Repair Instruction

Document number: 97-128525

Date: November 2008

Sailor RT5022 VHF DSC & RT5020 Duplex VHF DSC
Replacing Power Supply Unit

Subject:
This instruction describes how to replace the Power Supply module in the VHF5000 series. The Power supply module is identified as p/n S-67-127572 for the RT5022 & p/n S-67-127573 for the RT5020 – for further details pls. refer to the eShop on the Extranet.

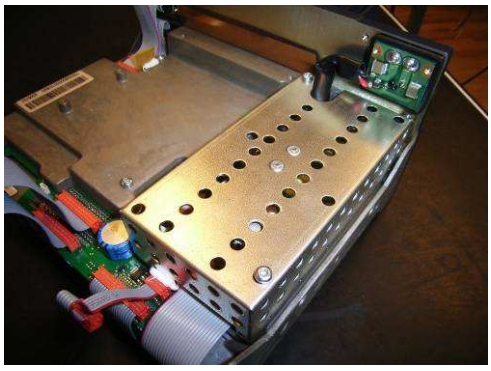
Priority:

- **MEDIUM:** This instruction is required in case the need to replace the build-in power supply module (PSU) of the VHF5000-series arises.
  The instruction should be followed closely and care exercised in handling the equipment and parts while carrying out the replacement.

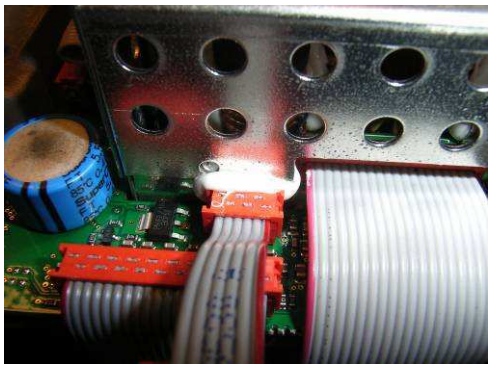
Action:

Step 1:
Gain access to the build-in power supply module by removing the cover and the front part assy' (Control Unit) from the radio.

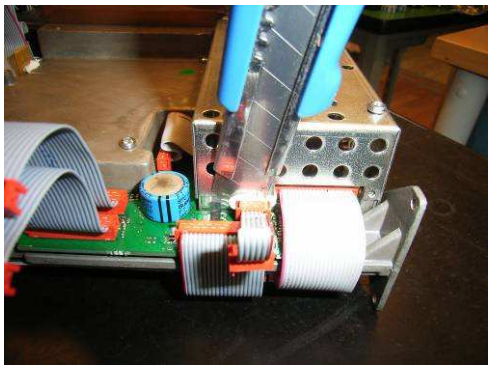
The PSU is located in right hand side of the radio as viewed from front.



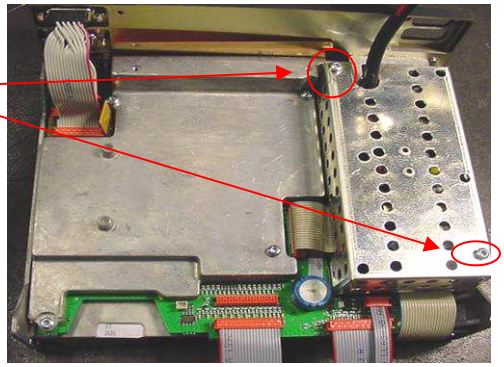
Step 2:
Locate the 8-pin connector in front of the PSU module.
This connector is secured to shielding cover of the PSU module by means of a sealing compound.



Step 3:
Release the sealing compound from the PSU shielding cover by cutting, using a sharp knife.
Clean connector and PSU cover for any residual sealing compound.

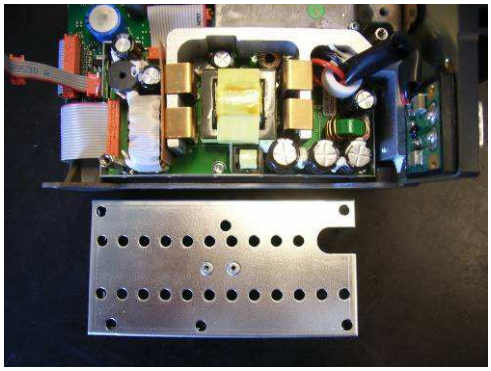


Step 4:
Remove the cover of the PSU by removing two (2) screws (Torx TX10) securing the cover to the PSU chassis and carefully lift the cover from the PSU. Retain screw and cover for re-installation later.



