City of Negaunee
PO Box 70
319 W. Case Street
Negaunee, MI 49866
906 475-9991

INVITATION FOR BIDS

Sealed bids will be received by the City of Negaunee located at 319 W. Case Street, Negaunee, Michigan, 49866 until 1:00PM, April 24, 2023, for **Outdoor Sound System** for the Negaunee Downtown Enhancement Project.

Bid shall be submitted and addressed to the Negaunee City Clerk, City of Negaunee, PO Box 70, 319 W. Case Street, Negaunee, MI 49866. Envelope shall be sealed and clearly marked "**Outdoor Sound System**"– Negaunee Downtown Enhancement Project." Bids must be received before or by the above date and time. No fax or email bids will be accepted.

Bids will be opened on April 24, 2023, at 1:00PM at **319 W. Case Street (City Hall), second floor conference room.**

The City reserves the right to accept any or all bids or accept any part of a bid. Each of the items may be purchased individually or as a lump sum bid.

BID FORM

Vendor: _____

Address: _____

_____

City of Negaunee – Streetlight Vendor				
Item Description	**Quantity**	**Unit**	**Unit Price**	**Total Price**
Item 1		Each		
Item 2		Each		
Item 3 (total shipping)		Each		

TOTAL BID **$**

_____

(words)

***Item 1:* Install and configure outdoor wireless sound system**

Product Specification to be provided or similar alternative approved by owner.

Part numbers are as follows (See attached product specifications):

STS-170-205J outdoor speaker units and control head

The AiRocks Network Management System (NMS)

- PC-based application the system will expect to play streaming music as well as having plug-in capability for bands and guest speakers.

Manufacturer Information:

- AIRNETIX
  - 2218 Edgartown Lane SE
  - Smyrna, GA 30080
  - (678) 677-4961

  http://www.airnetix.com/
  Contact Mike Hooper
  Email: mikeh@airnetix.com

Provide map with site locations where sound system is to be installed (See site map attached).

***Item 2:* Provide training with supporting documentation on the sound system**

Item 3: Shipping (priced by shipping source, if applicable)

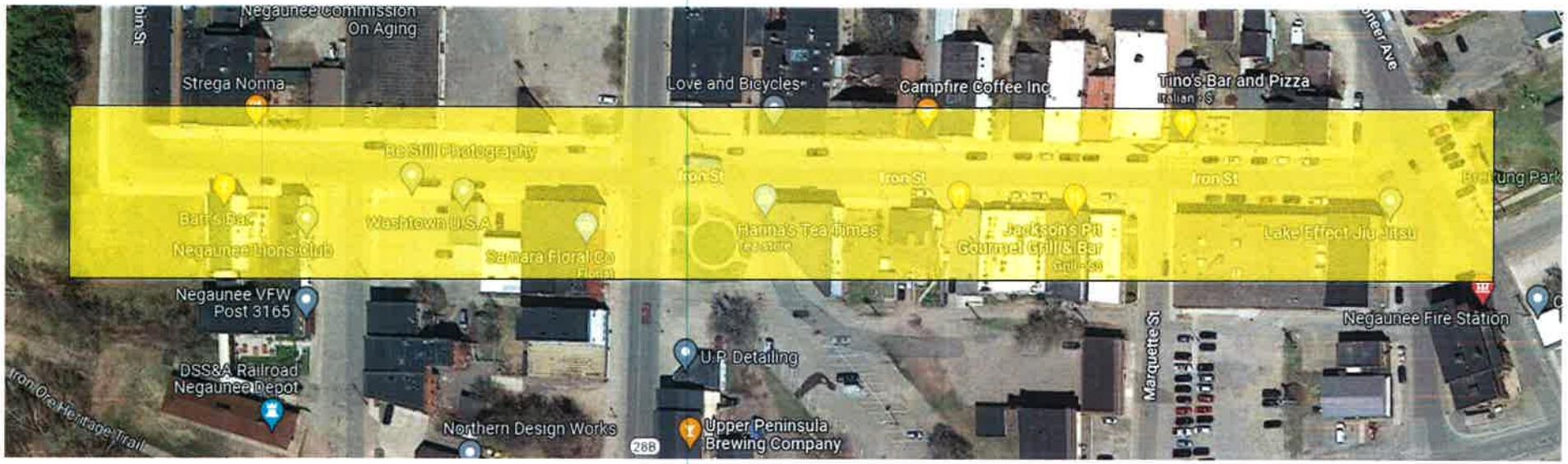
Shipping by source

Delivered to:600 Cherry Street, Negaunee, Michigan 49866

Special Notes:

Vendor should be prepared to provide references upon request and to work with the City of Negaunee's electrical department on power requirements for each station. In addition, the vendor must follow the guidance of the manufacturer listed in the contact information above.

Zone to be Coved by Outdoor Sound System



streetsounds
Music for Your Main Street

StreetSounds Network Installation Guide

V2.2 - Aug 2022

streetsounds
Music for Your Main Street

Contents

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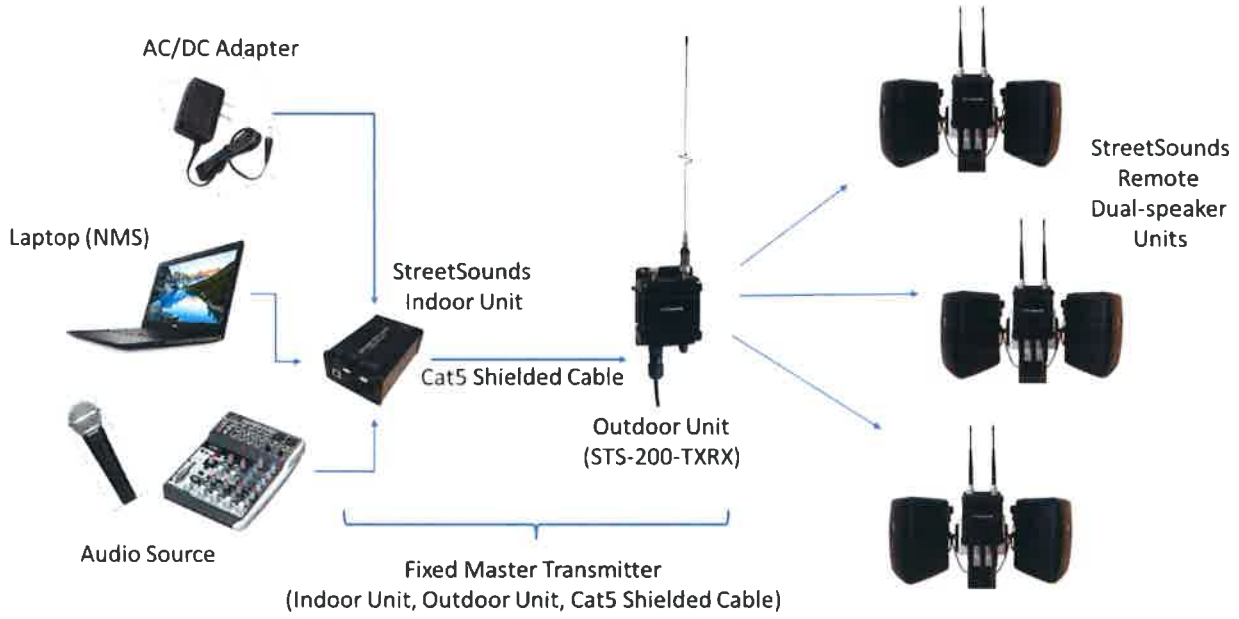
Music for Your Main Street

StreetSounds Network Installation Guide

This guide gives a step by step set of instructions to help you install your StreetSounds network.



