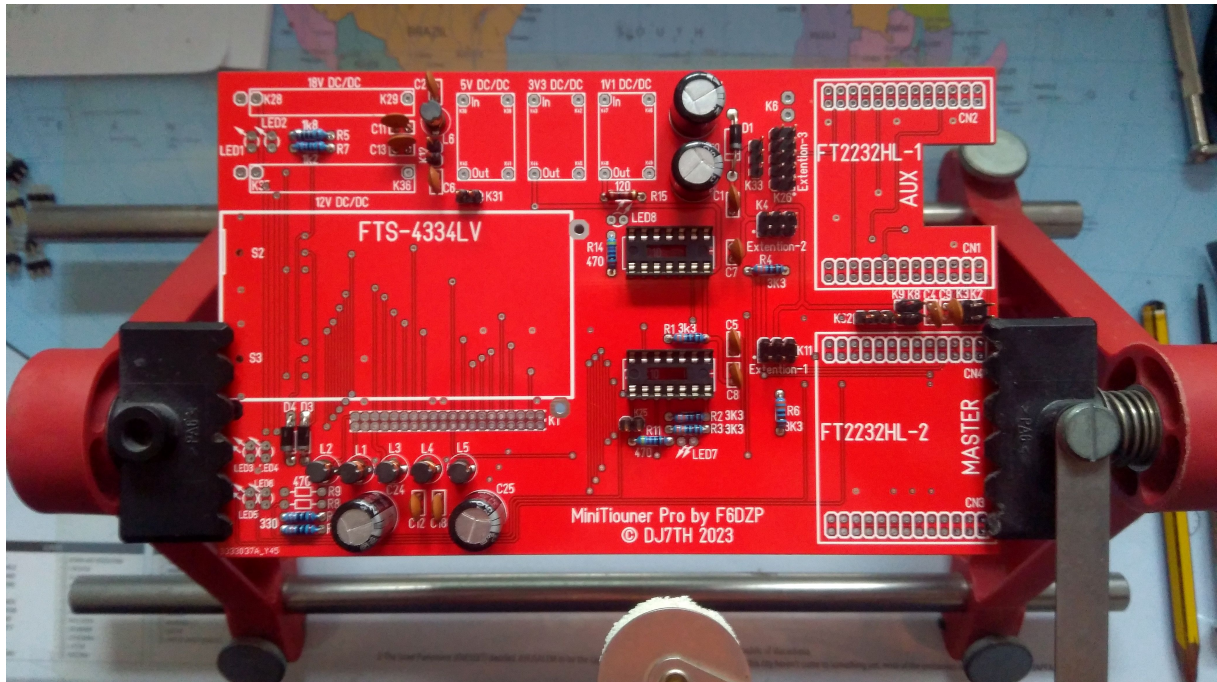
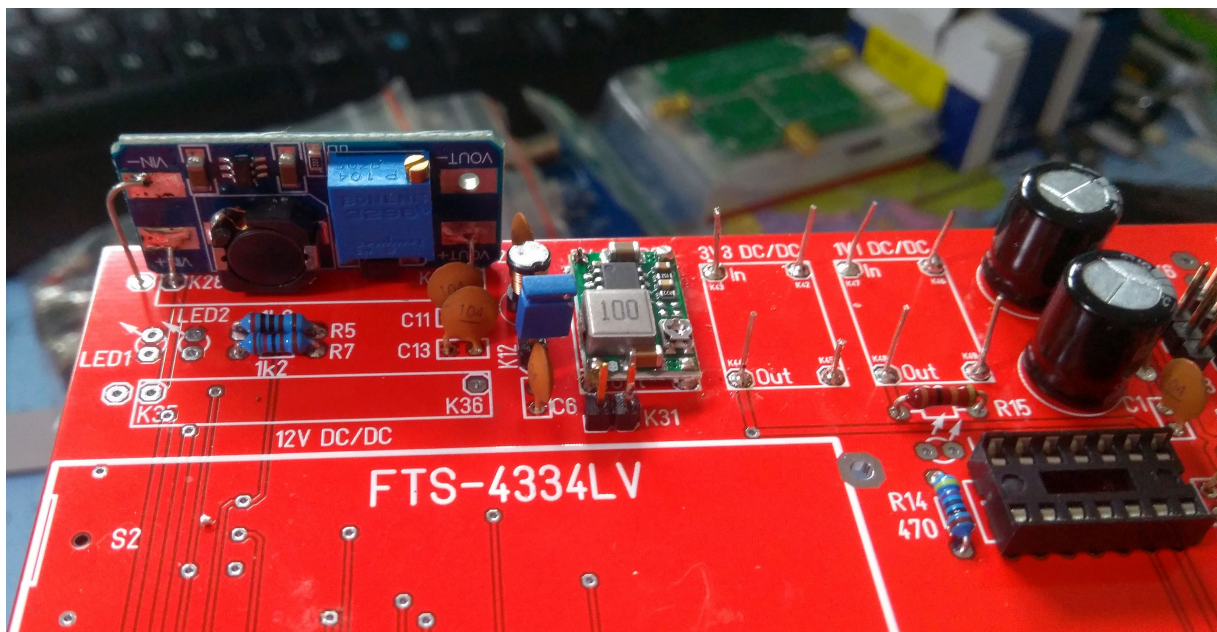


