

Repair Instruction

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SAILOR RT5022 VHF DSC & RT5020 Duplex VHF DSC Replacement of capacitor C83

Subject:

This instruction describes how to replace capacitor C83 located on the BaseBand PCB in the VHF5000 series. The capacitor is available from the eShop in a fixed quantity of 10 ea. as p/n S-328.700. For further details and ordering pls. refer to the eShop on the Extranet.

Priority:

- **MEDIUM:** This instruction is required in case the need to replace the capacitor C83 of the VHF5000-series arises.
The instruction should be followed closely and caution exercised in handling the equipment and parts while carrying out the replacement.

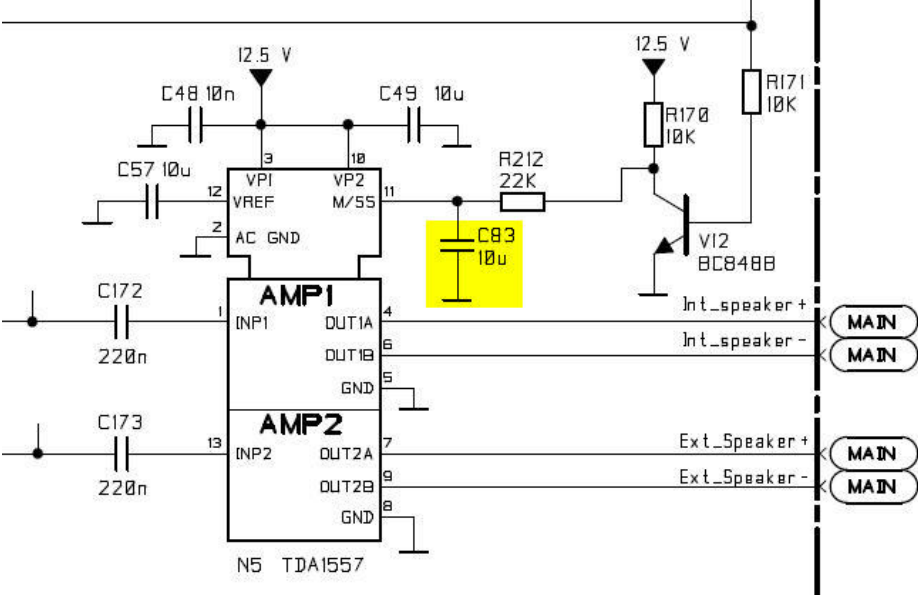
Identification:

Following symptoms may be an indication of a defective C83 capacitor:

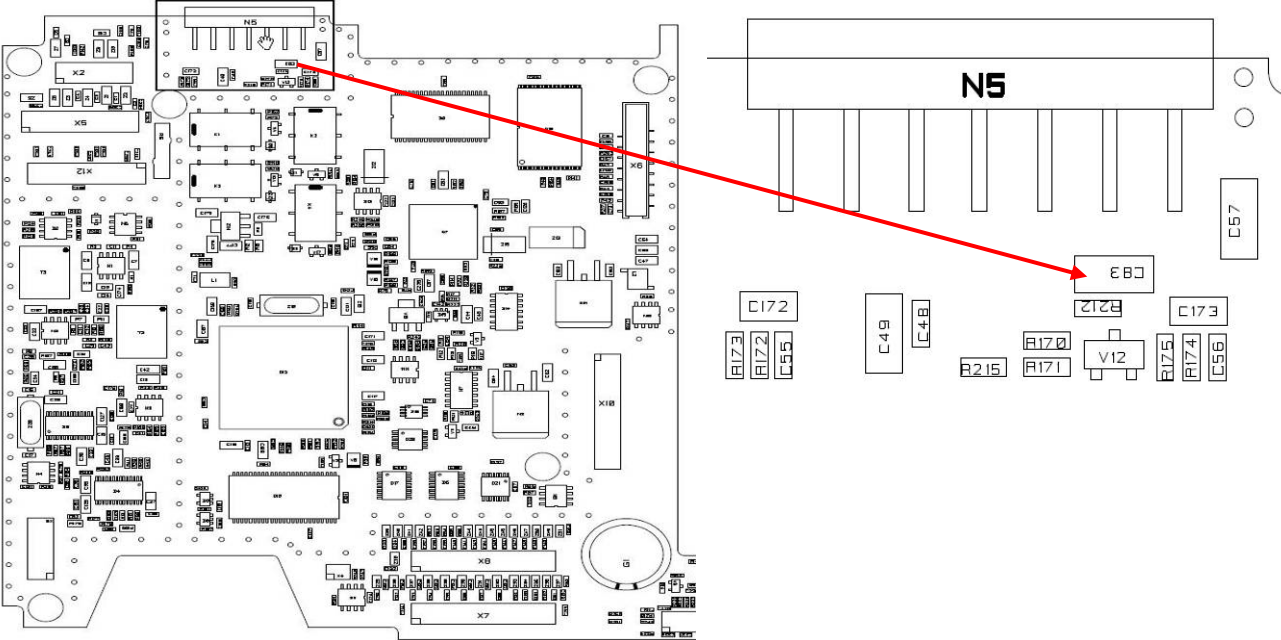
- Audio volume in internal speaker fades out. Turning the radio off and then back on may temporarily restore audio function to normal.
- No audio in internal speaker.

