en/WaypointAutomatic

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1 Info

If you use a Shuttercable (Link) you can also trigger a camera with a push button or a 3-way switch on your transmitter.

Tip

A description how to connect and trigger a camera with a Shuttercable you can find here: ShutterCable

A description how to connect and trigger a camera with a CamCtrl you can find here: CamCtrl

Also during a Way point flight you can automatically trigger your camera.

For this we need 3 things:

- Automatic
- Bitmaske (switching pattern)
- WP-Event

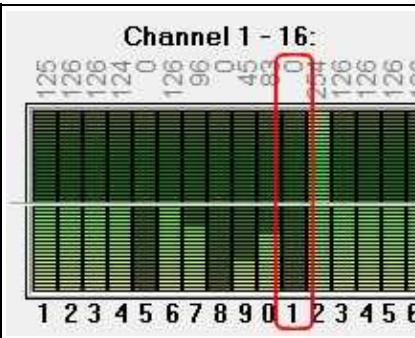
(The following settings are valid from SW version 2.00)

2 Automatic

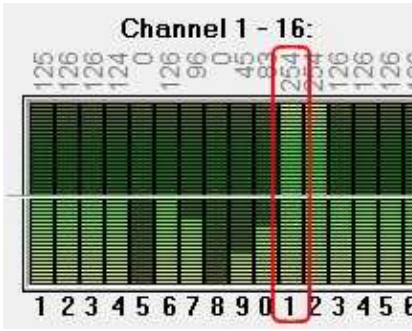
To trigger a Camera with a Shuttercable or an IR-Ctrl during a Way point flight, you have to activate the Automatic. This can be done with an 3-way switch or also with a push button.

2.1 Push button to trigger

If you use a push button to trigger the camera we have 2 positions =>

	without activation = OFF (0) Camera will not trigger. (No triggering during a WP-Event)	

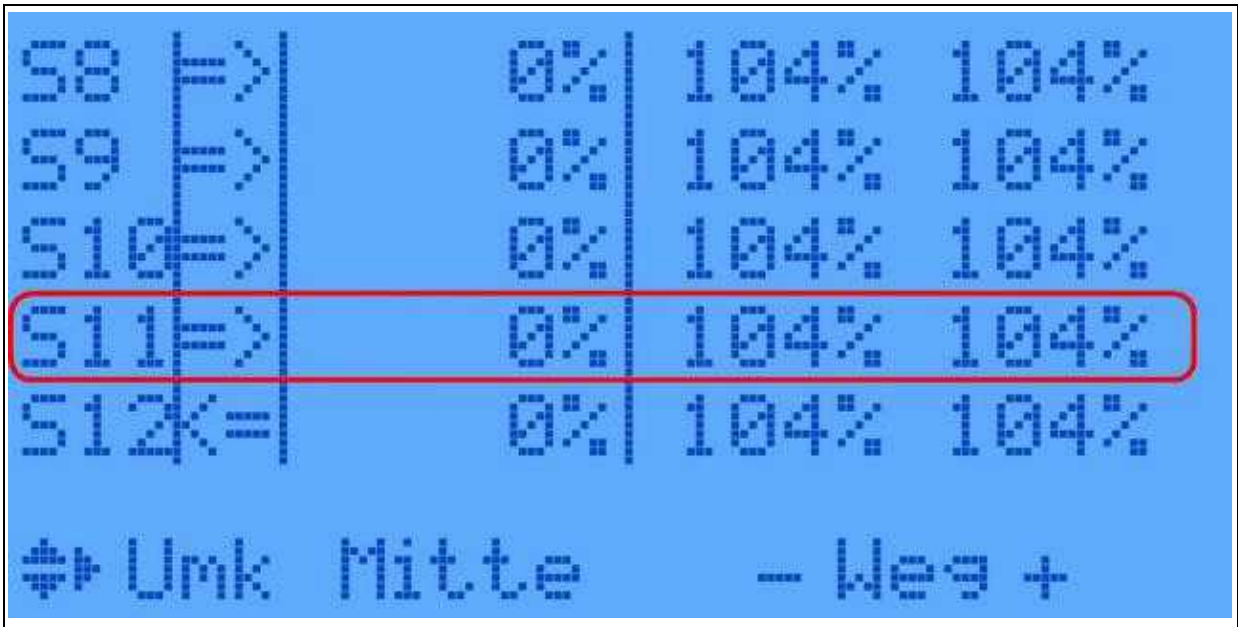
with activation = ON (254) Trigger the camera manually



To use the Automatic during a Way point flight we have to change the settings for this channel on the transmitter. If you use e.g. a Graupner HoTT transmitter we find this setting under *Servo adjustment*: (in this example we use channel 11 to trigger the camera)

