Trick of the Trade

Simple DC Power Supply

George M. Caplan, Physics Dept., Wellesley College, Wellesley, MA 02481-8203; gcaplan@wellesley.edu

If you want to make a neon-bulb relaxation oscillator,[1] but don't have a dc power supply that will produce the required 80 V or so, here is another option. I created a 95-V battery to use with a relaxation oscillator by connecting ten 9-V alkaline batteries in series (see Fig. 1).

The batteries snap together like Lego bricks, and the leads on the end batteries each use half of a two-terminal battery connector (see Fig. 2).

This dc power supply is safer and more convenient than one running on 110 VAC.

1.

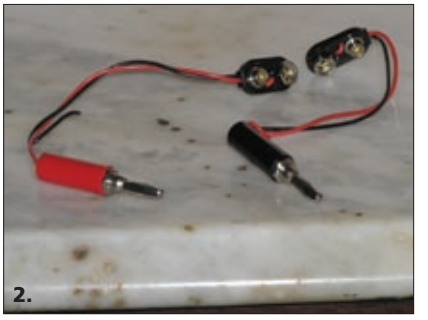
2.

Fig. 1. 95-V battery for use with a relaxation oscillator. Fig. 2. The connectors used.
(Photos by Kaitlyn Caplan)

Reference

1. See, for example, *Demonstration Experiments in Physics*, edited by R.M. Sutton (PIRA, AAPT, 2003), E-263 (Order from AAPT, http://www.aapt.org/store); or see http://www.oberlin.edu/physics/catalog/demonstrations/em/neonosc.html).

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From Our Files

Papers worth rereading

Musical String Vibrations

***From Our Files* Column Editor:**
Thomas B. Greenslade Jr.
Dept. of Physics, Kenyon College
Gambier, OH 430122;
greenslade@kenyon.edu

Robert Johns, "Musical String Vibrations," *Phys. Teach.* **15**, 245–256 (March 1977). The bowed and plucked string undergoes complex longitudinal and transverse vibrations that are fully illustrated in this article.