

### High-pass TVI Filters Using Printed Circuit Boards

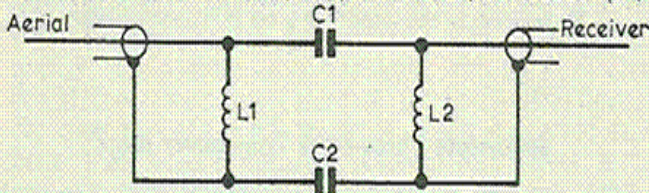
Double-sided copper laminate boards for the construction of low-pass filters can be used to reduce harmonic output from transmitters. K. S. Beddoe, G3YOM, has simple high-pass TVI filters for u.h.f. television receivers made from double-sided board. He points out that a high-pass filter in the aerial lead forms a very effective way of eliminating breakthrough from amateur transmitters, provided that the insertion loss is not too great.

For most cases a single-section filter should be adequate, but for the more difficult cases a double-section design is given. Termination of such filters is by means of standard TV plugs and sockets, so making installation easy.

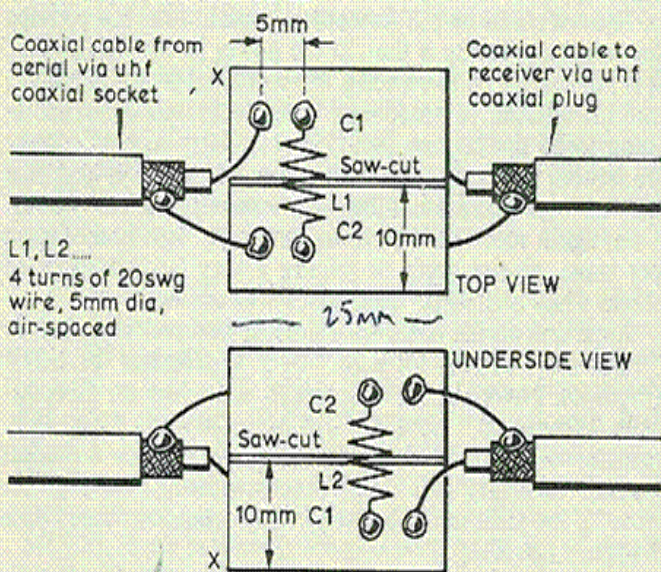
In view of the small size of the filters they can easily be hidden behind the TV receiver without trailing leads. In the majority of cases where TVI is being caused by a signal picked up on the aerial or download, this type of filter will prove effective in reducing or eliminating the trouble.

"Insertion loss of single-section filter is typically: 500 Mc/s, 2dB; 14 Mc/s, 25dB; 70 Mc/s, 33dB; below 70 Mc/s, > 33dB (not measured). For a double-section filter typical figures are: 500 Mc/s, 3.5dB; 144 Mc/s, 30dB; 70 Mc/s, 45dB; below 70 Mc/s, > 45dB (not measured)."

Capacitors are formed by copper faces of p.c.b (about 6pF)



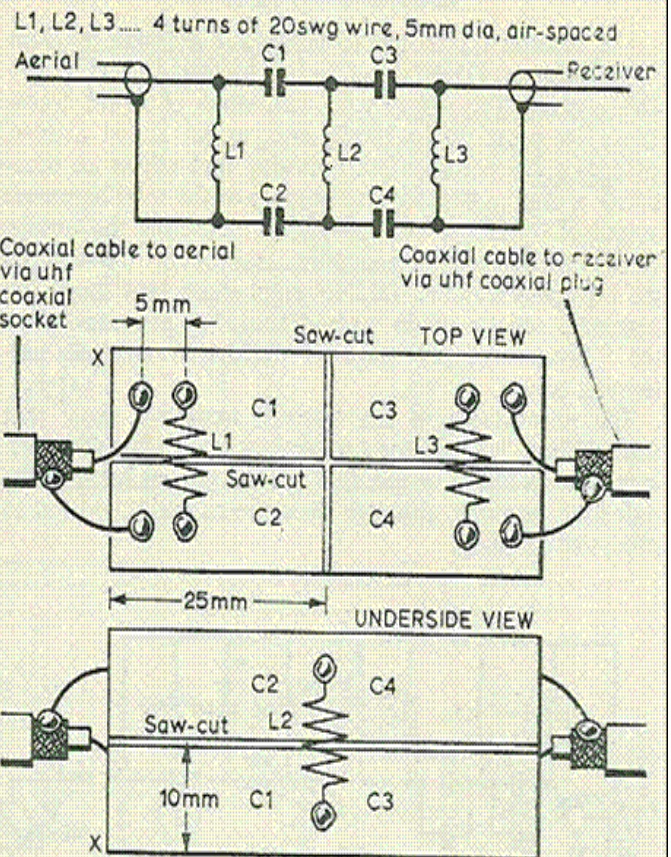
All connections are soldered



25 x 20 x 2mm thick double-clad printed circuit board with saw-cuts in the copper to form capacitor plates

Fig. 87. G3YOM's method of constructing u.h.f. high-pass filters using double-sided copper laminate board. Single-section filter suitable for most cases of TVI.

TVI Filter design by G3YOM—Technical Topics extract from RadCom Feb. 1974. If 2mm thick PCB double sided not available, I found 20 X 20mm (single section) or 40 X 25 mm (double section) gave a similar 6pF for each capacitor using more commonly available copper clad board, which is usually thinner. G3UKV

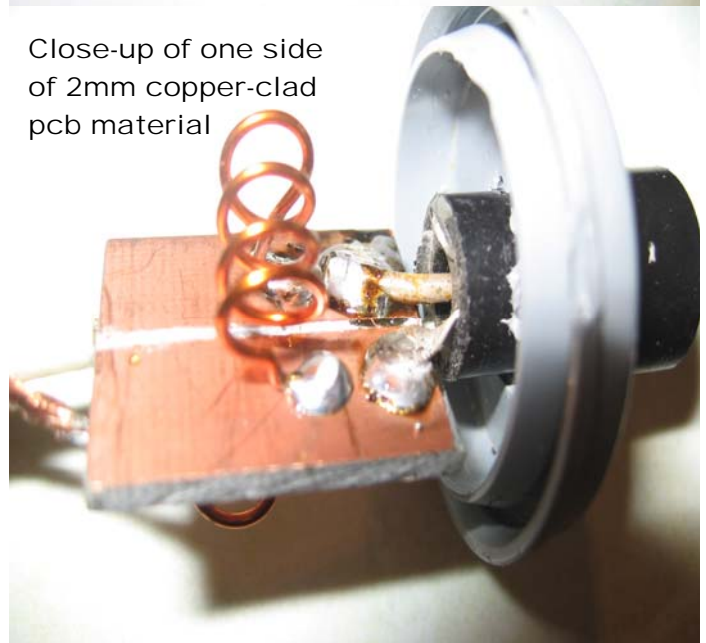


50 x 25 x 2mm thick double-clad printed circuit board with saw-cuts in the copper to form capacitor plates

Fig. 88. Double-section high-pass filter for the difficult cases.



Single section TVI filter built into plastic 35mm film canister. Belling Lee connectors, of course! G3UKV



Close-up of one side of 2mm copper-clad pcb material