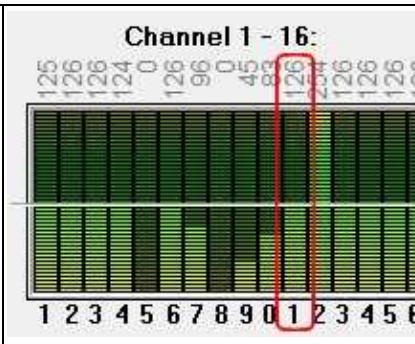
1. Change to *Servo adjustment*:

2. Change the left servo travel of this channel from 104% ... to 0%:

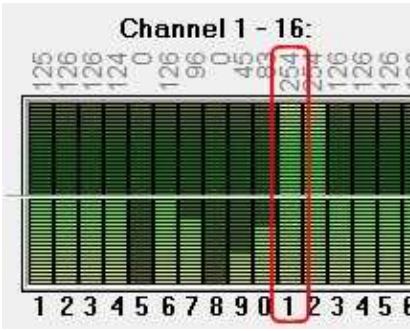


3. Now the Automatic is still activ.

without activation = Automatic (126) Camera will not trigger. (Automatic triggering during a WP-Event)



with activation = ON (254) Trigger the camera manually

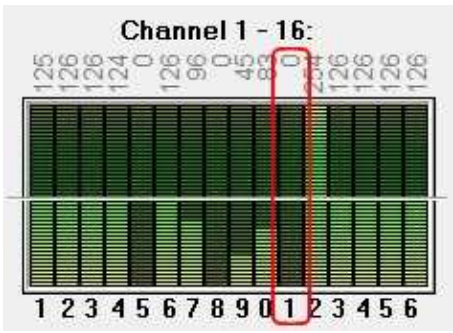


Info
The Automatic can be still ON. During a normal flight you will only trigger the camera when you push the button. During a Waypoint flight the camera will trigger automatically.

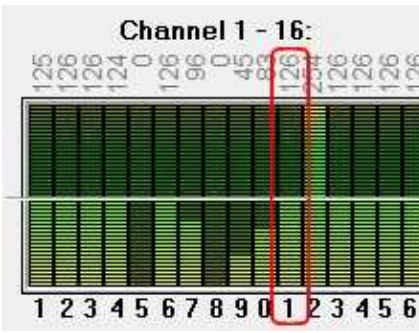
2.2 3-way switch to trigger

If you use a 3-way switch to trigger the camera you can switch between OFF/Automatic/Trigger:
(in this example we use channel 11 to trigger the camera)

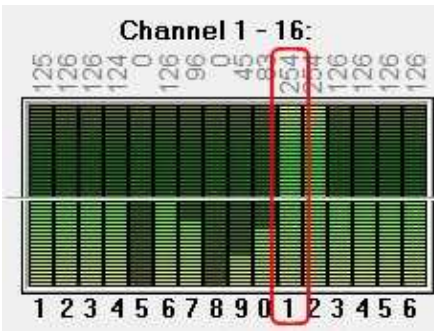
Position 1 = OFF (0) Camera will not trigger



Position 2 = Automatic (126) Camera will not trigger Automatic triggering during a WP-Event

