



How to enable more flight modes

This is an example how to set up more flight modes for the Thunderbird. I recommend to create a new model and do all steps with it. Call the model "Crazy Destroyer" or something like that ;-).

I have exchanged the AUX button B2 of the ST16 by a switch in order to use AUX channel 12 to switch between two sets of flight modes;

- Set One (B2 up) has "Altitude" in upper position of the flight mode switch S4, "Position hold" in the middle position and "Return to home" in the lower position.
- Set Two (B2 down) has "Rattitude" in upper position of the flight mode switch S4, "Stabilized" in the middle position and "Return to home" in the lower position.

Set One is the same as GPS off/on. Set two contains more advanced flight modes. "Acro" was left off because I'm too old for this stuff.

Step 1: Channel settings at ST16

Open channel settings and select A01.

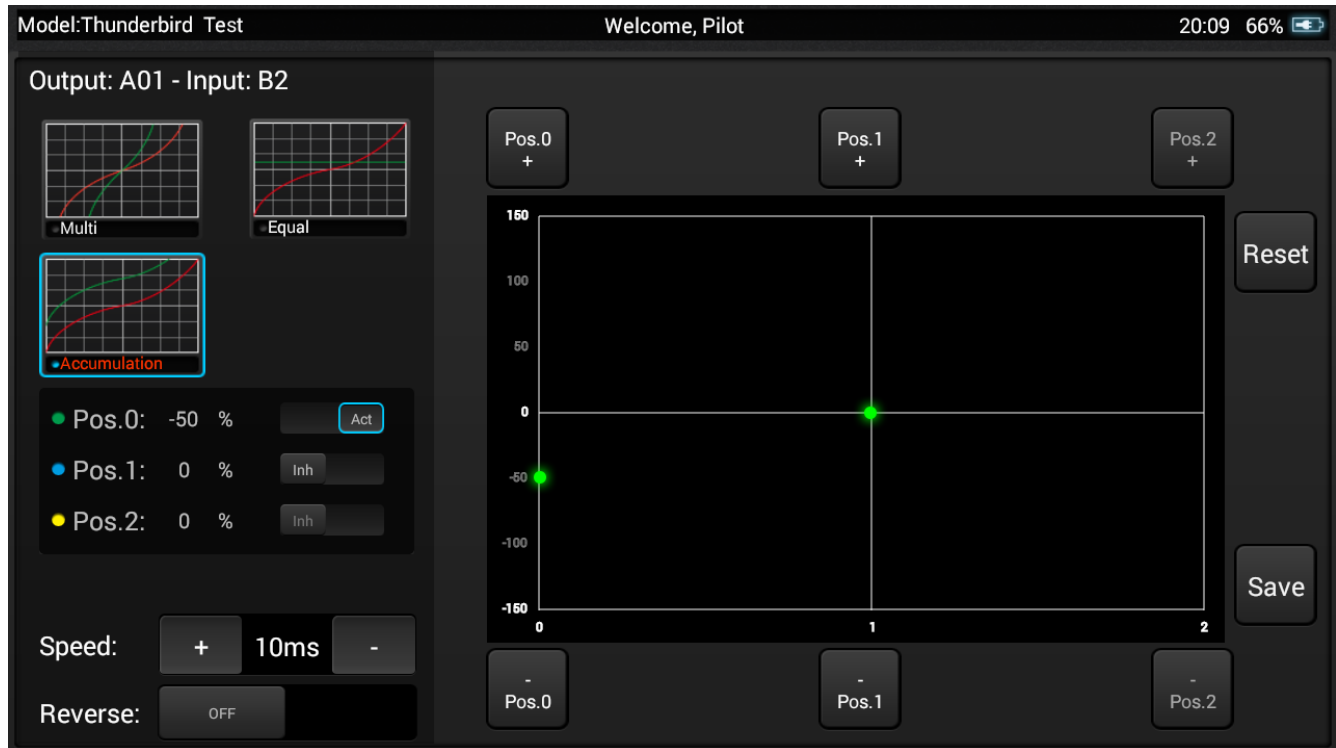
Model: Thunderbird Test Welcome, Pilot 20:06 66%

Universal channel control settings

Hardware(Input)				Single output monitor	Channel-Function(Output)		
J1	K1	S2	B1	S4	Thr Ch1	A05 Ch9	A13 Ch17
J2	K2	S3	B2		Ail Ch2	A06 Ch10	A14 Ch18
J3	K3	S4	B3		Ele Ch3	A07 Ch11	A15 Ch19
J4	S1	S5	B4		Rud Ch4	A08 Ch12	A16 Ch20
				Final output monitor (0%)	A01 Ch5	A09 Ch13	A17 Ch21
					A02 Ch6	A10 Ch14	A18 Ch22
					A03 Ch7	A11 Ch15	A19 Ch23
					A04 Ch8	A12 Ch16	A20 Ch24

Tap on B2 and hold it to get menu. Select "Edit" from the menu.

