RX-482 Built-In Antenna
2.4GHz FH4T Super Response SSL Receiver User's Guide

AIRTRONICS Get The Advantage. SANWA SSL P/N 92082

The RX-482 Super Response SSL receiver features a built-in antenna, so no more unsightly antenna sticking out of your model and no antenna to worry about being damaged during use. Just mount the RX-482 Super Response SSL receiver in the upright position in your model and enjoy the same solid reception as you've come to expect from other Airtronics and Sanwa receivers. Combined with Airtronics or Sanwa Super Response SRG digital servos, the RX-482 Super Response SSL receiver will give you reaction speeds like never experienced before!

When used with an Airtronics M12S, M12, MT-4S or Sanwa EXZES-Z transmitter and a Super Vortex series ESC or other SSL compatible device, the SSL function allows you to change many programming mode options directly from the transmitter using the transmitter's CODE AUX function, on the fly - even while you're driving. In addition, telemetry data such as speed or RPM, ESC temperature, motor temperature (if supported), and battery voltage can be read directly from the Super Vortex series ESC and displayed on the transmitter.

IMPORTANT: This receiver is not compatible with Airtronics or Sanwa AM, FM or 2.4GHz FH2 or FH3 surface transmitters, or Airtronics or Sanwa aircraft transmitters. It's not compatible with any other transmitter brands. SSL function only available when used with an M12S, M12, MT-4S or EXZES-Z transmitter and a Super Vortex series ESC or other SSL compatible device. Super Response (SSR) feature only available when used with an Airtronics or Sanwa FH4T transmitter in SSR Channel Response Mode with Airtronics or Sanwa Super Response SRG digital servos. Telemetry requires telemetry capable transmitter (M12S, M12, MT-4S, MT-4 or EXZES-Z) and Super Vortex series ESC. If not using a Super Vortex series ESC, the RX-482 Super Response SSL receiver can send telemetry data for the voltage of the receiver battery pack only.

PRECAUTIONS AND WARNINGS

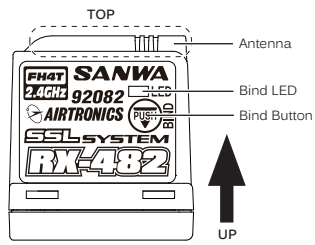
- Although the reception capability of this receiver is equal to our other receivers that feature an external antenna, because the internal antenna is positioned lower in your model, the reception distance will be shorter in actual use.
- Do to the internal antenna position, **this receiver is not suitable for use in an R/C boat**. It should be used in R/C cars and trucks only.
- Analog servos are not compatible with SHR or SSR Channel Response Modes. If using analog servos, you must use the NOR Channel Response Mode. Analog servos and/or the receiver can be damaged if you use them with SHR or SSR Channel Response Modes.
- Any brand and type of digital servo can be used with the SHR Channel Response Mode, however, only Airtronics or Sanwa Super Response SRG digital servos can be used with the SSR Channel Response Mode. If your ESC does not operate correctly with the Throttle Channel Response Mode set to SHR or SSR, change the Throttle Channel Response Mode to NOR (Normal).
- The receiver is susceptible to vibration, shock and moisture. Take appropriate measures to protect against vibration and moisture. It's okay to wrap the receiver in protective foam rubber if desired. Doing so will not affect the reception distance.
- There is a danger of runaway operation if connectors loosen during use. Make sure that all connectors are securely fitted.
- The receiver 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.
- 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 checks with the transmitter as distant as possible from your model to ensure adequate reception distance.
- The response speed of the receiver can be affected if used where multiple 2.4GHz transmitters are being used, therefore, carefully check the area before use. Also, if response seems slow during use, stop your model immediately and discontinue use.
- If the 2.4GHz frequency band is saturated (too many transmitters on at once), as a safety precaution, the transmitter and receiver may not pair when turned on. Once the frequencies have been cleared, or the saturation level has dropped, your transmitter and receiver should pair when turned on without any problems.

