Passion for innovation

Model T-588

2-Watt MONO/ STEREO FM TRANSMITTER

88.1-107.9 MHz

USER MANUAL

United States version (Certified under FCC Part 73 regulations)

Canadian version (Certified under Industry Canada BETS 6 & RSS-123 regulations)

T-588 Table of Contents

About this Manual

Read this user manual carefully before installing and operating your T-588 FM transmitter. Use the product only as described to avoid accidental injury, damage, or hearing impairment. Also, read safety warnings carefully. Keep this manual for future reference. If you give this product to someone else, remember to include this manual.

Package Contents

(1) T-588 FM Mono/ Stereo FM Transmitter (88.1-107.9 MHz)
(1) ANT-588 telescopic antenna
(1) PS-500 power supply with AC cord
(1) User manual

System Overview

Thank you for choosing the Enersound T-588 FM transmitter. This 2-Watt stereo transmitter wirelessly broadcasts a speaker's voice, music, or any audio signal in the 88.1-107.9 MHz frequency band (US version.) The T-588 transmitter features 3 main audio inputs that allow the direct connection of virtually any analog audio source, including a 3.5 mm jack for headset microphones, an XLR & ¼ inch combination jack with a selector for dynamic microphones, condenser microphones or line-level signals, and RCA stereo auxiliary input. It also has a recording output and a 3.5 mm monitor headphone jack.

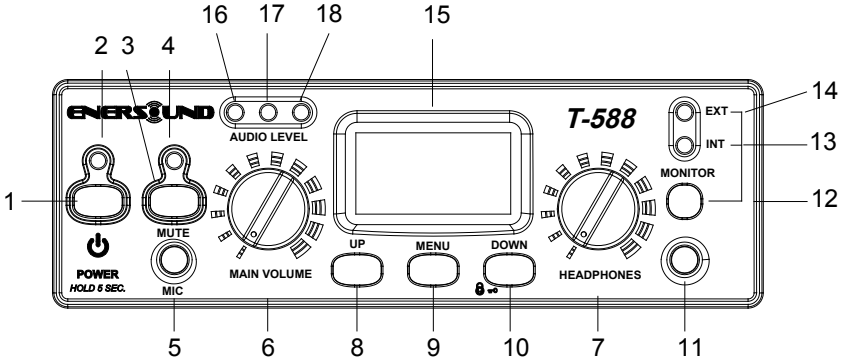
For interpretation or audio description, it has a unique integrated interpreter or narrator monitor function. This feature allows interpreters/ narrators to select an external incoming audio source and utilize a headset with microphone to listen to the source language/ audio without the need of an interpreter console or external headphone amplifier. Through the headphones' volume control, interpreters/ narrators can set the desired incoming audio level and the [MUTE] button allows them to momentarily silence their microphone for coughing or sneezing.

Its LCD display allows to visualize the frequency being broadcast, as well as to easily program the various useful functions, such as RF power level and mono/stereo transmission.

For use in the USA, please contact your local FCC office for information regarding permit or license that may be needed based on your application.
For use in Canada, please contact your local Industry Canada office for information regarding permit or license that may be needed based on your application.
For use outside the USA and Canada, please contact your local telecommunications authority regarding permit or license that may be needed based on your application.

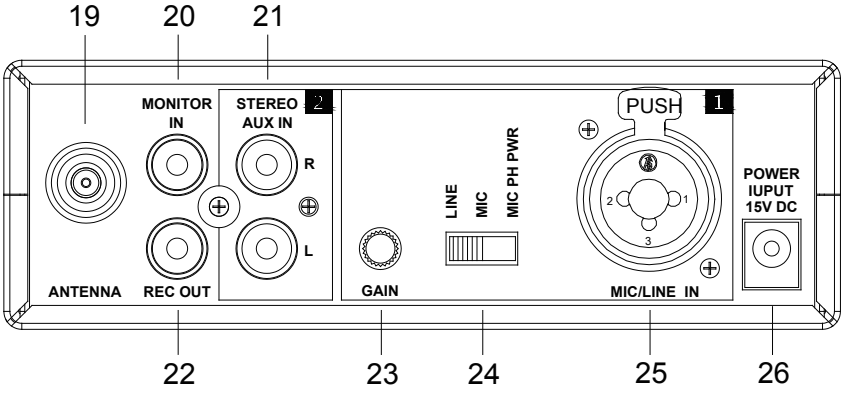
Quick Reference: Controls, Displays and Connectors

