



Handy Dandy #15 Little Circuits

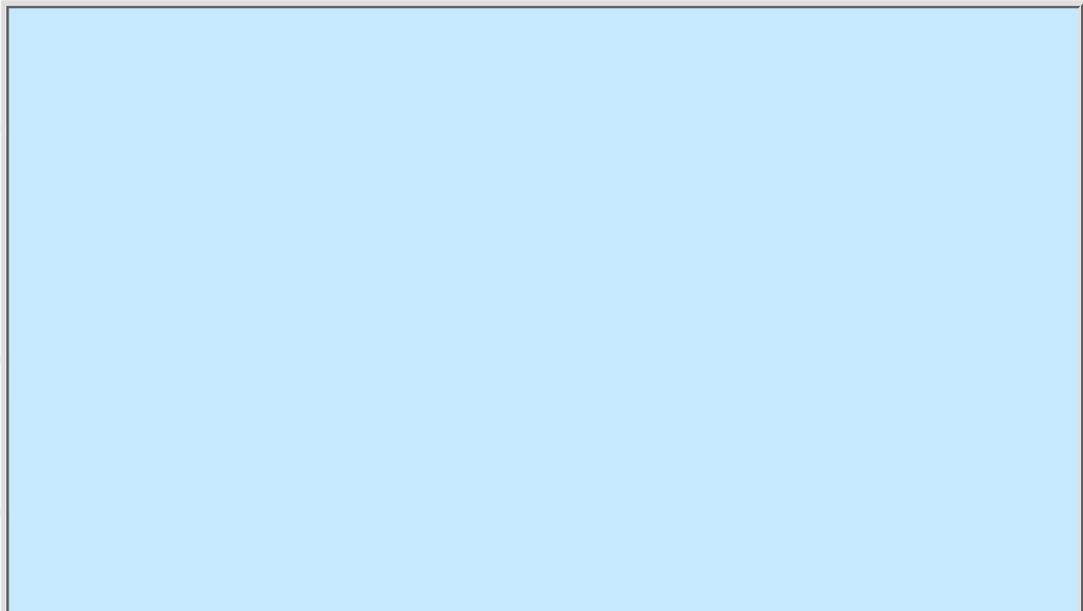
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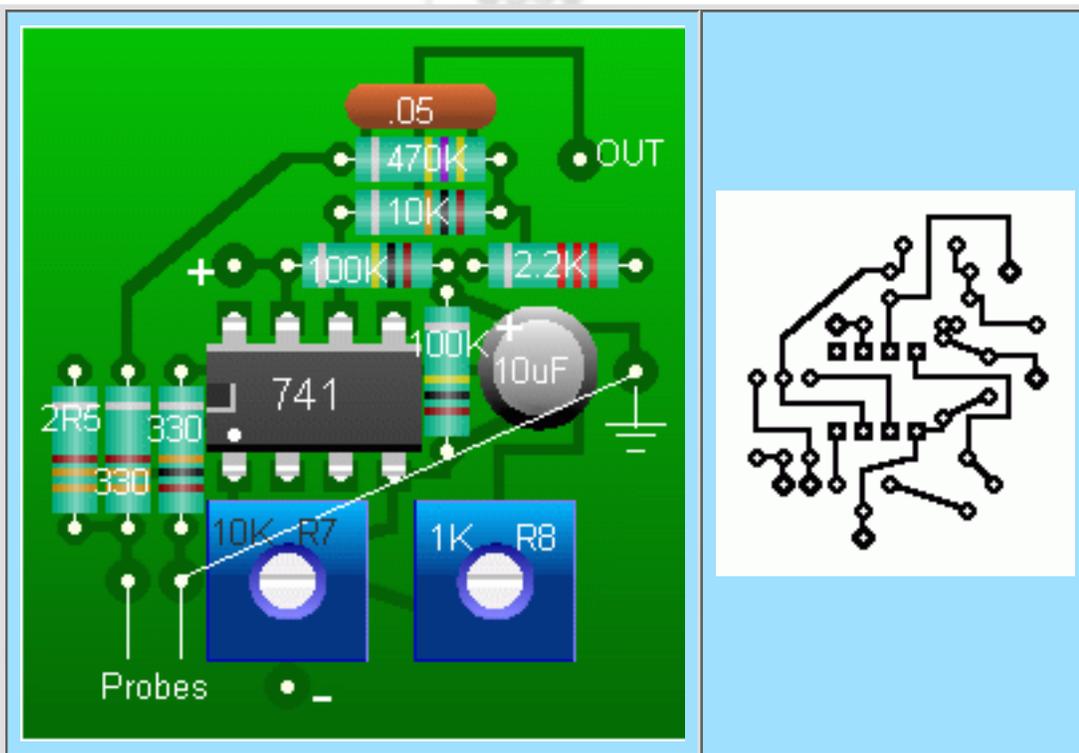
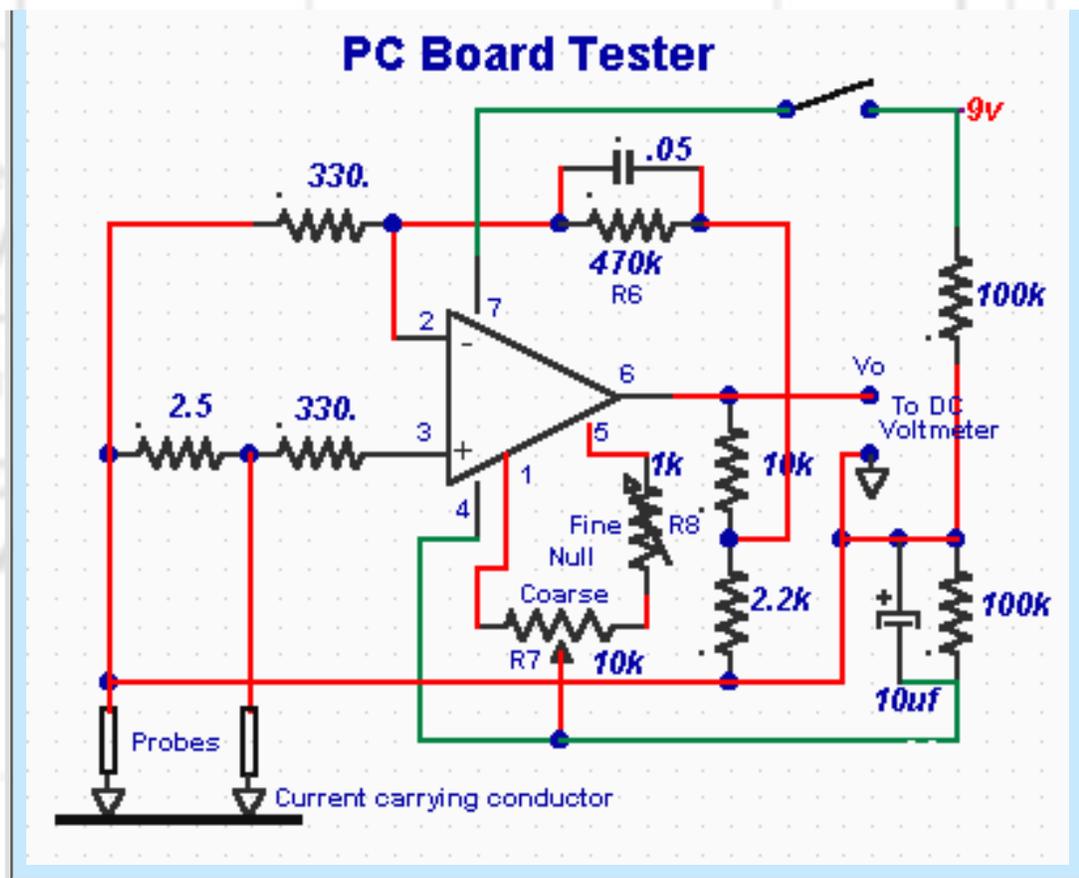
I built and used this circuit over twenty years ago. Yes!, it's a long time ago but it did a very good job of troubleshooting my homemade PC boards. Instead of messing around, removing and resoldering components I suspected might have been defective, I was simply able to 'debug' the circuit by detecting trace current.

