

Micro-SD Card Reader

for BrainBoard

MindKitsInvent

Contents

Introduction	3
Features	3
Getting Started	4
Checking the Card	4
Reading & Writing Files	5
Removing the Module	5
Getting Help	5

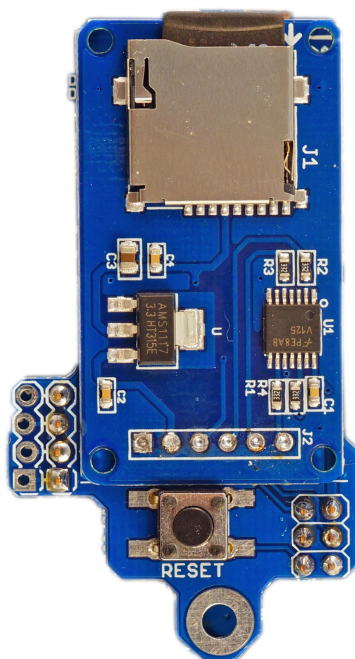
Introduction

The Micro-SD card reader adds practically unlimited non-volatile storage to your project. Store and play .wav files to the card and give your project speech or sound-effects, or log sensor data for later analysis. With the modules and code already done you can start doing this in a few minutes with no programming or electronics experience.

Cards up to 32GB have been tested, giving you 370,370.370 days, or 1,014.71 years of analog recording once per second, assuming 8-bit measurements. That's a long time!

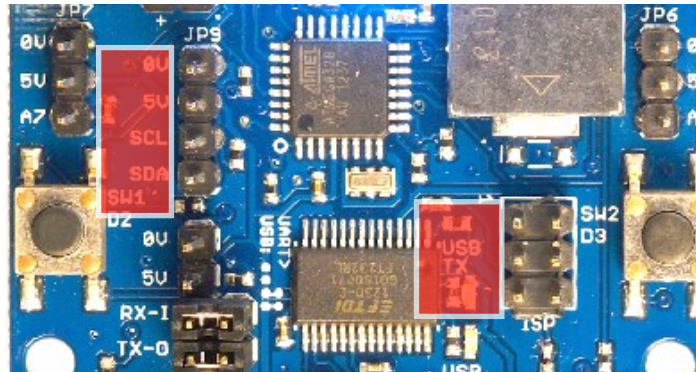
Features

- Plugs directly into BrainBoard.
- Tested up to 32GB, and it probably takes larger cards just fine.
- Simple SPI interface, using standard Arduino library.
- Onboard regulator and level translation between 3.3V and 5V.
- A secondary microcontroller reset button (the module covers the main reset button).
- Duplicated I2C header pins in case those are needed.
- 3mm mounting lug. Module can be mounted to BrainBoard, robot chassis, etc.



Getting Started

1. Disconnect power from BrainBoard.
2. Plug in the module, making sure the sockets line up with pins on JP9 and the 2x6 ISP header. See the picture below and on the cover page — the pushbutton goes to the USB end.



3. Insert an SD card. Make sure it's formatted FAT32 or FAT16 first and there are no important files on it.
4. Connect BrainBoard to your computer with a mini USB cable.

Checking the Card

1. Open Arduino IDE.
2. Set up the Board (Nano w/ 328) and Port for BrainBoard.
3. Select File > Examples > SD > CardInfo.
4. Hit 'Upload'.
5. Open Tools > Serial Monitor. Set the baud rate to 9600 (bottom left).
6. You'll see card information and a directory listing streaming in.

Note there is a pin setting for the Chip Select pin, `const int chipSelect = 4;`

This pin does nothing as the module is already pre-configured (enabled) by default. Pin 4 is connected to the motor driver, so you can change it to another pin that isn't in use like pin 10 if you need, but it must be set to something.

Reading & Writing Files

See the other example sketches.

Removing the Module

Power down BrainBoard and grip either side of the module near its mounting connectors, pulling upward carefully to avoid bending the pins — wiggling helps.

If you bend the pins you can use fine-tip pliers or a single 0.1” socket (on a hookup cable, say) to gently bend it back into place.

Getting Help

If something doesn't make sense, doesn't work as expected, or you have any comments or suggestions then get in touch with us and we'll sort you out.

Contact support@mindkitsinvent.com

[twitter](#) @MindKits

[Facebook](#) www.facebook.com/MindKits