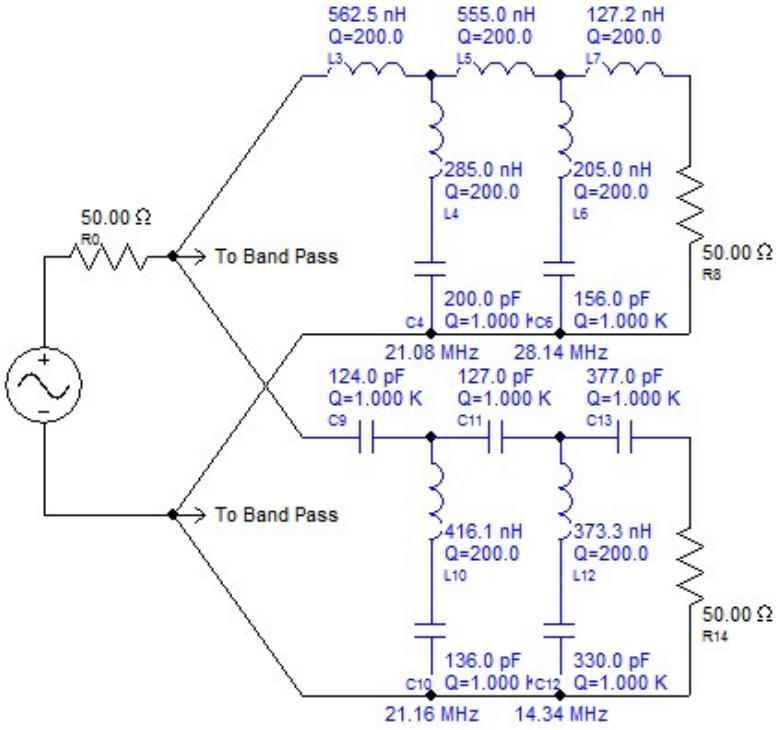
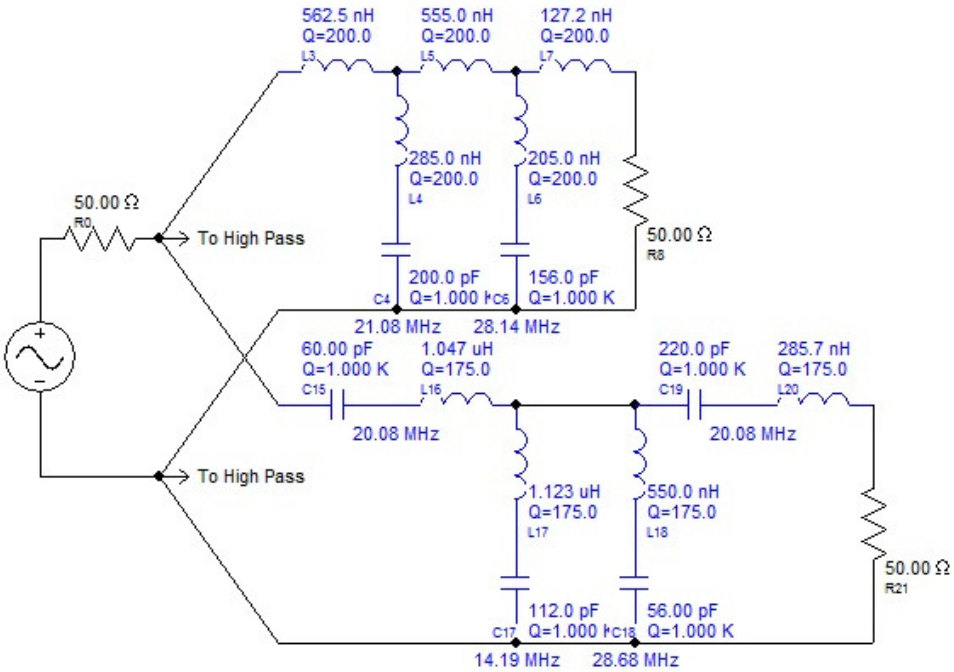
2000W HF Triplexer Part List (14MHz, 21MHz and 28MHz)





Note1. The software shows 20M Triplexer schematics twice, both with 10 and 15 meter bands.

