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http://wolfstone.halloweenhost.com/Lighting/bltstb_BlackLightStrobe.html

Black Light Strobes

Search for the Holy Grail

A "strobe light" is a device that emits regularly timed flashes of light. A "black light" emits an invisible form of light that causes certain inks, dyes, paint, and other materials to glow. It is natural to wish to combine these two interesting lighting effects. The result is a black light strobe.

Every once in a while, the topic of black light strobes comes up in the Halloween e-mail list. There have been a few mentions of commercial black light strobes, which have traditionally been quite expensive. There has been speculation about various ways in which a black light strobe might be built.



Original cheap strobing black light

As of March 1998, Spencer Gifts carries an inexpensive black light strobe. In the event that any of y'all are interested, here are the details...



The unit looks like an ordinary fluorescent black light fixture, except that the black plastic base is thicker than the ones you normally see. It contains a genuine GE 15W

bulb (F15T8-BLB). It has a flat reflector that seems to be made out of a thin sheet of chromed mylar. It has a 2-prong AC cord with a polarized safety plug. There is a starter mounted in a hole in the back. The starter in mine had a plastic shell; the one in the store was metal. In the long side of the fixture, there is an indentation with an on/off switch and a knob to control flash rate. A sign on the side of the box says that the flash rate can go up to 20 cycles per second.

The box says "Lumaserie", "made in the USA", and "Distributed by Spencer Gifts, Inc." The stock number is 415612. The sticker on the back of the fixture says "strobing fluorescent model 675" and "Data Display Systems, Philadelphia, PA". The little slip of paper in the box says "Decora Industries, Inc."

The sticker claims that these units go for \$35. When introduced, they were on sale for \$30 (seemingly as a new item introduction). Your Spencer Wild And Crazy Card will knock a few dollars off of that.

Note that the 3-month warranty does not cover the bulb. This might be normal for such a fragile and easily-reached component. Or it could be that the bulb life for this device is expected to be short. If they built this thing the way I suspect that they did - by keeping the starter filaments hot all of the time - one would expect shorter than normal bulb life. But it's worth it for the effect!

So, does it work?

Yes. Mostly.

The unit works just like a conventional fluorescent black light, except that it flickers on and off. An ordinary black light twists your mind one way; an ordinary strobe twists it another. This twists your mind until it snaps into little bitty pieces that fall all over the carpet. The effect is so unusual, it might make you lose your lunch.

Since a fluorescent bulb is used, the light that is produced is of good "black light" quality and quantity.

Note, though, that the flashes from this unit aren't all that strobe-like. A xenon strobe produces a very fast, "crisp" flash of light. This thing has relatively long on periods. Think of it as a lamp that just has the power switch flipped on and off automatically. A friend of mine compared it to the flickering of a defective fluorescent lamp.

An analysis of the circuit shows why this unit has relatively long "on" times. When dealing with a conventional fluorescent lamp, the normal mode of operation is that each end of the lamp be warmed up with "starter filaments". Once the lamp is warm, it is easily brought to full illumination. You can see this for yourself when you start up a normal white fluorescent lamp: for a second or so, the ends of the lamp tube glow orange, before the lamp kicks into life. If the filaments were *kept warm at all times*, there would be no problem turning the lamp on and off as fast as one might want. But the design of this strobe doesn't do that. It has no mechanism for continuously heating the starter filaments. Instead, it tries to keep the lamp hot by not leaving it

turned off for long. Thus the duty cycle is intentionally kept long, in order to keep the lamp hot so that the starter filaments do not need to be used.

Second-generation cheap strobing black light

In 2000, Spencer Gifts added a second inexpensive black light strobe. It works and costs like the original unit, but has a sleeker design.



The unit contains a genuine GE 15W bulb (F15T8-BLB). The box proudly proclaims "hyperbolic reflector". This means that the top surface of the case, under the lamp, is molded into a curve, and covered with shiny foil. The fixture is very

light. Power is provided by a heavy wall wart that contains the ballast.

