

ORANGE R616XN NANO 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
 - Ultra fast brownout recovery and programmed fail safe mode
 - Wide input voltage: 3.7~9.6V
 - Size: 13x16.5x3.7mm,
 - Weight: 1.4g with cable
- Current consumption: 35mA

RECEIVER INSTALLATION

The **R616XN** For optimum RF link performance it's important that the antenna is in location that allows for the best possible signal reception when the aircraft is in all possible attitudes and positions. Please place receiver in the most open place available in your aircraft.

Keep in mind that the signal can be blocked with large objects – carbon fiber fames, metal parts, motors, battery etc.

Also keep it far from your video transmitter if you use it. It is recommended to use frequency other than 2.4GHz for your video equipment in case not to interfere with the control signal from your radio.

BINDING PROCEDURE

1. Shorten brown and yellow wires in the connector with twizzle or piece of wire.
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, cPPM)
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 twizzles/wire from the BIND port on the receiver before you power off the transmitter.

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

SMART FAILSAFE FEATURE

The **R616XN** 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

cPPM/BIND - Triggers binding procedure if Rx is powered with the this line is shortened to ground. In normal operation it is a 6channel cPPM 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

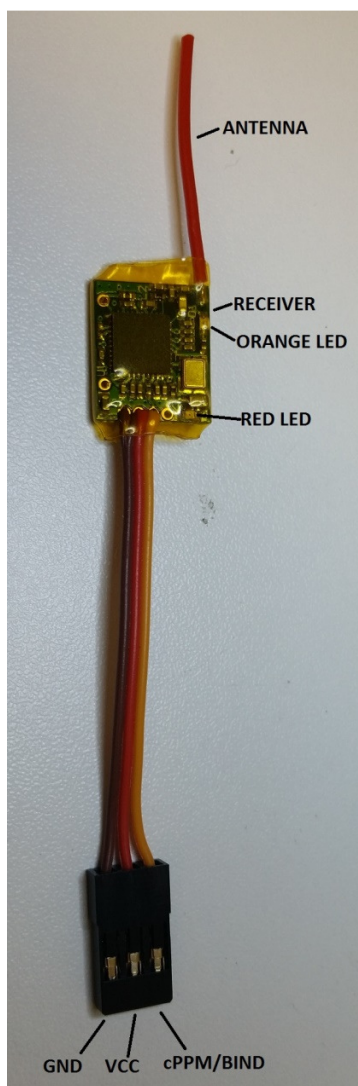
In presence of transmitter signal: Orange LED is solid. If the transmitter signal is lost Orange LED is OFF.

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.

Fig. 1



***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