

StreetSounds Network Installation Guide

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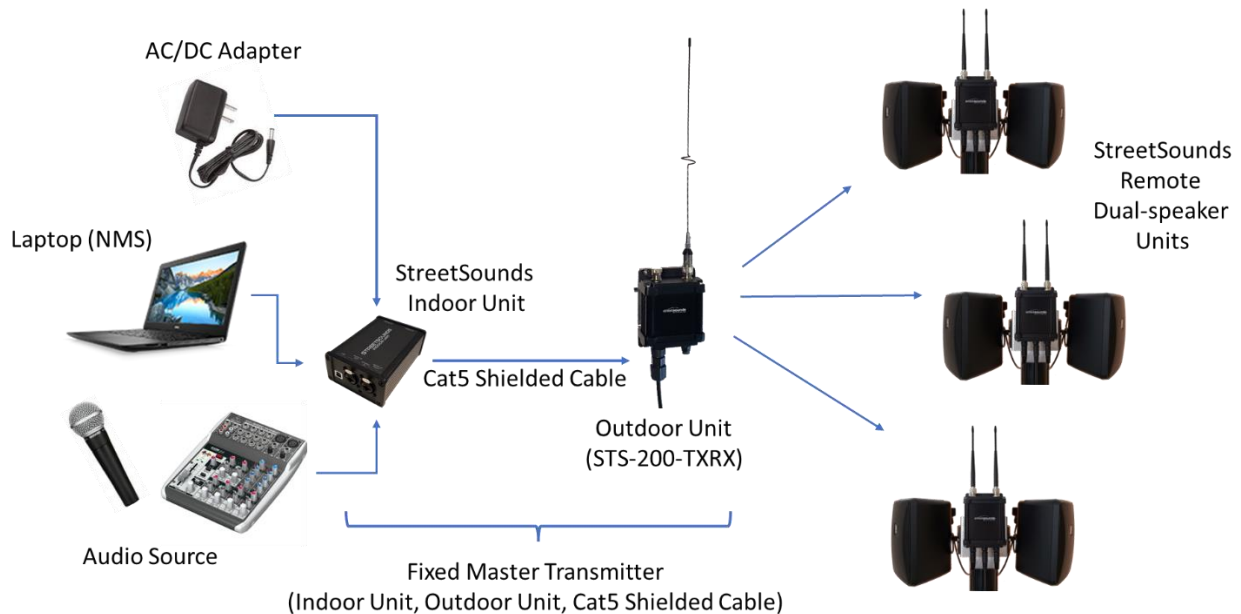
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StreetSounds Network Installation Guide

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).

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- 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

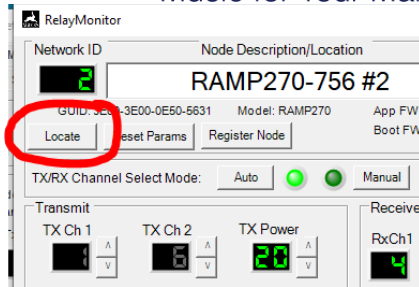
Once a remote speaker unit has been mounted on a pole it must be “registered” in the Network Management System database to help keep track of which node is which. There are two ways to register the remote speaker nodes:

- **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.**

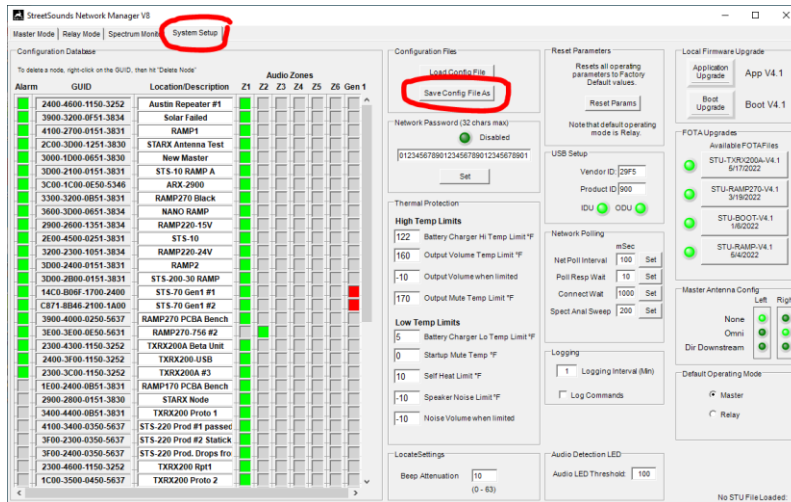
The NMS has the ability to send a (loud) tone to each speaker independently . This “Locate” tone can be used after the speaker has been installed to identify which speaker is which by having someone on the street listening for the tone. Once the speaker has been identified, it can be given the appropriate 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.



