ESTeem 195 Narrowband (195M, 195H & 195C) Series
Firmware Update – June 2022
(DiscoverySuite Version 20220620095745 – Firmware 202205200857)

Overview
This firmware release for the ESTeem 195 Narrowband series is a generational update that will require all radios in the network to be at this firmware version (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 or 509-735-9092 for complete details.

Caution: Installation of this firmware will make communication to previous firmware versions 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 Discover Suite Utility. The Discovery Suite Utility and installation instructions can be downloaded at no cost from our website at https://www.esteem.com/esteem-utilities/ This same procedure will 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 Discover Suite Utility has been installed and is operational, 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 (Figure 1) or change the IP address of the computer to match the radio.

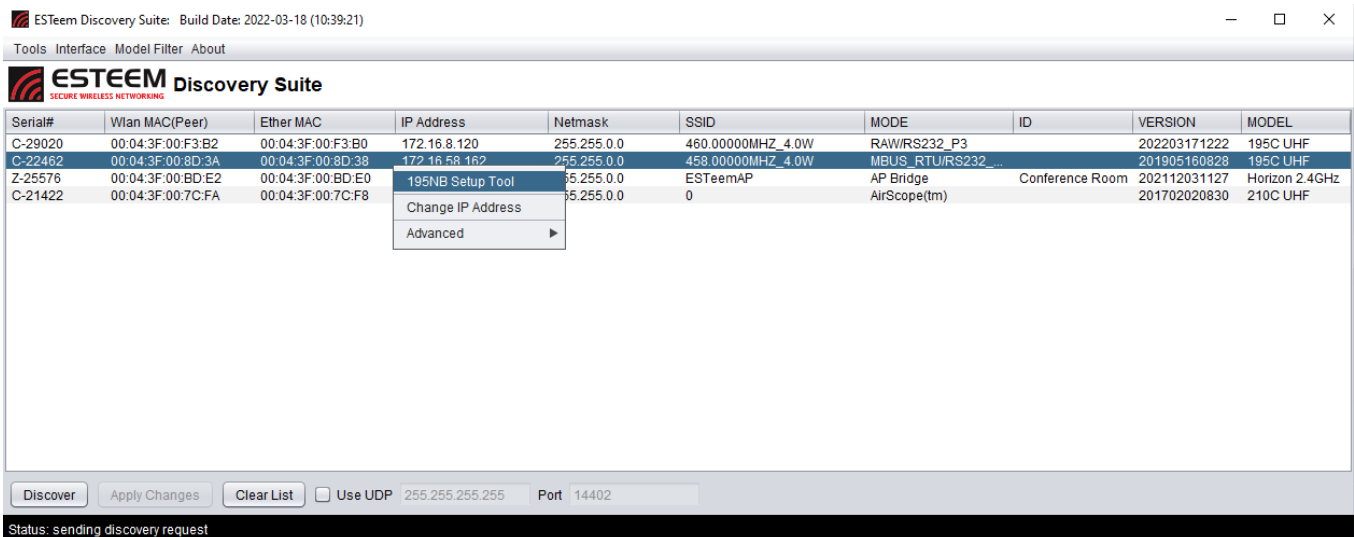3. Select the radio to update, press the right-mouse button and select 195NB Setup Tool from the menu (Figure 1).

Figure 1:Select 195 Narrowband Software

4. The 195 Narrowband Configuration Utility will launch. Once the utility verifies communication with the radio, a message stating that a "Firmware Update is Required" (Figure 2) will be displayed. The only options available currently in the utility are to update the firmware. Press the "OK" button. Once the message window is cleared, press the "Update Firmware" button on the screen to continue.

5. The radio will begin the update and display the progress until completion. The Utility will reset the radio and close the application for the second Phase of update.
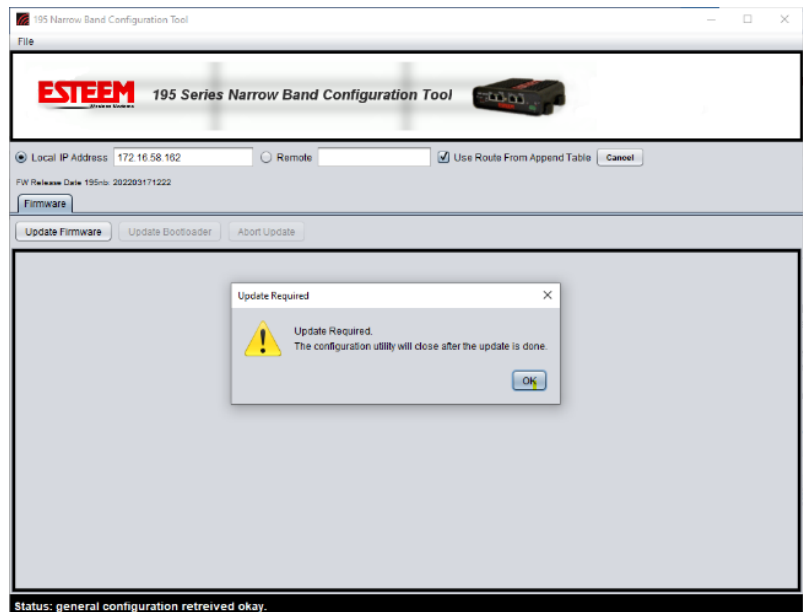

Figure 2: Update Required Screen

Phase 1 – Bootloader Update

6. The process for updating the Bootloader is almost identical to what was completed in Phase 1. Reopen the 195 Configuration software (Figure 1) as shown above.

7. There will be multiple tabs now available in the Utility but select the <u>Firmware</u> tab (Figure 3) and press the "Update Bootloader" button to continue.

8. The bootloader will update and once complete the "done" message will display (Figure 3).

Figure 3:Bootloader Update

Phase 3 – Firmware Update

9. This last Phase will update all parameters to the bootloader and finalize the installation of the firmware.

10. On the same screen as shown in Figure 3, press the "Update Firmware" once again and the message that the Firmware is up to date (Figure 4) will be displayed. Press the "Yes" button to complete the update. The Utility will update the radio, reset the radio, and close. Open one more time with the Discovery and configure.
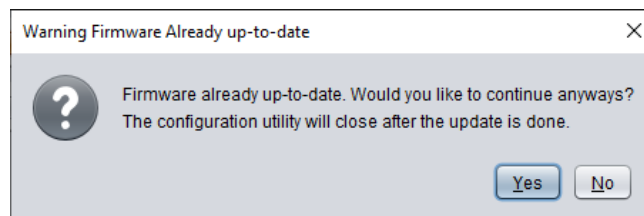

Figure 4: Final Firmware Update Message