Pre-Installation Planning

The StreetSounds Design and Planning Guide should be read thoroughly prior to installing your network. This guide provides a great deal of important information that will make the equipment installation go smoothly.

You can install the Fixed Master prior to installing the pole-mounted remotes to simplify "registering" the nodes in the Network Management System database. This is helpful, but not absolutely required. See "Registering the Nodes" section below.

Installing the Network Management System Application

There are currently two version of the Network Management System application software. Each is used with a different version of the Indoor Unit (IDU) and Outdoor Unit (ODU).

- V7 – Used with the STS-170 STARX Fixed Master transceiver hardware and BOB Pro Indoor Unit (IDU).

- V8 – Used with the STS-200-TXRX Fixed Master transceiver hardware and the STS-200-IDU.

BOB Pro Indoor Unit and STARX Transceiver Outdoor Unit

STS-200 Indoor Unit and STS-200-TXRX Outdoor Unit

The STS-STARX-ODU hardware has a single RJ45 connector on the bottom of the enclosure, while the STS-200-TXRX has both an RJ45 connector as well as an AC power connector on the bottom of the enclosure. V7 NMS will only work with the STARX ODU hardware and the BOB Pro IDU. The V8 NMS will only work with STS-200-TXRX ODU hardware and the STS-200 Indoor Unit IDU.

Download and install the appropriate NMS version from the support page of the StreetSounds Wireless website.

http://www.streetsoundswireless.com/support.html

In addition, when using the V8 NMS application, USB drivers must be installed before connecting the Indoor Unit (IDU). Download and install the FTDI USB drivers from the support page of the StreetSounds Wireless website.

FTDI USB Drivers download

The STS-STARX-ODU and BOB Pro IDU do not require special USB drivers since they are recognized as standard windows HID devices and use the built-in Windows USB HID drivers.

After installing the NMS, you must "register" each remote speaker unit in the NMS database. This enables you to specifically identify each remote unit.

1. Registering the Nodes

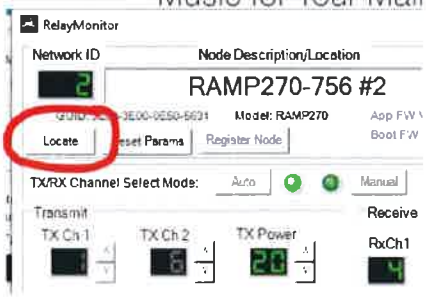
Once a remote speaker unit has been mounted on a pole it must be "registered" in the Network Management System database to help keep track of which node is which. There are two ways to register the remote speaker nodes:

- **As they are being installed one-by-one.**

In this method, you must have the Fixed Master Transmitter installed and working prior to mounting the speakers. Once you apply power to the remote speaker unit it will appear in the Master Map tab of the NMS. At this point you will know which unit has come online and can give it the appropriate name in the NMS.

- **After they have been installed by listening for a tone sent from the NMS.**

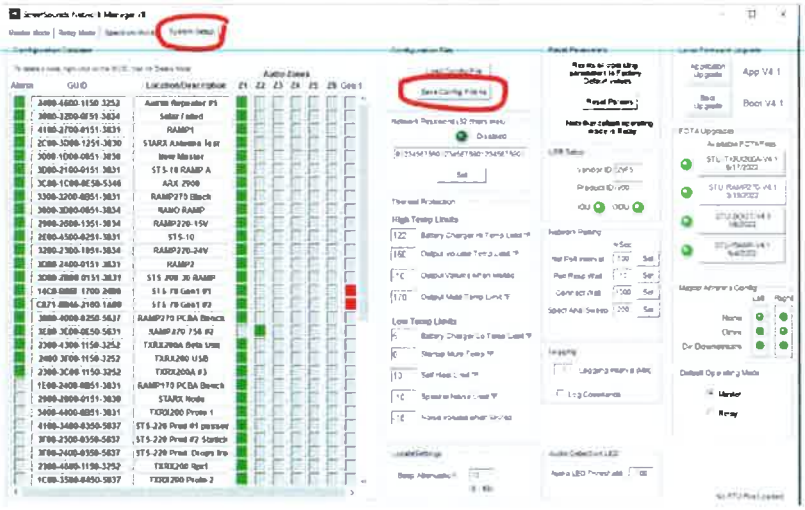
The NMS has the ability to send a (loud) tone to each speaker independently . This "Locate" tone can be used after the speaker has been installed to identify which speaker is which by having someone on the street listening for the tone. Once the speaker has been identified, it can be given the appropriate name in the NMS database. The Locate button is located in the top-left portion of the "Relay Monitor" window of each remote device.



2. Saving the Config File

After you have named all of the speaker units, SAVE A COPY OF THE CONFIGURATION DATABASE TO A SECURE LOCATION (another computer or thumb drive). If this is not done, and the computer dies or is replaced in the future, you will need this configuration database so that you don't have to re-create it from scratch.

To save a copy of the NMS config file, click on the System Setup tab at the top of the NMS window. Then click on the "Save Config File As" button and save the file with a name such as MyTownCofigFile.xml to a save backup location.

