Setting up the 350 QX3 on Open Source Firmware

The following is using Er9x on a 9XR but should be relatively easy to translate to OpenTX.

It must be read in conjunction with "Flight Notes" by Flightengr to fully understand what's going on with the 350 QX3.

Channel	Weight	Input	Switch	Limits	Notes
CH1	80	Thr		-104, 100	Throttle stick control
R	-104	HALF	TRN		Motor cut switch
CH2	100	Ail		-80, 80	Aileron
CH3	100	Ele		-80, 80	Elevator
CH4	100	Rud		-80, 80	Rudder
CH5	100	sIDX	3-position	-80, 80	Switch B – Flight Modes
CH6	100	sGEA	Gear	-96, 112	Switch A – Gimbal Control Mode
CH7	100	Pot P3		-80, 80	Gimbal Angle Knob

Note that Spektrum 100% equals Er9x/OpenTX 80%. Here are the key equivalencies:

Spekrum	Er9x/OpenTX
0%	0%
100%	80%
120%	96%
125%	100%
130%	104%
140%	112%

To exceed 100% in Er9x/OpenTX you will need to set Extended Limits.

To explain a bit:
CH1 needs to go from -80 to +80 with operation of the Throttle stick, corresponding to -100 to +100 on a Spektrum transmitter. In addition, to kill the motors, the ESCs must see a signal of -130% (Spektrum) i.e., -104% Er9x/OpenTX, controlled by a momentary switch, Trainer. This must override the throttle stick setting, so uses a Replace mix.

CH2, CH3 and CH4 are the primary stick controls. Weight is set to 100% but limits are set to -80, +80 to match Spektrum 100%. This could also be done by setting weights to 80%.

CH5 (the Gear channel) is referred to as Switch B in the notes. It is controlled by the 9x three-position switch and gives -80, 0 +80. These values correspond to Smart Mode, AP Mode and RTH mode for the 350 QX3 respectively. Note that there are two other modes, but we can worry about them later.

CH6 (Aux1 or Flap channel) uses the GEAR switch on the 9x to control how the camera gimbal is controlled. When in position 0, the Knob (CH7, Pot3) controls the angle, while in position 1 the throttle stick does it. CH6 has rather odd limits of -120, +140 Spektrum, which translate to -96, +112 in Er9x/OpenTX.

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