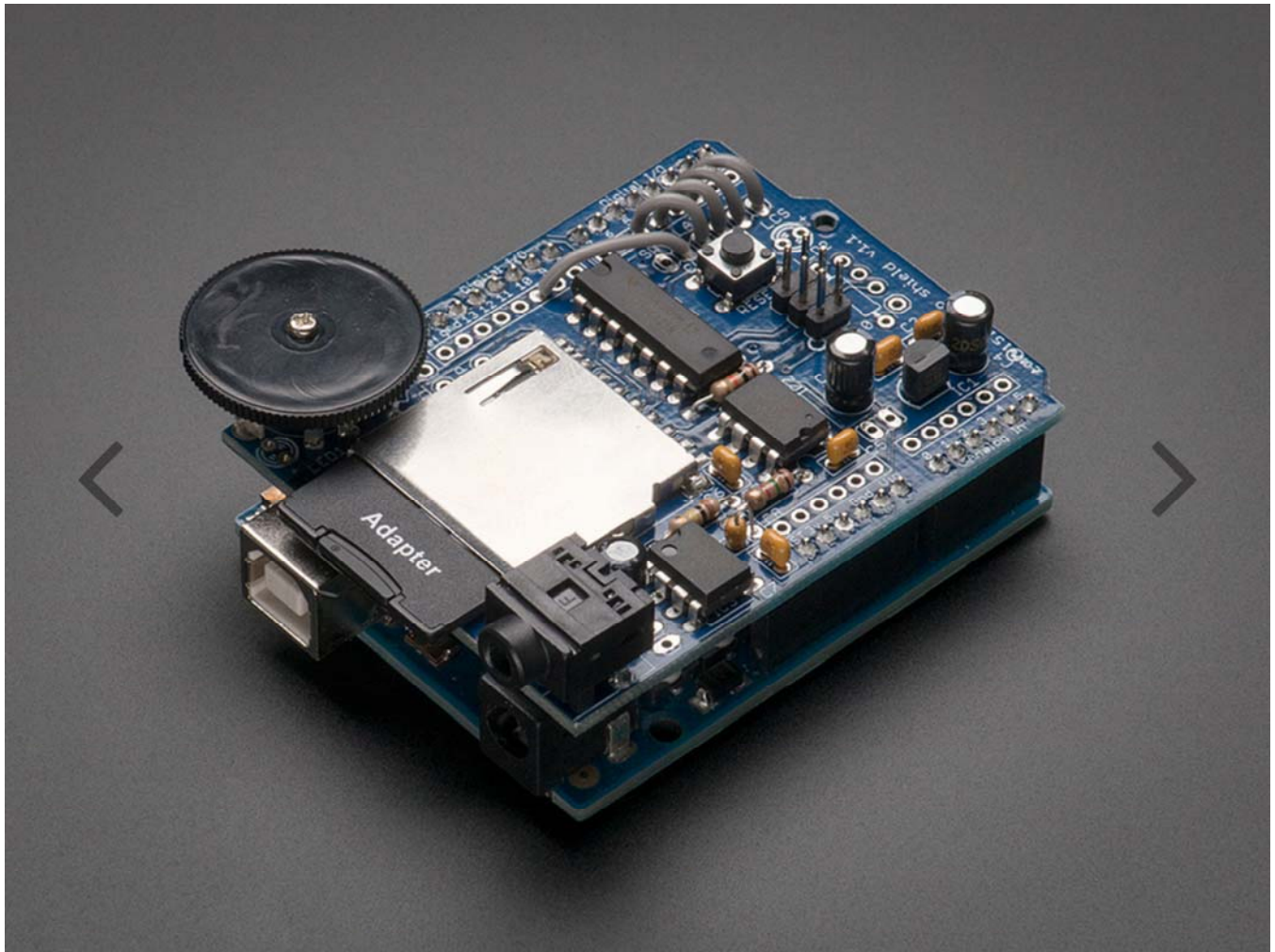


ARDUINO / SHIELDS

# Adafruit Wave Shield for Arduino Kit – v1.1

PRODUCT ID: 94



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## DESCRIPTION

Adding quality audio to an electronic project is surprisingly difficult. Here is a shield for Arduinos that solves this problem. It can play up to 22KHz 12bit uncompressed audio files of any length. It's low cost, available as an easy-to-make kit. It has an onboard DAC, filter and op-amp for high quality output. Audio files are read off of an SD/MMC card, which are available at nearly any store. Volume can be controlled with the onboard thumbwheel potentiometer.

This shield is a kit, and comes with all parts you need to build it.

Arduino, SD card, tools, speaker and headphones are not included. It is fairly easy to construct and anyone with a successful soldering project under their belt should be able to build it.

The shield comes with an Arduino library for easy use; simply drag uncompressed wave files onto the SD card and plug it in. Then use the library to play audio when buttons are pressed, or when a sensor goes off, or when serial data is received, etc. Audio is played *asynchronously* as an interrupt, so the Arduino can perform tasks while the audio is playing.

- Can play any uncompressed 22KHz 16bit (on a 12bit DAC), mono Wave (.wav) files of any size. While it isn't CD quality, it is certainly good enough to play music, have spoken word, or audio effects. Check out the demo video/audio at the webpage
- Output is mono, into L and R channels, standard 3.5mm headphone jack and a connection for a speaker that is switched on when the headphones are unplugged
- Files are read off of a FAT16/FAT32-formatted SD/MMC card
- Included library and examples makes playing audio easy
- Please note that the library *is* rather bulky, requiring 10K of flash and more than 1/2 K of RAM for buffering audio. It works fine using any ATmega328-based Arduino (Duemilanove, Uno or compatible).
- This shield is not Mega or Leonardo compatible!

More information, including design notes, schematics, library, examples, etc is at the Wave Shield webpage

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