

Kits list and prices updated With effect from 01/04/2012

- **Kits include Printed Circuit Boards, Schematic diagrams, and description regarding the project either in hard copy or on CD.**
- **Costs of assembled kits are separately given in brackets**
- **Buying our kits, with us or from any of our dealers make you bound to disclaimer mentioned in our website.**

1. LPG Detector/Alarm.....880/- (900)

This alarm is highly useful for detecting presence of any traces Liquefied Petroleum Gas. It may be used in the kitchen, Hotels, LPG operated vehicles and too in LPG tankers. The kit detects the LPG vapors in the air and sounds an alarm along with Relay which can be used to switch any bigger loads. Two indicators LED's will show the status.

2. Simple Metal detector.....380/- (450)

Detecting hidden metal objects like knives, pistols, and other life threatening objects was always a challenge. With this simple circuit, any metal object may be detected up to a distance of 30-40mm and will be indicated with sounding of a buzzer. A pre wound coil is too supplied with the kit for minimizing the difficulty

3. Automatic street light.....350/-(400)

A mighty gadget to switch on lights during night and switch off the lights during day time. The circuit built around a NPN transistor with a Light sensitive resistor connected to the base, senses light falling on the LDR and activates a electromagnetic relay at the threshold point set by a variable resistor.

4. Door / Shutter guard.....410/- (530)

The sensor of the circuit is fitted to the door frame whereas the magnet (provided with the kit) is fitted to the door and alarm will sense the door position while being armed for any intrusions. When the door is moved by an intruder, the sensor senses the magnet going off and triggers a siren generated by IC UM3561 which will alert about the tampering. IC's used 1.

5. Clap Switch.....360/- (500)

This mighty gadget senses the sound of "clap" with a microphone, which is amplified and is further utilized to trigger a flip-flop section built around 2 transistors, and then a relay is driven by a relay driver which is used to switch on/off any appliance.

6. Mobile detector bug..... 306/- (400)

This gadget detects the transmission of any cellular phone operating in the ultra high frequency range in 1.5 meters of its radius. This battery operated gadget is highly helpful in classrooms and examination centers to prevent malpractices. Number of ICs used: 2.

7. Burglar Alarm..... 132/- (200)

This circuit sounds a loud alarm in the case of an unauthorized entry. Wire loop gets broken whenever such an attempt is made. Number of ICs used: None.

- 8. Cordless FM MIC213/- (325)**
The voice at condenser microphone can be listened through a standard FM receiver using this circuit. The range of this FM transmitter can be easily enhanced with a matched antenna. Number of ICs used: None.
- 9. Electronic Auto Dipper..... 240 /- (380)**
At night, the high beamed head light lamp of vehicle approaching from opposite direction causes the problem for drivers. This circuit solves the problem by making the dipper action automatic. As soon as it senses the light rays coming from opposite direction it automatically turns lamps from High to Low intensity. Number of ICs used: None.
- 10. Electronic Guard for Blind (July 2002)401/- (520)**
Using this Infrared based aid for visually impaired persons, any obstruction in the path can be sensed easily. When obstruction is too near, the loudness level of sound coming through earphone gets increased. Thus the user holding the unit gets a rough idea of his distance from the object. The important feature of the circuit is its small size owing to use of less number of components. After little modifications, the same circuit can be used in robotic toys or in object counters. Number of ICs used: 1.
- 11. Fastest Finger First Indicator (Dec. 2001)430/- (690)**
Useful in quiz and game shows, this device indicates the fastest player's designation / selection number along with alarm sound, locking other contestant buttons. This can be reset with a reset button provided. Number of ICs used: 7.
- 12. Simple Fire alarm.....220/- (280)**
The heat sensing properties of a thermistor is made use and this in turn triggers a transistor which in turn activates a tone generator built around NE555 timer IC. Number if IC's used: One
- 13. Fire Alarm with Siren285/- (350)**
This simple circuit detects fire / heat uses a thermistor as sensor to sense fire and activate an alarm. IC UM3561 is used as a Siren generator which is triggered by the change in temperature. The level of heat to trigger the alarm may be set by the preset on board. Number of ICs used: 1.
- 14. Infrared Object Counter.....515/- (655)**
This circuit can be installed in public places to count the number of people or objects passing through the transmitter & receiver. The circuit operates at a frequency of 38 KHz. The count will be displayed through the calculators. Number of IC used: - 3. Calculator is included in price of the kit
- 15. IR Remote Switch (March2002).....239/ (390)**
Switch ON/OFF of any appliance can be done using this remote receiver. The circuit uses any TV, VCR, VCD or CD player remote as transmitter. Indication of different output stages is provided by LED's. This helps in better understanding and easy troubleshooting. The approximate range of the circuit is about 10 meters. Number of ICs used: 3
- 16. Knock Alarm.....174/- (299)**
This circuit converts knock on door, car's dashboard, drawer, etc into a loud alarm using a loudspeaker. It can also be used to warn you of any unauthorized entry during night time, if installed at your doorstep. Number of ICs used: 1.