Front panel



(1) POWER button: Press & hold for 5 seconds to turn on/ off device.
(2) Power indicator
(3) Front microphone mute button: Press to mute/unmute front microphone.
(4) Mute indicator light
(5) Mic input, 3.5mm jack
(6) Main volume control: Adjusts audio output volume.
(7) Headphones volume control
(8) Up button: Changes frequency up**.** During setting mode, press to modify selection.
(9) Menu button: Press & hold for 6 seconds to access setting menu.
(10) Down & lock button: Changes frequency down. Press & hold for 5 seconds to lock/ unlock frequency. During setting mode, press to modify selection.
(11) Headphones output, 3.5mm jack
(12) Internal/external monitor source selection switch: Set to EXT for interpretation/ audio description applications to monitor an external audio source. Set to INT to monitor the broadcasted audio.
(13) Monitor internal source indicator
(14) Monitor external source indicator
(15) LCD screen
(16) (17) Audio level indicators
(18) Audio peak indicator

Rear panel



(19) Antenna connector

TNC connector used to connect the included telescoping antenna or a remote antenna.

(20) External monitor Input

Used in language interpretation and audio description applications. The audio source to be translated or narrated should be connected here so the interpreter or narrator can listen to the source audio.

This signal will NOT be broadcasted to FM receivers.

(21) Input 2 (STEREO AUX IN), Left & Right RCA jacks

Connects unbalanced stereo audio signals to be broadcasted. Use this input to broadcast in true stereo mode.

(22) Recording output

This RCA jack contains a mix of Input 1 (MIC/ LINE IN), Input 2 (STEREO AUX IN) and 3.5 mm microphone input

(23) Gain

Adjusts Input 1, Input 2 and 3.5 mm front mic gain level.

(24) Input 1 mode selector

Selects line level, microphone level, or microphone with 12V phantom power for condenser mics.

(25) Input 1 (MIC/ LINE IN)

Accepts balanced or unbalanced connection of a microphone or mono line level input. This combination jack accepts either XLR or ¼" plugs.

(26) Power supply jack

Used with the included PS-500 15V power supply.

General Set-up Instructions:

- **Unpack the transmitter.**
  Remove outer packaging and plastic cover. Inspect for physical damage and immediately report any issues to Enersound.
- **Position the unit.**
  Position the transmitter away from metallic objects that might interfere with the antenna or any electromagnetic noise sources such as transformers, motors, dimmers, etc.) This transmitter is designed to be use in a dry environment, in temperatures ranging from 23F (-5℃) to 104F (40℃).
  The antenna should be located as close to the center of the coverage area as possible, and at a sufficient height to give the transmitted signal an unobstructed path to every receiving point. Transmitted signal paths will be weakened by concrete walls, steel beams, dense materials, or metal objects.
- **Connect the antenna.**
  Screw in the included telescoping antenna onto the transmitter antenna connector located in the rear panel. Alternatively, an optional remote 50-ohm antenna with TNC connector can be used to increase the range. Make sure the remote antenna matches the specific frequency in which you intend to broadcast.

For your convenience, a telescoping antenna is included with the transmitter for use in small areas (up to 650' line of sight with car radios). The range with this antenna is significantly shorter than the range with a remote antenna that is specifically crafted for the desired frequency. Also, this antenna has a shorter range on higher frequencies.
When using the telescoping antenna, the rod length should be adjusted as follows:

1) Choose a free frequency

2) Use the chart (Fig 6.) to note the associated length (ex: 88.5MHz = 44 ½").

