

Kit building instructions for:

# QROlle II

## Mechanical assembly

More information at:

[www.qrolle.se](http://www.qrolle.se)

info@qrolle.se

**QROlle** Next  
Generation  
SM6DJH Olle  
SM5DEH Nils  
SM0JZT Tilman



*This is how your QROlle II should look like from the front when done.*

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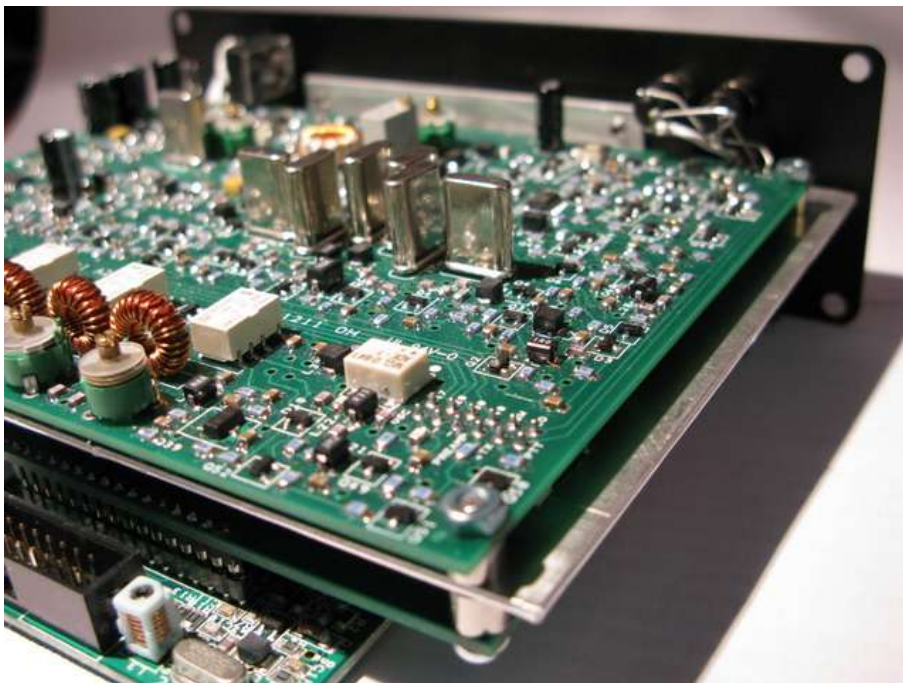
*And this how your QROlle II should look like from the back. The serial number should be placed between the antenna and key-connector.*

## 1. The case

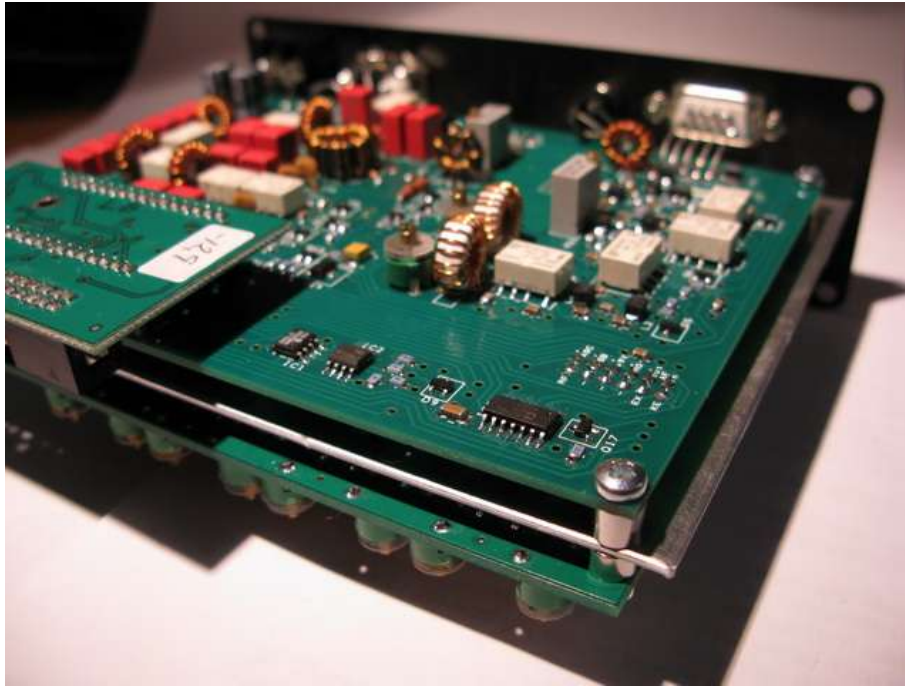
The case for the QROlle II is a commercial component from Hammond. The case with its front and back panel are all prepared with holes when shipped with the kit. The text on the front and back aluminum panel is laser cut for best quality and durability.

