128K UltraPAC-II

**Overview:**
The memory of your unit is evenly divided between 2 memory banks. Each bank consists of 64K of memory and can be individually write-protected. You may imagine each bank as an individual 64K CAMPac which you can selectively activate. However, only one bank can be active at any time. This issue is not a limitation of the UltraPAC; it arises from the fact that none of the existing transmitters on the market can detect nor handle amounts of memory larger than 64K. The operation of the UltraPAC is controlled by the use of a miniature pushbutton and user feedback is available from a LED (light emitting diode). For information regarding writing to and accessing the external CAMPac-type memory consult your transmitter's manual.

Installation:
Ensure that the radio is switched OFF before installing or removing the UltraPAC. When installing the UltraPAC ensure that pin1 (marked with a triangle on the circuit board) is on the right hand side. Also confirm that the transmitter plug and the UltraPACs socket are matched correctly. Mismatched connectors can result in damage to your transmitter and UltraPAC.

A self-test is performed every time the transmitter is turned on while the UltraPACs pushbutton is held down.
Before releasing the pushbutton observe the status of the LED:
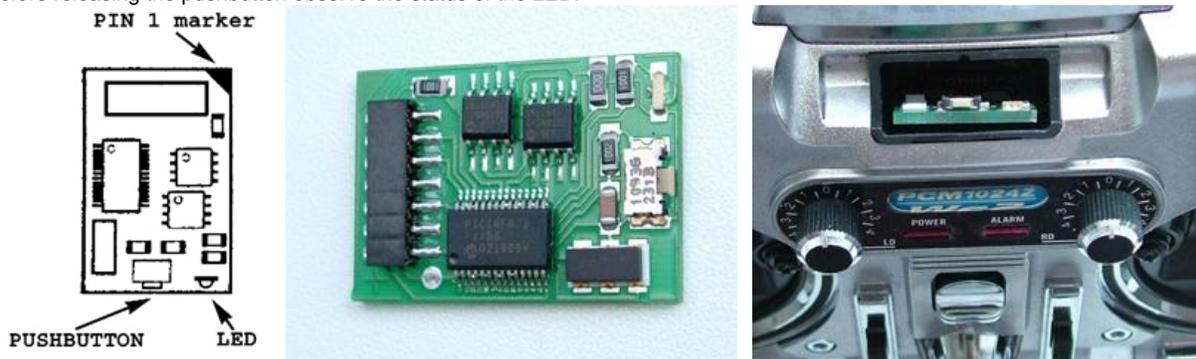
    a. If the LED illuminates the self-test was successful.
    b. If the LED remains off there is a fault; please return the unit for service.
    The Self-test guarantees the correct operation of pushbutton and LED as well ass successful communication between the micro controller and memory chip(s). Test 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 "EXT. MEM MISSING" warning being displayed if the transmitter was set to load a model program located in the external memory.

Switching banks
    1. Power on your transmitter while holding down the UltraPACs pushbutton. The UltraPAC will self-test and the LED should illuminate unless the self-test was not successful.
    2. Release the UltraPACs pushbutton. The LED 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 UltraPACs 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 LED is flashing press and hold the UltraPACs pushbutton. After a few seconds the LED 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 LED flashes differently for normal and write protected banks.
    a. For non-write-protected banks the LED has a longer on period than off period. For example non-write protected bank 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 LED 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 writ~ 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 radio 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

1. Power on your transmitter while holding down the UltraPACs pushbutton. The UltraPAC will self-test and the LED should Illuminate unless the self-test was not successful.
2. Continue holding the pushbutton pressed down for a further 10 seconds until the LED switches off.
3. Release the UltraPACs pushbutton. The LED will illuminate to indicate activation of the Service Menu Enabler.
4. 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 9Z's service menu can result in malfunction of your radio. 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 UltraPACs pushbutton. The UltraPAC will self-test and the LED should illuminate unless the self-test was not successful.
2. Continue holding the pushbutton. The LED 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 LED will flash rapidly. You may now release the pushbutton. Upon completion the LED will:
   a. Remain lit to indicate that the wipe is completed and the test was successful.
   b. Switch OFF, if there is a failure and 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 LED.

Handling the UltraPAC

When the UltraPAC Is not Installed in your transmitter, keep it safe in the provided anti-static bag. Store the UltraPAC in a dry and cool place; do not leave It In the car on a hot summer day. *Avoid* unnecessary handling of the UltraPAC. It Is also good practice to discharge yourself from static electricity before handling the UltraPAC by touching a grounded metal surface. A water tap or the metal case of electrical equipment is usually a suitable grounding point.

If regular removal of the UltraPAC Is required you are advised to use a small piece of adhesive tape to assist you with extraction. Apply the tape on the bottom side of the circuit board leaving about 1/2inch surplus. Fold this in half and stick it back on Itself. This will give you a 1/4 inch long pull-tab which you can fold under the transmitter's dust cap.