



DOCUMENT NUMBER: 17-00176
ISSUE NUMBER: 1
ISSUE DATE: November, '96

RELATED DOCUMENTS:
C/R

VCO1 Unlock in 9323 & 9360 series transceivers

1. Scope

9323 and 9360 transceivers used in close proximity to VHF/UHF transmitters may suffer VCO1 unlock errors.

The modification described in the Service Bulletin is incorporated into 9323 and 9360 transceivers dispatched from February 1996.

2. Symptom

The 9323/9360 will display the error message 'Unlock error VCO1' accompanied by two beeps when a VHF or UHF transmitter located up to approximately 4 metres away is keyed.

3. Cause

The unlock error is caused by the RF energy from the VHF/UHF transmitter disturbing the normal operation of the VCO1 control circuit.

4. Remedy

The following modification should be performed if:

- the radio has exhibited the symptom under the conditions described
- there is a possibility that the conditions described may be encountered

5. Procedure

5.1 Parts required

1 x BF494 NPN transistor (Codan Part Number BF494)

1 x 1 k Ω , CR25, 0.33 watt resistor (Codan Part Number 40-31000-020)

1 x 1 nF, ceramic capacitor (Codan Part Number 46-31000-200)

Head Office

Codan Pty Ltd
ACN 007 590 605
81 Graves Street
Newton
South Australia 5074
Telephone +61 8 8305 0311
Facsimile +61 8 8305 0411

Email:
radcom@codan.com.au
Worldwide Web:
<http://www.codan.com.au>

Codan (UK) Ltd
Gostrey House
Union Road
Farnham, Surrey GU9 7PT
United Kingdom
Telephone +44 1252 717 272
Facsimile +44 1252 717 337
Telex 858355

Codan Pty Ltd
Suite 11A, 2 Hardy Street
South Perth
Western Australia 6151
Telephone +61 8 9368 5282
Facsimile +61 8 9368 5283

5.2 Tools required

- Pozidrive screwdriver (1 point)
- Soldering iron
- 60/40 Tin/Lead resin core solder
- Side cutters

The following tools may also be useful.

- Small nose pliers
- Desoldering tool

5.3 Procedure

- Remove the transceiver from the installation.
- Remove the two screws securing the top cover.
- Locate the Receiver Exciter Printed Circuit Board (PCB), 08-04962.
- Disconnect all the connectors from the PCB.
- Remove the seven screws securing the PCB.
- Withdraw the PCB from the chassis.
- Locate and remove C103 from the PCB. Refer to Figure 1.

