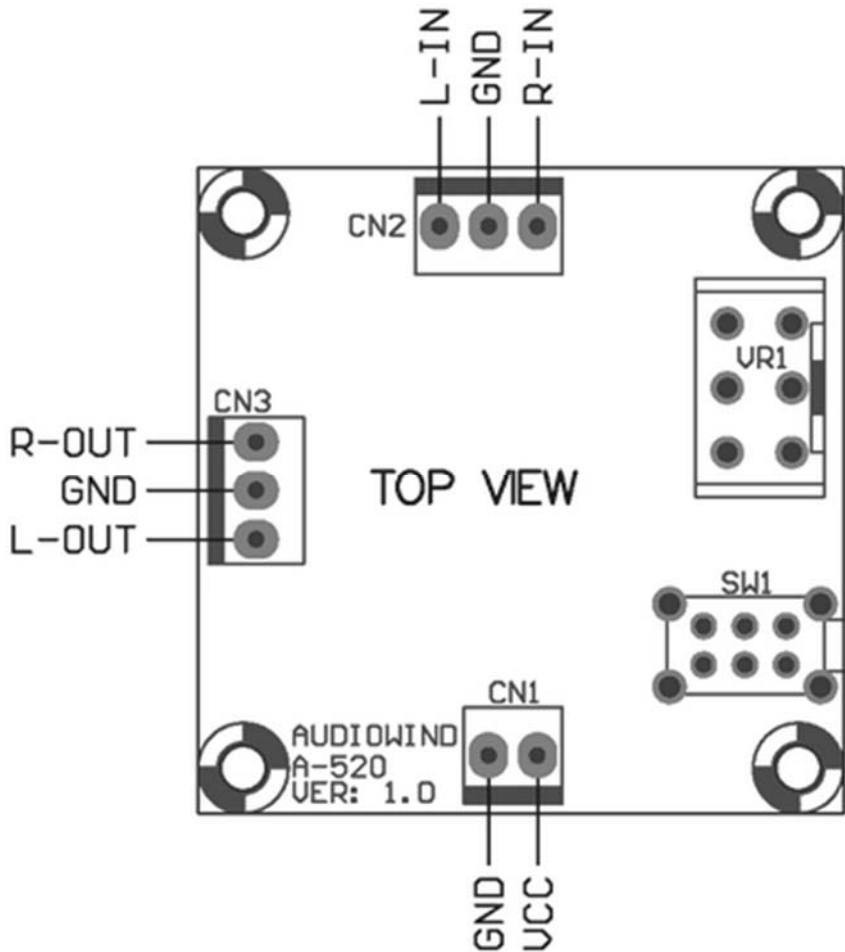


# Build Your Own E-Stim Toys



Eibon

## What Is E-stim?

E-stim involves using a TENS unit or TENS-like unit (“power box” as ErosTek and similar devices are called) that takes a DC (direct current) charge and amplifies the output while also boosting the voltage. This gives it the ability to penetrate beyond the tertiary (surface) layer of the skin. The current flows between two places on the body. The articles placed on the body where current is exchanged are called electrodes, and the current passing between the electrodes creates the sensations felt.

## Who Shouldn't Try Electrical Play?

This statement from the ErosTek 232 user manual sums it up well:

*“E-stim devices are **NOT** for use by or on anyone with implanted electronic devices (i.e. pacemakers, defibrillators, drug pumps, etc.), heart problems, heart disease, epilepsy, brain disorders, nervous system disorders, a history of strokes or seizures, serious skin problems or similar medical conditions. Not for use by pregnant women, women who might be pregnant, or anyone under the age of 18. Keep away from children. **Current passed through the heart, neck or head can be fatal.**”*

## To reiterate: playing above the waist is dangerous!

Unless you have the qualifications to do so never build or modify your own device and draw your power from a wall socket. The devices we will be talking about are all battery-powered, either by AA, AAA, or 9V battery. If you plug these into a wall socket and there's a lightning strike or other sort of power surge the results could be disastrous.

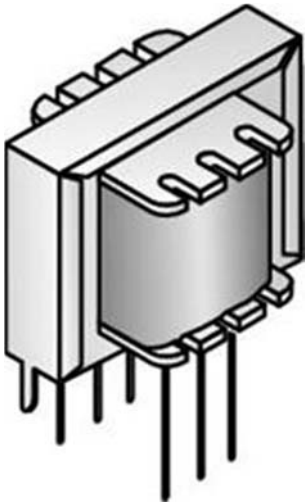
## Why Try E-stim?

