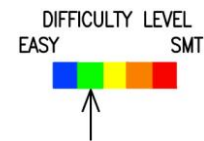




QRPBuilder Earbud Adapter for High Impedance Applications



First, familiarize yourself with the parts and check for all the components. If a part is missing, please contact us at grpbuilder@gmail.com and we will send you one.

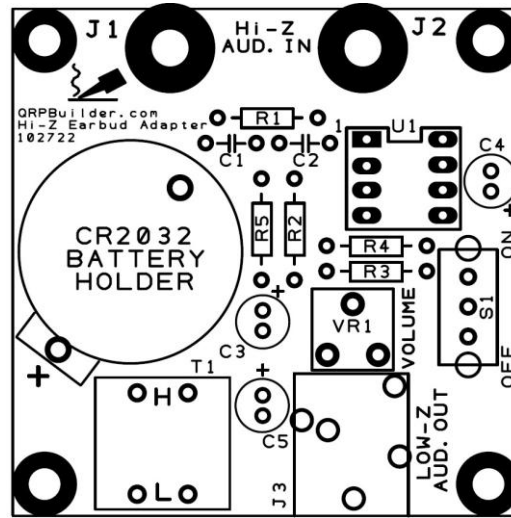
Please read all the instructions before starting to assemble the kit.

Parts List

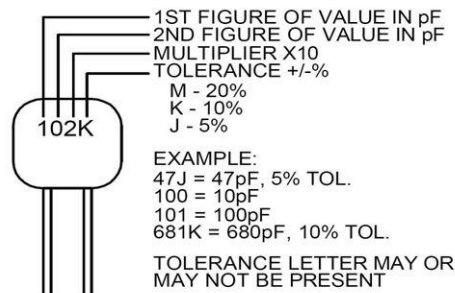
- 1 – Earbud Adapter pcb
- 1 – T1, 1300:8 audio transformer
- 1 – U1, LM741 OpAmp IC 8pin dip
- 1 – C1, .047uF mono capacitor, marked 473
- 1 – C2, .47uF mono capacitor, marked 474
- 3 – C3,4,5, 1uF electrolytic capacitor
- 1 – R1, 4.7K, 1/4W resistor, (yel-vio-red-gold)
- 4 – R2,3,4,5, 1Meg ohm resistor, (brn-blk-grn-gold)
- 1 – VR1, 1K ohm, 6mm pot, marked 102
- 1 – S1, SPDT switch
- 1 – J3, 3.5mm pcb stereo jack
- 1 – 8pin IC socket
- 1 – CR2032 battery holder
- 2 – Hardware, 6-32 x 5/8”L pan head screw
- 4 – Hardware, 6-32 nut
- 2 – Hardware, 6-32 wing nut
- 2 – Hardware, #6 lock washer
- 4 – Adhesive rubber foot

Assembly:

Use good general pcb assembly techniques. Start with the smallest components first. All components mount on the front side of the board. Follow the polarity on the three electrolytic capacitors, (**long leads are positive**). Carefully check for any solder bridges or cold solder joints. Clip all component leads flush on the back side.

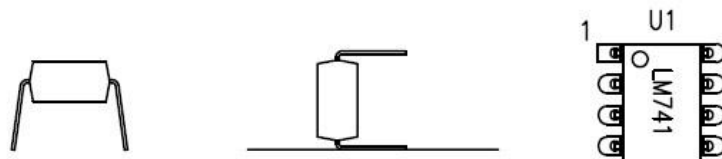


Note: When reading the mono capacitor values, do not confuse the manufacturing codes with the component value. If it looks strange, it may be a manufacturing code, look on the other side of the component. Also the tolerance letter may be omitted.

