

Special Effects with lights

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Benefits and Challenges of Lighting Effects:

In general, one major strength of these effects is that they have a very big effect but pack quite small. No building or changing scenery, just flip one switch and the entire appearance of your stage is dramatically changed.

Many of these effects can extend well beyond the edge of your stage and can totally envelope your audience. Normally the audience is used to seeing all the fantasy happen up on stage, but when that fantasy world reaches out and totally encloses them, it is an awesome thing.

Most of these effects require that you have the ability to do a “black out”. In other words, be able to turn off all the lights in the theater space you are using so that it is too dark to see anything. Most churches cannot do this during the daylight hours because of the windows. So don’t design a show that absolutely requires a black-out unless you have first committed to only performing in places where you can get a black-out. You should be prepared to just do without the special lighting effects (or accept that they will be greatly diminished by the ambient light)

Fog Lighting Effects:

Since I have already discussed fog with you in past installments, I will start with lighting effects that make use of fog or haze to make the effect work. The basic principal is that the presence of the fog in the air will reveal any light passing through it. You have surely noticed this effect when seeing the headlights of a car or flashlight outside on a foggy evening. They are also heavily used in the disco industry, and an entire industry has arisen to create special lights for them.

Briefly, a Hazer is a special device designed to make a very fine fog designed to hang in the air a long time and it is the preferred device for these effects. However, a regular theatrical smoke/fog machine that uses water based glycol fog will also work well, but you will probably need to use a fan to disperse it in the air more. The dry-ice fog machine is useless for these effects because the fog hugs the ground and dissipates so quickly.

For fog lighting effects to work well, the light source needs to be well defined with a sharp edge. This generally means you must use a focused lighting instrument. It is also very important to be aware that the effect only works well when the light is pointing at

the audience. Generally, the light must be located somewhere on or near the stage and pointed towards the audience. I don't mean directly into their eyes necessarily, but usually pointed above or below their line of vision. Try it with a flashlight on a foggy evening and you will see the difference when the flashlight is pointed at you, versus away from you.

My personal favorite, is a set of lights I bought used for \$25 each that put out a "light fan". I have also heard them called "Blade Effects". The only things like it I have seen on the market lately are motorized disco-type lights. You probably don't want the light dancing for most theater effects, but perhaps the motor could be disabled. They use a standard halogen, 500 watt, tube bulb 5" long and housed in a black metal box. At the output is one lens. The light output is a pencil-thin fan of light that spreads out about 30 degrees. When shined through the fog, it illuminates each wisp of the fog and looks very much like you are looking into some sort of other worldly universe that is stretching into the distance. I usually color this light with a green gel and it looks like a expensive argon laser effect.

Another idea is to use a slide projector, I have made a neat effect by poking some holes in aluminum foil with a needle and putting it into a film strip projector. The effects was that of many little beams of light coming out the projector.

By simply covering a bare light bulb (the smaller the bulb and filament and the brighter it is, the better the results) with a metal can and then poking holes or cutting slits in it you can get some sharply defined beams. You must paint the inside of the can black to avoid any reflections. But, unfortunately, the tin can approach just doesn't come near to producing beams as strong as the commercial fixtures.

One fairly cheap fixture that produces a sharp beam of light is a "pin spot". It puts out a fairly narrow (about 6" diameter) beam of light. About \$25 new.

Ellipsoid spot lights work quite well. You can put various gobos in them to get different effects as well.

Projected images:

These are not limited to using slide projectors and projection screens, and actually are a very large category of lighting fixtures. To start with, slide projectors are fine, and there are even special add-on devices that will increase the output from one, but be prepared to deal with fairly dim images that truly require a complete blackout if you want to project a large image.

Ellipsoid spot lights can take a gobo, which is a piece of metal or glass that is inserted in the fixture. The image of that gobo is projected much brighter than a slide projector can do, but until recently these gobos have been uncolored, metal cutouts. New technology

allows them to be formed on glass and colored, and some are even photographic in their quality. Of course, these fancy custom gobo's aren't cheap - about \$70+ each.

Overhead projectors can be pressed into service and are commonly available. But please try to hide the overhead from the audience's view. Also, cut the image out of black paper, so you aren't projecting the square frame of white light that is so characteristic of an overhead.

There are small fixtures called, appropriately enough, Gobo Projectors. They provide only 50 watts of light.

The robotic type of lights all take several gobos in them at once and you can choose which of them are being used at any particular time. Many will even spin the gobos around if you wish. If I had one, my first use would be to project the image of a window, and other images above a local band when they do a brief "Twilight Zone" segment. But, since they start at around \$600 I am not going to rush out and buy one for this one effect.

Projecting stars in the sky: The "poke holes in tin foil" idea that I mentioned under the fog lights is effective for stars using a slide projector on a small stage. Another idea I used for the "Starship Noel" is to put a mirror ball on the floor and aim a follow spot at it. The stars covered the entire church.

You may wish to consider using rear projection. Of course, there are commercially available screens available for this, but you can get along with some cheap alternatives. Even a white sheet will work, but even better alternative would be a translucent shower curtain. To keep the audience from seeing a bright "hot spot" coming from the projector itself, you should place the projector above or below the audience's sight lines - or just live with that hot spot.

The light from any kind of projector doesn't have to be projected on a flat surface. If you use a "leaf gobo" in your spotlight, you would place the fixture above the acting area and shine the image down on the actors, so it would look like they were in the shade of a tree with the sun shining through the leaves.

When a local Christian school did a Christmas play that featured visitors from the "Starship Noel" (a Star Trek theme) I suggested that they take a slide image of a similar ship and put it in a projector. Then, as the theme music is playing, "fly" the ship across the church by simply manually panning the slide projector across the front of the church.

Other Special Lights

Strobe lights: These lights seem to make moving things slow down. Also great for lighting effects. The cheapest Radio Shack model is really only appropriate for puppet stage and no more because they are not that bright. Also, if you wish to use more than

one strobe light, you will probably want them to flash in sync with each other. Only the higher end units have that ability. Cost \$15 and up.

Black Light: This is the kind of bulb that put out ultraviolet light, which makes fluorescent materials glow, such as special paints designed to glow under Black Light (B/L). White cotton fabric also glows well. The screw-in type of B/L bulbs are almost useless because they put out very little ultraviolet light. The kind most of you will use are the tube kind that fit into standard Fluorescent fixtures. For stage use, many use the 4' long tubes (about \$20 for a tube only). I recommend the 24" long "GE BlackLightstick" (about \$22) for puppeteers because it is so lightweight. I have also recently discovered that the new 4 Foot long fluorescent fixtures are designed to be energy efficient, which the 4 foot long B/L tubes are not. They will work, but not as well. One electrician told me that I would need to purchase a heavier duty commercial ballast for the fixture. I haven't really resolved this one yet.

Also, there are other kinds of B/L bulbs, built similar to those used for street lights. They have a ballast and take several minutes to warm up. One of these will put out as much light as 10 or more of the 4' fixtures. They cost about \$500.

Mirror balls: You must illuminate them with a focused beam to work right. A flood light won't work. There are "pin spots" sold especially to illuminate mirror balls, Cost \$25 and up

Lasers: In general, the low-cost laser pointer is useless for theatrical use - unless you only want to make a dot of red light on stage. The kind of power you need for effective theatrical use are powerful enough to need special licensing from the FDA and generally are best left in the hands of professional Laser effects companies. There are lower cost (under \$600) laser systems marketed to the disco industry, but I think that regular non-laser lighting equipment can do a better job. As I mentioned before, my \$25 "light fan" fixtures are much brighter than the above cheap laser.