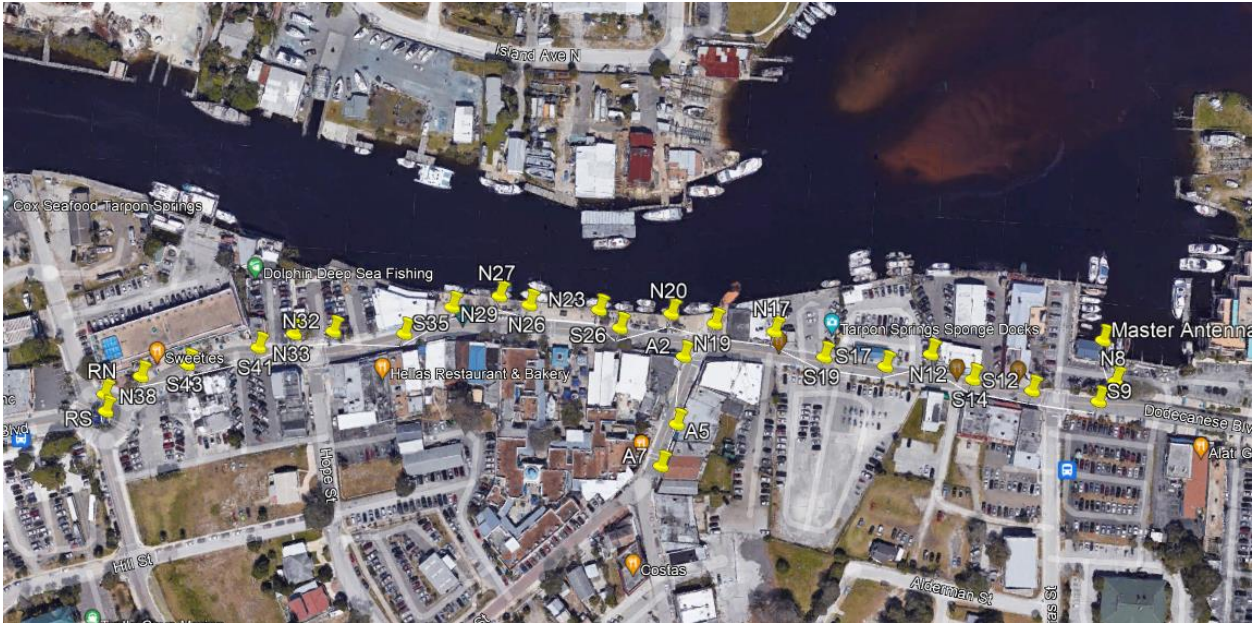
3. Create a Map of your network

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.



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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 RESPONSIBILITY 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.

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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



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- NanoBridge Nano/PowerBeam Kits
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- Omni Kits
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We are sorry for the price increase but with increased fuel / transportation and commodity prices we have no choice but to raise prices or go out of business. Example, 1.5" EMT10 pipe used to cost less than \$15 and is now selling for between \$35 and \$40. Steel is up between 200% and 300%.

6 Block Non-Penetrating Mount
58.25" MAST INCLUDED

"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 ASSIT 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".

