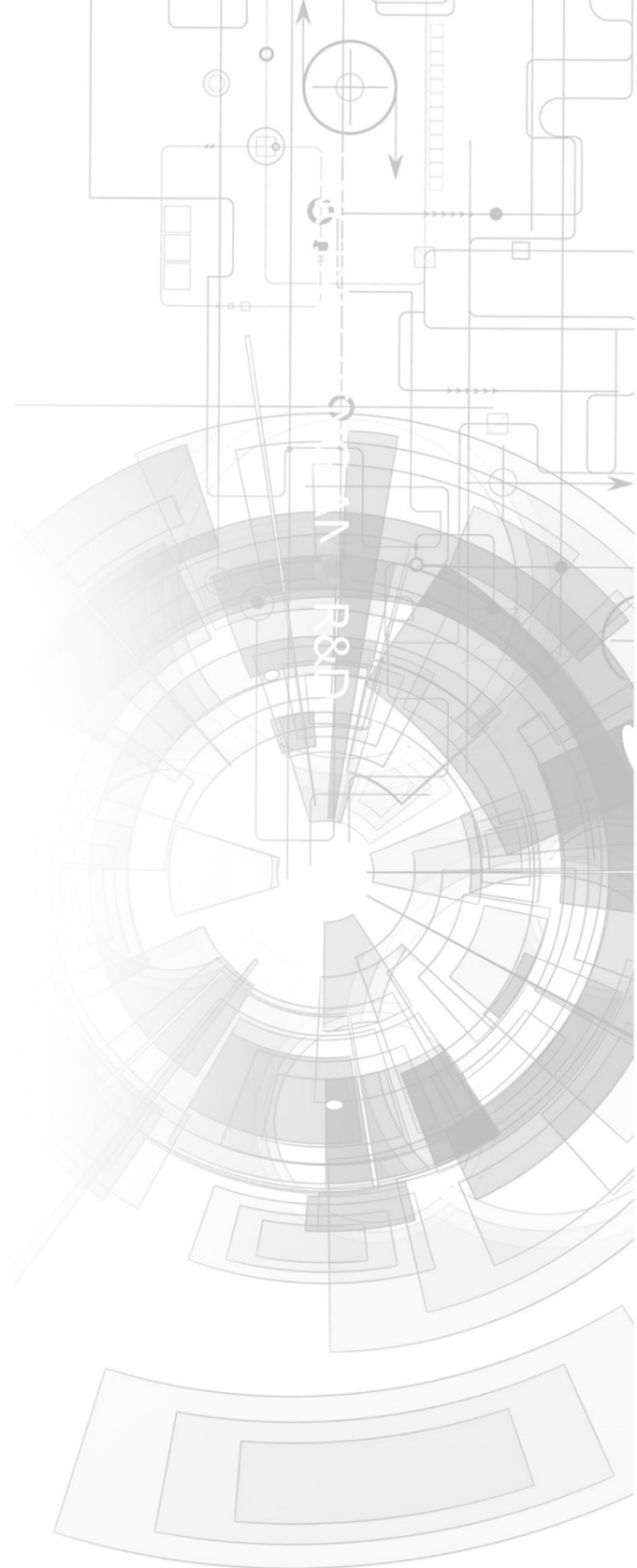


# SOMO-II



## Datasheet

Revision 1.6

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## 1. Description

The **SOMO-II** (**SO**und **Mo**dule 2) is a tiny Audio-Sound module that can play MP3 audio files stored on a micro-SD card (or USB 2.0 Flash drive with extra components), such as voice and music.

The SOMO-II features an on board 16bit MCU, specifically designed for hardware audio decoding.

The SOMO-II supports both FAT16 and FAT32 formatted micro-SD and USB Flash Drives up to 32Gb in size, and features a 24-bit DAC output with support for all MP3 bit rates (11172-3 & ISO13813-3 3 Layer Audio Decoding) with 8-Khz to 48Khz Sampling Rate.

Files can be stored in the root folder of the micro-SD or USB Flashdrive, else in folders. It supports up to 99 folders and every folder can contain up to 255 songs.

Audio files can be easily loaded to the micro-SD card or USB Flash drive using a PC/Laptop, and inserted into the SOMO-II for playback. No external software is required.

The compact 16pin drop-in-module takes up very minimal board space and is ideal for any application that requires embedded audio.

The SOMO-II features an on board mono Amplifier capable of driving an 4ohm 3 Watt speaker directly (see [Arduino Output and Control Pins](#) section). It also features stereo DAC output for connecting directly to headphones or into an external amplifier.

The module offers two modes of operation, SERIAL-MODE and the KEY-MODE.

The SERIAL-MODE provides a simple 2-wire Serial UART interface to any micro-controller via its TX and RX pins. Audio operations such as PLAY, PAUSE, STOP, NEXT, PREVIOUS and VOLUME control functions are all available to the host micro via simple serial commands, along with many more. SERIAL-MODE features a CRC check.

The KEY-MODE provides a stand-alone operation where a host micro is not required. It is possible to control the module with just 2 buttons, or an array of buttons can be added via various resistor values to get full control of the module without having to use an external processor.

With only 2 push buttons, a 3.3V to 5V battery and a speaker, an extremely compact and low component count MP3-Player like system can be implemented.

In short, the SOMO-II offers a very flexible, compact and low cost embedded audio solution for many applications.