## 2. A and B- boards to metal sheet panel

As already seen and described in the assembly manual for the analogue boards A and B, they are mounted to aluminum panel doubling as a cooler for the voltage regulator and output transistor and holding the boards in the case.



*Note the metal distances being 4mm between the A-board and sheet and 5mm between B-board and sheet.*



*View from B-board: Note that the C (Control)-board is sandwiched on top of the B-board. It can be held to the B-board with a screw and distance.*

The aluminum metal sheet is mounted to the back panel with self tapping screws.

### 3. Back panel

All the back connectors are on the back panel. Main reason is that all the connectors are analogue and to eliminate interference from the digital board they are all on the back close to the analogue boards.



#### **Pin out of the connectors**

From top left:

**PTT:** 3.5mm Connector used for a separate PTT-keyer.

**MIC:** 3.5mm. Tip to be connected to mic and ring for PTT. You can parallel-connect the PTT.

Connect a switching-diode to the PTT -wire if you use a mic from a stereo-headphone set so that you do not disable the mic-signal when hitting the PTT.

**Phone.** 3.5mm stereo with switch to connect a external speaker rather than the internal speaker. Tip and ring connected together in parallel so that connect a headset.

**ON/OFF.** On off switch for the QROlle II

**13.5V.** Power connector 5.5mm with 2.5 mm pin. Use external fuse to protect the power supply/rig. The rig has a diode built in to protect for polarity failure (See schematics)

**ANT:** BNC for antenna

**KEY:** 3.5mm stereo. Here you can connect your manipulator or straight key. Choose the type of key function from the menu.

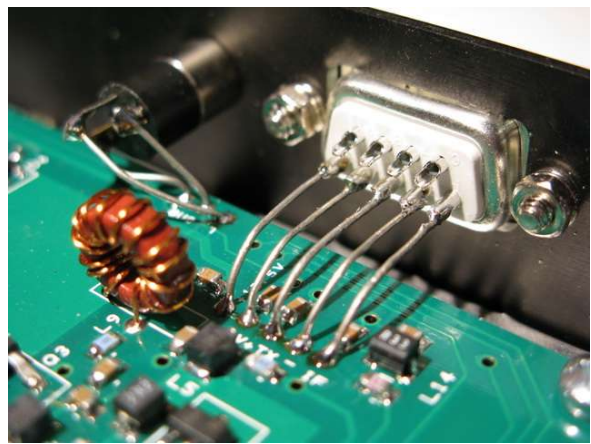
**ACC:** 9 pole D-sub. Here you can connect accessories like a transverter. See the schematics for pins available for transverter.

## . **Mounting of connectors to the back panel**

The pictures below say it all. Connectors are put in place and wired to the board with wires. You may use left over wires from the trough the hole components.



