

How to Change Antenna Diversity Settings

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

Terminology Clarification: In other X2 package documentation, the term “Antenna” refers to the combination of the Radio Transceiver device and its attached antenna. Within this document, “Radio Transceiver” (or “RT”) refers to the device, and “antenna” refers to one of the RT’s detachable omni-directional whip antennas.

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

Make the following changes to your CCF within X-Ware after you update your system to version 1.1. You only need to update the CCF with this change once.

1. Connect all components of your system, including connecting a Cat 5 cable from your PC to the LAN port on the rear of the X-System CU (in the Press Box Rack Unit.) See [page 14 of the of the X-System Operating Manual](#) for a diagram of the CU rear and the location of the LAN port.
NOTE: *The PC you use for this process needs to have X-Ware version 1.1 installed on it. See the X-Ware 1.1 [How to Update Device Firmware](#) document for more information about updating your system.*
2. Power on your system, select **Home** or **Away** on the CU, and allow your CCF to load.
3. Update your PC’s IP Address and LAN Settings using the following instructions. (See [page 33 of the X-System Operating Manual](#) for a screen shot of this process.)
 - a. Right-click your PC’s connection icon and select **Open Network and Sharing Center**. (Or access the same window from your PC’s Control Panel.)
 - b. Click **Local Area Connection** near the upper right of the window. The Local Area Connection Status window will display.
 - c. Click **Properties**. A Local Area Connection Properties window will display.
 - d. Double-click the **Internal Protocol Version 4 (TCP/IPv4)** option from the list of connection properties. A TCP/IPv4 Properties window will display.
 - e. Click the radio button beside **Use the following IP Address**, then type **192.168.10.99** in the field. Click **OK**.
6. Open X-Ware and tap the gears icon in the upper right corner to open X-Ware’s Advanced Settings window.

Process continues on next page.

- Click on the “Device Management” tab of the advanced settings window.
- 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.
- Find the Antenna Diversity column, and select **Antenna_0** from the drop-down field for each RT in the table.

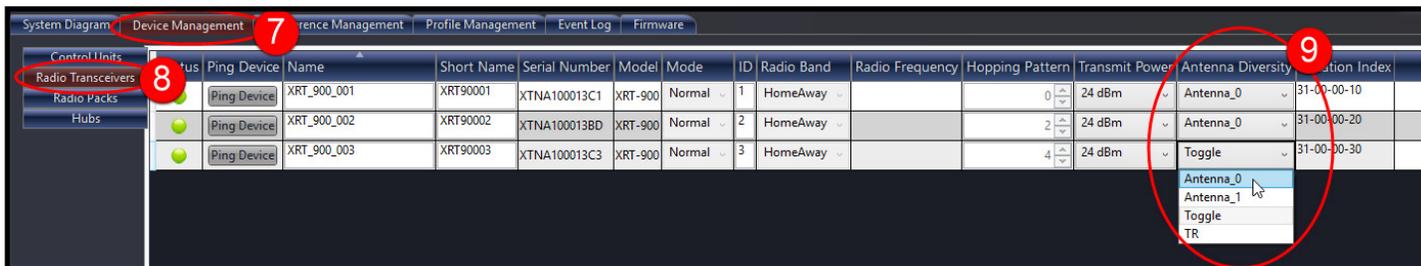


Figure 1: X-Ware Device Management Tab and Radio Transceivers List View

- Continue to the hardware changes in the next section.

Hardware Changes

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

- 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.
- 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:

- 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.
- 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.

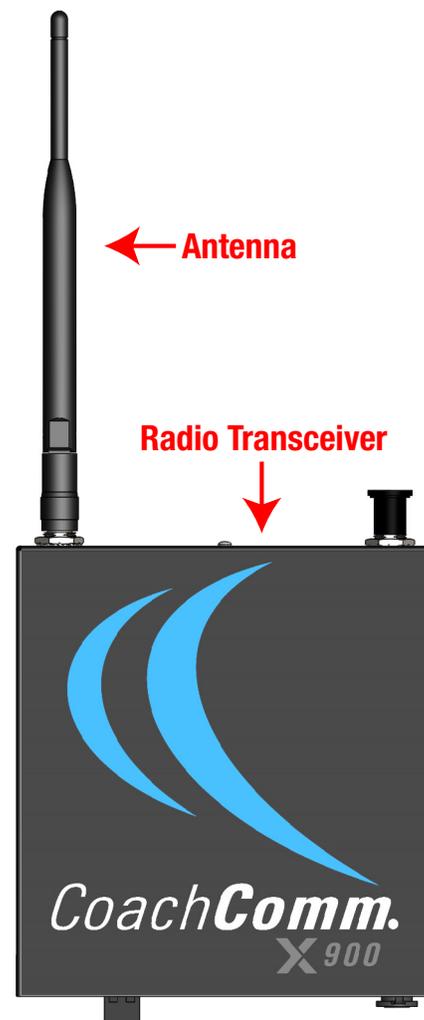


Figure 2: Front View of RT

Process continues on next page.

Setup Changes

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

1. Using either the clamp or suction cup mounting hardware, secure the RT bracket so that each RT's logo points toward the center of your team's coaches' box. (See Figure 3.)

Note: Any obstructions between the RT and field (like window tinting) can negatively impact performance. CoachComm recommends opening windows or mounting the RT externally to the press box.

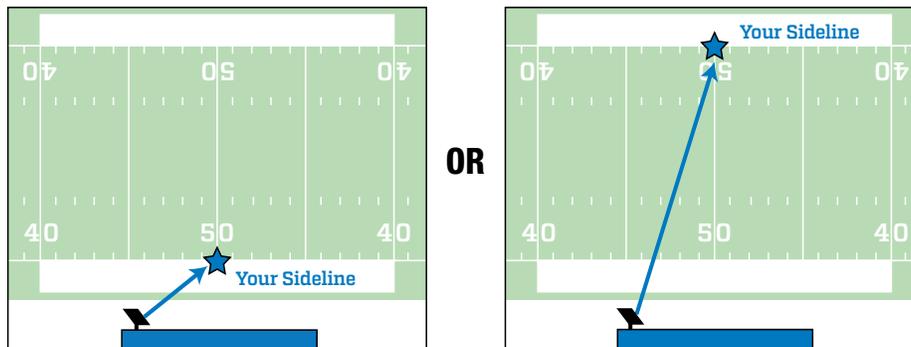


Figure 3: RT Pointed Toward Center of Your Team's Coaches' Box

2. Straighten the whip antennas so they extend straight from the tops of the RTs. (See Figure 4.)

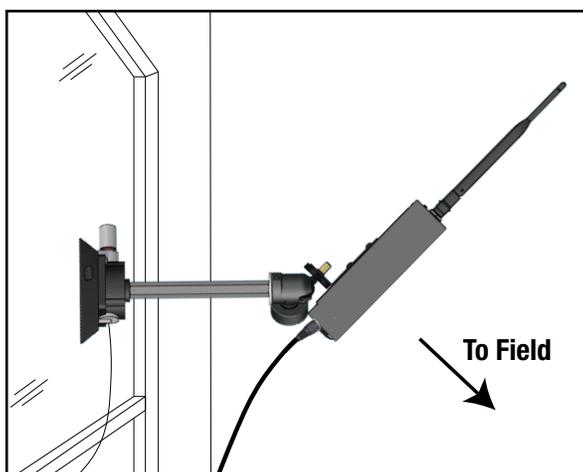


Figure 4: Straightened Whip Antenna on Mounted RT