



ORANGE R415X RECEIVER

USER MANUAL

FEATURES:

- Compatible with DSM2/DSMX 1024/2048 aircraft radio and module systems
- 6 channel cPPM output allowing for single line connection with compatible devices
- True diversity antennas
- Ultra fast brownout recovery and programmed fail safe mode
- Wide input voltage: 3.7~9.6V
- 4 Channels PWM via Micro Molex 3 Pin connectors with 1.25mm Spacing
- Size: 15x29x8mm,
- Weight: 2.0g

Current consumption: 40mA

RECEIVER INSTALLATION

The **R415x** incorporates diversity antennas, offering the security of dual path RF redundancy. By orienting these antennas in degree, each antenna is exposed to its own RF environment, greatly improving path diversity (the ability for the receiver to see the signal in all conditions).

ANTENNA POLARIZATION

For optimum RF link performance it's important that the antennas are in an orientation that allows for the best possible signal reception when the aircraft is in all possible attitudes and positions. This is known as antenna polarization. The antennas should be oriented perpendicular to each other; typically vertical and horizontal and at different angles.

RECEIVER INSTALLATION IN AIRCRAFT

In gas and glow aircraft install the main receiver using the same method you would use to install a conventional receiver in your aircraft. Typically, wrap the main receiver in protective foam and fasten it in place using rubber bands or hook and loop straps. Alternately, in electric airplanes or helicopters, it's acceptable to use thick double-sided foam tape to fasten the receiver in place.

BINDING PROCEDURE

1. Install a bind plug into BIND connector.
2. Apply power to the receiver. It can be from 3.7 to 9.6 volts DC. Please refer to picture on the side of the receiver for the correct pinout (GND, VCC, SIGNAL)
3. You will see the orange LED rapidly blinking. That means the receiver is in Bind mode.
4. Follow the procedures of your specific transmitter to enter Bind Mode, the system will connect within a few seconds. Once connected, the orange LED on the receiver will blink several times and go solid indicating the system is connected.
5. Remove the bind plug from the BIND and THRO ports on the receiver before you power off the transmitter and store it in a convenient place.

After you've set up your model, it's important to rebind the system so the true low throttle and neutral control surface positions are set.

NOTICE:

Remove the bind plug to prevent the system from entering bind mode the next time the power is turned on.

SMART FAILSAFE FEATURE

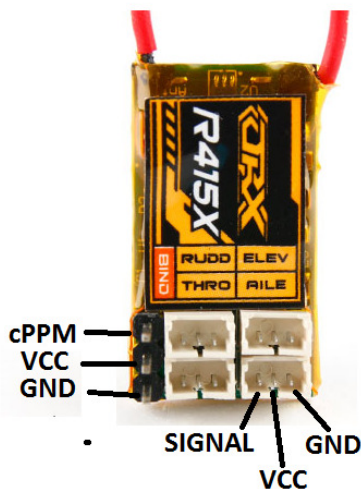
The **R415x** features advanced failsafe. Advanced FailSafe is ideal for most types of aircraft. With advanced FailSafe, when signal is lost for the short time (less than 1 second) all channels will hold last command. If the signal loss occurs for more than 1 second all channels go to predefined position according to transmitters sticks and switches` positions remembered during binding procedure. That is why it is important to set a throttle channel at zero and other channels (switches and sticks) to your preferable hold position during binding procedure.

When the signal is regained, the system immediately regains control.

When the receiver only is turned on (no transmitter signal is present), the throttle channel has no output, to avoid operating or arming the electronic speed control. All other channels are driven to their preset failsafe positions set during binding.

FAST BROWNOUT RECOVERY FEATURE

Sometimes a short power loss happens in the flight. It can happen if your BEC is not powerful enough and servos consume high current or receiver pack is weak or discharged. It causes a short voltage drop. The event when receiver suddenly loses power in the flight is called a brownout. When power comes back it takes time for the receiver to reconnect to transmitter. During this time (up to 1 second, depends on the environment conditions) some analog servos may coast to their extremes even though no signal is present. This may lead to crash due to unexpected servo moves. To avoid this a new feature Fast Brownout Recovery is introduced. With this feature analog servos will have only a minor glitch during the recovery time.



CHANNEL CONNECTOR DESCRIPTION

BATT/BIND - Triggers binding procedure if Rx is powered with the bind plug inserted in this port. **In normal operation it is a 6channel cPPM output.**

THRO -PWM throttle output

AILE - PWM aileron output

ELEV - PWM elevator output

RUDD - PWM rudder output

RED AND ORANGE LED INDICATIONS

During binding procedure:

Orange LED is blinking rapidly. After receiving binding signal from the transmitter blinks slowly for several seconds and then becomes solid if connection is correct.

In normal operation

In presence of transmitter signal: Orange LED is solid. If the transmitter signal is lost Orange LED is OFF.

Red LED blinks number of holds(up to 256) – signal losses with more than 1 second when receiver had to trigger a fail safe event. The LED will flash the number of holds then pause (e.g., flash, flash, flash, pause, flash, flash, flash, pause indicates three holds occurred since the receiver was last turned on). Note that holds are reset to zero when the receiver is turned off. During the first flights of a new airplane, it's recommended to check the red LED hold indicator. If it's flashing, it's important to optimize the installation (move or reposition antennas) until no hold occurs. On later flights, the LED Hold Indicator can be used to confirm RF link performance.

RANGE TESTING

Before each flying session and especially with a new model, it is important to perform a range check. Please use instructions of your transmitter to perform a range test.

***Note:**

1) This is not a Spektrum DSM2/X product, nor is it a copy of a Spektrum DSM2/X product.

The Spektrum and DSM2/X brand is a trademark of Horizon Hobbies USA.

2) This is not an underground black market fake Spektrum product. OrangeRx quality is guaranteed.

3) Accepted by the MAAA in Australia, see the MAAA MOP58 for guidance