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Make Magazine online: No-Battery Remote (Faraday Generator)

<http://tinyurl.com/mumvyv> also

<http://makezine.com/>

Make Magazine (motto: technology on your time) is a technology hacking magazine dedicated to folk interested in using inexpensive technology in unintended ways, or remanufacturing technology to suit their personal whims. Typically this involves making clever robots, barbecues, model rocket telemetry, autopilots for RC planes, and many electronics projects. The project featured here under the first link describes how to make a Faraday Generator to replace batteries for a TV remote control using a plastic tube wrapped in magnet wire containing a Nd magnet that is shaken by hand. I buy my Nd magnets in bulk from Master Magnetics <http://www.mastermagnetics.com>.

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Make Your Own Inexpensive Genecons by Hacking Emergency Hand Cranked LED Flashlights

On a Faraday Generator-related note, many folk use the commercially available Genecon hand-cranked DC generator (a small DC motor in a plastic gearing package usually purchased for about \$50 from scientific supply houses—see <http://www.arborsci.com/detail.aspx?ID=543> and http://store.pasco.com/pascostore/showdetl.cfm?&Product_ID=1706 for example. A much less expensive version can be hacked from a \$10 hand-cranked LED light by simply opening the handset, removing the LEDs and replacing them with alligator jumpers. The hand-cranked flashlights are less durable, but can be widely found on sale—Google “sale hand cranked flashlight.” A website demonstrating this hacked flashlight is visible at <http://tinyurl.com/l32467> with other hacks at <https://sites.google.com/a/flossscience.com/flossscience/Home/>

clever-hacks.com. Genecon use is thoroughly described in the teacher’s manual of the highly regarded and recommended CASTLE physics curriculum freely downloadable from PASCO at http://www.pasco.com/featured-products/castle/page_3.cfm.

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Green Diode Laser Pointers Have Now Dropped in Cost to About \$10

Also on the cheap apparatus hunt, handheld green diode laser pointers are now \$8-12 each from amazon.com or ebay.com—search for “green laser pointers.” Because green light is in the center of the sensitivity of our eyes, we see 5mW of green light MUCH more clearly than the same power red diode laser. Green lasers are preferred for pointing out astronomical objects in the night sky or for those faint wave diffraction experiments. A group of my students worked on green laser pointer diffraction experiments this past summer, and their work can be seen at <http://physicsed.buffalostate.edu/eurp09>.

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More physics cheap apparatus from HarborFreight.com

Finally, I can’t talk about cheap physics apparatus without including HarborFreight.com. Worth a visit for the \$10 digital multimeter alone (\$3 on sale), \$20 sound meter, \$11 IR thermometer and many other inexpensive geeky goodies. Every lab group can have cheap durable voltmeters and ammeters as necessary. Our introductory labs stock about four dozen of these meters and while we blow lots of fuses we have yet to electrically destroy one (though several have met their physical doom for the good of the discipline). <http://harborfreight.com>, search on the appropriate keyword.

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