Wireless Power Transmission through Tesla Coils.

About This Project:

A Tesla coil is an electrical resonant transformer circuit designed by inventor Nikola Tesla in 1891.It is used to produce high-voltage, low-current, and high frequency alternating-current electricity. Tesla experimented with a number of different configurations consisting of two, or sometimes three, coupled resonant electric circuits.

Nikola Tesla's coil is alive and well today, living in school labs and hobbyist's workshops as a tool for learning and experimentation. The classical air-core transformer with a spark gap and capacitor produces a high voltage at high frequencies. However, new designs of that concept based on solid-state components and improved transformers make the construction of a Tesla coil easier and safer. When Tesla devised his coil, the spark gap oscillator was the only practical method for generating the necessary radio frequency current across a transformer primary that would result in high-voltage at the secondary winding. However, the drawback of the classical Tesla coil is the ability of its high-voltage transformer to impart a life-threatening electrical shock to anyone experimenting with it. Fortunately, high-voltage power transistors designed and built to meet the demand from switch mode power supply manufacturers are now readily available. Some power MOSFETs are capable of switching up to 1500 volts safely. Moreover, the task of building a suitable transformer has been simplified with the development of ferrite core materials that permit transformers to be made smaller and lighter and confine their magnetic fields.

Block Diagram:

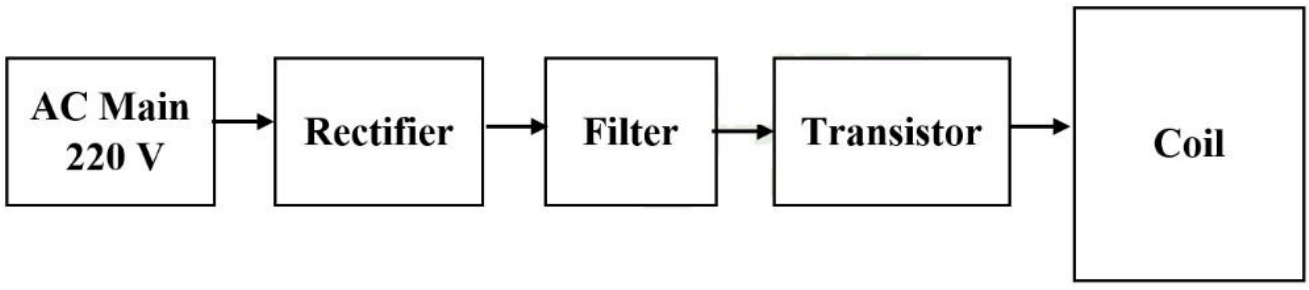

Figure: Block Diagram of Solid-State Version of Tesla's Coil.

Required Instrument:

1. Transformer
2. Diode.
3. Transistor TTTC5200
4. Resistor.
5. Copper Coil.
6. PVC Pipe.
7. Fluorescent lamp

Advantages:

- Non-radiative energy transfer is safe for people and animals.
- Wastage of power is less.
- Highly resonant strong coupling provides high efficiency over distance.
- Does not interfere with radio waves .

Applications:

The project has a major application in the

- Spark Plug Ignition.
- Arc Lighter.
- CRT type display.

N.B: *Any modification of this project can be done as per your requirement. We will make the project according to your needs. Contact us with your any innovative engineering projects idea. We will help you to implement your project.*