

6-Channel UL DSMX/DSM2 Compatible Receiver

Product Specifications:

Type:	DSMP Full Range Receiver with Diversity Antenna
Number of Channel:	6
Modulation:	DSMX / DSM2 compatible
Band:	2.4 GHz
Dimension:	30(L) x 18(W) x 11(H) mm
Weight:	4.54g
Input Voltage:	3.45 - 8.4 V

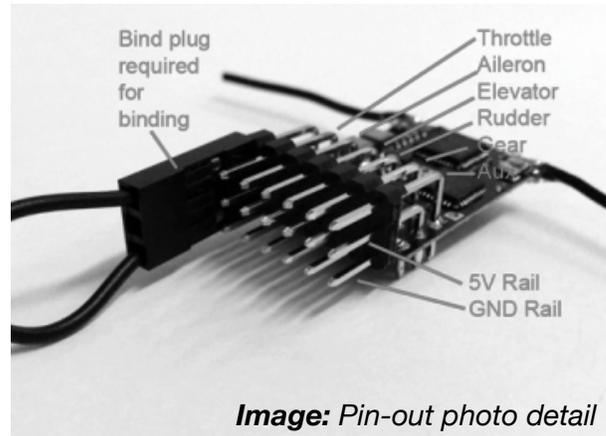


Image: Pin-out photo detail

Note: This is not a Spektrum DSMX or DSM2 product, nor is it a copy of a Spektrum DSM2 or DSMX product, this receiver has been tested to be compatible with Spektrum's DSMX and DSM2 product line. (The Spektrum, DSMX and DSM2 brand is a trademark of Horizon Hobby, Inc.)

Product Highlights:

- Lightweight and compact design!
- Reliable full-range performance
- Compatible with the latest Spektrum **DSMX** and **DSM2** protocols
- True diversity dual antennas with independent processor for monitoring signal on both antennas.
- Antennas extended for carbon fuselage / metallic structure installation
- Failsafe function for all channels, with a single press of a button
- Auxillary DSMX Satellite port

DSMX vs DSM2 and DSMP Explained. This receiver is fully DSMX-compatible and backward compatible to DSM2. The DSMX protocol developed by Spektrum includes frequency hopping for more reliable operation in areas of high potential interference from other 2.4GHz transmitters, but receivers using the older DSM2 protocol, also by Spektrum, continue to work well in all but the most demanding conditions.

Getting Started:

1. Mounting The Receiver

Protect the receiver with the included plastic case wrap. Assemble and secure the case around the receiver, leaving access to the servo connection pins.

Mount the receiver within the model using a vibration dampening double sided "servo tape". Take care to position the receiver's antennas away from any conductive materials such as: carbon fiber, foil coverings, batteries and metal components. For the best range performance, position the two antennas at right angles to each other. In this way, they can never both be pointed directly at the transmitter simultaneously (*the weakest point of reception and transmission*) - greatly reducing the likelihood of signal blanking.

After binding, a thorough range testing is essential. And should be performed prior to the first flight on any new installation. Test for proper reception in all directions by walking around the model. If control becomes erratic (or is lost) from any direction at 30 yards (25m) range, review the receiver installation for potential conflicts with conductive materials or blind spots behind large objects (i.e. battery packs).

Once a radio setup has been proven, a quick "sanity" range check, at about 30 paces from the model, should be performed each day the model is flown – simply to check that things are working as they should.

2. Binding

Binding is the process of “locking” the receiver to its own transmitter (and, where relevant, to a particular model memory within the transmitter) so that it ignores any others. Binding is the first step in setting up any receiver.

Ensure the transmitter and receiver are separated by at least 3-6ft (1-2m) or the transmitter may “swamp” the receiver. **Note:** *Occasionally, it may be necessary to have as much as 10ft (3m) separation to achieve binding.* Generally you should only need to bind once and after binding, normal link-up should not require more than a couple of feet of separation, but in case of trouble linking up, move the transmitter further away from the receiver.

Process Overview

- Plug bind plug to the receiver.
- Provide power to the unit. LED flashes quickly.
- Enable bind mode in transmitter and ensure distance separation of 2 meters from receiver.
- A Solid LED light means binding is completed.
- Power Down and remove bind plug.
- Test!

