How to Change Antenna Diversity Settings

The following document contains new antenna setup and operation procedures implemented with X-System firmware version 1.1.

About This Procedure

With the release of firmware version 1.1, CoachComm adjusted X-System's antenna diversity protocol for Radio Packs, which will improve performance. In conjunction with the Radio Pack antenna diversity adjustments, we enhanced Radio Transceiver performance by enabling single antenna operation.

For best performance, after updating your system to version 1.1, RTs should be set up and operated with a single whip antenna per RT, which requires a change to each RT's device settings within the system's configuration file (CCF). Follow the procedures below to update your system. **For assistance with your X-System, please contact CoachComm's customer support at 1.800.749.2761.**

X-Ware (CCF) Changes

Using X-Ware, make the following changes to your configuration file (CCF) after you've updated your system to version 1.1. You only need to update the CCF with this change once.

1. Connect and power on your system, select **Home** or **Away** on the master CU, and allow your CCF to load.
2. Open X-Ware and tap the gears icon in the upper right corner to open X-Ware's Advanced Settings window.
3. Click on the "Device Management" tab of the advanced settings window.
4. Click on the "Radio Transceivers" option in the sub-menu that displays on the Device Management tab. A table of the system's RTs will display.
5. Find the Antenna Diversity column, and select **Antenna_0** from the drop-down field for each RT in the table.
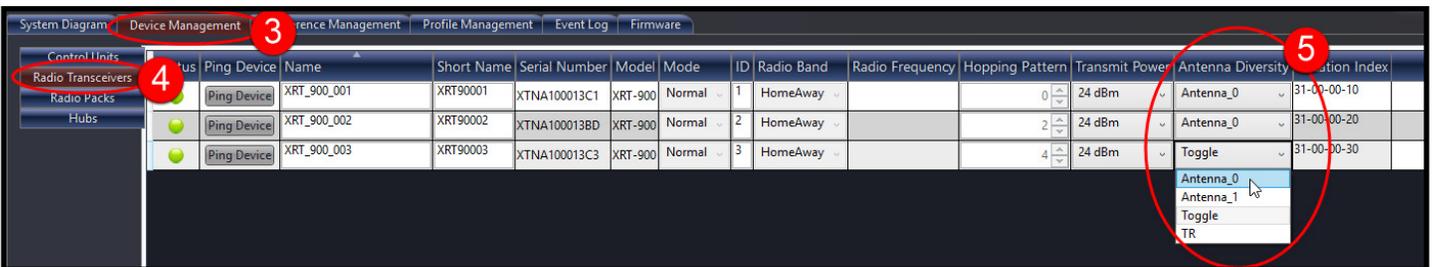

Figure 1: X-Ware Device Management Tab and Radio Transceivers List View

6. Continue to the hardware changes on the next page.

Hardware Changes

Make the following changes to your RTs. You only need to make these hardware changes once.

1. Identify the right or "R" connector on the top of each RT. It is the right-hand connector when you can read "PING" properly from left to right on top of the RT.

2. Attach a whip antenna to each RT's "R" connector. Remove each "L" whip antenna and keep them with your system as spare parts. Each RT should resemble Figure 2.

   Important! *Use only CoachComm-approved antennas with your RTs to avoid possible FCC violations!*

   Note: *CoachComm is shipping connector caps to place on your RTs' "L" connectors once their whip antenna is removed.*

After updating your antenna settings you will need to verify everything is working properly by doing a quick range test:

1. Turn on all Radio Packs (RPs) and ensure they log in by observing that the LQ numbers on each RP's display are in the 90s.

2. Walk test each RP approximately 20–30 feet from the Radio Transceiver (RT) and ensure those LQ numbers remain in the 90s for each RP.

   » If the LQ numbers drop below 90, contact CoachComm Customer Support at 1.800.749.2761 for assistance.

Setup Changes

Each time you use your X-System, set up your RTs as described below.

1. Align the mast so your RT mounting bracket(s) will be **parallel to the sideline**. (See Figure 3.)

2. Bend the antennas so they are parallel to the ground (90° angle between the antenna and the RT) and point their tips toward the opposing team's RT mast. (See Figure 3.)
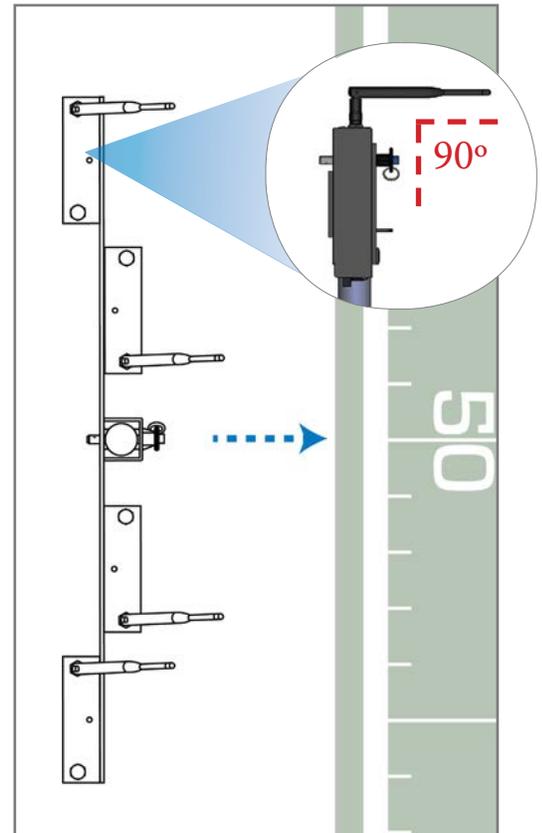

Figure 2: Top View of RT

Figure 3: Top View of RT Bracket and Antenna Direction