

Voice Operation With The T7F

Circuit description

Figure 1 shows the schematic diagram. In receive mode the AF signal gets from the transceiver output to the input of the LM386. It boosts the signal to an power of 0.5 Watts at an 8 Ohm speaker. With the FET T1 the path is muted as long as there is no RF signal. The DCD output of the T7F provides the muting signal. The trimmer R53 determines the threshold. With the key S2 the squelch can be opened manually. Instead of using S2 you can remove R53 from the T7F board and connect an external variable resistor at pins 7, 9 and 10 of JP1. This modification is not supported by the kit.

T2 is the microphone amplifier. The circuit is designed for use of an Electret microphone. This is supplied through R3. Like in many amateur radio devices PTT and AF signal uses the same line. T3 recognizes if PTT is pressed, T4 keys the transmitter. If you use a separate PTT key omit T3 and T4 and connect it to the cathode of D3.

IC2 generates a 1750Hz tone burst needed by some radio repeaters. The IC includes an oscillator and a divider. A 455kHz ceramic resonator is pulled to oscillate on 450kHz, the frequency is divided by 256 and filtered by a RC-lowpass. By keying S3 the generator is switched on and the transmitter is keyed.

The switch S1 selects if a packet radio signal or a microphone feeds the transmitter. The PR-modem is connected to JP2.

Construction

Figure 2 shows the place plan. On figure 3 you see how the board can be mounted in a Aluminum cabinet together with the transceiver. Voice extension and T7F are connected through a one-to-one flat cable.

Technical support

For help on building up or operation please send an e-mail by internet (df2fq@amsat.org) or packet radio (df2fq@db0pv.#bay.deu.eu).

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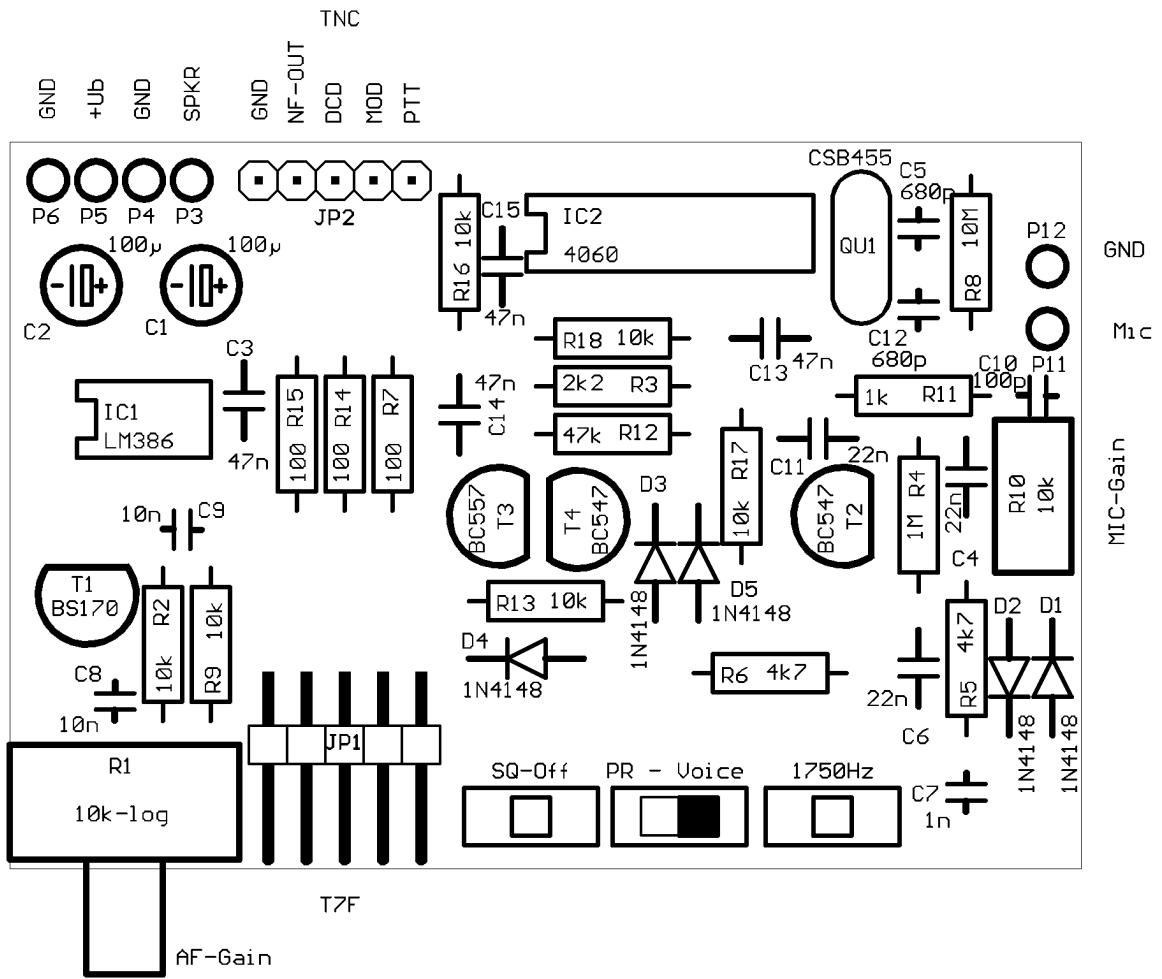


Fig. 2, Place plan

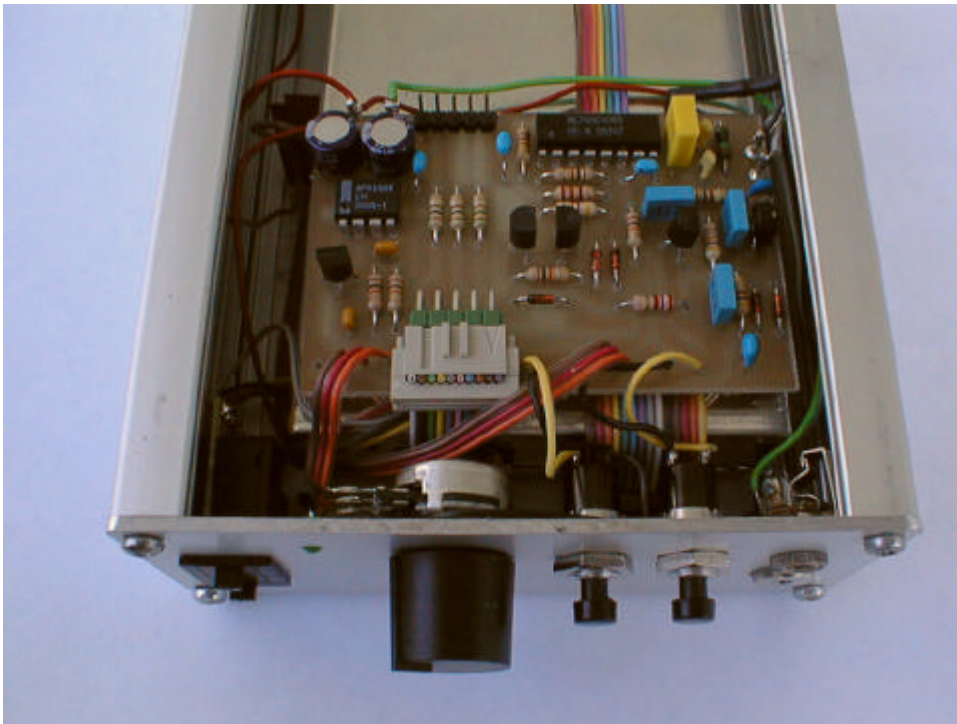


Fig 3, Construction example