

STREETOUNDS

Fixed Master STS-170-FMST

User Guide

V1.1

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2 INTRODUCTION

The StreetSounds STS-170-FMST Fixed Master is a wireless audio transmitter designed to act as either the master transmitter for a StreetSounds network, or as a “repeater” within the network. The role of the unit is configurable via the Network Management System (NMS). The STS-170-FMST consist of two parts, the Outdoor Unit (ODU) and the Indoor Unit (IDU). The two units are connected together via a Cat5e shielded cable that can be up to 150’ long (max).

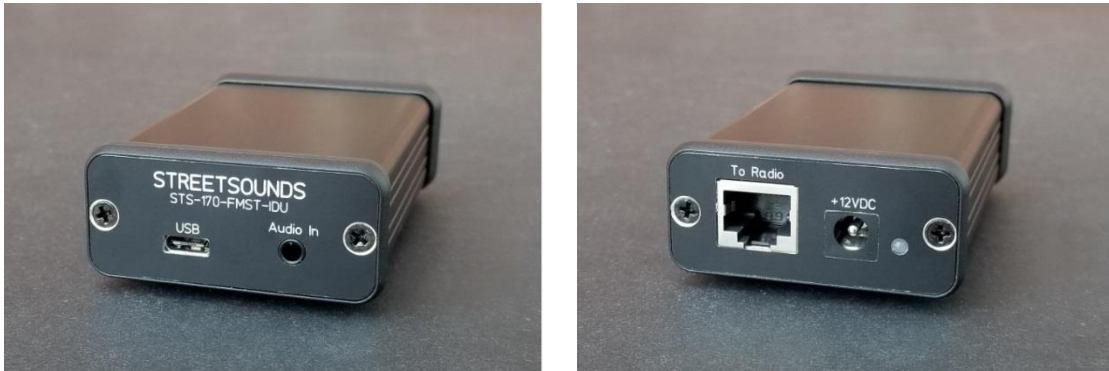
3 OUTDOOR UNIT (ODU)

The STS-170-FMST-ODU contains the radio transmitter, as well as audio processing for the StreetSounds network. It is fully weatherproof and designed to be permanently installed in a outdoor location. It accepts +12VDC power, stereo analog audio, and USB signals over the shielded Cat5e interconnecting cable from the IDU. The standard unit includes two 2dbi antennas. An optional high-gain antenna option is available that includes two 5dbi antennas with an extended mount and interconnecting cables. The high-gain antenna option is recommended for larger networks that require extended radio coverage.



4 INDOOR UNIT (IDU)

The STS-170-FMST-IDU Indoor Unit is a “breakout box” for injecting DC power, stereo analog audio, and USB signals into the ODU. The IDU is designed to be used in a “indoor” environmentally controlled environment.



The IDU interfaces include

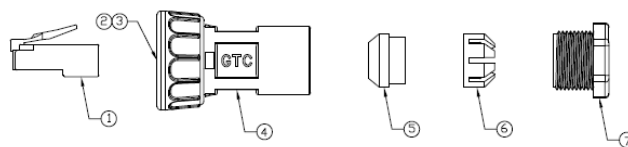
- A USB connection for the NMS running on a laptop or desktop PC. This is a type-C USB connector.
- An 1/8” (3.5mm) stereo audio input connector.
- +12VDC power connector from an AC/DC wall adapter (~2 Watts).
- RJ45 connector for the Cat5e shielded cable connection to the ODU

The interconnect between the IDU and ODU is a Cat5e shielded cable that can be up to 150’ long (max). Since the cable’s shield is used to provide grounding between the IDU and ODU, it is very important to make sure the shield is properly terminated AT BOTH ENDS OF THE CABLE. There are many videos on YouTube showing how this is done. Below is a link to one of these videos.

https://www.youtube.com/watch?v=82gcljop_0U

The outdoor end of the Cat5e cable requires a GT Contact GT125360 weatherproof connector termination assembly. This assembly is provided with each STS-170-FMST unit. The assembly is shown below. Again, proper termination of the shield is required.