3) With the help of a measuring tape or ruler; extend the telescopic antenna in a manner to obtain the desired length (from base to tip of antenna.)

Fig. 6

Freq (MHz)	Rod length (Inch)	Freq (MHz)	Rod length (Inch)	Freq (MHz)	Rod length (Inch)	Freq (MHz)	Rod length (Inch)
88.1	44 1/2	93.3	37 1/4	98.5	34 1/2	103.7	31 3/4
88.3	44 1/2	93.5	37 1/4	98.7	34 1/2	103.9	31 3/4
88.5	44 1/2	93.7	37 1/4	98.9	34 1/2	104.1	31 1/2
88.7	44 1/2	93.9	37 1/4	99.1	34	104.3	31 1/2
88.9	44 1/2	94.1	36 3/4	99.3	34	104.5	31 1/2
89.1	39 3/4	94.3	36 3/4	99.5	34	104.7	31 1/2
89.3	39 3/4	94.5	36 3/4	99.7	34	104.9	31 1/2
89.5	39 3/4	94.7	36 3/4	99.9	34	105.1	31 1/4
89.7	39 3/4	94.9	36 3/4	100.1	33 3/4	105.3	31 1/4
89.9	39 3/4	95.1	36	100.3	33 3/4	105.5	31 1/4
90.1	39	95.3	36	100.5	33 3/4	105.7	31 1/4
90.3	39	95.5	36	100.7	33 3/4	105.9	31 1/4
90.5	39	95.7	36	100.9	33 3/4	106.1	31
90.7	39	95.9	36	101.1	33 3/4	106.3	31
90.9	39	96.1	35 1/4	101.3	33 3/4	106.5	31
91.1	38 1/2	96.3	35 1/4	101.5	33 3/4	106.7	31
91.3	38 1/2	96.5	35 1/4	101.7	33 3/4	106.9	31
91.5	38 1/2	96.7	35 1/4	101.9	33 3/4	107.1	31
91.7	38 1/2	96.9	35 1/4	102.1	33	107.3	31
91.9	38 1/2	97.1	34 3/4	102.3	33	107.5	31
92.1	37 3/4	97.3	34 3/4	102.5	33	107.7	31
92.3	37 3/4	97.5	34 3/4	102.7	33	107.9	31
92.5	37 3/4	97.7	34 3/4	102.9	33		
92.7	37 3/4	97.9	34 3/4	103.1	31 3/4		
92.9	37 3/4	98.1	34 1/2	103.3	31 3/4		
93.1	37 1/4	98.3	34 1/2	103.5	31 3/4		

- **Rackmount the unit (optional) , not to be used with telescoping antenna.**
  The transmitter can be rack mounted, if necessary, in a 19'' rack using the optional rack mount kits: single-unit RM-501 or double-unit RM-502.

- **Power the Unit**

  Plug the power supply into the power connector on the rear panel, then connect the power supply into an outlet. Only use the Enersound approved power supply. (The PS-500 is an auto switching power supply that can work with voltages between 100 and 240 V, 50/ 60 Hz.)

  Press and hold the [POWER] button for 5 seconds to turn on the unit.

  Select Channel

  Select the desired channel using the [UP] or [DOWN] buttons on the front panel. If the unit is locked, unlock it by pressing and holding the [DOWN] button for 5 seconds.

  If necessary, after selecting the desired channel, you can lock it by pressing and holding the [DOWN] button for 5 seconds.

