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...gain the insight!

RIR-RM2 - User's Manual

Version 1.0, March 2003

Introduction

The RIR-RM2 (Receiver to Infrared - Remote 2) is designed for use with Olympus C-50 digital camera. The unit works as an infrared remote control interface controlled by an FM receiver. For the best performance a PCM receiver is recommended. **The unit is also equipped with a function for active servomotor stabilization for up to four servos.** This unique feature minimize camera movement in "shoot-a-picture" time, which leads to sharper and blurless pictures. The unit also contains one electronic switch (remotely controlled).

RIR-RM2 is an ideal solution for aerial photography taken from remotely controlled aircraft vehicles.

Technical specification

- Supported camera **Olympus C-50**
- Power supply 3-6V DC
- Consumption current 20mA
- Standard functions: Shutter, Zoom In, Zoom Out
- **Active servomotor stabilization for up to four servos**
- Transistor switched output
- Maximal switched voltage 25V
- Maximal switched current 1A
- Low voltage detection (aprox. 3.5V)
- Weight 20g

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- Dimensions 72x50x16mm

Package content

- One RIR-RM2 unit
- Four Receiver-RIR cables
- One Infra cable
- Optional - additional Receiver-RIR cables (per customer's request)

Active servomotor stabilization

The RIR-RM2 unit works with any model of servo. When the "shoot-a-picture" signal is transmitted, the unit automatically switch to active stabilization mode and takes control over the PWM signal coming from the receiver. This allows to reduce the shake caused by the internal servo's feedback circuitry. If the Pan&Tilt construction is well mechanically balanced one will highly appreciate this function. This feature works slightly better for an analogue servo since a digital servo has a steady and high torque.

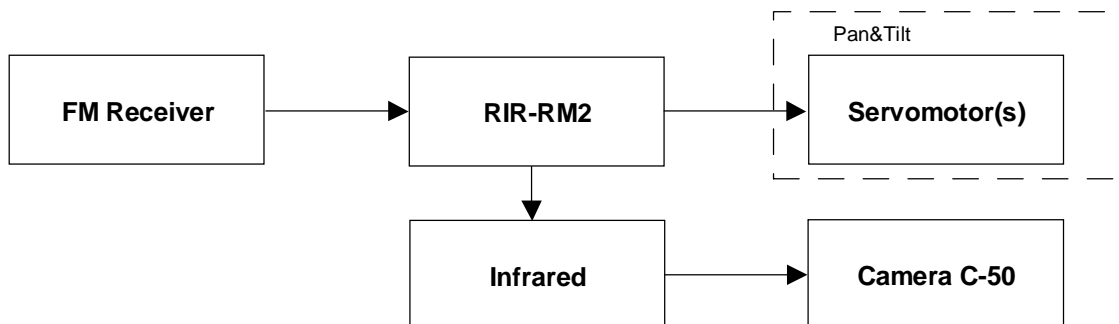


Fig. 1. Basic function of the unit

Note: Generally an unmodified servomotor does not work well as a camera holder because by its nature generates some degree of "shake", which is caused by the internal regulation loop (certainly the shake may vary on type of servo and on type of Pan&Tilt mechanism). This shake is impossible to remove by any other means. The RIR-RM2 minimizes this unsuitable servomotor behavior.