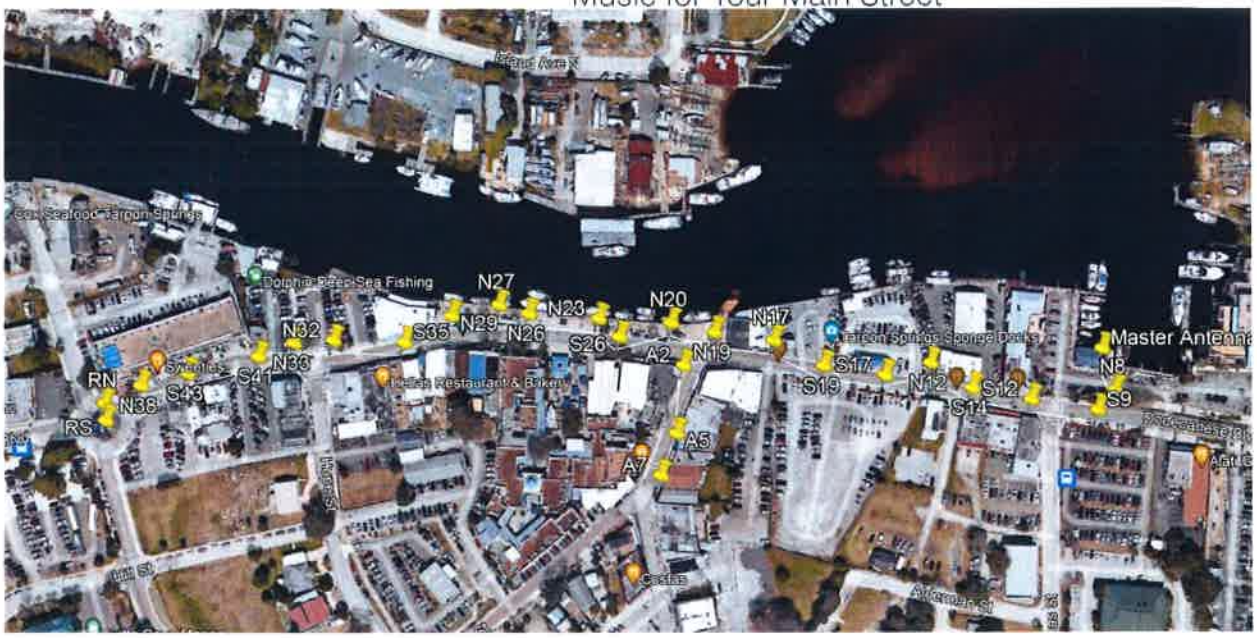


3. Create a Map of your network

It is very important to create a map of the location of your speaker units with names that you have given to each remote unit (i.e., #1, #2, etc., or Deli, Library, etc.). This will help not only you, but also AirNetix when attempting to configure and debug network issues. A simple screen shot of a Google Maps overview of your downtown or coverage area with the speaker units shown in their approximate location will suffice. Without this type of information, we cannot accurately configure your network. The NMS application will give you the opportunity to give names to each of the speakers so that you can keep track of them and control them independently. These names should be shown on your network map. Please provide a copy of this map the AirNetix for remote assistance.

streetsounds

Music for Your Main Street



Installing the Fixed Master Transmitter

This section will give you details of the mounting requirements for the Fixed Master.

1. Selecting a location for the Fixed Master

It is critical that the Fixed Master be installed in a location that provides a "very good" line-of-sight to as many of the remote units as possible. It doesn't have to be "perfect", but the better the line-of-sight, the better the signal quality. The best location for a Fixed Master is at, or near the center of the network coverage area, preferably on a second-story rooftop overlooking the main street. However, this is not a firm requirement. Consult with AirNetix for acceptable locations.

It is also desirable to house the equipment in a Customer/City-owned building so that you have 24/7 access should problems arise. Keep in mind that the laptop used for running the network must have good, reliable internet access so that you, and/or AirNetix, can remotely log into the laptop using Chrome Remote Desktop. This means that the network can be run "remotely" and that you don't necessarily need constant direct access to its keyboard. The laptop can in fact be in a closet with its lid closed if desired. We regularly log into many of our customers laptops remotely to help with configuration or troubleshooting issues.

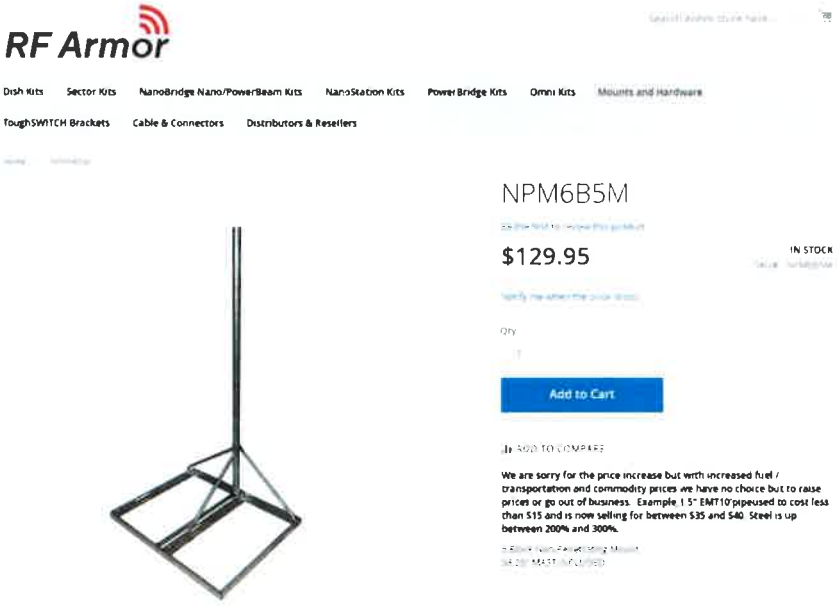
2. Fixed Master ODU Mounts

AirNetix does not provide the rooftop or wall mount for the Fixed Master since every customer location is different. So IT IS THE CUSTOMER'S RESPONSIBLITY TO BUY AND INSTALL THE MOUNT USED FOR THE FIXED MASTER OUTDOOR UNIT (ODU).

Below are a few examples of suitable mounts for the Fixed Master Outdoor Unit (ODU). There are many versions of these satellite dish mounts available on Amazon for ~$100 - $200.

We recommend mounting the ODU as near the front edge of the building as possible for best radio coverage. Keep the antenna above the "parapet" of the building so that it is not blocked. We recommend a 2ft to 3ft clearance if possible.

Non-penetrating Satellite Dish Rooftop Mount



"J-Mount" Wall Mount

Note: keep the antennas away from the wall and above the roof line for best coverage.

Electrical Conduit Mount attached to AC unit.

3. Running the Cat5 Cable from the Outdoor Unit (ODU) to the Indoor Unit (IDU)

AirNetix will provide a shielded 150' Cat5 cable with your purchase of the Fixed Master Kit. This cable is shielded and can be up to 1000' long if necessary (150' limit with the STARX Transceiver). The shield is important for the proper operation of the USB connection to the Fixed Master ODU. If the cable is cut or damaged, the Network Management System (NMS) application will not be able to communicate with the network. BE CAREFUL NOT DO DAMAGE THE CAT5 CABLE DURING INSTALLATION.

STS-200-TXRX StreetSounds Outdoor Unit (ODU)

There are two version of the ODU used with a Fixed Master. The unit shown above is the **STS-200-TXRX** which has two connectors on the bottom. Only the RJ-45 is used in the Fixed Master configuration. ***The AC power connector must be covered with the supplied weather cap to prevent water intrusion. Also, in smaller networks, only ONE omni-directional antenna is used. In this case, place the single antenna on the right-hand antenna port, and a Type-N weather cap on the left-hand antenna port to prevent water damage.***

The second version of ODUs is the "STARX" version. It has only a single RJ45 connector (no AC power connector).

With both versions, please make sure the left antenna connector is capped with the supplied Type-N weather cap. Place a single antenna on the right-hand antenna connector as shown in the photo above.

