Equipment

To listen and/or operate on air, radio amateur needs some kind of equipment. Generally, there are two significant parts: receiving and transmitting. To receive signals, we need antennas, antanna feeding cables, impedence matchinng units (also known as antenna tuners) and a receiver. To transmit, we need a signal generator (telepgrah or audio), transmitter, low-pass filters (must) and receiving setup. Setup varies from station to station and may include additional pieces of equipment, such as antenna tuners, power meters, power amplifiers. Combination of receiver and transmitter is known as tranceiver, which mostly holds necessary elements in one case. Some enthusiasts build equipment themselves, some obtain them from shops, second-hand radio amateur related events. This book is about equipment I had experience with, general thoughts, ideas and vision.

RX Receivers

TX Transmitters

Nowadays, transmitter usually is part of transceiver, that is why is chapter mostly dedicated to self-contained transmitter projects, such as radio beacons (telegraph, WSPR and APRS).

XCVR Transceivers

A transceiver stands for TRANSmitter/reCEIVER, a combination of receiver and transmitter. Usually, a main element on radio amateur desk ("shack") and a door (or window) on the air.

XCVR Transceivers

FlexRadio 6400

SmartSDR (on Macintosh)

Global shortcuts

CMD-D DX-Cluster

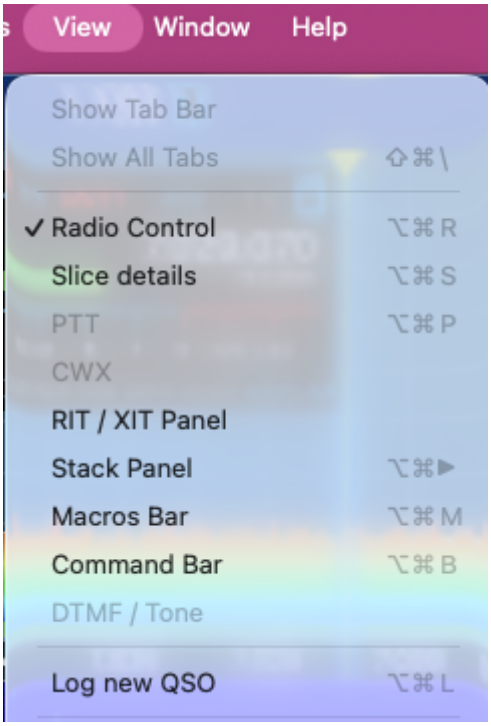
View

OPT-CMD-R Radio Control

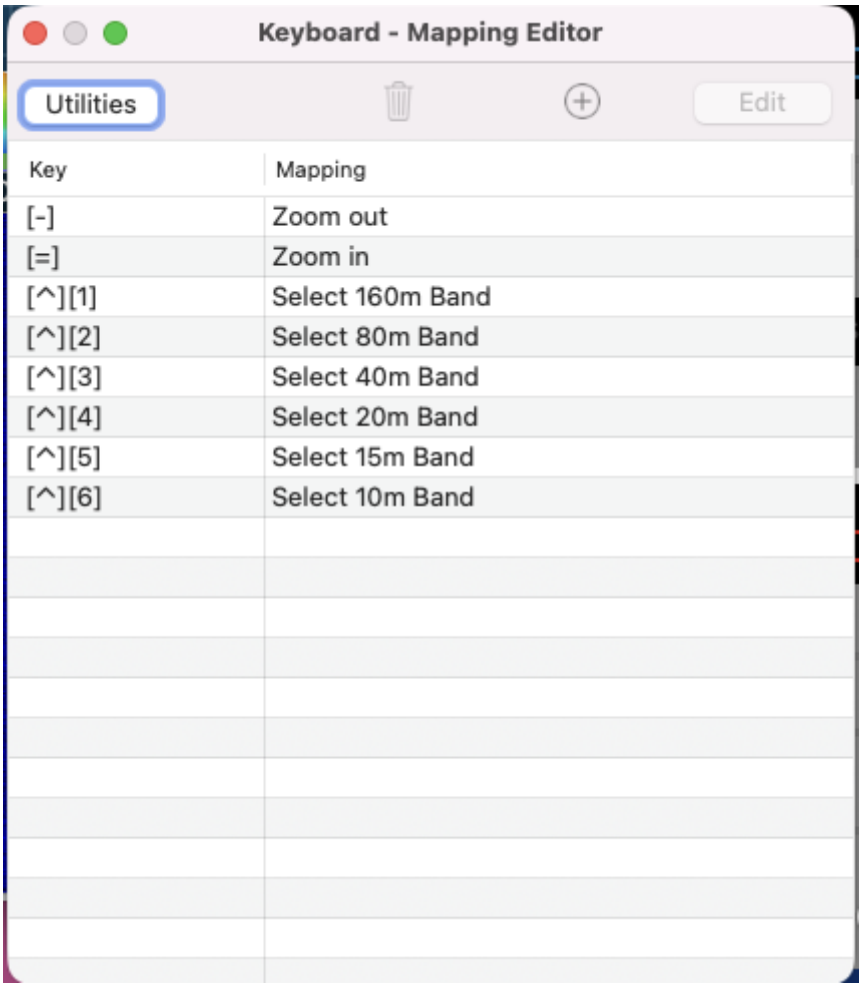
OPT-CMD-S Slice details

OPT-CMD-P PTT

OPT-CMD-P Log new QSO



Key mappings


Keyboard - Mapping Editor
Utilities
Edit
Key
Mapping
[-]
Zoom out
[=]
Zoom in
[^][1]
Select 160m Band
[^][2]
Select 80m Band
[^][3]
Select 40m Band
[^][4]
Select 20m Band
[^][5]
Select 15m Band
[^][6]
Select 10m Band

ANT Antennas

Antennas are all of sorts. They can be big, very big and strange. Due to the limitations of my locations (QTH), mostly, I build portable antennas.

PA Power Amplifiers

Power amplifiers are intended.. hmm.. to amplify power of outgoing signal from transmitter to antenna. I would categorize power amplifiears, very broadly into three categories: low power QRP (to 20 W), normal power (to 100-200 W) and high power QRO (all above), sometimes you may see QROO (which stands for very high power and, usually, amount power which is being delivered is not asked, but silently observed from power meter. :D

00164 - QRO Power Meter

= Objectives =

- measure outgoing and reflected power from transceivers and power amplifiers.

= Resources =

- digital power indicator and measurament board (https://eb104.ru)
- case aluminium case

= Schematics =

= Assembly =

= Inital run and adjustments =

PSU Power Supply Units and PDU Power Distribution Units

To be able to emit radio signals, we need energy. That energy, usually, comes from the socket, but not always. This chapter is all about it.