RECEIVER SPECIFICATIONS, LED CONDITION INDICATOR AND CONNECTIONS

IMPORTANT: The receiver's Nominal Input Voltage is 3.7 to 7.4 volts. A 2 cell LiPo or LiFe battery pack can be used to power the receiver without the use of a voltage regulator. This allows you to take advantage of the higher torque and higher speed provided by using high-voltage 7.4 volt servos. **Only use a 2 cell LiPo or LiFe battery pack if your servos are rated to handle the higher voltage!**

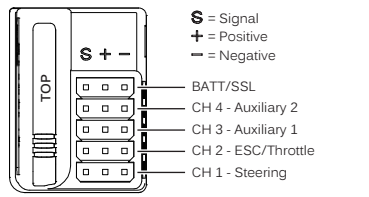
Mounting Tips:

- For the best reception distance possible, the top of the receiver MUST be toward the top of your model (as shown in the illustration) and the receiver should be mounted as high as possible in your model.
- The receiver can be mounted inside a receiver box, however, when mounting inside a receiver box, the antenna position will be lower and the reception distance may be shorter.
- The receiver should be mounted securely to your model using a piece of double-sided foam tape to help minimize vibration. It's okay to wrap the receiver in protective foam rubber, if desired. Doing so will not affect the reception distance.



Specifications:

- Frequency ..... 2.4GHz FH4T Selectable Via Transmitter
- Nominal Input Voltage ..... 3.7 to 7.4 Volts
- Weight 0.25oz (7.1g)
- Dimensions ..... 0.71 x 0.96 x 1.06in (18.2 x 24.4 x 27.1mm)
- Battery Fail Safe Limit ..... 3.5 to 7.4 Volts (FH4T)



Bind LED Condition Indicator:

The Bind LED on the receiver can be used to determine receiver condition at a glance. The Bind LED will alert you to various receiver conditions, as described below:

Bind LED	Condition
Blue	Receiving RF Signal
Blue Flash Slow/Blue Flash Fast	Binding Operation
Red & Blue Flashing	Receiver Battery Fail Safe Activates
Red	No RF Signal After Receiver Battery Fail Safe Activates

*If using a Super Vortex series ESC, plug the ESC into the BATT/SSL slot, otherwise SSL features and telemetry data will not be available. All other types of ESC's should be plugged into the CH 2 - ESC/Throttle slot.

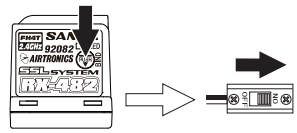
BINDING THE TRANSMITTER AND RECEIVER

The binding procedure allows you to bind the transmitter and receiver pair. Once the binding procedure is complete, the bind code is remembered even when the transmitter and receiver are turned OFF. The bind code is unique to each transmitter and receiver pair, so you cannot bind more than one transmitter to the receiver at the same time and you don't need to worry about other users' transmitters interfering with your receiver.

IMPORTANT: Before beginning the binding procedure, make all receiver connections as described on the front page. If there is a problem binding the transmitter and receiver with an ESC connected, disconnect the ESC and use a separate 4.8v to 7.4v battery pack to power the receiver. After completing the binding procedure, disconnect the battery pack and reconnect your ESC.

1) Turn the transmitter ON and navigate to the BIND menu, then choose your transmitter's modulation type. If using an M12S, M12, MT-4S, MT-4, EXZES-Z or other FH4T transmitter, choose FH4T. If using an M11X, MX-3X, Gemini X or other FH3 transmitter, choose FH3.

2) While holding down the Bind Button on the receiver, turn the receiver ON. The Bind LED on the receiver will flash slowly. After approximately 2 seconds, release the Bind Button. The Bind LED on the receiver will continue to flash slowly. **You must complete step 3 below within 10 seconds or the Bind LED will go out, indicating the receiver has timed out. If this occurs, turn the receiver OFF, then repeat step 2.**



3) From within the transmitter's BIND menu, press the ENTER key on your transmitter. The [ENTER] command will begin to flash and the Bind LED on the receiver will flash rapidly, then go out.