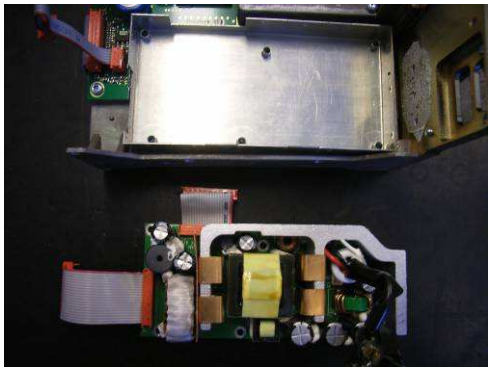
Remove the four (4) TORX TX10 screws located inside the PSU at the base, the two (2) stand offs and two (2) TORX TX10 screws located at the rear side of the radio securing the E-shaped cooling profile to the radio chassis.

Remove the two (2) 20-pin ribbon cable connectors at the baseband PCB and RF PCB respectively. Do NOT remove connectors at PSU side since the ribbon cables will be included with the replacement PSU module.

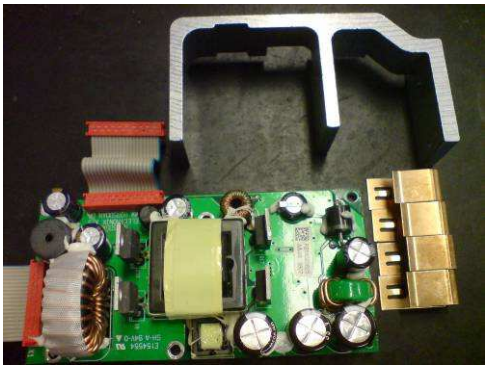


Remove the two (2) socket screws securing the power plug to the radio chassis.

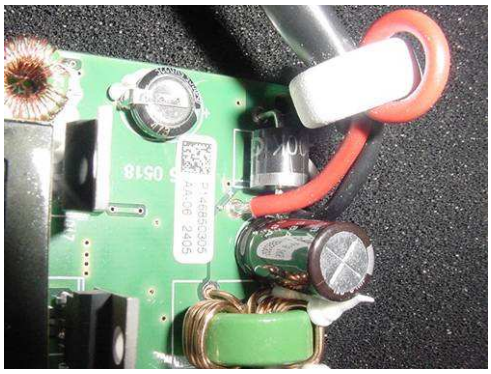
Step 5:
Remove the PSU module from the radio.



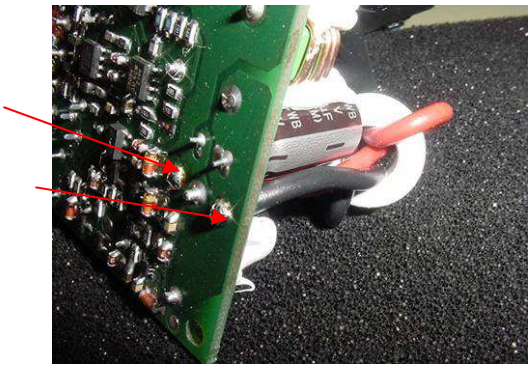
Step 6:
Remove the four (4) retainer clips holding the regulator transistors against the E-profile and remove the E-profile from the PSU module. Retain the E-profile for use with the replacement PSU module. Retainer clips may be discarded of as new clips are included with the replacement PSU module.



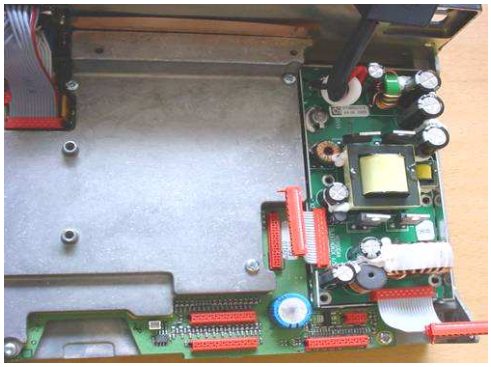
Step 7:
Prepare the new PSU module by soldering the DC power plug supplied with the replacement module to the PCU PC board. Refer to the removed PSU for correct wiring.



Note: Cut the end stubs of the wires on the soldering side of the pcb to a length not exceeding 3mm.

