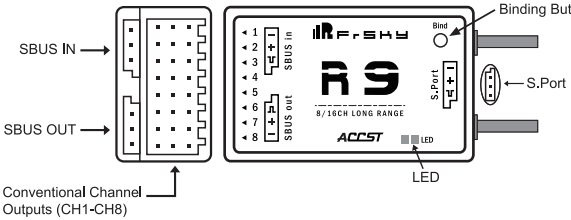
Instruction Manual for FrSky R9 Receiver

Introduction

Thank you for purchasing FrSky R9 8/16CH long range telemetry receiver.It is the first receiver which works in the frequency of 900MHz(Non-EU Version)/868MHz(EU Version). The receiver has a longer operating range up to 10KM and above. It is also a redundancy receiver which can connect to another receiver to ensure the security of your aircraft.In order to fully enjoy the benefits of this system, please read the instruction manual carefully and set up the device as described below.

Overview



Green LED	Red LED	Status
ON	ON	Waiting To Bind
Flashing	Flashing	Binding Successfully
Flashing	OFF	Normal
OFF	Flashing	Signal Lost

Specifications

- Dimension: 43.3*26.8*13.9mm (L × W × H)
- Weight:15.8g
- Numbers of Channel:

R9	EU Version		Non-EU Version
R9M Mode	Telemetry	No telemetry	Telemetry
Numbers of Channel	8/8CH	8/16CH	8/16CH

- Operating Voltage Range: DC 3.5V~10V
- Operating Current: 100mA@5V
- Operating Range: up to 10km or above
- Firmware Upgradable
- Compatibility: R9M

Features

- Long range
- Low latency and high precision
- Support redundancy function
- Smart Port enabled and support telemetry data transmission
- Battery voltage detection
- With RSSI PWM output(marked by P4 on board)

Smart Port (S. Port) is a signal wire full duplex digital transmission interface developed by FrSky Electronic Co., Ltd. All products enabled with Smart Port (including XJT module, XSR,X6R and X8R receiver, new hub-less sensors, new Smart Dashboard, etc), serial port user data and other user input/output devices can be connected without limitations for numbers or sequences at a high transmission speed.

Binding Procedure

Binding is the process of uniquely associating receiver to a transmitter RF module. A transmitter external RF module can be bound to multiple receivers (not to be used simultaneously). A receiver can only be bound to one RF module.
Follow the steps below to finish the binding procedure.
1.Put the transmitter RF module into binding mode
1.1 For Taranis X9D/X9D Plus/X9E and Taranis Q X7/X7S, turn on the transmitter, go to the MENU – MODEL SETUP – PAGE 2, choose External RF, and select BIND.
1.2 For Horus X12S/X10/X10S, turn on the transmitter, go to the RF SYSTEM, choose External RF, and select BIND under STATE.
2. Connect the battery to the receiver while holding the Bind button on the receiver. The RED LED and the GREEN LED on the receiver will flash, indicating the binding process is completed.
3. Reboot the receiver and go back to normal mode of the transmitter RF module. The flashing of the GREEN LED on the receiver indicates the receiver is receiving commands from the transmitter.The binding of the receiver/transmitter moudle will not have to be repeated, unless one of the two is replaced.

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Note: After binding procedure is completed, resupply the power and check if the receiver is truly communicating with the transmitter.

How to enable/disable the receiver telemetry

– For Taranis X9D/X9D Plus and Taranis Q X7/X7S, go to the MENU-MODEL SETUP-PAGE2, choose External RF MODE R9M and select Bind,choose the telemetry or not.
– For Horus X12S/X10/X10S, turn on the radio. go to the RF SYSTEM, choose the External RF and select the R9M, then select Bind under the STATE,choose the telemetry or not.

Range Check

A pre-flight range check should be done before each flying session. Reflections from nearby metal fences, concrete buildings or trees can cause loss of signal both during range check and during the flight. Under Range Check Mode, the RF power would be decrease and Range distance will reduce to 1/30--1/10 that of Normal Model.
1. Place the model at least 60cm (two feet) above non-metal contaminated ground(e.g on a wooden bench). The receiver antenna should be in vertical position.
2. For Taranis X9D/X9D Plus/X9E and Taranis Q X7/X7S, turn on the transmitter and the receiver, go to: MODEL SETUP/ External RF/ Mode R9M/Range.
3. For Horus X12S/X10/X10S, turn on the transmitter and the receiver, go to: MDL/RF SYSTEM/External RF (ON)/STATE (RANGE).

How to Set Failsafe mode (on the transmitter)

There are 3 failsafe modes: No Pulse, Hold, Custom

- No Pulse: on loss of signal the receiver produces no pulses on any channel. To use this type, select it in the menu and wait 9 seconds for the failsafe to take effect.
- Hold: the model will maintain the last position after the signal is lost. To use this type, select it in the menu and wait 9 seconds for the failsafe to take effect.
- Custom: the customized position of each individual channel. The model will move to the pre-set position after the signal is lost. Move the cursor to “Set” and press ENTER, you will see FAILSAFE SETTING screen below. Move the cursor to the channel you want to set failsafe on, and press ENTER. When moving the crresponding sticks or switches, you will see the channel bar moving. Move the channel bar to the place you want for failsafe and long press ENTER to finish the setting. Wait 9 seconds before the failsafe takes effect.

Note: The instructions above is the common approach.More detailed procedure about failsafe-set is on the manual for transmitters.

Note: If failsafe is not set, the model will hold the last position after signal is lost. In this case, there exists risk that your model will fly away or cause injury.

FCC STATEMENT

1. 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.
   2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

FrSky is continuously adding features and improvements to our products. To get the most from your product, please check the download section of the FrSky website www.frsky-rc.com for the latest update firmware and manuals

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