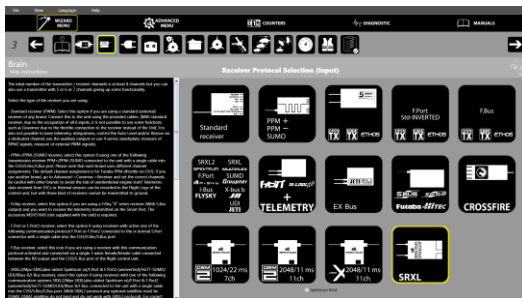


## README for regulation (Integration) from Spektrum TX of Brain2/iKon2 parameters (Vers.2.2 2023 Aug 11):

You can use the integration together the telemetry sent by Brain2/iKon2 (included that read from a connected telemetric ESC or Temperature sensor).

- 1) You must have a Spektrum telemetric receiver with a bidirectional SRXL port, actually, the only working is SPM4649T (AR6600T, AR6270T don't have SRXL connector, AR8010T, AR9030T, AR9320T have SRXL connection but are not bidirectional) or with SRXL2 port like SPM4650T, SPM4651T, AR6610T, AR8020T or with a Smart Throttle port (CH1) like AR410, AR620. Transmitter enabled for all the new telemetry sensor and integration are: DX6e, DX6 G2/G3 (black), DX7 G2 (black), DX8 G2 (black), DX9, DX10T, DX18 G1/G2, DX18t, DX18QQ, DX20, and all of iX & NX series. With old G1 DX6, DX8, DX7 transmitter, telemetry and alarms work but due to the old AIRWARE firmware released 2014 and never updated, Integration don't work. No integration with 'EU' G2 DX6 and DX7 that work only at 22mS, DX6i and all other non-LCD transmitters such as DXe, DX5e, DX4e; For redundancy and security on larger models you can also add one or two DSMX sat's on SAT1 & SAT2 ports;
- 2) Your Transmitter **MUST** be updated at least with the last AirWare firmware 1.20 and voices 1.09 released 2017-July-11;
- 3) Your receiver **MUST** be updated at least with the last firmware (SPM4649T 1.1rc10, SPM4651T 2.44.0, etc.);
- 4) Connect your Brain2/iKon2 unit via USB cable to your PC, open the Windows application, update Brain2/iKon2 software and firmware to the last version;
- 5) In the panel 3 "Receiver Selection" of the FCU configuration software Wizard, select "Spektrum SRXL" receiver type only for SPM4649T, select SRXL2 for all other SRXL2 telemetric receivers (**do not confuse the 2 different protocols**).

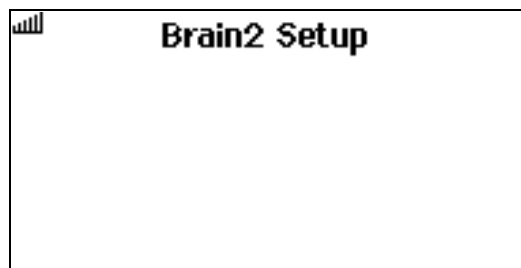
SPM4649T:




SRXL2 RX:



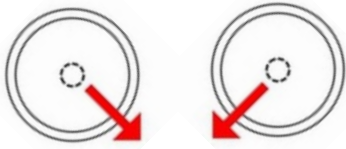
- 6) The "README\_for\_ESC\_datas\_log\_and\_telemetry.pdf" document explain you how activate also the telemetric transmission of data of your ESC;
- 7) You must connect the "SRXL" port of your telemetric receiver to the CH3/s.rec connector of the FBL with the cable supplied with receiver or adding a standard female/female three wire cable like that supplied with the Brain2/iKon2;
- 8) Before binding to the receiver, in the Transmitter, the system type must be set to either "DSMX" and "11mS" frame rate;
- 9) Bind your receivers (SPM4649T and eventually also the connected DSMX sat's) to your transmitter. This can be done via software checking the "Spektrum Bind" checkbox in page 3 "Receiver Selection" of the wizard and following instructions or with Bind Plug to CH3-4-5. Note: You must re-power Brain2/iKon2 from the servo rail by BEC/Lipos (not only by USB) and SPM4649T led start to blink only after a couple of seconds from re-powering of the unit;
- 10) With the Brain2/iKon2 software, verify in panel 5 ("Transmitter setup") that you can obtain the 100% travel of all control channels (also Tail Gain and also AUX if you use it). If necessary, correct them in the transmitter, going into function -> "Servo Setup" -> raising or lowering the "Travel" values;
- 11) Verify in panel 5 "Transmitter setup" of the wizard the correct cursor direction of each channel as explained in the lateral instructions and eventually correct in the transmitter reversing the channel in function -> "Servo Setup" -> "Reverse";
- 12) Close the FBL configuration software and disconnect the USB from the FBL unit so that it powers down. Now power on your model from the flight pack;
- 13) To enable the Brain2/iKon2 Integration menu in your Transmitter, select "System Setup" -> "Telemetry" -> "Auto-Config".
- 14) Now from main page, using the "Roller" you can see other than all the telemetric info's pages, also the page dedicated to the Integration.