E-stim can be done solo or with one or more partners (if using with more than one partner it's a good idea to keep any physical contact between

them beneath the waist). Many men and women report hands-free orgasms when using e-stim, as well as better sex with their partner immediately after using it. It may be used for pleasure, pain, or both, depending on the desire of the operator and/or their partner.

## How Do You Create Your Own E-stim Devices?

For the purposes of this class we'll be modifying low-powered amplifiers (1-2W) by removing the speaker and replacing it with a transformer, in our case two audio output transformers from Mouser.com, part number #42TU003-RC . These are available for \$3.14 each.



The transformer amplifies the output and boosts the voltage, so instead of the electricity sending sound through a speaker, it sends it through the transformer and becomes a sex toy when the right devices are attached.

When wiring transformers to these devices always remember that transformers are different, so they will all connect differently. What works for the #42TU003-RC won't work for other brands/types.

The way we're wiring the transformers together today is referred to as the "suicide configuration" in the "Davey Box" instructions (the Davey Box design, while modified today, is the basis for this design). This configuration allows for the most power.

Note that since we're operating with such low levels of power resistors (which reduce electric current) aren't necessary.

## MP3 Speaker Docks

These are cheap (less than \$6 shipped, available on eBay when searching for “Portable Docking Station MP3.”) It’s important to note that the design on these docks is not consistent.

Some docks have independently powered speakers so you can make a two channel box by tearing out the speakers, connecting the transformers to where the speakers were, and soldering them to two 3.5mm female jacks.

Or you can rearrange the wires by placing both red speaker wires to one transformer wire, the other two speaker wires to another transformer wire, soldering them together, then soldering the blue and green wires from the transformer to the 3.5mm female jack.

Other docks, like the one you will see today, do not have independently powered speakers. You’ll need to use alligator clips to test the sound and make sure where the power is coming from before soldering the wires together and completing the project.

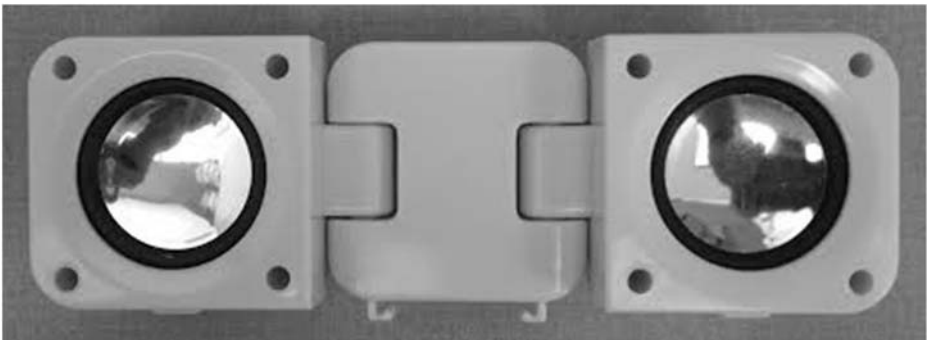
**In this instance the power comes from the left black wire and right red wire. This was determined by using alligator clips to connect the wires and testing various combinations.**

### What You’ll Need:

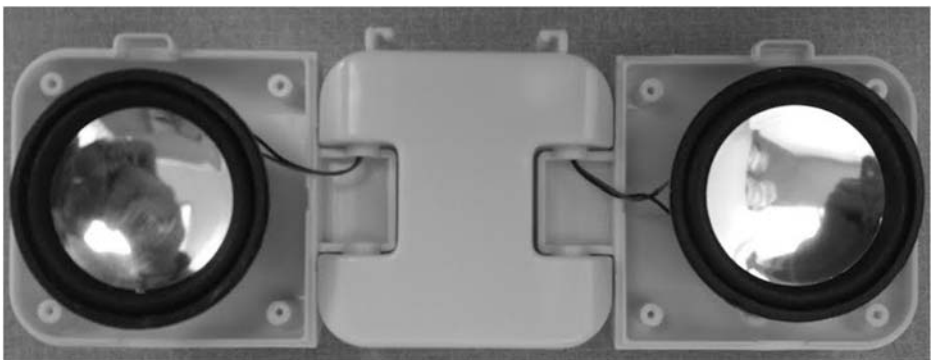
- ✓ A MP3 dock similar to the one described
- ✓ One 3.5mm stereo jack (available on eBay, make sure to get one with a socket so you can mount it)
- ✓ Two audio output transformers (part #42TU003-RC from Mouser.com—other smaller transformers may work too)

