

# 512K UltraPAC

Thank you for purchasing the 512K UltraPAC. Should you encounter any problem, please do not return this product to the store before carefully reading the user manual. You can also find answers to your technical support questions through our online knowledge base or contact support service via the Spartan website [www.spartan-rc.com](http://www.spartan-rc.com)

The operation of the UltraPAC is controlled by the use of a short stroke pushbutton located at the front face. The pushbutton is operated by pressing with a fingertip exactly at the centre of the label. At approximately 400 grams force the pushbutton will be activated and produce a slight "click" sensation. User feedback is available via the illuminating STATUS indicator.

For information regarding writing to and accessing the external CAMPac type memory consult your transmitter's manual.

## **Overview:**

This UltraPAC is an aftermarket memory module and service menu enabler suitable for all Futaba and Robbe transmitters that support 64K CAMPac memory expansion. It supports all three possible service menu modes depending on the functionality offered by your transmitter.

## **512K UltraPAC-II model capacity:**

Futaba 8U/FF8*	264
Futaba 9C/FF9*	192
Futaba 9Z/ZAP/ZHP*	Up to 128**
Futaba 10C/FF10	128
Robbe FC18 (v3 or higher)	360
Robbe FC28 (v3 or higher)	32

\* All versions supported (WC, WC2, Super)

\*\* The 9Z series transmitters utilise different amounts of memory depending of the complexity of the model program. When several flight conditions are used the number of model programs will be affected. The table on page 12 of the 9Z user manual explains how the allocation memory of memory works.

## **Device self-test**

A self-test is performed every time the transmitter is turned on while the UltraPAC's pushbutton is held down. Before releasing the pushbutton observe the STATUS indicator. If it illuminates the self-test was successful. If the STATUS indicator remains off there is a fault; please return the unit for service. The self-test guarantees the correct operation of pushbutton as well as successful communication between the UltraPAC's microprocessor and memory chip(s). Test result is only valid before the pushbutton is released.

**NOTE:** Every time the transmitter is turned on while the pushbutton is held down the UltraPAC will electronically disconnect from the transmitter. This may cause an "EXTN MEM MISSING" warning being displayed if the transmitter was set to load a model program located in the external memory.

## **Switching banks**

The memory of your UltraPAC is evenly divided between four banks each having 64K of memory and can be individually write-protected. To change the active bank follow these steps:

1. Power on your transmitter while holding down the UltraPAC's pushbutton. The UltraPAC will self-test and the STATUS indicator should illuminate unless the self-test was not successful.
2. Release the UltraPAC's pushbutton. The STATUS indicator will flash a number of times to indicate the active bank. This will be followed by a short pause before the flashing sequence repeats.
3. Press and release the UltraPAC's pushbutton until the desired bank is reached. The number of flashes will increment for every press of the pushbutton until the last bank is reached then roll back to 1.
4. Power off your transmitter briefly; then power on without pressing the pushbutton this time.

## **Write protecting a bank**

1. Follow the instructions above regarding "switching banks" and select the bank you wish to write protect.
2. While the STATUS indicator is flashing press and hold the UltraPAC's pushbutton. After a few seconds the STATUS indicator will stop flashing and remain lit.
3. Release the pushbutton. The bank is now write-protected. If the bank was already write-protected the write protection is now removed.

**NOTE:** There is a way to distinguish write-protected banks from the non-write-protected ones. A careful observation will show that the STATUS indicator flashes differently for normal and write protected banks.

- a. For non-write-protected banks the STATUS indicator has a longer on period than off period. For example non-write-protected bank 2 would be indicated as follows: [ON.....], [OFF], [ON.....], [OFF], [PAUSE.....], then repeat.

- b. When a bank is write-protected the flashing appears as a strobe of a camera flash or as if the STATUS indicator is flashing at a faster rate. For example write-protected bank 2 would be indicated as follows: [STROBE], [STROBE], [PAUSE.....], then repeat

### **Issues about write-protection**

When trying to modify a model program that is contained in a write protected memory bank, the UltraPAC will not acknowledge the transmitter's write request resulting in an external memory error ("EXT MEM ERR") being displayed. This error condition is intentionally generated to notify the user that writing to the external memory was not possible and does not indicate malfunction of the UltraPAC. However, other factors could also generate an "EXT MEM ERR", thus it is advisable that the transmitter is powered off and back on when this error occurs regardless of what caused it. Error alerts that are not related with the write protect feature should be considered seriously. If in doubt remove the UltraPAC from the transmitter and contact us for advice. Although this has not proven to be a problem it would be advisable not to fly using model programs loaded from a write-protected bank.

9Z specific: An "EXT MEM ERR" will also be generated when the active memory bank is write-protected and the current program (programs 11-26 only) is changed though the MSL menu.

### **Activating the service menu**

This 3<sup>rd</sup> generation UltraPAC provides access to all three possible service menu modes. Please note that not all transmitters have all three modes implemented. In some transmitters all functionality is available via the primary service menu and the other modes simply do not exist. Also note that some service menu modes may initially appear similar but different functionality is offered in later screens. To access the service menu:

1. Power on your transmitter while holding down the UltraPAC's pushbutton. The UltraPAC will self-test and the STATUS indicator should illuminate unless the self-test was not successful.
2. Continue holding the pushbutton pressed down for a further 10 seconds until the STATUS indicator switches off.
3. Release the UltraPAC's pushbutton. The STATUS indicator will flash once to indicate the active Service Menu Enabler mode. This will be followed by a short pause before the flash repeats.
4. Press and release the UltraPAC's pushbutton until the desired mode is reached. The number of flashes will increment for every press of the pushbutton up to 3 and then roll back to 1.
5. Power off your transmitter briefly; then power on without pressing the pushbutton this time. The service menu will come up. Details regarding the functionality of the service menu can be found on our website.

NOTE: Altering some of the settings of the service menu can result in malfunction of your transmitter. Situations like that can be easily resolved by resetting your transmitter; however all of your model programs will be lost. It is therefore advisable to backup all your model programs onto your UltraPAC prior to resetting the transmitter.

IMPORTANT: When any alteration is performed to your radio system, regardless of how minor, we strongly advise that a full check of the controls is carried out prior to operating each of your models.

### **Full bank erase and memory integrity test**

1. Power on your transmitter while holding down the UltraPAC's pushbutton. The UltraPAC will self-test and the STATUS indicator should illuminate unless the self-test was not successful.
2. Continue holding the pushbutton. The STATUS indicator will remain lit for a further 10 seconds; then it will switch off and remain off for a further 20 seconds. At the end of this time the bank erase will start.
3. During bank erase the STATUS will flash rapidly. You may now release the pushbutton. Upon completion the STATUS indicator will remain lit to indicate that the wipe is completed and the test was successful or switch off if there is a failure. In the later case the bank should not be used.

NOTE: Erase will be performed to the active bank only. Be sure you are in the correct bank before you use the erase function. Erase will not start if the bank is write-protected; this will be indicated by a single flash of the STATUS indicator.

### **Disclaimer:**

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