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Unit overview

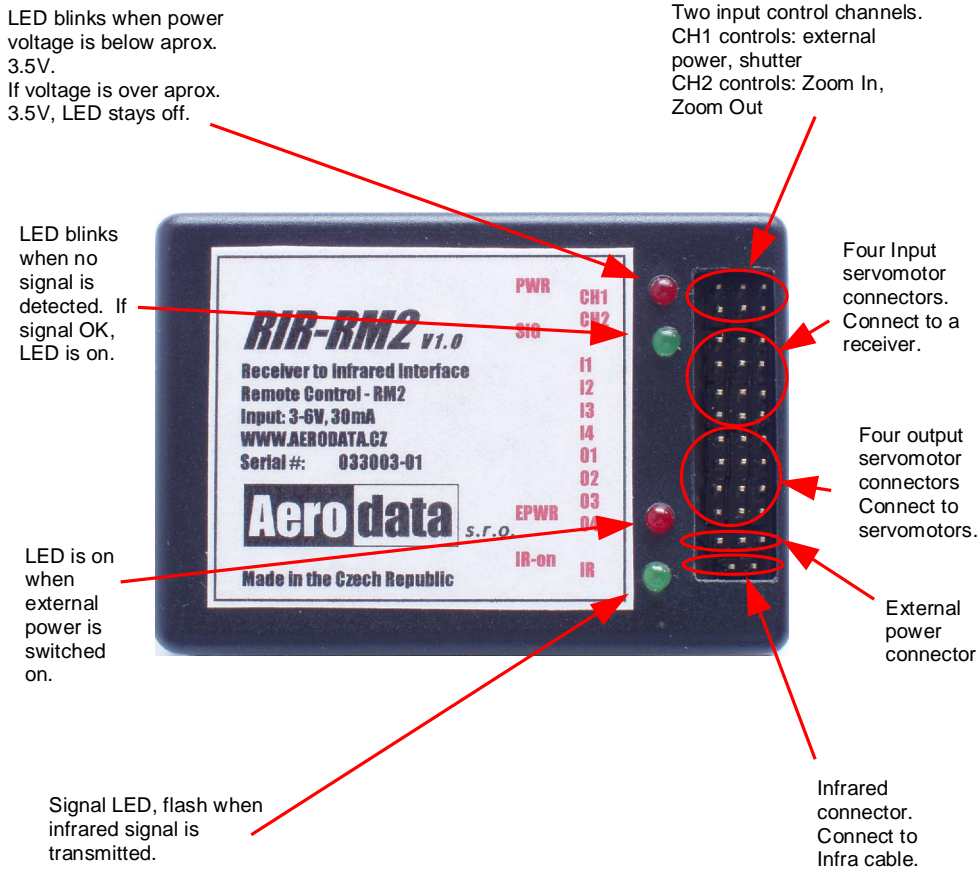


Fig. 2. Unit overview

Cables



Fig. 3. Receiver-RIR cable



Fig. 4. Infra cable

Connector wiring

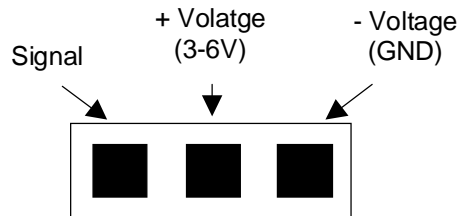


Fig. 5. Connectors: CH1, CH2 I1, I2, I3, I4, O1, O2, O3, O4

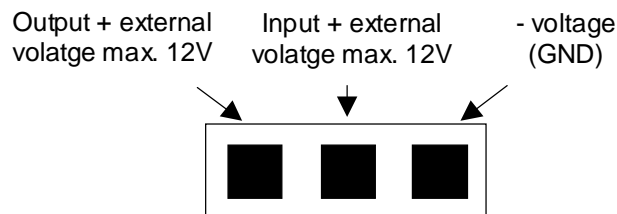


Fig. 6. External power connector

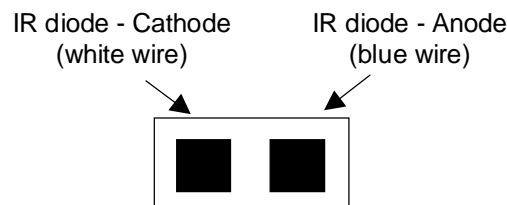


Fig. 7. Infrared connector

Suggestions for optimal performance

- If the camera Olympus C-50 receive the "shoot-a-picture" signal user will experience 1-3 seconds delay before the actual picture is taken (camera needs to focus and prepare for the snapshot). **To maximize the active servomotor stabilization function, keep the transmitter keybar in the "shoot-a-picture" (shutter) position for at least 3 seconds.**
- The external power switch works as a flip flop switch. To turn it on, move the transmitter keybar to the selected position. Vice versa, to turn the external power off, move the transmitter keybar to the same selected position second time.

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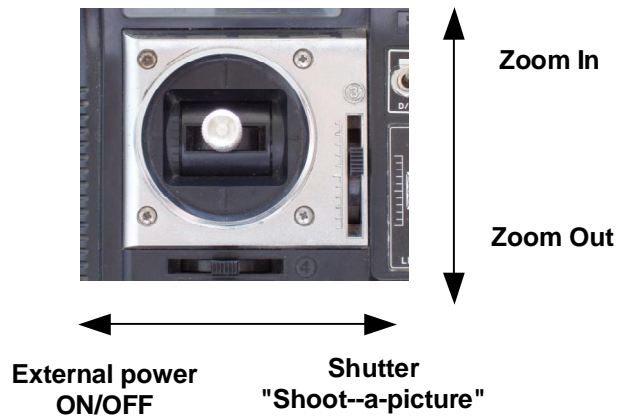


Fig. 8. Recommended transmitter keybar configuration

More questions?

For more additional information and for up to date data, please see www.aerodata.cz. Any question or suggestion is welcome at info@aerodata.cz. Of call us at +420 777 116 149.

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