Set "Accumulation", Pos.0 to "Act" and -50%. Tap on Save.



Now you should get a mixed channel for flight modes:

- B2 up: 100% > 0 > -100%
- B2 down: 50% > -50% > -150%

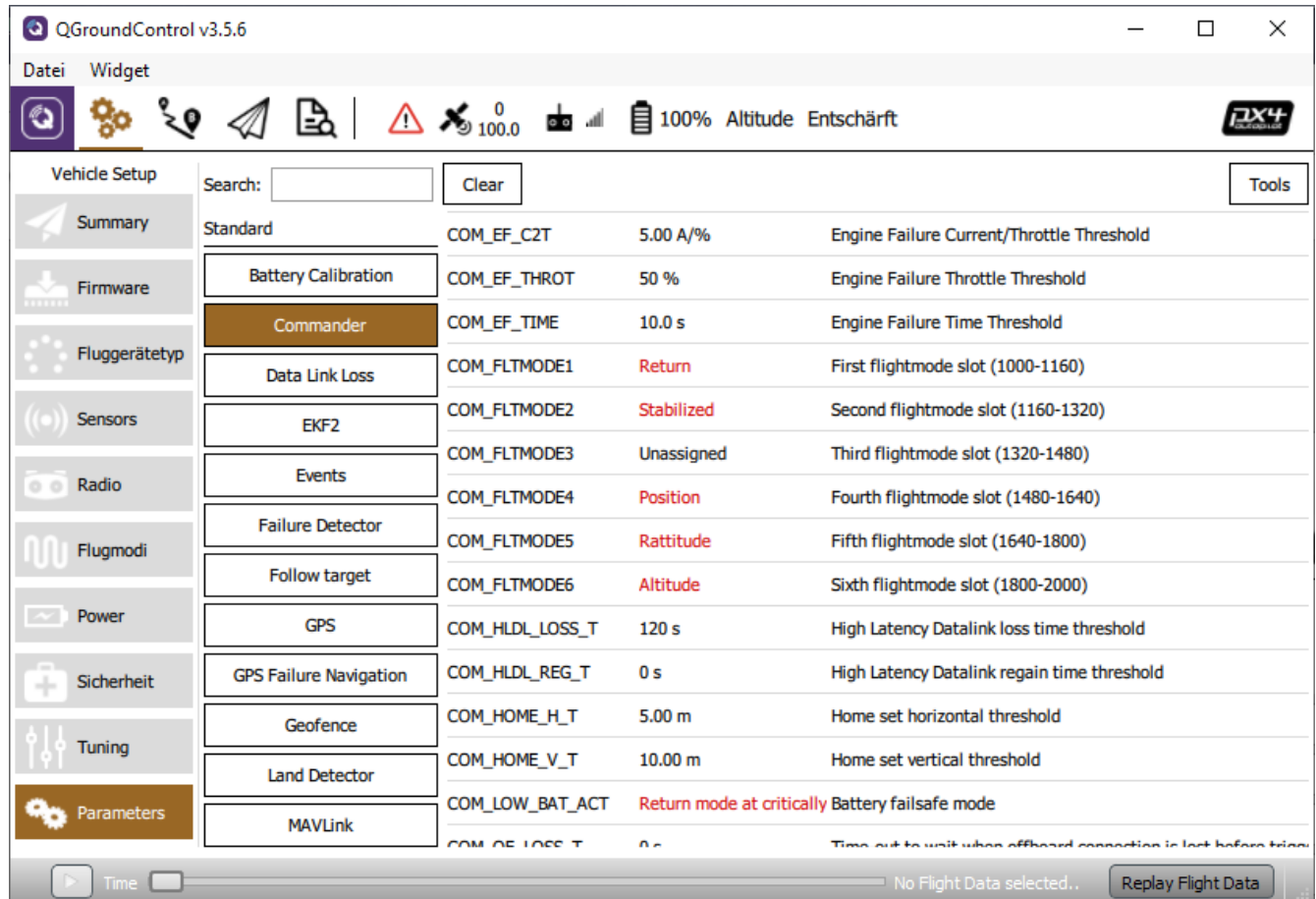


Remark: Channel A02 (RTH channel) must still have values 0 > 0 > 150% in both positions of B2 switch. Check this!