4. Install the Cat5 Weather Cover on the Outdoor end of the Cat5 Cable

AirNetix provides a weatherproof connector cover for the outdoor end of this ODU to IDU cable. IT IS CRITICAL TO INSTALL THIS COVER. IF NOT, THE CONNECTOR WILL FAIL OVER TIME DUE TO CORROSION FROM THE OUTDOOR ENVIRONMENT. OUR WARRANTY DOES NOT COVER THIS ISSUE. Please see the detailed instructions at the end of this document (Assembly Instructions for RJ-45 Weather Connector).

5. Installing the Indoor Unit

The Indoor Unit (IDU) is the indoor termination point for the Cat5 cable coming from the ODU on the roof. The IDU inputs include 1. AC/DC 12V or 18V power adapter (provided), 2. USB from the laptop that is running the NMS (USB-A cable provided), 3. Audio from the laptop earphone output that will be played through the remote speaker units (3.5mm audio cable provided).

There are two versions of Indoor Units that can be used in a Fixed Master configuration. One is called the BOB-PRO and is used (only) with the STARX version of Outdoor Unit. The other, shown above is the "StreetSounds Indoor Unit"

(STS-200-IDU-DCX) and is used (only) with the STS-200-TXRX Outdoor unit. Both offer XLR stereo audio inputs and/or 3.5mm stereo audio inputs. The BOB-PRO is shipped with an XLR to 3.5mm audio adapter cable.

6. PC Requirements for the Network Management System (NMS) Laptop or PC

AirNetix provides a Network Management System application for controlling and monitoring the StreetSounds network. This can be downloaded from the Support page of our website.

The customer must provide a laptop that is dedicated to the StreetSounds network. It must be a Windows PC running either Windows 7 or Windows 10 or Windows 11. The Network Management System will not run on a Mac. There are no special hardware requirements for the PC, so a mid-range or used laptop should work fine. Below are desired specs for the laptop:

Windows 7 or 10, or 11

6GB RAM

Intel i5 or better processor.

Minimum screen resolution of 1366 x 768

7. Enabling Remote Access to the Laptop

AirNetix will need to have open, full-time remote access to the NMS PC. We recommend that you create a unique Gmail account for your StreetSounds network (i.e. yourcitystreetsounds@gmail.com). Create a password that you can share with AirNetix and any others who may need access to the laptop remotely.

Once the Gmail account has been created, download and install the Chrome browser (if not already installed). Log into the newly created account on the Chrome browser, then download and install Chrome Remote Desktop (remotedesktop.google.com). You can do this by entering "remotedesktop.google.com" in the browser address bar. You should then click on the "Remote Access" tab at the top of the screen. This will lead you through the installation of the "host" application that allows remote access by authorized users. When creating the account, you will be asked to create a PIN. We generally use 515151 so it is easy to remember. Finally, you must "Enable remote connections" to enable remote access. After doing this, you can test the connection from any other computer by logging into the

new Gmail account and typing "remotedesktop.google.com" in the address bar. The remote laptop should show up as a green icon in the "Remote Devices" section of the screen.

THIS IS A VERY IMPORTANT FIRST STEP IN THE INSTALLATION PROCESS AND MUST BE DONE BEFORE WE CAN ASSSIT WITH THE CONFIGURATION OF THE NETWORK. If you need help with this, AirNetix can walk you through the process.

Installing the Remote Dual-Speaker Units

1. Attaching the remote dual-speaker units to the streetlight pole

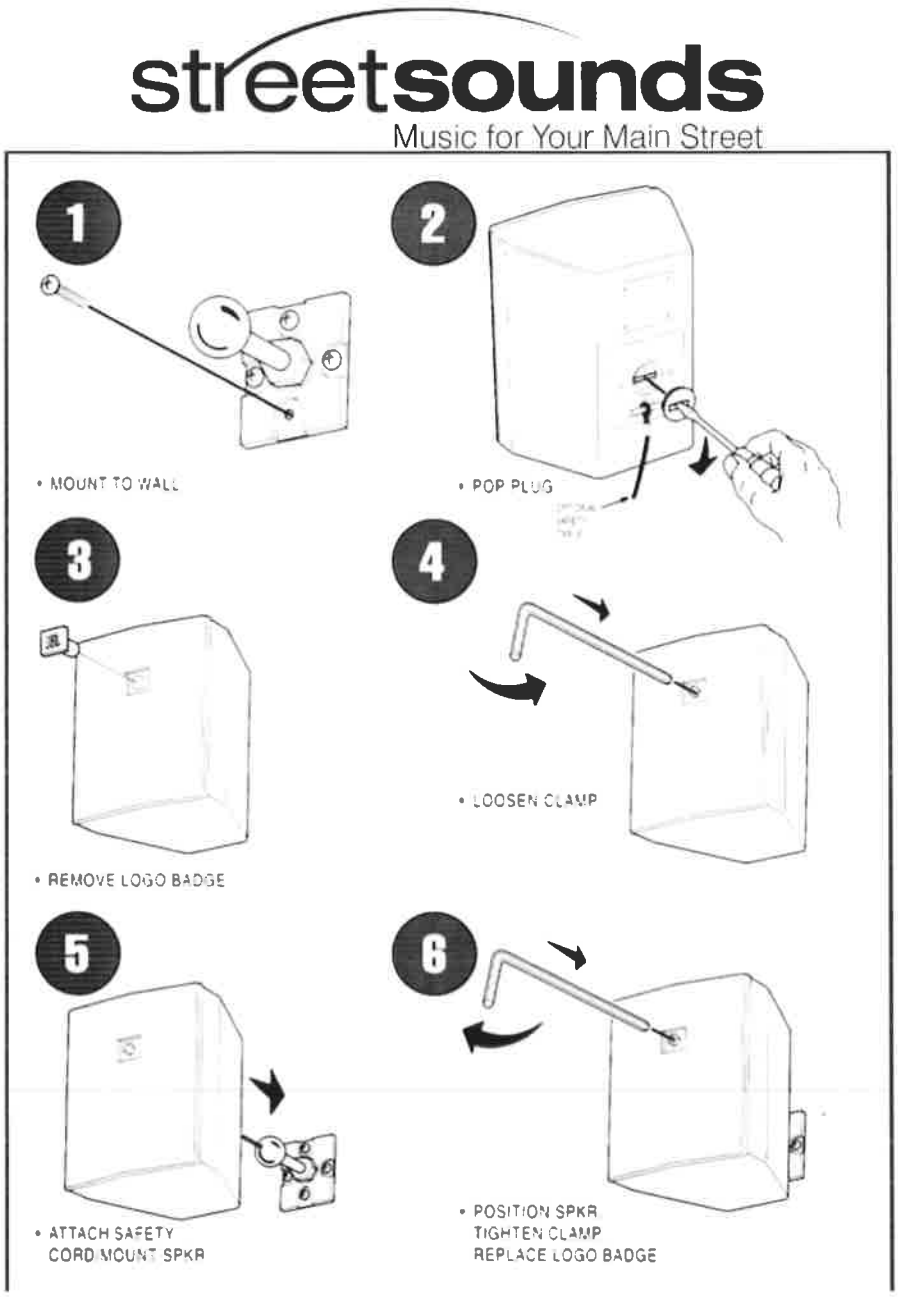
Select the poles where you want to install the speaker units. These poles should be ~120' apart, preferably (but not necessarily) in an alternating zig-zag pattern across the street for best sound coverage. The remote units should be mounted on the "street side" of the pole, as opposed to the "shop side". This gives better radio reception.

