Welcome to the NeuroRevolution!

Congratulations! You are now a proud owner of the SpikerBox.

Battery
Energy Source

Speaker
For hearing spikes

Cork
For bugs

Audio Out
For laptop/speaker/Smartphone

Input
For electrode

LED
Power
On/Off

Laptop cable
Use it to connect SpikerBox to your laptop.

Stim Cable
Plug into your music player, place hooks on the cockroach leg electrodes and watch it dance!

Electrode
Place pins into your insect to hear and record living neurons!

Smartphone cable
Use it to record spikes on your smartphone.

Flip over to get started with your FIRST experiment...
**Getting started with your**

You just got an amazing device that can help you discover a whole new world inside of a living creature. The SpikerBox is a “bioamplifier” that allows you to hear and see spikes (i.e. action potentials) of real living neurons in invertebrates.

**Let’s get started!**

This is a great introductory experiment to get you started with spikes! By the end of this experiment, you will understand what neurons are, how they communicate, and how to record spikes using a SpikerBox!

**Procedures:**

Anesthetize the Cockroach. Put it in a jar of ice water. Wait a few minutes until it stops moving.

Neurosurgery! Remove the cockroach from ice, and cut off one of his legs near the body.

Place the leg on the cork of your SpikerBox, allowing a bit of the leg to overhang, like this.

And put the two electrodes in. It doesn’t matter which pins are where.

Using your smartphone, Zoom in with your fingers, the spikes will look like this:

This is due to ion channels opening and closing in the neurons, causing a spike, or Action Potential.

Note: You can also do this experiment on crickets if you do not have access to cockroaches! These can easily be found at pet stores or your backyard!

Dozen of other experiments at [BackyardBrains.com](http://www.backyardbrains.com)