

## Chapter 1 : Electronic Circuits - Simple Circuits and Mini Projects

*This Book is written for all the people who love innovation. It is the big collection of ideas to do some innovative project, to make something new.*

Electronics Projects – Engineering Mini Projects john July 31, Comments CircuitsToday is listing some free engineering mini projects that can be presented and designed by students for their exams. Though the electronic circuits may look complex, they are explained in detail along with a circuit diagram, and are explained with links of all devices that are used in the circuit. Please note that these projects are meant for students, hobbyists and enthusiasts. If there are any doubts regarding the circuit, feel free to comment on the post. You can also bring in any modifications you want, and ask us if you have doubts. Furthermore, please go through the existing comments to get a better idea of the electronics mini project topics.

**Top Electronics Projects for engineering students**

**1. Street Light Circuit** This minor mini project is used to design a street light that brightens up when night falls and automatically turns OFF when daylight comes in. In order to detect the amount of light that is needed to decide when to cut-off the circuit and later activate it, this project is done with the help of a sensor called Light Dependent Resistor LDR. The main principle used behind the LDR is that the presence of light causes the resistance of the sensor to go low. You can modify the circuit by placing LEDs instead of the volt lamp. To know more about it, check out the comments given in the circuit. The circuit is comparatively easy to design, and further modifications can be made according to your choice. Here a simple circuit that can be used to charge batteries is designed and created. The circuit consists of basic transistor switching methods and the components are cheap and are available in all electronics shops. A detailed description of the post is also given, which will give you a better idea.

**Air Flow Detector Circuit** This simple mini project is used to design an indicator to show the rate of air flow in a given space. The air flow is sensed with the help of an incandescent bulb filament. The variations due to the change of resistance in the bulb due to the air flow are given to the input of an LM operational amplifier. The circuit diagram and a better description of the circuit are given in the post above. Further modifications can be brought to the circuit and some of them are given in the comments section. This circuit uses a basic astable multivibrator made from a timer IC. A resistance probe is set on a point at which the alarm is to set ON, as soon as the water rises up to that level. A detailed circuit can be seen in the post above. The number of components needed for this circuit is very less and can be easily assembled on a PCB.

**Low Cost Fire Alarm Circuit** This circuit can be used for detecting a fire and producing an alarm, thus alerting the people in the building where it is installed. A transistor sensor called BC is used to sense the heat produced due to the fire. A preset level can be kept for the transistor. As soon as the temperature rises above the set preset level, the leakage current of the transistor rises, thus driving the other transistors in the circuit. A relay is also used to switch the bell load as its output. The components needed for the circuit can be obtained easily and the circuit is easy to design. There have been many complaints that the IC is obsolete. Please check the comments to know the exact site to buy the IC. For a more detailed explanation about the FM radio circuit , please check out the original post. The circuit can be easily designed and assembled on a printed circuit board. Further instructions and detailed working can be obtained from the original post.

**High and Low Voltage Cut-off With Delay and Alarm** This circuit can not only be presented as your mini project but can also be applied to your home electrical equipment to protect them from overvoltage fluctuations. The circuit requires very simple components like a monostable multivibrator using a timer , a few transistors, and some diodes, relays and LED. The detailed explanation is given in the post above, and if you wish you can easily modify the circuit to make it an automatic voltage stabilizer. The output of the LDR is given to the inverting input of the comparator. The resistance remains high when there is no light and the resistance drops as soon as light falls on it. This lessens the voltage at the inverting input and thus the comparator produces a high output which turns a transistor and thus the relay on. A much more detailed working can be obtained from the original post. This circuit can be used to escape from the nuisance of mobile phone rings when you are at home. This circuit will give a visual indication if placed near a mobile phone even if the ringer is deactivated.

Latest Electronics Mini Projects: This project, developed

using AT89S51 a version of from Atmel with a well-explained circuit diagram and program, controls the water level in a tank by controlling a water pump motor depending on the current water levels. We have tested and verified this circuits functioning in our lab. The program is written in assembly language using the MCS instruction set. We have developed this using Avr Atmega8 microcontroller. We have given the complete circuit diagram, software codes and other necessary information to make this project a reality. If you are not familiar with Avr Atmega8 controller, we have developed a complete tutorial to learn Avr from the ground.