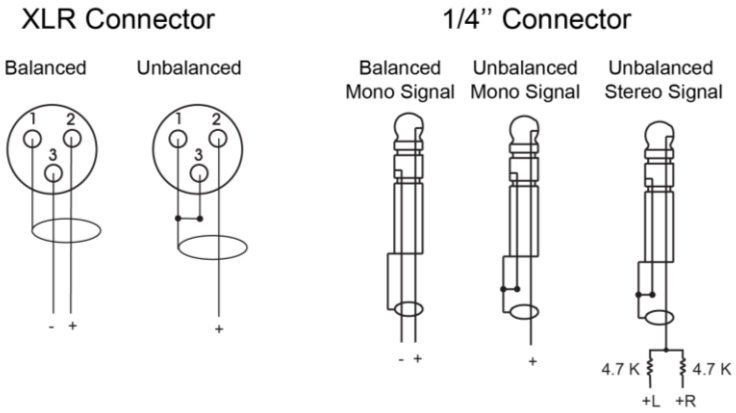
- **Connect Audio Inputs**

  The T-588 has several audio inputs:

  Rear Panel:

  - Input 1: For balanced or unbalanced connections using either an XLR or 1/4" phono connector. Ideal for connecting audio mixers, dynamic microphones or 12V condenser microphones.

    Plug your balanced or unbalanced audio source into Input 1. Use the following diagram.



Note: Input 1 is a mono input. For true stereo signals, use Input 2. If you still wish to use Input 1 with a stereo signal, use a simple resistive mixer as shown above utilizing two 4.7KΩ resistors available at a local electronic components' store.

- Input 2: Two RCA (left and right) auxiliary line level inputs. This is a true stereo input.

- External Monitor Input: An RCA line level input for simultaneous interpretation and audio description applications that allows the interpreter/ narrator to monitor the source audio. This audio signal will only be heard on the interpreter's/ narrator's headphones connected to the headphone jack on the front panel with monitor selector set on EXT (External.)

Front Panel:

- 3.5 mm microphone Input: Ideal for headband and headset microphones with 3.5 mm connectors such as Enersound MIC-300.

Connect the desired audio source(s) to one or more audio input connections. If using input 1, select the appropriate audio setting (line, MIC, or condenser MIC with 15V phantom power.)

Warning: 70 volt or any other speaker signals cannot be connected to the T-588 transmitter. This may cause damage to your system.

- **Set the Volume**

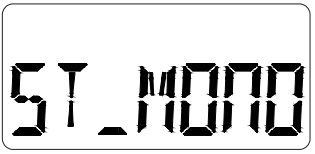
Listen with an FM receiver tuned in the same frequency or channel and adjust the transmitter's main volume control located in the front panel to the desired level.

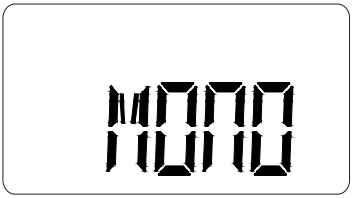
If necessary, adjust the gain control on the transmitter's rear panel. If unsure, turn the gain control clockwise to the maximum level or a little bit less.

Menu Setting Instructions:

Press & hold the [MENU] button for 6 seconds to access the Menu. The LCD display will start blinking and the first option STEREO/MONO will be shown. To navigate through different menu options, press the [MENU] button.

STEREO/MONO: When ST-MONO is blinking, you can select STEREO or MONO transmission by pressing the [UP]/ [DOWN] buttons. Press [MENU] to confirm the option and to go to the next setting.





The LCD display will indicate Mono or Stereo status (see Fig 3 & Fig 4).

Mono mode

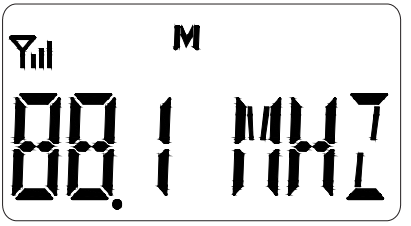


Fig. 3

Stereo mode

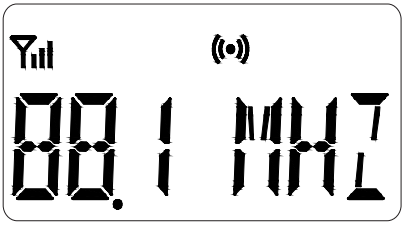
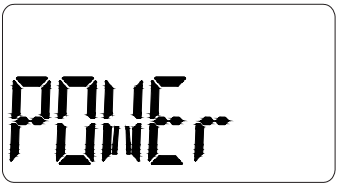
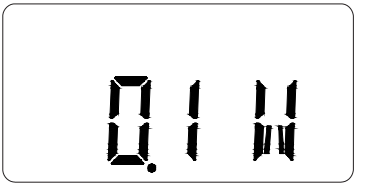