NOTE: YOU MUST PLACE ALL PIECES OF THE GT125360 ON THE CABLE BEFORE YOU TERMINATE THE RJ45 CONNECTOR. Note the orientation of each piece in the diagram below.



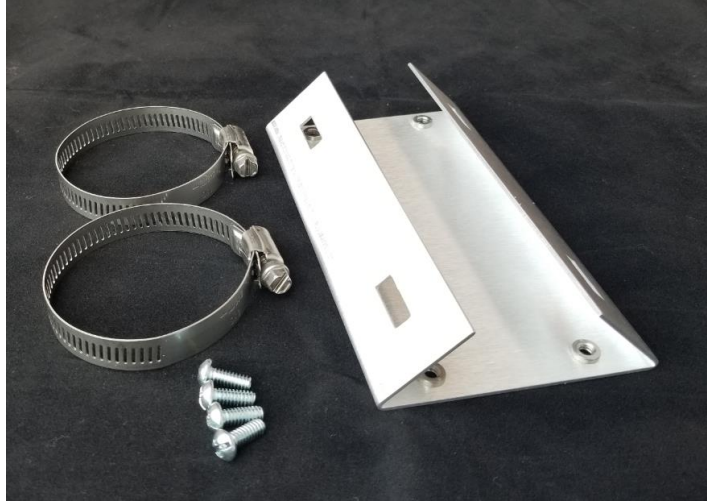
5 OPTIONAL HIGH GAIN ANTENNA ASSEMBLY

An optional high-gain antenna assembly is available that can help extend the radio range of the STS-170-FMST if required. The assembly includes two 5dbi omni-directional antennas, an extended stainless steel antenna mount, and interconnecting cables. Below is a photo of the Fixed Master with the high-gain antenna assembly attached.



6 POLE MOUNT

The STS-170-FMST includes a pole mount and mounting hardware that allows the Fixed Master to be attached to a pole or mast.



The typical mounting pole can be a “satellite dish mount”, of which there are many varieties. The photo below shows the FMST mounted to a “J-Mount” (Ubiquiti UB-AM). These are very inexpensive and ideal for mounting on an exterior wall such as is shown in the photo. Make sure the antennas are mounted above the roof line with a clear line-of-sight to the furthest remote. Note that the antennas are oriented perpendicular to the road so that the antennas do not obstruct each other’s view of the remotes.



The photo below shows the FMST mounted on a non-penetrating roof mount (EZ-NP-60-200 from Solid Signal \$90). This type of mount is ideal for roof-mounting the FMST on a “rubberized” or sealed roof. Cinder blocks are added to the base to stabilize the mount in heavy winds. A rubber mat is used for added protection against puncturing the roof seal. The mount assembly should be mounted as close as possible to the front edge of the building so that the antennas have a clear line-of-sight to the furthest remote. The antennas are oriented perpendicular to the road so that the antennas do not obstruct each other’s view of the remotes.



7 FCC STATEMENTS

7.1 CLASS B DEVICES:

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.

7.2 RF EXPOSURE AND SAFETY INFORMATION

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **30cm** between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Access to the internal module is reasonably restricted by the host packaging. ***The end-user has no manual instructions to remove or install the module.*** Questions or concerns regarding product safety should be referred to AirNetix, LLC, 2218 Edgartown Lane SE, Smyrna, GA 30080.

7.3 MODULAR RADIO

This host device contains a modular radio with FCC ID: 2AB8BSTS170RADIO and IC: 1944A-ST5170RADIO

8 INDUSTRY CANADA SPECIFIC STATEMENTS:

This device complies with Industry 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'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit 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

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This radio transmitter **11944A-ST5170RADIO** has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio **11944A-ST5170RADIO** a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

- 2 dBi dipole
- 14 dbi Yagi
- 8 dbi Patch
- 8 dbi Omni directional antenna

This device complies with Industry 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'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit 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.