17. Long Range Burglar Alarm using laser torch.....408/- (575)

This Circuit operates at a frequency of 35 kHz. If the transmitter & receiver parts are properly aligned, it can work up to a distance of 30 meters. When the object cuts the transmitter beam and the receiver part, a relay is switched. No. of IC used: - 1

18. Microcontroller-based Ultrasonic distance meter.....1550/- (2350)

This project employs 40 kHz ultrasonic transducers for distance measurement up to 2.5 meters according to the author and 75 centimeters in practical. Ultrasonic transducers measure the amount of time taken for a pulse of sound to travel to a particular surface and return as the reflected echo. This circuit calculates the distance based on the speed of sound at 25°C ambient temperature and shows it on a 7-segment display. Some of the main components used in this project are : AT89C2051 microcontroller, two 40kHz ultrasonic transducers (one each for transmitter and receiver), current buffer ULN2003, operational amplifier M324, inverter CD4049, four 7-segment displays, five transistors and some discreet components.

19. Microcontroller based Solar charge controller.....1450/- (1700)

This AT89C2051 microcontroller-based solar charge controller has built-in digital voltmeter for battery status indication on the LCD with various battery protection controls. This controller is suitable for 10-40W solar panels. In the solar-powered lighting system, the solar charge controller plays an important role as the system's overall success depends mainly on it. It is considered as an indispensable link between the solar panel, battery and load.

Cell phone operated land Rover.....3100/- (3700)

In this project, the robot is controlled by a mobile phone that makes a call to the mobile phone attached to the robot. In the course of a call, a tone corresponding to the button pressed is heard at the other end of the call. The robot perceives this tone with the help of the phone stacked in the robot. The received tone is processed by the microcontroller with the help of a MT8870 decoder. The microcontroller is preprogrammed to take a decision for any given input and outputs its decision to motor drivers in order to drive the motors for forward or backward motion or a turn. Some of the main components used are MT8870 DTMF decoder, ATmega16 AVR microcontroller, L293D motor driver and 74LS04 NOT gate. (Cell phone and battery is not provided along with the unassembled or assembled tested kit)

21. Microcontroller based automatic flush systemRs.875/- (999)

Here is an automatic flush system (toilet and urinal) that automatically flushes the fixture when the user departs. It employs an AT89C2051 microcontroller and an infrared sensor to detect a user approaching the fixture, then waits until the user departs. It also flushes before the person departs if the person is present for more than the pre-set time (5 minutes). CD4050 is used as a buffer for the output ports of the microcontroller, TSOP1738 is used as an IR sensor and a solenoid is used to actuate the flush from a 6V power supply with a battery backup inside the unit

22. AT89C2051 Based Countdown timer..... 835/- (999)

Here is a microcontroller based timer that performs countdown operation for up to 99 minutes with two 7-segment displays showing the actual time left. During the countdown operation, a relay is latched and a flashing LED indicates countdown timing's progress. The program in the 20-pin Atmel AT89C2051 microcontroller used in the circuit can be easily modified to suit users' requirements. A relay driver section is included in the circuit to switch on a relay that can activate any electrical device. Apart from microcontroller, CD4511 and LTS543 are some of the main components used in the circuit.

23. Microcontroller Based Bi-Directional Visitor Counter.....1265/- (1725)

Here is a low-cost AT89C52 microcontroller-based visitor counter that can be used to count the number of persons at a place. It consists of three 7-segment displays (LTS 543) to display the number of visitor's up to 999. The circuit works off a 5V DC supply. Some of the main components include IR LED's, L14F1 photo transistors, LM324 quad op-amp and 7805 regulator.

24. Microcontroller based Digital water level controller with LCD.....1980/- (2350)

This circuit based on 89C51 Atmel Microcontroller, controls the pump used to fill the water in Overhead tank. The kit protects motor against Low voltage, High Voltage, and too dry run of the pump in absence of water. All events like Standby, Motor On, Low voltage, High Voltage, and Dry run are displayed on a 16 x 2 LCD display.