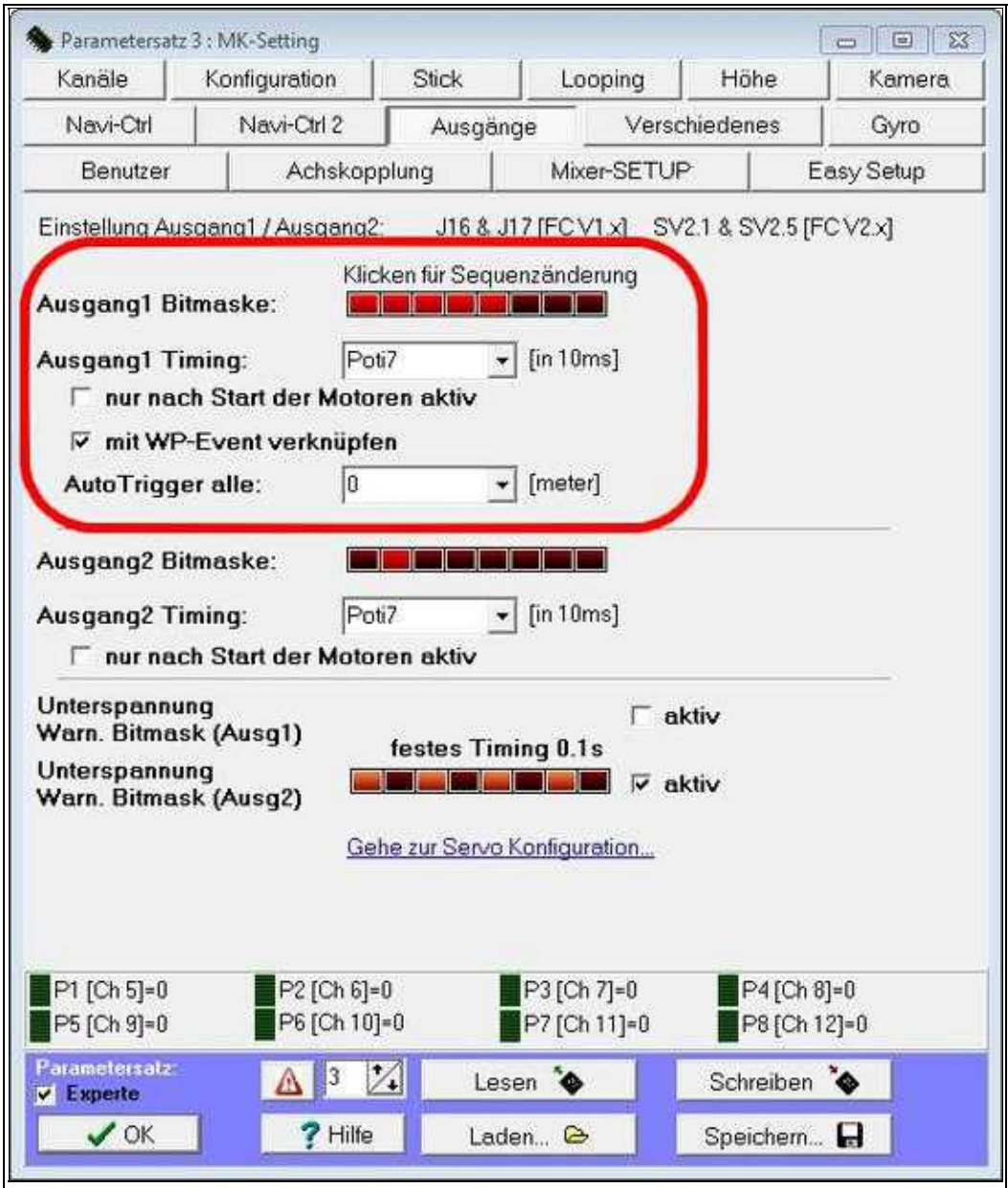


Position 3 = An (254) Trigger the camera manually



3 Bitmaske (switching pattern)

In the settings of the KopterTool under *Output* you have to set::



- *combine with WP-Event*
Activate this. So "Out1" will work automatically during a WP-Event.

- *Out1 Bitmask*
This one determines the switching interval of Out1

- *Out1 Timing*
Here you set the *Poti1-8* (channel) of the used push button / 3-way switch.

Bitmask - explanation
With the 8 boxes of the Bitmask you will the switching sequence of Out1. How long a box will switch ON or OFF Out1 you will later set under the *WP-Event*.

Example:
Under *WP-Event* you set for example a value of 100 (100 x 10ms = 1 Second).
Each box under "Out1 Bitmask" is then working for this time (1 Second).
So if the boxes are activated as you can see in the picture (the first 5 ON and the last OFF) the switching output 1 will work like this:
1second "ON" - 1second "ON" - 1second "ON" - 1second "ON" - 1second "ON" - 1second "OFF" - 1second "OFF" - 1second "OFF"

Output 1 is also ON for 5 seconds and then OFF for 3 seconds.

Please note:
The program will processing the whole bitmask! If the *Waitingtime* for a Waypoint is longer, the bitmask will start again.

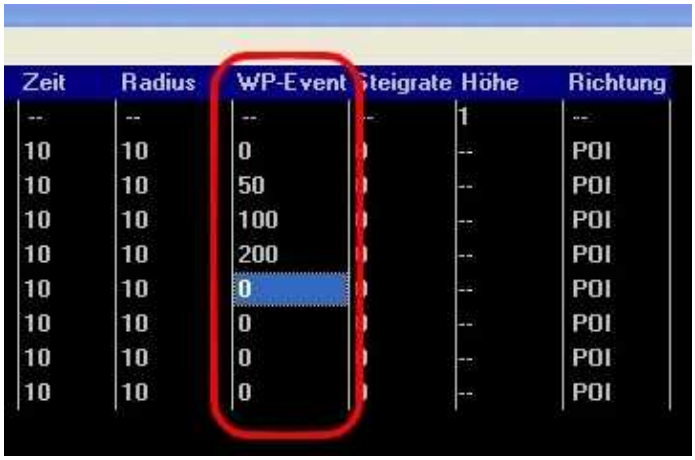
TIP
A DSLR camera can also trigger very fast. So you better use a short time for the WP-event (e.g. 6-10).