The speaker units are easily attached to a streetlight pole using the two stainless steel hose clamps provided. Make sure to use both hose clamps and tighten them securely. The hose clamps can be inserted in either slot on the base of the mount.

It is best to mount the unit as high as possible on the pole without allowing the antennas to touch any metal parts of the pole. We recommend mounting at 12' or higher to keep the speakers out of the "temptation zone".

The JBL Control-25 speakers have a hidden mount adjustment screw inside the FRONT grill of the speaker behind the plastic JBL "badge" (figure 3 below). Simply remove the badge with a small screwdriver (or by hand) to access this screw. Then use the provided hex wrench to loosen and/or tighten the screw after the speaker is placed on the InvisiBall mount.

The speakers have some degree of adjustment so that they can be aimed in the desired direction. They should be mounted with a down-tilt of 5 – 10 degrees to keep rain from collecting inside. The speaker cable gland (rear protective cover for speaker wire connection) should be oriented at the top of the speaker.



Once the speakers are mounted on the pole attach the two speaker wires to the bottom of the "RAMP" (radio/amplifier). Make sure the connectors are fully inserted into to the two outer connectors, and that the outer housing of the connector cable "snaps" into the detent on the mating connector. This will form a fully weather resistant connection.

Attach the two black antennas to the two antenna connectors on top of the RAMP (radio/amplifier). Make sure the antennas are not touching anything metal, like the base of the streetlight tenon. If they are touching the base, lower the mounting location slightly until there is some clearance. Also try to make sure they have an un-obstructed view both up and down the street.

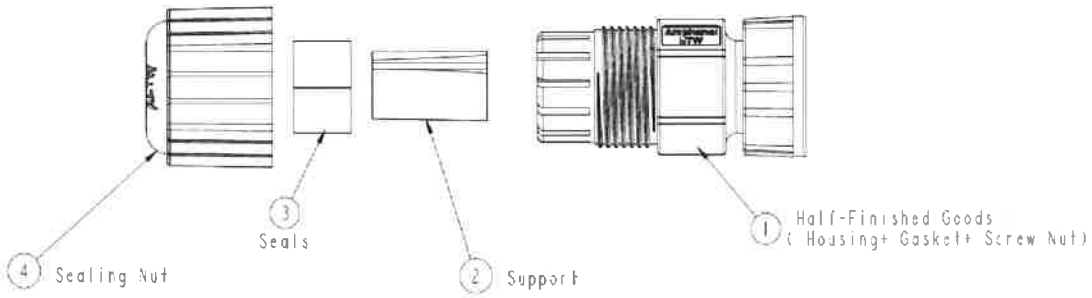
After mounting the RAMP and speakers, plug in the AC power while watching the 3 green LEDs on the bottom of the RAMP. If there is AC power present, the LEDs will flash (quickly) several times indicating that the unit is powered and working. If the LEDs don't flash, either there is no AC power, or the unit is broken. Try a different AC power source to confirm the unit is working. If LEDs don't flash after trying an alternate source notify AirNetix for RMA procedures.

Call AirNetix for final configuration, support, and training

Once you have installed the NMS application and have enabled remote access, call AirNetix for support configuring the network and providing training for operating the system (678-677-4961).

Assembly Instructions for RJ-45 Weather Connector

LTW RCP-00BMMS-SLM7001

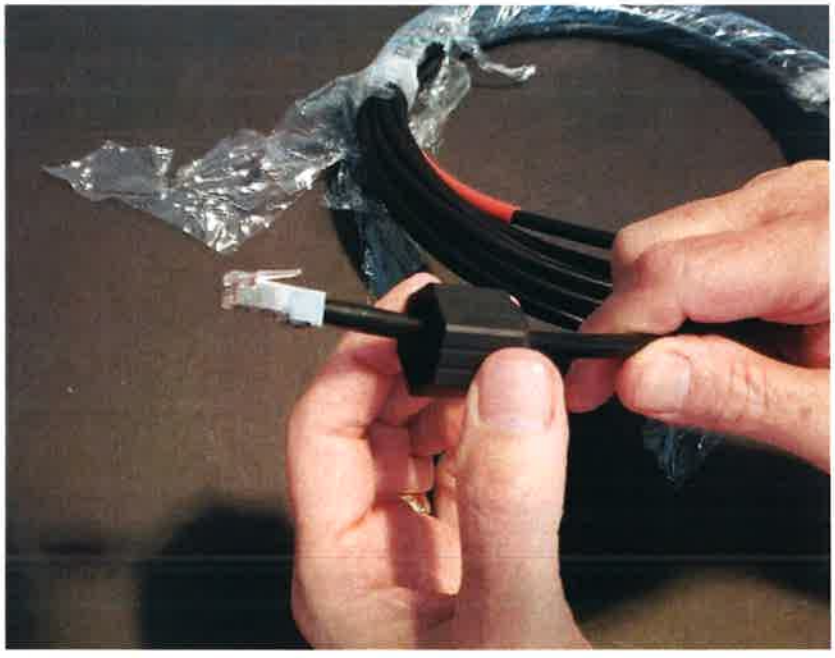


1. Remove Boot

Remove the rubber/plastic boot covering the RJ-45 connector. In some cases this boot can be slipped over a ridge on the bottom of the RJ45 and pushed down far enough to be out of the way of the weather cover. If not, carefully remove the boot with an Xacto knife. The boot will not be used.

2. Install Sealing Nut

With the boot removed, slide the Sealing Nut over the RJ45 connector.



3. Attach the Housing Assembly

Slide the RJ45 connector up through the bottom of the Housing Assembly. Make sure the keep the RJ45 connector sticking as far out of the housing as possible.

4. Install the Support

Slide the support piece over the cable as shown. Push the support up into the housing so that it is pushing against the bottom of the RJ45 connector. This will help keep the RJ45 connector sticking out as far as possible when the rest of the parts are installed.

5. Install the Rubber Seal

Slide the rubber seal over the cable as shown.

Push the seal upward into the housing so that it is fully inside the housing.

6. Tighten the Sealing Nut

While applying constant force on the bottom of the cable, and pushing the RJ45 connector as far out of the housing as possible, tighten the sealing nut until it is completely tight (by hand).

7. Attach Cable to Radio

Once the weather cap has been installed, you can now attach it to the radio.

Try to keep the connector as straight as possible while screwing into the mating connector on the radio.

MAKE SURE NOT TO CROSS THREAD THE CONNECTOR AS YOU INSTALL IT.