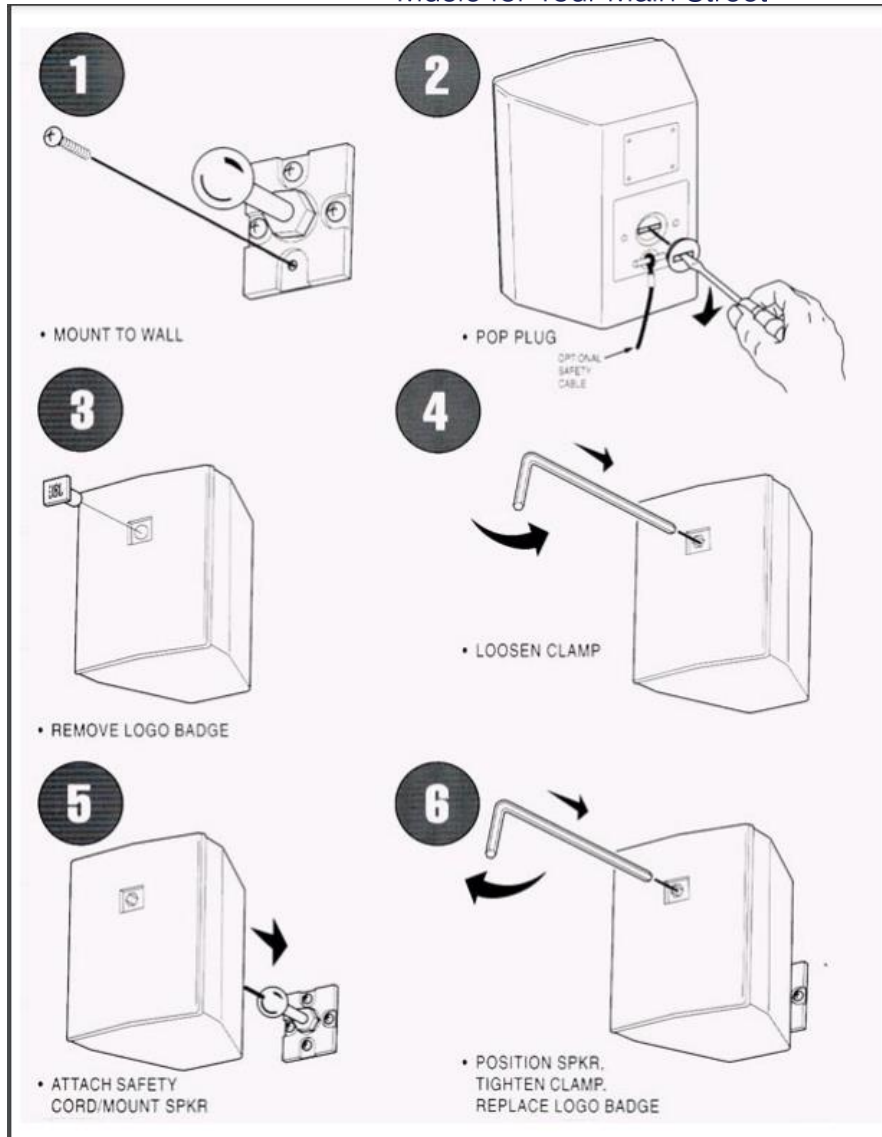


The JBL Control-25 speakers have a hidden mount adjustment screw inside the FRONT grill of the speaker behind the plastic JBL "badge" (figure 3 below). Simply remove the badge with a small screwdriver (or by hand) to access this screw. Then use the provided hex wrench to loosen and/or tighten the screw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

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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.

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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.



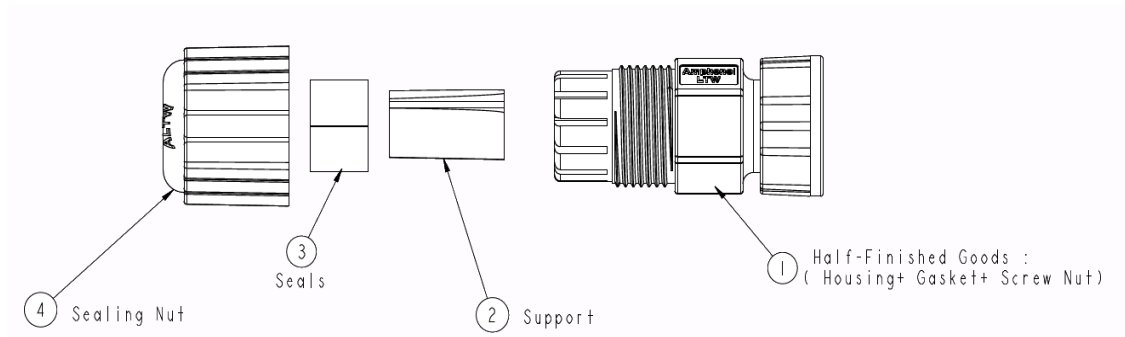


Call AirNetix for final configuration, support, and training

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).

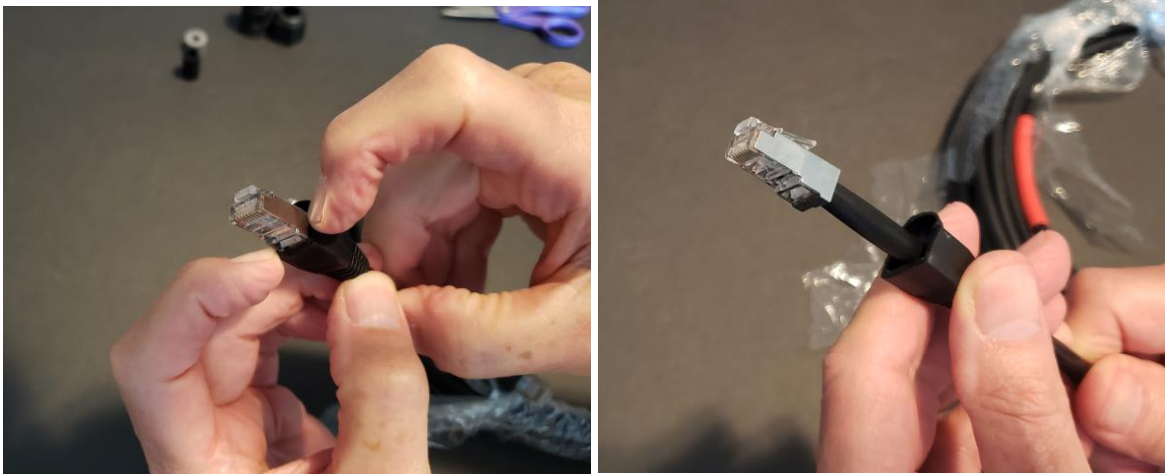
Assembly Instructions for RJ-45 Weather Connector

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.

