

## Topic 013

### Lighting for Concert & Arena

#### Concert Lighting Design

It was in the 1960's that the relatively new field of concert (or entertainment) lighting design was born. In New York at the Filmore East and in California at the Filmore West, popular music moved into permanent venues and with that, a new style of presentation was born. The best known American concert lighting designers of the time was Chip Monk. At the Filmore, lighting operation literally consisted of the operator actually 'dancing' on a wall of autotransformer dimmers in time with the music.

Many early performances at the Filmore's, the Electric Circus and elsewhere throughout America, were backed by a 'light show'. A wide array of projection effects would bombard a large rear screen behind the performers, causing dynamic and ever changing patterns of light. Projections would often make political statements, be downright dirty or be totally psychedelic and far out.

Today concert lighting design has become a recognized speciality and many designers work in this field only. The basic principles of design still apply -it's just that the toys are bigger, and more expensive.

#### Concert Lighting – Techniques

Entertainment lighting today has become tremendously exciting. This industry now uses 'automated' lighting fixtures almost exclusively. Conventional lighting fixtures are still used, however less and less often. The PAR 64 fixture is still very popular for concert lighting, as this fixture is efficient and relatively inexpensive. It is not uncommon to also incorporate; color changers, motion effects, image and background projection, video, display panels, strobes, blacklight, fog, pyro, chase lighting and other visual effects. The sky's the limit...uh...the budget's the limit.

Typically all equipment is DMX controlled from a central location. Concert lighting that uses automated fixtures depends very much on two important people - the Lighting Designer and the Programmer. The position of 'programmer' was born in the 1980's as automated fixtures became more and more capable (and complicated). A good programmer will know his equipment well and will be able to rapidly construct a number of different 'looks', based on the designer's basic criteria. A poor programmer offers little and is able to make a million dollars of equipment look like ten cents! Alternately a good programmer can produce amazing results with very little time and equipment.

Most concert performers also tour, so concert lighting must be extremely durable, well packaged, and suited to a rapid set-up and take-down. The portable 'flown' lighting truss was developed for this industry and is often used to suspend all lighting fixtures above the stage.

#### Arena Lighting Design

Lighting for the "Arena" typically refers to lighting of large scale events, including rock shows, pageants, ice shows, circuses and other sizable entertainment productions. Seating for these events may range from 5,000 to 25,000 spectators, or more. Often there may be a 'main stage' at one end of the arena, or alternately, several different performance areas, located throughout the entire arena floor.

Performers often include actors, singers, dancers, musicians, skaters, aerial artists and others. Events are often visually spectacular and may utilize smoke, fog, lasers, pyro (fireworks), slide, film or video projection. Further, lighting equipment today always includes as many automated fixtures as the budget will possibly allow.

Two very important factors set arena lighting apart from other forms of traditional stage lighting. First, the 'scale' is much larger than usual theatre scale. This refers to the scale of everything, including performance and audience areas, scenery, lighting distances and lighting fixture types. Second, everything is temporary. Typically, all special lighting equipment must be brought into the arena, hung, cabled and focused, and then removed (struck) after the event. Arena lighting should be designed to be 'quick and effective' (not necessarily 'quick and dirty').

### **Arena Lighting Techniques:**

Distances to the overhead lighting in conventional theatres usually ranges from 20-50 feet. In arenas, lighting distances may range from 40-100 feet, or more. The greater distances alone, necessitate the use of narrower and more powerful lighting fixtures than used for traditional theatre lighting.

Usually, all lighting equipment is hung (usually pre-hung & cabled) on a number of lighting trusses (20-60 feet long). Trusses are assembled, laid out in position on the arena floor, and then hoisted into position with chain motors, attached to the steel roof members above. Trained lighting crews will either repel from the roof or climb a rope (wire) ladder from the floor to reach each truss. Once in place, they will carefully walk along the truss and focus each fixture one by one. The author has had a skilled crew of four (4) electricians focus over 300 units, 50 feet above the floor, in under four (4) hours).

Lighting fixtures suitable for arena applications include the 1Kw. narrow ellipsoidals (5-20 degrees), Par64-NSP fixtures, and 2Kw. ellipsoidals, fresnels, and beam projectors. HID fixtures with mechanical dimmers are also sometimes used. Effects equipment commonly includes color scrollers and automated (moving) fixtures. The followspot is typically used in great numbers for arena events. Usually, the followspots 'come with the house' and are located high in the arena ceiling around the perimeter walls. Most facilities have from four 4 - 8 units or more. Some touring productions in order to provide consistency from venue to venue, provide their own follow spots, mounted in the temporary overhead lighting trusses.