Hand tighten the connector until it is fully engaged with the radio connector. The connector assembly should feel "solid" and should not rock back and forth. If there is any movement, remove and re-attach to the radio making sure the threads are going on smoothly.

AirNetix
2218 Edgartown Lane SE, Smyrna, GA 30080 - 678-677-4961 - www.airnetix.com

streetsounds

Music for Your Main Street

Design & Planning Guide

V7.1

March 2022

Contents

2218 Edgartown Lane SE, Smyrna, GA 30080 - 678-677-4961 - www.airnetix.com

Planning Your StreetSounds Network.

This document will help you with the process of planning for your StreetSounds installation. There are several important decisions to be made in order to achieve a reliable network with good audio coverage.

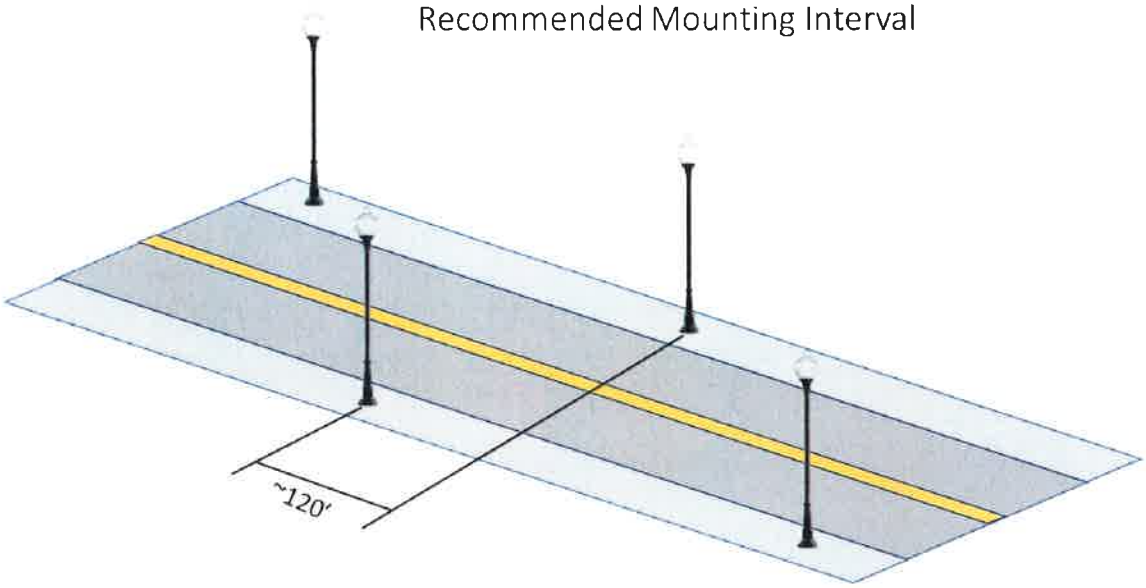
Select Your Coverage Area and Poles

The first step in the planning process is to decide exactly where you want the audio coverage. This may sound simple, but in fact may be a bit more difficult due to physical limitations. The wireless audio system is designed to be mounted on existing streetlight poles from which it gets its AC power (110VAC).

Most small-town city blocks are between 250' and 350' long. Street light poles are typically situated about 120' to 150' apart so that the light illumination coverage is adequate for the surroundings. This provides the perfect mounting location for the wireless speakers. A good way to begin the planning process is to walk your streets and decide which poles would be good candidates for the speakers. Some towns have poles that have been installed in an alternating pattern on opposite sides of the street. Good audio coverage can be achieved by placing the speakers in a zig-zag pattern on these poles. Note that not every pole needs a set of speakers.

You will need to identify specifically which poles you would like to mount each StreetSounds unit on. We recommend that the poles be 100' – 120' apart (150' max). If your street is not too wide, remote units can be mounted in a zig-zag patter across the street for better audio and radio coverage. If your street is wide and/or noisy, you will need to have more remote units placed at a reduced interval. AirNetix can help you decide on the best approach by looking at Google Maps.

Recommended Mounting Interval



You will need to come up with a "name" for each pole, such as "North Main #1" (NM1), "East Square 2" (ES2), or "Flower Shop". This will help identify the units on the Network Management System software.

The mounting location on the pole will need to be clear of any obstructions, such as flower baskets, flag holders, banners, or signs near the top where the remote unit will be mounted. The StreetSounds units should be mounted as high as possible on the pole (i.e.12' or higher) for optimum radio performance and sound coverage.

In some cases the remote units will need to "share" the space with existing on the pole with other items, such as banners. The optimum mounting location is above any obstruction. However, in certain cases this is not possible and the radio may need to share the space with the obstruction. It is important

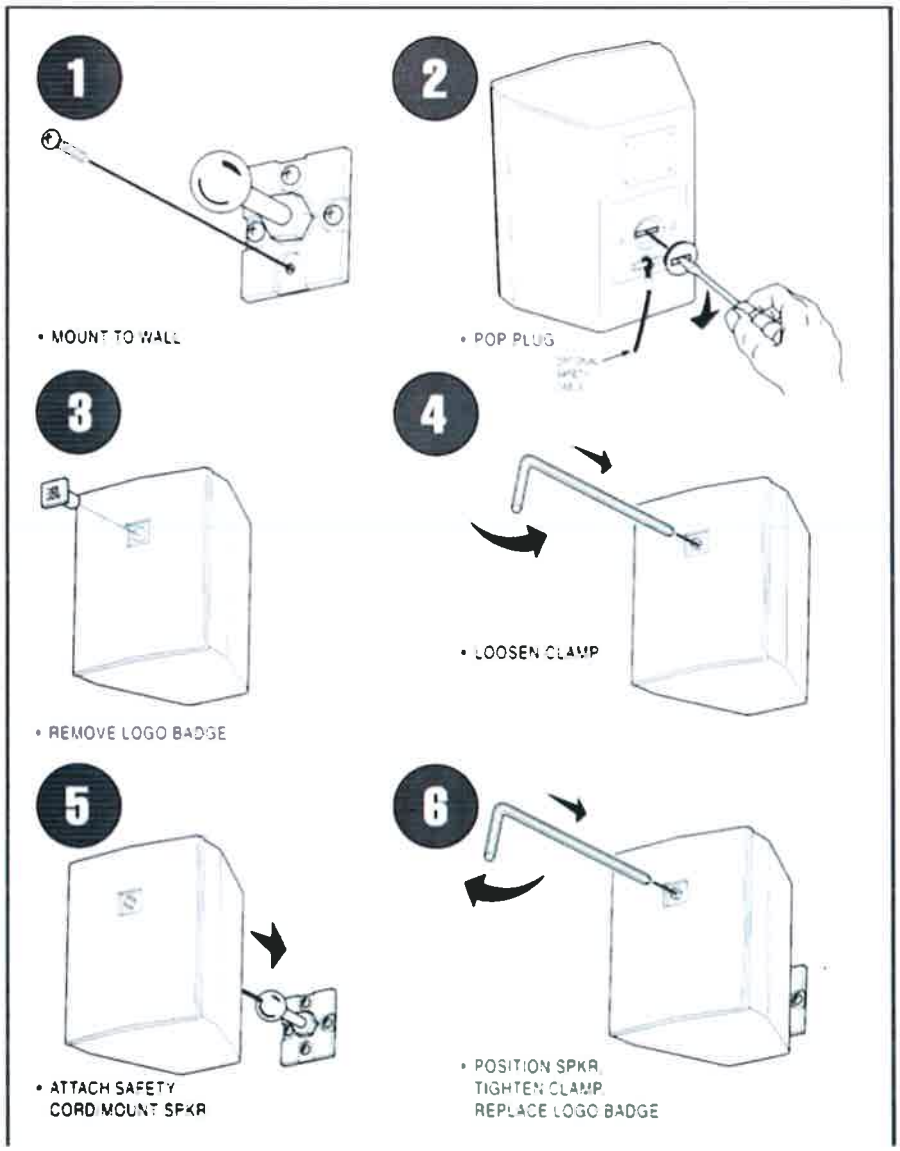
to prevent the antennas from touching any metal items such as the bottom of the light mounting bracket (tenon), or mounting brackets.

