



### RC Switch: the complete solution for digital camera control



#### 1. Overview

**RC Switch I.R.** is an electronic switch for digital camera equipped with a I.R. remote control that can be controlled by a channel of your RC Receiver system.

It can be connected on a dedicated channel or it can be used in parallel with an existing function.

Using the infra-red link already present on many camera it is possible to control the camera without external interfaces, cables and wit no need to open the camera and doing some modifications.

#### 2. Connections

**RC Switch** board has a cable with a standard connector that can be fitted in a free channel of the receiver; if the **RC Switch** is to be connected in parallel with an existing function, a **Y** harness adaptor is required.

A pushbutton on the switch is used to enter the programming function and for local activation of the switch and two state leds display the state of the **RC Switch** in different conditions.

#### 3. Programmable functions

The switch can be programmed by the user to adapt to different RC systems and configurations.

It is possible to define the neutral and the active position of RC command directly on the **RC Switch** without modify the setup of your Tx.

**RC Switch** can be controlled by a switch, by a pushbutton, by a stick or by a slide on the Tx, and the user can easily select the most convenient position to take photo (switch or stick full up, full down, centered,...).

An additional feature called **auto-on** function is also provided; some cameras have an auto shut-off function that preserves the battery life switching off the camera after a time (from 30" to 90") with no operation, i.e. if no pictures are taken.

To avoid that the camera will switch off during remote operation it is possible to program the **RC Switch** to take a picture after a programmable delay from the last command (**auto-on** function).

In this way you can concentrate yourself in piloting your model, without the risk of having the camera switched off.

This function can be disabled if it is not required and when it is enabled the time-out interval can be programmed from few seconds up to 10 minutes to adapt to different cameras.

#### 4. State LED indication

Two leds, one red and one green, are used to signal some conditions and to drive the user in the programming procedure.

At the start-up (power on) there are three possible conditions:

Condition	LED indication
1. Memory error or invalid parameter stored.	<b>Red led</b> flashing at high rate
2. Start of programming procedure	Six <b>red</b> blinks (see the detailed description of the program sequence)
3. Normal function	2 sec. solid <b>green</b> and then flashing <b>green</b> every 2 sec.

Mode set-up table

During the normal function the green led blinks at every 2" and turns on during output activation either by command, by internal timeout or local switch.



### 5. Power On mode / programming

If the system is powered on normally and the memory contains valid data, the system starts in normal function mode, as described in the Mode set-up table.

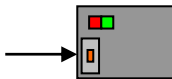
At the first activation or if the memory is blank or if data are not valid, the system starts in error state: the red led is flashing at high rate and the only way to restore the normal condition is to restart the system in programming mode.

Each time the system is powered with the pushbutton pressed, the programming procedure starts.

**Note** *the program procedure will not start automatically when an error is detected in the data memory: the user must power on the system with the pushbutton pressed.*

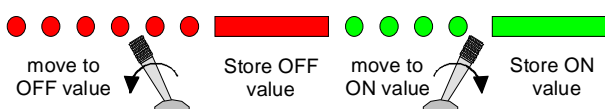
### 6. Programming procedure

To start the programming sequence, power on the system with the pushbutton pressed.



It is now possible to program the command position and the **auto-on** function.

#### Command position set-up:



1 | 2 | 3 | 4

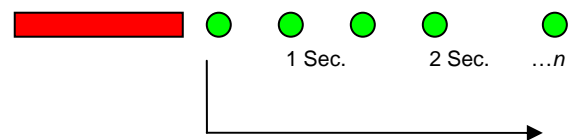
- 1 At power on in program mode you have six blinks of the red led to set the command in the neutral position [the position in which the switch is not active].
- 2 When the led stops blinking the current position is stored in microcontroller memory and the red led stays on for 2 seconds; when the green led starts flashing it is possible to release the command.
- 3 During the four green blinks set the command in the active position [the position you prefer to take a picture]...
- 4 ...and wait for the green led on at the end of the data store; when the red led turns on it is possible to release the command.

If the red led is blinking at high speed the programming sequence has been aborted for an error: please verify that the **off** and the **on** commands are not stored at the same value, or at two values very close and repeat the sequence by disconnecting and applying power again.

It is recommended to use at least half (50%) of the command travel (i.e. 0% to 50% or 50% to 100%) and to not modify trim set-up on the selected channel after system programming.

#### Auto on function programming: function enable/disable and timeout interval set-up.

This sequence starts immediately after the end of the previous one, with the red led switched on for 5 seconds.



1 | 2

- 1 Pressing the pushbutton while the red led is on disables the **auto-on** function and terminates the program sequence.
- 2 Otherwise, the **auto-on** function is enabled, the time count starts, the green led blinks at each 0,5" and ends when the pushbutton is pressed.

In both cases at the end the green led turns on for 2" to indicate that data are saved in memory and then switches off.

The programming procedure is terminated and the RC Switch must be powered off and on again for the new set-up to take effect.



### 7. Programming examples

Case 1: you want to program the camera switch on the aileron channel, taking picture when you move the stick from the central position to full right; your camera will switch off after a 30" time interval with no operation and you decide to program the **auto-on** function to take a picture every 28" in automatic mode to keep camera on.

You Operation	RC-Switch	
	Display	Effect
Connect the switch on the aileron slot of the receiver, press the push-button and switch on the system (first Tx and then Rx).		Programming procedure starts
Move the stick in neutral position	<b>Six red blinks</b>	
	<b>Red Led on</b>	The current stick position is stored (neutral)
Move the aileron stick full right and hold	<b>Four green blinks</b>	
	<b>Green Led On</b>	Position stored (active)
Release stick	<b>Red Led on</b>	Waiting for time-out enable.
Start counting 28 sec. with a clock or by counting the led flashes (one every 0.5 seconds)	<b>Green Led flashing at 0.5"</b>	Counting the time
press the push-button after 28"		
	<b>Green Led on</b>	Data saved in memory
	<b>Led off</b>	Procedure end
Disconnect power		

Case 2: you want to program the camera switch connected on a Tx switch (two position) operating on ch. 5, taking picture when you move the switch up; your camera will not automatically switch off and you don't need the **auto-on** function.

You Operation	RC-Switch	
	Display	Effect
Connect the switch on ch 5 on the receiver, press the push-button and switch on the system (first Tx and then Rx).		Programming procedure starts
Move the TX switch to down (neutral) position	<b>Six red blinks</b>	
	<b>Red Led on</b>	The switch position is stored (neutral).
Move the switch to up position	<b>Four green blinks</b>	
	<b>Green Led on</b>	Position stored (active)
Press the push-button while led is on red	<b>Red Led on</b>	time-out disable.
	<b>Green Led on</b>	Data saved in memory
	<b>Led off</b>	Procedure end
Disconnect power		