

HauntMaven.com - Wolfstone's Haunted Halloween Site



http://wolfstone.halloweenhost.com/ThunderAndLightning/clsdiv_DiversitronicsLightning.html

Lightning With Diversitronics Strobes

We like simulated thunder and lightning in our haunt. The simplest way to achieve this is to play a thunderstorm sound track, while a machine like a color organ makes bright lights flash along with the thunder strokes.

In 2004, we experimented with the use of high power strobe lights from [Diversitronics](#).



Diversitronics Offerings



[Diversitronics](#) is a manufacturer of high-end strobes and strobe controllers.

These are high-end units, and cost like it. But you can probably achieve an effect *much* more impressive than with a \$5 color organ.

Diversitronics makes a wide array of strobes, including this DMX "strobe cannon" that advertises "High output 30 Joules/flash, 600,000 candela, 4500 Watts peak flash." Wow!

Most of their strobes also offer "Hyperflash", a feature that allows long flashes. This should be very helpful to the lightning-lovers, because it provides the color and intensity of a strobe, but does not have the incredibly-short illumination of a standard strobe.



Strobe Runner controls 2-126 Strobes through DMX Lines, with sliders for intensity, speed, and audio gain. The unit can be triggered by DMX command or audio signal. It includes a "lightning" program.

Warning: Different vendors use different DMX arrangements to control their strobes. I suggest that you do not mix controllers from one company with strobes made by another.

Theory

The theory is simple:

- Diversitronics sells strobe lights that can be controlled via DMX protocol.
- High-end Diversitronics strobes have a "Hyperflash" functionality that permits long, bright flashes that look a lot like lightning.
- The Strobe Runner uses the DMX protocol to control up to 126 strobe lights.
- Strobe Runner has a special program that simulates lightning (and Strobe Runner II has an even better "random lightning" effect).
- Strobe Runner has audio input.

So, all we have to do is get a couple of Diversitronics strobes, plug them in to a Strobe Runner, and pipe a thunderstorm track into that.

Problems

The theory might be good, but there are problems in practice: the Strobe Runner uses the audio input signal for the wrong thing.

Strobe Runner has a number of preprogrammed sequences. For example, you can hook up 10 strobes, and run a program that fires them all in sequence. A slider on the console lets you control the speed of the sequence: fast, slow, and anything in between. So you can pick how fast it fires all the 10 strobes in a row.

What causes a sequence to run? You can press the Bump switch, which runs through the sequence once and then stops. You can hook up an external switch, which runs through the sequence once and then stops. [Actually, if you keep holding down the Bump switch or external switch, it repeats the sequence for as long as you have the switch closed. When you let the switch go, it runs to the end of the sequence and then stops. But for practical purposes, a brief activation of the switches causes a single run through the sequence.] You can also operate Strobe Runner via a DMX signal fed into the box. Finally, you can press the Run button, which locks Strobe Runner on, running through the sequence again and again.

So, where does the audio input fit in? The audio input is amplified, volume-controlled, and turned into a trigger pulse. Every time the sound hits a loud note, a little red light flashes. This flash is used to step through the individual steps of a sequence. With 10 strobes in a row, and SR set to a linear sequence, every time, the music thumps, the next strobe fires.

This really isn't terrible. You could have 4 strobes, with SR set to "lightning" effect, and hit Run. With each crash of thunder, the next strobe will emit lightning light. But if there is too long a gap between steps in the sequence, the automatic timer kicks in and advances to the next step. So if your thunderstorm hits a quiet spot, you get lightning, lightning, lightning, lightning anyway. You can turn the Speed control down very low, but if the audio input isn't fast enough, you will get flashes anyway.

I see two possibilities:

- Disable automatic chase sequencing.

I don't even know if this is possible, because a lot of Strobe Runner is built into a programmed chip. This is only possible if either (a) the speed sequence is generated outside the controller chip, in which case we just need to stop the clock; or (b) there is an external "inhibit" signal that is used to either stop the clock or ignore it while audio is present, in which case we need to lengthen the time constant of the audio sensing or force the inhibit on.

Either way, the solution is assumed that SR is locked in the Run mode, and audio input is simply stepping through the sequence.

One benefit is that a short thunder crack will fire one strobe, and the next one will come from a different strobe (direction).

- Feed audio detection into the Bump switch.

The audio processing circuitry flashes a LED whenever it hears something loud enough. We could use that signal to "press" the Bump switch and fire off a sequence.

This solution assumes that you can "dial in" a perfect sequence, and run it every time that you hit a thunder stroke.

Obtained from
Omarshauntedtrail.com