CAT System on the MIC socket for Yaesu FT-897/857

(it doesn't apply to the FT-817)

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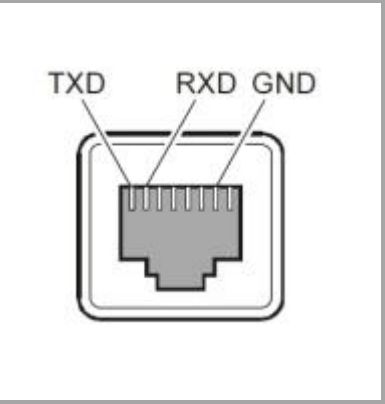
When an automatic tuner like the Yaesu CF-30 is used with a Yaesu FT-897 or FT-857, it will use the CAT/LINEAR shared port, preventing to use that port for CAT operations (for example to connect the transceiver to Ham Radio Deluxe).
This was, by the way, one of the reasons why I preferred the LDG AT897, which performs the same functions and can be mounted on the FT-897 side as the Yaesu model, but unlike this, it uses the CAT/Linear socket only for feeding and replicates the port on its rear panel, allowing the CAT connection.

Now, wanting to use a remote tuner such as the FC-40, I had the need to find a solution to recover the CAT functionality.

The solution is shown in the user's manual:

MENU MODE No 059 [MIC SEL]

Function: The choice of the equipment which connects to the MIC jack.
Available Values: NOR/RMT/CAT
Default: NOR
- NOR: Normal Microphone.
- RMT: Optional **MH-59A8J** Remote Microphone.
- CAT: CAT system: if you are using the optional **FC-30** antenna tuner, you can still use the CAT system by connecting the serial Data cable to the MIC jack.



In other words, through MENU 59, the CAT functionality can be replicated to the microphone socket.
This way the CAT, the mike and the CF-40 (or FC-30) can be simultaneously used.
In order to achieve this result, all you need to have is a very simple cable adapter.

An excellent way for home-brewing it, it's described by **Ivo I6IBE** on his website which I strongly suggest everyone to visit, especially the owners of Yaesu FT-897, 857 and 817, for the high quantity of very interesting information about those popular transceivers: http://www.hamradio.selfip.com/i6ibe/

I actually started from the system suggested by I6IBE, the only thing I did, was to build it in a slightly different way.
Instead of mounting connectors on a box and realize the small PCB for the needed connections, I preferred to use a double CAT5 plug, those which are used to join two network cables equipped with the 8pin - RJ-45 plugs.

They are very easy to find and cheap, you have just to pay attention to get the "straight" version and not "cross":

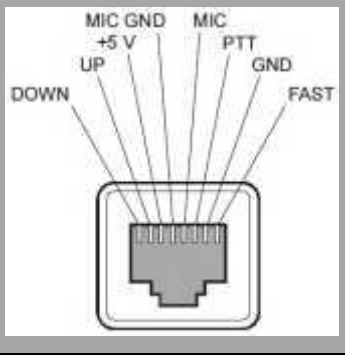
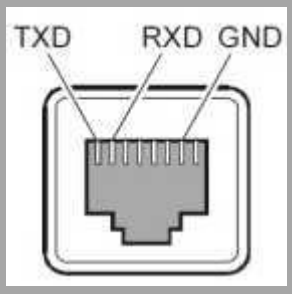
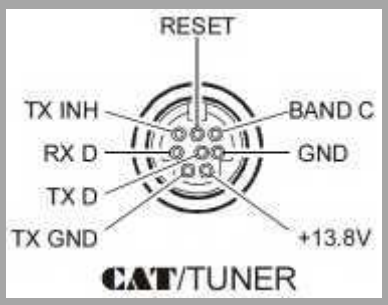
The connections between the two connectors must be one to one, i.e. pin 1 to 1, pin 2 to 2 and so on, for all the eight pins.

I suggest checking it with an ohm-meter.

