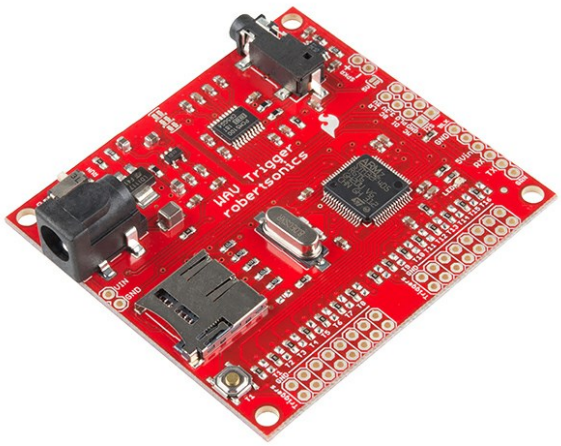








SHARE

Previous Versions

# WAV Trigger

WIG-13660 ROHS

19

DESCRIPTION FEATURES DOCUMENTS

The WAV Trigger is a unique high-fidelity polyphonic audio player with surprising capabilities. Supporting up to 2048 uncompressed 16-bit, 44.1kHz wav files – the same quality as an audio CD – the WAV Trigger can play and mix up to 14 stereo tracks simultaneously and independently, with very low latency. Tracks can be controlled via 16 programmable trigger inputs, or by using a native serial control protocol or even MIDI.

Trigger inputs can be connected directly to switches and buttons, or to digital outputs from sensors or another microcontroller. Alternate functions can be specified using a free cross-platform GUI application, and allow triggers to play sequential or random tracks, pause and resume groups of tracks and even control volume. An Arduino library allows for complex serial control like real-time mixing, starting multiple tracks in sample-sync and smooth cross-fading between tracks.

On-board sample rate conversion allows for smoothly changing playback speed/pitch from 0.5x to 2x. in real-time.

MIDI allows you to use the WAV Trigger as a polyphonic sampling synthesizer to play your own sounds from any MIDI keyboard controller. MIDI Channels and Note numbers are mapped to track numbers, and MIDI Controllers adjust volume as well as attack and release times. MIDI Program Change is supported to switch between up to 16 banks of 128 sounds. The WAV Trigger audio engine even implements, pitch bending, voice stealing (oldest playing voices are used for new MIDI Notes when all 14 voices are being used), note attack (fade-in), note release (fade-out) and latency averages 8 ms.

The WAV Trigger supports both SDSC (up to 2GB) and SDHC (up to 32GB) type microSD cards.

Check the link in the documents below to keep up with the latest Firmware updates!

**Note:** This product is a collaboration with Robertsonics. A portion of each sales goes back to them for product support and continued development.

## WAV Trigger Product Help and Resources

TUTORIALS VIDEOS SUPPORT TIPS hackster.io SKILLS NEEDED

Tsunami Hookup Guide

FEBRUARY 16, 2017

Hit the ground running with Tsunami, the Super Wav Trigger.

COMMENTS 76 | REVIEWS ★★★★½ 19

# Customer Reviews

## ★★★★½ 4.5 out of 5

Based on 19 ratings:

| | | |
|---|---|---|
| 5 star | | 11 |
| 4 star | | 7 |
| 3 star | | 0 |
| 2 star | | 1 |
| 1 star | | 0 |

*Currently viewing all customer reviews.*

1 of 1 found this helpful:

### ★★★★★ Brilliant!

about a year ago by Member #885103 ✔ verified purchaser

Wav Trigger is great for my use, triggering .wav files from electric drum pads, using the 16 digital inputs on the board. I can't wait for my Arduino to come in the mail so I can start experimenting with getting them to work together. Jamie (the designer) was helpful when I needed assistance.

1 of 1 found this helpful:

### ★★★★★ pretty amazing

about 2 years ago by hydronics ✔ verified purchaser

I built exhibits at a Museum… when you have to fade audio in and out… layer audio… control the volume… all via a pretty easy serial protocol. great product Sparkfun!

1 of 1 found this helpful:

### ★★★★★ Best card out there

about 2 years ago by Member #572774 ✔ verified purchaser

Polyphonic and ease of use. This fill the needs of my microdrum project perfectly. Thanks for your hard work.