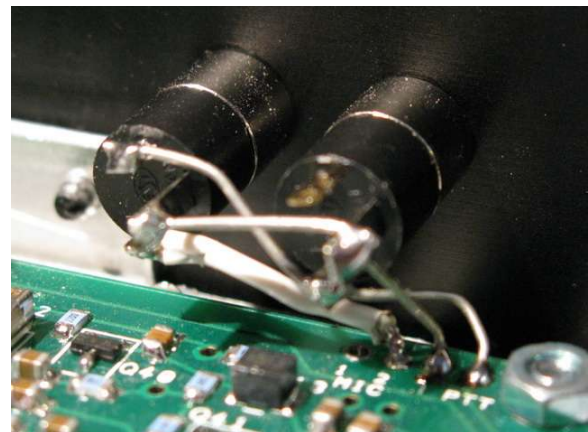
*Power switch, DC-in and Antenna. Keep the wires short*



*Keyer-connector and ACC-connector (use pin 1-5)*



*External speaker connector. The jumper is used for 3 pole 3.5 mm connector*



*Mic and PTT-connector. Wire for your microphone/needs*

## . **Serial number**

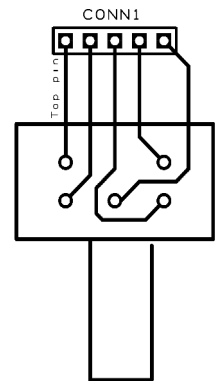
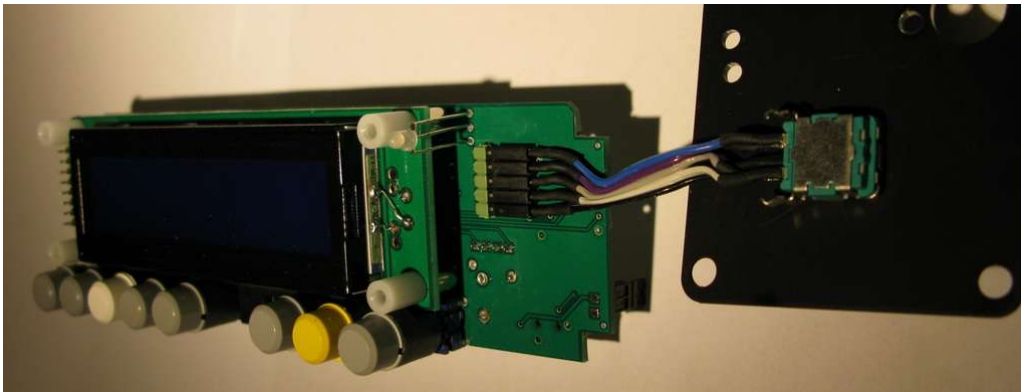
You have got a sticker with the serial number of your QROlle II kit. We suggest to put it between the antenna and key-connector on the back panel.

## 4. Preparing the D-board



Here you see the D (Digital board) from the back side. It comes ready done and programmed. For programming of the board – please refer to the users manual.

The Encoder cable might need to be prepared before putting the front panel to the board and tuning wheel the the encoder.



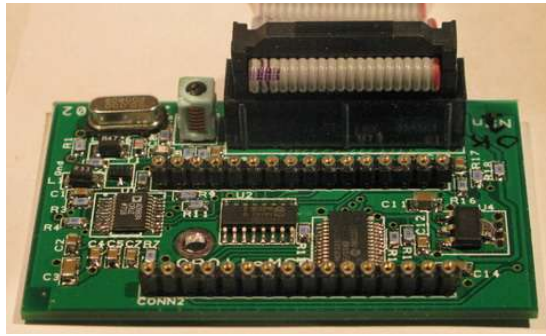
*Schematics for the cable to be done for the encoder. The outer pins on “CONN2” are both going to ground.*

If you have a good hacksaw available, you might want to cut down the shaft of the encoder with about 5 mm. This brings the wheel closer to the front panel and improves the looks of things. Hold on the the shaft of the unmounted encoder when cutting so that it not bent.

