A list of the items you will need for assembly:

- A DJ0ABR kit including the heatsink.
- A soldering iron suitable for SMD components including previous experience with SMD 0805 & 0603 size parts.
- A good Phillips screwdriver.
- A very small flathead screwdriver for the bias potentiometer.
- Fine solder.
- Some wires to connect power, ground and PTT.
- Some fine sandpaper.
- A power drill with a 3.2mm drill bit.
- A sharp knife.

For testing the amplifier, you will need the following:

- Two 50 Ohm dummy loads, one that can sustain at least 10W on 2.4GHz and a low power one for the input. (required)
- A voltmeter and an ammeter. (required)
- For detailed measurements a spectrum analyser with a directional coupler could be useful. (optional)
- For measuring the power, you will need a suitable power meter. (optional)
1. Start by removing the PCB from its packaging. It should look like the one shown above. Make sure you don’t lose the component card that is attached on the bottom of the PCB.

2.
Now remove the SMD NTC from the component card and solder it onto the PCB as shown in the picture above.

3.

Now remove the three 10p capacitors from the component card and solder them onto the PCB as shown above.

4.
Now remove the three 10u capacitors (packaged in plastic) from the component card and solder them onto the PCB as shown above.

5.

Now remove the 10u 0603 capacitor from the component card and solder it onto the PCB as shown above.

6.
Now remove both of the 6.8p capacitors from the component card and solder them onto the PCB as show above.
Now remove both of the 1p capacitors from the component card and solder them onto the PCB as shown above.
Now remove the 1u capacitor from the component card and solder it onto the PCB as shown above.

9.

Now remove the 560R resistor from the component card and solder it onto the PCB as shown above.

10.
Now remove the 270R resistor from the component card and solder it onto the PCB as shown above.

Now remove the 47R resistor from the component card and solder it onto the PCB as shown above.
Now remove the 10K resistor from the component card and solder it onto the PCB as shown above.

13.

Now remove the 100R resistor from the component card and solder it onto PCB as shown above.

14.
Now remove the 4.7R resistor from the component card and solder it onto the PCB as shown above.

15.

Now remove the transistor from the component card and solder it onto the PCB as shown above.
16. Now remove the voltage regulator from the component card and solder it onto the PCB as shown above.

17. Now take the potentiometer and solder it onto the PCB as shown above. Start by soldering one leg (where the arrow points) and align it with the other pads. Once that's done, you can go ahead and solder the remaining two pads.
18. Now solder both of the 10u electrolytic capacitors onto the PCB. Make sure to solder them the right way around, they are polarised!

19. Now take the heatsink and drill out all of the pilot holes with a 3.2mm drill bit.
Now take some sandpaper and sand down the surface of the heatsink just slightly. Mainly concentrate on the area around the transistor.

21.

Now take both of the SMA connectors and cut off the white insulation as shown on the pictures. Skip this step if you plan on adding a custom enclosure.
Solder one of the SMA connectors onto the edge of the PCB as shown above. Only do it on one side for now, it is very important.
Now align the PCB onto the heatsink and add all the screws. Make sure to work your way from one connector to the other side.
Now take the second SMA connector and align it onto the edge of the PCB. Repeat the same soldering process as in step 22.
The assembly of the amplifier is now complete. You can now add some wires to each of the supply voltage pads, the ground pad and the PTT pad. The next step is to set the bias current of the amplifier.

26.

In order to set the bias current for the amplifier, connect a high-power dummy load to the output and a low power one to the input of the amplifier. Now you can connect the amplifier to a power supply with your ammeter in series. Turn the potentiometer with a small flathead screwdriver until the ammeter shows a current of 100mA. You should be all set at this point.

I hope these instructions were helpful. If you have any questions, feel free to contact me. I will try to get back to you as soon as I have some spare time.

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