en/IR-Ctrl

36

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Inhaltsverzeichnis

1 IR-Ctrl Version 1.0 ..... 1/22

2 Inputs/Outputs 3/22

3 The connection - which switch? 7/22
3.1 Connection Servo-Output FlightCtrl 8/22
3.2 Connection to Receiver 9/22

4 The programming 13/22
4.1 Teaching new IR-Commands 13/22

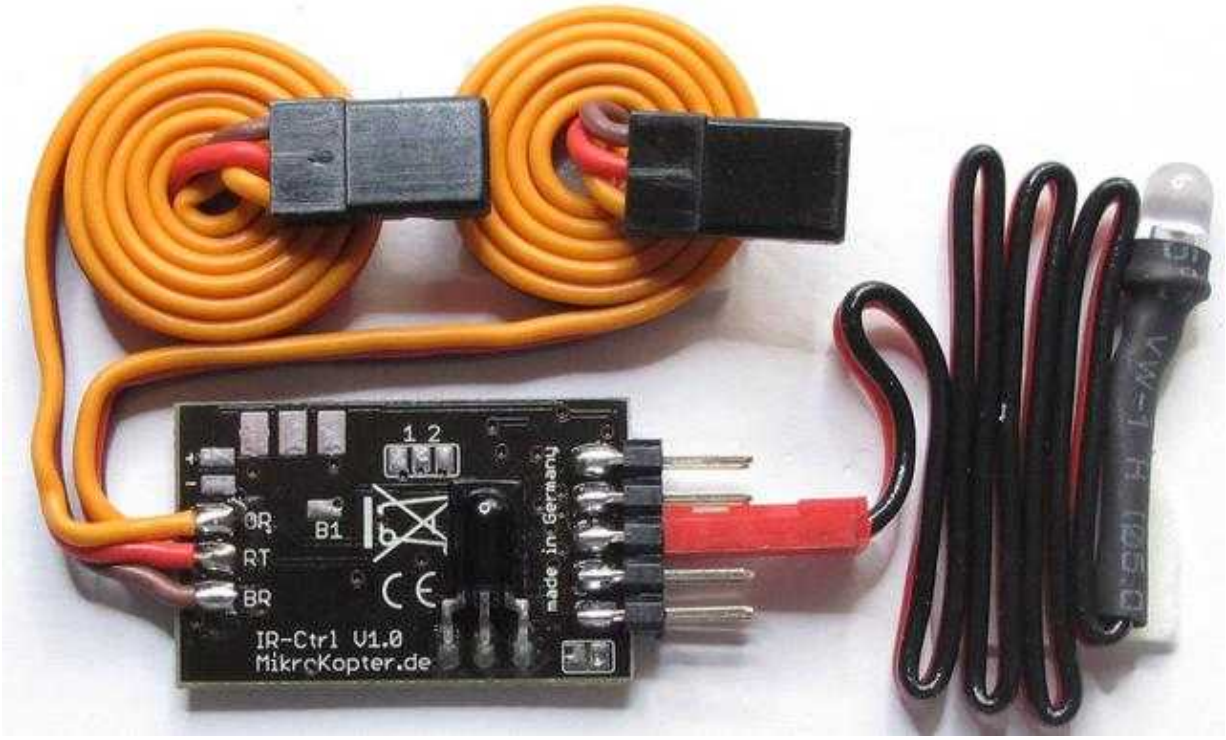
5 IR-Sensor 19/22

6 Reset IR-Ctrl / Updates 20/22
6.1 IR-Code Import/Export 21/22
6.2 check during flight, if the recording of the SONY cx730 runs 22/22
6.3 Database with IR-Codes 22/22
6.4 Firmware 22/22

1 IR-Ctrl Version 1.0

Shoplink: IR-Ctrl





The **IR-Ctrl** is a control board to trigger cameras or video-cameras via infra-red.
For that reason that the control board works also as a teachable remote control any camera/video-camera function, such as zooming, can be programmed.
Only the remote control of the used camera/camcorder is necessary.
Alternatively the codes of many cameras can be loaded from a database or shared from user to user.

For the delivery the IR-Ctrl is already pre-programmed for the video-camera Sony CX730. The trigger function is also possible for the NEX-5 and the Canon EOS-Models.

The following 4 functions can be used:

- PPM1=
  - Zoom-in
  - Zoom-out
- PPM2=
  - REC Start/Stop
  - Trigger photo

IMPORTANT - Please read!

The IR-Ctrl has two inputs - PPM1 + PPM2.
Do **NOT** connect this inputs at the same time to the FlightCtrl and the connected receiver!

This will destroy the IR-Ctrl and the FlightCtrl.

Connect always booth inputs (PPM1+PPM2) either directly to the FlightCtrl **OR** the receiver.

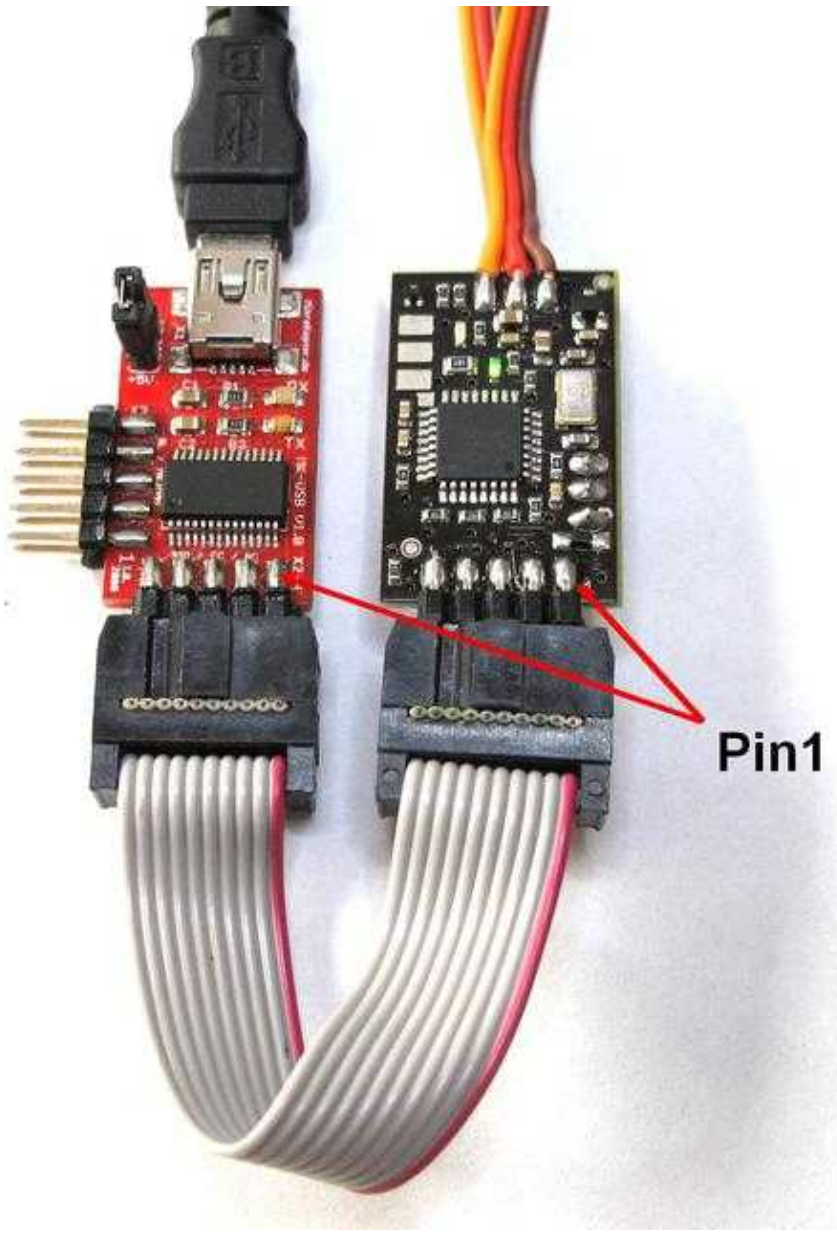
To eliminate the destroying of the IR-Ctrl and the FlightCtrl, the IR-Ctrl have now for the inputs only one PPM-Cable and one JR-Data cable (gray).
The powering of the IR-Ctrl is only to do with the PPM-Cable. The JR-Data cable have only the needed data connection. This cable is connected to the PPM contact.

