

## Assembling.

### Antenna unit.

Bend RM5 capacitor legs to straight RM2.5mm.

All capacitors should be soldered directly down onto the PCB surface (with the shortest possible wire lengths).

- Solder all components except the IC.
- Wind 42 turns 1mm thick insulated wire at the 8 x 50mm rod.
- On a longer rod, L1 should fill nearly the whole length of the rod, by equally spacing all turns.
- Fix the coil ends to the rod by means of some thermal glue.
- Fix the completed antenna rod to the antenna PCB by use of a ty wrap and solder its connections.

**Now take anti-static measures to prevent damage to the IC. Do not overheat the IC.**

Small marks on the IC and the PCB bottom locate pin1.

Be careful not to pull-off the tinned surfaces of the PCB.

Try to keep the IC as cool as possible.

I made the IC solder islands longer, to enable you to pre-heat those islands for easier flow of tin solder between PCB and IC legs.

I found that the the easiest way of soldering the IC is :

- First flow a minimal amount of solder tin onto all PCBs IC solder pads.
- Position the IC.
- Solder ICpin2. Let cool down.
- Check the exact IC position.
- Solder ICpin4. Let cool down.
- Quickly solder pins 1-3 using minimal solder. Let cool down.
- Quickly solder pins 4-6 using minimal solder. Let cool down.
- Quickly remove all existing solder between pins 1-3 using de-solder litze. Let cool down.
- Quickly remove all existing solder between pins 4-6 using de-solder litze. Let cool down.

Check solder connections and possible short circuits using a digital ohmmeter (NOT in diode test setting).

**REM:** The orientation of the antenna box, and the location of the cable feed-through, both depend on the orientation of the loop antenna.

- Drill a hole for the rubber cable tulle in the lowest side of the antenna box.
- Fix the PCB into the box by 4mm screws.