Digital Voltmeter using Microcontroller " AT89S51 In this project, you can make a simple digital voltmeter application which can measure up to 5 volts 0 to 5 volts. The output is displayed using two 7 segment displays. The software is developed in assembly language. Electronic Project Kits for Engineering Students The following project kits are available for purchase from our store;

## Chapter 2 : Simple electronics projects and small basic hobby projects/circuits

*Here are Electronics For You's tested electronics engineering project ideas and embedded mini electronics projects using Arduino, Raspberry Pi and a lot more.*

Menu Many Electronics circuits for simple learning The electronic circuit is inside the appliances around us. Normally, we do not need to understand their operation. But skill electronics have a lot of useful, three important things as follows. Electronics is some of the physics science, engineering, technology. So, it is an academic matter. Since 4 years ago, my children have been a homeschooling by me. I have taught them with the Electronics as the main subject. Its theory is boring and difficult to understanding. The listening, reading is useless. Creating electronic circuits is a good learning. We will understand it. Secondly, add value to yourself! If you have electronic skills. Others will be impressed you. Because you can solve the problem for them. Suppose, an electric fan of your friends is broken. He gets so hot in summer. Buying a new one. Repairing it is difficult for those who do not understand it. But you understand it and can repair quickly. You can help a friend save money, and solve problems quickly. Lastly, a really good hobby! If you leave time with no activity at all. It is very boring. Creating electronic projects to solve problems in daily life is good. Do not regret it when it does not work. It is our learning process. If you have technical skills so can save money. Because when the appliance is broken, it can be repaired initially. Over electronics circuit and projects on my site. But they can be put all into 19 groups as categories. DC variable power supply – It is the first power supply still use it.

## Chapter 3 : + Free Electronics Projects & Ideas for Engineers

*Posted on March 11, October 23, Categories Electronics mini projects Tags DTMF, electronics, load control system, microcontroller, mini-projects, MT, relay Leave a comment on DTMF Based Load Control System (Home Automation): Electronics Project.*

The following circuits listed below can also be used for your mini project needs. While selecting the circuits for this article, we have taken care to serve you with popular circuits on our website which are easy to implement. Comments refine a circuit by correcting many flaws and errors in the original design. We suggest you go through all the comments before practically testing any of these circuits which will save you a lot of troubleshooting time. And all these circuits are free of any patents and any other legal stuffs; you can experiment them at your own free will and creativity. So here begins the list: Simple Water Level Indicator Objective: This water level indicator circuit is easy to implement and is composed of least components. There are 3 versions available. Infrared Motion detector Objective: This circuit idea can be modified to design simple projects like Intruder alarm, Anti-theft systems etc. A circuit application that everyone must try out. Fire Alarm Project Objective: Though simple in nature this circuit will help you to understand how real-world electronics systems are built. This circuit is a basic one which senses smoke to detect fire and hence produce an alarm to warn people around. Lead-acid battery charger Objective: So why not try your hands at charging a lead acid battery? Here is a simple electronics project that will let you charge your battery. This circuit is very simple in nature which consists of an LM IC which provides correct charging voltage , a couple of resistors, capacitors and a potentiometer. Simple 10 Watt Audio Amplifier Objective: How can we avoid audio electronics projects? As written in the objective, our aim is to design and implement a simple audio amplifier using IC TL as a preamplifier. A much advanced audio amplifier project is given below. We recommend you to go through all comments section to understand various problems faced by our readers while implementing this circuit. This will help you on your troubleshooting phase. So let us talk a little about this circuit. This is the cheapest watt amplifier you can make using a pair of Darlington transistors TIP and You have to go through the circuit design and description carefully as it will take a little bit of effort to get the desired output. Simple Inverter Project Objective: This circuit will teach you the basics of the common application we always use in building electronics devices. FM Transmitter project Objective: How about designing a local FM station for your college? A station where students can air their programs songs, speeches, solos and all your college mates can receive them? Here is such an interesting project. This is low-cost project which can be assembled using basic components. So far we have covered 10 simple electronics projects for beginners, students and hobbyists. We will keep on expanding this article in the future with other interesting small and basic projects. This water level controller monitors the level of the overhead tank and automatically switches on the water pump whenever the level goes below a preset limit.

## Chapter 4 : Electronics Project Book, by Varun Bansal: FREE Book Download

*A book for students and hobbyists to learn basic electronics through practical presentable circuits. A handy guide for school science fair projects or for making personal hobby gadgets. Design new panels and make new circuit designs.*

## Chapter 5 : Easy & simple electronic projects | calendrierdelascience.com

*These mini projects are applicable for B-Tech/BE engineering students from various streams like Electronics and Instrumentation (EI), Electronics and Communication (ECE), Electrical Engineering (EEE), diploma and so on.*

## Chapter 6 : Electronic circuits, Mini projects and Learning in simple ways

*For doing electronics projects, it is strongly recommended to resort to video or tutorial based courses than books. Since*

*the technologies are evolving very rapidly, you might not be able to understand the technical concepts just by referring books or materials.*

### Chapter 7 : Electronics For You | If It's Electronics, It's Here

*Electronics is some of the physics science, engineering, technology. So, it is an academic matter. So, it is an academic matter. Since 4 years ago, my children have been a homeschooling by me.*

### Chapter 8 : Electronics Mini Projects-Electronics Engineering Projects for Students&Hobbyists

*October 20, admin Electronics Projects The circuit illustrated below can RE use your thrown tube light. which usually blinks in normal circuit. A high DC[ ].*