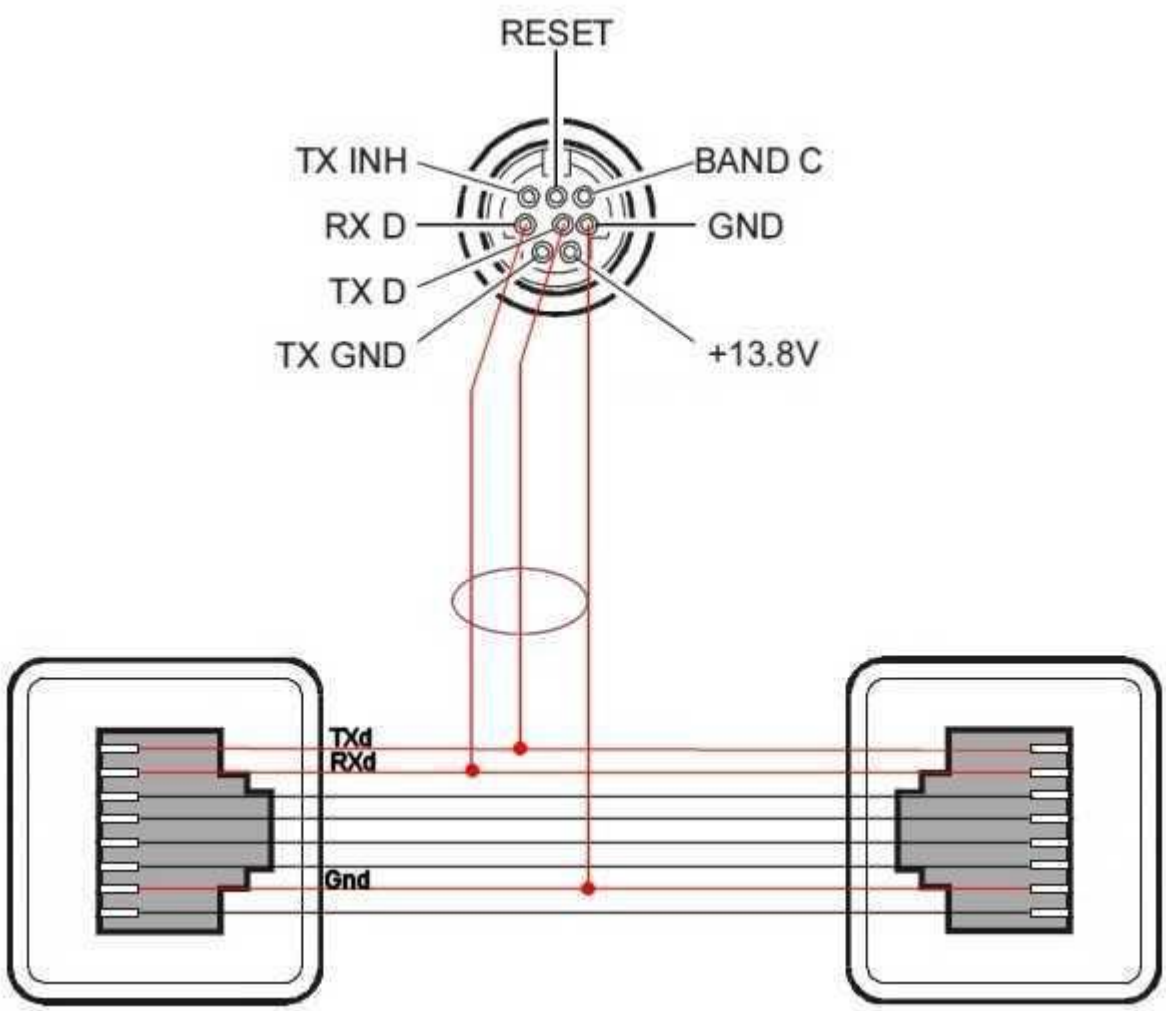
The second component to find is a 8-pin mini DIN connector, actually equal to the CAT/Linear socket on the rear panel of the transceiver, but the cable version.

Mounting the panel version of the connector directly on the box would be also a possible solution, I have preferred for practical reasons the cable and connector solution, but everyone can proceed accordingly to their own preferences.

Now, all you have to do is to connect a three-wire cable (I used an audio cable, two wires plus screen) to the mini DIN and to the CAT5 adapter.