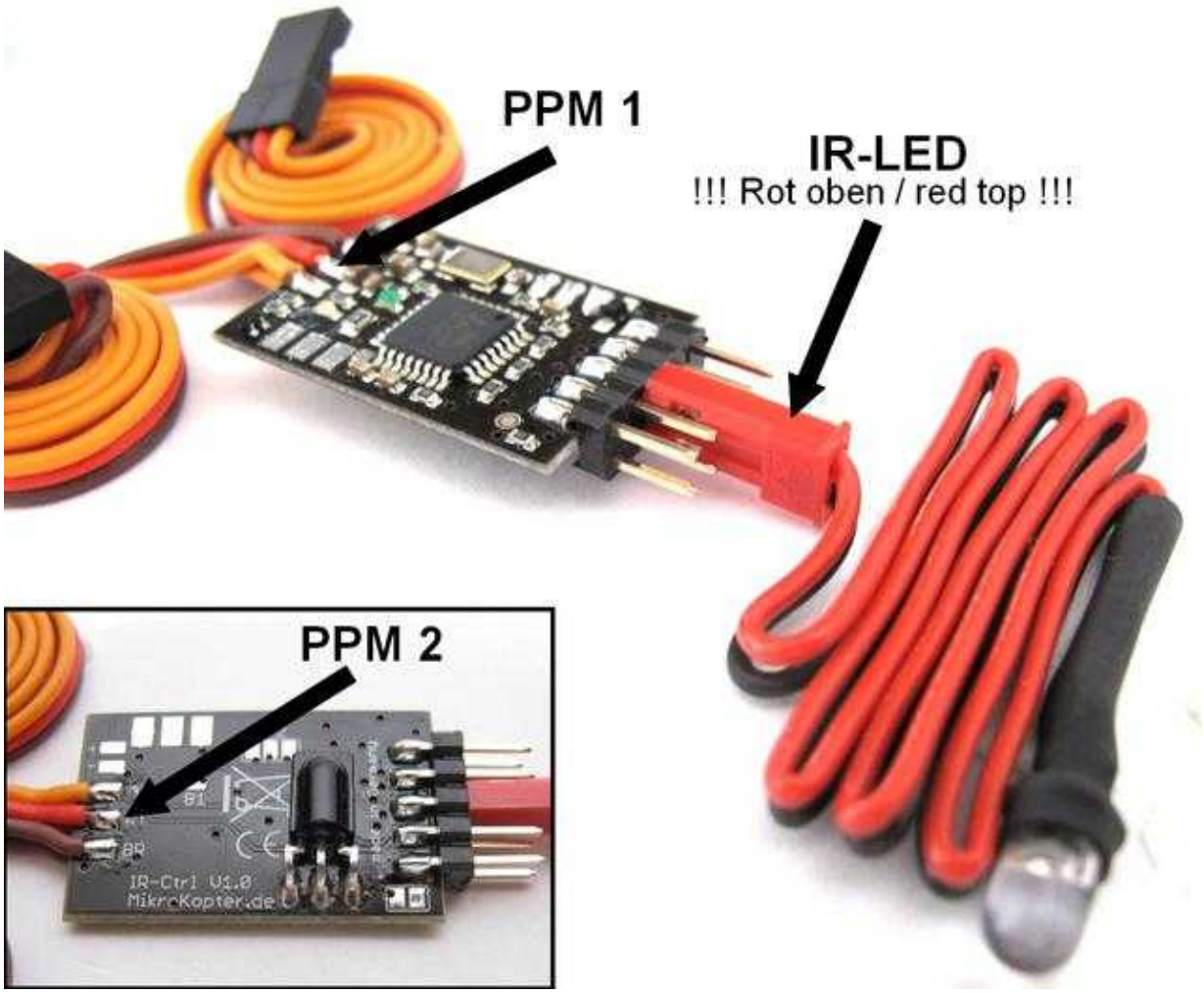
2 Inputs/Outputs

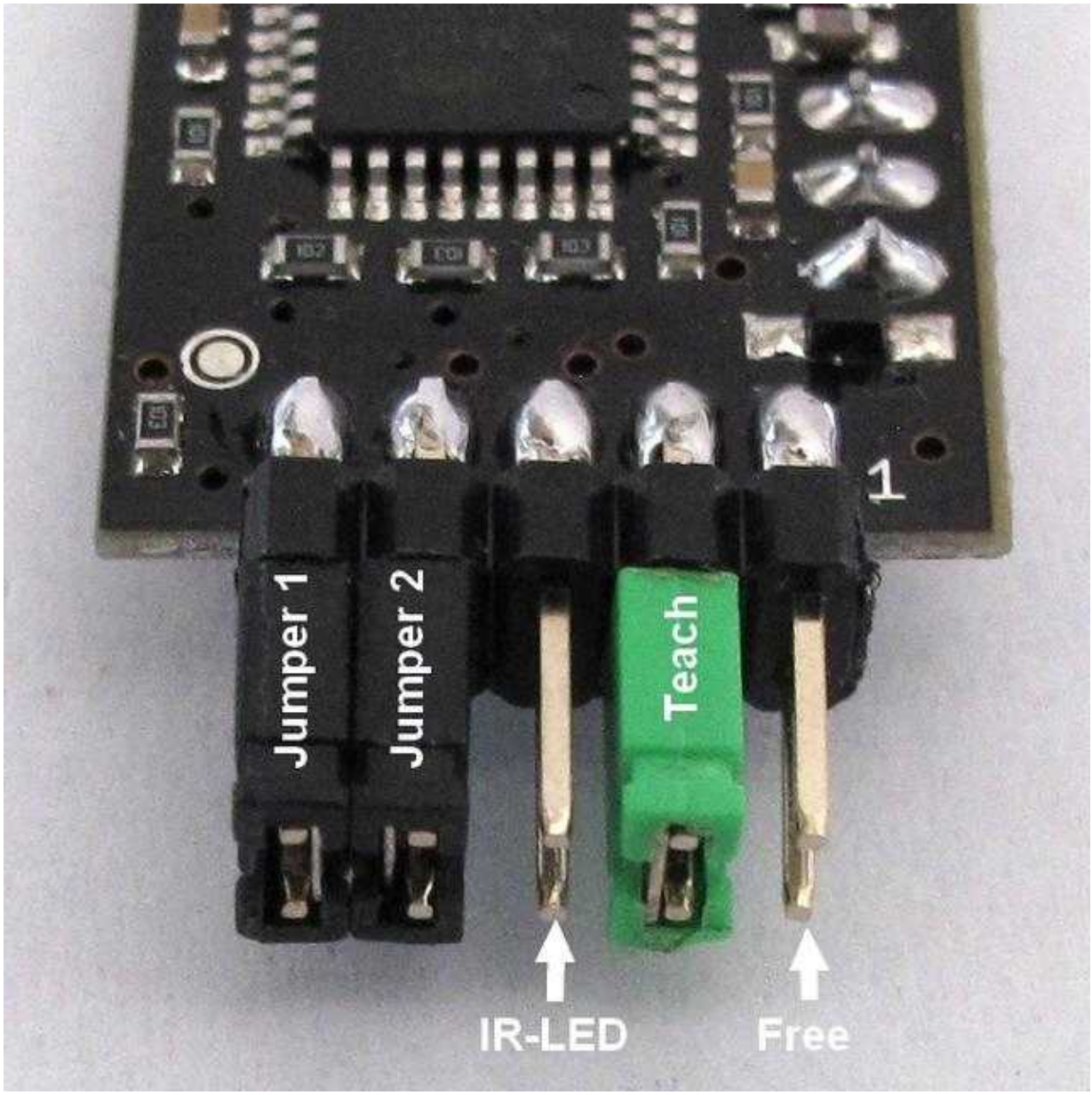
The IR-Ctrl has got two PPM Inputs (PPM1 + PPM2). In that way a total of 4 functions (2 for each Input) can be triggered.