Fig. 4

To exit the menu, wait for 10 seconds and the LCD screen will stop blinking. You can also exit the menu by pressing the [MENU] button several times to navigate through the options until you reach EXIT and press [MENU] one more time.

RF Power: While in Menu, press the [MENU} button to navigate through the options until you reach POWER. When POWER is blinking, press the [UP]/ [DOWN] buttons to change the power (between 0,1 W and 2,0 W.)





Please note that these power numbers are for reference only and may not reflect the exact power output.

Indicates power between 0.1 W and 0.5 W

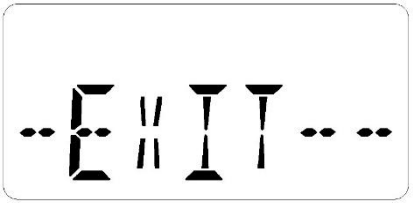
Indicates power between 0.6 W and 1.0 W

Indicates power between 1.1 W and 2.0 W

Press [MENU] to confirm the option and to go to the next setting.

The level of transmitted RF power needed depends on your application, coverage needs and type of antenna. Please always consult an RF engineer and your local communications authority for any licenses or permits you might need for your application.

Exit: While in the settings menu, press the [MENU} button to navigate through the options until you reach the fifth option EXIT and press the [MENU] button one more time to exit the menu.



Safety Information:

HAZARD! Pacemaker Safety

- Before using this transmitter and/ or receivers with a pacemaker or another medical device, consult your physician or the manufacturer of your pacemaker or another medical device.
- If you have a pacemaker or another medical device, make sure that you are using this transmitter and/or receivers in accordance with safety guidelines established by your physician or the pacemaker manufacturer.

WARNING! Damage to your Health

- Using earphones or headphones at a loud volume or over a prolonged period can lead to permanent hearing damage. To protect your hearing and others:
  a) Turn down the volume before putting on the earphones or headphones.
  b) Adjust the volume at the minimum comfortable level.

c) If feedback (a squealing or howling noise) occurs, turn down the headphone volume, and move the microphone away from the receiver's headphones.

Other Safety Considerations

- Do not leave the device in places with high temperatures or high humidity.
- Do not handle the power cord with wet hands.
- Keep this device away from fire and heat sources.
- Keep this product, accessories and its packaging out of the reach of children. Plastic bags, packing material, electrical cords and other accessories may cause choking, suffocation and/or electrocution!
- Do not open the unit. There are no user serviceable parts inside.
- Reduce the volume to its lowest setting before use.
- To clean, be sure to first switch off and unplug the unit from the power outlet, then wipe with a dry cloth. When extremely dirty, use a soft cloth dampened in neutral detergent. Never use benzene, thinner or chemically treated towels, which may damage the product's finish.

Trouble shooting

The transmitter will not power.

- Verify that the PS-500 power supply is connected to a working power source and to the transmitter.
- Make sure you are pressing and holding the [POWER] button for 5 seconds.

There is no audio on the transmitter's headphones output.

- If you are using the monitor headphones for language interpretation, make sure the monitor selector is set to EXT (External audio).
- Verify that the external audio signal is connected to the external audio input jack.
- Verify that there is a signal coming from your audio source.
- If you are using the headphones to monitor the broadcasted audio, make sure the monitor selector is in the INT (Internal) position.

There is no audio, or the audio is low on the receivers.

