



DTMF DECODER SHIELD FOR ARDUINO



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INTRODUCTION



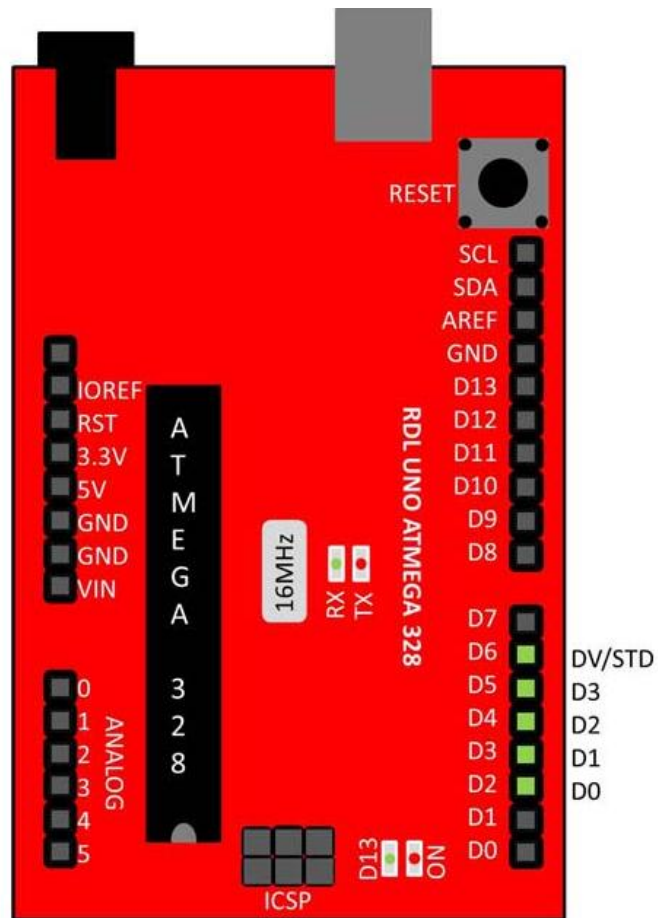
This board decodes DTMF signal either from an audio source or phone line to 4 bit binary TTL(5V) level output. It also indicates outputs with LED. Suitable for use with microcontroller applications.

FEATURES

- Decodes DTMF as 4 bit binary
- TTL level output for direct connection to microcontrollers
- Low power 5V DC operation
- LED indication of outputs
- Simple to use.
- High quality PCB FR4 Grade with FPT Certified.



ARDUINO I/O CONNECTIONS



ARDUINO CODE

```
/*
 * Project name:
   DTMF Decoder shield
 * Copyright
   (c) Researchdesignlab.com
 * Description:

 * Test configuration:
   MCU:           ATMEGA328
   Dev.Board:     Arduino uno
   Oscillator:    16 MHz
   Software:      Arduino

 */

const int analogInPin1 = A0; // Analog input pin that the potentiometer is attached to x axis Joystick
const int analogInPin2 = A1; // Analog input pin that the potentiometer is attached to y axis Joystick
const int buttonPin_A = 2; // the number of the D0 pin
const int buttonPin_B = 3; // the number of the D1 B pin
const int buttonPin_C = 4; // the number of the D2 C pin
const int buttonPin_D = 5; // the number of the D3 D pin
const int buttonPin_E = 6; // the number of the STD pin


int sensorValue = 0; // value read from the pot
int D0,D1,D2,D3,STD; // variable for reading the pushbutton status
void setup() {
  // initialize serial communications at 9600 bps:
  Serial.begin(9600);
  Serial.println("DTMF Decoder shield ");
  Serial.println(" ");

  // initialize the pushbutton pin as an input:
  pinMode(buttonPin_A, INPUT);
  pinMode(buttonPin_B, INPUT);
  pinMode(buttonPin_C, INPUT);
  pinMode(buttonPin_D, INPUT);
  pinMode(buttonPin_E, INPUT);

}
```

```
void loop() {

// read the state of the pushbutton A,B,C,D,E value:
D0 = digitalRead(buttonPin_A);
D1 = digitalRead(buttonPin_B);
D2 = digitalRead(buttonPin_C);
D3 = digitalRead(buttonPin_D);
STD = digitalRead(buttonPin_E);

if (STD == HIGH) {
  delay(400);
  if((D0==1)&&(D1==0)&&(D2==0)&&(D3==0))
  {

    Serial.print('1');
  }
  if((D0==0)&&(D1==1)&&(D2==0)&&(D3==0))
  {

    Serial.print('2');
  }
  if((D0==1)&&(D1==1)&&(D2==0)&&(D3==0))
  {

    Serial.print('3');
  }
  if((D0==0)&&(D1==0)&&(D2==1)&&(D3==0))
  {

    Serial.print('4');
  }
  if((D0==1)&&(D1==0)&&(D2==1)&&(D3==0))
  {

    Serial.print('5');
  }
}
```

```
if((D0==0)&&(D1==1)&&(D2==1)&&(D3==0))
{

Serial.print('6');
}
if((D0==1)&&(D1==1)&&(D2==1)&&(D3==0))
{

Serial.print('7');
}
if((D0==0)&&(D1==0)&&(D2==0)&&(D3==1))
{
Serial.print('8');
}
if((D0==1)&&(D1==0)&&(D2==0)&&(D3==1))
{

Serial.print('9');
}
if((D0==0)&&(D1==1)&&(D2==0)&&(D3==1))
{
Serial.print('0');
}
if((D0==1)&&(D1==1)&&(D2==0)&&(D3==1))
{
Serial.print('*');
}
if((D0==0)&&(D1==0)&&(D2==1)&&(D3==1))
{

Serial.print('#');
}
while(STD!=LOW)
{
STD = digitalRead(buttonPin_E);
}
}
```