

## Yesu FT-980 EMC improvements to instability during transmission

Problem description:

Depending on microphone, antenna configurations and frequency, the transceiver may be unstable during transmission; this problem disappears when MOX is depressed.

The transceiver switch on HF returns between Rx and Tx and **meters nails jump quickly**.

The cause is coming from HF current on MIC PTT line going to Q11 transistor.

Having a so low voltage level on Q11 junction is very critical to HF current !

The solution consist of applying EMC design basics :

- Connect all microphone socket ground pins to the frame, and MIC cable shield (pin 7) too !
  - Apply a decoupling capacitor on MIC PTT (pin 6) to the frame
- By this way HF current will deviate outside to the frame and won't go inside the transceiver.
- Apply decoupling capacitors on junctions of Q11 and Q12 to avoid HF rectification.

Remove the bottom cover

Unscrew the nut ring on microphone socket to release the socket backward

Then it is easier to solder on microphone socket, connect frame ground to mic cable shield.

Use small resistor threads for shortest link between socket pins and socket frame.

Add a 10 nF ceramic capacitor between MIC PTT (pin 6) and socket frame.

Up/down inputs can be decoupled too if used : add 10 nF on pins 1 and 5...

On REG UNIT, add 10 nF between B and E of Q19011 and Q19012.

After this modification, the transceiver is working perfectly and the modulation is very good !

73s de F5RCT Jean-Matthieu

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