- Make sure that the main volume is turned up and that your audio source is properly connected. If using Input 1, the mode selector switch should be in the correct position. For example: if you are using the output of a mixer, the switch should be in the LINE position. If using a dynamic microphone, the switch should be in MIC and if using a 12 V condenser microphone, the switch should be in MIC PH-PWR.

- If the audio level is still low, make sure that the gain knob on the rear panel is turned up.
- If using the front microphone jack, make sure that the mute function is off and that you are using a compatible microphone in working condition.

There is noise or distortion in the audio.

- Verify if the audio input level is too high that overloads the input. Adjust the gain if necessary. If using input 1, make sure you are using the correct mode selector switch.
- Check to see if there is noise or ground loops in the audio source.

Receivers cannot pick up the signal.

- Make sure that the transmitter and the receivers are turned on.
- Check to make sure the receivers and the transmitter are using the same frequency.
- Ensure the antenna on the transmitter has been properly connected.

There is insufficient range.

- Verify that your receivers are working properly.
- Make sure the antenna is the correct one for your unit and is adequately attached to the transmitter with the correct length following the chart provided in this manual. if you are using a remote antenna, make sure it was designed for the frequency you intend to use.
- If using a remote antenna, keep coaxial cable from transmitter to antenna as short as possible.
- Make sure the transmitting antenna is oriented vertically.
- The antenna should be placed as high as possible and free of obstacles. Avoid placing it inside metal enclosures. Avoid obstacles between the listening area and the antenna that may affect the signal strength, like partitions, metal objects, dense materials, studs, pipes, heating or AC ducts, metal grids or concrete.
- Set the transmitter to a higher power level.
- Try using a different channel/ frequency since a strong interfering signal may exist.
- Try better receivers. Car radios have longer range than portable radios.

FCC Statements:

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 51cm between the radiator & your body.

ISEDC Warning

This device complies with Innovation, Science, and Economic Development Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d' Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil nedoit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The device is compliance with RF exposure guidelines, users can obtain Canadian information on RF exposure and compliance. The minimum distance from body to use the device is 51cm.

Le présent appareil est conforme Après examen de ce matériel aux conformité ou aux limites d'intensité de champ RF, les utilisateurs peuvent sur l'exposition aux radiofréquences et la conformité and compliance d'acquérir les informations correspondantes. La distance minimale du corps à utiliser le dispositif est de 51cm.

Limited Warranty Statement

Enersound warrants the T-588 transmitter to be free from defects in workmanship and materials under normal use and conditions for one year from the date of purchase from an official dealer. If the product is determined to be defective, Enersound will repair or replace it, at its discretion, at no charge. Customer must pay for shipping. This warranty is void if damage occurred because of misuse or if the product has been repaired or modified by anyone other than a factory-authorized service technician. Warranty does not cover any physical damage unless the damage was the result of a manufacturing defect. Damage due to water, corrosion, humidity, extreme temperature, chemicals, or any other external factor is not covered under this warranty. Reimbursement for your costs of removing and transporting the product for warranty service evaluation or installation of any replacement product are not covered by this warranty.

Enersound has no control over the conditions under which this product is used. Therefore, the company disclaims all warranties not set forth above, both express and implied, with respect to the T-588 transmitter, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. Enersound products manufacturer, distributors and/or dealers shall not be liable to any person or entity for any medical expenses, or any direct, incidental, or consequential damages caused by any use, defect, failure, or malfunction of the product, whether a claim for such damages is based upon warranty, contract, tort or otherwise. The sole remedy for any defect, failure or malfunction of the product is replacement of the product. No person has any authority to bind Enersound to any representation or warranty with respect to the Enersound T-588 transmitter. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, and the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty does not cover products sold AS IS or WITH ALL FAULTS. For products sold outside the U.S., please consult with your local dealer about special terms and conditions applicable in your country. Proof of purchase in the form of a bill of sale, invoice number or receipted invoice, which is evidence that the unit is within the warranty period, must be presented to obtain warranty service. If you experience any issues with your T-588 transmitter, send an email to support@enersound.com with your name, address, phone number and a complete description of the problem. We will respond to you as soon as possible and if it is necessary to return the product for service, your Customer Service Representative will give you a Return Authorization Number (RAN) and shipping instructions. For more information, visit www.enersound.com. You may also call 1-305-731-2416 or our toll-free number 1-800-644-5090 within the U.S.

