

Seagull #MAP - Manual



General information

With Seagull #MAP you can easily trigger your camera from any UAV platform – either with your R/C transmitter from the ground, or let your Flight Controller do the job.

Seagull #MAP is designed to connect your UAV mounted camera to an R/C receiver or Flight Controller and be able to trigger the camera either from a dedicated switch on your R/C transmitter - or automated by your Flight Controller for doing for example image mapping, agriculture analysis, 3D modelling and more.

Seagull #MAP features 3 modes:

AF-T (Autofocus-Trigger, 1 sec pre-AF then trigger)

IS-T (Instant-Trigger, instant trigger as soon as camera locks focus)

Camera On/Off (Turn camera power on/off – only with Sony "Multi" cameras!)

Please read this manual thoroughly before connecting and configuring Seagull #MAP !

Configuring your Transmitter

Setting up Seagull #MAP could not be easier!

Simply select the channel that the device is plugged into and trim the LOW/HIGH values for that channel, until desired modes are met – refer to the table below:

State / Mode	Value	Range
Neutral	1500 μ S	1400 \leftrightarrow 1600 μ S
AF-T	1300 μ S	1200 \leftrightarrow 1400 μ S
IS-T	1700 μ S	1600 \leftrightarrow 1800 μ S
Camera On/Off *	1100 / 1900 μ S	1000 \leftrightarrow 1200 μ S / 1800 \leftrightarrow 2000 μ S
No signal **	n/a	0 \leftrightarrow 1000 μ S / 2000 \leftrightarrow ∞ μ S

* Only with Sony "Multi" cameras !
On/Off function is placed at either extremes of the signal range to be able to utilize a 3-position switch and still reach both trigger functions.

** Signal out of scope or no input signal !
No signal state will occur when signal is out of the standard R/C PWM signal range or if no signal is received.

Example with Seagull #MAP configured to CH7 on a Taranis X9D transmitter:

```
SERVOs 1500us 7/13
CH1 RAil 0.0 -100.0 -100.0 -> --- 1500Δ
CH2 Ele 0.0 -100.0 -100.0 -> --- 1500Δ
CH3 Thr 0.0 -100.0 -100.0 -> --- 1500Δ
CH4 Rvd 0.0 -100.0 -100.0 -> --- 1500Δ
CH5 LAil 0.0 -100.0 -100.0 -> --- 1500Δ
CH6 0.0 -100.0 -100.0 -> --- 1500Δ
CH7 Seagull MAP 0.0 - 60.5 - 60.5 -> --- 1500Δ
```

Connecting to your Receiver / Flight Controller

Connect the servo cable by following the polarity markings on Seagull MAP and connect the other end of servo cable to your Receiver / Flight Controller, with the correct polarity.

("Otherwise the magic smoke escapes!! - don't worry, it's protected against reversed connection ☺")

Please refer to the manual of your specific R/C radio system or Flight Controller to find out more about how to connect accessories and what ports to utilize.

NOTE: for Pixhawk users – #MAP is powered by Pixhawk's power rail (the middle pin +).

Ensure that the rail is powered by BEC or other power source ranging from 3.5-5.5 volts in order for Seagull #MAP to function properly.



Flexible trigger port selection:
from RC5 to RC11

Setting up Mission Planner / Ground Control

If you wish to trigger Seagull #MAP from a Flight Controller, setting it up in Mission Planner is also straight forward. Start Mission Planner and follow the steps below.

1. Click on **INITIAL SETUP** >> **OPTIONAL HARDWARE** >> **CAMERA GIMBAL**
2. **"SHUTTER"** - in the drop down list, chose the channel thatt Seagull #MAP is connected to.
3. **"PUSHED"** - Set the "Value" for the desired trigger mode (AF-T or IS-T see table below)

State / Mode	Value	Range
Neutral	1500 μ S	1400 \diamond 1600 μ S
AF-T	1300 μ S	1200 \diamond 1400 μ S
IS-T	1700 μ S	1600 \diamond 1800 μ S

4. **"NOT PUSHED"** – Set the value "1500" (Neutral state – see table above)
5. **"DURATION"** – Set the value "1" for AF-T mode or "10" for IS-T mode
(values may vary depending on how long it takes for your specific camera model and lens configuration to lock focus. Try increasing or decreasing the values to find the sweet spot where the camera can keep up with the duration time that the shutter is held pushed/triggered for)

Example from Mission Planner:

Mission Planner

FLIGHT DATA | FLIGHT PLAN | **INITIAL SETUP** | CONFIG/TUNING | SIMULATION | TERMINAL | HELP | DONATE

Install Firmware | Wizard | >> Mandatory Hardware | >> **Optional Hardware** | 3DR Radio | Battery Monitor | Compass/Motor Calib | Sonar | Airspeed | Optical Flow | OSD | **Camera Gimbal** | Antenna tracker | Motor Test

Tilt: [Dropdown] Stabilise Tilt

Roll: [Dropdown] Stabilise Roll

Pan: [Dropdown] Stabilise Pan

Shutter: **RC 7** <- Select channel that Seagull #MAP is connected to. ex. RC7

Servo Limits: Min 1000, Max 2000

Angle Limits: Min 1000, Max 2000

Input Ch: [Dropdown]

Retract Angles: X 0, Y 0, Z 0

Neutral Angles: X 0, Y 0, Z 0

Control Angles: X 0, Y 0, Z 0

Shutter: Pushed **1700** <- Set value for chosen mode. ex. IS-T
Not Pushed **1500** <- Set value "1500" - Neutral state
Duration (1/10th sec) **10** <- Set value "10" for IS-T or "1" for AF-T

Troubleshooting

To determine what state Seagull #MAP is currently in - simply read the output of the "STATE LED" and match it with the "Action" in the table below.



The following table shows the STATE LED readout for the different states / modes.

STATE LED	Action
Blinking	No Signal - check connections and mode values
Fading	Ready - waiting for next command
Solid on	Active in one of the 3 modes – return to "Neutral" before next command
Fade >> Solid on	AF-T mode activated - return to "Neutral" before next command
Blink >> Solid on	IS-T mode activated - return to "Neutral" before new command
Blink >> Solid on	Camera On/Off activated (Only Sony "Multi" cameras)

Technical specifications

- Dimensions: 33.5 x 11.3 x 7.5 mm
- Camera cable length: 12-17cm (varies by cable type)
- Weight: 1.9g (~ 12g with cables - depending on cable type)
- Voltage: 3.5 – 5.5 volts (5 volts recommended – do **NOT** exceed 5.5 volts !!)
- Current: 30mA max (when STATE LED is Solid ON - varies when Fading)
- Input signal: Standard R/C PWM between 1000 – 2000µS