Spektrum SPM4650C

Spektrum SRXL2 DSMX Receiver SPM4650C Instruction Manual

Brand: Spektrum | Model: SPM4650C

Safety Information

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property, and cause serious injury. This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. The product manual contains instructions for safety, operation, and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup, or use, in order to operate correctly and avoid damage or serious injury.

Product Overview

The SPM4650 DSMX SRXL2 Serial Micro Receiver is an advanced solution for remote control applications. It features SRXL2 protocol for fast serial data connection with up to 20 channels, enhancing bi-directional communication between the radio system and flight controller. This allows for advanced telemetry and flight control configuration directly from a Spektrum Transmitter.

The receiver is designed to be small, lightweight, and customizable, making it suitable for various applications. It includes a simple bind button for easy pairing without the need for a separate receiver or bind plug. Dual antennas provide diversity for robust signal reception, and long coax antennas help maintain maximum signal strength in challenging installations where materials like carbon fiber, metal, and batteries might obstruct the signal. Utilizing Spektrum DSMX 2.4GHz RF protocol, the receiver delivers reliable range and interference-free performance.

Note: This receiver is not compatible with the following aircraft models: EFL9650 V-22 Osprey VTOL BNF Basic (487mm), EFL9675 V-22 Osprey VTOL PNP (487mm), EFL9350 Mini Convergence VTOL BNF Basic (410mm), EFL9375 Mini Convergence VTOL PNP (410mm).

Image: Spektrum SRXL2 DSMX Receiver SPM4650C, showing its compact size and connector ports.

Key Features

- **SRXL2 Technology:** Provides a fast serial data connection with up to 20 channels and enhanced bi-directional communication.
- **Compact Design:** Small and lightweight, ideal for various applications, including micro-sized setups.
- **Wide Voltage Input Range:** Ensures compatibility with different power sources.
- **Fly-By Telemetry:** Offers real-time data feedback to the Spektrum Transmitter.
- **Dual Diversity Antennas:** Enhances signal reliability and range.
- **Integrated Bind Button:** Simplifies the binding process, eliminating the need for external plugs.
- **DSMX 2.4GHz RF Protocol:** Delivers reliable range and interference-free performance.

Package Contents

- (1) Spektrum SRXL2 DSMX Receiver with Connector Installed (SPM4650C)
- (2) Antennas

Setup Instructions

1. Basic Binding Procedure

This procedure outlines how to bind your Spektrum SRXL2 DSMX Receiver (SPM4650C) with a compatible transmitter, such as the Radiomaster TX16S.

1. Ensure your transmitter is powered on and set to the correct protocol (e.g., DSMX 2F 22ms for this receiver).
2. Connect a bind plug to channel 6 on the receiver.
3. While holding down the 'C' button on the receiver, power on the receiver. All six programming LEDs (three red, three blue) will flash.
4. On your transmitter, initiate the binding process. The receiver's LEDs will stop flashing and become solid, indicating a successful bind.
5. Unplug the bind plug from the receiver.
6. Power cycle the receiver by unplugging and re-plugging the power. The receiver should now be bound and ready for further setup.

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Video: Demonstrates how to set up the receiver with a Radiomaster TX16S transmitter, including the binding process.

2. Setting Failsafe

The default failsafe setting for this receiver is 'no pulses'. To set custom failsafe positions (e.g., mid-throttle, slight elevator/aileron), follow these steps:

1. Ensure the receiver is powered on and bound to your transmitter.
2. Position your transmitter sticks and switches to the desired failsafe positions (e.g., throttle to mid, elevator slightly up, aileron neutral).
3. Press and hold the 'F' button on the receiver for approximately 3 seconds. The blue light on the receiver will illuminate, indicating the failsafe positions have been registered.
4. Release the 'F' button. Your custom failsafe settings are now active.
5. To revert to the factory default 'no pulses' failsafe, press and hold the 'F' button again until the blue light turns off.

3. Activating Stabilization and Master Gain

This receiver supports stabilization features. You can activate stabilization and control its master gain via your transmitter. This example uses a Radiomaster TX16S.

1. **Set Aircraft Type:**
    - Connect a bind plug to channel 6.
    - Power on the receiver while holding the 'C' button. All six programming LEDs will flash.
    - The LEDs will cycle through different patterns, indicating various aircraft types (e.g., R1 and R2 for conventional tail).
    - When the desired aircraft type is indicated by the LEDs, press the 'C' button twice quickly. The lights will become solid, confirming the selection.
2. **Program Stabilization Channel:**
    - Connect a bind plug to channel 5.
    - Power on the receiver while holding the 'C' button. All six programming LEDs will flash.
    - The LEDs will cycle through colors: green for Channel 7, blue for Channel 5.
    - When the desired channel (e.g., green for Channel 7) is lit, press the 'C' button once. The light will

become solid, indicating the stabilization channel is set.

