SD Card Module

This module contains a **S**ecure **D**igital Card socket for reading and writing data to an **SD** Card which has been formatted with the **F**ile **A**llocation **T**able **16** bit, and **FAT32** file systems. The file system is limited to "8.3" filenames (8 characters for the filename, and 3 characters for the extension). Where existing filenames on the **SD** Card are over 8 characters in length, they are shortened, and if the shortening process results in a naming conflict, the non conflicting part of the filename will be appended with a tilde character "~", then the ordinal number of each conflicting name. e.g. The filenames "Filename_A" and "Filename_B", would be shortened to "Filena~1" and "Filena~2" respectively.

The "SD" library included with the Arduino **I**ntegrated **D**evelopment **E**nvironment includes several more advanced samples for interacting with **SD** Cards.

Table 1: SD Card Module Pin Connections

Device	Arduino	Wire	Description
GND	GND	■	Ground connection.
+	5V	■	Positive 5 **V**olts **D**irect **C**urrent supply.
+3.3	3.3V	■	*Optional Positive 3.3 **VDC** supply when using 3.3 **VDC** instead of 5 **VDC**.*
CS	D10	■	**C**hip **S**elect.
MOSI	D11	■	**M**aster **O**ut **S**lave **I**n to **SD** Card.
SCK	D13	■	**S**erial **C**lock for **SD** Card.
MISO	D12	■	**M**aster **I**n **S**lave **O**ut to **SD** Card.
GND	GND	■	*Optional Additional ground connection.*

D10: can be any digital pin, D11, D12, D13 are hard coded into SD Library.
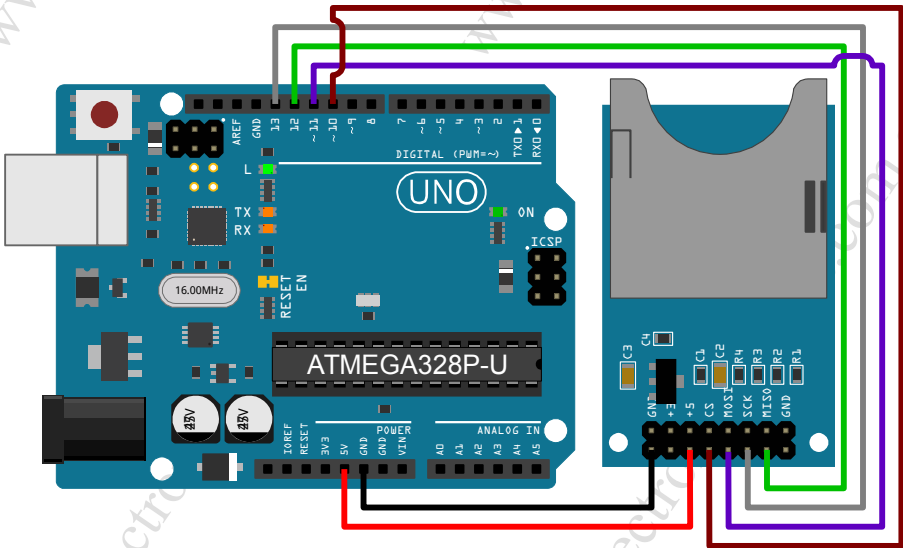
The sketch below displays the contents of the root directory of the SD Card to the Arduino Serial Monitor / Plotter.

```
#include <SD.h>
Sd2Card card;
SdVolume volume;
SdFile root;
const int chipSelect = 10;
void setup() {
  Serial.begin( 9600 );
```

```
Serial.println( "\nInitializing SD card..." );
pinMode( chipSelect, OUTPUT );
if ( !card.init( SPI_HALF_SPEED, chipSelect ) ) {
  Serial.println( "Initialization failed." );
  return;
} else {
  Serial.println( "Initialisation success." );
}
if ( !volume.init( card ) ) {
  Serial.println( "Could not find FAT16/FAT32 partition." );
}
root.openRoot( volume );
root.ls ( LS_R | LS_DATE | LS_SIZE );
}
void loop( void ) {
}
```

Module Specifications

PCB Dimensions (H × W × D):	30.8 × 47.9 × 1.6 mm
Enclosing Dimensions (H × W × D):	30.8 × 51.3 × 11.2 mm
Weight:	8.12 grams [g]
Input Voltage:	5 VDC

Module Performance

Current Draw (Idle / Reading):	3.2 milliamps [mA] @ 5.00 VDC
Current Draw (Writing):	8.7 mA @ 5.00 VDC

Module Mounting

The module has a 2 × 2.5 mm diameter mounting holes at the connection pin header end of the Printed Circuit Board. As the bare leads of the connection pin header protrude through the bottom of the PCB, suitable spacers and insulation must be used.

Projects

Folder: **\Modules\Data\SD_Card**

• **SD_Card_SM**: Display the contents of the root directory of the **SD** Card to the Arduino Serial Monitor.

SD Card Module - Dimensions

SD Card

30.8 PCB
28.6
24.0
2.46
2.14
6.7
3.44
25.6
44.65
3.25
2.54
2.27
2.54
Typical
6.51
17.8
6.51
26.5
2.15
2.15
Ø2.5

C3 C4 C1 C2 R4 R3 R2 R1
GND +3 +5 CS MOSI SCK MISO GND

8.5
11.2
1.6
1.1

57.94
51.34
2.1
2.76
47.9 PCB