Step 2: Assign flight modes in QGroundControl

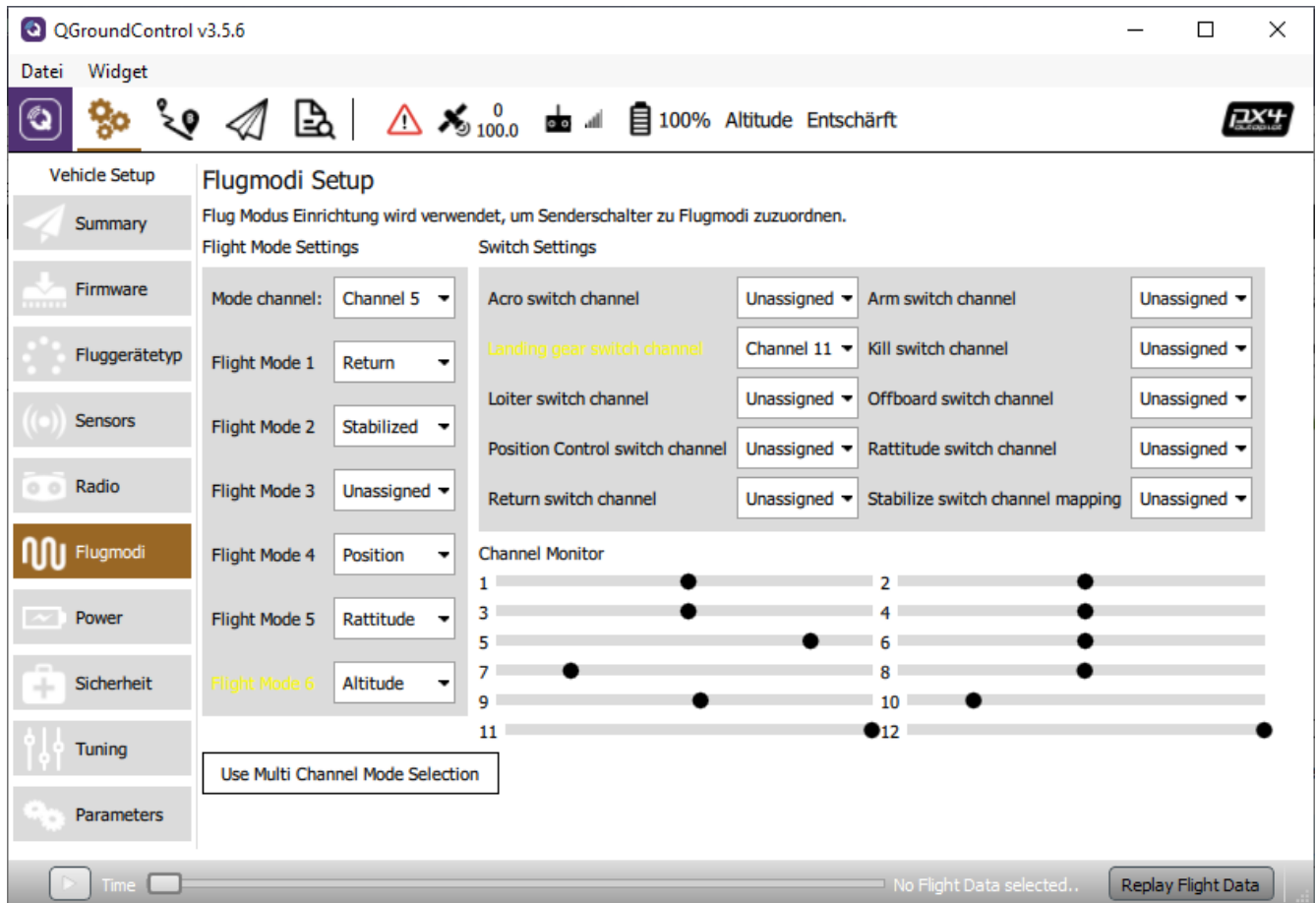
Bind the new model to Thunderbird and connect it to QGroundControl by USB cable.

Now we have more possibilities to add flight modes (COM_FLTMODE2 and COM_FLTMODE5):



Go to "Settings" > "Flight modes" and assign flight modes to the mode items.

- Mode channel remains Channel 5.
- Flight mode 1 is lower position of the Flight mode switch S4, remains "Return" for both Sets.
- Flight mode 2 belongs to Set Two, middle position, will be assigned to "Stabilized".
- Flight mode 3 remains "Unassigned".
- Flight mode 4 belongs to Set One, middle position, remains "Position".
- Flight mode 5 belongs to Set Two, upper position, will be assigned to "Rattitude".
- Flight mode 6 belongs to Set One, upper position, will be assigned to "Altitude".



Test all switch positions carefully in flight mode settings of QGroundControl. The active switch combination is marked in Yellow (day time color setting of QGroundControl).

See also: https://docs.px4.io/master/en/getting_started/flight_modes.html

Buy some more propeller and go out testing flight modes **on your own risk**.