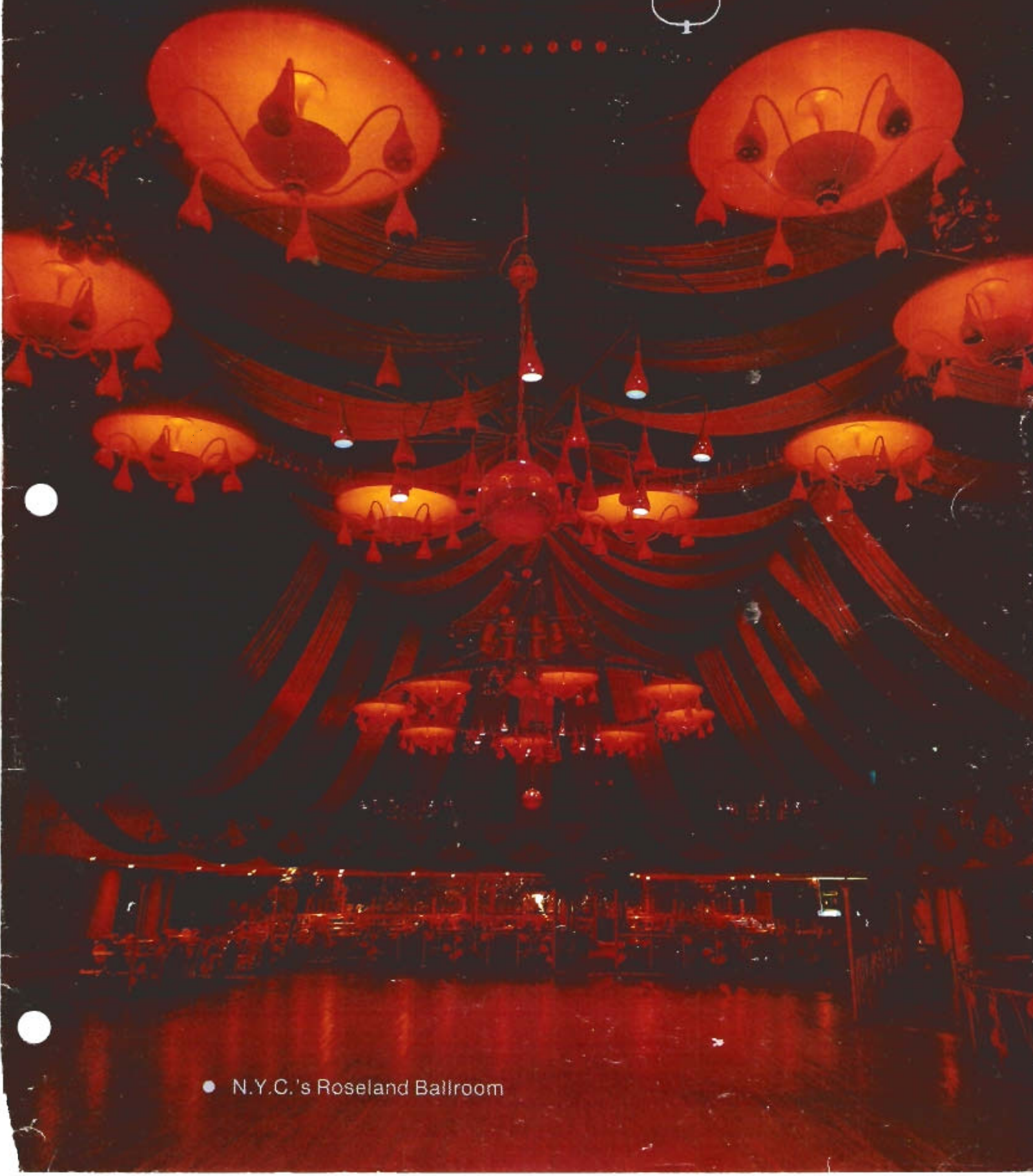


LIGHTING DIMENSIONS

FEBRUARY 1980

\$2.00



● N.Y.C.'s Roseland Ballroom

Center: Roseland's new 1956 facility. Far Right: The Village People perform at Roseland during Billboard's Disco convention.



New York's Roseland Ballroom

History

Roseland first opened on New Year's Eve, 1919. For six decades the world's most famous ballroom has been filled with the music of great orchestras, popular entertainers and memorable private parties.