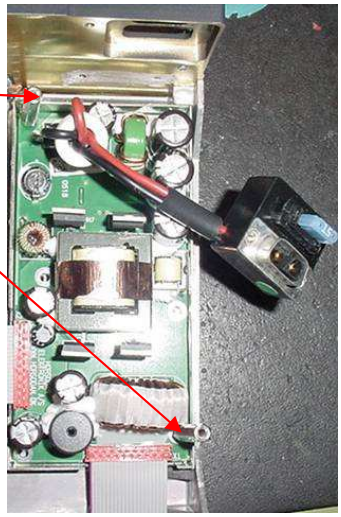


Step 8:
Position the new PSU module in the chassis.

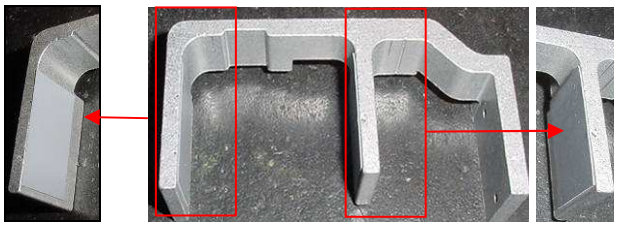


Step 9:
Install the screws and the two (2) stand offs which were removed in step 4.

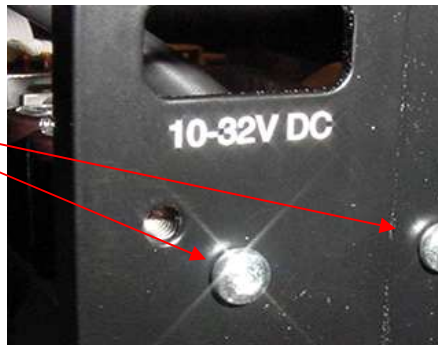
Note: When tightening up the screws and stand offs exercise care not to over tighten to avoid damaging the threads in the chassis.



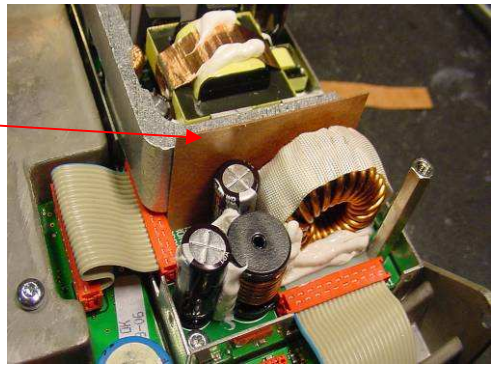
Step 10:
Verify that the two insulation sheets at the E-profile are in good condition. If damaged in any way they should be replaced.



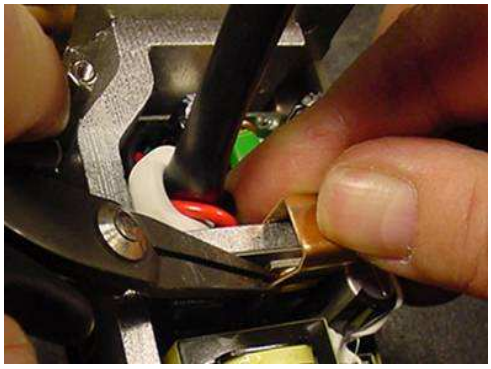
Step 11:
Fasten the E-profile to rear chassis by means of the two (2) screws installed from the back of the radio.
Carefully observe that the E-profile does not rest on top of any components of the PSU module.



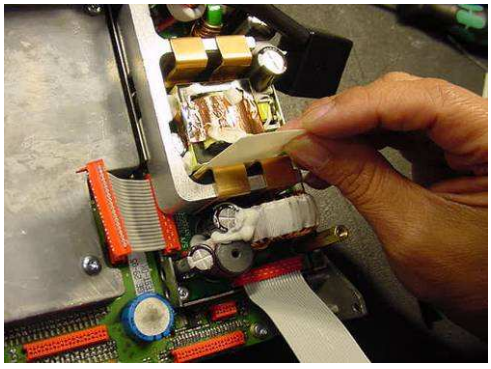
Step 12:
Install the Prespan carbon sheet between coil and the E-profile to ensure insulation of the coil from chassis.



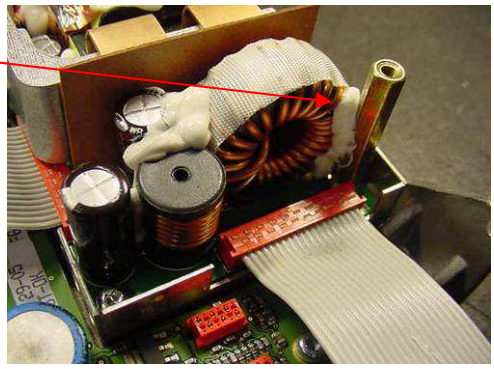
Step 13:
Carefully install a retainer clip over each of the regulator transistors to hold these tight against the E-profile to ensure proper cooling.



