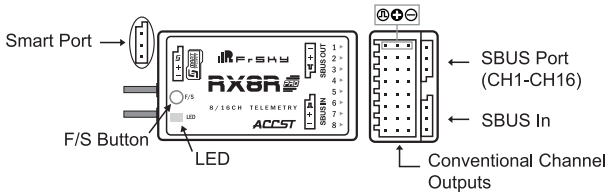
Instruction Manual for FrSky RX8R PRO

Introduction

Thank you for purchasing FrSky RX8R PRO 8/16CH full duplex telemetry receiver. It has three characteristics: high precision, low latency and strong anti-interference. 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	Flashing	Binding
Flashing	OFF	Normal
OFF	Flashing	Signal Lost
Flash Twice	OFF	Failsafe Set

Specifications

- Dimension: 46.3*26.6*14.2mm (L×W×H)
- Weight: 14.8g
- Numbers of Channle: 16CH (1-8CH PWM or 9-16CH PWM from conventional channel outputs, 1-16CH from SBUS port)
- With RSSI Output on Board: Analog 0~3.3V
- Operating Voltage range: DC 3.5~10V
- Operating Current: 100mA@5V
- Operating Range: full range (> 1.5km)
- Firmware Upgradeable
- Servo frame rate:
  9ms (HS-High Speed Mode)
  18ms (FS-Normal Speed Mode)
- Compatibility: FrSky transmitters/transmitter modules in D8/D16 mode

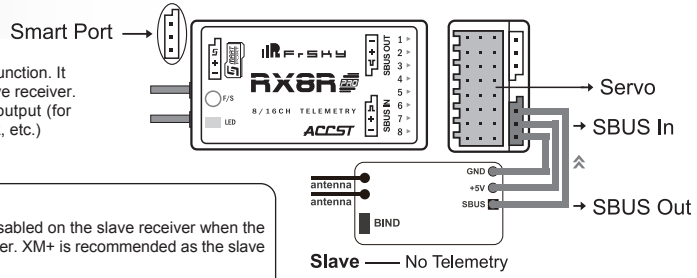
What's New!

- Higher precision: the deviation of PWM is reduced to 0.5μs
- Lower latency: compared with X8R under HS mode, PWM output delay of RX8R PRO reduces at most 9ms.
- Strong ani-interference: it improves the anti-interference.

Note The distance bewteen the antenna of RX8R PRO and CDI ignitor must be no less than 20cm if CDI ignitor is used.

Redundancy Function

RX8R PRO supports the redundancy function. It receives the SBUS signal from the slave receiver. The slave receiver must have SBUS output (for example, Frsky XM+, XM, R-XSR, L9R, etc.)



Note Make sure telemetry is disabled on the slave receiver when the slave receiver is Frsky X series receiver. XM+ is recommended as the slave receiver.
Do not connect the SBUS IN on a RX8R PRO to the SBUS OUT on itself.
Two RX8R PRO could not be the redundancy receiver to each other.
If you do so, failsafe will not work under the two conditions above.

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Smart Port

All data measured by S.Port supported products could be transmitted back to the transmitter.

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, RX8R 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.

How to enable/disable telemetry on receiver

For Taranis X9D/X9D Plus and Taranis QX7/X7S, go to the MENU-MODEL SETUP-PAGE 2, choose Internal/External RF mode, then select Bind and choose telemetry or not.

For Horus X12S/X10/X10S, turn on the transmitter, go to the RF SYSTEM, choose Internal/External RF mode, then select Bind and choose telemetry or not.

Binding procedure

Binding is the process of uniquely associating a particular receiver to a transmitter/transmitter mudole. A transmitter/transmitter module could be bound to multiple receivers (no to be used simultaneously). A receiver could only be bound to one transmitter/ transmitter module.

Follow the steps below to complete the binding procedure.
1. Put the transmitter/transmitter 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 Internal or External RF, and select BIND.
   1.2 For Horus X12S/X10S/X10, turn on the transmitter, go to RF system, choose Internal or External RF, and select BIND under STATE.
   1.3 For transmitter module (XJT as en example), choose D16/D8 mode first, and turn on External RF on the transmitter while holding the F/S button on the module, release the button and the RED LED on XJT module will flash.
2. Connect the battery to the receiver while holding the F/S button on the receiver. The RED LED on the receiver will flash, indicating the binding process is completed.
3. Turn off both the transmitter and the receiver.
4. Turn on the transmitter and connect the battery. The GREEN LED on the receiver indicates the receiver is receiving commands from the transmitter. The receiver/transmitter module binding will not have to be repeated, unless one of the two is replaced.