- ✓ Alligator clips to create temporary connections and figure out how to wire the transformer to the dock + alligator clip to banana plug probe
- ✓ A Dremel or drill with a small drill bit (you'll have to drill a small hole to mount the 3.5mm stereo jack) and to cut away some of the plastic near the point you're mounting it
- ✓ Soldering iron with solder + short lengths of wire
- ✓ Super glue or epoxy to attach the transformers to the dock
- ✓ Phillips head 3/32" screwdriver (available at most Dollar Stores)

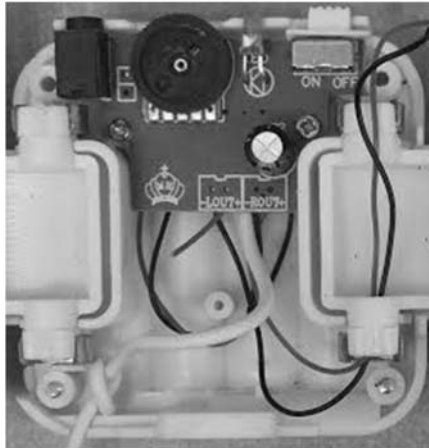
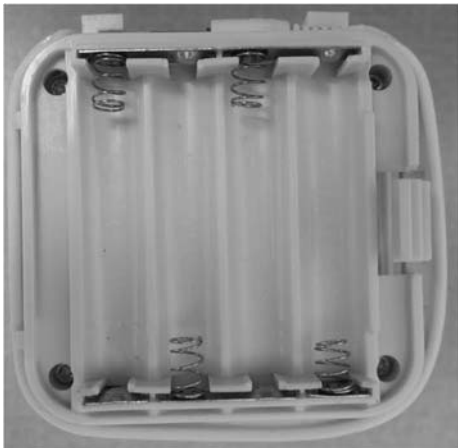
This is what the dock looks like when first opening it:



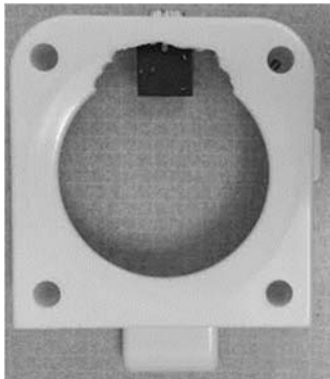
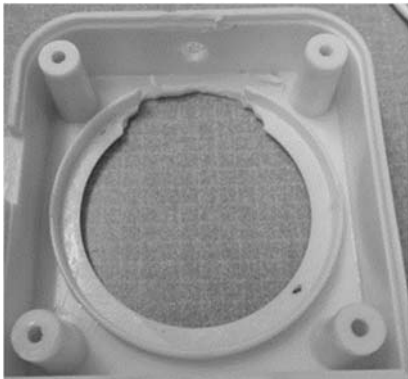
Unscrew the eight screws (the eight small holes pictured above) with a . Then you will end up with this:



The speakers and wires are very flimsy and can be easily torn out, leaving the wires. Since the wires are so thin it is a better idea to use a cigarette to lighter burn off some plastic and expose the wire rather than cutting them. Remove the battery cover by removing the four screws in the holes pictured on the left. After doing so you'll have access to the inside of the device. Using your alligator clip probe, attach the speaker to the various wires to determine where the power is coming from. In this case it's from the black wire on left and red wire on right. Reroute the left black wire to the right side of the dock:

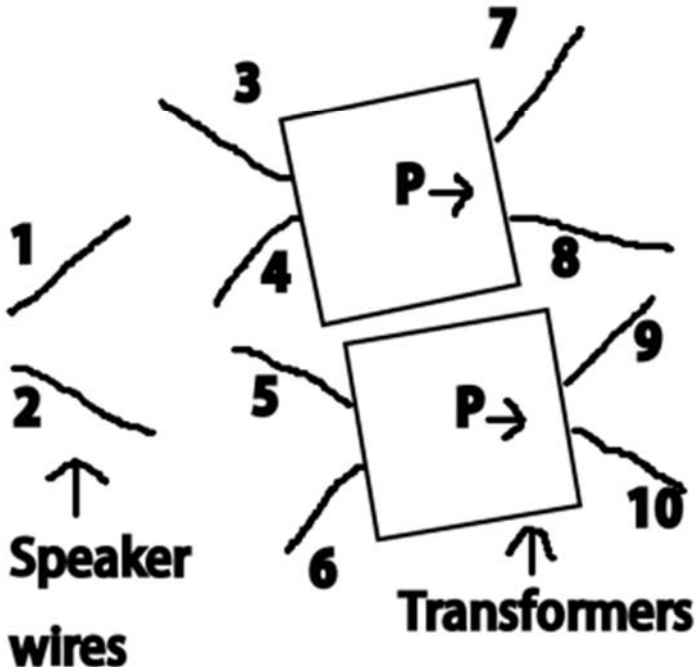
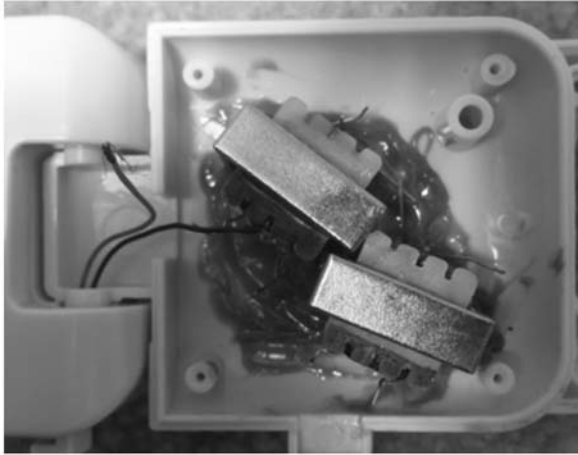


Take the right side panel where you will mount the 3.5mm female adapter. Using a Dremel or similar device create a hole to mount the 3.5mm female jack, and grind down the plastic near the hole so soldering will be easier after the jack is mounted.



Now you can epoxy the transformers inside the dock on the right side. Make sure the “P” side of the transformers is aimed out toward the 3.5mm jack. I use GC Electronics 10-347 epoxy—it takes up to 48 hours to dry completely.

After the epoxy dries you can solder the various points together in order to turn the dock into an e-stim toy.



It's difficult to see details in the black and white photo, so I've included a crude diagram to follow. The middle posts on the transformers are not used, so you can bend them out of the way or cut them off. **Ensure the power is OFF before soldering!**

Using your soldering iron and short lengths of wire (I use 18 gauge but thinner is fine) make the following connections:

1. 3 to 5
2. 4 to 6
3. 1 to 3
4. 2 to 4
5. 8 to 9 (you may not need a wire to do this)
6. 7 to the 3.5mm jack
7. 10 to the 3.5mm jack

3.5mm female jacks come in a wide variety of configurations, so test to see which two points you must connect to in order to output to work.

**Congratulations**—you should now have a fully functioning music driven e-stim box.

To use it, connect a 3.5mm splitter to your sound source, then connect the speaker dock to one output and either headphones or a speaker to the other. This will enable you to hear the music while you're stimulating.

Always make sure the speaker dock is turned OFF before connecting anything to anyone.

When turning the speaker dock on, make sure the volume is turned all the way DOWN.

Start playing your music with the volume at least 60-70%

Once you have your attachments/insertables on/in your partner, turn on the box and slowly increase the volume until they can feel it.



## Considerations For Building Your Own E-stim Toys

✓ The more powerful your device, the stronger the e-stim sensations will be. Some, like the Audiowind A-520 shown on the cover of this handout that uses a 9v battery, are powerful enough that only one transformer needs to be used.

For instance, the MP3 speaker dock we're putting together in class today takes 4 AAA 1.5v batteries, while the Yamaha PSS-140 pictured below takes 6 AA 1.5v batteries and has a more powerful output at the highest level.

✓ We are using devices that are not designed for this sort of thing, so your toys may break down over time (usually the transformers can be replaced to repair them)

✓ Keep in mind the difference between unipolar and bipolar toys. i.e. if you attach only one pad to a person, they will feel nothing. If you attach both, the current flows between them. The insertable you see today has to separate metal panels, and the current flows between them.