Performance is very like the original inexpensive unit. So is the internal design.

Flourostrobe - Nice expensive strobing black light

When I posted a review of the inexpensive Spencer unit to Halloween-I, it broke open the floodgates...

Gomez reported that:

ETA Systems makes a high-output blacklight strobe that uses the 40watt F40BLB lamp. 1532 Enterprise Pkwy. Twinsburg, OH 44087 | 216-425-3388 | eta@etasys.com | www.etasys.com

I've seen it- neat product, output appears brighter than a regular BLB fixture, price was a bit steep as I recall, but I don't recall how much it was.

And Larry Kirchner soon reported:

We sell Black Light Strobes called Flourostrobes and they ARE AWESOME! It is 4foot long with variable speed control with mounting brackets.

They cost about \$460.00 each...and well worth every penny. They can make blacking light painting appear and disappear which is an awesome effect which we use in our haunted house.

Check out our new website...which is only about 75% complete we list them on the site.

<http://www.halloweenproductions.com>

These two reports are actually the same unit - The "Flourostrobe" product is made by ETA Systems, a division of National Biological Corporation, <http://www.etasys.com/index.htm>.

Flourostrobe-brand black light strobes are available from:

- <http://www.halloweenproductions.com>
- <http://www.nightmarefactory.com/effects.html> #AHD101 \$598
High output single-tube fluorescent strobe. Variable speed at a Steady state and Dimmable. Up to 80 lamp watts. Up to 10,000 hours lamp life. Throw of over 25 feet.
- <http://www.nightmarefactory.com/effects.html> #AHD102 \$698
High output single-tube fluorescent strobe - with remote control. Variable speed at a Steady state and Dimmable. Up to 80 lamp watts. Up to 10,000 hours lamp life. Throw of over 25 feet.

LED-Based Black Light Strobe

A number of hunters have built black light strobes using black light LEDs.

Sources

- Spencer Gifts #415612 - Black Light Strobe - \$35

Assembled and tested, in enclosure - just plug it in and go. Has adjustable flash rate.

I bought one of these. The combination of the black light and strobe effect is unique and well worth considering in your haunt.

Note, though, that the flashes from this unit aren't all that strobe-like. A xenon strobe produces a very fast, "crisp" flash of light. This thing simply turns on and off. A friend of mine compared it to a defective fluorescent lamp, flickering on and off. Some people think this detracts from the effect and mutter about buying high-end equipment for >\$400 instead. Better try it out in the store and see what you think.

Build your own

There will be haunters suitably fixated, and unwilling to spend big bucks or live with the inexpensive black light strobes. For these folks, there are several ways that one might build a black light strobe.

- mechanical shutter

The first strobe I ever made was a flashlight projected through the blades of a fan. The whirling blades blocked and unblocked the beam, giving the regular flashing effect that we love in strobes. The same can be done with a black light. The only thing left to your imagination is what type of black light to use, and what to use for the shutter.

- hot filaments and arcing pulses

Fluorescent lamps usually have heater filaments on each end. The filaments are kept warm with a trickle of power. This starts the ionization which will produce the light. A couple of years ago, on Halloween-1, somebody suggested using a pair of low-voltage filament transformers to keep the filaments hot and electrically isolated. Then strike the arc between them, driven by a timer circuit.

This sounds like a simple and effective idea. I don't know if it was ever reduced to practice.

- high voltage pulses and strong arcing pulses

The starter filaments are only used to make ionization easier. If you whack the fluorescent tube with *enough* voltage, it will light up without needing hot filaments.

I once made a Jedi light saber from a long fluorescent lamp. It was powered by a 6V lantern battery and an automobile ignition coil. The tube lit nicely, without heating the filaments.

One could probably use a timer circuit to regularly and briefly goose the ignition coil, and just place the output across a black light fluorescent lamp.