TA7642 Radio Project

This project, features the basics of a AM Radio. In this project, you will build an AM Radio from 4 capacitors, 4 resistors, a coil, a transistor, and an IC. Below explains the main parts of the radio:

Transistor:
The transistor, Q1, it has to be P-N-P and a small signal amplifier. If you do use a N-P-N type transistor you would need to change the
circuit.

Power source:
Since the operating voltage of the TA7642 IC is no more than 1.5 V, the power in this circuit should also be no more than 1.5 V. If you do use a voltage larger than 1.5 V than your circuit may have a risk of IC and some other components will burn out.

Pot. :
The pot in this circuit is needed for good sensitivity. This pot serves as a adjuster for gain on the TA7642. When the radio signal you are receiving is very strong, you need to adjust the pot to make the gain lower. This way, you can hear the strong station clearly. The same happens when there is a weak station.

TA7642 IC:
This IC (Integrated Circuit) is a IC for amplifying and demodulation purposes. This IC can only receive AM broadcast signals because of its way of demodulation.

C6 capacitor and L1:
This is a LC circuit, you use this to tune in to radio signals. This part of the circuit chooses out one signal from all the others. When you adjust the capacitor or the coil, you are tuning the oscillation frequency between the to components to match the frequency of the radio station.

Q1:
This transistor is used to amplify the audio output signal of the TA7642. Since the audio output signal of the TA7642 is too small to be heard by normal headphones, the transistor can amplify it and gain the volume of the output signal so that it can be heard.