

**MTX**

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| <b>COLLABORATORS</b> |
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|                  | <i>TITLE :</i><br>MTX |                 |
| <i>ACTION</i>    | <i>NAME</i>           | <i>DATE</i>     |
| WRITTEN BY       |                       | August 24, 2024 |
| <i>SIGNATURE</i> |                       |                 |

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| <b>REVISION HISTORY</b> |
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# Chapter 1

## MTX

### 1.1 MTX Transmitter

MTX Micro Transmitter

#### Information:

Although this project is 'nt Amiga related, I thought I'd include it on this disk. It's a bugging device which transmits to FM radio. However, it is an offence to operate this transmitter in the UK. This project is to show the public how a transmitter works and is only for research purposes only. It is not to be build under any circumstances. I will not take responsibility for any member of the public breaking the law because of this article. Now we've got that out of the way, let's move on...

#### Circuit Description:

The output from the mic is coupled to the base of a high gain buffer/pre-amp formed around T1 with R1 providing negative feedback. T2 forms the oscillator section with the tuned circuit in the collector and with a feedback capacitor across the emitter and collector to maintain oscillation. FM modulation of the carrier is achieved by applying the amplified audio signal to the base of the oscillator transistor. The output is coupled to a simple 1/4 wave length of flexible wire to act as an antenna via C6.

#### Assembly Instructions:

Although the MTX uses conventional assembly methods its very small size calls for a certain amount of dexterity when soldering. Be very careful to avoid shorts between adjacent tracks and double check before applying power. Assemble resistors, capacitors and transistors as shown on the PCB layout.

Carefully attach three short pieces of tinned copper wire, resistor clippings are ideal, to the back of the microphone as shown. Do not linger with the soldering iron as the microphone can be easily damaged with heat.

Bend the wires so that they lie flat but do not short out on the metal case of the mic. Insert mic into board and solder quickly. Only one leg of C6 goes through the board and this then lies flat to form the link across to the collector track as shown. The other leg of C6 is bent out at right

angles and forms the connection point for the antenna. Fit the tuning coil L1 without applying too much heat.

Setting Up Details:

Attach a 70cm length of flexible wire to the remaining end of C6 to act as an antenna. Connect the battery clip noting the polarity. Check the board for bad joints and shorts. When satisfied that all is Ok, connect a 9V battery. The current should measure about 5-8 mA at 9V. Turn on a FM radio and with the volume set to one quarter and the frequency set about 106 MHz place it about 2 metres away with the aerial pointing down. Slowly rotate the tuning coil until a clear feedback whistle is heard.

You will probably find about 2 positions which give feed back, but one will give a more definite feedback, wide and clean sounding. It is now ready for use.

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