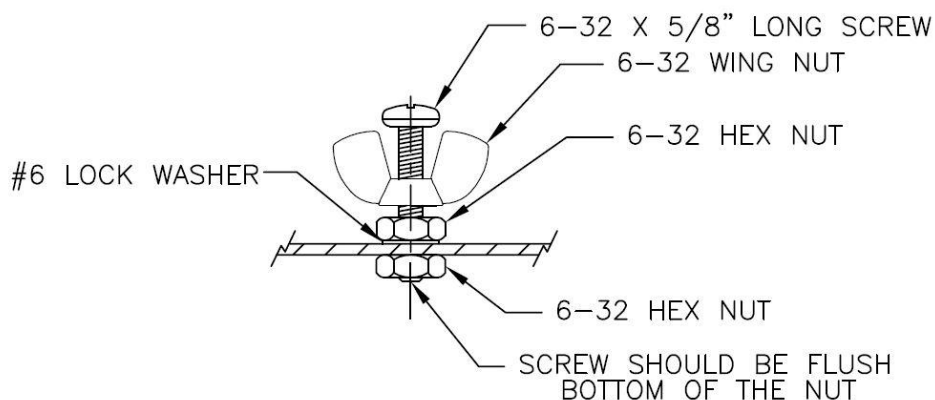


- [] C1, .047uF mono capacitor, marked 473
- [] C2, .47uF mono capacitor, marked 474
- [] R1, 4.7K, 1/4W resistor, (yel-vio-red-gold)
- [] R2,3,4,5, 1Meg ohm resistor, (brn-blk-grn-gold)
- [] 8 pin IC socket, *match the silkscreen outline*
- [] J3, 3.5mm pcb stereo jack
- [] S1, SPDT switch
- [] CR2032 battery holder
- [] VR1, 1K, 6mm trim pot, marked 102
- [] C3,4,5, 1uF electrolytic capacitor, *long lead is positive*

- [] Install T1. Observe the “L” and “H” marked on the transformer and match “L” and “H” on the pcb.
- [] Install the four rubber feet on the backside where indicated by silkscreen.
- [] Carefully install U1 without bending any leads underneath the chip. *Note the position of Pin 1.* The top of the chip has a small indentation at pin 1. The IC pins come flared so that they can be retained by auto insertion tools. Gently rock it on a flat surface so the pins are parallel and it will insert into the socket more easily.



- [] If you install the hardware in the sequence below, you can't lose the wing nut.