Via the pin-header the IR-Ctrl:

- can be connected via the MK-USB to the KopterTool for updates,
- the IR-LED can be connected,
- the remote control code can be teached via the jumper.




PPM 1
IR-LED
!!! Rot oben / red top !!!
PPM 2
IR-Ctrl V1.0
MikroKopter.de


Jumper 1
Jumper 2
Teach
1
IR-LED
Free

ATTENTION: The plug of the IR-LED must be connected in that way that the red side points upwards (pointing to the IC).

3 The connection - which switch?

The IR-Ctrl can be connected either way to the servo-outputs of the FlightCtrl or to a regular receiver with servo-outputs.

On your transmitter you can use for the different functions i.e. a 3-way-switch, a Poti or (while using a secong transmitter in TrainerMode) one of the sticks.

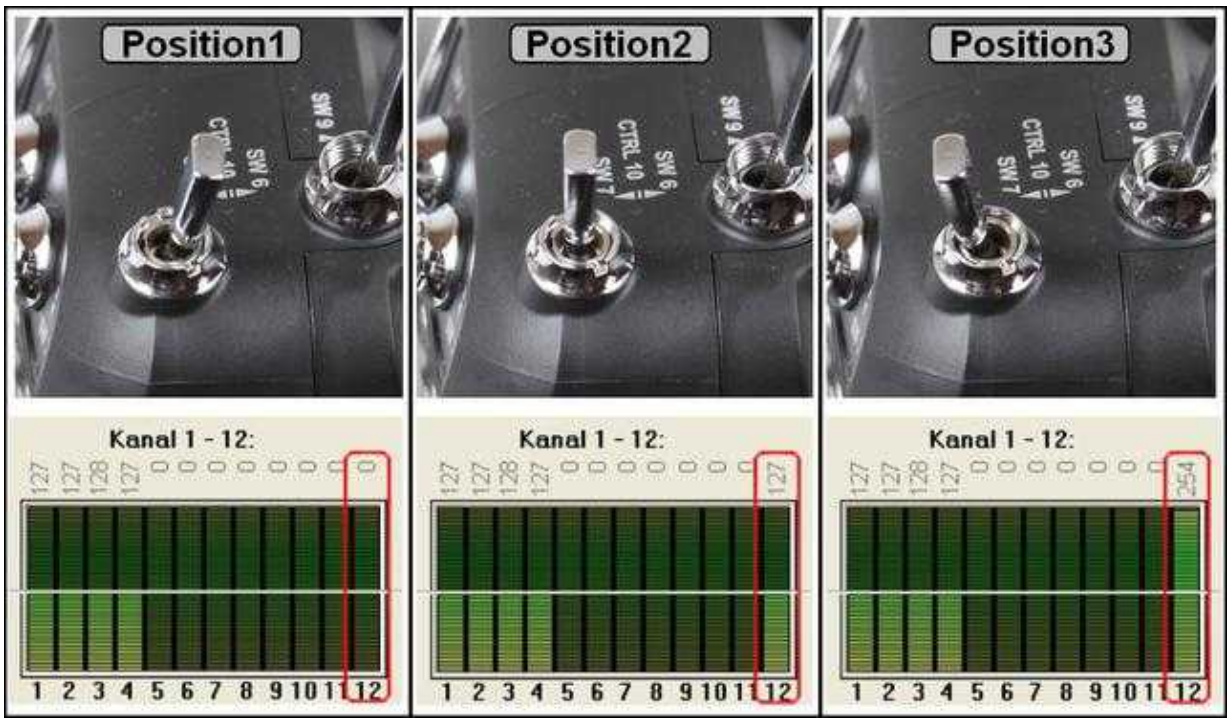
How works it to trigger the 4 functions?

Each input of the IR-Ctrl can perform 2 functions. Möchte man also beide Eingänge (PPM1+2) mit allsen 4 Funktionen Nutzen, kann man beispielsweise zwei 3-fach Schalter hierfür nutzen.
So that the IR-Ctrl detects which function should be executed the position of the switching channel is been used for that purpose.

This should be clarified in an example with a 3-way-switch:

A 3-way-switch has got 3 switch positions.
In the first switch position is thze channel on "Low" (0), in the second position on "Middle position" (127) and in the third position on "High" (254).

The middle position signals the IR-Ctrl the "Idle position". If you switch now to the switch position "Low" or "High" (Position 1 or 3) the first or second function will be triggered.



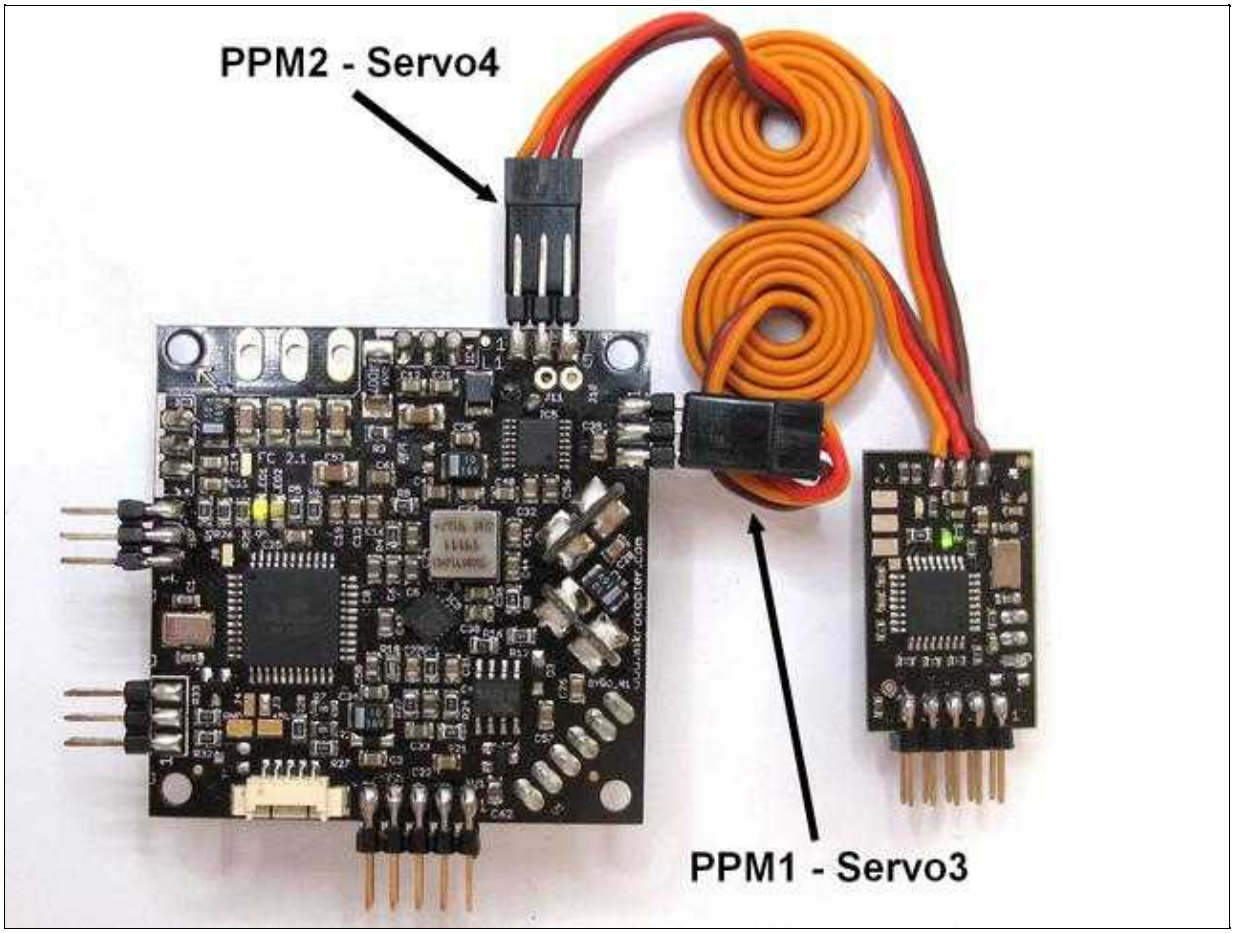
The functions are assigned as follows:

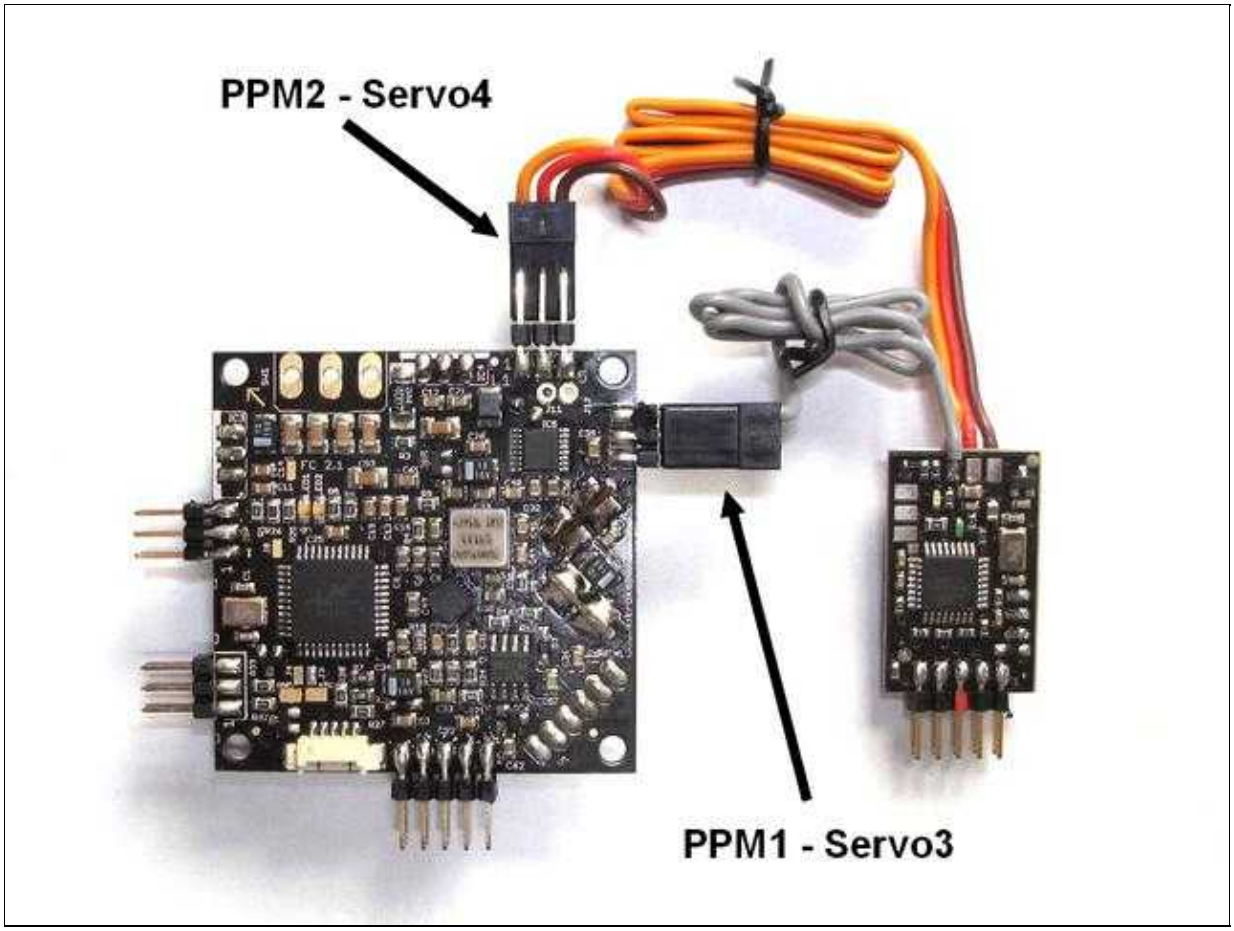
- PPM1
  - ♦ Low => Function 1 (green LED flashes during programming 1x with interruption)
  - ♦ High => Function 2 (green LED flashes during programming 2x with interruption)
- PPM2
  - ♦ Low => Function 3 (green LED flashes during programming 3x with interruption)
  - ♦ High => Function 4 (green LED flashes during programming 4x with interruption)

Of course, you can also use a button or a switch.
Here then, depends on the switch position / operation of the button, a function will be done permanently.

3.1 Connection Servo-Output FlightCtrl

The IR-Ctrl can be connected to the servo-outputs "Servo3" and "Servo4" (Link) on the FlightCtrl .
Those both outputs you can control directly with a channel (Poti1-8) (Link) or via the switch outputs (Out1/Out2).

