

Ron White (WA0MWW) sent me this neat little variable tone tester. Quite frankly in the few weeks I've had it it has been used more than my DVM. The original designer is N2CX and is from QRP Quarterly so I will give them proper credit as it is due.

My friend Tony, WA3CAO uses a tester that is a tad more complex but is much more versatile. Figure 2 shows the circuit. I've described the circuit several years back in Joe's Quickies for several different applications so you can see that it's one of my favorites! As you can see in the schematic diagram, the test leads are in series between the 10k base bias resistor and ground. The circuit draws no current until there is continuity so no on-off switch is needed. When a connection is made, the oscillator is biased on, sounding a tone.

Diodes can also be checked with the tone oscillator continuity tester. This circuit is gentler, though, passing no more than 1 ma through the test leads. Furthermore it can be used to check electrolytic capacitors. The oscillator pitch will start high and decrease rapidly as it charges the capacitor, going silent once charging is complete. But if the capacitor is leaky it will still pass current and the tone will not stop. And finally, the tone pitch will vary if there is resistance present in the connections or leads being tested so you can judge whether or not a good connection is being made.

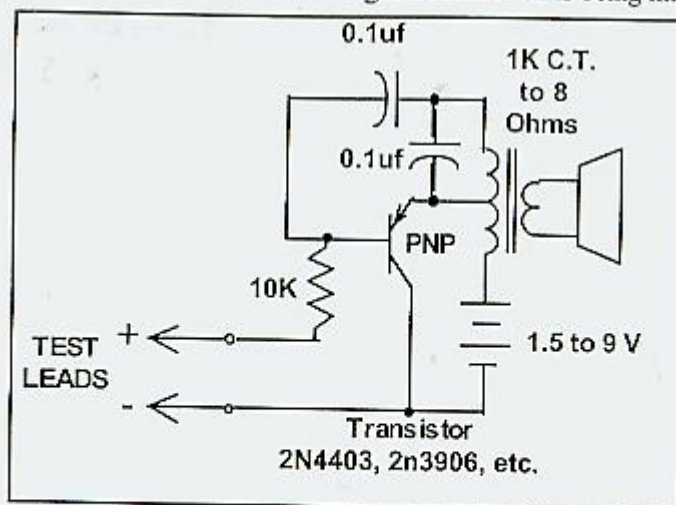


Figure 2- Tone Oscillator Continuity Tester

This is the original article that Ron sent along with the schematic. Here is a parts list

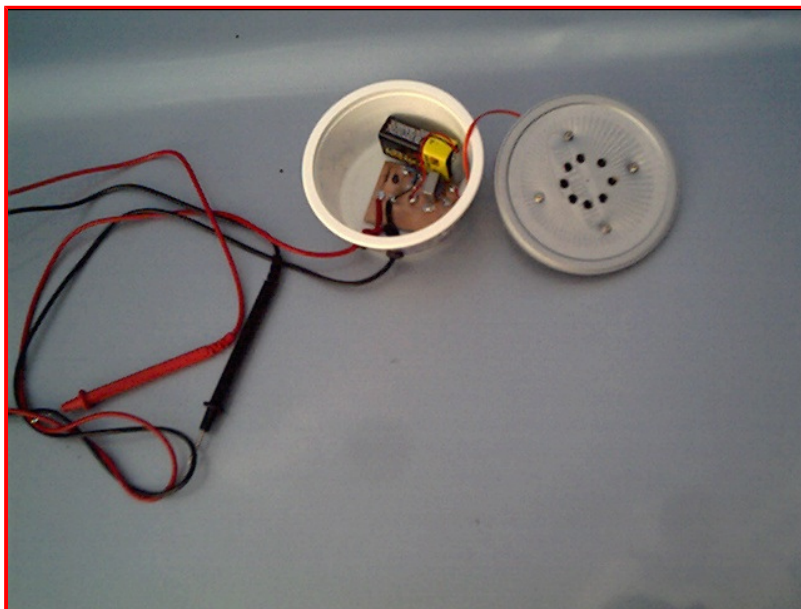
- 1 42TL003 (Mouser #)Audio transformer**
- 1 2N3906 or 2N4403 PNP transistor**
- 2 21RX310 (Mouser #)0.1 capacitors**

