

## Installing the INRAD Key click Mod in the FT1000MP MkV

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There is no question that most, if not all, MPs exhibit excessive off-frequency key clicks. Of course the MP is not alone as many other makes and models of radios exhibit excessive key clicks too, but at least there is any easy fix for the MP. To hear the clicks, you need to use a good RX with narrow CW filters (250Hz or less), don't overload its input, and tune up and down +/- 2KHz or so to see how far off frequency you can hear the clicks. If you can hear clicks but not the carrier, they're excessive.

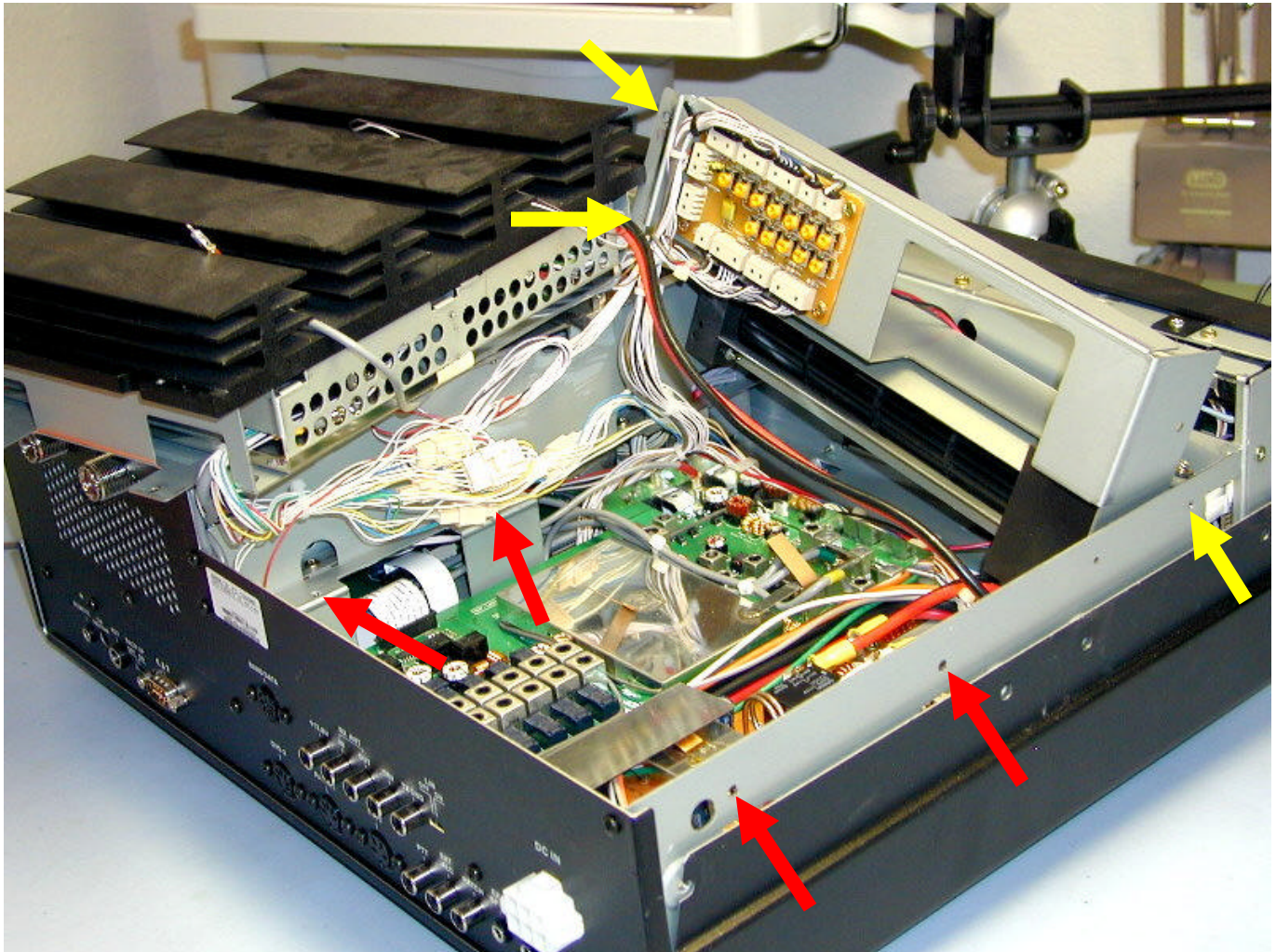
George W2VJN, the proprietor of INRAD, expended considerable engineering effort to develop this mod and sells a kit with instructions for \$15. With the following instructions, you will be able to do the mod without buying the kit. I asked George if he minded me publishing these instructions and he said he would rather have people do the mod than not do it for the sake of \$15. I leave it up to you whether or not to buy the mod from INRAD ([www.inrad.com](http://www.inrad.com)). Either way, I highly recommend that you patronize INRAD. Their filters are superior to OEM filters, less expensive, and INRAD's customer service is nothing short of outstanding.

