

Instruction Manual for FrSky D6FR

1. Introduction

1.1 Compatibility

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

1.2 Specifications

Dimension: 42*22*11mm (1.65"L x 0.87"W x 0.43"H)

Weight: 7.1g (0.25 Oz.)

Operating Voltage Range: 3.5V-10.0V

Operating Current: 60mA

Specified Range: 1.5km

Resolution: 3072 (>11bit)

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

9ms (HS – High Speed Mode)



No Servo or Battery on A2

1.3 Features

- 1) Lighter weight and physically smaller than D8R
- 2) **Built-in battery voltage sensor and one external analog telemetry port (A2)**
- 3) Two switchable servo frame speed modes: FS mode and HS mode
- 4) Telemetry - Alarm warning on low voltage/poor reception
- 5) Telemetry – RSSI (Received Signal Strength Indicator)

2. Set Up

2.1 Bind procedure

- 1) Ascertain that the transmitter is in the PPM mode. Turn your transmitter off.
- 2) Turn your transmitter on while holding the F/S button on the transmitter module (**Ensure that both switches on the transmitter module are OFF when using this receiver in the 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 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: The external analog telemetry port (A2) is located adjacent to servo channels CH1~CH6. Battery or servos are NOT to be plugged into A2 connector, 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 flight.

The following steps are to be followed to perform the range check of the model before 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, as described in the receiver manual, and not touching the ground.
- 3) Place the antenna of the transmitter in a vertical position.
- 4) Turn on the transmitter and receiver, press the F/S button of the transmitter 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 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. D6FR 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 receiver;
- 2) Move the controls to the desired failsafe position for all channels;
- 3) Press briefly the F/S button of the receiver (less than 1 second), the GREEN LED of the receiver will flash twice, indicating the failsafe position has been set in the receiver.

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

Failsafe is recommended to set when system is firstly used, or receiver has been re-bound. Follow steps below to set failsafe.

Option-1. How to set failsafe to a user-determined state on lost signal:

- 1) Bind the receiver to the transmitter module first and turn on both the transmitter and the receiver;
- 2) Move the controls to desired failsafe position for all channels;
- 3) Press briefly the F/S button on the receiver and you are done.

Option-2. How to set failsafe for no pulses on lost signal:

- 1) Just press briefly the F/S button on the receiver while the transmitter is off and you are done.

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

2.4 LED status

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

2.5 Definition for AD1 (Internal)

Max Voltage	Division Ratio	Max Transmitted Value
3.3V	4:1	255

Definition for AD2 (Caution: 3.3V Maximum, 0V Minimum)

Max Voltage	Division Ratio
3.3V	1:1

3. How to switch between two PPM modes

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