Doorknob Capacitors List, K15Y-1 (3.5kV)

20M Band

Board installed on capacitors 200 and 156. Those capacitors should be the same height.

- 200pf = 100 + 100 (two in parallel)
- 156pf = 100 + 56 (two in parallel)

15M Band

Board installed on capacitors 112 and 56. Those capacitors should be the same height.

- 60pf = 33 + 27 or 22 + 39 (two in parallel)
- 112pf = 56 + 56 (two in parallel)
- 56pf = 56
- 220pf = 220 or 100 + 100 (range 180-220 pF can be used with L15-4 coil correction)

10M Band

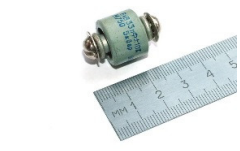
Board installed on capacitors 136 and 330.
330pF capacitors is lower than 68pF and copper/aluminum/brass nut should be used under 330pF capacitor.

- 124pf = 56 + 68 (two in parallel)
- 127pf = 100 + 27 (two in parallel)
- 377pf = 330 + 47 (it can require some adjustments for the best SWR)
- 136pf = 68 + 68 (two in parallel)
- 330pf = 330

Other Hardware

Terminal used to install doorknob capacitors on the boards.
It can be home made from copper/brass as well with hole at least 5.5mm in diameter for a doorknob capacitor installation.
https://www.mouser.ca/ProductDetail/571-63971-1

Note2. Those terminal used with doorknob capacitors having screws.



Note3. If K15Y-1 capacitor used as shown on a photo below, no terminals required as those capacitors can be soldered directly to the board.

Nylon/Ceramic spacer should be used together with those doorknob capacitor the PCB boards install on.
Spacers thread size can be 3 - 4mm and spacer should be the same length as used doorknob capacitors.

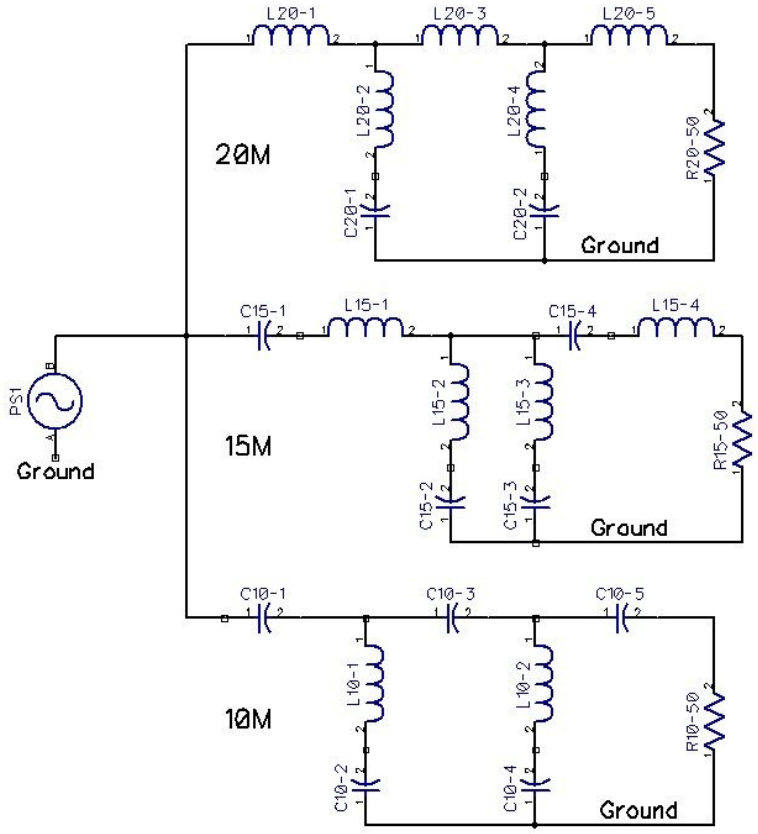
For K15Y-1 3.5kV capacitors, 18mm spacer can be used.
If other capacitor types used some other spacers can be used as well.

https://www.mouser.ca/ProductDetail/Keystone-Electronics/25524?qs=sGAEpiMZZMtrde5aJd3qw%252bllydFDFR6gaymL%2fYmeZIA%3d

Coils

Every copper wire is different by hardness. Coil diameter increased when wire released from the turning rod after turning.
The rod diameters below used with 3.2mm bare copper wire. Actual diameter increased by 1-2mm when coil removed from the rod.
Please, make a correction to the wire you plan to use.

