

## Functional description

The Sony RC remote is meant for remote operating a digital SONY camera by any RC system. It supports all protocols used in the RC world.

You are able to control focus, shutter, zoom, record, photo re-play and power on/off.

The RC remote works on the camera's internal power, so external power is not necessary. However, if you want to remotely switch the camera on and off you need to apply an additional 5V standard servo supply from your controller/receiver.

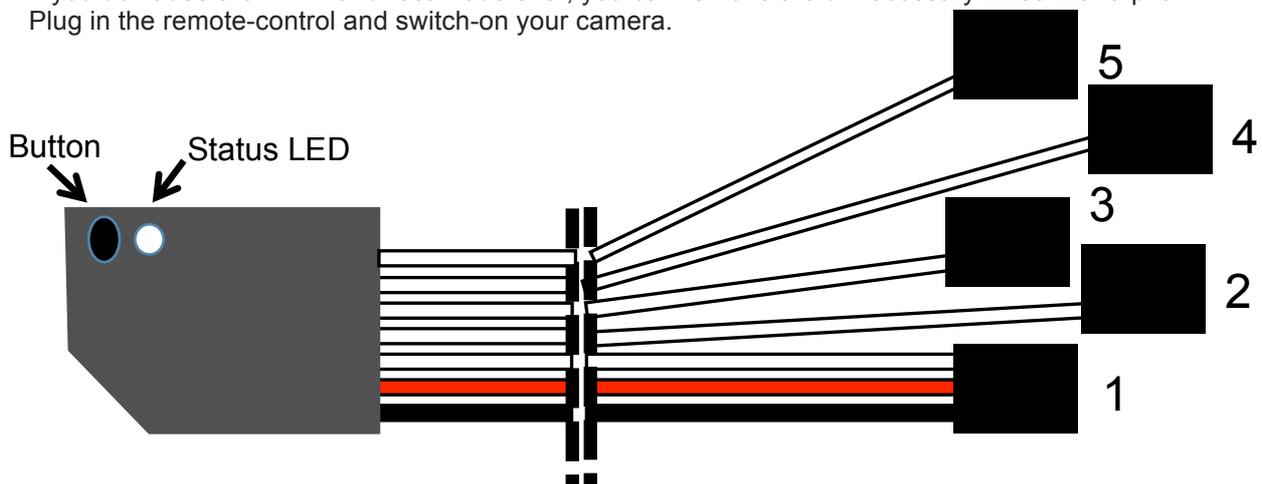
If you apply external voltage and your camera is not switched on, it will switch on automatically once at startup. From this point you can use the camera switch on/off feature.

## Installation

If you use the SBUS or PPM protocol you only have to apply the signal to input 1

If you use the PWM or direct mode you need to connect all wires to your controller/receiver. If your camera is connected to a gimbal or other stabilized mount make sure the wires do not obstruct the movement of the gimbal.

If you don't use the PWM or direct mode ever, you can remove the unnecessary wires with a plier. Plug in the remote-control and switch-on your camera.



## Setting operation mode

There are 4 operation modes available on the Sony RC remote.

1. PWM mode (standard RC servo pwm. 1..2ms pulse)
2. SBUS mode
3. PPM mode (8 channel ppm)
4. PPM inverted mode (8 channel inverted ppm)
5. Direct mode (inputs work like switches, 0v = off 3..5V = on)

In order to set the operation mode you have to push and hold the small black button on the remote and switch-on the camera (or apply external supply voltage).

After a few short flashes multicolor status LED will light in a specific color (blue, green, red, yellow or purple) for 2 seconds.

Repeat this procedure till you have entered the right operation mode.

(blue=PWM, green=SBUS, red=PPM, yellow=Inverted PPM, purple=Direct mode )

You need to set the operation mode only once. Your setting is stored in the internal flash memory.

## Choosing a sub-mode

Once you have selected the right operation mode you can select a sub-mode by push and hold the small button while the camera is switched on (or supply voltage is applied). The LED will light Green, Red, Blue. You can select the right sub-mode by releasing the button during the decided mode-color.

You can select 2 sub modes:

1. Configure zoom response (the way de zoom responses to your controller movement).
2. Set input configuration (only applies to Direct Mode)

### Select zoom response:

Push and hold the small button on the remote it will light up in green. Now (during the green light) release the button. Zoom response is now inverted. If you want to undo this: simple repeat this procedure.

### Select input configuration:

Push and hold the small button on the remote it will light up in green and then in red. Now (during the red light) release the button. Now if the remote lights in blue for one second you have selected input configuration 1. If you see the green light for one second you have selected configuration 2. (check "Direct Mode" for more information)

### PWM operation:

For PWM you apply a servo signal on each input (or at least for the functions you want to use.) channels are configured as follows:

- 1: focus+shutter
- 2: zoom in/out (multispeed\*)
- 3: record start/stop
- 4: camera on/off (don't connect this connector if you don't want to remotely switch the camera on and off)
- 5: not used in this mode

### SBUS and PPM mode.

For one-wire protocols (SBUS and PPM) apply the signal to input 1. Make sure you calibrate the channels first. (See "calibration")

### Direct mode

For Direct mode you apply simply logic signals onto the wires in order to control your camera.

In configuration 1:

1. Focus
2. Shutter
3. Zoom in
4. Zoom out
5. Record

In configuration 2:

1. Focus + Shutter. (It will focus first and then take a photo automatically)
2. Zoom in
3. Zoom out
4. Record
5. Camera On/Off

## calibration

For SBUS and PPM you need to calibrate the remote in order to learn the remote on what channel to respond for each function, and also what range is used. You can also combine 2 functions on one channel.

For PWM you also need to calibrate. In this mode your channels are already decided by the inputs you connect to the RC receiver.

To enter calibration mode push and hold the button while your camera is on or external supply is applied. Like the sub-mode procedure you will see the LED turn green, red and after red comes blue. Now release the button. The LED will light green continually.

You are now ready to calibrate the first channel. Move the slider, switch or stick on your remote control you want to use for the first channel. Make a movement over the range you want to use! The LED should be turned to blue now. Now push the button again. The LED lights up green again and you are ready to do the same for the second channel and you can repeat the same procedure for this channel and so on.

You calibrate the channels in this order:

-Zoom in/out

-Focus/Shutter

-Record

-Camera On/Off *(If you don't want to use this on/off feature just power off the remote at this point in calibration, so don't calibrate this channel)*

## Shooting a photo.

If you have calibrated the focus/shutter channel to a stick or a lever that provides a linear signal you are able to first focus and then by moving the stick or lever a bit further activate the shutter.

## Record

You can use your record control either in a latched way (switch active = record, inactive switch = stop recording) and you can use the record control as a momentary switch. (activate record switch for a moment to start recording and activate it again to stop the recording)

## Zooming

The zoom control needs to be calibrated on a linear channel (such as a stick or a lever) with middle position. Middle position will hold zoom steady. Moving the stick/lever from the middle will activate zoom. Some SONY cameras like A7 and A6000 support multispeed zoom. In this case you are able to smoothly control zoom-speed with your zoom stick or lever.

## Switch camera on/off

This function works momentary so you have to activate the on/off switch for a short time to turn the camera off and on again. The remote takes the position from the on/off switch at powerup as the inactive position.