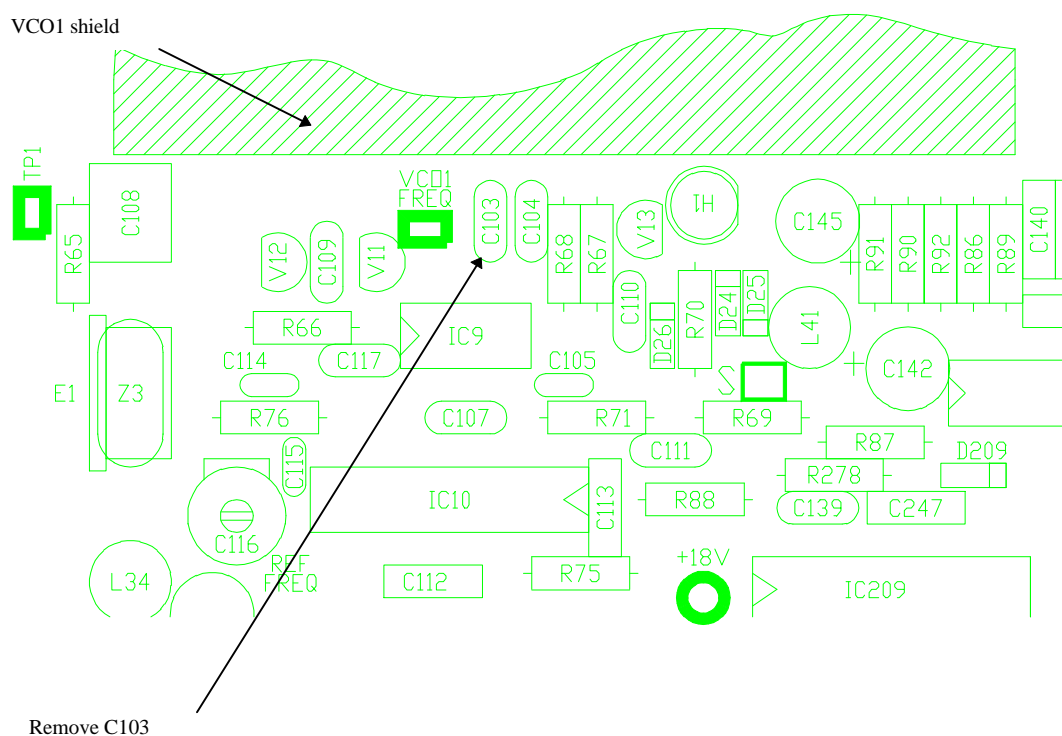


Figure 1. Location of C103

- ❑ Trim and solder one lead of the 1 k Ω resistor to IC9 pin 4. Refer to Figure 2.

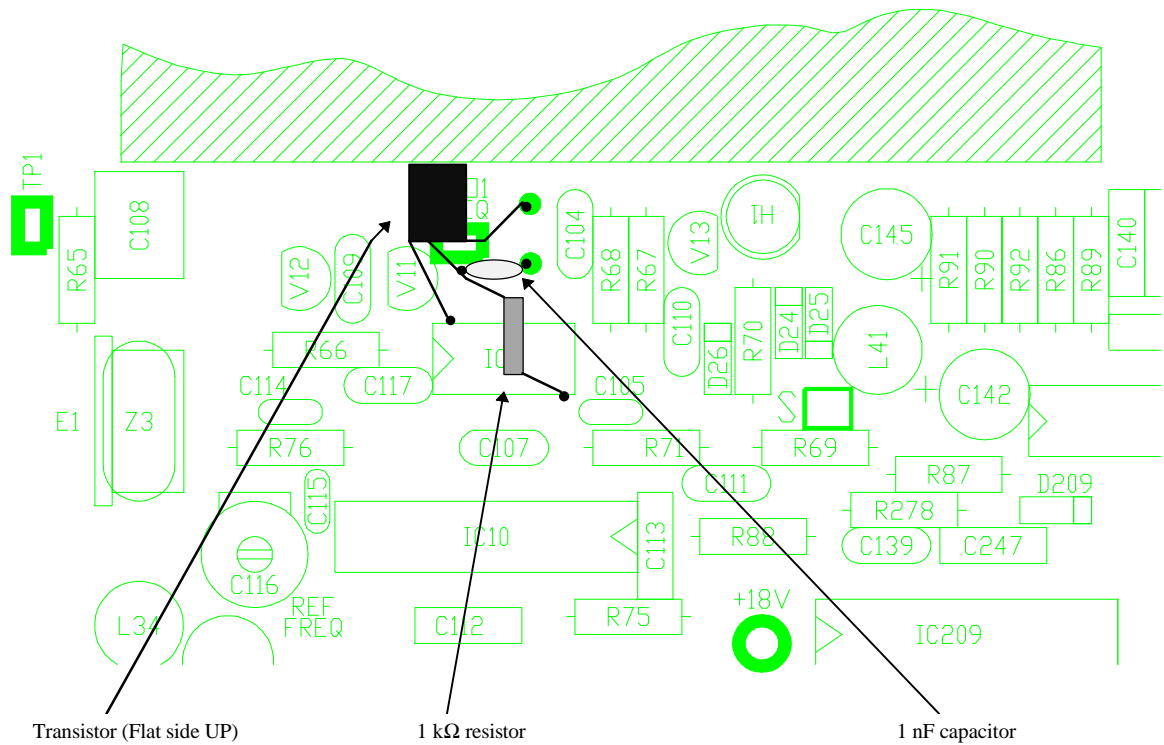


Figure 2 Diagram of modification

- ❑ Fit one lead of the capacitor into the bottom hole for C103. Trim and solder.
- ❑ Solder the remaining leads of the capacitor and the resistor together.
- ❑ With the transistor flat side up, solder the centre lead to the leads of the capacitor and resistor. Trim any excess lead.
- ❑ Trim and solder the Collector of the transistor to IC9 pin 8.
- ❑ Fit the Base of the transistor into the upper most hole for C103. Trim and solder.
- ❑ Ensure there is no possibility of a short circuit occurring particularly to the test point labelled VCO1 FREQ.
- ❑ Secure the transistor with some silicon sealant if necessary.
- ❑ Secure the PCB into the chassis with the seven screws.
- ❑ Replace all connectors.
- ❑ Refit and secure the top cover.
- ❑ Return the transceiver to the installation.