

SKU:DFR0229 (<https://www.dfrobot.com/product-875.html>)

Introduction

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This is a Micro SD(TF) module from DFRobot. It is compatible with TF SD card (commonly used in Mobile Phone) which is the most tiny card in the market. SD module has various applications such as data logger, audio, video, graphics. This module will greatly expand the capability an Arduino (<https://www.dfrobot.com/category-35.html>) can do with their poor limited memory.


This module has SPI interface and 5V power supply which is compatible with Arduino UNO (<https://www.dfrobot.com/product-610.html>)/Mega. The Pinout is fully compatible with DFRobot's IO Expansion Shield V5.

Specification

- Working Voltage:5V
- Size:20x28mm
- Interface: SPI
- Compatible: MicroSD(TF)

Tutorial

Connection Diagram

 DFR0299_DIA.png

SDmodule	Arduino
MISO	D12

SCK	D13
SS chipSelect	D4
MOSI	D11
GND	GND
VCC	5V

NOTE: Different Boards may have different SPI pin map, please check the datasheet of your controller.

Sample Code

How to install Library? (<https://www.arduino.cc/en/Guide/Libraries#.UxU8mdzF9H0>) Open the sample sketch "CardInfo" in the Arduino IDE. As you can see, it include the SD library called **SD.h**, you could also download other open source library on the web.

```
/*
  SD card test

  This example shows how use the utility libraries on which the'
  SD library is based in order to get info about your SD card.
  Very useful for testing a card when you're not sure whether its working or not.

  The circuit:
  * SD card attached to SPI bus as follows:
  ** MOSI - pin 11 on Arduino Uno/Duemilanove/Diecimila
  ** MISO - pin 12 on Arduino Uno/Duemilanove/Diecimila
  ** CLK - pin 13 on Arduino Uno/Duemilanove/Diecimila
  ** CS - depends on your SD card shield or module.
      Pin 4 used here for consistency with other Arduino examples

  created  28 Mar 2011
  by Limor Fried
  modified 9 Apr 2012
  by Tom Igoe
  */
// include the SD library:
#include <SD.h>

// set up variables using the SD utility library functions:
Sd2Card card;
SdVolume volume;
SdFile root;

// change this to match your SD shield or module;
// Arduino Ethernet shield: pin 4
// Adafruit SD shields and modules: pin 10
```

```
// Adafruit SD shields and modules: pin 10
// Sparkfun SD shield: pin 8
const int chipSelect = 4;

void setup()

{
  // Open serial communications and wait for port to open:
  Serial.begin(9600);
  while (!Serial) {
    ; // wait for serial port to connect. Needed for Leonardo only
  }

  Serial.print("\nInitializing SD card...");
  // On the Ethernet Shield, CS is pin 4. It's set as an output by default.
  // Note that even if it's not used as the CS pin, the hardware SS pin
  // (10 on most Arduino boards, 53 on the Mega) must be left as an output
  // or the SD library functions will not work.
  pinMode(10, OUTPUT); // change this to 53 on a mega

  // we'll use the initialization code from the utility libraries
  // since we're just testing if the card is working!
  if (!card.init(SPI_HALF_SPEED, chipSelect)) {
    Serial.println("initialization failed. Things to check:");
    Serial.println("* is a card is inserted?");
    Serial.println("* Is your wiring correct?");
    Serial.println("* did you change the chipSelect pin to match your shield or module?");
    return;
  } else {
    Serial.println("Wiring is correct and a card is present.");
  }

  // print the type of card
  Serial.print("\nCard type: ");
  switch(card.type()) {
    case SD_CARD_TYPE_SD1:
      Serial.println("SD1");
      break;
    case SD_CARD_TYPE_SD2:
      Serial.println("SD2");
      break;
    case SD_CARD_TYPE_SD3:
      Serial.println("SD3");
      break;
    case SD_CARD_TYPE_MEMORY_CARD:
      Serial.println("Memory Card");
      break;
    default:
      Serial.println("Unknown");
      break;
  }
}
```

```
    Serial.println("SD1");
    break;
case SD_CARD_TYPE_SD2:
    Serial.println("SD2");
    break;

case SD_CARD_TYPE_SDHC:
    Serial.println("SDHC");
    break;
default:
    Serial.println("Unknown");
}

// Now we will try to open the 'volume'/'partition' - it should be FAT16 or FAT32
if (!volume.init(card)) {
    Serial.println("Could not find FAT16/FAT32 partition.\nMake sure you've formatted the card");
    return;
}

// print the type and size of the first FAT-type volume
uint32_t volumesize;
Serial.print("\nVolume type is FAT");
Serial.println(volume.fatType(), DEC);
Serial.println();

volumesize = volume.blocksPerCluster(); // clusters are collections of blocks
volumesize *= volume.clusterCount(); // we'll have a lot of clusters
volumesize *= 512; // SD card blocks are always 512 bytes
Serial.print("Volume size (bytes): ");
Serial.println(volumesize);
Serial.print("Volume size (Kbytes): ");
volumesize /= 1024;
Serial.println(volumesize);
Serial.print("Volume size (Mbytes): ");
volumesize /= 1024;
Serial.println(volumesize);
```

```
Serial.println("\nFiles found on the card (name, date and size in bytes): ");
root.openRoot(volume);

// list all files in the card with date and size
root.ls(LS_R | LS_DATE | LS_SIZE);
}

void loop(void) {

}
```


Expected Results

If your SD card is good and wiring is correct, open the Arduino IDE serial monitor, then you can see your SD card information. Or you might get this warn shown in the right picture.

FAQ

Q&A	Some general Arduino Problems/FAQ/Tips
A	For any questions, advice or cool ideas to share, please visit the DFRobot Forum (https://www.dfrobot.com/forum/).

More Documents

 Get **MicroSD card module for Arduino** (<https://www.dfrobot.com/product-875.html>) from DFRobot Store or **DFRobot Distributor**. (<https://www.dfrobot.com/index.php?route=information/distributorslogo>)

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