

Technical Note

Forced Routing with MultiHop Radios

Use the MultiHop forced route feature to create user-defined routing tree structures.

Users can define the parent radio device for some or all the slave or repeater devices. As an added benefit, the sync time for the radios with forced routing decreases because the device doesn't spend time looking for multiple parent devices.

The user must still bind all radios that communicate within the same wireless network. Forced routing only defines a parent device for a child radio (slave or repeater).

Forced Routing can be accomplished either through the LCD on the radio or through the MultiHop Configuration Tool (MHCT). RF firmware V3.1 or higher is required to enable this feature. ¹

Determining the Firmware Version

To verify if the firmware version of the child radio is v3.1 or higher:

1. Press button 1 until you reach the FCTRY menu.
2. Press button 2 to enter the FCTRY menu. The LCD display automatically displays all device information.
3. The firmware version is displayed as the FMVER.

Configuring a Forced Routing from the LCD of a Child Radio

To configure force routing:

1. Press button 1 until you reach the DVCFG menu (device configure menu).
2. Press button 2 to enter the DVCFG menu.
3. Press button 1 until the display shows -PARNT.
4. Press button 2.
5. Use button 1 to increment the digits and button 2 to move between digits. The first digit is always ZERO, the largest entered value will 65535.
6. Enter the parent device address (1 through 65535). Find the parent device address by viewing the LCD menu (RUN > DADR).
7. Press and hold down button 2 to enter the save option.
8. Select 'yes' or 'no' by using button 2 or button 1 to save the parent address.

Configuring a Forced Routing using the MultiHop Configuration Tool (MHCT)

Use adapter cable BWA-UCT-900 to connect a 1 Watt MultiHop radio to your computer.

1. On the Network View screen, enter the MultiHop Radio ID of the master radio and click Get Network.
2. Select Get Factory Info to verify that the RF firmware version of the child radio to be forced is V3.1 or higher.
3. On the Register View screen, enter the Modbus Slave ID (child) of the device to be force routed.
4. Enter 6368 in the **Starting** Register and enter the Parent Device Address in the Value Register.
5. Click Write.
6. To verify the contents of the Read Register, enter 6368 and click Submit. The route of the child should now be forced.

Removing a Forced Routing

To remove a forced routing using the child radio's LCD, follow the same procedure used to configure the forced route, but enter all zeros (0) for the -PARNT address.

To remove a forced routing using the MultiHop Configuration Tool (MHCT), follow the same procedure used to configure the forced route, but enter 00000 into Starting Register 6368. After the forced route is removed from the child radio, the network is still bound and the child radio automatically detects a path back to the master radio.

If you want to unbind the radio from the wireless network, follow these steps from the child radio:

1. Triple-click button 2 to put the device into binding mode.
2. When in binding mode, press and hold button 2 for 10 seconds. The radio automatically exits binding mode. The radio is now unbound from the network and must be re-bound to the Master.

¹ Contact Banner Engineering to obtain the latest Firmware Revisions