The circuit was originally published in Popular Electronics (Feb, 1977) and used a 741 op-amp and two 9v batteries. I later modified it with a voltage divider for the Ground connection and used only one 9V battery. It worked well with a digital voltmeter. While it will do the job it's supposed to do don't expect the performance of a dedicated, expensive instrument.

You may still use a 741 op-amp but it will do a much better job with the LF356 or TL071. They are pin for pin compatible so using a socket is recommended for substitution .

CALIBRATION: It must calibrated before you use it by shorting the test leads together. Connect the ouput to your DVM using the lowest range. Apply power and then adjust R7 to obtain a null reading, that is, as close as possible to zero volts. Then use R8 for the final adjustment. You may not be able to get exactly zero volts so make note of the final reading for reference. Keep the test leads reasonably short.



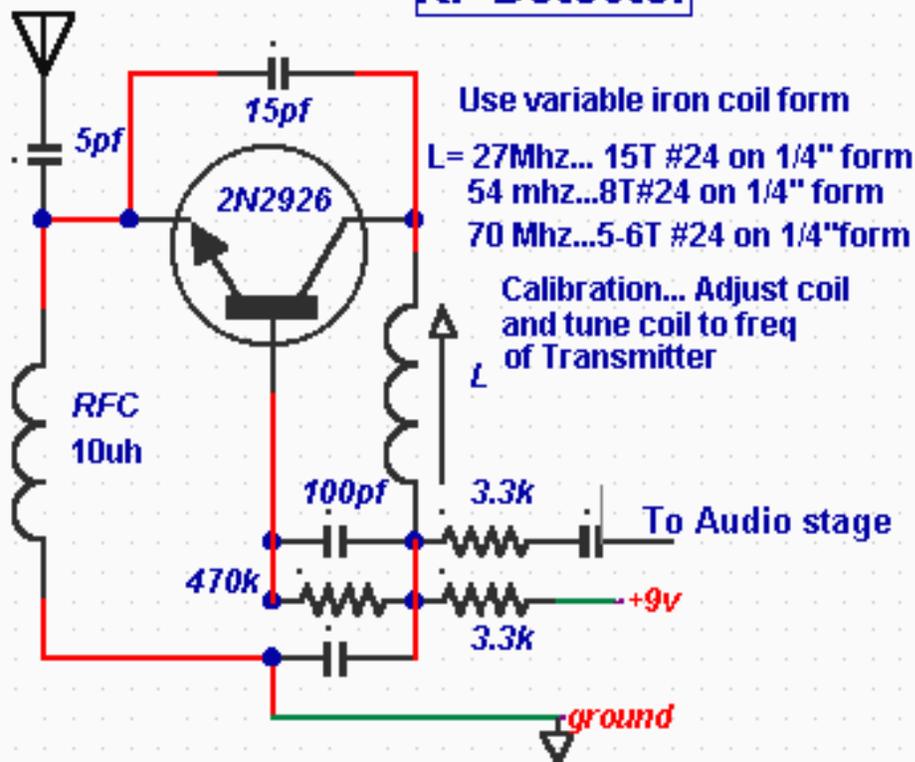


This is a Dandy little circuit to experiment with and is sure to be of interest for all hobbyists both young and old. It can be used as a trigger from a remote transmitter or simply as a receiver when the output is fed to an amplifier stage for headphone or speaker. If the variable iron core forms are not available you can make your own: One way is to use large drinking straws cut to 1/2" lengths and a brass screw inserted in the tube as the

tuning core. Small plastic tubing is also available from hobby shops. Actually, you can use just about anything except metal. Wind the wire tightly around the tube and apply a bit of cement to secure the wire. Make sure to leave yourself enough free wire for your connection.

For a wider tuning range a large variable capacitor can be connected across L1. If you have all your coils made up you could use a switching arrangement for fast band changing. Have fun!

RF Detector



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Questions? Email me at roma60@home.com

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