Charles Rauch, W8JI, ( <http://www.w8ji.com/> ) developed a similar but somewhat more extensive mod that reduces the clicks even further. Some have complained that it produces keying that is too soft for QRQ. I have not tried the W8JI mod but am very satisfied with the results achieved with the INRAD mod as determined by listening to my sig on another RX and having it recorded on the air by a friend ~800 miles distant.

## Doing the mod:

The INRAD Key Click Mod consists of adding one capacitor to the bottom of the RF Unit and a capacitor and resistor to the bottom of the IF Unit. The mod is the same as for the straight MP with the exception of a different component designator on the RF board.

Fig 1. Accessing the RF Unit.



The RF Unit is below the heatsink/final assembly. Remove the three top covers and disconnect the speaker. The heatsink assembly is removed via 4 screws (red arrows). The two screws located between the heatsink and the ATU assembly are somewhat obscured by wire harnesses that must be pushed aside to get to the screws.

Lift the heat sink up and disconnect the small coax that runs from the heatsink assembly to the RF board. Disconnect the small two-conductor harness that goes from the heatsink assembly to the power supply board. The small two pin connector is retained by a detent and its removal is much easier if you use a very small screw driver to pry between the receptacle and the plug on the same side as the detent. The heat sink can then be pivoted to rest on the ATU. Three screws (yellow arrows) must be removed to allow lifting out the fan assembly. (In the straight MP, the heatsink/final and fan are all one assembly.)

Disconnect the cables from the RF Unit and make a sketch to keep track of their routing and where they connect. Exercise care not to disturb the setting of any adjustable components. The coaxial cables have various colored heat-shrink near their ends to identify them. The ribbon cable is retained by a collar around the top of the connector. This collar must be lifted to release the cables.

The RF Unit is held in by 7 screws, 5 through the PCB and two fastening the Band Data jack to the real panel.

A 0.1 uF cap is added across C1004 on the bottom of the RF board. (Same place on the straight MP but the component designator is C1218)

Fig 2. RF mod illustration.