Nearly all of the great "name bands" of America have played for Roseland dancers. It was here that Al Jolson met Ruby Keeler; Fred and Adele Astaire practiced their dance routines; Rudolph Valentino, Joan Crawford, James Cagney, George Gershwin, Arthur Murray and hundreds of other celebrities partied to Glen Miller, Harry James, Rudy Valley and others.

For 37 years Roseland entertained the public on the northeast corner of 51st Street and Broadway in New York City. In 1956 Roseland moved to its own building on the opposite side of Broadway at 52nd Street. The new Roseland was the largest professionally planned ballroom dancing and entertainment facility in the world. Its polished maple dance floor, suspended on layers of cork to absorb shock, covers approximately one half of a city block. The dance floor alone can accommodate 4,000 dancers and it comprises only 40 percent of the main floor. There are three more floors.

Because of Roseland's dedication to entertainment excellence, it is considered

the home of ballroom dancing and remains one of the most versatile and functional entertainment venues in New York City.

In order to maintain Roseland's professionalism in the changing technologies of the late 70's, Nancy Leeds, president of Roseland, decided to seek the services of J. Douglas Falk Engineering of Hillsdale, New Jersey. James Falk, president, and Linda Bialous, general manager, decided their first priority was to become familiar with Roseland's lighting systems and to begin modernization based upon Roseland's traditional philosophies.

Roseland's early stage lighting controls were large resistance dimmer switchboards



By Linda Bialous and Harry Boretz
 Photographs of disco interiors by Jason Jons

and rotary handle auto transformers. Because the resistance dimmers consumed full current as soon as they were switched on — whether the lamp burned at full intensity or otherwise — the heat generated by the coils assured the Roseland lighting people of a sweaty evening. But that problem was less important from the performance point of view than the problem of fixed capacity.

The length of wire in each resistance dimmer was determined by the exact wattage of the lamp it was expected to control. So, if a lamp of smaller wattage was used instead, the dimmer would not put it out completely and what dimming it did accomplish was at a different rate from those lamps of proper size on adjacent dimmers.

This was corrected by connecting, in parallel with a stage light, a second lamp or "ghost load." This lamp was hidden offstage and was of sufficient wattage to make the total load on the dimmer approximate what it was designed to control.

In an effort to offset the necessity of

excessive ghost loading, Roseland moved to dual-capacity resistance dimmers in the 14-plate, 1500-3000-watt capacity "piano board" that is the basic control for practically all Broadway productions. However, these were still inefficient, hard to control, and not very flexible.

Richard Brecker, the founder of Roseland, focused all of his entertainment expertise and over \$5,000,000 on the new Roseland which opened in 1956. The stage floor and lighting were excellent for a diversified entertainment complex.

Roseland's new electronic dimming system was located on the left side of the stage with full view of the performances. The new stage was lighted overhead by Fresnels, striplights and Lekos hidden within an enclosed catwalk overhanging the front of the stage. The upstage area side lighting was provided by 6-inch Fresnels and the entire backdrop was covered by striplights on the floor. Roseland's carbon arc follow spots were located in a projection room built 30 degrees above and opposite the stage. Roseland's

main stage was approximately 50-feet wide by 30-feet deep and could extend a 15-foot-square telescoping dancing platform.

Two massive main chandeliers and four smaller steel and brass chandeliers provided the variable dance floor lighting.

Design Philosophy

Roseland is a successful total entertainment center working seven days a week and averaging 16 hours per day. The main emphasis is ballroom dancing, but private parties, concerts and now midnight disco follow that emphasis very closely.

Roseland has a significant and prestigious history and intends to continue presenting itself with dignity and elegance. It is important to realize that any additional improvements to Roseland must be viewed on a long term basis. Roseland does not break tradition in order to ride the crest of popular fads. In fact, the "twist" dance craze was never permitted on the Roseland dance floor.

The first major project for Falk En-

Roseland...

gineering was to prepare an analysis of the possible effects of introducing conservative disco dancing upon the ballroom crowd. The primary result of this study indicated that two completely different environments had to be created. Ballroom dancers would not tolerate visible sound equipment nor high intensity lighting fixtures. Disco dancers would not be inspired by ballroom lighting.