### Yamaha PSS-140 modified for e-stim play:



## Where To Buy E-Stim Accessories

Buying lead wires, adapters, etc. from sex stores will result in a good deal of unnecessary spending. eBay and Chinese wholesale shops online are a better option if you want to save money.

Here are some commonly used e-stim items you can find at low prices. When in doubt, search eBay!

### **Splitters and cables:**

If buying just one or two 3.5mm splitters / cables eBay or Amazon have very reasonable prices. Search for "3.5mm cable" or "3.5mm splitter." If you want to buy in bulk use the same search terms on dhgate.com or aliexpress.com



### **Lead wires:**

Twenty 3.5mm TENS pins lead wires for \$33.98 - \$1.70 each from DHGate - <http://tinyurl.com/mveev8e>



Two 3.5mm lead wires with snap adapters for \$5.99 - <http://tinyurl.com/krwqjjn>

### **Insertables / pads:**

**(Don't use these insertables or pads with more than one person unless they are already fluid bonded)**

Five pack of vaginal insertables for \$79.80 – just under \$15 each from Ali Express - <http://tinyurl.com/pqyfhsn>

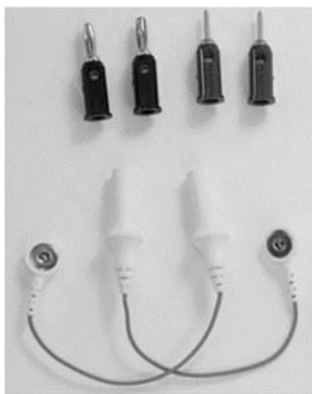
Two pack of vaginal/anal insertables for \$31.82 from DHGate – one large, one small (note these has a 2.5mm male plug, so a 3.5mm male to 2.5mm female adapter to connect to your 3.5mm female jack) - <http://tinyurl.com/qazt2mr>

Anal butt plug (can't determine if this is bipolar or unipolar from the description) - \$20.69 - <http://tinyurl.com/mnar2jv>

One hundred TENS pads for \$35.59 – 36 cents each from DHGate - <http://tinyurl.com/o4rquda>

### **Conductive rubber:**

Sample conductive rubber pack \$22 – <http://tinyurl.com/mnlwux6>



### **Adapters:**

3.5mm male to 2.5mm female adapter – 53 cents each - useful to step down a 3.5mm socket for insertables wired with 2.5mm male plugs - <http://tinyurl.com/khynvjn>

TENS pin to banana adapter – \$4.95 from Happy Stim USA - <http://tinyurl.com/m2zfqh2>

Banana to TENS pins adapters - \$1.70 from Mouser Electronics - <http://tinyurl.com/lrcu3zn>

## Alligator clips / helpful testing equipment

Thirty alligator clips - \$6.81 from DHGate - <http://tinyurl.com/m5rzzrh>

Alligator clip to banana plug probe - \$2.10 from Amazon - <http://tinyurl.com/lbkqyj4>

## Glossary of Electrical Terms:

**Alternating current (AC)** - continuous and bidirectional flow of charged particles (+ and -)

**Ampere (amp)** – the basic unit of current

**Amplitude** - magnitude of the current or voltage

**Anode** - positive pole

**Cathode** - negative pole

**Conductor** – any material that has a low resistance

**Current** – the flow of electrons, ions, or positive charges

**Current density** – the current that flows across an area of material

**Dermis** – the layer of skin beneath the epidermis, it has a much lower resistance to electricity than the epidermis (50 to 2,000 ohms)

**Direct current (DC)** – current that flows in one direction

**Electrode** - any device placed on (or in) the body to facilitate electrical stimulation

**Epidermis** – the outer layer of skin

**Frequency** - number of cycles or pulses per second

**Hertz** – the basic unit of measuring frequency

**Impedance** - total frequency-dependant opposition to the current flow

**Ohm** – the unit of resistance

**Ohm's Law** - relationship between voltage(V), electrical current (I) and resistance (R)

**Polarity** - property of having two oppositely charged conductors

**Pulsed current** - electrical current delivered discontinuously

**Scorching** (informal) - a burning feeling around the edges of an orifice, caused by insertables that are improperly placed or falling out

**Transcutaneous electrical nerve stimulation (TENS)** - use of electric current produced by a device to stimulate the nerves for therapeutic (or sexual) purposes

**Voltage** – a mechanical force that has the potential to move electrical charges

# Thanks for attending today!