Note:- these notes are based on a kit received from eBay Item number 254174334804 other kits may have slight differences

Pixie V4 Assembly and Test

Step 1 - Power Supplies

Install C1, CP1, CP4, D1, J1, R3.

Apply 9 -12V dc to input J1. Measure input voltage.
Connect one lead of test meter to -ve of supply and measure voltage at +ve connection of CP1 and CP4 also at the hole for pin 6 of U1. It should be the same as the input voltage.

End of Step 1, disconnect supply and test meter.

Step 2 - Audio Amplifier

Install socket for U1, Check orientation - notch at end of socket should match notch printed on board.
Install C11, R7, CP2, CP3 and J4 (at 5 points).
Insert LM386 amplifier U1 into socket. Legs will need to be lined up with holes in socket. Note orientation.

Plug headphones or small speaker into J4 do not put phones on ears - loud noises may follow.
A low hiss or buzz should be heard.
Touch the underneath of the amplifier socket and a loud hum/buzz should be heard.

End of step 2, disconnect supply and phones/speaker.

Step 3 - Crystal Oscillator

Install C3, C7, D2, R1, R4 and Q1. Do not install crystal Y1 yet.

Connect supply and with one lead of test meter connected to -ve, measure the voltage at Q1 base and emitter. Base can be measured at one of the holes for Y1 and the emitter can be measured at one of the holes forC4.

For 9V supply voltages should be about 4.3V for the base and 4.1 for the emitter.
For 12V supply voltages should be about 5.3 V for the base and 5.8 for the emitter.
Slight differences do not matter.

Disconnect supply and test meter.

Install Y1

Connect supply. Oscillator should now be working. Check with oscilloscope connected

between negative and one of the holes for C4, or tune into the signal on a receiver.

End of step 3, disconnect supply and oscilloscope.

Step 4 - Low Pass Output Filter

Install C2, C5, C6, J2 And L2.

If you have the equipment, check the filter response. If not don't worry - it is not very good and the kit should use an external low pass filter to reduce transmitted harmonics.

Step 5 - Combined 'Power' Amplifier and Mixer

Install C4, C9, C10, D3, J3, L1, L3, Q2, R2 and R5

Connect supply, headphones/speaker and antenna or signal generator set to about 7.023 MHz

Signals should be heard. Note _ on my kit I had to wiggle the headphone plug around in the socket to hear the signals.

Connect antenna output to a dummy load. Connect plug into the key socket and operate key or short the wires.
You should be able to pick up the signal at around 7.023 MHz on a nearby receiver and if you have the equipment you should be able to display the signal on an oscilloscope and measures value.
On my kit it was about 20V peak to peak which is 1Watt output.

CONGRATULATIONS you have a working cw transceiver!

Just a couple of extra features to add.

Step 6 - Side tone

Disconnect all cables and install Bee the buzzer. Check polarity. For the time being leave the paper cover on the buzzer, it may be too loud with it removed.

Connect up the dummy load, supply and the morse key or wires. You can now hear what you are sending.

Step 7 - RIT

Disconnect all cables and install C8, R6, and W1.

Connect up the antenna, headphones and power supply. You now have a small range of tuning for receive only.

END