How to assign a spare channel for active in flight "analog" fine tuning of Brain2/iKon2 parameters (ver.1.5 2024)

It is now possible to fine tune in real time the settings of the unit directly from your transmitter during flight using one or more spare channel. Typically, a dial or knob or a free trim on a transmitter is used on a spare transmitter channel to directly fine tune a parameter of your choice. This is done in flight to quickly "hone in" on a setting, or feel, without the restriction of only 3 setups. This feature has the potential to greatly accelerate the fine tuning process. Channel control can also be made to predetermined values by free TX switches of two or three position. You can assign 50 different parameters to up to three radio channels. These three channels can be used to set up to three parameters values by changing the channel value (typically by a dial or knob on the transmitter). Thus, you do not need the configuration software at all in flight or in between landings in order to fine tune settings.
Typically, most transmitters have spare channels and can be used for this feature. A change in value of a corresponding channel will immediately change value of the associated parameter. When this function is enabled, the last saved value of the parameter can be increased or decreased by an amount (the amount is different for each kind of parameter and is a fixed value). You can configure 3 different parameters simultaneously with this feature.

This feature is only located in the advanced menu, so to set it, go in to Advanced -> Common -> Receiver. At the end of the "Channel Assignment" sub panel, you can see three rows: Calibration1, Calibration2 and Calibration3. Here you can assign a free/unused radio channels to one of the 50 possible parameters.
Note that the channel used here **must** not be used for any other function and/or calibration. If you try to re-use a channel, a warning message will appear. It is not possible use a single channel to regulate more than one parameter. To deactivate the function, you can set the Calibration channel to "No Channel" and/or the Calibration parameter to "No Calibration Parameter".

When you see that the new value (higher or lower respect that last stored value) is better for you, you can land, <u>wait the rotor stop</u> and memorize the new value in the unit. There is a special stick command used to permanently store the new value. Note that the valued used and stored is the value related to the actual active Setup 1 or 2 or 3.

To store the new value:
With Mode 1 & 2 transmitters, keep both sticks down and into the corners to the external sides of the transmitter: / \. So, that they are in the bottom left on the left stick. And bottom right on the right stick.
With Mode3 & 4 transmitters, keep both sticks down and pointed to the inside of the transmitter: \ /. So, the left stick is pointed to the inside right. And the right stick is pointed to the inside left.
Note: If you use pitch reversed with full pitch down and/or tail reversed looking to the tail instead of the nose, the position of the sticks must be: aileron right, elevator back, pitch down/negative, nose right.
Keep both sticks in this position for at least 7 seconds and the new values are stored.
When the new values are stored (for up to three parameters at once) it is confirmed by the swashplate movements: up, down, up, down, then back to the stick position like that at the initialization of the unit after power on.

After successfully saving the new settings, release the sticks and remember to set the knob/dial back to its central value/position. Since the Calibration feature is still active, it now will change your new set point instead of the old one you were modifying.
If the new value of the parameters needs further tuning, you can take off again, and use the dial/knob to tune. But note that this time you are starting from the new stored value and all tuning will be above and below this value, not the old one.

When parameter tuning is complete, it's recommended to open the software and remove the assignments for the radio channel to the modified function, so the values can no longer vary/be changed by accident.

Most transmitters with 9 or more channels have spare dials/knobs (potentiometers). We suggest you assign two values at a time utilizing the side dials since they tend to be the most accessible in flight and can be found easily by touch. Typically, it's much more convenient to use the side dials with your fingers while flying, over centrally located knobs/cursors which can be difficult to move while keeping your fingers on the sticks.

It is recommended to always use extreme caution while using this feature. For this reason, the min/max values allowed in the tuning range are automatically limited.

NEVER use the Analog fine tuning function together with the Windows application and/or Android app and/or iOS app. Use only one function that can change the configuration values of the unit at time.

Parameter	Group		Dial range	Min val	Max val
"CCPM: Cyclic Ring"		Common	+/-5	50	100
"CCPM: Pitch Out Max"		Common	+/-5	20	60
"CCPM: Aileron Out Max"		Common	+/-5	25	65
"CCPM: Elevator Out Max"		Common	+/-5	25	65
"CCPM: Swashplate phasing"		Common	+/-10	-180	+180
"Telemetry: mAh Corr.Factor"		Common	+/-1	-50	50
"Telemetry: mAh Max Usable"		Common	+/-500	1	7000
"Telemetry: Min V to go (cells)"		Common	+/-1	1	14
"Governor: Speed 1"		Common	+/-150	500	6500
"Governor: Speed 2"		Common	+/-150	500	6500
"Governor: Speed 3"		Common	+/-150	500	6500
"Governor: Prop.Gain"		Common	+/-10	0	100
"Governor: Integral Gain"		Common	+/-10	0	100
"Governor: Derivate Gain"		Common	+/-10	0	100
"Governor: Pitch Precomp."		Common	+/-10	0	100
"Governor: Cyclic Precomp."		Common	+/-10	0	100
"Governor: Tail Precomp."		Common	+/-10	0	100
"Governor: Spoolup ramp"		Common	+/-2	1	3
"Governor: Ramp up"		Common	+/-5	1	20
"Governor: Ramp down"		Common	+/-5	1	20
"Governor: Deadzone"		Common	+/-10	0	120
"Governor: Bailout Ramp"		Common	+/-10	5	70
"Governor: Bailout Timeout"		Common	+/-5	0	60
"Aileron: Proportional Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Aileron: Integral Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Aileron: Derivate Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Aileron: Feed Forward Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Aileron: Max Rotation Speed"	Setup1 or Setup2 or Setup3		+/-100	80	1000
"Elev.: Proportional Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Elev.: Integral Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Elev.: Derivate Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Elev.: Feed Forward Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Elev.: Max Rotation Speed"	Setup1 or Setup2 or Setup3		+/-100	80	1000
"Agility"	Setup1 or Setup2 or Setup3		+/-15	0	100
"Tail Drag Compensation"	Setup1 or Setup2 or Setup3		+/-5	-30	+30
"Tail: Proportional Gain"	Setup1 or Setup2 or Setup3		+/-100	+/-5	+/-100
"Tail: Integral Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Tail: Derivate Gain"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Tail: Pitch Precomp."	Setup1 or Setup2 or Setup3		+/-10	-100	+100
"Tail: Cyclic Precomp."	Setup1 or Setup2 or Setup3		+/-10	-100	+100
"Tail: Asymmetry"	Setup1 or Setup2 or Setup3		+/-10	-90	+90
"Tail: Max Rotational Speed"	Setup1 or Setup2 or Setup3		+/-100	100	1000
"Cyclic stick deadband"	Setup1 or Setup2 or Setup3		+/-3.0	0.0	10.0
"Tail stick deadband"	Setup1 or Setup2 or Setup3		+/-3.0	0.0	10.0
"Aileron Exponential"	Setup1 or Setup2 or Setup3		+/-10	-50	+50
"Elevator Exponential"	Setup1 or Setup2 or Setup3		+/-10	-50	+50
"Tail Exponential"	Setup1 or Setup2 or Setup3		+/-10	-50	+50
"Pitch Exponential (lightening)"	Setup1 or Setup2 or Setup3		+/-10	-50	+50
"Tail Dynamic"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Pitch pump"	Setup1 or Setup2 or Setup3		+/-10	0	100
"Cyclic Gains A+E"	Setup1 or Setup2 or Setup3		+/-10	5	100