Installation instructions for MiniTiouner Pro V2+

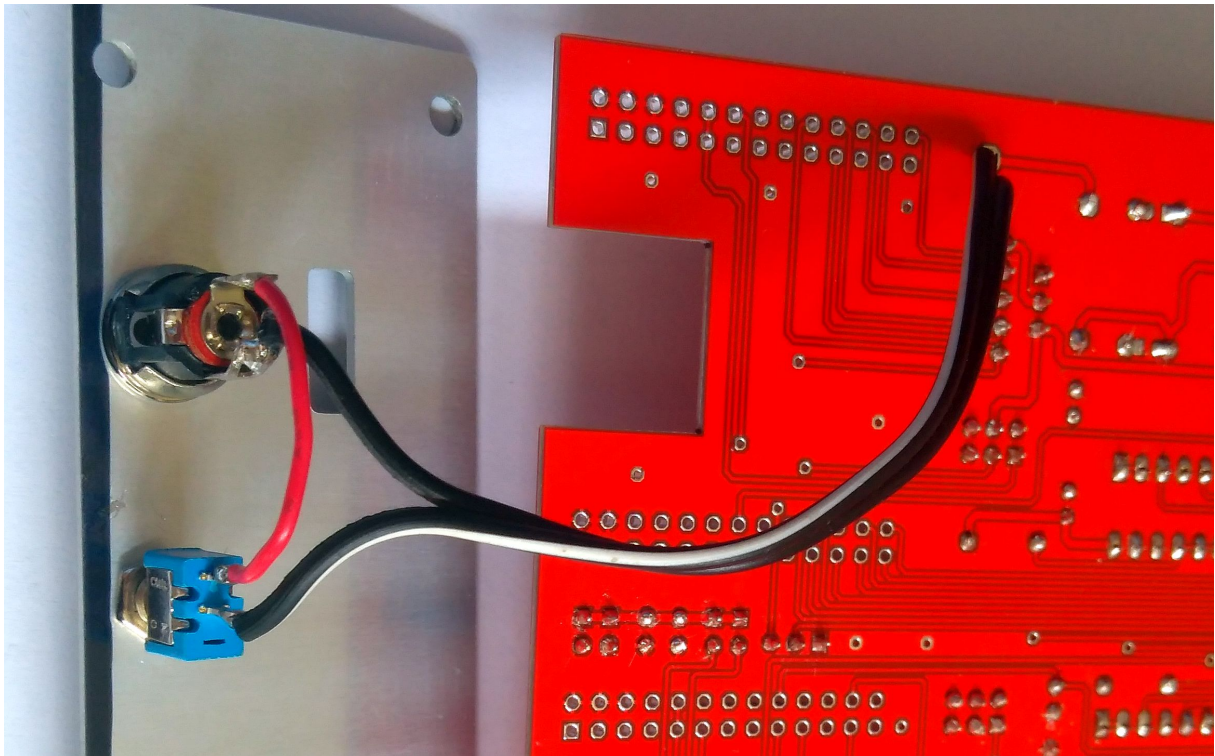
Created by Rolf –DJ7TH–



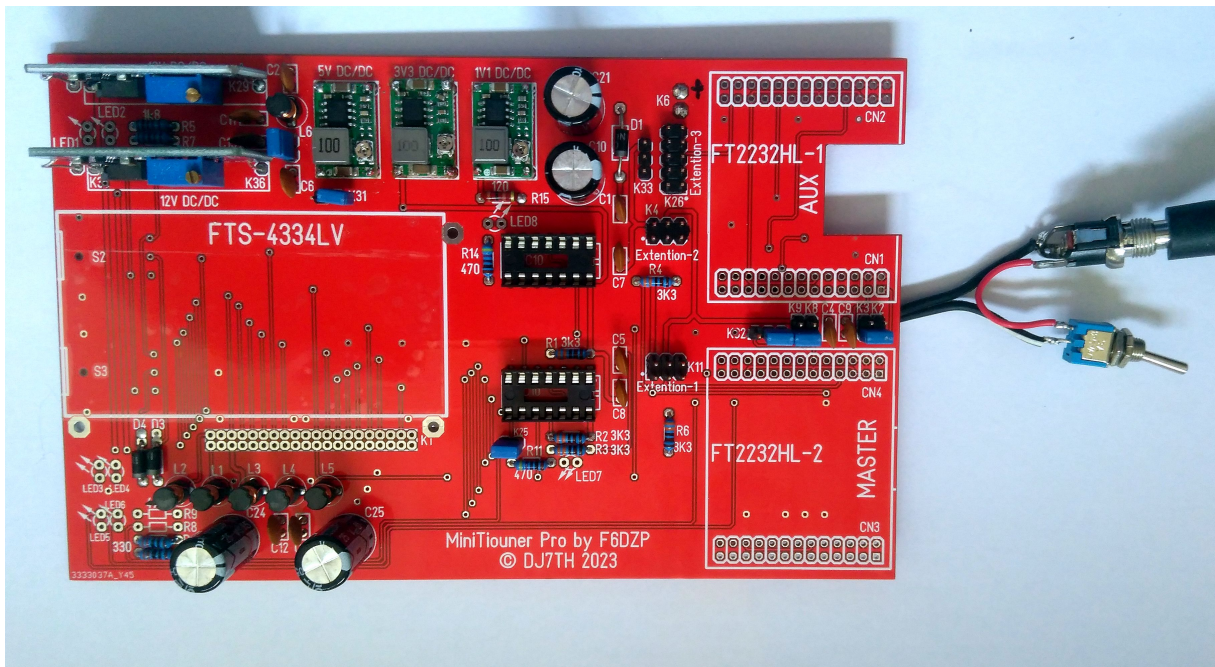
The circuit board in the area of FTS-4334LV should be insulated at the top with foil so that the mounted SERIT tuner cannot cause a short circuit. Assemble all passive components as shown. The ceramic capacitors can have values from 22nF to 100nF. Value of the electrolytic capacitors now 1000µF, value for R15 100-120 ohms, value for R9 now 12kOhm or higher if red LED3 shines too brightly. LED7, LED8 and R8 are omitted. The pin headers for Extension-1-2-3 can also be omitted if you don't want to connect an external OLED display.