Note: There may be other causes for a failure of audio in the radio and hence the replacement of the capacitor C83 may not always solve a problem with loss of/missing audio. If this proves to be the case the BaseBand PCB should be replaced and sent to Thrane & Thrane A/S for repair.

Schematic diagram showing the audio circuitry comprising capacitor C83

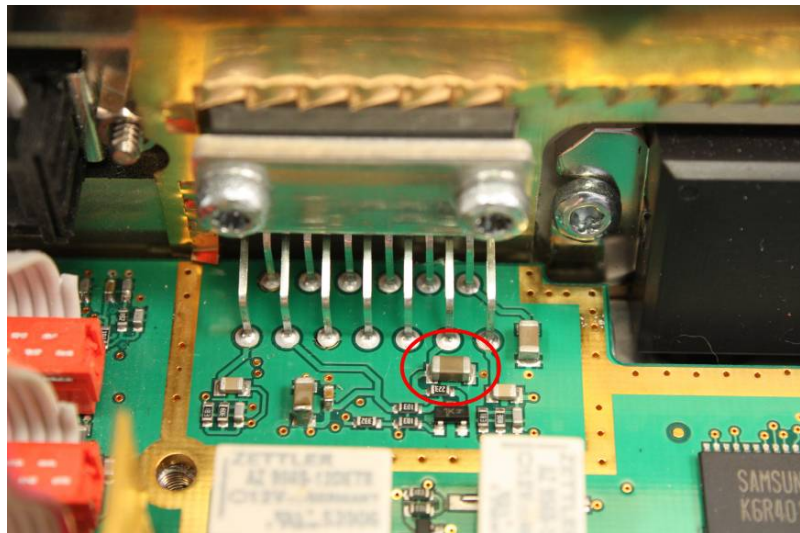
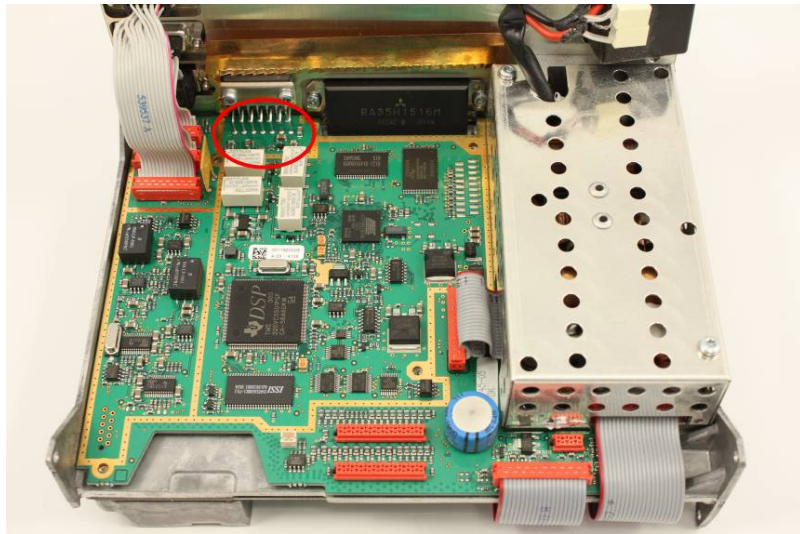


Component layout BaseBand PCB:



Action:

Step 1:
Locate Capacitor C83
on the BaseBand PCB.



Step 2:
Remove C83 from the BaseBand PCB using e.g. following technique:

Remove the capacitor using a regular soldering iron tip as follows: heat one side/pin of the capacitor until the solder is melting and then quickly move to heat the other side/pin until the solder here is melting. Keep alternating this heating process between the two sides/pins 5-10 seconds until sufficient heat has build up on each side of the capacitor, allowing it to easily slide off the solder pads.

Step 3:
Clean any excess solder off from the two PCB solder pads.

Step 4:

Place a small amount of new solder on one of the two pads (approx. 0.5mm thickness).

Step 5:

Grab the new capacitor with a pair of tweezers. Bring the capacitor overtop of the pads, slide to one side so that the part sits flat against the PCB. Heat the pad to which new solder has already been applied (step 5) and slide the part onto the pad making sure that it's centred between the two pads. Remove heat to let solder cool off and fix the capacitor.

Step 6:

Using the pair of tweezers to exercise a light downwards pressure on the component re-heat the solder to melting point in order to make sure that the component seats correctly and sits flat against the PCB.

Step 7:

Solder the other side/pin of the capacitor.

Note: The soldering joints should not look like having a “drop” of solder applied on either side of the component, in which case too much solder has been applied. A properly soldered joint should have an inward curved shape from the solder pad to the top of the component solder pin.



Step 8:

Assemble the radio and verify proper audio functionality through appropriate testing. If time allows radio should be left turned on for an extended period to verify that it maintains proper operation, before being handed back to customer.

Thrane & Thrane
Customer Service

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