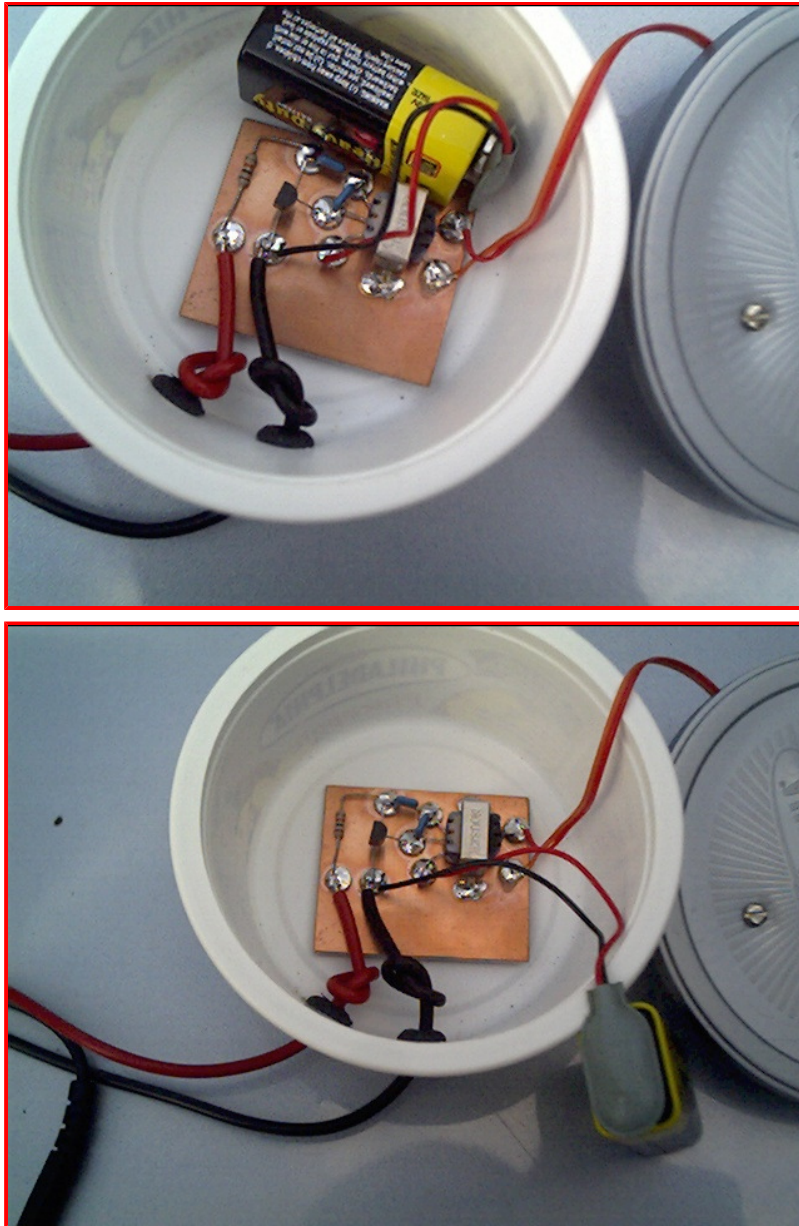
1 25SP003 (Mouser #) 2" speaker
1 291-10k (Mouser #) 1/4 watt 10 resistor

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### **Other needed items**

**1 pair test leads**  
**1 pair of grommets**  
**9v battery clip**  
**9v battery**





**Mounted in a Philadelphia Cream cheese (Pineapple) container it makes a great addition to my shack.**

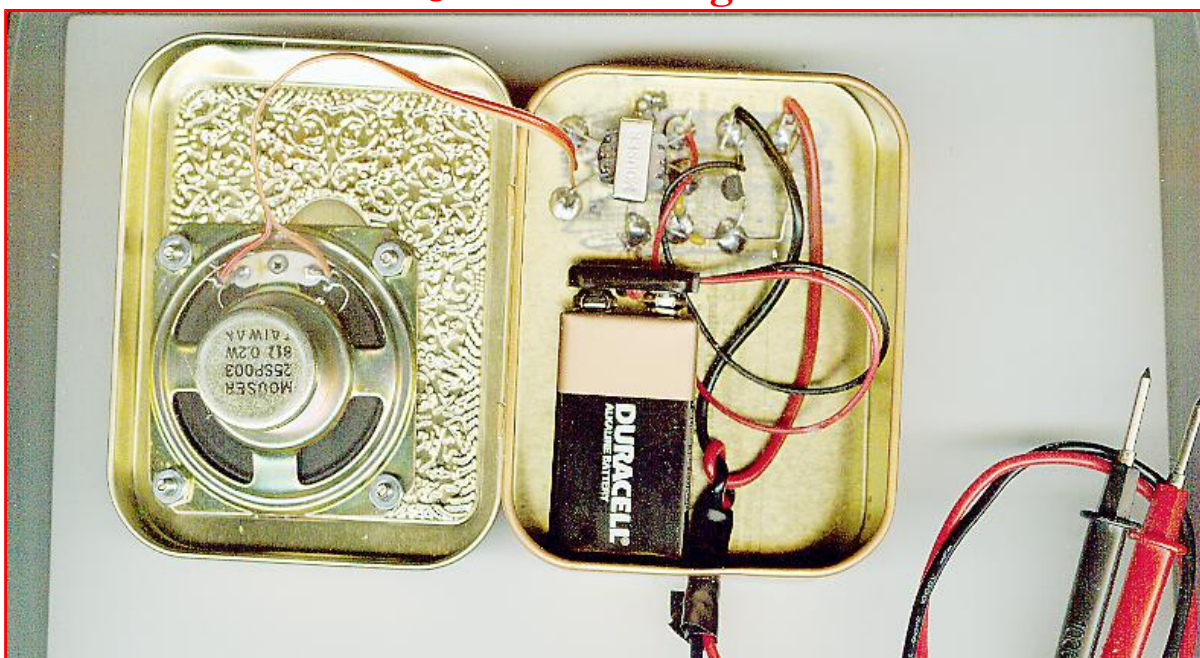
**Thanks Ron.**

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Then I decided to build one for another friend. Using a Whitman's Sampler tin everything fit nicely right inside A little square of double sided foam tape holds the 9V battery in place



I didn't use a substrate. Just built it right on the bottom of the tin.



**But I really need to keep a few grommets on hand.
It works nice anyway. Once again Ron Thanks**

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**"RC" KC5WA**