



Lighting Fixture Terminology

LED Lighting

Light Emitting Diodes (LED) are the newest addition to the world of theatrical lighting. LED's have many advantages over traditional lighting fixtures such as lower power consumption, lower heat radiation, multiple color options, longer lamp life and multiple stage applications. LED lights can act as floods, spots, ellipsoidals and, in some cases, moving lights. These versatile fixtures can accommodate an array of needs; whether you need to combat high-energy costs or have the need for multiple color options from the same fixture, LED lights could be a unique solution.

Fresnel

Fresnels are spotlights that produce a variable round, soft diffused, luminescent light. This fixture can be focused from "spot" to "flood." When the Fresnel is focused on narrow or spot, it produces a beam with a central hot spot that rapidly loses intensity toward the edge. When the instrument is focused on flood, it produces a smooth wash of light. Fresnels are most often used on stage for back, side or down lighting. The fixture will accept a wide range of lamps and accessories.

Ellipsoidals

Ellipsoidal reflector spotlights are generally fixed focus spotlights that produce a hard-edged beam of light. The ellipsoidal shaped reflector, in combination with lenses sized from 2" to 8", establish the various focal lengths. The fixture incorporates the use of shutters that can shape the beam of light. Ellipsoidals also use other accessories such as an iris to shape the light, or a pattern or "Gobo" for projection. This fixture is the primary tool of the designer, and are most often used for "front of house" and "special" lighting.

Par Fixtures

Parabolic Aluminized Reflector (PAR) fixtures are a sealed-beam lamp, similar to the older headlights on an automobile. It produces an oval soft-edged pool of light. PAR fixtures use various types of lamps that produce different beam shapes. PARS are one of the most cost efficient lighting fixtures in terms of multiple uses. There is no focusing adjustment on the PAR fixture. PAR fixtures are often used for broad color washes, and to provide an intense punch of light.

Borderlights/striplights

The striplight is a multi-lamp fixture designed for lighting scenery or a cyclorama. They can also be used to produce a diffused wash of light. This fixture is normally wired in 3 or 4 circuits with one color per circuit often using permanent glass color filters called roundels. It comes in various lengths, with the most common being 6 or 8 feet long.





Scoops

Scoop fixtures are large ellipsoidal floodlights that produce a wide, diffused wash of light. Normal uses include large area color washes, general illumination and cyclorama lighting. The scoop has a matte finish ellipsoidal-shaped reflector and no lens.

Cyc Lights

Cyc lights are the modern improvement of the striplight. The cyc light has a special shaped reflector, which produces a smooth field of light from top to bottom of the cyclorama. Cyc lights are available in one, two, three or four “cell” units designed to be installed overhead or free standing on the stage floor. It is equipped with a color frame to allow for colored light to be projected onto a cyclorama or scrim.

Followspots

Followspots are manually operated lighting fixtures with a sharp moveable beam of light used to follow a performer on stage. Followspots produce a beam of light similar to ellipsoidals. Followspots can be equipped with color changers, auto focus controls and dowser.

Automated Lighting Fixtures

These are commonly called moving lights, automated lighting and intelligent lights. By definition, all moving lights contain some method of animating the beam of light on ‘x’ and ‘y’ axis. This is accomplished by either a “moving mirror” design, in which a mirror at the end of an optical train moves to these x and y coordinates, or the “moving yoke”, where the entire head of the fixture moves. All moving lights allow the color and beam definition to be altered electronically. Moving lights operate under USITT DMX512 control protocol and can be operated by any theatrical console utilizing DMX512. Conventional luminaries can be adapted as moving lights by adding automated yokes or external moving mirrors.



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