

## **ESTeem 195 Narrowband (195M, 195H & 195C) Series Firmware Update – September 2023 (New Software)**

(195nb\_main\_202309011047 & 195nb\_bootloader\_202309011047)

### **Overview**

This firmware release for the ESTeem 195 Narrowband series is a generational update that will require all radios in the network to be above firmware version 202203171222 (March 2022 or newer) to communicate reliably. This firmware release consolidated three previous versions into a single revision. Multiple software commands, security, radio parameters and features were added to this release that can only be utilized when all radios are of the same firmware revision. No hardware updates to the radio are conducted, so if a previous version of the firmware is working for your application and the new features are not needed, the 195 Narrowband radios can be downgraded to a previous version. Contact technical support at [support@esteem.com](mailto:support@esteem.com) or 509-735-9092 for complete details.

***Caution: Installation of this firmware will make communication to firmware versions older than March 2022 unreliable. It is recommended that all radios in the network update to this firmware version at the same time. Do not remove power from the radio during any of the following updates.***

### **New Features**

In this firmware update, the following new features were implemented:

Configuration Tool Updates – The configuration tool has been updated for a simplified basic configuration. There is only a single firmware version so no selection between serial, DF1 or Ethernet bridge is required. The diagnostics and spectrum analyzer utilities have been simplified and optimized.

Serial Interface – The serial interface and associated protocol emulations have been optimized and operation through multiple repeater sites has been corrected.

Ethernet Interface – The Ethernet bridge interface has been optimized and now includes both an ARP packet proxy and “Keep Alive” proxy for better interface to larger networks.

### **Update Procedure**

The 195 Narrowband Configuration Tool used to complete firmware update and configuration of the radios is installed with the ESTeem Software Suite. The Esteem Software Suite and installation instructions can be downloaded at no cost from our website at <https://www.esteem.com/esteem-utilities/>. The 195NB Firmware image file can be downloaded from our website at <https://www.esteem.com/firmware/>. This same procedure will be completed for all models of ESTeem 195 Narrowband radios; 195M (150-174 MHz), 195H (217-220 MHz) or 195C (450-470 MHz).

The software update is completed in three phases.

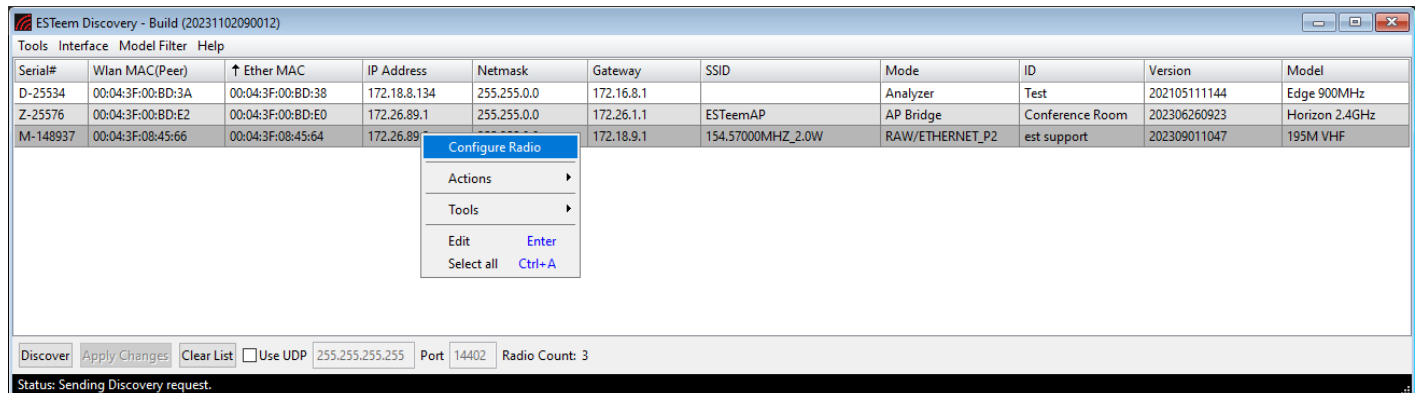
Phase 1 – Firmware Preparation. This will add the new software commands and adapt any older commands.

Phase 2 – Bootloader Update. This will update the radio bootloader to the latest version.

Phase 3 – Firmware Update. This final phase will update all parameters of the firmware for operation.

