

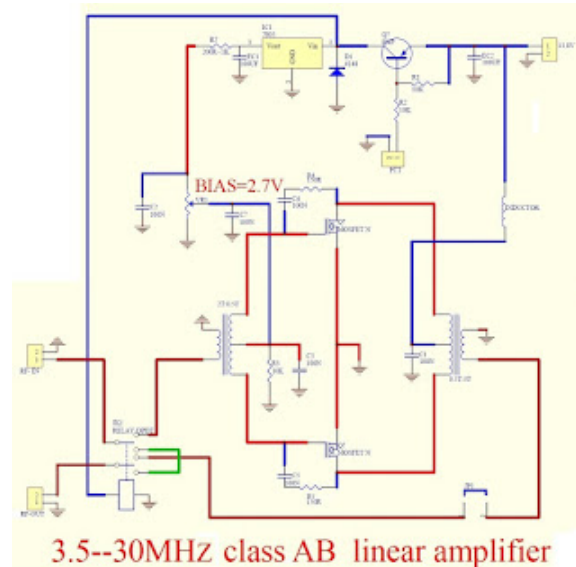
Ham Radio Experiments by IU3IDF

A small power amplifier

17:48

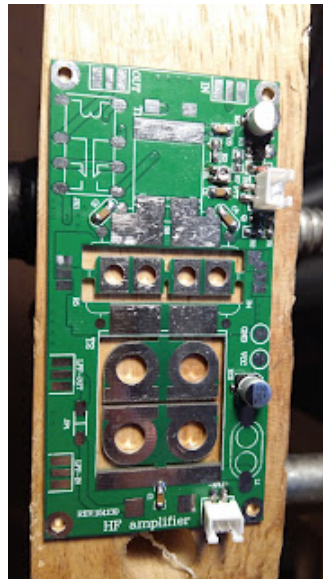
I want to make clear that I am not a big power fan boy, but sometimes to make a QSO the 5 W of the 817 are not sufficient. I did not want to buy one, so I went for one of those Chinese kit you can find on various sites and that are really cheap. I bought mine from Bangood for about 30 €. The seller declared it could deliver 70 W with 5 W drive @ 13.8 V.

When the kit arrived it was in a rather small package, the PCB was 10 mm x 5 mm, and no component was missing. It is labeled MINIPA 70. Unfortunately no building instructions nor schematic were given so, after a bit of googling i found [this site](#). The following schematic was from that site.



I was indeed very happy to find out the MOSFETs are some very cheap IRF530N you can easily get for 1 € each.

To assemble the kit you need to do some SMD soldering, some good thin tin, flux and a decent soldering iron are needed. You should start mounting the smaller components first, then the bigger ones. The connectors shipped are SMA's so I preferred to directly solder some coax (RG58, i will probably upgrade to RG316 when I will move it in more appropriate housing).



Then you have to cut the four pieces of PCB in the middle, they will be part of the transformer windings. Soldering the relay before the transformers is probably a good idea. I decided to remove the two white connectors for PTT and the fan because I was not able to find the matching ones. It is now the time to do all the winding job. The center tapped windings are made trough the use of tube placed inside the ferrite cores and then soldered to the PCB.



The rest is simpler: just take the needed length of wire to do two turns in the smaller one and three in the bigger one. In my case the wire shipped was teflon coated, and I had to use sand paper to remove the coating. Then I soldered everything on the PCB.



The choke on the input was the harder to build. The wire is very thick and hard to work with and the

coating is easy to scrap accidentally leading to shorts. Remember to remove the coating on the endings.

Last but not least you have to mount the MOSFETs. Buy some thermoconductive paste (I used the one you can easily find in computer stores) and find a big heatsink. Keep in mind the back of the FETs is conductive and you need to keep it insulated from the heatsink and the screws in order to avoid shorts.

In my kit a few plastic pieces were given to do the job.

This is a picture of the finished amp with the two resistors mounted.



With this picture I end this post. In the next one I will tell how I did the PTT connection to the radio and the way I set the bias to the correct point.

73s, I hope you found it useful



iw2evk 5 gennaio 2022 15:41

Ciao,

qual'è la minima potenza di pilotaggio?

Vorrei sostituirlo a no stadio finale defunto ma penso di avere forse solo 100 mW
Grazie

Roberto iw2evk

RISPONDI

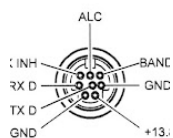
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A small power amplifier (part 2)

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17:39

Immagini dei temi di [Radius Images](#)



After building the amplifier we get to two critical point: interfacing the amplifier to the radio setting the bias correctly Step 1 In my case the first one was not a big deal. I took a look at the FT 817 Operating Manual, it showed that the pin labeled "TX GND"

[CONTINUA A LEGGERE](#)

My poor man CW interface

19:23

When I got involved in ham radio I was soon fascinated by CW, so I learnt Morse code and started making contacts. A few days ago I participated as a station in an award and decided to try out working some station in CW instead of my usual SSB operation. I soon got tired of sending CQ and reports by

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Segnala una violazione