(See also Switch Examples)

4 WayPoint Event

Each scaled WayPoint in the MikroKopterTool-OSD has a field **"WP-Event"** (WayPoint-Event). With each WayPoint-Flight you can trigger i.e. a camera automatically after reaching the appropriate WayPoint.

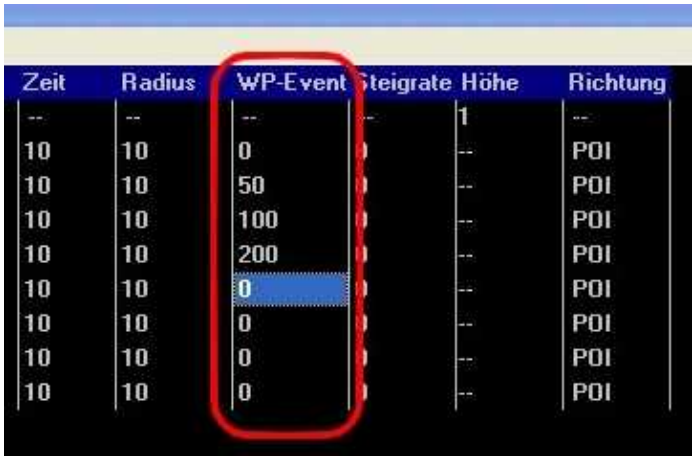
If the Kopter reaches the WayPoint the Kopter stays there for the delay time set under the tab "Time". During the delay time the value will be transfered to the FlightCtrl entered under WP-Event.



The functions and the settings of the WayPoints are described here:
en/MikroKopterTool-OSD/MikroKopterTool-OSD

5 Switch Examples

Let's take a few WP-Event values which are assigned for WayPoints and let's have a look to the function of the switch output in some examples.
How would the output switch with this values?



Zeit	Radius	WP-Event	teigrate	Höhe	Richtung
--	--	--	--	1	--
10	10	0		--	POI
10	10	50		--	POI
10	10	100		--	POI
10	10	200		--	POI
10	10	0		--	POI
10	10	0		--	POI
10	10	0		--	POI
10	10	0		--	POI

For Information:
The switching operation will be repeated as long until the set "Time" for the WayPoint is counted down. Example: Is under "Time" a 10 entered the Kopter will stay for 10 sec. at that WayPoint and during this time the value of the WP-Event will be transfered.

WP-Event = 0
Is a "0" entered under WP-Event the function is OFF. The output will be not switched and a camera will be not triggered.

WP-Event = 50
Is a "50" entered under WP-Event is the time per casket 0,5 seconds (50x10ms = 500ms = 0,5sek).

WP-Event = 100
Is a "100" entered under WP-Event is the time per casket 1 second (100x10ms = 1000ms = 1sek).

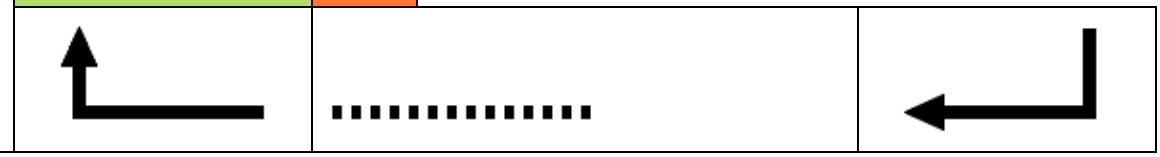
WP-Event = 200
Is a "200" enterd under WP-Event is the time per casket 2 seconds (200x10ms = 2000ms = 2sek).

Here are some examples how you could switch the caskets (other patterns are possible):

Out1 Bitmask: Click to change sequence: **Beispiel 1** (example 1)

Bitmask =	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
WP-Event = 50	0,5sec on	0,5sec off	0,5sec off	0,5sec off	0,5sec off	0,5sec off	0,5sec off	0,5sec off

WP-Event = 100	1sec on	1sec off	1sec off	1sec off	1sec off	1sec off	1sec off
WP-Event = 200	2sec on	2sec off	2sec off	2sec off	2sec off	2sec off	2sec off

