

FT-980 Improve transmitter ALC compression and average output power

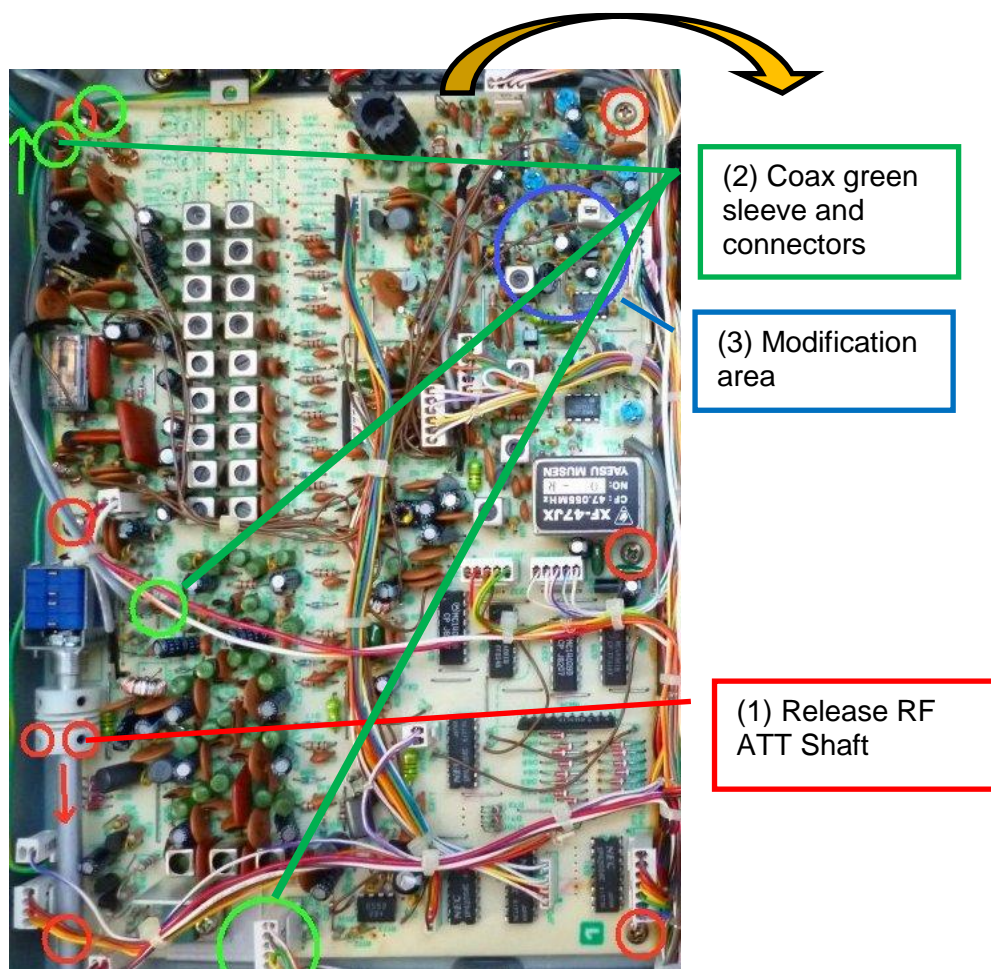
When transmitting on the FT-980 the ALC compresses speech on IF to keep maximum power and intelligibility at the correspondent's reception. To increase signal to noise of your received signal at the correspondent's reception, compression must be fast enough to compress each word's syllable. The FT-980 has a "PROC" function that acts as IF signal limiter: it clips modulation peaks but the ALC still compresses modulation too slowly. Too much limitation by "PROC" drive level increases output power but adds too much distortion.

This modification is very simple and changes the ALC time constant for syllabic compression without adding more distortion. Your correspondent will receive you with better signal to noise.

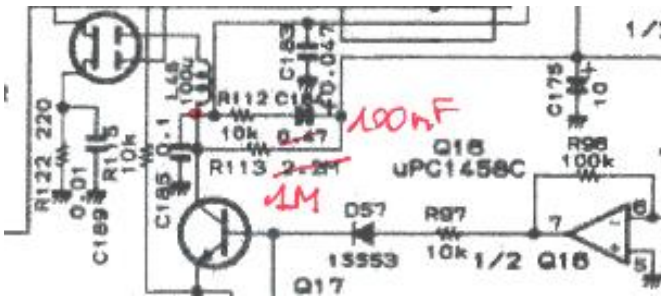
Original attack time constant is 4.7 ms and decay is 1 s.

After modification attack time constant is 1 ms and decay is 100 ms.

- Remove covers to access to RF unit on bottom. Unscrew ATTEN shaft (1).
- Unplug connectors circled in green on picture, note well the position of the RF coax at top left corner: the coax marked in green (2).
- Remove the six screws on corners and middle. Flip the board to access to bottom of modification area (3).



Change capacitor C164 (1 μ F) to **100 nF X7R ceramic**
Change resistor R113 (2.2 M Ω) to **1 M Ω** .



- Place the RF unit (careful with wire and connectors) and the six screws.
- Plug in the coax and take care of the one with the green sleeve (or else you will get no output power at all!)
- Place the ATTN shaft and locate knob index symmetrically between the 10 and 20 dB position.

Perform a transmission test on a dummy load.
Average power on a Bird wattmeter is about twice more as before.
MIC and DRIVE level are unchanged.

SWR protection response is much faster after this modification!

F5RCT Jean-Matthieu Contact me for question at mail address f5rct.jm (at) gmail.com