

Assemblage.

WARNING: **carefully check the type and value of EVERY part**, BEFORE soldering. **Measure resistors using a digital ohm meter.** Removing later on can be difficult.

Splitter (top surface).

While screwing the **splitter/combiner PCB** into a metal box, use at each screw through "h1" and "h2" two extra nuts on top of each other, acting as spacers between the PCB and the box.

For stable grounding contact, use tooth locking rings :

- a. under the M3 PCB top nuts.
- b. under the outside flanges of both BNC bushes.

Antenna (top surface).

- Solder all resistors.
- Solder all ceramic capacitors.
- Solder all film capacitors and the fuse holder.

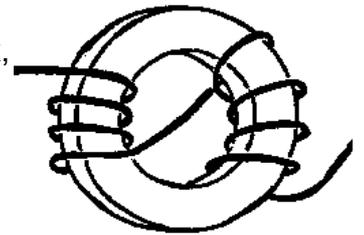
REM : 1 uF film capacitors marked as "LF" or "b" are only needed for extended low frequency range. If not needed, omit them.

- Solder the elco's and the coils.

REM : 1 mH Coils marked as "LF" or "b" are only needed for extended low frequency range. If not needed, replace them by a wire bridge.

L5.

Mantle current choke L5 consist of 2 x 5 turns (abt. 80 cm) RG174 coax, on a 26.8x14.8x20mm or 26.8 x14.8x10mm $\mu_i=5000$ ringcore. The coax should be wound so, that input and output come out at the **opposite sides** of the core (see sketch). Do not apply too much pressure onto the coax, as this could lead, in the long time, to an internal short circuit.



- Wind the first 5 turns. When the coax goes for the fifth time through the hole of the core, it should go diagonally to the opposite side of the core (see sketch).
- Bind the windings lightly together, ensuring that the turns have little space between the core and the coax, leaving ample room on the hole of the core.
- Wind the coax for the second time 5 times through the hole so, that the winding ends opposite to the start end (see sketch).
- Bind these windings lightly together for little free space between core and windings.

This winding principle ensures minimal coupling capacitance and best signal separation between the begin and the end of the coil.

This choke can be fixed to the PCB by means of two Tywraps (r), for which four 2.5mm holes must be drilled into the PCB.

Cut coax ends to a length of abt. 6 cm, and remove 2cm outer insulation, and 1 cm inner insulation (by melting the insulation at the places to cut). Twist and tin the copper wire ends, before inserting them, and soldering them on the bottom side of the PCB (OUT1 => OUT2 and SCR1 => SCR2).



Now take anti-static measures.

- Connect the soldering iron to the pcb's mass surface
- Connect yourself to the pcb's mass surface
- SMD semi conductors should be installed with their legs bend down towards the PCB surface.
- On this PCB the pads for SMD components are made wider for easier heating.

- It is handy, to put a LITTLE solder first, onto the first to be soldered PCB pad (generally a grounded pin). This makes correct positioning of the semi conductor easier.
- Prevent over heating while soldering semi conductors. **Advised max. iron temp. 260 C.**
- **Solder fast with little solder, and let cool down after every single solder operation.**
- CHECK solder quality using a magnifying glass, and a *digital* ohm meter (NOT in diode check position, but in 200 Ohms range !)
- Solder the diodes.

PCB bottom surface :

MOSfet T1 (BF998).

- Start with attaching the broad pin only (SOURCE). Just heat this pin shortly, to allow the extra solder on the PCB pad to *just* connect it.
- Check and correct the fet's position.
- After that, solder the other pins first.
- Re solder the first pin.

SHF transistor T2 (BFU590G) :

- Tin all PCB pads a little first, to enhance solder flow.
- First solder one outer pin of the three small pins..
- Check and correct the transistor's position.
- Solder the broad cooling fin. Use a thick solder tip here for better heat flow.
- Solder the three small pins.