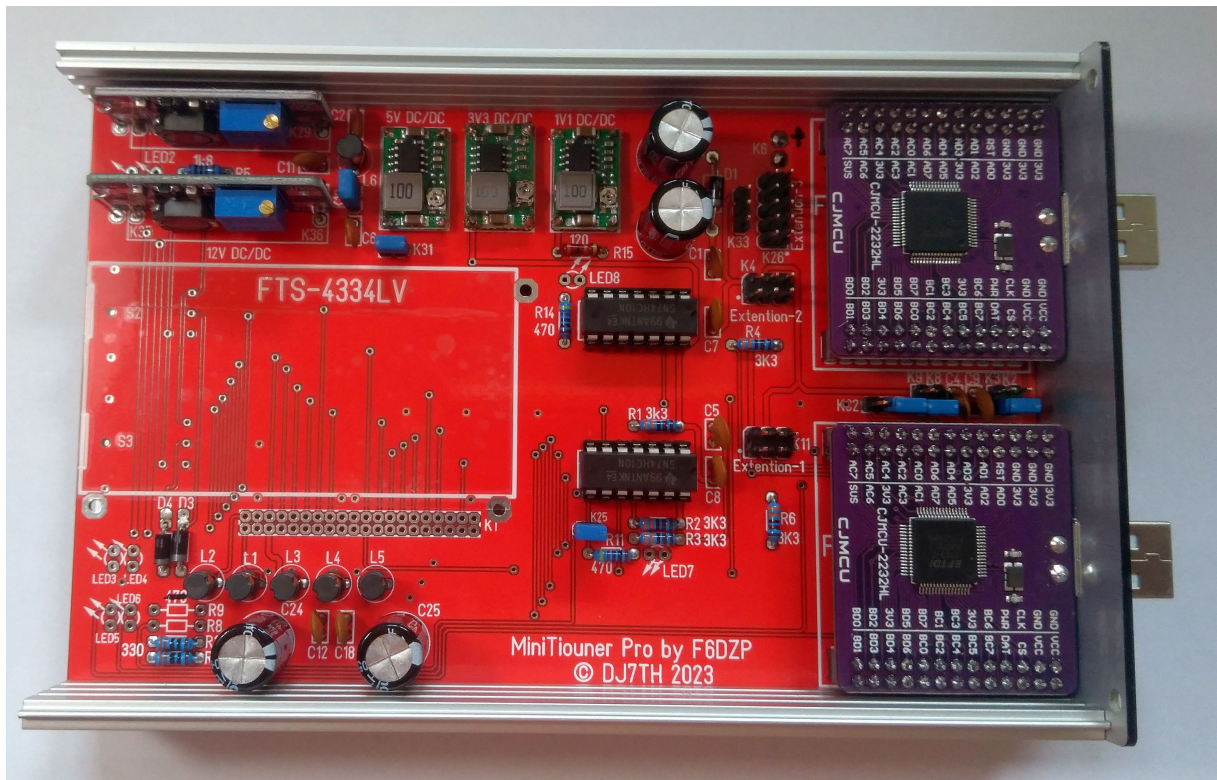
Install DC/DC converters: for the 3 DC/DC converters, first solder in wire scraps, plug in the DC/DC converters and solder them in at a distance of 1-2mm from the board. Solder wire scraps to the two vertical DC/DC converters, angle them and solder them vertically.



