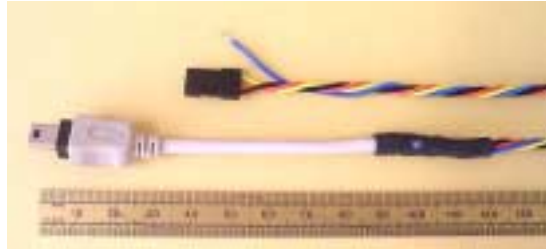




# RICOH Manual

wired shutter controller for ricoh



### Servo Operation

Connect the 3pin connector to a standard RC Receiver Servo output:

+ve           Red  
-ve           Black  
servo   Yellow/white

Connect the USB connector to the Camera USB port.

Movement of the RC Transmitter stick from one extreme to the other will trigger the camera (see section on joy-switch on the following page). After each activation there is a 1 second wait before operation continues. If the stick is held in the *on* position photos will be taken every 5 seconds.

### Switch Operation

Alternately (or additionally – as both will work together) you can short the blue wire to the black wire on the servo connector to trigger the camera. In this mode the servo connector should be used to supply between 3 and 5.5V to the unit. The blue wire can thus be connected to the trigger source(s) of your choice.

Note that if the camera switches off, then activation of **gentled** will switch it on again, this can be used as a useful “power saving feature.”

### Timer/Intervalometer Operation

The unit can also be used to trigger the camera every 10 seconds, this can be used as a simple intervalometer. To enable this make sure the blue wire is shorted to the black wire at power up. After power-up you can leave this connected for Servo Operation, or break the connection and then use the Switch Operation as described above.

### Joy-switch

RC systems vary widely so for maximum reliability it is suggested that the joystick on the transmitter be replaced with the circuit shown.



This can be built or bought ready-made as an option to the **gentled**. If the shutter triggers when the button is released, rather than pressed, then simply reverse the connector. Alternately an “auxiliary” channel on the transmitter could be used that has a switch rather than joystick.

### Specification

Supply Voltage	3 to 5.5V. Operation is not guaranteed <3V). (absolute maximum voltage, 6.5V)
Supply Current	Average 1mA
Servo Pulses	Pulse threshold between 1.5 and 1.7mS, nominally 1.1mS is off, 1.9mS is on. Pulses should be less than Supply V + 0.7V.
Timer Operation	10 second repeat shutter.
Weight	9 grams including 250mm wires & connectors.

### USB and video connectors

The video and USB connectors are located closely together on some Ricoh models. To ease the fit of these connectors the USB on **gentled** has a groove placed on the side closest to the video. To ease the fit further this can be enlarged with a small file, or a smaller video plug used.

### Diagnostics

Make sure that the camera is a RICOH and the model supports the CA-1 Remote Control – read the camera manual.

Use a switch between the black and blue wires rather than the servo input, as this will distinguish between servo and camera problems. Use the joy-switch rather than a joy-stick to maximise the servo operation and decrease it’s susceptibility to noise.