

THE ZM-2 EMTECH ANTENNA TUNING UNIT

MICK MØGWD

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The ZM-2 Emtech Antenna Tuning Unit
Complete build

I ordered this kit from the USA to go with my YouKits HB-1B (QRP) CW transceiver. It has a favourable reputation for tuning unbalanced and balanced antennas, and it has appropriate connections for both. You can build the ZM-2 with either BNC or S0-239 sockets. I ordered mine with BNC, as these seem to be standard among QRP equipment. The QRP tuner has a maximum throughput limit of 15 watts.

The ZM-2 has no inductance tuning. The ZM-2 consists of just two polyvaricon capacitors, two toroids, and a few other minor components. Building this basic yet enjoyable kit typically results in achieving a 1:1 SWR. Bands covered are 80m to 10m. IF YOU'RE NOT COMFORTABLE WINDING TOROIDS, THESE ARE AVAILABLE PRE-WOUND FOR A SMALL ADDITIONAL COST.

My build photos follow to assist a potential builder. I built mine over a couple of evenings. The photos start with the completed ATU. Click on any of the images and then scroll down to see them all. Photo 01 shows the front panel assembly. This front panel first requires the attachment of a self-adhesive decal (you get supplied with two, as they can be tricky to fit with the correct alignment) and then the removal of the decal from the component holes- best done with a half-round pointed needle file. Then, lacquer the panel several times to ensure its protection. Finally, one fits the major components and connects.

Photos of the build are in order and self-explanatory.



EMTECH ZM-2 Front panel
Front panel completed with major components installed

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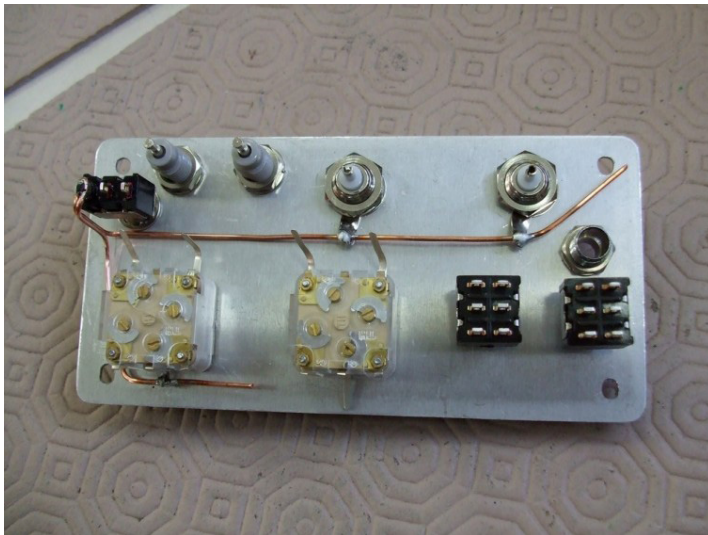
EMTECH ZM-2 Rear Panel