(The symbol  in the top left indicate that receiver is powered and is transmitting Integration info's.)

To make appear menu list (to activate integration): With Mode 1 & 2 transmitters, keep both sticks down and into the corners to the internal sides of the transmitter for at least 4 seconds: \ / so that they are in the bottom right on the left stick and bottom left on the right stick. Is suggested to activate the Throttle Hold switch to avoid unwanted exit. With Mode3 & 4 transmitters, keep both sticks down and pointed to the outside of the transmitter for at least 4 seconds: / \ so the left stick is pointed to the outside left and the right stick is pointed to the outside right.

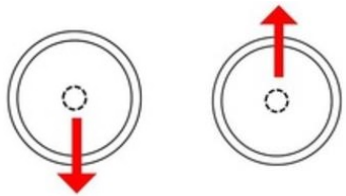
**AS ALWAYS: DO NOT MOVE THE STICKS UNTIL THE INITIALIZATION OF THE CONTROL UNIT IS COMPLETE!!**



```
Brain2 Setup
ORIENTATION
calibr.dial
ccpm
servos
rescue
thrott.&gov.
cyclic
tail
```

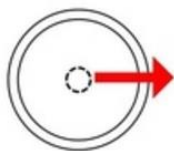
To deactivate integration: The same method used to activate, or with Throttle Hold and/or Throttle Cut switches turned off, raise Throttle from zero with stick (or with the Idle Up switch), but in this case, pay attention to the motor start.

Navigation is done with the cyclic sticks. With elevator stick movements, you can navigate up and down in the 14 Sections of the Main Menu. The text of the selected/active row change to UPPERCASE, and other not active rows are set to lowercase. To be more accustomed, Sections and Parameters of each Sections are ordered like the Advanced Sections of Windows, Android, iOS, Jeti, HoTT applications.



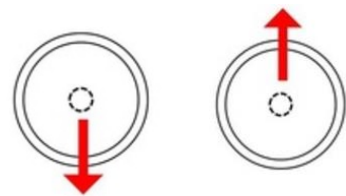
```
Brain2 Setup
orientation
calibr.dial
CCPM
servos
rescue
thrott.&gov.
cyclic
tail
```

Moving aileron stick to right, you can enter in the Sub Menu of the selected Section with the list of all Parameters of that Section or return to the Main Menu moving aileron stick to left. In a Sub Menu, the title changes and become the name of the Section. If for error you return to Main Menu, if you don't change the Section, you can return in the same row of the Sub Menu (every time you change Section of the Main Menu, when you enter in to a Sub Menu you are in the first row).



```
B2 CCPM
CYCLIC RING
pitch out max
rev.pitch
ail. out max
elev. out max
swashpla.type
srv1 angle
srv2 angle
```

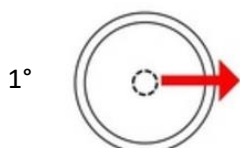
Like Main Menu, also in each Sub Menu you can navigate up and down with the elevator stick movements. Like in Main Menu, the text of the selected row change to UPPERCASE, and other not active rows are set to lowercase.



```
B2 CCPM
cyclic ring
pitch out max
rev.pitch
AIL. OUT MAX
elev. out max
swashpla.type
srv1 angle
srv2 angle
```

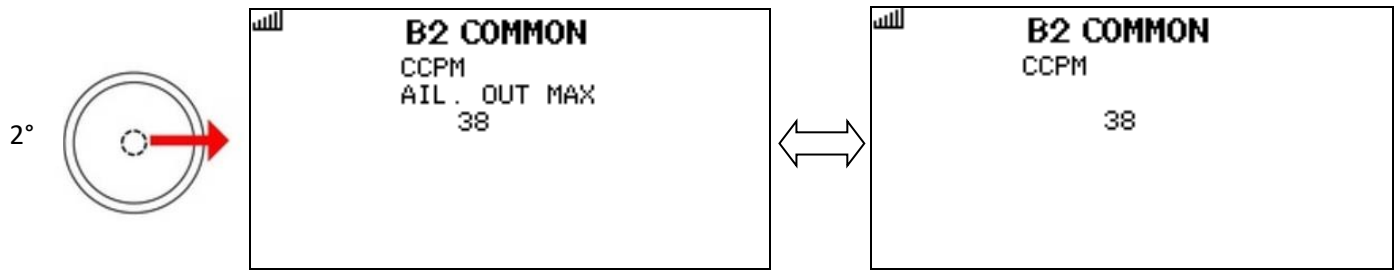
To facilitate and speed up the navigation, when you arrive at the last row of the Main Menu or Sub Menu, moving the elevator stick further to down, you will return to the first row of that Main Menu or Sub Menu. If you are in the first row of the Main Menu or Sub Menu moving the elevator stick up, you will go to the last row of that Main Menu or Sub Menu.