Note After binding procedure is completed, repower the receiver and check if it is really under control by linked transmitter.

Range check

A pre-flight range check should be done before each flying session. Reflections from nearby metal fences, concrete buildings or trees may cause loss of signal during range check and flight. Under Range Check mode, RF power will decrease to 1/30 of normal state and range to 1/10.

Follow the steps as described below.
1. Place the model at least 60cm (about two feet) above non-metal contaminated ground (e.g on a wooden bench). Make sure the receiver's antennas should be in vertical position.
2. For Taranis X9D/X9D Plus/X9E and Taranis Q X7/X7S, go to MODEL SETUP (Page 2/13)— External RF/Internal RF, choose corresponding module and then Rng.

For Horus X12S/X10S/X10, go to MDL— RF SYSTEM, choose ON under External RF and RANGE under state.

Note For more detailed information, please refer to the related manuals.

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How to switch operating mode

Normal mode of RX8R PRO is D16.

D8 mode only operates when the signal pins of CH7&CH8 are jumped before bind.

How to switch servo frame rate

Normal servo frame rate is 18ms(FS-Normal Speed Mode).

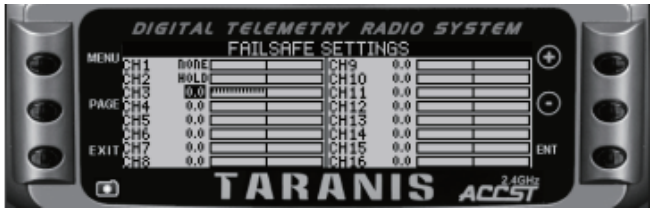
High Speed Mode (9ms) only operates when the signal pins of CH5&CH6 are jumped before bind.

Failsafe

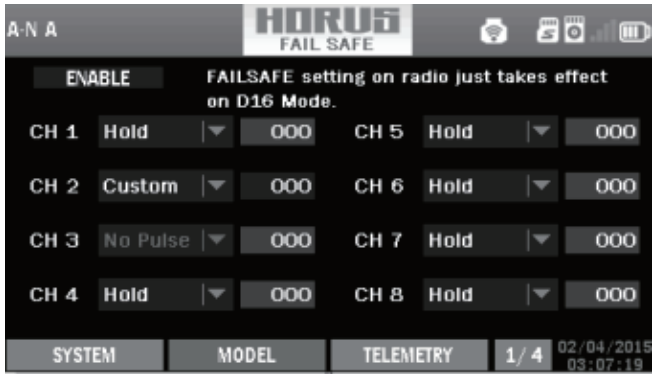
Failsafe is a useful feature which is for a preset channel output position whenever control signal is lost for a period. Failsafe for receiver supporting D16 RF mode can be set via transmitter's interface, which supports no pulse, hold and custom for each channel.

Follow the steps below to set failsafe

1. Set on the transmitter
   - For Taranis X9D/X9D Plus and Taranis Q X7S/X7, turn on the transmitter, go to MODEL SETUP—Internal RF/External RF—Failsafe.



   - For Horus X12S/X10S/X10, turn on the transmitter, go to MDL—FAILSAFE.



2. Set on the receiver
   - Short press F/S button while moving channel positions to a preset value after binding.

There are 3 failsafe modes: No pulse, Hold, Custom.

- No pulse: On loss of signal, the receiver produces no pulses on any channle. To apply the mode, select it in the menu and wait 9 seconds for the failsafe to take effect.
- Hold: The model will maintain the last position after loss of signal. To apply the mode, select it in the menu and wait 9 seconds for the failsafe to take effect.

Introduction manual for FrSky RX8R PRO

- Custom: The customized position of each individual channel. The model will move to the pre-set position after loss of signal. 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 corresponding 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 failsafe taking effect.

Note Failsafe setting via transmitter for channel output position is just for D16 RF mode. Besides, Failsafe setting via transmitter has higher priority to that via receiver.

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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