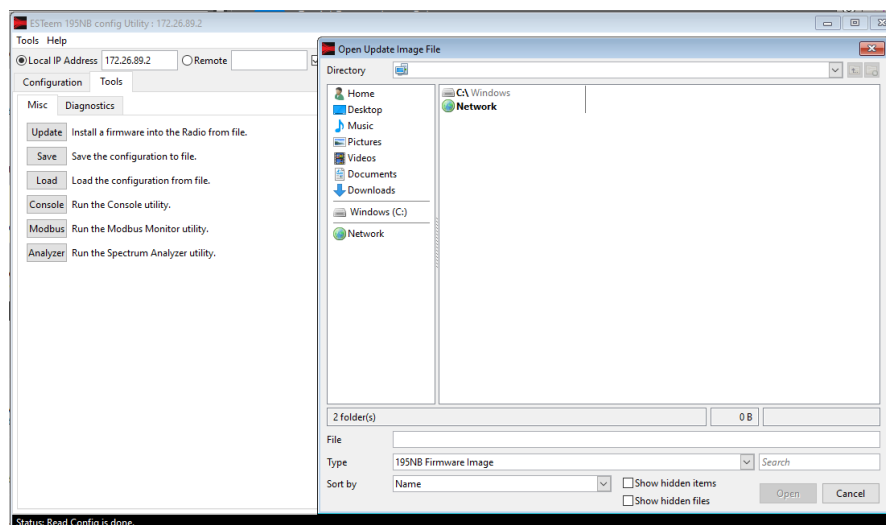
### Phase 1 – Firmware Preparation

1. Once the ESTeem Software Suite Utility has been installed and is operational, open the Discovery Utility and press the “Discover” button in the lower left corner to find the ESTeem radio connected to the computer.
2. Verify the computer and radio are on the same TCP/IP subnet. If different, you can change the IP address of the radio by selecting Edit (Figure 1) or change the IP address of the computer to match the radio.
3. Select the radio to update, press the right-mouse button and select Configure Radio from the menu (Figure 1).



**Figure 1: Open 195 Narrowband Software**

4. The 195 Narrowband Configuration Utility will launch. Once the utility verifies communication with the radio, select the Tools tab near the top. Then select the Update option and a new window will open (Figure 2).
5. Once the new window has opened, navigate to where the firmware image files have been saved, select the main file, and press the Open button. The radio will then apply the update and reboot.



**Figure 2: Select Firmware Files**

### Phase 2 – Bootloader Update

- The process for updating the Bootloader is almost identical to what was completed in Phase 1. Reopen the Update Window (Figure 2) as shown above.
- Navigate to the bootloader file that was downloaded with the main file from the website, select the file and press Open.
- The bootloader will update and once complete the “Radio Rebooting waiting 20 seconds” message will display (Figure 3).

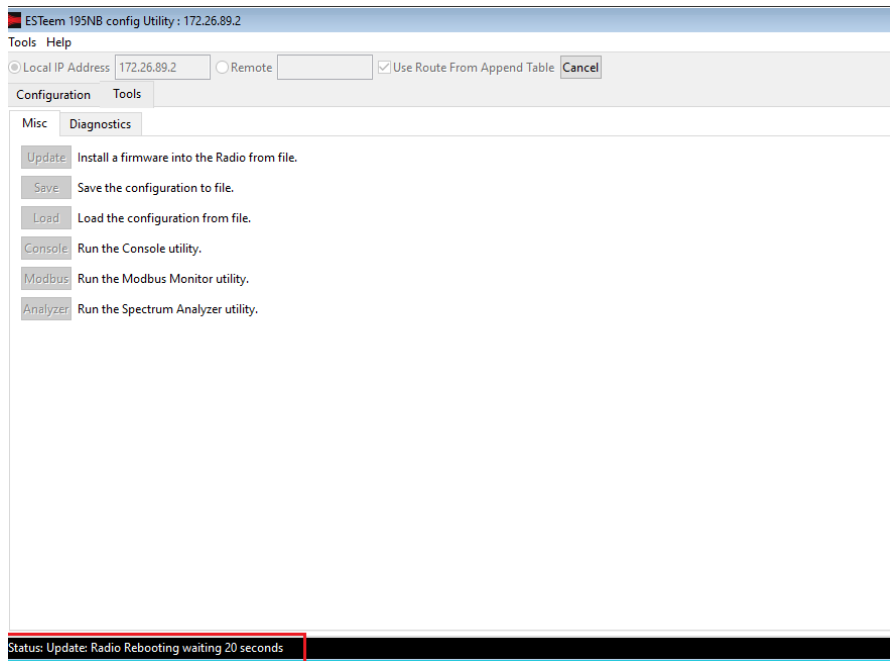


Figure 3: Update Status Bar

### Phase 3 – Firmware Update

- This last Phase will update all parameters to the bootloader and finalize the installation of the firmware. It is a repeat of Phase 1.
- On the same screen as shown in Figure 2, select the main file once again and press Open. The radio will then update, reboot, and will be ready to use.