Rear of front panel with major components installed



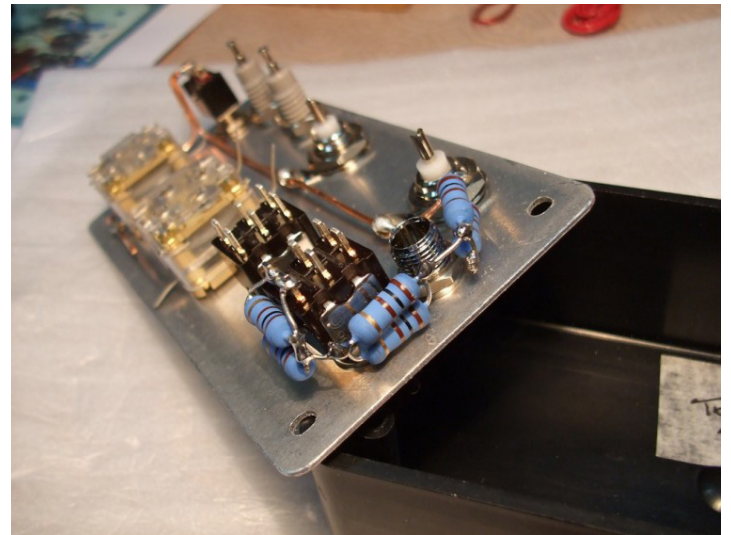
EMTECH ZM-2 Components

Other components laid out and marked for assembly



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Copper bus wire installed



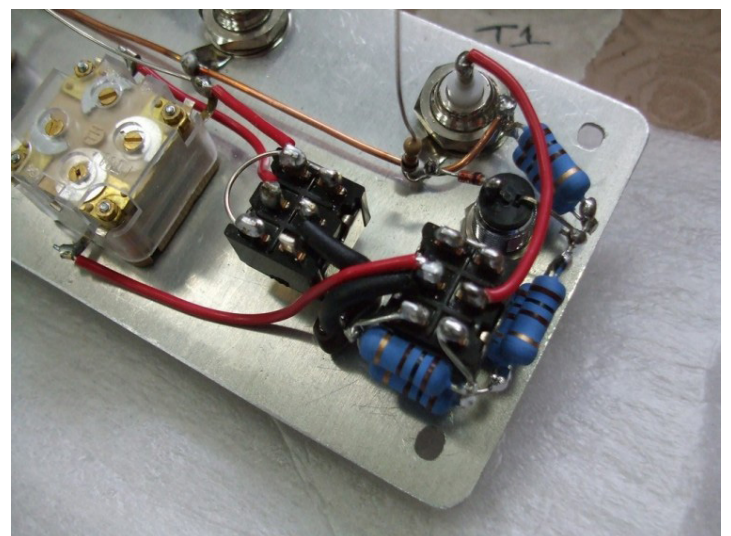
EMTECH ZM-2

Resistors installed



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Additional wiring being installed

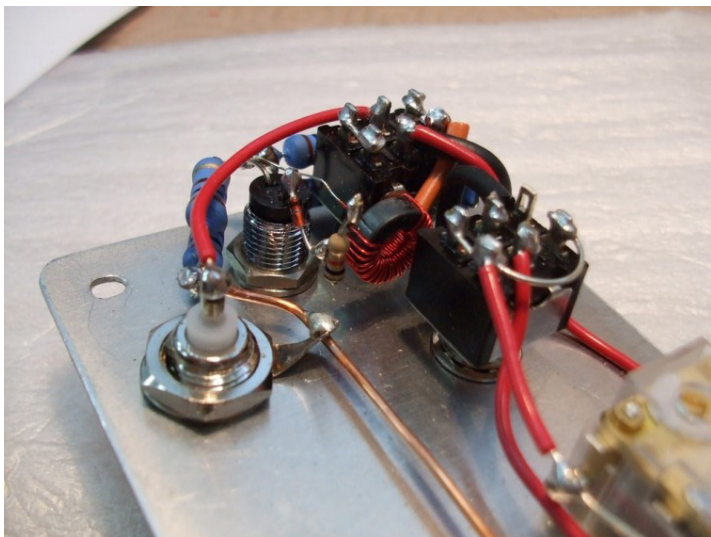


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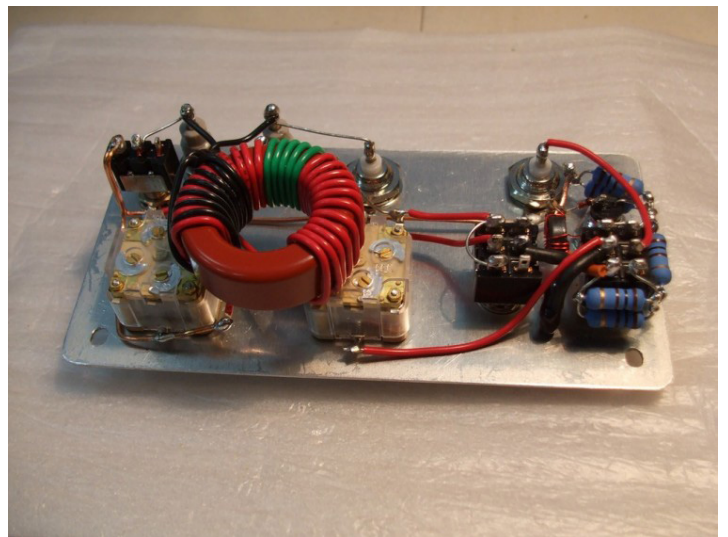
Small toroid support components being installed

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EMTECH ZM-2
Small toroid wiring completed



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Large toroid wiring completed