3. **Program Master Gain Channel:**
    - With the transmitter on and receiver bound, power on the receiver.
    - Wait at least 60 seconds for the receiver to initialize.
    - Press the 'F' button until the blue setup light turns on. Release the 'F' button. The green status light should also be on, indicating stabilization is active.
    - On your transmitter, assign a switch or dial (e.g., S1 dial) to Channel 8 for master gain control.
    - You can now control the stabilization on/off and adjust the master gain via your assigned controls.

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Video: Detailed guide on activating stabilization and setting master gain for the receiver.

Operating Instructions

Once the Spektrum SRXL2 DSMX Receiver (SPM4650C) is properly installed and configured, operating your remote-controlled vehicle involves the following general steps:

1. **Pre-Flight Check:** Always perform a thorough pre-flight check. Ensure all control surfaces move freely and correctly in response to transmitter inputs. Verify battery levels for both the transmitter and the vehicle.
2. **Power On Sequence:** Power on your transmitter first, then power on the receiver in your vehicle. This ensures the receiver establishes a connection with the transmitter before any control inputs are sent.
3. **Telemetry Monitoring:** Utilize the Fly-By Telemetry feature to monitor critical data such as battery voltage, signal strength, and other relevant parameters directly from your Spektrum Transmitter.
4. **Stabilization Control:** If stabilization is enabled, use the assigned switch on your transmitter to activate or deactivate it as needed during flight. Adjust the master gain via the assigned dial for optimal performance.
5. **Post-Operation:** After use, power off the receiver in your vehicle first, then power off your transmitter. Disconnect the vehicle's battery.

Always operate your remote-controlled vehicle in a safe and open environment, away from people, animals, and obstacles. Adhere to local regulations and guidelines for RC vehicle operation.

Maintenance

Proper maintenance ensures the longevity and reliable performance of your Spektrum SRXL2 DSMX Receiver (SPM4650C).

- **Keep Clean:** Regularly inspect the receiver for dirt, dust, or debris. Gently clean with a soft, dry brush or compressed air. Avoid using liquids or solvents.
- **Check Connections:** Periodically verify that all wire connections (power, servo, antenna) are secure and free from damage. Loose connections can lead to intermittent signal loss.
- **Antenna Placement:** Ensure antennas are positioned correctly and are not kinked, cut, or damaged. Proper antenna orientation is crucial for optimal signal reception.
- **Environmental Protection:** Protect the receiver from moisture, extreme temperatures, and direct sunlight. If operating in dusty or wet conditions, consider additional protective measures for the receiver.
- **Storage:** Store the receiver in a dry, cool environment when not in use.

Troubleshooting

If you encounter issues with your Spektrum SRXL2 DSMX Receiver (SPM4650C), refer to the following common troubleshooting steps:

- **No Signal/Loss of Control:**
  - Verify the receiver is correctly bound to the transmitter. Re-bind if necessary.
  - Check all power connections to the receiver and ensure the battery is charged.
  - Inspect antenna placement and condition. Ensure they are not obstructed or damaged.
  - Confirm the transmitter is powered on and operating on the correct protocol.
- **Intermittent Performance:**
  - Check for potential sources of interference (e.g., other 2.4GHz devices, metal objects near antennas).
  - Ensure the receiver is securely mounted and not subject to excessive vibration.
  - Verify all servo connections are firm.
- **Incorrect Control Response:**
  - Check your transmitter's channel assignments and servo directions.
  - Ensure the correct aircraft type is programmed into the receiver (if applicable for stabilization).
  - Recalibrate your ESC (Electronic Speed Controller) if throttle response is erratic.
- **Failsafe Not Working:**
  - Re-set the failsafe positions as described in the Setup section.
  - Ensure the receiver is receiving power when testing failsafe.

Specifications

Feature	Detail
Product Dimensions	4 x 4 x 0.33 inches
Item Weight	0.32 ounces
ASIN	B082DFZ861
Item Model Number	SPM4650C
Manufacturer Recommended Age	14 years and up
Batteries Required	1 Nonstandard Battery (for operation, not included)
Manufacturer	Spektrum
Date First Available	August 22, 2020

Warranty and Support

For warranty information, technical support, or service inquiries regarding your Spektrum SRXL2 DSMX Receiver

(SPM4650C), please refer to the official Spektrum website or contact Horizon Hobby, LLC directly.

It is recommended to retain your proof of purchase for any warranty claims. Always consult the manufacturer's official resources for the most up-to-date support and service details.