

# MicroSD Card Adapter v0.9b

## Features:

The module (MicroSD Card Adapter) is a Micro SD card reader module, and the SPI interface via the file system driver, microcontroller system to complete the MicroSD card read and write files.

Arduino users can directly use the Arduino IDE comes with an SD card to complete the library card initialization and read-write

## Module features are as follows:

Support Micro SD Card ( $\leq 2G$ ), Micro SDHC card ( $\leq 32G$ ) (high-speed card)

The level conversion circuit board that can interface level is 5V or 3.3V

Power supply is 4.5V ~ 5.5V, 3.3V voltage regulator circuit board

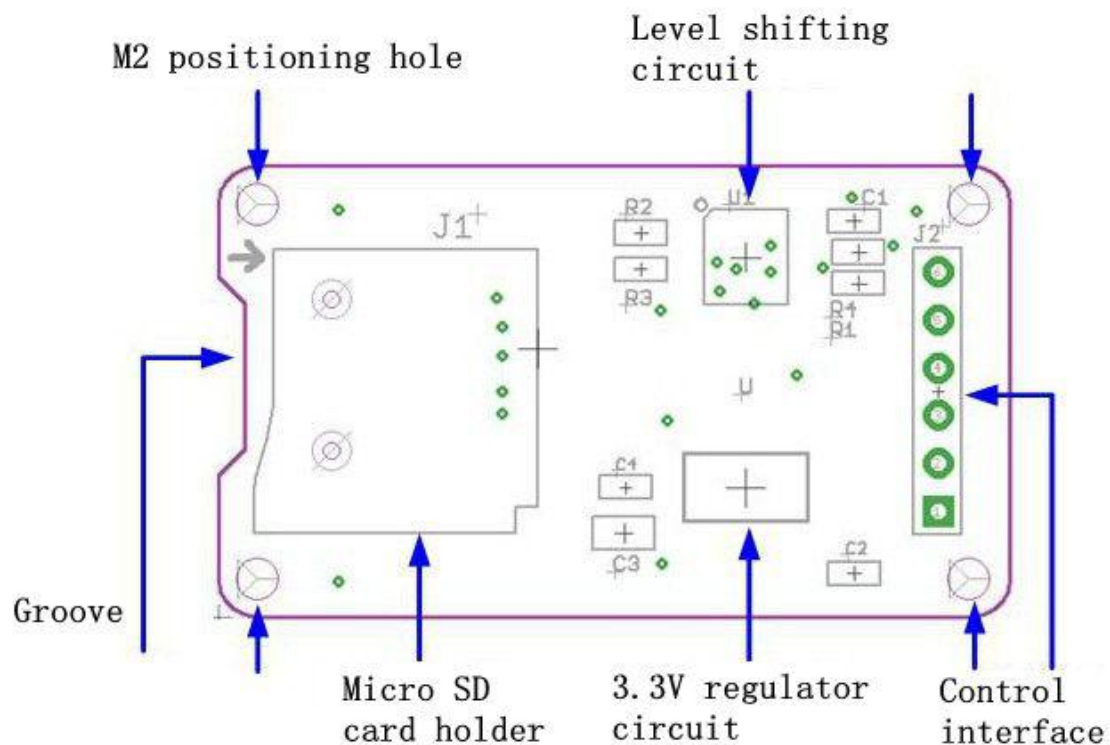
Communication interface is a standard SPI interface

4 M2 screw positioning holes for easy installation

Size: 4.1 x 2.4cm

Item	Min.	Typical	Max.	Unit
VCC	4.5	5	5.5	V
Current	0.2	80	200	mA
Interface level	3.3 or 5			V
Support card type	Micro SD card ( $\leq 2G$ ) , Mirco SDHC card ( $\leq 32G$ )			—
Size	42X24X12		mm	
Weight	5		g	

## Interface description



### Control Interface:

A total of six pins (GND, VCC, MISO, MOSI, SCK, CS), GND to ground, VCC is the power supply, MISO, MOSI, SCK is the SPI bus, CS is the chip select signal pin

### 3.3V regulator circuit:

LDO regulator output 3.3V as level converter chip, Micro SD card supply

### Level conversion circuit:

Micro SD card into the direction of signals into 3.3V, MicroSD card toward the direction of the control interface MISO signal is also converted to 3.3V, general AVR microcontroller system can read the signal

### Micro SD card connector:

It is a self-drilling card holder for easy insertion and removal of the card.