25. Long-Range FM Transmitter (Dec. 99).....304/ (460)

The high-power output obtained using a power amplifier stage allows a range of about 2 km for this FM transmitter. Reasonable good signal quality and strength are possible with little adjustments. Number of ICs used: None. (KIT not in stock)

26. AT89C52 Microcontroller Based Industrial Timer (June 07).....1940/- (2399)

Here is a simple industrial timer based on 40-pin Atmel AT89S52 microcontroller that performs count-down operation up to 9999 minutes/second with four 7-segment displays showing the actual time left. The relay energizes as you press the start switch and remains on till the countdown reaches 0000. Four push-to-on switches are used to start/stop, select either minutes or seconds, and set the initial value for countdown operation (using up and down keys).

27. Digital Voltmeter (July-07)660/- (840)

Digital Voltmeter is designed as a panel meter which can be used in DC power supplies, or where it is necessary to have an accurate indication of the voltage.

28. Microcontroller-Based Code Lock(Aug-2006).....1120/- (1399)

This simple code lock project is based on a 20-pin ATMEL microcontroller AT89C2051. It employs a 4-digit sequential code with time-out security feature. Apart from the microcontroller, the main components include CD4050 non-inverting buffer, LCD display and 7805 regulator.

29. Remote Control Digital Audio Processor (Feb2005).....1999/- (2450)

This infrared (I R) remote controlled digital audio processor has four stereo input channels and one stereo output. The processors in this system control various functions of each channel and output them to your audio amplifier.

30. Remote Control for Home Appliances (April 2005)304/- (500)

This handy circuit can be used to switch on and off any of your home appliances or any electrical device with a single press of your TV, VCD or DVD remote control. This low-cost circuit is based on 4017 counter IC which receives trigger pulse from I R sensor and switches on the relay through which electrical devices are switched on & on receiving the 2nd pulse the device is switched off.

31. Water Level Controller330/- (480)

This circuit provides switching control of pump motor and pumps water from ground-level tank to overhead tank when the tank is completely empty. To monitor the status, each tank is provided with three probes. Number of ICs used: 2.

- 32. Water level Controller-cum-Motor Protector kit (Aug. 99).....365/- (500)**
This device provides switching on/off of motor, automatic switching off of motor when overhead tank is full and low- and high-voltage cut-off. Number of ICs used: 1
- 33. Remote controlled Land Rover (June 06).....3625/- (4199)**
The project integrates a number of different circuits, to achieve the working model of a Land rover vehicle, which can be remotely instructed to perform the following functions through momentary depressing of appropriate push switch on remote. Move in forward direction with front LED's lit. Move in reverse direction with back LED's lit. Turned to left, turned to right, stopped at any time, with all LED's extinguished. Provision is also made for its automatic stop while moving in forward and reverse directions. Geared motors and detailed plans for fabrication are also included.
- 34. Speed Checker for Highways (Dec2005).....758/- (900)**
With the two lasers installed at 100m apart on one side and corresponding LDR's on the other side of the highway, when the vehicle crosses the two laser beams, this circuit can check the speed of a vehicle through the readings on a 7-segment display unit. It also activates an audio alarm (piezo-buzzer) when the vehicle exceeds the permissible limit.
- 35. Stepper motor control using micro-controller1620/- (1800)**
This circuit is based on 89C51 microcontroller. It provides to control the rotation of a DC stepper motor in clockwise as well as anticlockwise direction. This module is simple and easy to construct and can be used in many application e.g. Machine control, Robotics.
- 36. Teleremote- Control692/- (960)**
This remote overcomes the range barrier of infrared remotes. Control is provided through the dial keypad of a remote telephone and switching on/off operation of up to ten appliances is possible. (This circuit is meant to control only four devices.)
- 37. Temperature indicator using 89C52 (July 04).....1685/- (1975)**
It is microcontroller based temperature indicator which displays the temperature in the range of -55 degree Celsius to 125 degree Celsius. The Indicator output the calibrated date in digital form. It uses a temperature sensor Chip. Total No. of IC used - 3.
- 38. Variable Power Supply with Digital Control (April 04).....369/- (550)**
A regulated power supply is one of the most important and essential requirements in electronic lab. The available power supply must provide variable outputs in steps. This kit gives variable and fluctuation-free DC voltage as output in the range of 1.5V to 12V. It also provides display using LED's as indicators and outputs here are easy to select.
- 39. Voice Recording and playback (Sept 04)..... 692/- (960)**
This circuit enables to record a single message of up to 60 seconds duration or up to eight different messages of 7.5 sec duration each. In playback mode the circuit plays recorded message either randomly or in sequential manner. It uses Voice Processor IC as main unit. Number of ICs used: - 2.
- 40. Remote Controlled Real Time Clock with Device Controller...2047/- (2500)**
The Remote Controlled Real-Time Clock with Device Controller makes use of a TV remote control. Using RC5 coding, a real-time clock chip is set to control five different alarm settings. These settings can also be

used to switch on an external device. Up to eight devices can be controlled with this project. The circuit is based on ATMEL ATmega16 microcontroller and Maxim DS1307 real-time clock chip. An LCD module allows for user interface. The remote supplied is in kit form, without cabinet.

41. Two-Channel PC Based Oscilloscope (Dec -06)1782/- (2100)

Presented here is an oscilloscope using USB port of the PC that operates at up to 10 kHz with ±16V input voltage. The oscilloscope uses IC PIC18F2550 microcontroller chip from Microchip as the main controller, which makes the oscilloscope compact as there is no need of additional power supply for the entire circuit board. This controller chip along with MCP6S91, LF353 and L7660 ICs are used in the project.

42. Microcontroller based Tacho meter.....759/- (990)

This is an easy-to-make photoelectric based tachometer project for measuring the RPM (revolution per minute) of rotating shaft, shop-floor tools and many household machines without any mechanical or electrical interface. The circuit employs AT89C2051 microcontroller as the main controller. Some of the major components used in the circuit are CA3140 operational amplifier, ULN2003 current buffer and KLQ564 4-digit, 7-segment display.

43. RFID based security system.....5850/- (6500)

This project aimed to develop a wireless system to detect and allow only the authorized persons. The system is based on Radio Frequency Identification (RFID) Technology and consists of a passive RFID tag. The passive micro transponder tag collects power from the 125 KHz magnetic field generated by the base station, gathers information about the Tag ID and sends this information to the base station. On detection of a pre programmed authorized card, the microcontroller activates a relay which can then be connected to a bulb, Electromagnetic Latch, or a door strike. (Not provided in the kit)

44. Secured digital access system using I button.....2650/- (3150)

The ‘I – Button’ is used here as a key to the access control system. Its unique identification (ID) number is used for authorization which will be read by the microcontroller and verified against the pre programmed codes. On detection of an authorized I - Button, the system allows access, which will result in activation of an on board electro magnetic relay.

Advanced Projects mentioned below are available on CD with complete descriptions, Datasheets, Schematics, PCB component side layouts and sample source codes.

(Please note: PCB layouts, Original source codes and Hex files will not be given)

1. DTMF Based Home/ Office automation with 6 device control.....5800/-

This circuit when connected to a telephone line, can control up to 6 devices / appliances from any part of the world through DTMF signaling technique, which is decoded by the decoder and then processed further by the microcontroller. Press digit 1 to 6 to On/Off any of the 6 devices, 9 to switch on all the devices, 0 to switch off all the devices, 8 to disconnect the line to the circuit. The kit is also controllable from a cell phone with minor changes (Will be costing 1200/- extra excluding the Mobile & accessories)

2. Automatic room light controller with Visitor counter:5600/-

This project with 89S52, microcontroller from Atmel, over comes the difficulties of counting the number of persons in the room as well it saves power when no people are in. As a person enters the room it detects the entry and displays 001 on the LED display and at the same time a relay is energized which may be further used to switch ON a light, and thus the count may increase up to 999. As persons leave from the rooms, it decreases the count and when it reaches 000, the relay is de-energized to switch OFF the light in the room.

- 3. Remote controlled switch board with fan regulator with AT89S52.....5300/-**
This remote controlled switch board switches 4 lights and one fan with regulator using infrared based remote controller provided with the kit. The status of the six lights will be displayed by LED's on the PCB whereas the speed of the fan will be digitally displayed by seven segment display connected to the AT89S52 microcontroller which controls all the vital functions of the switch board.
- 4. RF based 4 channel Remote controller based on "Holtek" En/decoders.....999/-**
This is a remote controller which is widely used in robotic application where in momentary mode, 4 channels are available. Receiver side is equipped with four relays at the out put which can be wired in any configuration for the required operation. Individual addresses can be selected to operate more than one remote kit at a time.
- 5. Microcontroller based school bell system using Dallas 1307 RTC.....5800/-**
This innovative bell system designed using Dallas DS1370 real time chip which is further used in conjunction with Atmel 89C52 for setting various bell timings of a day. Long bell and short bell rings can be individually selected using user friendly menu's displayed on a 16 x 2 LCD. The bell may be an AC 220 volt operated device which is switched through a BT12/600 Triac and MOC3021 Optocoupler. The 16 button key pad acts as an input device for all the setting of the project and the CMOS battery in the circuit provides a backup of clock settings in case of power loss.
- 6. Microcontroller based Hotel bell / Nurse calling bell system.....6880/-**
As compared to the regular multiple wired calling bell system, here we present an ultramodern Digital calling bell system, comprising of 2 units namely the Master module and the Slave. Each slave module represents a particular room or caller and the codes sent by the slave, are read by the Master unit and is displayed on 2 seven segment displays. Only 4 wires are used for communicating between the Master and all the slave units up to 99 rooms or beds. The said communication is capable of working practically over 1500 meters as the same works on RS485 mode. 4 slave units will be supplied with one master module in the kit.
- 7. PC based wireless paging system with LCD.....5550/-**
Messages up to 90 characters typed on a notepad are sent to a remote wireless handheld unit from a personal computer. The transmitter unit will plug in to the serial port of the PC and the receiver is a portable handheld unit with a LCD display. The project is supplied with communication software to enable communication between the two units. The said project demonstrates the use of portable paging system on a UHF frequency range of 433 MHz.
- 8. Multipurpose Four channel RF Remote with 89C2051 Microcontroller.....1550/-**
This is a remote controller which can be widely used in robotic application when in momentary mode. All the 4 channels can be individually programmed as latched outputs for lighting loads or momentary outputs for bell or any other automation requirement. Receiver side is equipped with four relays at the out put which can be wired in any configuration for the required operation. 4 individual addresses can be selected to operate more than one remote kit at a time.
- 9. Microcontroller based quiz buzzer display with priority function.....3880/-**

This circuit is an AT89C52 based Quiz display capable of handling up to 6 contestants. The first priority person's number will be displayed on a 2.3 inch height 7 segment LED display. This project comes with

priority. Means all the contestants are displayed in order of their priority one by one. Two reset buttons take care of the same function. One is temporary reset and other is the master reset.

10. Wireless fool proof Keyless Ignition system for Cars.....4200/-

In contrast to present keys which can be duplicated easily in seconds, presented here is a totally wireless keyless ignition system which is completely fool proof and too the key of this gadget is copy proof. Master units comprises a LCD and a switch to start/ Stop the car and the hand held key is a wireless module transmitting different codes each time the switch is pressed which synchronizes with the pre-fed master codes stored in the Master unit and after confirmation of an valid code, the Master unit activates a relay to switch "ON" the ignition system. Thus the person having the key will have the access to the car.

11. Digital "Location display" for Busses and Trains6800/-

The receiver will have a LCD with backlight and the complete operation of this project is totally automatic. The receiver need to be kept or fitted on the moving Bus/ Train and the transmitters are needed to be kept operating in the particular station and as the Bus/Train approaches the active transmitter, the Location will be displayed on the receiver.

12. Secured Access control system with Tamper protection.....5300/-

Access control system described here is based on 89C52 is based on digital passwords up to 10 digits for having access to a secured area. The door status is constantly monitored and displayed on a 16x2 LCD module and is highly secured even in an event of power failure. Wrong password protection for 3 attempts and a master code for resetting the system is provided in the system. An intermittent warning buzzer for password tampering and a loud siren is provided to door tampering detection. A on board relay is provided with a 3 Pin connector for any external loads to be connected.

13. RFID based Keyless lock with Atmel 89C52.....6800/-

The access to the door is only granted to those persons having a valid RFID card. In case you loose your card, still you can open the door by just entering the 10 digit master code provided with the kit. The door status is constantly monitored and displayed on a 16x2 LCD module and is highly secured even in an event of power failure. Wrong password protection for 3 attempts with intermittent warning buzzer for password tampering and a loud siren is provided to door tampering detection. A on board relay is provided with a 3 Pin connector for any external loads to be connected. In case of invalid card is swiped, the system is deactivated for 60 seconds. The kit will be provided with a RFID reader module, Master kit module, and two valid RFID cards.

14. Remote controlled security for the Cash Bag.....8650/-

Carrying heavy cash is always risky as the person may be attacked by miscreants for the cash and the life of such person is always at threat. Here presented project overcomes the problem by providing wireless remote controlled security for the cash bag. A receiver will be fitted inside the briefcase and a handheld transmitter will be carried by the person. When activated, the Vibration detection mode detects any vibrations and sounds and alarm whenever the bag is moved or snatched. In case the miscreant still decides to run away with the bag with siren sounding, a panic button on the remote can be pressed and the person running with the cash bag will be instantly electrocuted with up to 400 volts on his body which makes him leave the bag and run for his life. The remote may be effective for a distance up to 100 meters from the bag. The charge

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delivered by the electrocution is harmless for human life due to minimum current but with high voltage.

Please note: Due to advanced design and difficulty level, this project comes completely assembled and tested installed in a briefcase.

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