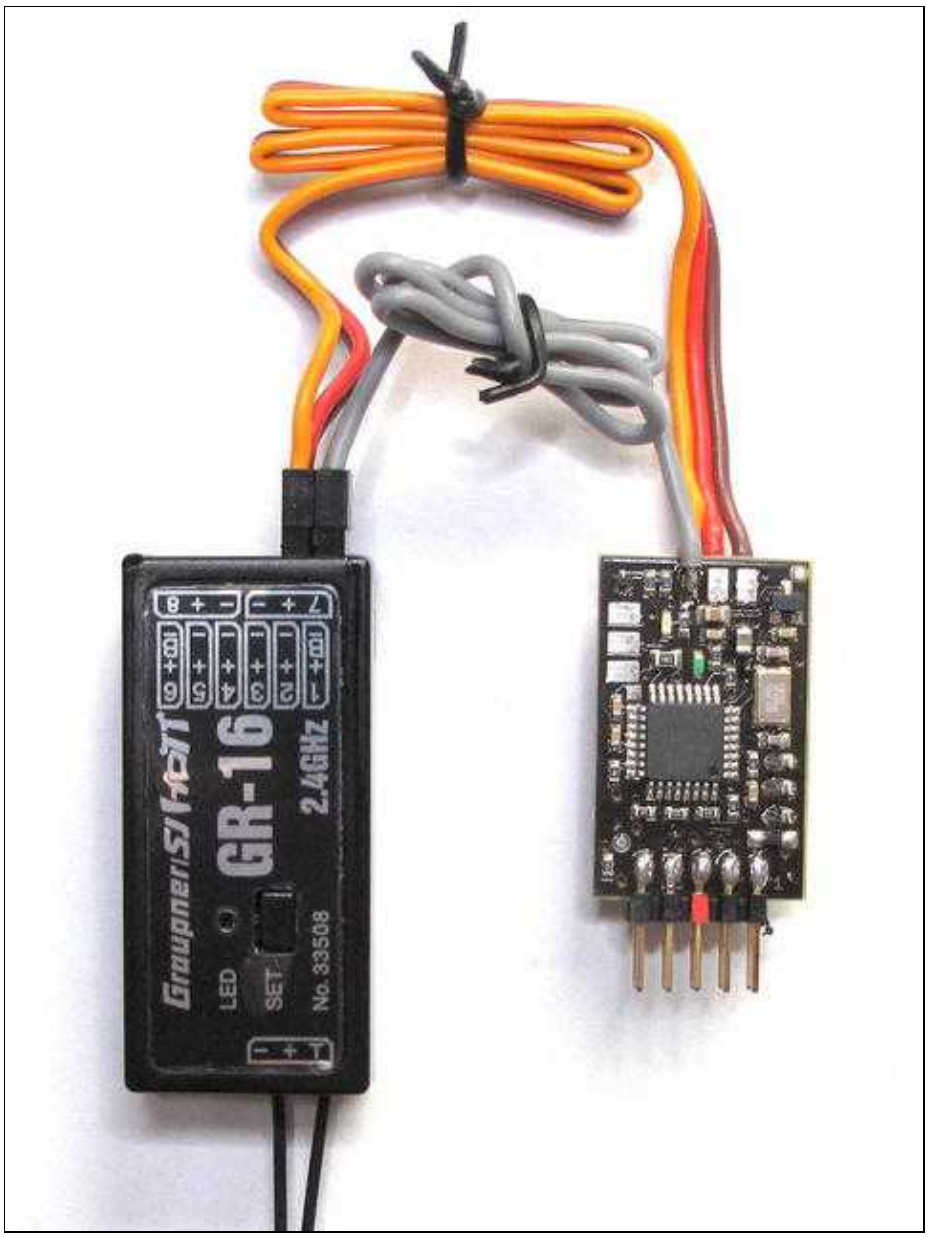




3.2 Connection to Receiver

If you control the camera separatly with a second transmitter and an additional receiver you can connect here also the IR-Ctrl.
It is also possible, using the transmitter Graupner MC-32 HoTT, to set two more channels and get them via the receiver, i.e. the GR32.


GR-16
2.4GHz
LED
SET
No. 33508


GR-16
2.4GHz
LED
SET
No. 33508

IMPORTANT:
If you connect the IR-Ctrl direct to the receiver (as shown here in the picture) you **must** adjust the channel transfer on your receiver!

4 The programming

INFO: With the cable PPM1 you can program the functions 1+2, with the cable PPM2 the functions 3+4.

If you have got a different camera or you don't want to use the standard functions you can program the IR-Ctrl via the pin-header and the IR-receiver on the underside with new commands.

Here you can set if an IR-command

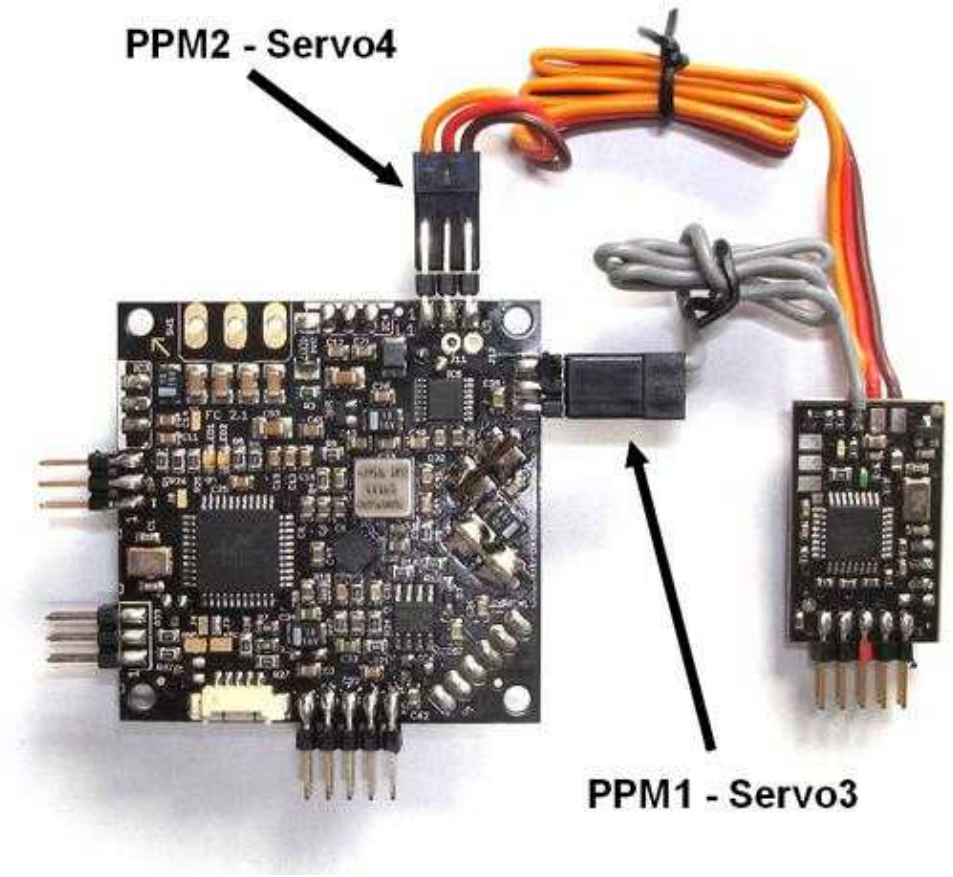
- permanently
- one time
- every second
- or every 3 seconds

should be transmitted.

4.1 Teaching new IR-Commands

Step1:

1. The inputs of the IR-Ctrl "PPM1" + "PPM2" should be connected to the appropriate slot on the FlightCtrl or the Output/Channel of the receiver.
2. The FlightCtrl (or the receiver if not connected to the FlightCtrl !) need to be supplied with power. The green LED on the IR-Ctrl is lighting.