## 5. The C (Controller) board

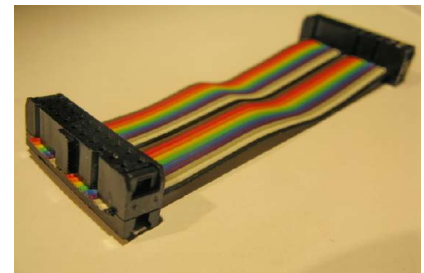
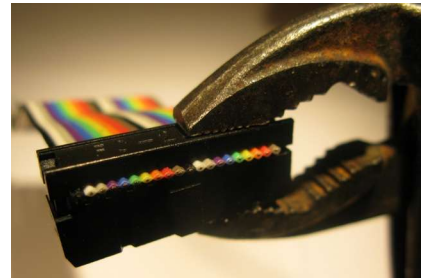
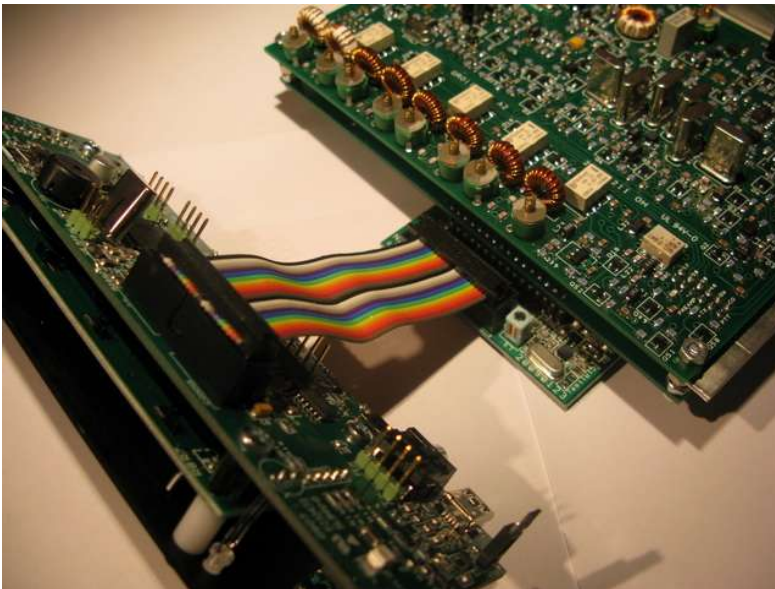
For reference you have here a picture below of your C-board (Controller). The female connector sit

on to top of the board. The male connectors (thin pins) sit on the top of the B-board. You can use the supplied hardware (screw, distance and nut) to secure board C and B together.



## 6. Connecting C and D board together

The Front-unit (Board D) and DDS-board (Board C) must be plugged in and connected together. When doing this the D and C-boards are controlling the rig. So now you should not have any jumpers to do this.



*When doing the ribbon cable for the interconnect between the Digital boards (D) and the Combo board (C): Watch out for polarity of the connectors. Cable length is being about 7 cm. Press carefully with a suitable tool.*

## 7. Sliding in and putting it together

Before sliding in the assembled analog unit from the back into the case you have to mount the speaker and erectable foot to the case. Use the countersunk screws and nuts for the speaker. A longer screw is used for the foot. Try the functionality.

A wire is soldered in between the speaker and Board A. You may want to put a connector to one end of the wire. Careful though as space is limited.



*Ready to slide in the analog modules from the back of the case.  
First mount the speaker and erectable foot.*

Countersunk self tapping screws are used to mount the back panel to the case. Make sure to put the case lid in place before putting in the top ones. Make sure you use a proper screwdriver so that the screws are not damaged and looking ugly.

Now the front panel/unit is dangling on at the front on its ribbon cable. Also the front panel is mounted to the case with black countersunk screws.



*The back of the rig is to the left and the front to the right. Slide in the top panel  
before putting in the top countersunk screws.*

Now your QROlle II should be ready for usage. Have fun!