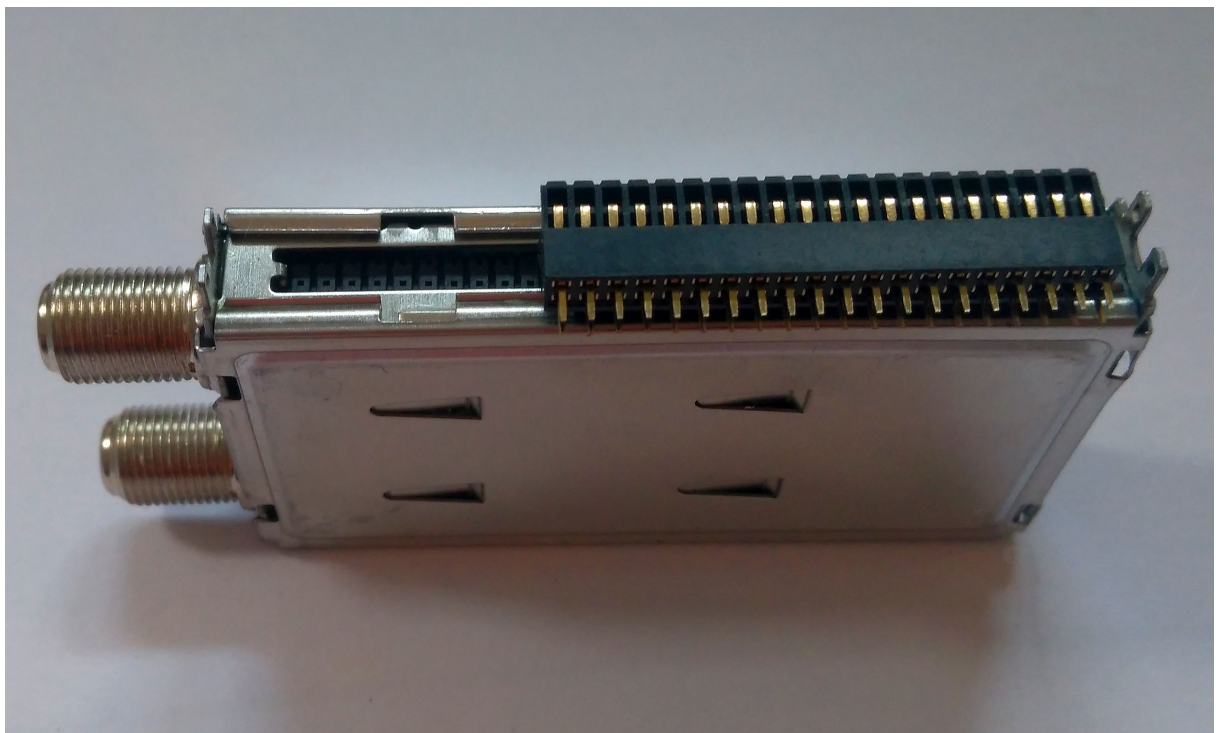
Mount the 12V socket and the on/off switch on the backplane and wire it. Bend the two ground contacts of the socket together and solder them. Make sure that there is enough space at the bottom when mounting the lock nut (marked here with a black distance line), otherwise the backplane will not align at the bottom. Solder the cable to the underside of the board. Pay attention to polarity.