This is a good webpage to calculate coil inductance:
https://hamwaves.com/inductance/en/index.html#input



List of Wood/Plastic rod diameters used to make coils.

CCW- counterclockwise
CW- clockwise

L20-1 4.5t D=27 mm CCW
L20-2 3.5t D=27 mm CW
L20-3 4.5t D=28 mm CCW
L20-4 2.5t D=27 mm CW
L20-5 2t D=20 mm CCW

L15-1 8.5t D=25 mm CCW
L15-2 T130-0 two cores 16t 1.8 - 2mm wire
L15-3 5.5t D=25 mm CW
L15-4 3.5-4t D=22-23 mm CW

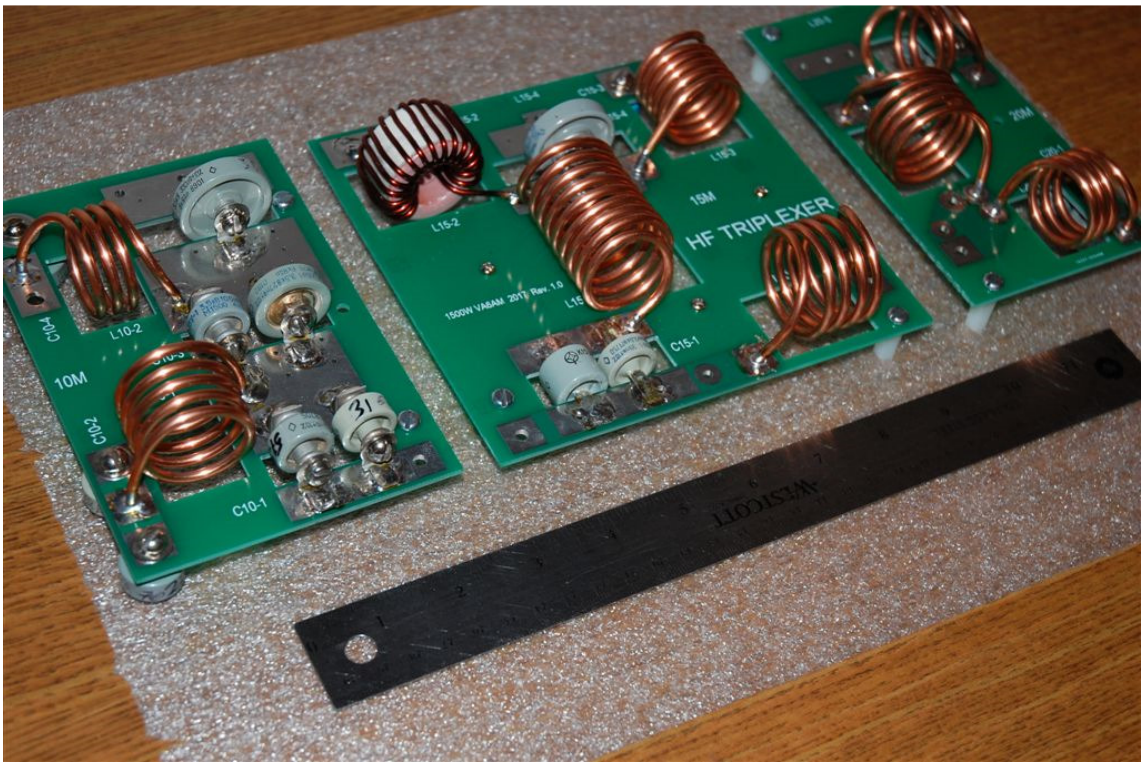
L10-1 4.5t D=25 mm CW
L10-2 3.5t D=27mm CW

Some other diameters, number of turns and wires can be used with a proper recalculation.

CCW and CW used to decrease coil mutual couplings and can be experimented as well for the best result.

Assembled three boards for the 2000W HF Triplexer.

From left to right: 10M band, 15M band and 20M band



Boards installed into the enclosure with aluminum shields installed between bands for the best band isolation.