pin 3 on XLR jack, or tip and ring on 1/4” TRS jack

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Audio Level Indicators:	10-LED array that reads -18 to +9 dB at 3 dB intervals. 7 Green, 2 Amber, and 1 red LED. Green LEDS indicate normal operating audio level peaks, Amber LEDS indicate close to overload peaks, Red LED indicates overload peaks.		
Input Levels (Bal or Unbal): (at Audio Input Gain = 0dB)	**Nominal (1st Amber LED)**	**Overload Warning (Displayed on Screen)**	**Absolute Maximum Ratings***
Microphone:	-55 dBV (1.7 mV RMS)	-15 dBV (180 mV RMS)	+20dBV (10.0 V RMS)
Line:	-25 dBV (55 mV RMS)	+16 dBV (6.3 V RMS)	+20 dBV (10.0 V RMS)
Headphone Output:	1/4" TRS stereo jack, mono signal, 15.7 mW, maximum in 33 Ω (level adjustable in menu 0 to -40 dB in 2 dB steps)		
Line Output:	RCA jack (black), -10 dBV (.32 VRMS). Output impedance 100 Ω.		
Ethernet:	RJ-45 on back of unit (PPA T45NET only)		
Approvals:	FCC, RoHS2, WEEE, Industry Canada		
Warranty:	Lifetime PLUS Limited Warranty (90 Days on most accessories)		

***Note: Stresses above these ratings may cause permanent damage. Exposure for extended periods may degrade reliability.**

NOTE: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE!

Architectural / Engineering Specifications

PPA T45 / PPA T45NET

There shall be two models of the transmitter - one with Ethernet control capability and one without. The transmitter shall be a microprocessor-based unit. It may be configured through the on-screen menu. The model with Ethernet control will also be configurable over an Ethernet (10 base T) network accessible through common web based browsers. It shall have a transmitting range of up to 1000 feet. It shall have 17 wideband channels operating on 72.1–75.9 MHz. It shall be supplied with a top mount 39" whip antenna and external power supply.

Front Panel:

The transmitter shall have an OLED screen displaying current settings and menu functions. Channel/frequency selection, audio input source, audio presets (Hearing Assist, Music, Voice and Custom), audio input level, high and low pass filter, compressor gain and RF output power shall be configurable via the menu or web browser. There shall be a 10 segment LED bar graph indicating audio input level and an RF "on air" LED. A 1/4" stereo headphone jack allows monitoring of the transmitted audio.

Rear Panel:

The PPA T45 shall be powered by an external 24VDC power supply. It shall have a 75Ω F-connector on the rear for remote antenna applications and an RCA line level output. It shall have analog 1/4"/XLR combo microphone or line level input jack, XLR AES3 and S/PDIF RCA digital input jacks. The model with Ethernet control shall have an RJ-45 Ethernet jack.

The transmitter shall be compatible with all Williams Sound FM wideband 72-76 MHz receivers and have a lifetime limited warranty.

These transmitters shall be the Williams Sound model number PPA T45 and PPA T45NET.

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