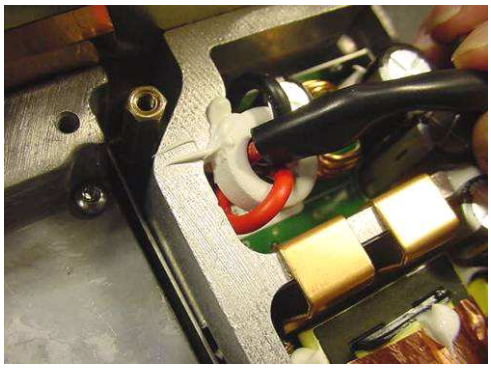
Step 14:
Using a piece of cardboard of approx. 1mm thickness, check and ensure sufficient spacing of clips to surrounding components to avoid clips shorting to such.



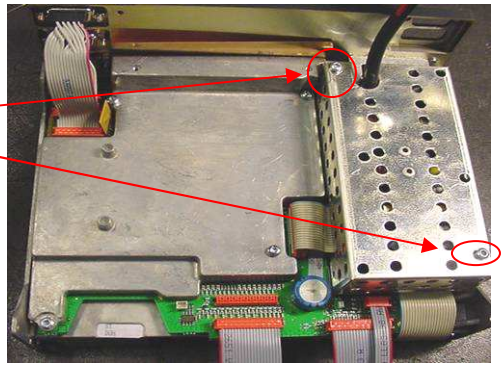
Step 15:
Use a small amount of sealing compound (must not contain acid) to provide support of the coil to the stand off.



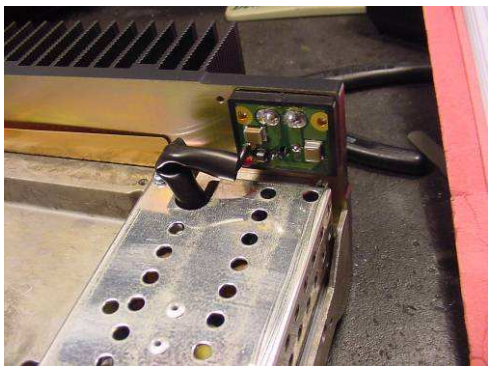
Step 16:
Use a small amount of sealing compound (must not contain acid) to provide support of the ferrite coil and power plug wiring to the E-profile.



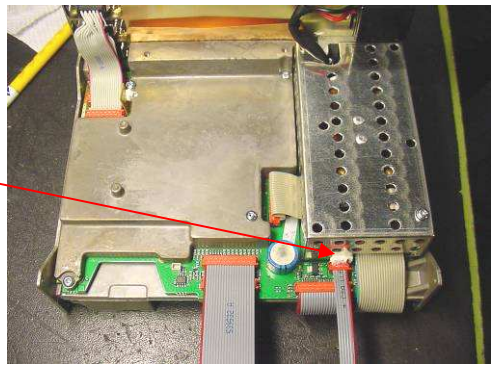
Step 17:
Reinstall the cover on top of the PSU module and secure it using the two (2) screws.



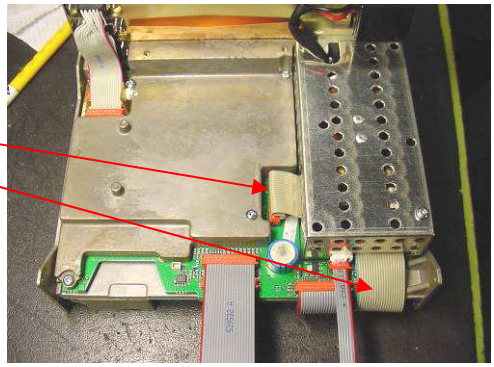
Step 18:
Position the DC power plug in the rear chassis of the radio and secure it using the two (2) socket screws.



Step 19:
Secure the 8-pin connector at front of the PSU to the PSU cover using a small amount of sealing compound (must not contain acid).



Step 20:
Connect the two (2) 20-pin ribbon cable connectors to the RF board and the Baseband board respectively.



Step 21:
Connect the front part (Control Unit) to the radio. Assemble the cover of the radio and perform a final test of the complete radio.

Thrane & Thrane
After Sales Service

Author:	Date:	Checked:	Date:	Approved:	Date:
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