1 of 1 found this helpful:

### ★★★★★ Love it... (again)

about a year ago by exeng ✔ verified purchaser

Just getting started with this board and I'm already impressed with it's features and sound quality. Love having polyphonic capability to layer sounds. Was tripped up initially by my own excitement to try it out and failed to read all the instructions. Here are a few pointers to make sure you have success from the start. Good power source and proper file format for the wav files. Read the instructions and the troubleshooting section if no sound. Looking forward to giving a robot a voice to entertain the grand kids with. Will integrate this with a multitude of sensors and visual to displays to create a talking robot. Let the fun and creativity begin.

Edit: Love is turning into like. I've been trying to make use of the "isTrackPlaying" to prevent a re-trigger of a playing sound when motion is detected. Believe that I'm doing everything correctly (settings and update calls) but get no status for playing track back from the Wav Trigger. Looking like a bug but It could be me. Trying to figure out how to get support. Success there will determine my overall satisfaction. Without this feature working my application is not possible without annoying re-triggers of playing tracks. Dropping to 4 stars.

EDIT: Well I've been in contact with robertsonics through the Sparfun forum (rapid response BTW) and it was recommended to update firmware to 1.30 (actually 1.30b prelim release). This appears to have resolved my problem. I'm a happy camper again and glad to see that this product is well supported. Bumping back to 5 fives.

> ROB-24601 replied on January 5, 2017:
>
> I would recommend that you get in touch with our tech support team. They should have no trouble helping resolve this issue for you!

1 of 1 found this helpful:

### ★★★★☆ Three WAV Triggers

about 2 years ago by Member #206095 ✔ verified purchaser

Two WAV Triggers are operated just to trigger pre-recorded WAV files by signals from a Raspberry Pi running Python GPIO code. This limited the number of sounds. However, thanks to excellent support on a forum from Robertsonics, a third WAV Trigger is operated by two wires from an Arduino which decodes six bits and an interrupt bit from Python running on a second Raspberry Pi. This provides five polyphonic octaves (and with more bits could do more) of custom sounds recorded from Mathematica code than can run on a Raspberry Pi. And yes, latency is low even through the layers of code.

---

3 of 3 found this helpful:

### ★★★★★ simply amazing

about 3 years ago by Member #125318 ✔ verified purchaser

I've been looking for a music synthesizer for several of my projects and found the existing MIDI synth chips less than pleasant to listen to; lots of noise and poor sound quality. The WAV Trigger is simply amazing for me. To be able to select among 2k sounds, at CD quality, and play up to 12 at once for less than is simply amazing. The software to test and change the trigger options is great. You can even operate the board without a microprocessor by connecting to the 16 channels of trigger input. The only additional feature I'd ask for is to be able to dynamically change the balance (the relative Right/Left amplitude). I think this board will keep me busy for the next 6 months of research and development.

---

### ★★★★★ Awesome

about a year ago by Member #849151 ✔ verified purchaser

I connected the wave trigger to the sound system in church to play sound effects for some skits. It worked perfectly, played breaking glass sound and was able to time it with the box hitting the floor easily!

---

### ★★☆☆☆ works great but firmware is closed source

about a year ago by ktmglen ✔ verified purchaser

Unfortunately only the hardware is open source. The firmware that runs on the ST microcontroller is closed source. Other than that I have no complaints. The board does what the description says and works great.

> ROB-24601 replied on December 8, 2016:
>
> EDIT: Having spoken with Jamie from Robertsonics (possibly the nicest guy ever), the firmware is, in fact, closed source. Having licensed it out, it wouldn't be fair to those who originally paid a licensing fee for him to then release it as open source. You are, of course, welcome to write your own firmware for it if you need a more customized firmware. Happy hacking!

---

### ★★★★★ Works great although slightly buggy

about a year ago by Member #487253 ✔ verified purchaser

If you need to trigger audio, give this a shot. It's worth it and works pretty well. It has a few minor glitches but plays loops and one shot segments great with no perceptible delay. It could use an improved WAV file parser b/c the WAV files it uses must not contain miscellaneous meta data and thus need to be exported from your computer using certain WAV exporters which do not include meta data (more rare on Macs but Audacity works well). There is no indication as to why a particular sound doesn't play so examine this first if you don't hear what is expected.

Also the test button on the board plays the first file with the lowest numbered file names (like 0001_Piano_C1) but if you name something beginning with 0000, the board does not see this file. Not a biggie…

It also could use a folder structure. Right now all files must reside at the root level - a little hard to organize when you have hundreds or thousands of sounds.