Once selected the desired Parameter, moving to right the aileron stick, the actual value of the selected Parameter is displayed (but here is not modifiable).

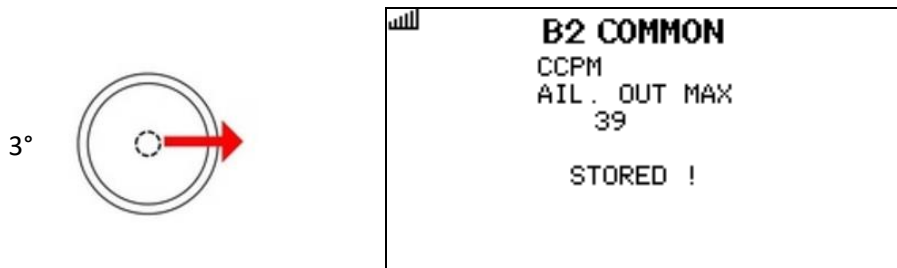


```
B2 COMMON
CCPM
AIL. OUT MAX
38
```

Moving again the aileron stick to right you change from “Value Display” status to “Value Modify” status/condition. In this status/condition, the name of the Parameter blink and you can change the value moving the elevator stick up or down.



From this situation (“Change Value”), if you move the aileron stick to left, the value displayed return to the previous value stored in the unit (escape), instead if you move the aileron stick again to right, the new value is stored in the unit and the message “STORED !” appear to confirm that the value is now modified in the unit (note that if you try to store the same value that is already stored in the unit, the message “STORED !” don’t appear).



On the top row is indicated if the displayed value is a “COMMON” Parameter or a SETUP1/SETUP2/SETUP3 Parameter. For Parameters related to each of the three “SETUPS”, you can change the SETUP with the transmitter switch that you have already assigned and normally use to the change of the Setup. The displayed value is that related to the displayed SETUP number.

Note that if you change SETUP in the “Change Value” status, the status change and return to “Value Display” status.

NEVER use Brain2/iKon2 Integration while you are flying! Anyway, Integration navigation work only with the heli landed to ground if throttle is at zero (throttle hold and / or Throttle cut) and the read RPM are at zero.

NEVER use the Brain2/iKon2 Integration together with the Windows application and/or Android app and/or iOS app or while changing parameter values using Dials. Use only one system at a time to change values.

**Note1:** The use of the cyclic stick for the navigation inside the integration menu, start to work only after the end of the initialization process of the Brain2/iKon2 unit (after the end of alternate led blink and after the swashplate movement).

**NEVER MOVE STICKS DURING THE UNIT INITIALIZATION PROCESS OTHERWISE CENTER STICKS VALUES ARE CHANGED!!!**

**Note2:** SPM4649T due to his small dimension have not implemented and don’t have capacitor for filter and as backup of power. With SPM4649T is needed a good power system, with a redundant second cable connection, better if you have also a backup system like Opti Guard or similar products, better if you have also an external electrolytic connected to a spare connector. These requirements become a “MUST HAVE” if you use only SPM4649T without any sat connected.

**Note3:** Like the Sat’s, also SPM4649T due to his small dimension don’t have failsafe function (when RF signal disappear output signal disappear), but this is not a problem because Brain2/iKon2 take in charge the Fail Safe and after some milliseconds that the signal disappears Brain2/iKon2 cut throttle and set the servos to the last valid position.

**Note4:** SPM4649T due to his small dimension don’t read and don’t transmit RX-Voltage in his telemetry data’s but this is not a problem because Brain2/iKon2 take in charge the problem and send to the transmitter the “servo voltage” used for powering the SPM4649T receiver as RX-Voltage.

**Note5:** Normally during menu navigation, the elevator stick up or down work as a “switch”, you must return to zero before other position increase/decrease. Only when in “Value Modify” status, keeping the elevator stick deflected, the values continue to increase/decrease until you release the stick to the center. If the stick deflection is at full throw, the amount of increase decrease steps changes from 1 to 10. Obviously, this happen only if point 10) has been respected.

**Note6:** If you want see text clearer, in any moment you can turn on again backlight using the transmitter “BACK” key. We suggest using Lipo Ion battery to power the transmitter and set Backlight duration to 60 secs (that is the maximum allowable value) in “System Setting” menu.

**Note7:** If for any reason, screen become dirty, you can clear/refresh display with the transmitter “CLEAR” key.

**Note8:** For SPM4649T registration on “My Spektrum” or firmware update is needed a SPMA3065 accessory and the latest version (V1.3) of the “Spektrum Updater” SW ([http://spektrumrc.cachefly.net/apps/updater\\_instructions.html](http://spektrumrc.cachefly.net/apps/updater_instructions.html)).

**Note9:** Development and test are done with DX9 with AirWare 1.20, voices 1.09 and SPM4649T receiver with 1.1rc10 FW.

**Note10:** Spektrum Integration work only on the new Brain2/iKon2 units that have more power and more useable memory for the large amount of FW code added and executed.

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