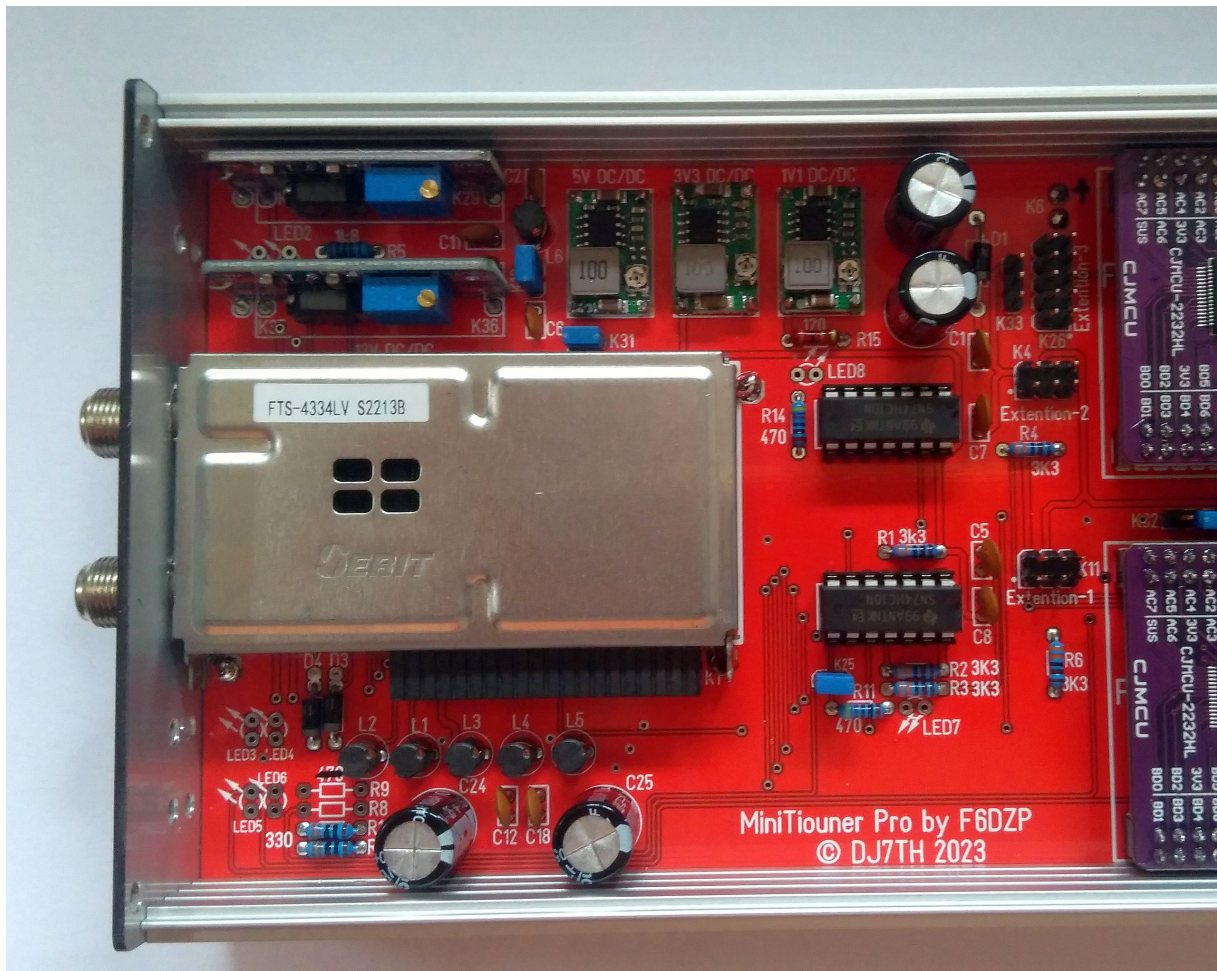
Before connecting to 12V (8... 18V) first check the power supply lines for a short circuit with an ohmmeter. Leave headers K31 and K12 open. Switch on 12V. Measure the 5V-DC/DC-converter output and -if necessary- correct carefully the voltage with the potentiometer. Then bridge header K12 and measure output voltages of 3V3- and of 1V1-DC/DC-converter and possibly correct the output voltages carefully with the potentiometer. Then fix the output of the 12V- and 18V-DC/DC-converters.