All that said, it's a great board with online firmware improvements available. I recommend it if you need to play audio.

---

### ★★★★☆ Really great but a bit expensive

about 8 months ago by MattyC ✔ verified purchaser

Super easy to use, pretty much everything just 'worked'. Only tricky thing was getting the wav file format right.

★★★★★ Best sound board I've ever had!

about 7 months ago by aestrella ✔ verified purchaser

Awesome functionality and the serial control is very useful! The sound is beautiful!

---

★★★★★ Beyond my expectations

about 3 months ago by Member #416607 ✔ verified purchaser

The physical controls work perfectly like it says it would.

But I bought this board to run sounds as part of a “Live Escape Room” music setup, and needed it to be controlled with an Arduino. And the serial communication (combined with the library) is just perfect for that, enabling me to play a theme song while adding sound effects accordingly to the players' actions. And the cherry on the cake are the built-in functions (playback speed, fade in/out, …) that even made me think about new ideas for my Escape Room.

I look forward to try the Tsunami version now (and run a quadrophonic system !)

---

★★★★☆ grate product!

about a month ago by Member #1263275 ✔ verified purchaser

Small Package, surprisingly powerful.

---

★★★★★ Hard to find solution, it's POLYPHONIC!

about 1 days ago by Member #1273224 ✔ verified purchaser

Building a rather sophisticated toy control panel project for my grandkids and I needed many sounds to function at the same time. This card suited my needs perfectly…only after I scoured the web for many hours to find this. Quality of the board is excellent including through-hole solder pads and the documentation is also very good. Triggering options are very useful. For my application this has worked out really well, very satisfied. Only concern is that this card tends to get quite hot even though I’m not using the embedded audio amp. I may drop the supply voltage from 12V to 9V to lower the heat dissipation from the surface mount voltage regulator. I’m hoping the heat will not destroy this thing over time, if so it will be a big disappointment.

---

★★★★☆ Wav Trigge

about 2 years ago by Member #710083 ✔ verified purchaser

Hi,

The Wav Trigger is working perfectly.

I’m working to make electronic drums.

The Wav Trigger’s strong points, as advertised, is that it can play polyphonic sounds, playing .wav files (which is really better than MP3, as there is no delay due to the MP3 format).

I think it could be useful to develop an Arduino shield version of the Wav Trigger, as it could avoid using a computer to change the sounds of the pins. I planned to use simple press buttons + a LCD to change the tracks, but I m not sure I can do it with the WAV Trigger.

Anway, it’s a good product.

Cheers

---

★★★★★ Worked just as promised

about 2 years ago by Member #731064 ✔ verified purchaser

We only used it in the most simple fashion but basically plug and play. Thank you.

---

★★★★☆ WAV Trigger

about 2 years ago by Member #781733 ✔ verified purchaser

easy to start any sounds project … it’s helpful to my project and I waiting now for FTDI to get in deep of wonderful sparkfun products

---

★★★★☆ Very awesome board

about a year ago by Member #829852 ✔ verified purchaser

It´s great, do exactly what it promises to do.

★★★★☆ Wonderfull

about a year ago by LeonJ1972 ✔ verified purchaser

is a great board

START SOMETHING.

SUBSCRIBE TO NEWSLETTER

SUBSCRIBE TO NEWSLETTER

In 2003, CU student Nate Seidle blew a power supply in his dorm room and, in lieu of a way to order easy replacements, decided to start his own company. Since then, SparkFun has been committed to sustainably helping our world achieve electronics literacy from our headquarters in Boulder, Colorado.

No matter your vision, SparkFun's products and resources are designed to make the world of electronics more accessible. In addition to over 2,000 open source components and widgets, SparkFun offers curriculum, training and online tutorials designed to help demystify the wonderful world of embedded electronics. We're here to help you start something.

**About Us**
About SparkFun
SparkFun Education
Feeds
Jobs
Contact

**Help**
Customer Service
Shipping
Return Policy
FAQ
Chat With Us

**Programs**
Become a Community Partner
- Community Stories

Custom Kit Requests
Tell Us About Your Project
Sell Your Widget on SparkFun
Become a SparkFun Distributor
Large Volume Sales

**Community**
Forum
SparkFun IRC Channel
Take the SparkFun Quiz
SparkFun Kickstarter Projects
Distributors

**What's on your mind?**

**For which department?**

General

**Please include your email address if you'd like us to respond to a specific question.**

email address

SUBMIT