Step 1 - Enter Binding Mode on RX. To power up the receiver in bind mode, place the bind plug on to the bind pins (*see pin-out photo detail*). With the bind plug placed, connect a suitable power source to the receiver throttle servo pins*. This power source can be:

- ◆ a receiver pack battery (generally 3.45 – 7.2v)2; or
- ◆ a stand-alone BEC; or
- ◆ the throttle connection from your speed controller (ESC) with inbuilt BEC

***Caution!** If the ESC is in a model, disconnect the motor or remove the propeller.

The red LED on the receiver will flash rapidly to indicate entry into bind mode. If the LED does not flash, you have a problem with your wiring (such as reversed power connector). Make absolutely sure that the LED is flashing rapidly before going any further.

Step 2 - Enter Binding Mode on TX. Power on your transmitter in bind mode. On some transmitters bind mode is activated by holding the "trainer" button/switch or "bind" button while powering up. Other transmitters require going into a setup menu to access the bind function. Refer to the manual that shipped with your transmitter for the proper procedure to enter into and exit the binding process, as required by your hardware.

Where appropriate, continue to hold the "bind" switch/button until the receiver LED stops its rapid flashing. Once the receiver stops flashing either release the transmitter's bind switch, or exit the bind process using the method dictated by the product manual for your particular transmitter. As the bind process is exited from the transmitter, the bind process will complete. And a solid light on the LED will illuminate to indicate a successful bind.

Note: Some transmitters will confirm a successful bind and will produce a display on screen, or announce the type of bind (DSM2 or DSMX) and the frame rate (normally 22mS).

Step 3 - After binding, perform a power down and test procedure.

Power Down!

- ◆ Remove power from the receiver.
- ◆ **Remove the bind plug (*very important and often overlooked!*)**
- ◆ Switch the transmitter off.

Test!

- ◆ Turn the transmitter back on
- ◆ Apply power to the receiver
- ◆ Check that the servos respond to the transmitter controls
- ◆ Perform a range check*

Notes: *Servos plugged in the wrong way (mis-matched polarity) may prevent binding, so check this if you have difficulty binding. Binding can be done with or without servos.*

**Always perform a range check after binding, using the range check function on your transmitter. This reduces transmitter power output so that range is reduced by a factor of about 30. With Spektrum transmitters, full control in range-check mode at 30 yds./ 25m (roughly 30 paces for many adults) indicates ample range for normal visual flying. It is good practice to perform a range check at the beginning of every day's flying to ensure everything is working properly.*

3. Failsafe

In order to minimize the risk of injury or damage, should the receiver lose signal, the failsafe system should be set to disable the throttle on (CH1). Optionally, additional user defined failsafe functions can be assigned, to set various model controls into a pre-determined failsafe position. This feature is especially useful for having a glider go into a spiral with spoilers deployed to prevent a flyaway. **Note:** *When performing this setup it is recommended to remove the propeller from the model.*

Enable Failsafe Mode

1. Bind the receiver and **do not remove bind plug**.
2. Upon successful binding, set the transmitter sticks / channels to the desired failsafe position.
3. Press the side pushbutton to save the current position in failsafe mode.
4. Check for green light on. Green light on indicates failsafe is successfully enabled.
5. Power down the receiver
6. **Remove the bind plug** and power on the receiver.

Disable Failsafe Mode

1. Bind the receiver and do not remove bind plug. If a green LED is illuminated, then the failsafe feature is currently set to "enabled".
2. Press the "failsafe" button to disable the failsafe feature.
3. After button press, the green LED will turn off, indicating success in disabling the failsafe.
4. Remove the bind plug and power cycle the receiver.
5. Perform a range test.

4. LED Status Messages Explained

A rapidly flashing red LED indicates the receiver is in bind mode.

A solid red LED indicates normal radio link between receiver and transmitter (*i.e., the receiver is bound to the transmitter*).

No red LED means there is no radio link.

A slowly flashing red LED on a receiver in DSM2 compatible mode indicates that there has at some stage since it was powered up been a power loss or significant voltage drop (however brief), often called a “brownout”. The flashing may indicate an inadequate receiver power supply or it may mean simply that the operator failed to turn off the transmitter when powering down the receiver. It does not indicate a range or signal loss issue. **Note:** *Receivers operating in DSMX-compatible mode do not provide this “brownout warning”.*