

“OXO” Transmitter



George GM30XX (SK) and the G-QRP Club gave Kanga (UK) Permission to reproduce this design back in the 1990's so all can enjoy, be it G-QRP members or not. When George sadly became a silent key it was decided to

do something to remember him. Richard G3UGF mentioned the Foxx or the OXO Challenge. So we set about bringing this little kit back to life for all to enjoy again.

Firstly identify all components against the component list, if you find that a part is damaged or missing then please contact me at Kanga.

Please note:- We are only supplying these kits with a 80m Freq crystal, 3.5795MHz so you can test your transmitter, this is the old colour burst frequency which is close to the newer digi mode bands. There are a number of groups around trying to get some CW activity on this frequency so it can be worth while giving it a go on there before changing to another frequency.

Construction

Though the fitting of the parts is straight forward, it is highly recommended that all components are solder in the order they are listed in the component list i.e. starting with the resistors followed by the capacitors and so on until all parts are fitted to the board.

Not forgetting to check your work whilst doing this to ensure that there are no solder splashes/bridges.

The only critical part is the winding of L1 which is 17 turns of 24 SWG. Being careful not scratch the enamel off as you pass it through the Toroid. This lays flat on the PCB as shown in the picture.

Within the kit you will find a 2 Pin Header + Jumper and two wire links, depending if you are going to use a Variable Capacitor (*See Comments later*) or just use the Crystal as it is. There is also a 5 Pin SIP included, you'll need to cut off 3 Pins, then cut out the middle one. You can solder this in place of the crystal, thus enabling you to change band, simply by changing the crystal. RF output is via two Vero Pins.

Circuit

This simple transmitter operates in the usual way, T1 is both RF and DC coupled to TR2 so this circuit will not oscillate unless TR2 – the 33Ω resistors and the 100n ceramic capacitor are connected as shown in the schematic. The two 33Ω resistors are used to set the output power of the Transmitter. They may be reduced, but care must be taken as to if too low then TR2 will fail through drawing too much current.

The circuit will oscillate using fundamental crystals, but a signal from a VFO can be injected into the same point.

The transmitter will operate on all band from 160m to 20m.

The transmitter can be used above 20m, but the power level is severely reduced. A small variable capacitor maybe used to "PULL" the crystal a few "Hz" If used on 160m, a second 100n (0.1µF) will need to be placed across the 33Ω Resistors in the PA emitter.

Good luck in the challenge:

PLEASE NOTE:

It should be remembered that a Low Pass Filter is to be used with this transmitter.

We would also like to thank the G-QRP Club who kindly donated the 2N3866 (Equivalent) that is used within this kit.

NOTES

Component List

<i>Item</i>	<i>Markings</i>	<i>Notes</i>
☐ X		
☐ R1 33k Ω	Orange, Orange, Orange, Gold	
☐ R2 100Ω	Brown, Black, Brown, Gold	
☐ R3 1KΩ	Brown, Black, Red, Gold	
☐ R4 1KΩ	Brown, Black, Red, Gold	
☐ R5 33Ω	Orange, Orange, Black, Gold	
☐ R6 33Ω	Orange, Orange, Black, Gold	
☐ R7 1KΩ	Brown, Black, Red, Gold	
☐ C1 100pF	101	Purple Tip
☐ C2 100pF	101	Purple Tip
☐ C3 100nF	104	Red-Multilayer
☐ C4 10nF	103	Brown Ceramic
☐ C5 100nF	104	Red-Multilayer
☐ C6 100nF	104	Red-Multilayer
☐ C7 100nF	104	Red-Multilayer
☐ C8 100nF	104	Red-Multilayer
☐ C9 220µF	16v Electrolytic	Note Polarity
☐ TR1 2N2222	2N2222	Note Orientation
☐ TR2 2N3866	2N3866/G-QRP Version	Note Orientation
☐ TR3 ZTX751	ZTX751	Note Orientation
☐ Crystal	Frequency 3.5795MHz	(For Testing)
☐ 3.5mm	Stereo Jack for Key	
☐ 2 x Vero Pin	RF Connection	
☐ 2 Pin Molex Header x 2		R/Angle
☐ 2 Pin Molex Socket + Cable		Red/Black - Pwr
☐ 2 Pin Molex Socket + Cable		Orange and blue - Key
☐ 2 Pin Header		Short on Xtal to Gnd/Var Cap
☐ 2 Pin Jumper		
☐ 5 Pin Sip		3 Required for Crystal swapping