It is highly desirable to mount the radio on the "street side" of the pole instead of the "shop side". This will help with RF propagation for the radios. In certain cases it may be necessary to add "antenna extenders" to move the antennas away from the radio to prevent them from being blocked by the metal pole. This can help with RF signal reception.

Figure 1- STS-270-205J Remote Dual-Speaker Unit

The JBL Control-25 speakers have a hidden mount adjustment screw inside the FRONT grill of the speaker behind the plastic JBL "badge" (logo). Simply remove the badge with a small screwdriver (or by hand) to access this screw. Then use the provided hex wrench to loosen and/or tighten the screw after the speaker is placed on the InvisiBall mount.

The speakers have some degree of adjustment so that they can be aimed in the desired direction. They should be mounted with a down-tilt of 5 – 10 degrees to keep rain from collecting inside. The speaker cable gland (rear protective cover for speaker wire connection) should be oriented at the ***top*** of the speaker.



Verify AC Power

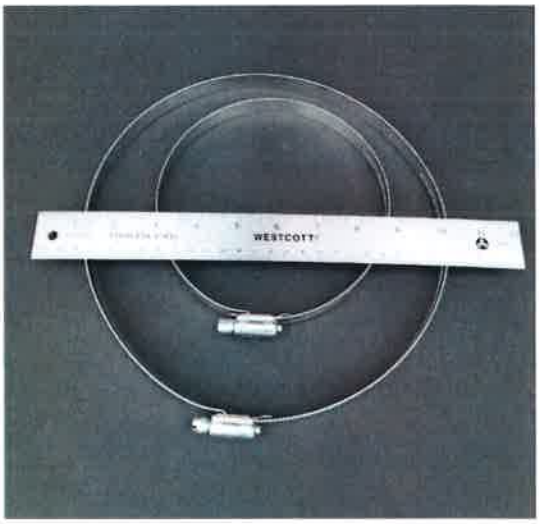
Finally, you will need to make sure that each pole has an AC power outlet. It is best if the outlet is covered with a weather cover as shown below and has a GFI (ground fault interrupt) breaker. Verify that the AC power is always "ON" as opposed to power that only comes on in the evening (photocell or timer). This is a very important consideration and enables the StreetSounds network to be monitored and controlled remotely at all times. The AC power cable on the radio is ~7' long. So, the AC power plug will need to be with 5 to 6' of the radio mounting location.

Who Owns the Poles?

The next planning question is "who owns the poles?" If the local municipality owns the poles the plan is simplified. If the local or state power company owns the poles, you will need "Pole Attachment Permission" like what is needed for holiday decorations or hanging baskets. The power company will consider the size and weight of the speaker system as well as the power consumption. These specifications can be provided by AirNetix if required.

What is the Pole Diameter?

We offer two sizes of mounting bands for the remote units. One fits a pole from 4" to 6" in diameter, which is typical. However, some poles are tapered or larger in diameter and require a larger band. We also offer a band that can accommodate a pole up to 9" in diameter. We will need to know the size of mounting band required for your poles. If your poles are larger than this (i.e. wooden utility poles), you will need to provide the appropriate mounting bands.



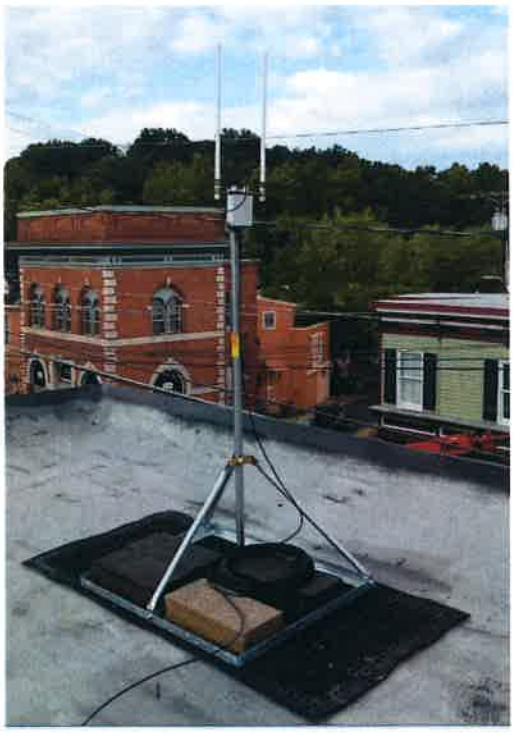
Installing the Speaker Units

The installation of the remote speaker units has been greatly simplified and requires only two hose clamps for attaching the units to the streetlight poles. **Please note that AirNetix does NOT provide installation services.** The customer is responsible for the installation of all remote speaker units, as well as the Master Transmitter. Most towns utilize their Public Works personnel for installation. Some hire a third-party contractor. We have provided an instructional video on our website detailing the process. It is highly desirable to watch this video to fully understand the process.

Network Application and Transmitter Location

You will need to decide how you want to use the system. Background music and public address announcements are quite simple to implement for farmer's markets, shopping music, parades, etc. However if you plan to "mic your band" (called "sound reinforcement") you will need to take "delays" into account. Delay settings can be controlled for each remote unit through the Network Management System application that runs the network.

A basic background music network requires a "Fixed" master transmitter (see below) mounted on an elevated location such as a roof-top or façade of a building. This location will house a laptop computer that runs the Network Management System application software. It will also need to be connected to the internet for a "streaming audio" business subscription services such as Mood Mix or Cloudcover Music. A Cat5 cable must be run between the laptop and roof-mounted transmitter.



The Fixed Master consists of an outdoor unit (ODU) and an indoor unit (IDU) which are connected together by a Cat5e shielded cable up to 150' long. The outdoor unit can be mounted on the façade of a building (above left) by using an inexpensive mount such as the Ubiquiti "J-Mount" (Ubiquiti UB-AM ~$20). An alternative is the "non-penetrating" roof mount (above right) such as the EZ-NP-60-200 from Solid Signal (~$90). It is important to mount the Fixed master greater than 20' above ground level WITH GOOD LINE OF SIGHT TO ALL REMOTE UNITS.