4) After the Bind LED on the receiver goes out, press the ENTER key a second time. The Bind LED on the receiver will illuminate solid blue, indicating that the binding procedure is complete.

5) Move the steering wheel and throttle trigger to verify that the receiver is functioning, then press and HOLD the Back/Cancel key to exit the BIND menu.

IMPORTANT: The BIND menu may vary depending on your transmitter model. If necessary, refer to your transmitter User's Guide for more information about binding the transmitter and receiver. When the binding procedure is successful, the Bind LED on the receiver will illuminate solid blue. If the Bind LED on the receiver is flashing rapidly or is not illuminated at all, the transmitter and receiver are not paired. In this case, turn both the transmitter and receiver OFF, then repeat the binding procedure again.

CHANNEL RESPONSE MODE SETTING

The Channel Response Mode function is used to change the Response Mode of each channel to suit the type of servos you're using. The combination of using digital servos and using the correct Channel Response Mode results in increased reaction speed and improved feel, making you feel more connected to your model than ever. For example, using the SHR Channel Response Mode with any brand of digital servo will increase the servo's Response Time, even above the manufacturer's specification. For the fastest Response Time possible, use the SSR Channel Response Mode with Airtronics or Sanwa Super Response SRG digital servos.

For more information about the Channel Response Mode function and how to program it, refer to your transmitter User's Guide. The following Channel Response Modes can be programmed from your transmitter's Modulation Menu:

NOR - Use with any brand of analog or digital servos (Slowest Channel Response Time).

SHR - Use with any brand of digital servos only (Faster Channel Response Time).

SSR - Use with Airtronics or Sanwa Super Response SRG digital servos only (Fastest Channel Response Time) - FH4T Modulation ONLY.

WARNING: Use the NOR Channel Response Mode with analog servos. Using SHR or SSR Channel Response Modes with analog servos can result in damage to the servos and/or receiver!

Not all ESCs are compatible with SHR or SSR Channel Response Modes. If your ESC does not operate correctly with the Throttle Channel Response Mode set to SHR or SSR, change the Throttle Channel Servo Response Mode to NOR.

The SSR Channel Response Mode is available only when using FH4T modulation. When switching between SHR and SSR Channel Response Modes, your model's End Point Adjustment (EPA) settings may be altered. Double-check the EPA settings and readjust them if necessary.

FAIL SAFE FUNCTION

The Fail Safe function can automatically move the servos to a predetermined position in the event that the signal between the transmitter and the receiver is interrupted, whether due to signal degradation or low transmitter battery. The Fail Safe function can be programmed independently on all four channels and three options are available: FREE, HOLD and PERCENTAGE. For information about programming the Fail Safe function, refer to your transmitter User's Guide.

IMPORTANT: The Fail Safe function will NOT OPERATE if the receiver loses power. It will operate only if the transmitter and receiver signal is interrupted or if the transmitter loses power. A Receiver Battery Voltage Fail Safe function is also featured, however, it is used with glow- or gas-powered models. It's not necessary to program this feature when used with an ESC.

WARRANTY AND SERVICE INFORMATION

Your Airtronics RX-482 Super Response SSL receiver is warranted against manufacturer defects in materials and workmanship, at the original date of purchase. This warranty does not cover suitability for specific application, components worn by use or improper voltage, tampering, modification, misuse, abuse, improper wiring, reverse polarity, moisture damage or acts of God. Any modifications or abuse of the product will void the warranty. Crash damage will not be covered by the warranty. The receiver is not waterproof. Water damage will not be covered by the warranty. Damage to the receiver or your servos caused by using analog servos in SHR or SSR Channel Response Modes will not be covered by the warranty.

For additional warranty and service information, please contact the Airtronics or Sanwa Distributor in your region. For a list of distributors in your region, please visit www.sanwa-denshi.com/rc/distributors.html.

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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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does
cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The device complies with industry Canada license-exempt RSS standard(s). Operation of this device is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."