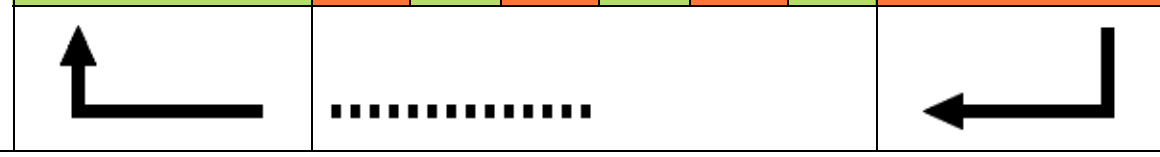
Out1 is:	ON ->	OFF ->	

Out1 Bitmask: Click to change sequence:

Beispiel 2 (example 2)

Bitmask =	ON	OFF	ON	OFF	ON	OFF	ON	OFF
WP-Event = 50	0,5sec on	0,5sec off	0,5sec on	0,5sec off	0,5sec on	0,5sec off	0,5sec on	0,5sec off
WP-Event = 100	1sec on	1sec off	1sec on	1sec off	1sec on	1sec off	1sec on	1sec off
WP-Event = 200	2sec on	2sec off	2sec on	2sec off	2sec on	2sec off	2sec on	2sec off

Out1 is:	ON ->	OFF ->	ON ->	OFF ->	ON ->	OFF ->	ON ->	OFF



Out1 Bitmask: Click to change sequence:

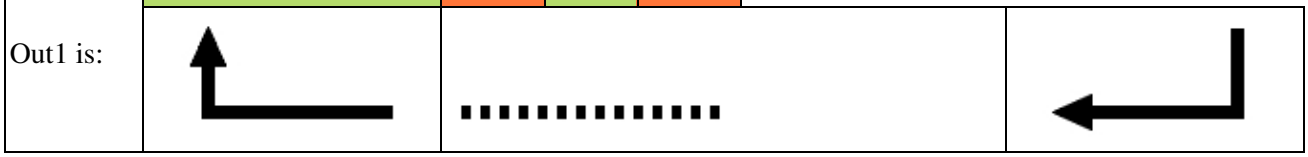
Beispiel 3 (example 3)

Bitmask =	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
WP-Event = 50	0,5sec on	0,5sec off	0,5sec off	0,5sec on	0,5sec off	0,5sec off	0,5sec on	0,5sec off
WP-Event = 100	1sec on	1sec off	1sec off	1sec on	1sec off	1sec off	1sec on	1sec off
WP-Event = 200	2sec on	2sec off	2sec off	2sec on	2sec off	2sec off	2sec on	2sec off

Out1 is:	ON ->	OFF ->	ON ->	OFF ->	ON ->	OFF

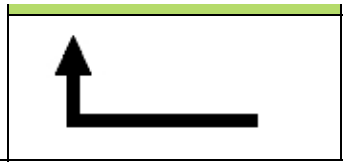
Out1 Bitmask:	Click to change sequence:				Beispiel 4 (example 4)			
Bitmask =	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
WP-Event = 50	0,5sec on	0,5sec off	0,5sec off	0,5sec off	0,5sec on	0,5sec off	0,5sec off	0,5sec off
WP-Event = 100	1sec on	1sec off	1sec off	1sec off	1sec on	1sec off	1sec off	1sec off
WP-Event = 200	2sec on	2sec off	2sec off	2sec off	2sec on	2sec off	2sec off	2sec off
Out1 is:	ON ->	OFF ->	ON ->	OFF ->				

Out1 Bitmask:	Click to change sequence:				Beispiel 5 (example 5)			
Bitmask =	ON	ON	OFF	OFF	ON	ON	OFF	OFF
WP-Event = 50	0,5sec on	0,5sec on	0,5sec off	0,5sec off	0,5sec on	0,5sec on	0,5sec off	0,5sec off
WP-Event = 100	1sec on	1sec on	1sec off	1sec off	1sec on	1sec an	1sec off	1sec off
WP-Event = 200	2sec on	2sec on	2sec off	2sec off	2sec on	2sec on	2sec off	2sec off
Out1 is:	ON ->	OFF ->	ON ->	OFF ->				



Exception
If you use for the WP-Event a value of 250, Out1 (or Out2) is during the delay (Time) at the WayPoint still on or off.

Out1 Bitmask:	Click to change sequence:				Beispiel 6 (example 1)			
Bitmask =	on	off	off	off	off	off	off	off
	on ->							

WP-Event=250 Out1 is:			
The switching output is at the WayPoint still **ON** and during the rest of the time **OFF**.			

Bitmask =	off	on	off	off	off	off	off	off

	off ->		
WP-Event=250 Out1 is:			
The switching output is at the WayPoint still **OFF** and during the rest of the time **ON**.			

6 testing and simulation at home

Look here for further documentation and how to test that without flying