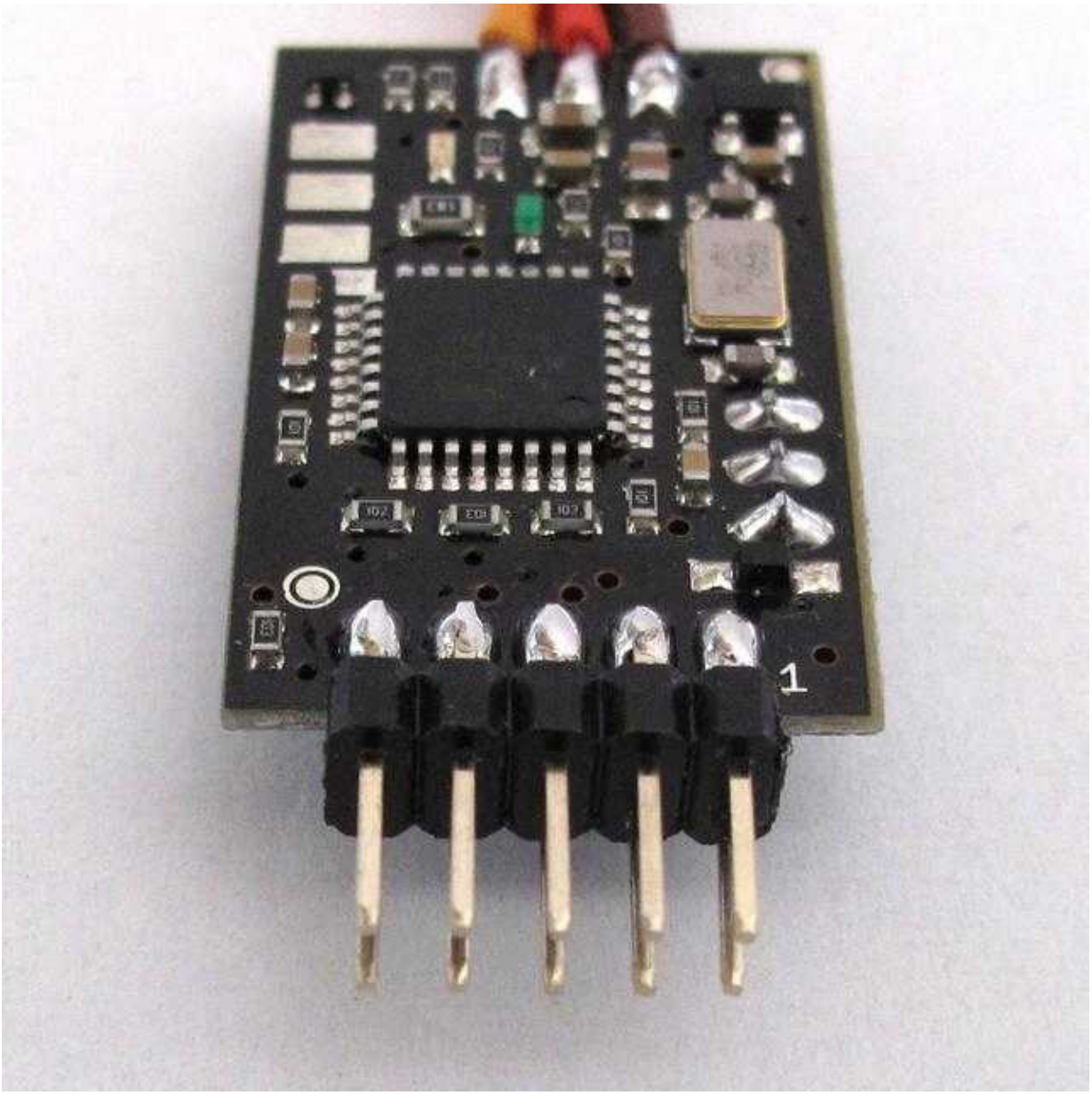


Step2:

As described there are 4 opportunities for the reproduction of IR commands.
An IR-signal can be transmitted permanently, one time, every second or every three seconds.

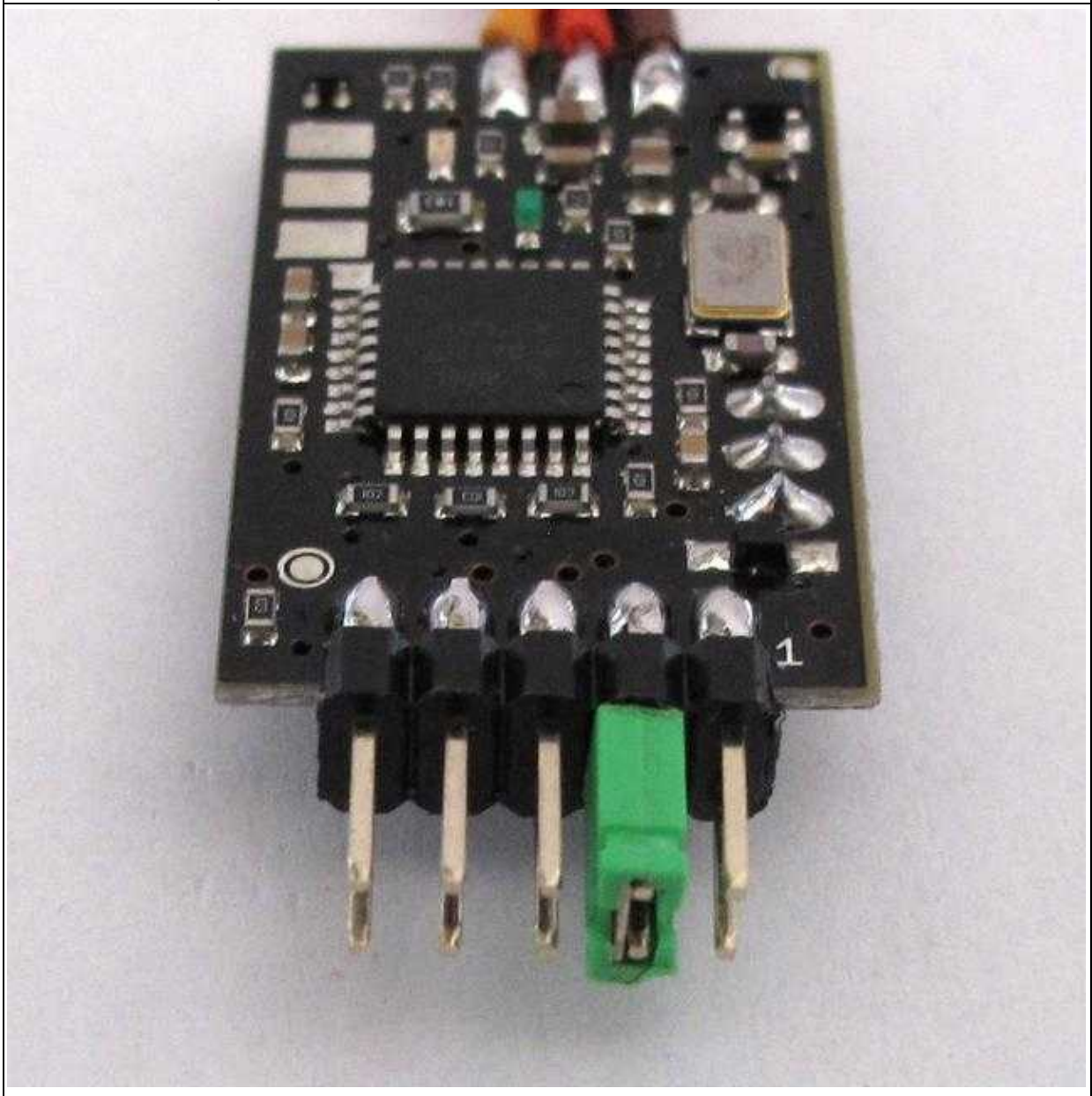
Choose desired timing:

Timing = Permanently	Timing = On


1

Step3:

Start programming: Attach jumper "Teach" => The green LED on the IR-Ctrl is flashing in second intervals:

Teach = Permanently	Teach = One
	

Step4:

Briefly operate Switch/Button/Stick on the transmitter which function should be triggered and move it back again into the original position:
LED on the IR-Ctrl goes off for a short time and starts flashing 1-4x (depends on the operated Input Hi/Lo) with a short interruption.
(**INFO**: A 3-way-switch should be operated from the middle-position.)

Step5:

Point the remote control of the Camera/Video-Camera to the sensor on the underside of the IR-Ctrl and press the desired function/button.