The IDU has inputs for power (for the ODU), audio (from your streaming audio source), and USB (for the Network Management System). The USB attaches to a PC which runs the Network Management System application.

Figure 2- STS-200-TXRX Outdoor Unit

Figure 3 STS-200 Indoor Unit (IDU)

However, if you plan to use the system for special outdoor events, you will need both a Fixed, as well as a "Mobile" master transmitter (see below). Using the network for this type of application requires that you carefully select a location for the Fixed master, and take into account the transmit range required for the Mobile master. During your special event, the Fixed Master will be re-cofigured to be a "repeater" so that it can "relay" the signal from the Mobile Master to all of the remotes. It is best to discuss this element of planning with an AirNetix professional well in advance of the installtion of the system.

Mobile Master

The Mobile Master (Mobi) is a battery powered "mobile" Master Transmitter that can easily be transported down to the street during a special outdoor event, such as a festival or parade. The Mobi includes a built-in 2-channel mixer for a microphone and an audio player (iPod, smartphone) that eliminates the need for an external, bulky mixer and all the wires and knobs that come along with it. A function called "Mic Priority" automatically reduces the level of the audio player when you speak into the microphone. The audio level automatically returns to its previous level when you stop speaking, eliminating the need to "fiddle" with the knobs. The Mobi includes a 12-hour rechargeable battery that can be recharged with any standard USB port so that you can keep rockin' all day long.

When using the Mobi for a street-side event, the roof-mounted Master is reconfigured to be a "repeater". Thus, the Mobi talks to the repeater, and the repeater retransmits the signal to all the remotes. This means the Mobi does not have to cover the entire network from the ground.

Laptop for Network Management.

You will need to provide a laptop that is dedicated to the StreetSounds network. It must be a Windows PC running either Windows 7 or Windows 10. The Network Management System will not run on a Mac. There are no special hardware requirements for the PC, so a mid-range or used laptop should work fine. Below are desired specs for the laptop:

Windows 7 or 10
6GB RAM
Intel i5 or better processor.
Minimum screen resolution of 1366 x 768
(Note: Dell offers refurbished PC's with these capabilities for $400 - $450).

Prior to installation, we ask that you download and install the Chrome browser (if not already installed). Then download and install Chrome Remote Desktop (remotedesktop.google.com) using a new, custom Google account so that you can share the login credentials with others, including AirNetix. This will allow us to keep an eye on your network during the first few weeks.

For example:

Username: yourtownstreetsounds@gmail.com
Password: yourtown123456!
PIN: (required by Chrome Remote Desktop) 515151 – easy to remember.

Finally, download and install the StreetSounds Network Management System application from the support page of our website, or from a link supplied by AirNetix.

Internet Access.

The PC that runs the Network Management System will need internet access. It is best to have a wired LAN connection, but Wi-Fi will work also.

Remote Access to Network Management.

We will remotely monitor your network for the first few weeks after install to make sure everything is operating correctly. This will require that the laptop have Chrome Remote Desktop installed, and that the Google account for the laptop is accessible by us. We can assist with installing and setting this up if you need help.

IT Contact

We will need someone to be the point of contact for PC and internet related questions and/or issues. We will need to work with this person during the final part of the install when we have everything up and working. At some point in the future, you or your IT person will need to assume responsibility for "driving" the system (i.e. song selection and addressing any system alarms). For the first few weeks we will be keeping track of the system remotely and can make any changes that you like.

Streaming Audio Services

There are numerous sources of "streaming" audio. Some legal, some not so legal. Obviously staying legal is of utmost importance for a public outdoor system. Services such as Mood Mix and CloudCover offer very affordable, fully legal, licensed music of all varieties. For example, Mood Mix offers a business license for unlimited play for ~$35/month. Another streaming service, CloudCover offers a business license for $17/mo. Both of these services run on a web-based application that runs on the Network Management System PC.

Potential Interference

The StreetSounds system is certified by the FCC for operations in the 900 MHz frequency band (902MHz to 928MHz). Devices in this band must accept interference from other systems operating in the same

band. This includes some AMI (automated metering infrastructure) systems operated by utility companies for water and electricity metering. We have operated successfully in some cities in the presence of this type of inference. In other cities we have had more challenges, which include dropouts of audio, or reduction of the number of available channels.

PLEASE BE AWARE THAT WE CANNOT GURANTEE THAT THE STREETSOUNDS NETWORK WILL OPERATE SATISFACTORILY IN THE PRESENCE OF THIS TYPE OF INTERFERENCE.

If your city is using an AMI system that operates in the 900 MHz frequency band, AirNetix recommends a performance test prior to rolling out the network. AirNetix will work remotely with the City to perform this test, which will consist of mounting a transmitter on the roof, and a single remote unit on one of the poles. This will let us measure the level of interference present along the street and make a determination as to whether the system will perform to everyone's expectations.

StreetSounds Installation Check List

1. Interference Analysis
    a. Does the city have an AMI system operating in the 900 MHz frequency band?
2. Poles
    a. Select the specific poles for the remote units.
    b. Check for 110VAC "always ON" power on each pole.
    c. Measure the pole diameter at mounting location of remote.
    d. Make sure the mounting location is clear of banners, flower baskets, signs, etc.
    e. Name poles with a name you can remember. It is recommended that you make a map of your pole selections using a screen shot from Google Maps.
3. Installing Remote Units
    a. Watch the installation video on the StreetSoundsWireless.com website.
    b. Attach the StreetSounds remote units to the selected poles using the two stainless mounting bands supplied.
    c. Mount the units as high as possible (>12 ft.) above the ground.
    d. Avoid letting the antennas touch metal objects, such as the streetlight mount.
    e. Mount the units with the Radio facing the street (not the stores).
    f. Secure any excess AC power cord with zip ties.
4. Master Location
    a. Select a location for the Master transmitter.
        i. Decide if using Mobile or Fixed Master at this location.
    b. Confirm that there is an internet connection in this location.
    c. Designate a laptop or desktop computer that will be dedicated to running the Network Management System (NMS) application.
    d. Download and install the NMS application.
    e. Download and install Chrome Remote Desktop.
        i. Create sharable login credentials for a new Gmail account.
    f. When ready, have AirNetix test the remote login capability.
5. Fixed Master Installation
    a. If installing a Fixed Master on the roof, purchase and install a suitable (satellite dish) mount.
    b. Run the AirNetix-supplied Cat5 cable from the roof mounting location to the indoor location of the NMS computer.
    c. Attach and test the connections to the Indoor Unit.
        i. Power
        ii. Audio
        iii. USB
    d. Have AirNetix test the operation of the Fixed Master remotely.
6. Streaming audio music subscription
    a. Subscribe to a streaming audio business service.
    b. Test this using the NMS computer.