What was created was called Midnight Disco. Prior to midnight Roseland continues ballroom dancing and all disco oriented fixtures, even the DJ booth, are not seen since they are hidden behind the large canopy drapes covering the dance floor. At midnight it is as if one has stepped through a Star Trek time warp. The orchestra quiets, the ballroom lighting goes out, and immediately the animated lighting and the pounding beat of disco take over.

This transition pleased many of the ballroom patrons and encouraged them to stay and experience the new disco. The idea permitted Roseland to attract its usual ballroom crowd, and in addition, to utilize its facilities after midnight to attract disco customers in numbers greater than many clubs see in a week.

Light and Sound Design

One of the hardest design tasks was the creation of a sound system that did not interfere with the appearance of the ballroom. In order to accomplish this, two large speaker clusters were designed to be suspended below the projection booth. Fill speakers were suspended between the canopy drapes in order to provide even sound coverage throughout the room. The entire Roseland stage became part of the bass system. Falk Engineering used the crawlspace under the stage to house 32-foot folded brass horns. Speakers of this size would normally have taken a great deal of floor space and would have created a major eyesore.

Another major design problem for Mr. Falk was, and is, avoiding the "fantasy lighting mentality" that current disco emphasizes. Not that he objects to fantasy (he is a member of the World Future Society and a Science Fiction writer). But to him, the vast majority of futuristic discos are combinations of "winkie-blink" retail lighting fixtures and unimaginative neon. He believes the successful entertainment facility of the 1980's and 90's will have more grace. There will be high-power sound and lighting, but the effects will be spectacular and elegant.

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Original Roseland: street shot with large neon "Roseland" sign.

As an example, Mr. Falk was commissioned to design and manufacture such a futuristic lighting effect in the entrance hallway of Studio 54. It is a large crystal chandelier with thousands of facets, lighted by four, recessed, low power lasers. The lasers slowly scan the entire chandelier from four sides. As each beam strikes a crystal pendant, the pendant glows and the beam bursts into smaller beams which in-turn illuminate other pendants. The overall result is the appearance that ruby

red light is slowly dripping throughout the entire chandelier, with no apparent light source.

In addition to Falk Engineering's abilities in sound and lighting, is their psychological expertise in designing systems capable of producing predictable audience reactions. By varying the frequency response spectrum and output levels of sound and designing specific pattern information and color into room lighting, they are able to create relaxing or hyperactive areas, make



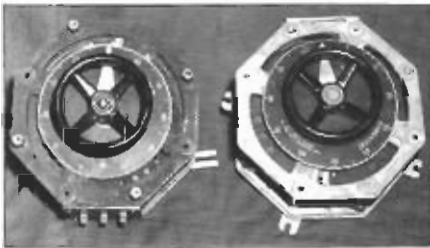
Original Roseland dance floor.

Roseland...

a room more appealing, or influence traffic flow to and from a bar.

Continuing Improvement

At present, the major project for Eric Eckenberg, Roseland's chief electrician, and Falk Engineering is the computerized animation of the individual light clusters comprising the ballroom chandelier system. A dual control system is being installed. The chandeliers can be controlled normally at the stage lighting booth, or control may be transferred to the computer in the DJ booth to provide chasing and pattern effects within the chandelier itself during disco. The automation control will allow for matrix effects responsive to the music or DJ command throughout all of the chandeliers covering the ballroom.



Autotransformer dimmers from original Roseland Ballroom.

Plans also include the installation of a high power white light beam scanning system to safely simulate laser display effects such as 'laser tunnels.' Falk Engineering has pioneered white light scanning for entertainment applications and is currently investigating multiple patents on their systems. The white light scanning equipment does not produce beams with the intensity of a laser, but with low ambient lighting and fog or smoke, the effects are very tangible.

The white light scan system will be used primarily to create three dimensional special effects directly on the dance floor. The system uses "PD" scanning galvanometers in arrangements similar to those of laser projection systems. This enables the user to create most of the popular effects associated with medium power laser displays and not be affected by BRH regulations.

One of the more fascinating features of this white light system is a graphic digitizer pad which allows the user to input real graphics into the computer by use of an electronic pen. An operator can actually draw a picture on the digitizer pad and have it projected and drawn by the light beam in front of the audience.

Roseland's white light scanner is being

All it takes is a tin can and a light bulb... Right?

That's fine if you're trying to light a barn, but if you want to:

- Dim it
- Scrim it
- Trim it
- Rim it
- Door it
- Gel it
- Mount it
- Power it
- Hide it

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