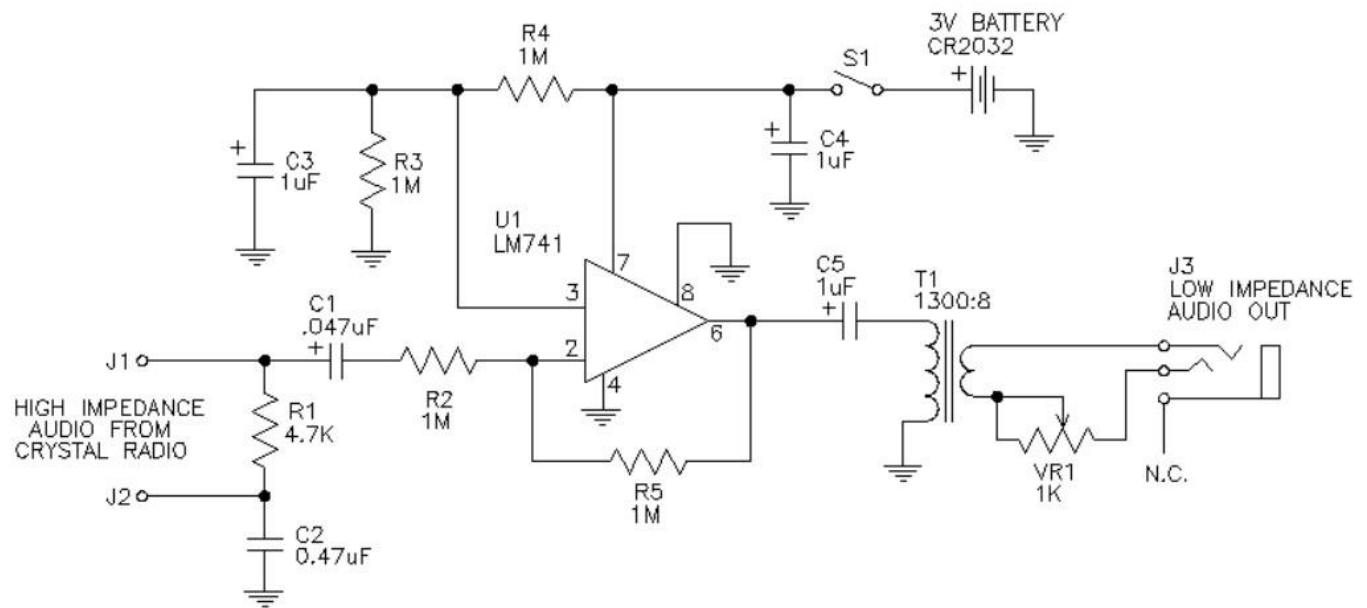


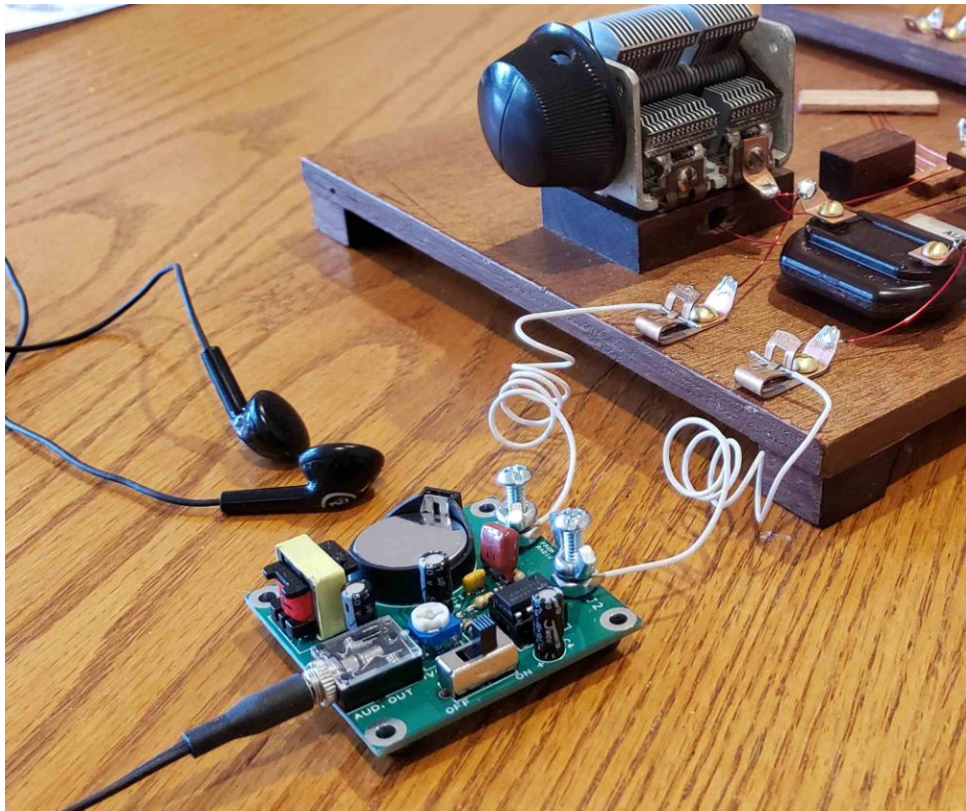
- [] Install the CR2032 battery with the “+” facing up.
- [] Connect wires from your vintage radio to the wing nut terminals, plug in the earbuds, turn on, and adjust the volume to suit. It will drive a small speaker, but earbuds for best performance.

Note: For those builders that want a more nostalgic look, use Fahnestock clips in place of the #6 hardware.

Also, according to the original ARRL article, R1, 4.7k was selected so that the circuit emulates the Brandes *Superior* headset.

Schematic:





Notes:
