Emergency Helping System

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ABSTRACT

Technology can play a major role in changing the future and lives of many people. Wireless communication processes like data sending and receiving can be used to ensure the safety and security of women in daily lives. Radio frequency signals are the fastest way to do this..

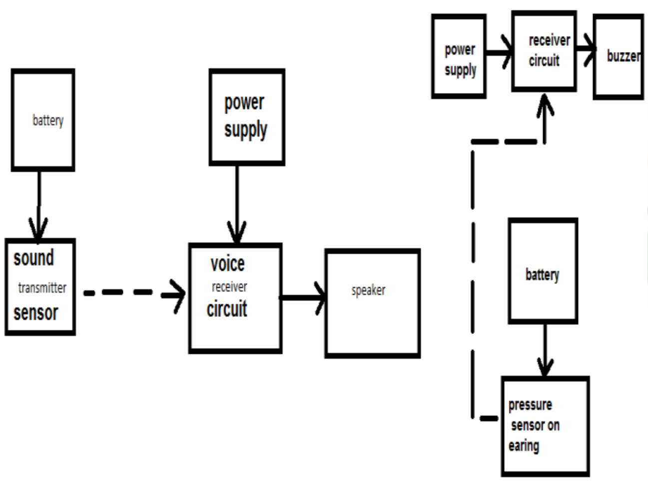
INTRODUCTION

In today's world the mode of communication is available but to make it simple and faster it is necessary to use best mode for communication for easily working environment.

The communication system depends on the level of technology that is used and also the variety of technology there circuits and the components that varies with their capacity are used.

Technology can play main role in changing the future and lives of many people.
We can use technology as the benefit side for the safety and security of the women in daily lives.
By using the wireless communication process like data sending and receiving or you can say encoding and then decoding can be done for the safety of the women.
The wireless technology needs some frequency or can say a channel from where the data for decoding to convey a message data a fast sped.
Here we will use the radio frequency signals for sending the data.
As the radio frequency signals are very fast as they can convey message at a faster rate to the desired location or an authority.

BLOCK DIAGRAM



METHODOLOGY

Here first of all the small circuit placed earing and the earing will be owned by the ladies in their ears whenever they found themselves in an problem they will press the sensor switches attached in the earing and the data or the signal will be sent wireless and the receiver circuit that is placed in the nearest police station will start alarming and the police will be alerted by this sound and they can easily provide their help to the needy women's.
The receiver system works on 12volt dc.
Here first of all the person will speak in the sensor and the circuit will convert their voice and will wirelessly will transmit the voice though the circuit to the receiver point and the receiver circuit will convert their voice signal in simple language and will show output in the speaker.
The whole transmitter system will work on 9voltdc battery.
This communication system works on free wireless radio signals technology that are working on radio signals tower of government and the both the circuits can easily connect and the communication process can be easily shown free of cost .

SCIENTIFIC PRINCIPLES INVOLVED

Here the principles of wireless data transmission is used.

PROCEDURE APPLIED

Here the wireless technology through the radio frequency is used.
This process can easily send the signals within seconds as they operate at a very high speed
Here is the simple process of conversion of languages in radio signals and then conversion in simple languages wireless through the induction ics and with sensors.

COMPONENTS DESCRIPTION

POWER SUPPLY

Power supply is a reference to a source of electrical power. A device or system that supplies electrical or other types of energy to an output load or group of loads is called a **power supply unit** or **PSU**. The term is most commonly applied to electrical energy supplies, less often to mechanical ones, and rarely to others. Here in our application we need a 5v DC power supply for all electronics involved in the project. This requires step down transformer, rectifier, voltage regulator, and filter circuit for generation of 5v DC power. Here a brief description of all the components is given as follows:

TRANSFORMER

Transformer is a device that transfers electrical energy from one circuit to another through inductively coupled conductors — the transformer's coils or "windings". Except for air-core transformers, the conductors are commonly wound around a single iron-rich core, or around separate but magnetically-coupled cores. A varying current in the first or "primary" winding creates a varying magnetic field in the core (or cores) of the transformer. This varying magnetic field induces a varying electromotive force (EMF) or "voltage" in the "secondary" winding. This effect is called mutual induction.

If a load is connected to the secondary circuit, electric charge will flow in the secondary winding of the transformer and transfer energy from the primary circuit to the load connected in the secondary circuit.

The secondary induced voltage V_S, of an ideal transformer, is scaled from the primary V_P by a factor equal to the ratio of the number of turns of wire in their respective windings:

$$\frac{V_S}{V_P} = \frac{N_S}{N_P}$$

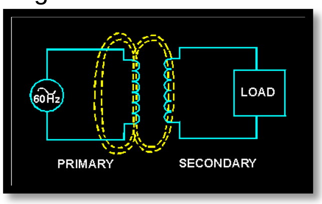
By appropriate selection of the numbers of turns, a transformer thus allows an alternating voltage to be stepped up — by making N_S more than N_P — or stepped down, by making it

BASIC PARTS OF A TRANSFORMER

In its most basic form a transformer consists of:

- A primary coil or winding.
- A secondary coil or winding.
- A core that supports the coils or windings.

Refer to the transformer circuit in figure as you read the following explanation: The primary winding is connected to a 60-hertz ac voltage source. The magnetic field (flux) builds up (expands) and collapses (contracts) about the primary winding. The expanding and contracting magnetic field around the primary winding cuts the secondary winding and induces an alternating voltage into the winding. This voltage causes alternating current to flow through the load. The voltage may be stepped up or down depending on the design of the primary and secondary windings.



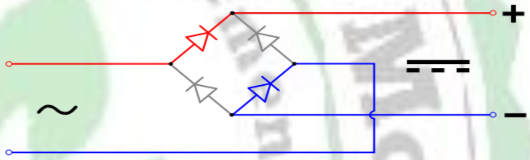
BRIDGE RECTIFIER

A bridge rectifier makes use of four diodes in a bridge arrangement to achieve full-wave rectification. This is a widely used configuration, both with individual diodes wired as shown and with single component bridges where the diode bridge is wired internally.

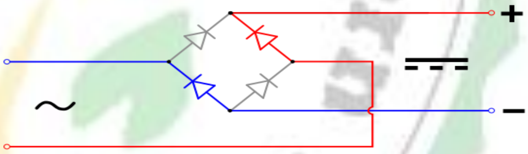
BASIC OPERATION

According to the conventional model of current flow originally established by Benjamin Franklin and still followed by most engineers today, current is *assumed* to flow through electrical conductors from the **positive** to the **negative** pole. In actuality, free electrons in a conductor nearly always flow from the **negative** to the **positive** pole. In the vast majority of applications, however, the *actual* direction of current flow is irrelevant. Therefore, in the discussion below the conventional model is retained.

In the diagrams below, when the input connected to the **left** corner of the diamond is **positive**, and the input connected to the **right** corner is **negative**, current flows from the **upper** supply terminal to the right along the **red** (positive) path to the output, and returns to the **lower** supply terminal via the **blue** (negative) path.



the input connected to the **left** corner is **negative**, and the input connected to the **right** corner is **positive**, current flows from the **lower** supply terminal to the right along the **red** path to the output, and returns to the **upper** supply terminal via the **blue** path.

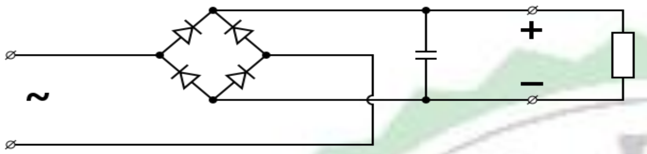


In each case, the upper right output remains positive and lower right output negative. Since this is true whether the input is AC or DC, this circuit not only produces a DC output from an AC input, it can also provide what is sometimes called "reverse polarity protection". That is, it permits normal functioning of DC-powered equipment when batteries have been installed backwards, or when the leads (wires) from a DC power source have been reversed, and protects the equipment from potential damage caused by reverse polarity.

Prior to availability of integrated electronics, such a bridge rectifier was always constructed from discrete components. Since about 1950, a single four-terminal component containing the four diodes connected in the bridge configuration became a standard commercial component and is now available with various voltage and current ratings.

OUTPUT SMOOTHING

For many applications, especially with single phase AC where the full-wave bridge serves to convert an AC input into a DC output, the addition of a capacitor may be desired because the bridge alone supplies an output of fixed polarity but continuously varying or "pulsating" magnitude (see diagram above).



The function of this capacitor, known as a reservoir capacitor (or smoothing capacitor) is to lessen the variation in (or 'smooth') the rectified AC output voltage waveform from the bridge. One explanation of 'smoothing' is that the capacitor provides a low impedance path to the AC component of the output, reducing the AC voltage across, and AC current through, the resistive load. In less technical terms, any drop in the output voltage and current of the bridge tends to be canceled by loss of charge in the capacitor. This charge flows out as additional current through the load. Thus the change of load current and voltage is reduced relative to what would occur without the capacitor. Increases of voltage correspondingly store excess charge in the capacitor, thus moderating the change in output voltage / current.

The simplified circuit shown has a well-deserved reputation for being dangerous, because, in some applications, the capacitor can retain a *lethal* charge after the AC power source is removed. If supplying a dangerous voltage, a practical circuit should include a reliable way to safely discharge the capacitor. If the normal load cannot be guaranteed to perform this function, perhaps because it can be disconnected, the circuit should include a bleeder resistor connected as close as practical across the capacitor. This resistor should consume a current large enough to discharge the capacitor in a reasonable time, but small enough to minimize unnecessary power waste.

Because a bleeder sets a minimum current drain, the regulation of the circuit, defined as percentage voltage change from minimum to maximum load, is improved. However in many cases the improvement is of insignificant magnitude.

The capacitor and the load resistance have a typical time constant $\tau = RC$ where *C* and *R* are the capacitance and load resistance respectively. As long as the load resistor is large enough so that this time constant is much longer than the time of one ripple cycle, the above configuration will produce a smoothed DC voltage across the load.

In some designs, a series resistor at the load side of the capacitor is added. The smoothing can then be improved by adding additional stages of capacitor–resistor pairs, often done only for sub-supplies to critical high-gain circuits that tend to be sensitive to supply voltage noise.

The idealized wave-forms shown above are seen for both voltage and current when the load on the bridge is resistive. When the load includes a smoothing capacitor, both the voltage and the current waveforms will be greatly changed. While the voltage is smoothed, as described above, current will flow through the bridge only during the time when the input voltage is greater than the capacitor voltage. For example, if the load draws an average current of n Amps, and the diodes conduct for 10% of the time, the average diode current during conduction must be 10n Amps. This non-sinusoidal current leads to harmonic distortion and a poor power factor in the AC supply.

In a practical circuit, when a capacitor is directly connected to the output of a bridge, the bridge diodes must be sized to withstand the current surge that occurs when the power is turned on at the peak of the AC voltage and the capacitor is fully discharged. Sometimes a small series resistor is included before the capacitor to limit this current, though in most applications the power supply transformer's resistance is already sufficient.

Output can also be smoothed using a choke and second capacitor. The choke tends to keep the current (rather than the voltage) more constant. Due to the relatively high cost of an effective choke compared to a resistor and capacitor this is not employed in modern equipment.

Some early console radios created the speaker's constant field with the current from the high voltage ("B +") power supply, which was then routed to the consuming circuits, (permanent magnets were then too weak for good performance) to create the speaker's constant magnetic field. The speaker field coil thus performed 2 jobs in one: it acted as a choke, filtering the power supply, and it produced the magnetic field to operate the speaker.

THE CAPACITOR FILTER

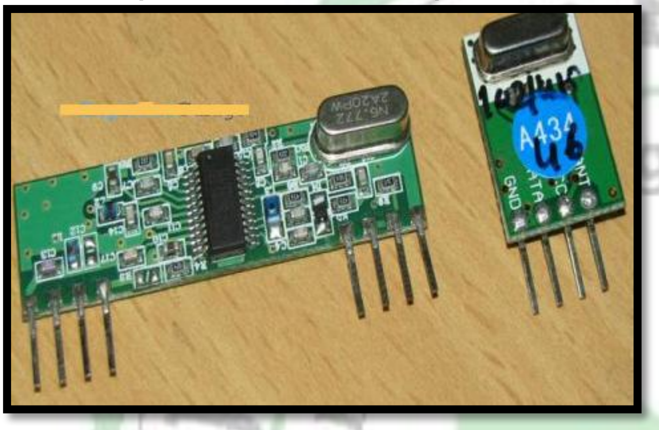
The simple capacitor filter is the most basic type of power supply filter. The application of the simple capacitor filter is very limited. It is sometimes used on extremely high-voltage, low-current power supplies for cathode-ray and similar electron tubes, which require very little load current from the supply. The capacitor filter is also used where the power-supply ripple frequency is not critical; this frequency can be relatively high. The capacitor (C1) shown in figure 4-15 is a simple filter connected across the output of the rectifier in parallel with the load.

Full-wave rectifier with a capacitor filter.

When this filter is used, the RC charge time of the filter capacitor (C1) must be short and the RC discharge time must be long to eliminate ripple action. In other words, the capacitor must charge up fast, preferably with no discharge at all. Better filtering also results when the input frequency is high; therefore, the full-wave rectifier output is easier to filter than that of the half-wave rectifier because of its higher frequency.

For you to have a better understanding of the effect that filtering has on E_{avg}, a comparison of a rectifier circuit with a filter and one without a filter is illustrated in views A and B of figure 4-16. The output waveforms in figure 4-16 represent the unfiltered and filtered outputs of the half-wave rectifier circuit. Current pulses flow through the load resistance (R_L) each time a diode conducts. The dashed line indicates the average value of output voltage. For the half-wave rectifier, E_{avg} is less than half (or approximately 0.318) of the peak output voltage. This value is still much less than that of the applied voltage. With no capacitor connected across the output of the rectifier circuit, the waveform in view A has a large pulsating component (ripple) compared with the average or dc component. When a capacitor is connected across the output (view B), the average value of output voltage (E_{avg}) is increased due to the filtering action of capacitor C1.

RF Module (Transmitter & Receiver)

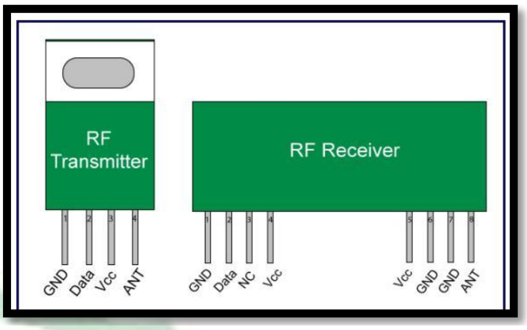


The RF module, as the name suggests, operates at Radio Frequency. The corresponding frequency range varies between 30 kHz & 300 GHz. In this RF system, the digital data is represented as variations in the amplitude of carrier wave. This kind of modulation is known as Amplitude Shift Keying (ASK).

Transmission through RF is better than IR (infrared) because of many reasons. Firstly, signals through RF can travel through larger distances making it suitable for long range applications. Also, while IR mostly operates in line-of-sight mode, RF signals can travel even when there is an obstruction between transmitter & receiver. Next, RF transmission is more strong and reliable than IR transmission. RF communication uses a specific frequency unlike IR signals which are affected by other IR emitting sources.

This **RF module** comprises of an **RF Transmitter** and an **RF Receiver**. The transmitter/receiver (Tx/Rx) pair operates at a frequency of **434 MHz**. An RF transmitter receives serial data and transmits it wirelessly through RF through its antenna connected at pin4. The transmission occurs at the rate of 1Kbps - 10Kbps.The transmitted data is received by an RF receiver operating at the same frequency as that of the transmitter.

The RF module is often used alongwith a pair of encoder/decoder. The encoder is used for encoding parallel data for transmission feed while reception is decoded by a decoder. HT12E-HT12D, HT640-HT648, etc. are some commonly used encoder/decoder pair ICs.



Pin Description

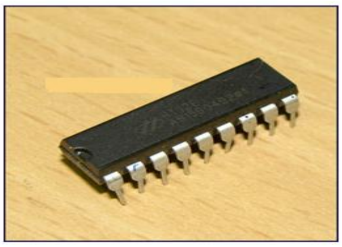
RF Transmitter

Pin No	Function	Name
1	Ground (0V)	Ground
2	Serial data input pin	Data
3	Supply voltage; 5V	Vcc
4	Antenna output pin	ANT

RF Receiver

Pin No	Function	Name
1	Ground (0V)	Ground
2	Serial data output pin	Data
3	Linear output pin; not connected	NC
4	Supply voltage; 5V	Vcc
5	Supply voltage; 5V	Vcc
6	Ground (0V)	Ground
7	Ground (0V)	Ground
8	Antenna input pin	ANT

HT12E

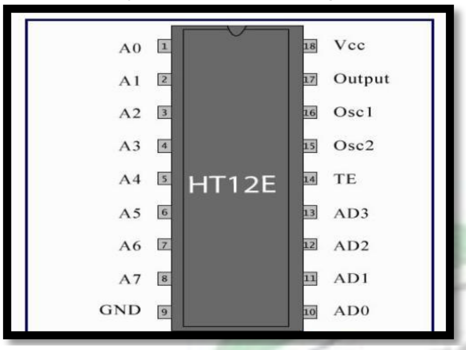


HT12E is an encoder integrated circuit of 2^{12} series of encoders. They are paired with 2^{12} series of decoders for use in remote control system applications. It is mainly used in interfacing RF and infrared circuits. The chosen pair of encoder/decoder should have same number of addresses and data format.

Simply put, HT12E converts the parallel inputs into serial output. It encodes the 12 bit parallel data into serial for transmission through an RF transmitter. These 12 bits are divided into 8 address bits and 4 data bits.

HT12E has a transmission enable pin which is active low. When a trigger signal is received on TE pin, the programmed addresses/data are transmitted together with the header bits via an RF or an infrared transmission medium. HT12E begins a 4-word transmission cycle upon receipt of a transmission enable. This cycle is repeated as long as TE is kept low.

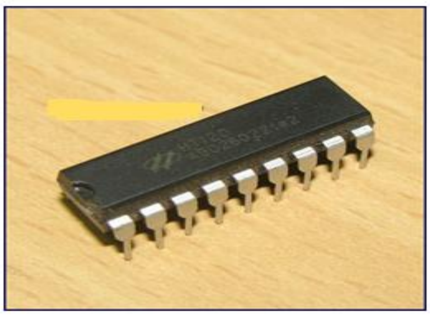
As soon as TE returns to high, the encoder output completes its final cycle and then stops.



Pin Description:

Pin No	Function	Name
1	8 bit Address pins for input	A0
2		A1
3		A2
4		A3
5		A4
6		A5
7		A6
8		A7
9	Ground (0V)	Ground
10	4 bit Data/Address pins for input	AD0
11		AD1
12		AD2
13		AD3
14	Transmission enable; active low	TE
15	Oscillator input	Osc2
16	Oscillator output	Osc1
17	Serial data output	Output
18	Supply voltage; 5V (2.4V-12V)	Vcc

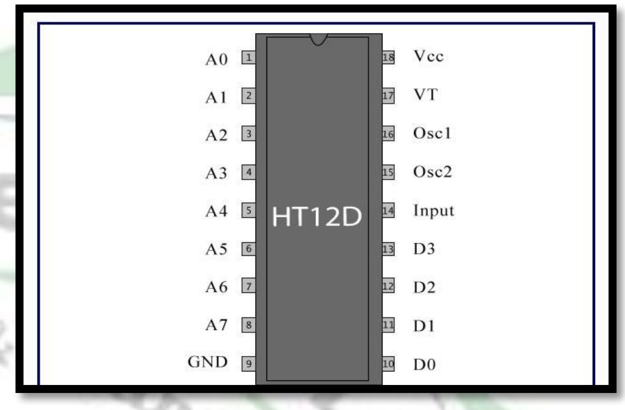
HT12D



HT12D is a decoder integrated circuit that belongs to 2^{12} series of decoders. This series of decoders are mainly used for remote control system applications, like burglar alarm, car door controller, security system etc. It is mainly provided to interface RF and infrared circuits. They are paired with 2^{12} series of encoders. The chosen pair of encoder/decoder should have same number of addresses and data format.

In simple terms, HT12D converts the serial input into parallel outputs. It decodes the serial addresses and data received by, say, an RF receiver, into parallel data and sends them to output data pins. The serial input data is compared with the local addresses three times continuously. The input data code is decoded when no error or unmatched codes are found. A valid transmission in indicated by a high signal at VT pin.

HT12D is capable of decoding 12 bits, of which 8 are address bits and 4 are data bits. The data on 4 bit latch type output pins remain unchanged until new is received.



PIN DESCRIPTION:

Pin No	Function	Name
1	8 bit Address pins for input	A0
2		A1
3		A2
4		A3
5		A4
6		A5
7		A6
8		A7
9	Ground (0V)	Ground
10	4 bit Data/Address pins for output	D0
11		D1
12		D2
13		D3
14	Serial data input	Input
15	Oscillator output	Osc2
16	Oscillator input	Osc1
17	Valid transmission; active high	VT
18	Supply voltage; 5V (2.4V-12V)	Vcc

RF Modules are used wireless transfer data and low cost application . This makes them suitable for remote control applications, as in where you need to control some machines or robots without getting in touch with them (may be due to various reasons like safety, etc). Now depending upon the type of application, the RF module is chosen. For short range wireless control applications, an RF Transmitter-Receiver Module of frequency 315 MHz is the most suitable type. This RF modules are works with PT2262(encoder) and PT2272(decoder) as remote control.

SPECIFICATION

- Frequency: 315Mhz
- Modulation: ASK
- Transmitter input voltage: 3-12V
- Transmitter(RF-TX-315) and Receiver(RF-RX-315)

- *Range in open space(Standard Conditions) : 100 Meters*

RESISTOR

A **resistor** is a passive two-terminal electrical component that implements electrical resistance as a circuit element. Resistors act to reduce current flow, and, at the same time, act to lower voltage levels within circuits. In electronic circuits resistors are used to limit current flow, to adjust signal levels, bias active elements, terminatetransmission lines among other uses. High-power resistors that can dissipate many watts of electrical power as heat may be used as part of motor controls, in power distribution systems, or as test loads for **generators**. Fixed resistors have resistances that only change slightly with temperature, time or operating voltage. Variable resistors can be used to adjust circuit elements (such as a volume control or a lamp dimmer), or as sensing devices for heat, light, humidity, force, or chemical activity.
Resistors are common elements of electrical networks and electronic circuits and are ubiquitous in electronic equipment. Practical resistors as discrete components can be composed of various compounds and forms. Resistors are also implemented within integrated circuits. The electrical function of a resistor is specified by its resistance: common commercial resistors are manufactured over a range of more than nine orders of magnitude. The nominal value of the resistance will fall within a manufacturing tolerance.

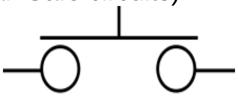
PUSH SWITCH

A **push switch** is a momentary or non-**latching switch** which causes a temporary change in the state of an electrical circuit only while the switch is physically actuated. An automatic mechanism (i.e. a spring) returns the switch to its default position immediately afterwards, restoring the initial circuit condition. There are two types:

- A **push to make** switch allows electricity to flow between its two contacts when held in. When the button is released, the circuit is broken. This type of switch is also known as a **Normally Open** (NO) Switch. (Examples: doorbell, computer case power switch, calculator buttons, individual keys on a keyboard)

Push-to-make switch electronic symbol

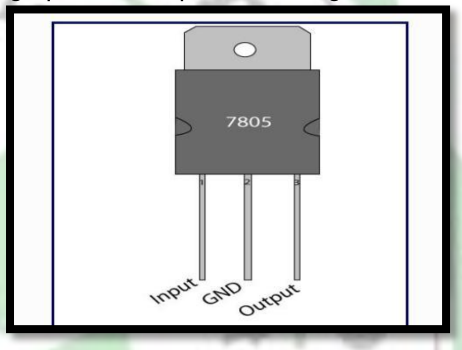
- A **push to break** switch does the opposite, i.e. when the button is not pressed, electricity can flow, but when it is pressed the circuit is broken. This type of switch is also known as a **Normally Closed** (NC) Switch. (Examples: Fridge Light Switch, Alarm Switches in Fail-Safe circuits)



7805 REGULATOR IC 5VOLT DC

7805 is a voltage regulator integrated circuit. It is a member of 78xx series of fixed linear voltage regulator ICs. The voltage source in a circuit may have fluctuations and would not give the fixed voltage output.

The voltage regulator IC maintains the output voltage at a constant value. The xx in 78xx indicates the fixed output voltage it is designed to provide. 7805 provides +5V regulated power supply. Capacitors of suitable values can be connected at input and output pins depending upon the respective voltage levels.



PIN DESCRIPTION

Pin No	Function	Name
1	Input voltage (5V-18V)	Input
2	Ground (0V)	Ground
3	Regulated output; 5V (4.8V-5.2V)	Output

4148 DIODE

The **1N4148** is a standard silicon switching diode. It is one of the most popular and long-lived switching diodes because of its dependable specifications and low cost. Its name follows the JEDEC nomenclature. The 1N4148 is useful in switching applications up to about 100 MHz with a reverse-recovery time of no more than 4 ns.The 1N4148 comes in a DO-35 glass package for thru-hole mounting. This is useful for breadboarding of circuits. A surface mount device, 1N4148WS, is available in a plastic SOD package.
As the most common mass-produced switching diode, the 1N4148 replaced the older 1N914,which had a 200 times greater leakage current — 5 µA vs. 25 nA. Since leakage is usually an undesirable property, today manufacturers produce the 1N4148 and sell it as either part number.
Itwas second-sourced bymany manufacturers;Texas Instruments listed their version of the device in an October 1966 data sheet. These device types have an enduring popularity in low-current applications.

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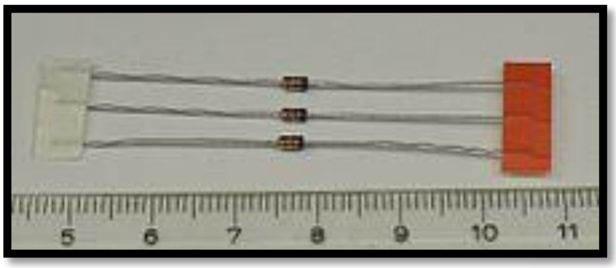


Electrolytic capacitor

An electrolytic capacitor ("electrolytic") is a capacitor in which one electrode is made of a metal on which a thin oxide layer forms. This layer acts as the capacitor's dielectric. An electrolyte covers the surface of the oxide layer and also serves as the second electrode.
Electrolytic have a capacitance to volume ratio much higher than to ceramic capacitors and film capacitors, but smaller than super capacitors.
They find extensive use in electronic devices. Their large capacitance makes electrolytic particularly suitable for passing or bypassing low-frequency signals and storing large amounts of energy. They may serve as filter and reservoir elements in power supplies, to couple signals between amplifier stages, or to store energy as in a flashlamp.
Electrolytics can be made with aluminum, tantalum or niobium as the metal electrode and use various liquid (water based or solvent based) or solid electrolytes.
Electrolytics store electric energy in an electric field in the dielectric oxide layer between the two electrodes. The cathode and the storage principle distinguish them from electrochemical super capacitors, in which the electrolyte is the conductive connection between two electrodes and storage occurs via double-layer capacitance and pseudocapacitance.
Electrolytics are polarized and operate with DC voltage. Reverse polarity, or excess ripple current can destroy the dielectric and thus the device. The destruction of electrolytics can produce an explosion and/or fire. Bipolar electrolytic capacitors, which may be operated with AC voltage, use two anodes connected in reverse polarity.
Diode

In electronics, a diode is a two-terminal electronic component with asymmetric conductance; it has low (ideally zero) resistance to current in one direction, and high (ideallyinfinite) resistance in the other.

A semiconductor diode, the most common type today, is a crystalline piece of semiconductor material with a p–n junction connected to two electrical terminals.
A vacuum tube diode has two electrodes, a plate (anode) and a heated cathode. Semiconductor diodes were the first semiconductor electronic devices.
The discovery of crystals' rectifying abilities was made by German physicist Ferdinand Braun in 1874. The first semiconductor diodes, called cat's whisker diodes, developed around 1906, were made of mineral crystals such as galena. Today, most diodes are made of silicon, but other semiconductors such as selenium or germanium are sometimes used.

1N4007
Diodes are used to convert AC into DC these are used as half wave rectifier or full wave rectifier. Three points must he kept in mind while using any type of diode.
Maximum forward current capacity
Maximum reverse voltage capacity
Maximum forward voltage capacity

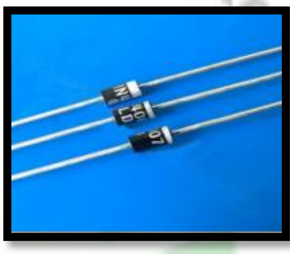


Fig: 1N4007 diodes
The number and voltage capacity of some of the important diodes available in the market are as follows:
Diodes of number IN4001, IN4002, IN4003, IN4004, IN4005, IN4006 and IN4007 have maximum reverse bias voltage capacity of 50V and maximum forward current capacity of 1 Amp.
Diode of same capacities can be used in place of one another. Besides this diode of more capacity can be used in place of diode of low capacity but diode of low capacity cannot be used in place of diode of high capacity. For example, in place of IN4002; IN4001 or IN4007 can be used but IN4001 or IN4002 cannot be used in place of IN4007.The diode BY125made by company BEL is equivalent of diode from IN4001 to IN4003. BY 126 is equivalent to diodes IN4004 to 4006 and BY 127 is equivalent to diode IN4007.

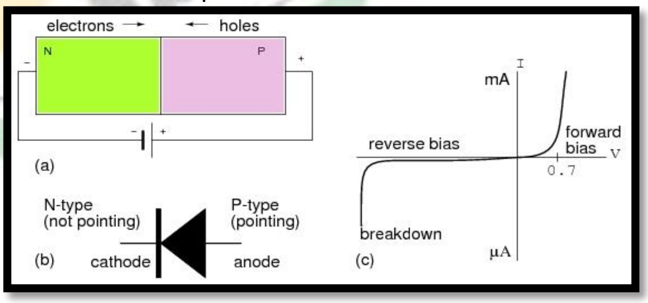


Fig:PN Junction diode

Buzzer

A buzzer or beeper is an audio signaling device, which may be mechanical, electromechanical, or piezoelectric (piezo for short). Typical uses of buzzers and beepers include alarm devices, timers, train and confirmation of user input such as a mouse click or keystroke.

Electromechanical

The electric buzzer was invented in 1831 by Joseph Henry. They were mainly used in early doorbells until they were phased out in the early 1930s in favor of musical chimes, which had a softer tone.

Piezoelectric

Piezoelectric speaker

Piezoelectric buzzers, or piezo buzzers, as they are sometimes called, were invented by Japanese manufacturers and fitted into a wide array of products during the 1970s to 1980s. This advancement mainly came about because of cooperative efforts by Japanese manufacturing companies. In 1951, they established the Barium Titanate Application Research Committee, which allowed the companies to be "competitively cooperative" and bring about several piezoelectric innovations and inventions.

TYPES

Electromechanical

Early devices were based on an electromechanical system identical to an electric bell without the metal gong. Similarly, a relay may be connected to interrupt its own actuating current, causing the contacts to buzz (the contacts buzz at line frequency if powered by alternating current) Often these units were anchored to a wall or ceiling to use it as a sounding board. The word "buzzer" comes from the rasping noise that electromechanical buzzers made.

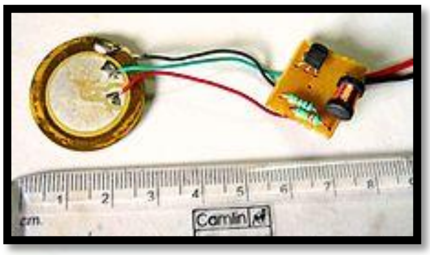
Mechanical

A joy buzzer is an example of a purely mechanical buzzer and they require drivers. Other examples of them are doorbells.

Piezoelectric

Piezoelectric disk beeper

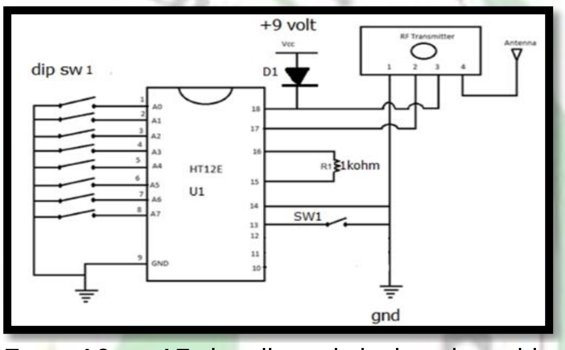
A piezoelectric element may be driven by an oscillating electronic circuit or other audio signal source, driven with a piezoelectric audio amplifier. Sounds commonly used to indicate that a button has been pressed are a click, a ring or a beep.



Interior of a readymade loudspeaker, showing a piezoelectric-disk-beeper (With 3 electrodes ... including 1 feedback-electrode (the central, small electrode joined with red wire in this photo), and an oscillator to self-drive the buzzer.

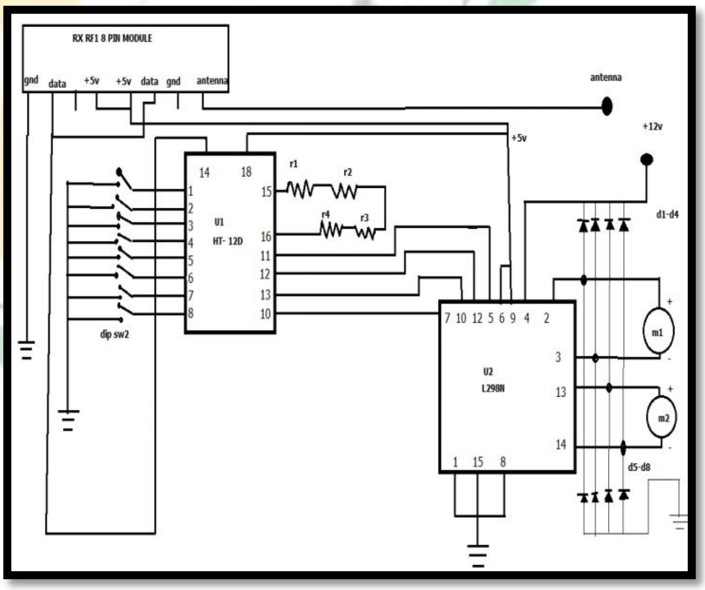
A piezoelectric buzzer/beeper also depends on acoustic cavity resonance or Helmholtz resonance to produce an audible beep.[4]

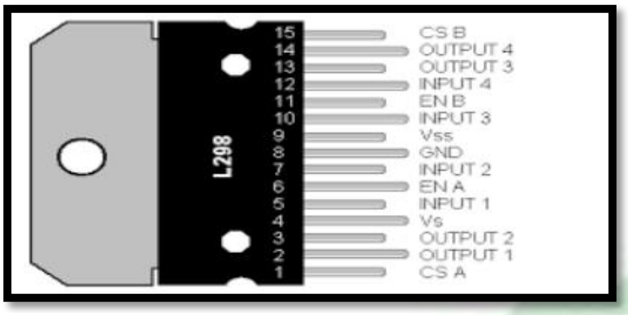
Transmitter circuit



From A0 to A7 the dip switch that the address setting switch between the transmitter and receiver will be connected. From pin no.13 to pin no.10 the connection will be connected to voice recognition module. This four connection will give commands for forward, reverse, left; right. The d1 is the zener diode that will drop the voltage that will be supplied to the tx module. The input voltage will be 9 volt dc. That will supply from the battery.

Receiver circuit





Description

The input voltage will be 12 volt dc from the battery that will be supplied to the l298 motor driver ic.

Through the 12 volt dc the 5 volt dc will be supplied to the rf receiver module.

The capacitor will do the purification work the pure dc will be supplied to the module from the capacitor.

The resistance at pin no. 15 and 16 is connected for oscillation purpose on ht12d ic.

The forward and reverse motion of the two motors is controlled by the key pressed from the transmitter. The forward and the reverse motion to the motor is governed by the ic l298n.the pulses on the pin 5,7 decides the motion of the motor 1 and on pin 10,12 decides the forward and reverse motion of the motor 2.

From d1 to d8 the diodes are connected on the motor terminal so that there will not be any reverse current or emf flow from the motor if this will happen the ic will get damaged.

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