The red LED on the IR-Ctrl acknowledges the input with a unique flash - The green LED flashes again in second intervals.

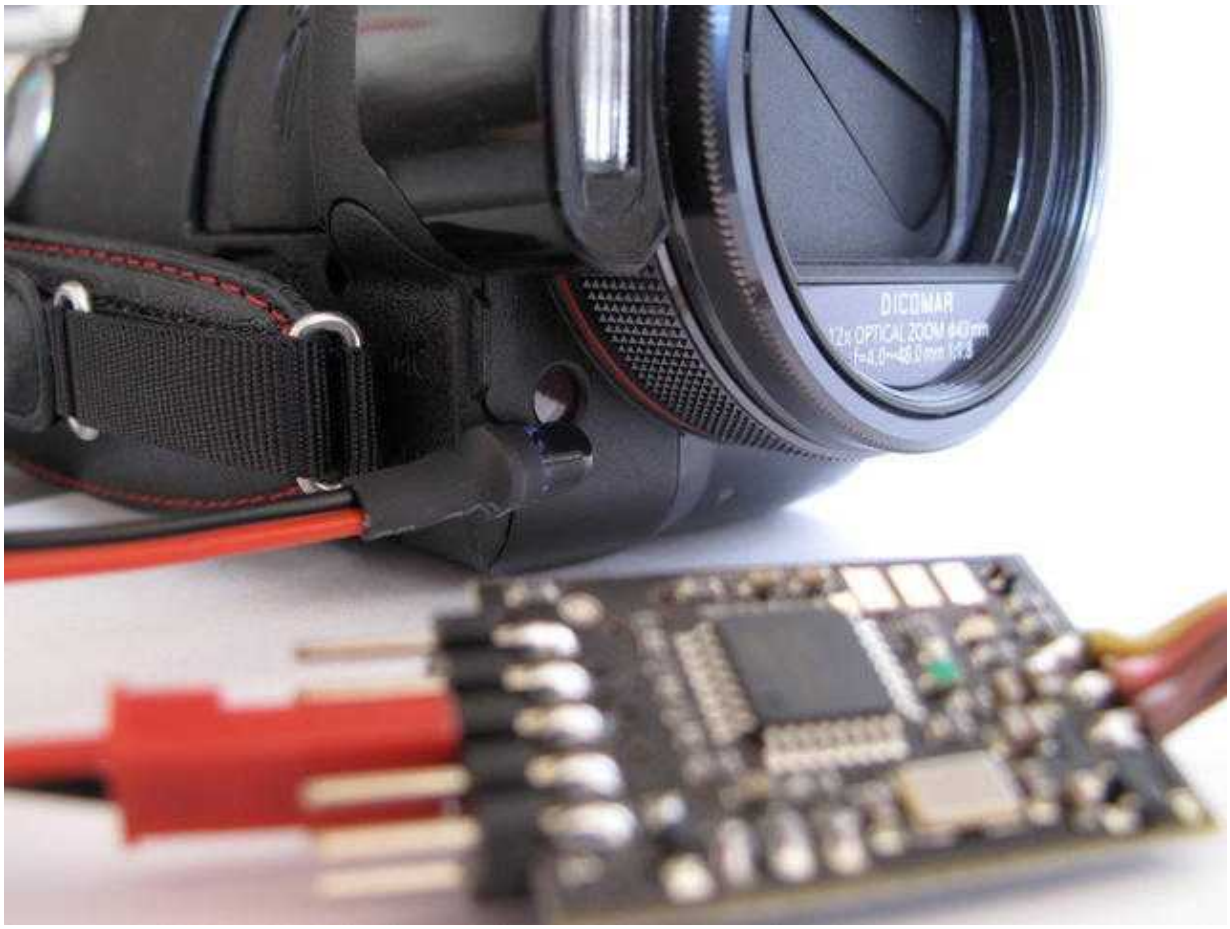
Step6:

Disconnect jumper "Teach".

By disconnecting the jumper you finish the programming.
To program the remaining three of all 4 functions you need to continue with Step2.

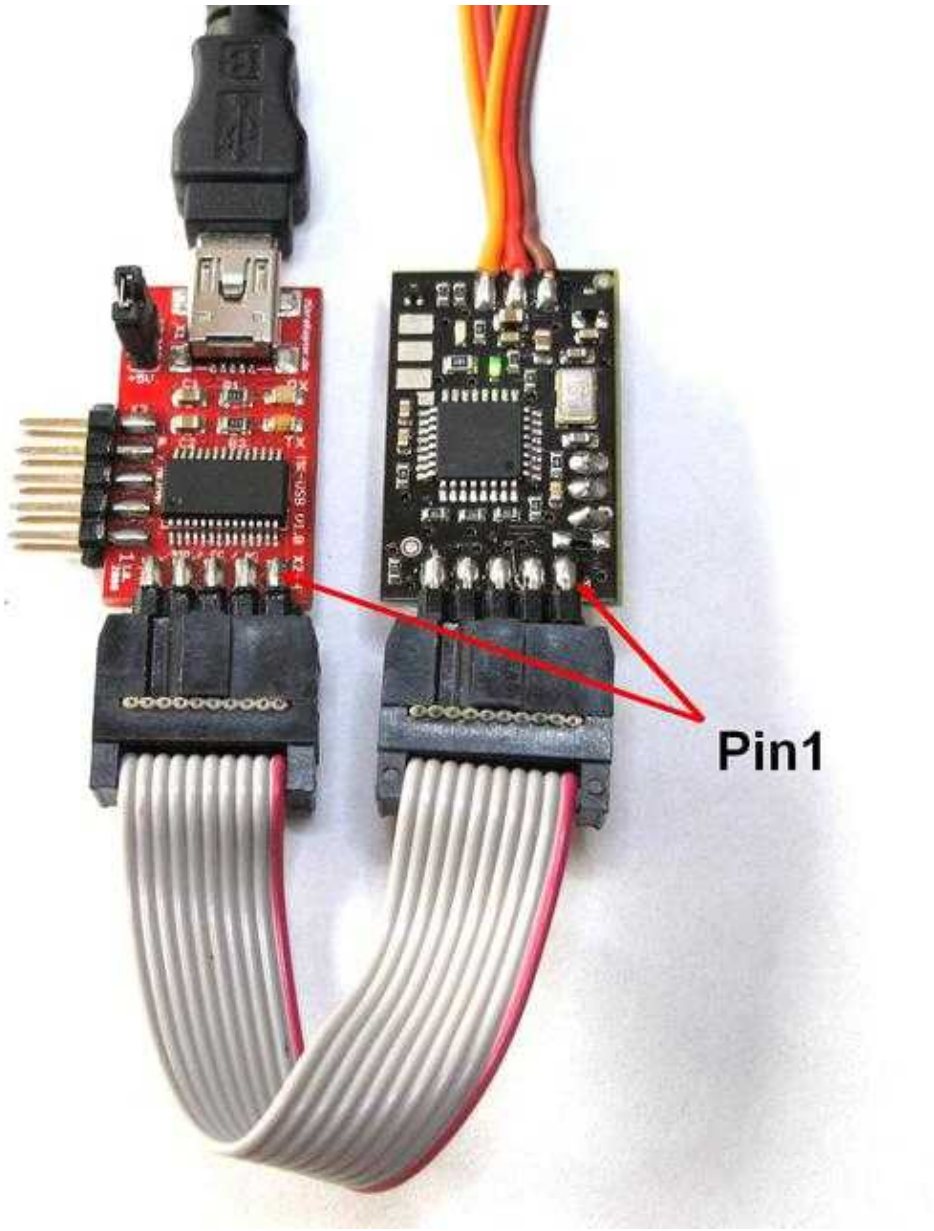
5 IR-Sensor

The IR-Sensor can be mounted in front of the IR-receiver of the camera / video camera.
To fix the IR-Sensor you can use e.g. a strip of tape.

