

Hands Free Mobile Mic

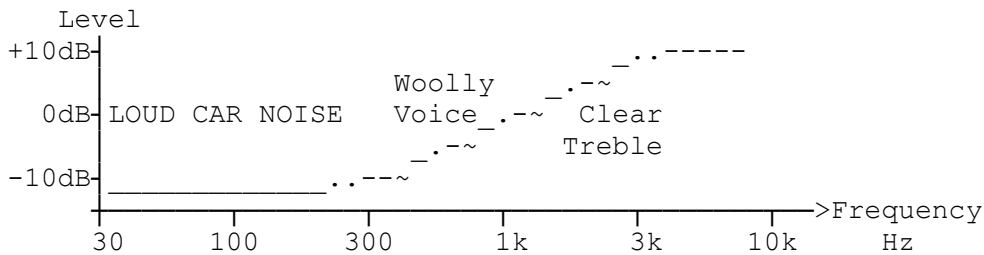
By G8MNY

(Updated Sep 17)

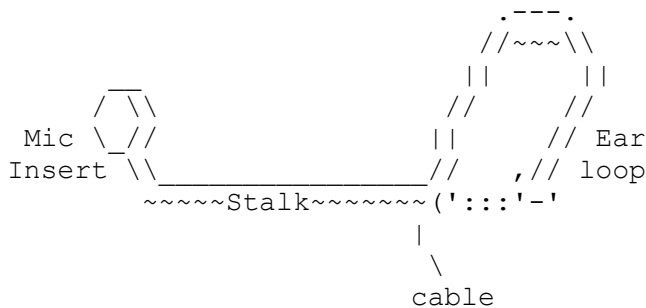
(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

This homebrew design has the advantage that it has clear audio, as the treble has been lifted. Most /M mics have a flat response & when placed near the mouth for background noise reduction (as needed for /M work), the LF bass is far too loud & VERY WOOLLY audio is the result. Indeed with some preamps the LF engine & rumble noise from the car can cause problems if no LF filtering is used!

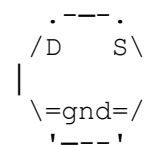
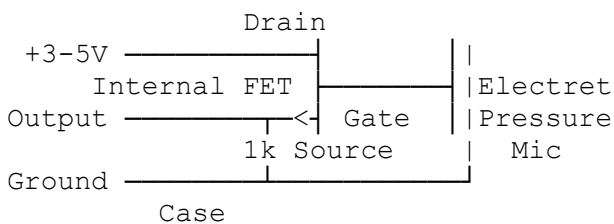
TAILORED RESPONSE



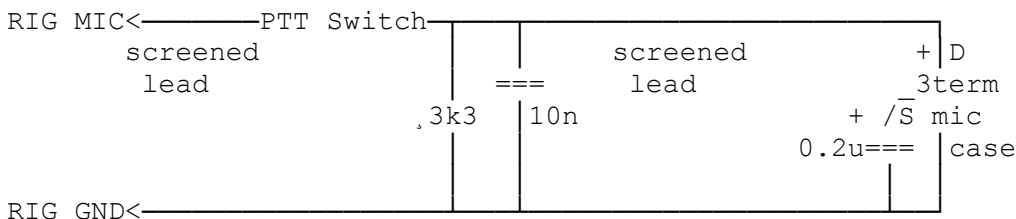
Here a 3 terminal electret mic is used (not common), it is mounted (soldered) on to a thin wire (flower arranging type) stalk inside a thin AF lead for about 20cm. The end of the wire is placed in plastic insulation tube & shaped into a loop & tied off. I wear the loop around my ear. As the mic is mounted right in front of my mouth, there is next to no background noise.



STANDARD 3 TERM MIC



In my circuit the treble has been lifted by the 0.2uF tantalum cap on the electret mics' internal FET transistor, source to ground.



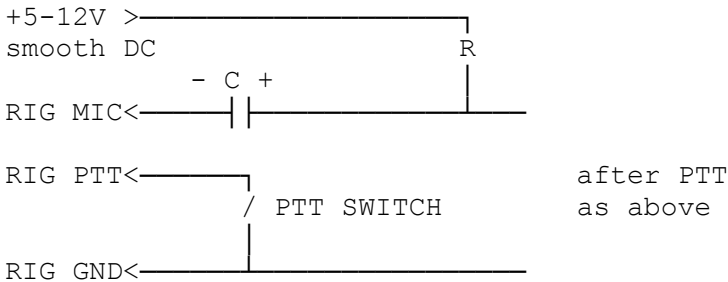
This simple treble lift is only possible with a 3 terminal mic capsule. The normal +ve rail drain input now becomes the output as in a 2 terminal mic type. A shunt R of about 3.3k (selected on test) across the mic, sets the AF output level, & a 10nF across the mic in the gear lever switch to roll off the AF lift

above 3kHz.

The result is a clear punchy mic that has very little background noise. A small sponge covers the face of the mic to reduce popping/blow etc.

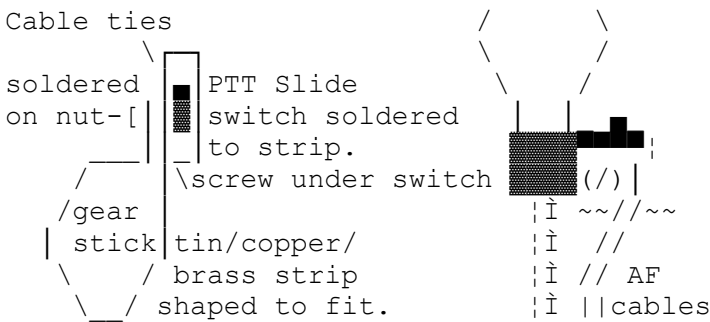
It is comfortable to wear, & I have to make sure I remove it before getting out of the vehicle. The only problem I have found is while eating Sandwiches!!

If your rig does not supply power for a 2 terminal type mic & the PTT operation you will need a C & R as well.



The C needs to be about 1uF (10-100nF if not treble lifting), & the R between 1k-33k select for the gain you need.

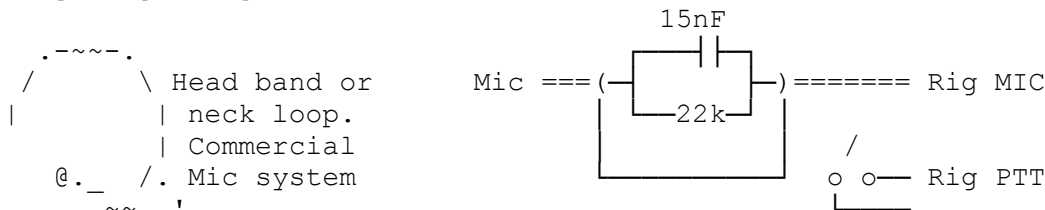
GEAR LEVER PTT SWITCH (RHD shown)



This gives a tactile & easily operated PTT switch at one's fingertip, but not too easy to mis-operate.

Keep signal earths isolated from gear lever as that will have the noisy engine earth on it.

Here is another approach that works with 2 terminal electret mics if you have enough rig mic gain...



It assumes that the rig powers the mic & that with the close in mic, there is enough level to add a series 22k. Then the treble can be boosted with the 15nF.

Doepie, ZS1HK @ ZS0HER says these electret mics can be turned into noise cancelling mics by drilling 3-4, 0.8mm holes through the insulation between the terminals of your mic. This will influence the gain but makes it a high quality noise cancelling mic. This will take away all background noise.

I suggest you only try this if you have a spare insert!

Why Don't U send an Interesting Bul?

73 De John, G8MNY @ GB7CIP