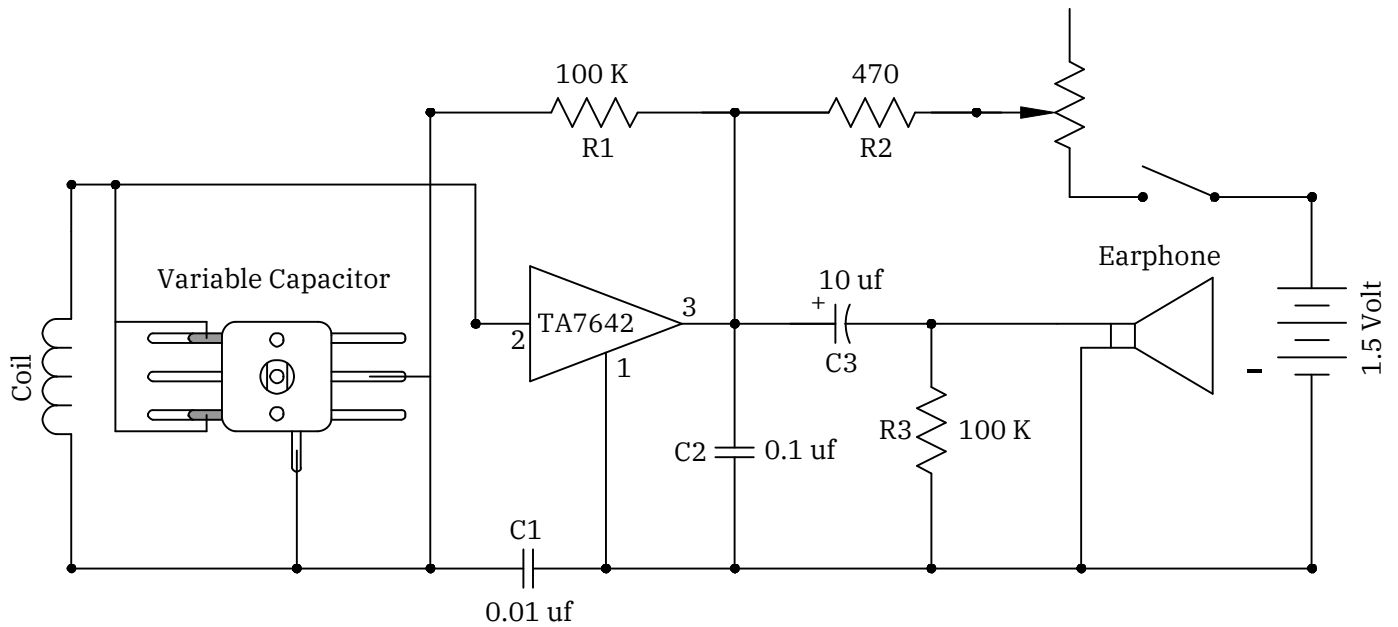
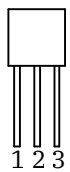


AM Radio IC Kit 1

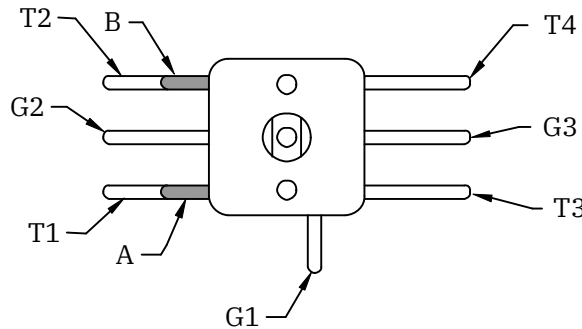
Mike's Electronic Parts, LLC.



TA7642
Flat Side Up



- 1 - Ground
- 2 - Input
- 3 - Output



- A 266pf
- B 266pf
- T1 T2 T3 T4 ~10pf Trimmers
- G1 G2 G3 Ground

Parts List

- 1 - Circuit Board
- 1 - 180uh Ferrite Loopstick Antenna
- 1 - Dual 266pf Variable Capacitor
- 1 - TA7642 Radio IC
- 2 - 100K Resistors (brown black yellow gold)
- 1 - 470 Ohm Resistor (yellow violet brown gold)
- 1 - 0.01uf Capacitor (marked 103)
- 1 - 0.1uf Capacitor (marked 104)
- 1 - 10uf Capacitor
- 1 - Ceramic Earphone
- 1 - Variable Resistor with switch
- 1 - Variable Capacitor knob with shaft and screw
- 1 - Variable Resistor knob
- 1 - Terminal Block
- 1 - AA Battery Holder



AM Radio IC Kit 1

Mike's Electronic Parts, LLC.

AM Radio IC Kit 1 is a simple basic AM radio made from the TA7642 Radio IC. This kit is not a beginners kit. It does require soldering and the ability to read a schematic. The kit is designed to allow a modular radio build. The RF tuning section is left off board to accommodate a variety of coil and capacitor combinations. The audio output can be connected directly to a high impedance earphone or headphone. We have tested this kit with headsets 2,000 Ohms and higher with good results. The audio output could also be fed directly to an audio amplifier.

Improper orientation of either the radio IC or the C3 electrolytic capacitor may cause your radio permanent damage. Use the flat on the radio ic and the image on the circuit board to align the radio IC. The side of C3 that has a white stripe marked with minus signs on one side faces the flat shown on the circuit board (opposite the plus sign).

The TA7642 IC looks like a transistor with three pins packaged in a TO-92 case. The TA7642 contains 10 transistors and has a gain of 72 db. It also has automatic gain control provided by the R1 100K resistor. The TA7642 is made to operate from 1.1 to 1.8 volts. Over 1.8 volts will destroy the chip and may have a tendency to oscillate at higher voltages. In addition to the automatic gain, the variable resistor and the R2 470 ohm resistor provide a range of 470 ohms to 2.47K of additional manual gain control.

Using an antenna wire is optional with this kit. Use of an antenna will largely depend on your location and strength of nearby radio stations. If you need an antenna, experiment with a short 3 - 5 foot antenna and work your way up in length until you get the desired results.

The TA7642 radio integrated circuit is based off the ZN414 from the 1970s. There have been several manufactures of replacement integrated circuits for the ZN414. The default radio IC included with the kit is the TA7642. We currently supply several alternate radio integrated circuits; CD7642, MK484, TA7642, UTC7642, and YS414. Any of these can be substituted in the circuit for the TA7642. From our testing and customer feedback, the KM484 (not MK484) has the highest overall gain. However, it tends to fall into oscillation easily. The CD7642, TA7642, UTC7642, and YS414 have a gain just below the MK484.