
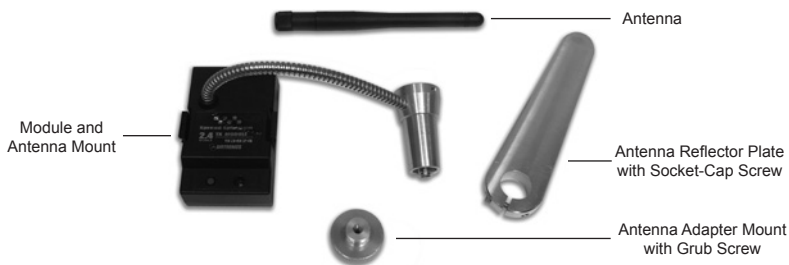


# STYLUS 2.4GHz 93024 FHSS-1 Module


Convert your Stylus transmitter to 2.4GHz FHSS Spread Spectrum technology with this high-quality module, antenna, and reflector set. It is quick and easy to install and allows you to use your Stylus radio on the 2.4GHz frequency band! This module requires an Airtronics 2.4GHz FHSS-1 receiver (sold separately). For a list of compatible receiver types, see the Contents and Receiver Information section below.

 This module operates on the 2.4GHz frequency band. The 2.4GHz connection is determined by the transmitter and receiver pair. Unlike ordinary crystal-based systems, your model can be used without frequency control.

## CONTENTS AND RECEIVER INFORMATION



Any Airtronics 2.4GHz FHSS-1 receiver can be purchased and paired with your Stylus 2.4GHz FHSS-1 module-equipped transmitter through the Binding operation.

 Due to differences in the implementation of 2.4GHz technology among different manufacturers, only Airtronics brand 2.4GHz FHSS-1 aircraft receivers are compatible with the Stylus 2.4GHz FHSS-1 module. The Stylus 2.4GHz FHSS-1 module is not compatible with Airtronics 2.4GHz FHSS-3 aircraft receivers.

The following tools are required for installation: 1.5mm and 2.5mm hex wrenches.

## 2.4GHz FREQUENCY BAND PRECAUTIONS

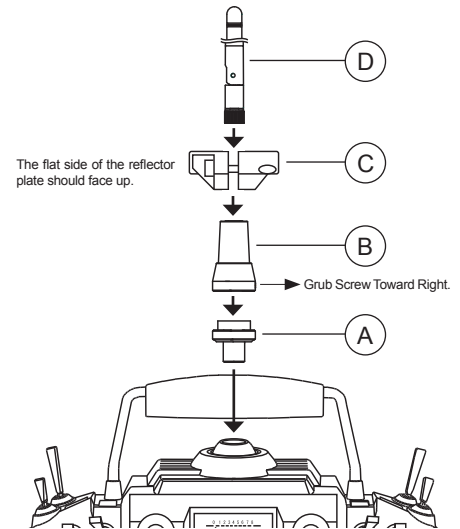
- The 2.4GHz frequency band may be used by other devices, or other devices in the immediate area may cause interference on the same frequency band. Always before use, conduct a bench test to ensure that the servos operate properly. Also, conduct a range test at the area of operation to ensure that the radio control system has complete control of the model at the farthest reaches of the operational area.
- The response speed of the receiver can be affected if used where multiple 2.4GHz radio control systems are being used; therefore, carefully check the area before use. Also, if response seems slow during use, discontinue use as quickly as possible.
- If the 2.4GHz frequency band is saturated (too many radio controllers on at once), as a safety precaution, the radio control system may not bind. This ensures that your radio control system does not get hit by interference. Once the frequencies have been cleared, or the saturation level has dropped, your radio control system should be able to bind without any problems.
- Observe any applicable laws and regulations in place at your flying site when using the 2.4GHz radio control system.
- Unlike frequency bands used with earlier radio control systems, reception with this 2.4GHz radio control system can be adversely affected by large obstructions and concrete or steel structures between your model and the transmitter. Also, wire mesh and similar barriers can adversely affect operation. Keep this mind to ensure the safety of your model.

## SAFETY PRECAUTIONS

- Be certain to read this Operating Guide in its entirety.
- 'Safety First' for yourself, for others, and for your equipment.
- Observe all the rules of the flying site or anywhere you operate your radio control equipment.
- If at any time during the operation of your model should you feel or observe erratic operation or abnormality, end your operation as quickly and safely as possible. DO NOT operate your model again until you are certain the problem has been corrected.
- Your model can cause serious damage or injury, so please use caution and courtesy at all times.
- If you have little to no experience operating radio control aircraft, we strongly recommend you seek the assistance of experienced modelers or your local hobby shop for guidance.

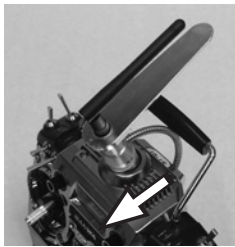
## 2.4GHZ MODULE INSTALLATION

- 1) Carefully remove the existing module from the back of your transmitter by firmly squeezing the two tabs on the sides of the module and pulling the module straight out.
- 2) Remove the existing antenna from your transmitter by carefully unscrewing the antenna (turn counter-clockwise).
- 3) Carefully thread the 2.4GHz antenna adapter mount (A) into the top of the transmitter (turn clockwise). Tighten the antenna adapter mount snugly by hand.
- 4) Slide the 2.4GHz antenna mount (B) between the handle and the top of the transmitter, then place the antenna mount over the antenna adapter mount.
- 5) Rotate the antenna mount so that the grub screw in the side of the antenna mount is toward the **right side** of the transmitter, then tighten the grub screw, using a 1.5mm hex wrench.
- 6) Push the 2.4GHz module into the back of the transmitter, making sure to line the module up carefully to avoid damaging the pins (the pins are toward the top). Push the module firmly into place to ensure that it's seated fully. The tabs in the sides of the module will 'snap' into place when installed correctly.
- 7) Slip the reflector plate (C) over the top of the antenna mount. The flat side of the reflector plate should face up. Align the reflector plate so that it's flush with the top of the antenna mount and perpendicular to the transmitter, then tighten the socket-cap screw, using a 2.5mm hex wrench.
- 8) Carefully screw the antenna (D) onto the top of the antenna mount and tighten it snugly by hand at the base.



⚠ After being tightened, the antenna can be rotated right and left. During use, the antenna should be rotated and angled 90° so that it is parallel with the reflector plate. See the Antenna Positioning and Transmitter Precautions section below. **The reflector plate should ALWAYS be installed, regardless of the type of aircraft you're flying. It's an integral part of the system!**

## ANTENNA POSITIONING AND TRANSMITTER PRECAUTIONS



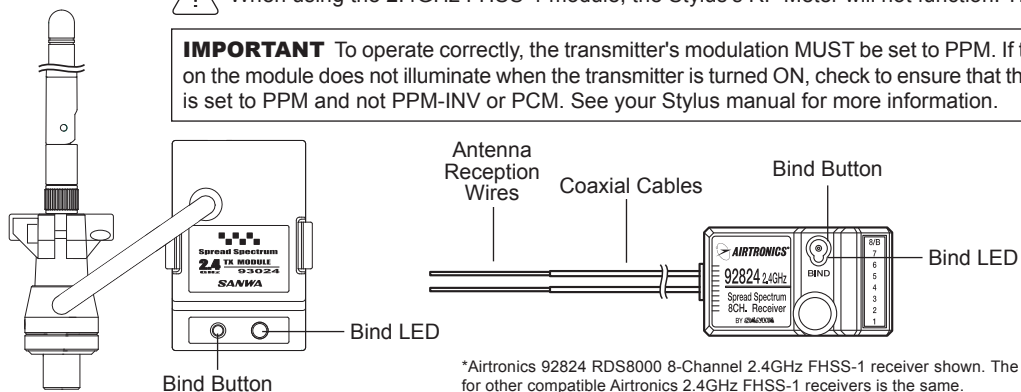
- During use, the antenna should be rotated so that it's parallel to the reflector plate, and the antenna gimbal base should be pivoted toward you as far as possible. This is the optimum angle for best use. See photo at left.
- Turn the transmitter ON first and then turn the receiver ON. After using your model, turn the receiver OFF first, then turn the transmitter OFF. It can be dangerous if you activate the components in reverse order as the servos may start up inadvertently.
- Before use, double-check that the transmitter and receiver batteries are sufficiently charged.
- Never touch any part of the antenna or reflector plate during use. Doing so may cause loss of transmitter output, making it impossible to control your model.

## TRANSMITTER AND RECEIVER BINDING

It is necessary to pair the transmitter and receiver to prevent interference from radio controllers operated by other users. This operation is referred to as binding\*. Once the binding process is complete, the setting is remembered even when the transmitter and receiver are turned OFF; therefore, this procedure usually only needs to be done once for each separate receiver you're using.

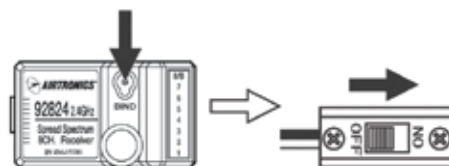
⚠ When using the 2.4GHz FHSS-1 module, the Stylus's RF Meter will not function. This is normal.


**IMPORTANT** To operate correctly, the transmitter's modulation MUST be set to PPM. If the Bind LED on the module does not illuminate when the transmitter is turned ON, check to ensure that the modulation is set to PPM and not PPM-INV or PCM. See your Stylus manual for more information.



\*Airtronics 92824 RDS8000 8-Channel 2.4GHz FHSS-1 receiver shown. The binding procedure for other compatible Airtronics 2.4GHz FHSS-1 receivers is the same.


- 1) Turn the transmitter ON. The Bind LED on the module will illuminate solid blue.
- 2) While holding down the Bind Button on the receiver, turn the receiver ON. The Bind LED on the receiver will blink slowly. After ~ 2 seconds release the Bind Button. The Bind LED on the receiver will continue to blink slowly.

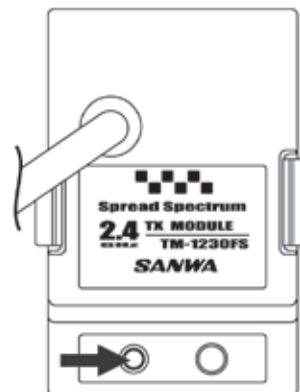


 Use the tip of a pencil or a 1.5mm hex wrench to press the Bind Button on the receiver.

- 3) Quickly press the Bind Button on the module. The Bind LED on the receiver will blink rapidly for ~ 3 seconds, go out momentarily, then illuminate solid blue, indicating the binding process is complete.




 When the binding procedure is successful, the Bind LED on the receiver will stay solid blue when both the transmitter and receiver are turned ON. If the Bind LED on the receiver is blinking rapidly or not ON at all, the transmitter and receiver are not paired. In this case, turn both the transmitter and receiver OFF, then repeat the binding procedure.



## MOUNTING THE RECEIVER

Please refer to the separate instruction sheet included with your receiver for mounting instructions. If you're using a receiver that utilizes dual antenna wires, pay careful attention to how you're instructed to mount the antenna wires in your model. Failure to mount the antenna wires as instructed can result in poor reception, or in some cases, complete loss of reception.

 We recommend that you bind the transmitter and receiver prior to mounting the receiver into your model.

## RANGE CHECKING - LOW POWER MODE

The Stylus 2.4GHz FHSS-1 module features a Low Power Mode function which lowers the transmitter's RF output level to check radio signal reception. Use this function to check radio signal reception on the ground, prior to flight.

**IMPORTANT** The radio control system should be range checked prior to the day's first flight and prior to the first flight after a hard landing or after a repair. This will ensure that the transmitter and receiver are communicating properly prior to flight. This ensures the safety of your model, yourself, and the people around you.

- 1) Press and hold the Bind Button on the module, then turn the transmitter ON. Continue to hold down the Bind Button for ~ 5 seconds. The Bind LED will blink slowly during this time. After ~ 5 seconds the Bind LED will blink rapidly, then go out. Release the Bind Button and the Bind LED will continuously blink rapidly. The transmitter is now in Low Power Mode.

 The transmitter will stay in Low Power Mode for 3 minutes. After 3 minutes, the transmitter will revert to Normal mode.


- 2) Turn the receiver ON in your model.

- 3) With the transmitter in Low Power Mode, walk approximately 30 paces from your model (approximately 90 feet) and, with the help of another person, check to make sure that the servos move without any problems. If there is a problem with servo movement, try moving to a different position while still maintaining the same distance from your model, then check servo movement again. If there is still a problem, **DO NOT FLY**. Check to make sure that all receiver, servos, switch, and onboard battery connections are correct and secure. Check to ensure that the antenna wires are correctly mounted.

- 4) After you have completed your range check, turn the transmitter OFF, then turn the transmitter ON to revert back to Normal Mode.

**Do not attempt to fly with the transmitter in Low Power Mode. You will be unable to control your model once it is a certain distance away from you. Before you fly, make sure that the Bind LED is illuminated solid blue!**

POWER MODE	MODULE BIND LED STATUS
Low Power Mode	Blue - Blinking Rapidly
Normal Mode	Blue - Illuminated Solid

 If, after checking all airborne system components and verifying correct antenna wire mounting, your radio control system still fails the Range Check, **DO NOT FLY**. Please contact Airtronics Customer Service.

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