

## AN ABSORBING FILTER

At ANTENTOP – 2, 2003 it was described a trap filter on main wires. However, the filter cannot be used at a high power or at super- broad bands transmitters. One reason is that it is impossible to retune a trap at a wide frequency range, other reason is the trap filter does reflection of the high-frequency energy back. So, wire to the filter can radiate also the high-frequency energy goes to transmitter and does additional interferences. So, in some case a trap filter can do more trouble the use.

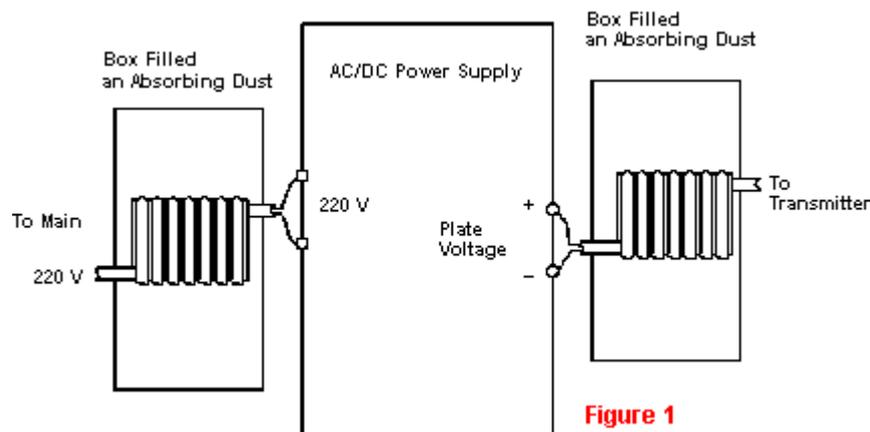
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In the case it is possible to use an absorbing filter. Absorbing filter is made as a coil reeled - up by a double wire (or main wire) and placed in a metal box with a stuff that does absorbing of high-frequency energy. Absorbing material consists of dust of soot mixed with another stuff, as usual, with an epoxy compound. As a rule, absorbing filters are installed as on input of a power supply (on the main wires) as on the output of the power supply (on the wires feeding the transmitter). **Figure 1** shows a design of an absorbing filter and places of its installation. Absorbing filter is an active load for high frequency currents that are distributed or from the transmitter in the main. Hence, there is no reflection of high-frequency energy from the filter, there is no mode of standing waves on wires going from power units, and

in the time high-frequency energy will not penetrate from the transmitter into the main, and back.

Self-made absorbing filters were made and tested by me. The coil had approximately 20 turns of the main wire. Diameter of the coil was 30 millimeters. The coil was placed in an old coffee tinned can. The can was filled with absorbing mix. The mix consists of a pounded coal with chalk. The proportion was of 70 percents of coal and 30 percents of chalk. The mix was carefully stirred in solution of paraffin with rosin, 80 percents of paraffin and 20 percents of rosin. It should get out a compound of very rich consistence.

Then the compound was filled the can with the coil inside. After full cooling of the compound the absorbing filter is ready for a work.



**Figure 1** Absorbing Filter



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