

Instruction Manual for FrSky D8R-II

1. Introduction

1.1 Compatibility

Compatible with FrSky two way telemetry modules: DFT, DJT, DHT, DHT-U

1.2 Specifications

Dimension: 56*25*14mm

Weight: 12.2g

Operating Voltage Range: 3.5V-10.0V

Operating Current: 100mA

Operating Range: 1.5km

Resolution: 3072 (>11bit)

Analog Voltage: 0~3.3V

Servo Frame Rate: 18ms (FS – Normal Speed Mode)

9ms (HS – High Speed Mode)



No battery or servos on side ports (Rx/A1/A2)

1.3 Features

- 1) **Two external analog telemetry ports (A1&A2) and one digital data-stream port (Rx);**
- 2) **Convenient to upgrade – no need to open the receiver's case when upgrade D8R-II;**
- 3) Two switchable PPM modes - FS mode and HS mode;
- 4) Alarm warning on low voltage, poor reception, etc.

2. Set up

2.1 Bind procedure

- 1) Ascertain that the transmitter is in the PPM mode. Turn off the transmitter.
- 2) Turn on the transmitter while holding the F/S button on the transmitter module (Ensure that both switches on the transmitter module are OFF when using D8R-II in two way mode). Release the button. The RED LED on the transmitter module will flash, indicating the transmitter is ready to bind to the receiver.
- 3) Connect battery to the receiver while holding the F/S button on the receiver. The LED on the receiver will flash, indicating the binding process is completed. Turn off both the transmitter and the receiver.
- 4) Turn on the transmitter and connect the battery to the receiver. The RED LED on the receiver will indicate 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.

Warning: Battery or servos are NOT to be plugged into side ports (A1/A2/Rx), otherwise damage may occur.

2.2 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 the range check and during the flight.

The following steps are to be followed to perform the range check of the model before the flight:

- 1) Place the model at least 60cm (two feet) above non-metal contaminated ground (e.g. on a wooden bench).
- 2) The receiver antennas should be separated in the model, and do not touch the ground.
- 3) Place the antenna of the transmitter in a vertical position.
- 4) Turn on the transmitter and the receiver, press the F/S button of the transmitter module for 4 seconds to enter range check mode, the RED LED of the transmitter module will be off, GREEN LED will flash rapidly, and the beeper will sound. The effective distance will be decreased to 1/30 of full range.
- 5) Walk away from the model while simultaneously operating the controls on the transmitter, confirming that all controls operate normally to a distance of at least 30 meters (~30 yds).
- 6) Press the F/S button of the transmitter module for 1S-4S to exit range check mode, RED LED will be back on, indicating normal operation is back.

2.3 Setting failsafe

Failsafe is a useful feature in which all controls move to a preset position whenever the control signal is lost for a period of time. D8R-II supports failsafe function for all channels.

Follow the steps below to set failsafe positions for each channel:

- 1) Bind the receiver first and turn on both the transmitter and the receiver;
- 2) Move the controls to the desired failsafe position for all channels;
- 3) Press briefly the F/S button on the receiver (less than 1 second). The transmitter module will make a long "beep", indicating the failsafe position has been set in the receiver.

To disable the failsafe function, re-bind the receiver.

2.4 LED status

RED LED	GREEN LED	Mode
On	Dimly On	Normal Operation
Blinking	Off	No Signal
Blinking	On	Binding Successful

2.5 Pins definition

It should be noted that 3.3V only has a limited driving current (1~10mA), it should not be used for driving a MPU.

Rx	Tx	G
A2	X	G
A1	X	G

Rx: input to receiver, RS232 level

A2: Voltage max 3.3V

A1: Voltage max 3.3V

3. How to switch between two PPM modes

Turn the transmitter off, connect the battery to the receiver, press the F/S button of the receiver for 6 seconds and then release. The red LED will flash fast in HS mode and slowly in FS mode.

The mode alternates each time this procedure is done.

Warning: HS mode is only applied for high-speed digital servos.

Other servos should select FS mode, otherwise servos will get hot and may burn out.