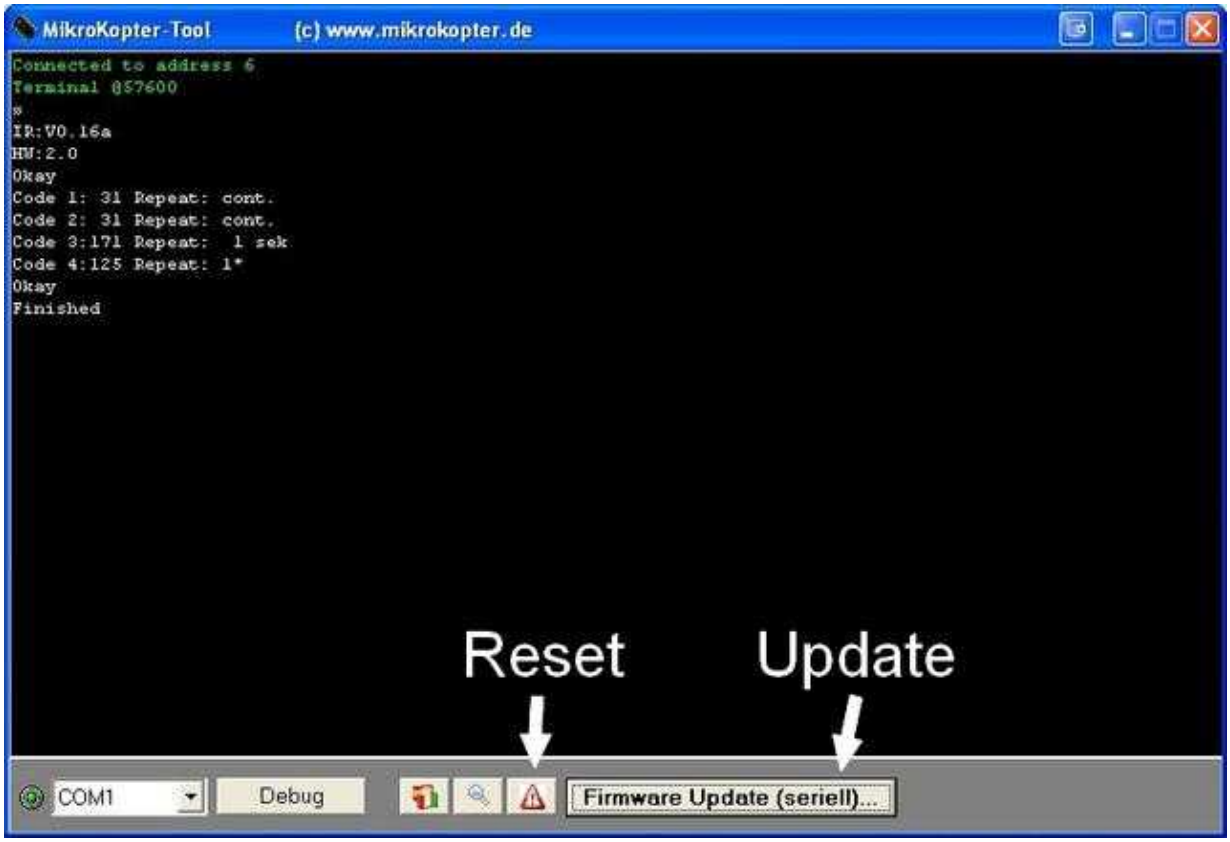


6 Reset IR-Ctrl / Updates

You can connect the IR-Ctrl, like all other MikroKopter-Boards, to the MK-USB.
Close the Jumper on th eMK-USB. This will power up the IR-Ctrl.



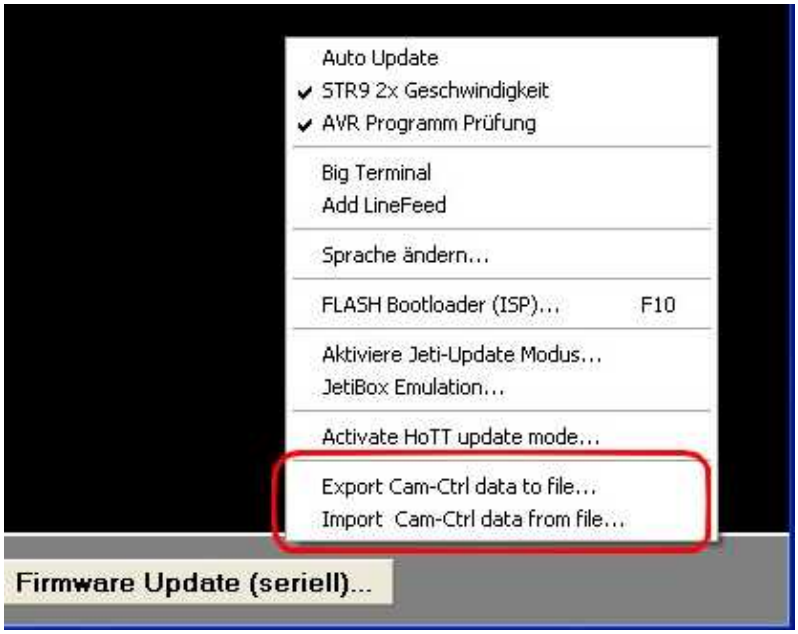
Via the KopterTool (from V1.78c) it is possible to refresh the IR-Ctrl with new Updates or reset back into the delivery status.
(After a reset, the default functions are restored)



6.1 IR-Code Import/Export

It is possible to read and store the IR data of the IR-Ctrl.
Also it is possible to import such stored data.

In the terminal window of the KopterTool you can "click" with the right mouse button into the gray area.
Now you can see the context menu where you can choose import or export.



In case these both menu items are not shown:

- Start communication between KopterTool and IR-Ctrl by clicking to "Debug". Then the KopterTool notices, that it is connected to the IR-Ctrl.
- a KopterTool since 1.78c is reqiured

6.2 check during flight, if the recording of the SONY cx730 runs

You can't see the 'REC' information in the AV-Video output. If you want to check during flight, you should program the "menu" button into one of the IR-functions (or use the setting below). If you use the 'Menu' function, the menu of the Sony cx730 will appear and you can see the 'REC' information. The recording will not be disturbed then.

6.3 Database with IR-Codes

- Canon EOS & 5D MK2 (Photo & Video on/off)
- Sony Camcorder (CX730 und compatible) & Canon EOS Photo Sony: Zoom in/out + Photo + REC-Start/Stopp & EOS: Photo & Sony: Photo
- Sony Camcorder (CX730 und compatible) (Zoom in/out + Menukey + REC-Start/Stopp)
- Panasonic HDC Camcorder (Zoom in/out + Photo + REC-Start/Stopp)
- Sony Alpha und NEX (Zoom in/out + Photo + REC-Start/Stopp)
- Sony Camcorder (CX730 und compatible) & Canon EOS Photo & Sony NEX Photo & Nikon Photo Sony: Zoom in/out + Photo + REC-Start/Stopp & EOS: Photo & Sony: Photo & Nikon: Photo Needs IR-Firmware 0.18 for Nikon

6.4 Firmware

- 0.16 Firmware IR
- 0.18 Firmware IR Inclusive Nikon Photo

- KategorieMK-Baugruppe/de