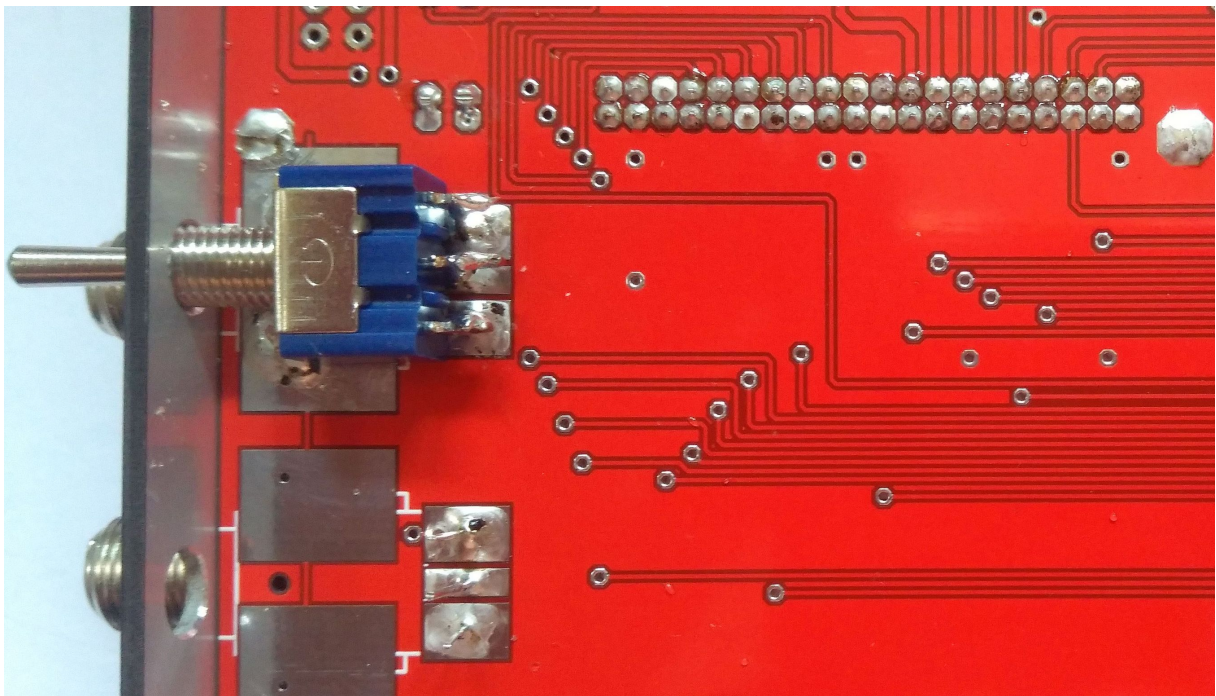
Attach the 4 rubber buffers to the underside of the housing. Insert the two 74HC10. Plug the four 2x13pin sockets on the pins of the FT-2232 modules and plug both modules into the board in the correct position. To check this, insert the board into the lower part of the housing. Push the backplane over the USB sockets and check the orientation of the modules. Then pull out the board a little so that you can fix the modules at some points with solder. Remove the board and solder all pins of the sockets.



Apply the 2x20 pin angled plug + socket to the tuner and push it careful in as far as it will go.



Mount the SERIT tuner with its 2x20pin socket strip on the board. Do not damage the insulating foil on the board. Push the board into the housing, attach the frontplane and fix it with two screws. This will align the tuner on the board. Solder the housing of the tuner to the top of the board at the three corners. Now the tuner is fixed. Remove the board and solder the 20pin socket on the underside.



Mount the frontplane rotated by 180° and push the board in with the underside facing upwards. Insert the two switches into the frontplane, flushing with the front and solder them to the board

with wire scraps. As an option: Solder the metal front of the switches to the left and right of the board. Alternatively, you can fix the switches on the board with glue before soldering them.



At the bottom of the board where it can be touched by the on-off switch housing, cover it with a strip of isolation tape. Pinch off previously protruding pins flush. Push the board in the right way and screw the backplane tight.

Pull the board out of the case a little. Attach the frontplane to be able to align the LEDs individually and solder them. Push in the board and fix the frontplane.

Commission the MiniTiouner: bridge K31, K26, K3-K2, K9-K8 and next to it K32 and measure all voltages and, if necessary, carefully correct them. Important: the 1.1V for the tuner must not exceed 1.15V at R15. The 12V and 18V LNB supply should be measured at the two diodes D4 and D3. To do this, the switches on the frontplane must be switched accordingly. The +12V and +18V LEDs are always on. LED LNB-A only lights up when the LNB-A voltage is switched on or supplied by extern. The LEDs SDA and TS1 or TS2 light up when data are received.

Program the two FT-232 modules with the program „FT_Prog“, each with the data for MASTER or AUX. On the underside of the two FT-232 modules, a red LED lights up when the USB cable is connected to the notebook.

Test your MiniTiouner now with the program „TestMyMiniTiouner“ according to the description. If everything is ok, put the lid on the housing, fasten it with all four screws and pat yourself on your shoulder 😊