Transmitter Antenna Installation

1. Disassemble the Telescopic Antenna Mount and Folding Antenna
   a. The first step is to “snap” the antenna apart. The lower part should be adjusted prior to the installation into your transmitter, while the upper part connects to the module with the wire installed in step 4.
   b. Note how to hold the antenna and where it separates. Grasp the two pieces and gently pull them apart.

2. Adjusting the length of the lower antenna mount.
   a. Pull out the locking pin as shown.
   b. Adjust the length of the telescopic antenna mount to fit your transmitter and slide the locking pin back in.
   c. See the graphic below for guidance on where to place the pin on your transmitter.

3. How to install the antenna mount into the transmitter
   a. Insert the telescopic antenna mount into the transmitter and turn it clockwise until it is screwed in.
   b. Note the position of the antenna mount top “rotation stopper”. Adjust the stopper as shown.

4. Assembling the folding antenna top
   a. Snap the top of the antenna back into the mount as pictured below, push it in until you hear the “click” sound.

**Warning!**

For maximum performance, it is recommended to position the antenna at a 90 degree angle as shown in the picture below.

Recommended Position

- 1. For maximum performance, it is recommended to position the antenna at a 90 degree angle as shown in the picture below.
- 2. The receiver antenna should not be placed near the engine, metal parts or high current batteries.
- 3. When using a large number of high power digital servos in a model, it is highly recommended to use the SPC feature to insure the receiver always gets the power it needs in high load conditions. If not, use the system with enough receiver battery capacity.
- 4. There could be a possible time delay in receiving telemetry data from the HTS-SS (sensor-station) depending on the conditions in the area you fly.

**European CE notice to users and product statements:**

This product is CE marked according to the provisions of the R&TTE Directive (99/5/EC) of the European Union. All of the CE notices are found on the printed label, inside the module and are also available on the Hitec website at www.hitecrcd.com.

**FCC notice to users and product statements:**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

* When the SPECTRA 2.4 module is used for Futaba® radios, the PPM mode is required to be activated for proper work.

* Futaba is a registered trademark of Futaba Denshi Kogyo Kabushiki Kaisha Corporation of Japan.
General Use Guidelines

To turn the system on and off, use the following sequence at all times:

1. Turn off the transmitter.
2. Press and hold the link button on the module.
3. Press the link button on the receiver.
4. Release the link button when you hear two continuous beeps.
5. The LINK LED on the module will stop blinking and glow steady.

Your Hitec AFHSS system uses a communication protocol that links and binds the Hitec 2.4GHz receiver to your transmitter. Once the receiver and module are “bound,” no other transmitter can interfere with your receiver during its operation. In the case of multiple model memory transmitters, you can bind as many Hitec 2.4GHz receivers to your transmitter, one per model memory as necessary. Each module and receiver set is paired at the factory for your convenience.

Use one of the following binding methods to bind additional Hitec 2.4GHz receivers to your transmitter.

**Non-telemetry RXs (MINIMA & MICRO Series)**
- Press and hold the button on the module, and turn on the transmitter.
- Release the link button.
- Check if the BLUE LED is blinking. If the RED LED is blinking, press the link button for 2 sec., so that the LED changes to BLUE.
- When the link is completed, the BLUE LED on the module will blink while the RED LED on the receiver glows steady.

**Telemetry RXs (OPTIMA Series)**
- Press and hold the button on the receiver and turn on the power.
- Check if the RED LED is blinking. If the BLUE LED is blinking, press the link button for 2 sec., so that the LED changes to RED.
- When the link is completed, the BLUE LED on the module will blink while the RED LED on the receiver glows steady.

**Link Guidelines**

- Link must be done within 15ft (5m) of the transmitter and receiver.
- Transmitter and receiver need to be at least 18in (50cm) from each other to link properly.

**Range Check Function**

It is critical that before each flight session you perform a range check that confirms the signal between the receiver and transmitter is appropriate. Unlike the FM/PM or PCM radio signals, 2.4GHz systems use a fixed, shorter, stubby transmitter antenna known as a rubber duck antenna. So, the traditional method of range checking, lowering the transmitter antenna, is not applicable.

The Hitec 2.4GHz System uses a power-down mode to reduce the transmitter signal strength. Once the power-down mode is activated, it runs for about 90 seconds, effectively shortening the range to 30 meters or 100 feet. If the power-down mode as you should test the effective range by walking away from the secured aircraft and carrying the transmitter to a minimum distance of approx. 30 meters or 100 feet.

**How to use Power-Down**

- Before each flying session, confirm the radio system is working properly.
- Before the engine or motor is started, turn on the system as explained above.
- Make sure all the servos and control surfaces are working properly.
- If any control surface is not moving properly, do not fly the aircraft until the problem is solved.
- If you are unable to accomplish a successful range check of 30 meters or 100 feet, DO NOT ATTEMPT TO FLY.

**Range Check Mode**

When the link is completed, the BLUE LED on the module will blink while the RED LED on the receiver glows steady.

**Scanning Function**

The SmartScan is a unique function of Hitec’s AFHSS technology to provide the user with the cleanest & the most stable frequency channels in crowded 2.4GHz environments. From the firmware Ver.3.0 of the Spectra 2.4 module, you can utilize “Scan” function more conveniently without complexity (previously, Hitec’s 2.4GHz system was operated with two different models: Normal and Scan mode which was a bit complicated to use). The following explains how to use the Scanning function properly.

1. Turn on the transmitter.
2. Press and hold the link button on the module for about 6 sec.
3. Release the link button when you hear two continuous beeps.
4. The Spectra 2.4 will scan the frequency to find the cleanest and most stable frequency in the concerned area.
5. Release the link button when the scan is completed.
6. The BLUE LED on the module stops blinking and glows steady.
7. Follow the link process with your receiver.

**Telemetry System**

The Hitec Spectra 2.4GHz module and Optima series of receivers feature full telemetry capabilities (except for the Optima 6) and include a Low Receiver Battery Warning as a basic function.

**I. Basic Function: Low On-Board Battery Warning - for All Optima Receivers**

- Low Battery Warning function is only for your reference. The actual battery level could be different.

**II. Optional Functions: GPS, FUEL, TEMP, O- RPM, M-RPM, VOL T, Amp Sensors - Applicable for Optima 7 & 9 Only**

- More devices will be available in the future. Check the Hitec website at www.hitecrrc.com for more up-to-date information.