T-588 Optional Accessories

ANT-588	Replacement Telescoping Antenna
PS-500	Replacement Power Supply
RM-501	Single Rack Mount Kit to mount one T-588 transmitter on a standard 19” rack
RM-502	Dual Rack Mount Kit to mount two T-588 transmitters on a standard 19” rack
COV-500	Top/ Bottom Metal Enclosure Cover for T-588

To purchase accessories, contact your local dealer.

If you are unable to find a dealer in your area, contact us for more information:

Toll free: 1-800-644-5090
International: +1-305-731-2416
info@enersound.com
www.enersound.com

	Specifications: Enersound T-588 FM Transmitter	
RF	Operating Frequency	88.1-107.9MHz Odd Frequencies only (US Version)
	Frequency Deviation	+/- 75kHz (Maximum Deviation)
	Frequency Accuracy	+/- 0.005% stability from 0~+50 degree C
	Transmitter Stability	+/- 20ppm
	Output Power	2 Watt adjustable
	Antenna	Telescoping antenna with 50 ohm impedance or optional remote antenna
	Antenna Connector	TNC
	Compliance	US: FCC Part 73 , Canada: Industry Canada BETS 6 & RSS-123
AUDIO	Frequency Response	100Hz ~15KHz (+ 3db/-6db)
	Signal to Noise Ratio	50db
	System Distortion	< 0.3% (THD)
	Audio Input 1	3-Pin XLR and ¼" (TRS) combination jack for MIC or LINE level Balanced or unbalanced. Nominal input level 0/56dbu (0.77V/1.3mV) (line/mic) Phantom Power:12VDC PIN 2&3 on XLR or Tip and Ring on ¼" TRS Jack
	Audio Input 2	(2)RCA Jacks, unbalanced Stereo Line Level -10dBu nominal, 100k ohms
	External Monitor In.	RCA Jack, unbalanced, Line Level -10dBu nominal, 100k ohms.
	REC Output	RCA Jack, unbalance output, Line Level -10dBu nominal, 10 ohms.
	MIC Input	Front panel: 3.5mm 1/8'' TRS jack, supplies +DC on tip for electret mics.
	Audio Processing	Built-in signal compression 2:1.
	Headphone Out.	Front panel: 3.5mm stereo TRS jack adjustable output level, Max Power 61mW @8ohm, Impedance: 4~16ohm.
POWER	Power Supply Type	In Line, UL listed
	Power Supply In.	100~240VAC, 50-60Hz
	Power Supply Out.	15VDC, 1A
	Power Supply Connector	Output Connector: .02 in.(5.0 mm) OD, .01 in.(2.5mm) ID, barrel type
ENVIROM.	Temp. Operation	-5℃ (23F) to + 40℃ (104F)
	Temp. Storage	-20℃ (-4F) to + 60℃ (140F)
	Humidity	0~95% Relative Humidity
PHYSICAL	Dimensions	5" x 5.5" x 1.75" (127 x 140 x 45 mm) (DxWxH)
	Color	Black
	Unit Weight	1.2 lbs. (0.54 Kg)
	Power Supply Weight	0.5 lbs. (0.22 Kg) with AC cord
	Shipping Weight	2.2 lbs. (1.1 Kg)
	Rack Mounting	1 1/2 rack space height, 1/2 rack space wide, One or Two transmitters can be mounted in 1.5 rack space, Option rack mount (RM-501 or RM-502)

We reserve the right to make technical and design modifications to the transmitter without notice.

Enersound Contact Information:

Toll free: 1-800-644-5090

International: +1-305-731-2416

info@enersound.com / www.enersound.com