K2 App Note: Resolving 17m AGC / S-meter activation from huge signals in the 18m SW band.

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BACKGROUND:
Some European K2 owners are experiencing short-wave broadcast interference from just below the 17m band. The result is that the AGC circuit is slightly triggered, and this causes a slight cutback of RX gain with some degree of S-meter indication. These steps should reduce or eliminate this problem.

If you are not experiencing this problem, these changes are not necessary.

CHANGES NEEDED:
1. Change RFC11 in the collector supply of Q22 from a solenoidal choke to a toroid RFC. Wind 17-20 turns (not critical) on a FT37-43 toroid core and install it flat on the bottom of the RF PCB next to the hole or screw where the NB mounts.

2. In the 15/17m band-pass filter, change C30 and C36 from 330pF to 470pF. Alternatively, you can just add a 150pF cap across the existing
330pF caps. Do this on the bottom of the RF PCB.

3. Change C33 from 3.3pF to a 1 or 2pF cap.

4. Peak the 15m band-pass filter inductors at L10 and L11 at 21.200MHz. Peak the 17m band-pass filter trimmer caps C32 and C34 at 18.200Mhz. Tests indicate this does not affect the K2's performance on these bands.

TECHNICAL DETAILS:
Strong short-wave signals just below the 17m ham band can produce extremely large amplitude mixer products on the collector of post-mixer
amp Q22. RFC11 radiates this RF into the SSB adapter, which is located just above this choke. Replacing RFC11 with a toroid RFC cuts down greatly on the radiated RF and helps keep it out of the SSB adapter and IF signal path, AGC circuits, etc.

The changes to the 15/17m band-pass filter help narrow the bandwidth and improves the rejection of the short-wave signals. Peaking the band-pass filters 100kHz higher helps to put the offending signals a little further down the slope of the band-pass filter's response curve.