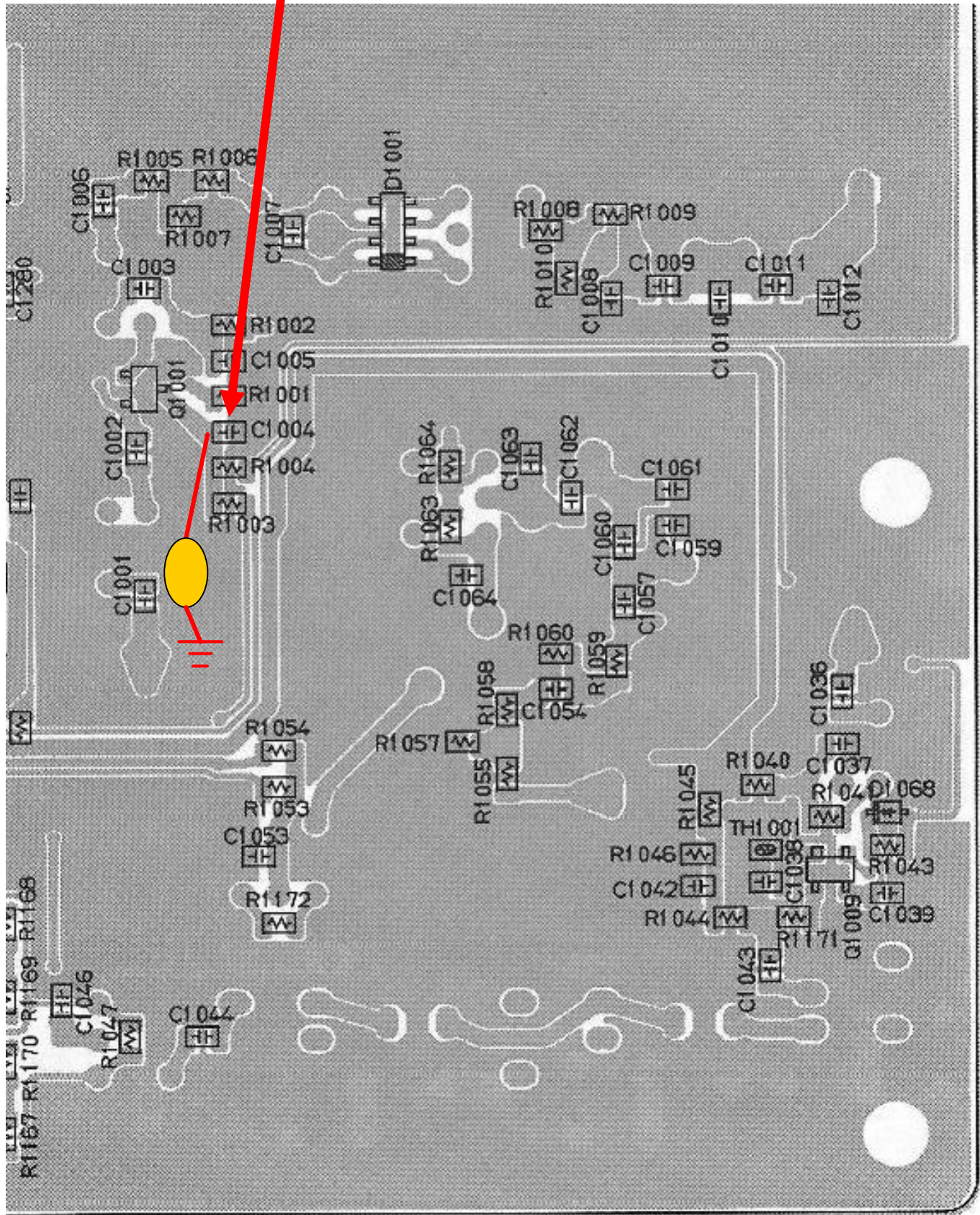
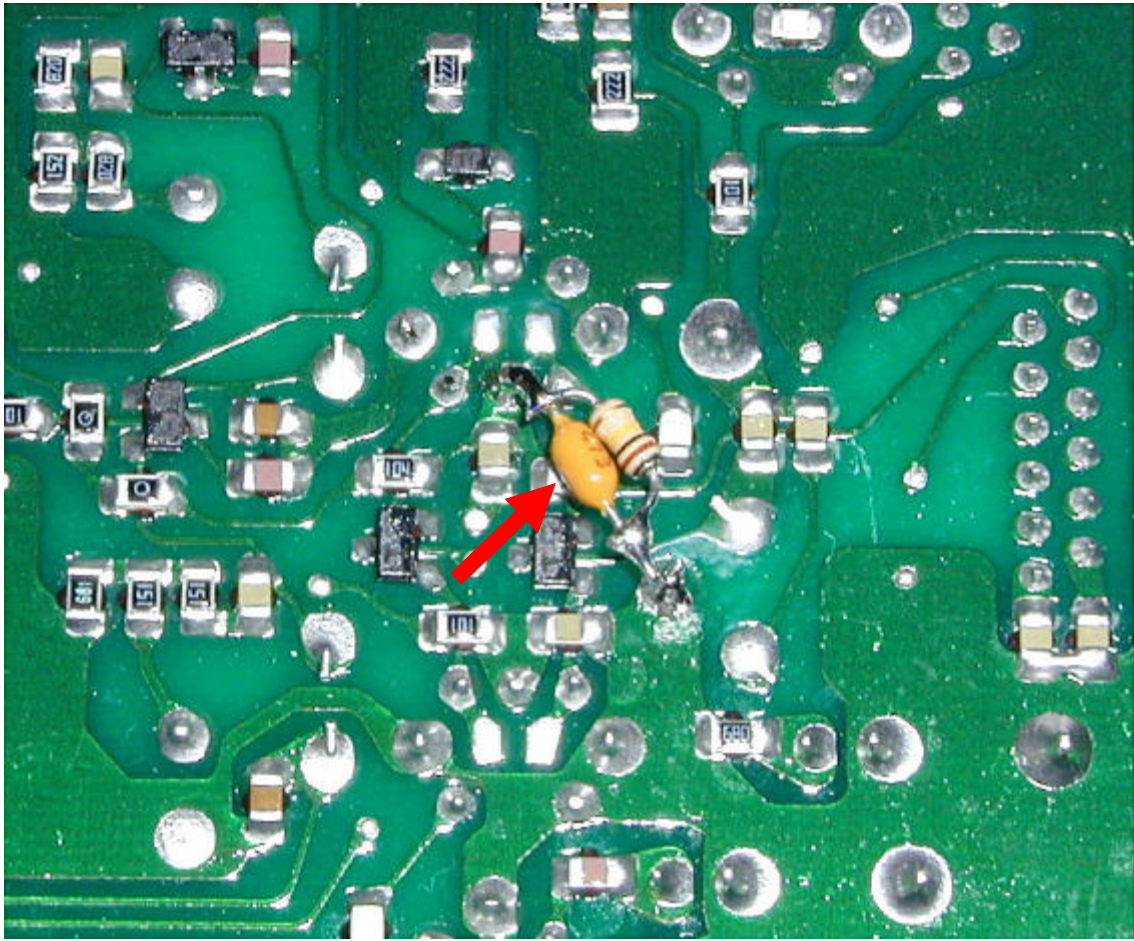






Fig 5. IF mod photo.



Reinstall the IF board, the bottom cover, and then the top covers.

End.