### Positioning holes:

4 M2 screws positioning hole diameter of 2.2mm, the module is easy to install positioning, to achieve inter-module combination

## How to use:

Experiment equipment:

1 Arduino compatible motherboard Catduino (not familiar with open source hardware can be understood as Atmega328P microcontroller development board) and a mini USB cable;

1 Micro SD card module;

1 2G Micro SD card;



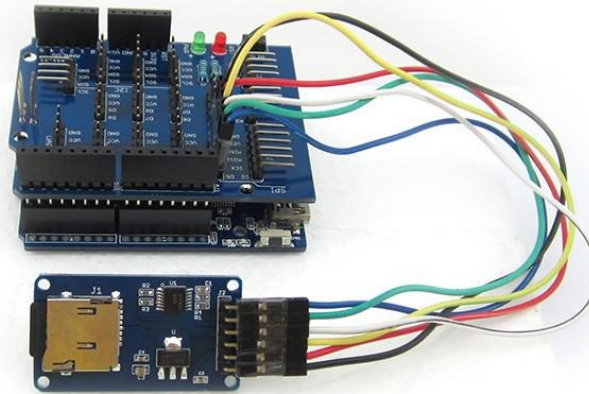
1 Arduino interface expansion board Base shield (internal link);

6 mother-to-female DuPont lines for connecting the control interface of the module and the SPI interface on the Base Shield;

Experimental steps:

1. Plug the Base Shield directly into the Catduino board and ensure that the Micro SD card is formatted in FAT16 or FAT32 format and plugged into the Micro SD card module.
2. Connect the Micro SD card module to the SPI interface of Base Shield with 6 female-to-female DuPont lines, as shown in the following table and figure.

Base Shield	Line	Micro SD card module
GND	Black	GND
VCC	Red	VCC
MISO	Yellow	MISO
MOSI	White	MOSI
SCK	Green	SCK
D5	Blue	CS



3. Connect the Catduino with mini USB. If you are using the motherboard for the first time, its USB to serial port driver can be used.

Drivers in the Arduino IDE directory find USB Drivers.

4. Micro SD card read and write related programs can use the Arduino IDE's own program, the directory is

..\Arduino-1.0\libraries\SD. Re-open the Arduino IDE and click the Open button on the toolbar to open the CardInfo routine in SD. As shown in the figure below, it should be noted that the chip select signal pin should be changed to the chip select pin that is actually connected to the module. In this experiment, select D5, as shown in the red box in

```

CardInfo | Arduino 1.0
File Edit Sketch Tools Help
CardInfo $
// 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
// Sparkfun SD shield: pin 8
const int chipSelect = 5;

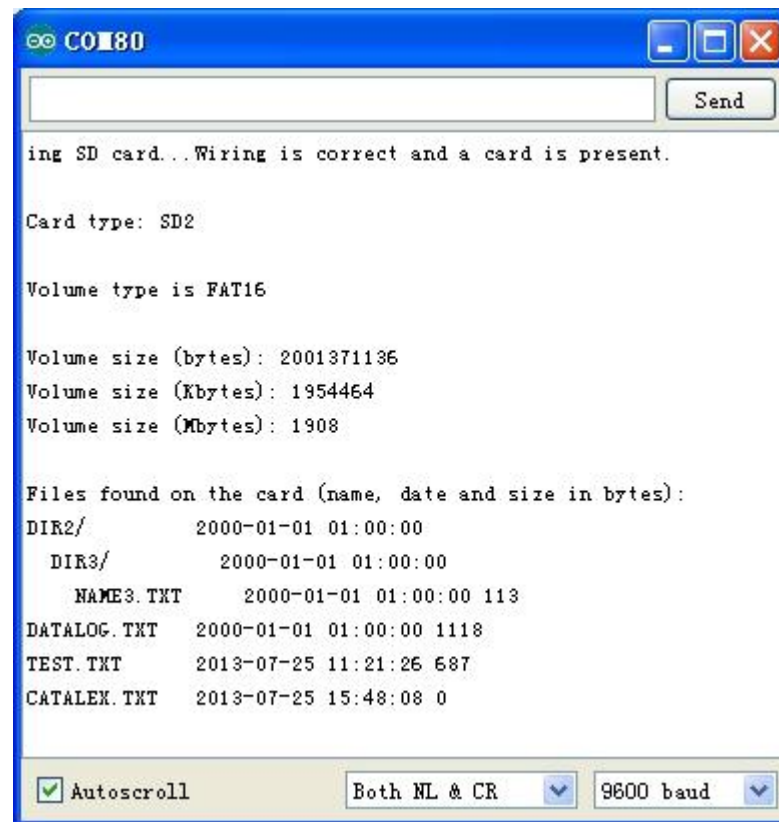
void setup()
{
  Serial.begin(9600);
  Serial.print("\nInitializing SD card...");
  // On the Ethernet Shield, CS is pin 4. It's set as an output by default.
  // Note that even if it's not used as the CS pin, the hardware SS pin
  // (10 on most Arduino boards, 53 on the Mega) must be left as an output
  Done uploading.

  Binary sketch size: 11796 bytes (of a 30720 byte maximum)
32 Arduino Duemilanove w/ ATmega328 on COM80

```

the figure.

Select the serial port and board name, and click the Burn button to burn. This example shows how to read the Micro SD card information, including the card type, file system type, storage capacity, and the file name in the card. Click on Serial Monitor to view it.



There are other routines in the SD library that users can experiment with and try more.