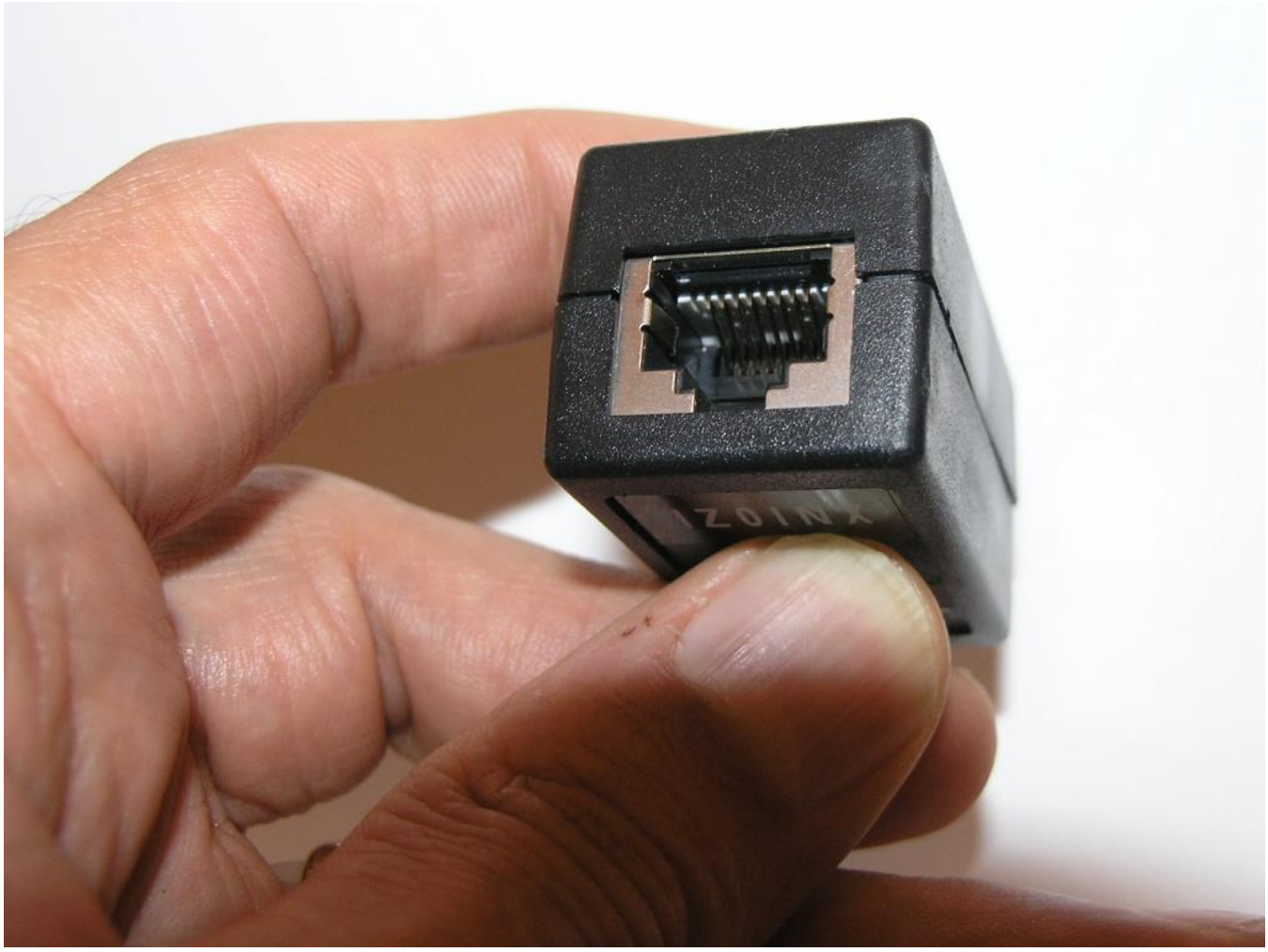
These are the signals you can find on the Mic socket,	while these are the changes after selecting "CAT" in the Menu 59	and these are the signals on the CAT socket, on the rear panel
		

This drawing shows how to connect the miniDIN to the network adapter:



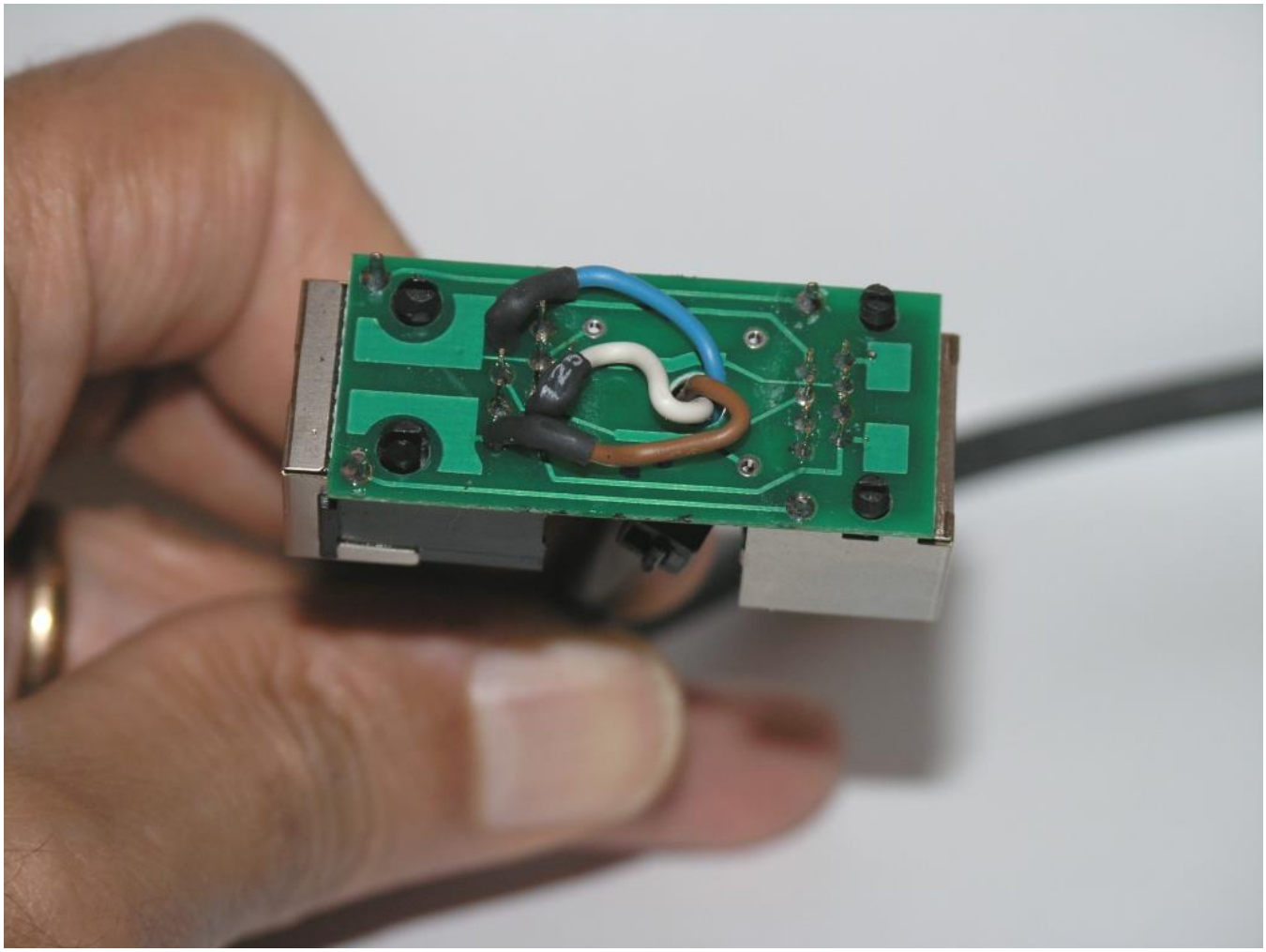
In the following pictures some details of my realization:

Fig.1



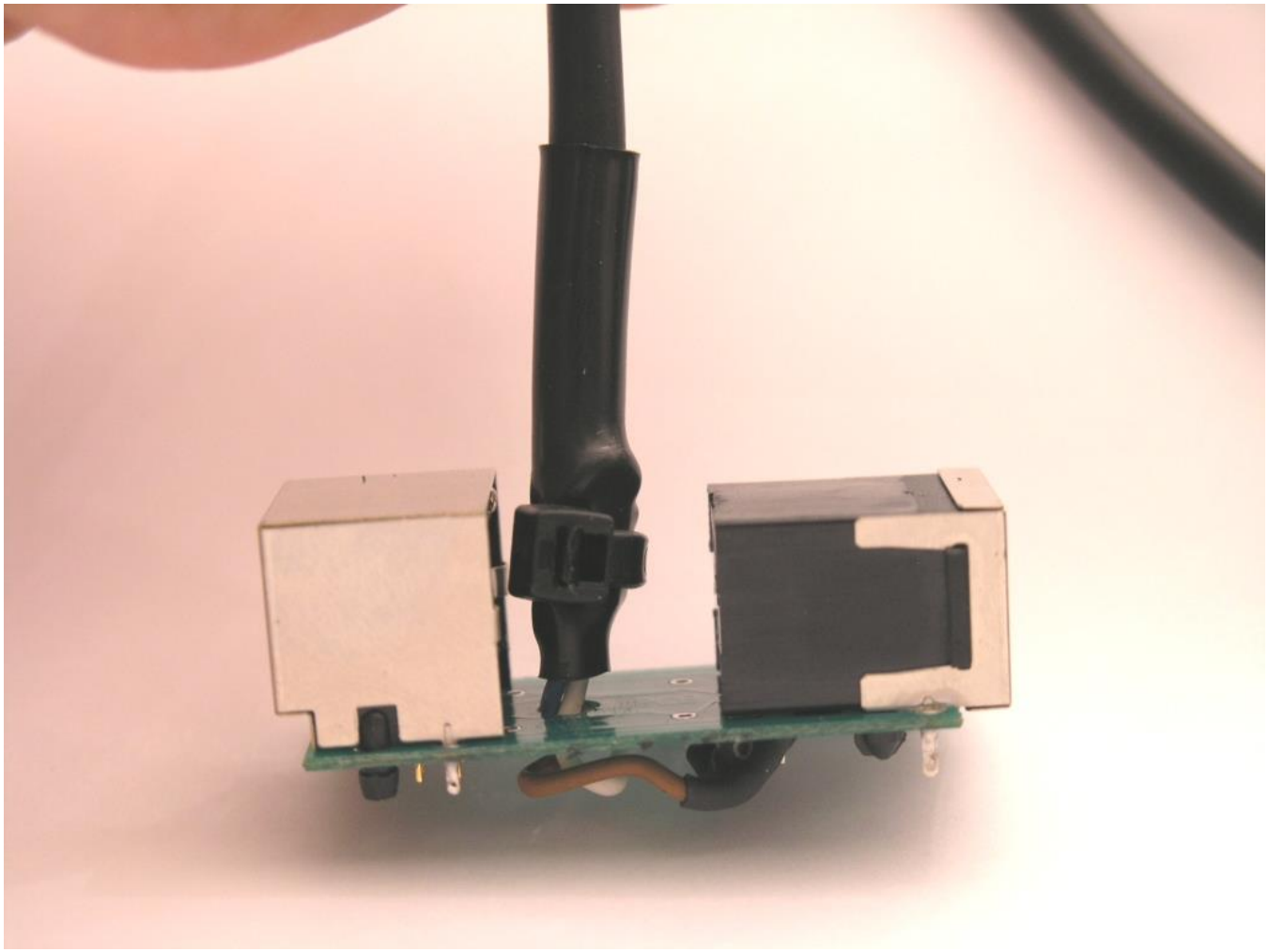
The network adapter before the modification

Fig.2



The connections of the three wires to the pins TxD, RxD and Gnd

Fig.3



The cable goes through a small hole on the PCB

Fig.4

The final result

And finally, ready to use:

The miniDIN socket now perfectly replicates the CAT connector on the back panel of the transceiver and, when that one is already used by other devices, you can use this for allowing PC control:
Just connect the microphone to one side, connect the other side through a short patch cable to the socket of the microphone and, finally, connect your CAT interface to the mini DIN connector.

This system works fine and I didn't experience any interference with the "UP" and "DOWN" buttons on the Mike that, obviously, simply don't work.

Don't forget to set "CAT" on the menu 59 !

73, Filippo – IZØINX

HTML version at: www.iz0inx.it