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The Lighting Design for A Chorus Line

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THE LIGHTING DESIGN FOR

A CHORUS LINE

by

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ABSTRACT

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This paper describes the process involved in designing the lighting for *A Chorus Line* with book by James Kirkwood and Nicholas Dante and lyrics by Edward Kleban. The play was produced in the Ted Paul Theatre at Minnesota State University, Mankato and ran from October 4 – 14, 2012. The paper consists of five chapters and an appendix.

The first chapter is an analysis of the script and the requirements for lighting the play. The second chapter is an historical and critical analysis of the play. The third chapter consists of a journal of the designer's experience throughout the production process. The fourth chapter is a post-production analysis of the project. The fifth chapter examines the designer's development both academically and as a designer as a result of the graduate program at Minnesota State Mankato. The appendix includes technical drawings, paperwork, and production photographs.

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CHAPTER I

PRE-PRODUCTION ANALYSIS

This chapter will examine the lighting designer's pre-production analysis of *A Chorus Line* with book by James Kirkwood and Nicholas Dante and lyrics by Edward Kleban. This chapter will provide an overview of the plot of the musical, followed by an identification of the various elements required of the lighting design as found within the script and how other design areas might impact the design. Finally, the designer will discuss his ideas and goals for implementing a design for this musical.

A Chorus Line premiered Off Broadway April 15, 1975 at The Public Theatre and was transferred to Broadway at the Shubert Theatre on July 25, 1975. It was adapted for film in 1985. A Broadway revival opened on October 5, 2006 at the Gerald Shoenfeld Theatre. The play will be produced in the Ted Paul Theatre in the Jane Earley Center for the Performing Arts on the campus of Minnesota State University, Mankato on October 4 – 14, 2012. The production will be directed by Paul Finocchiaro with lighting design by Jordan W. Green, scenic design by Naoko Skala, costume design by Angela Sahli, and sound design by George Grubb. The duties of production stage manager will be performed by Alisa Bowman, musical direction by Nick Wayne and the technical director will be Joel Schiebout.

The musical is set in no specific time period, but much of the dialogue references the 1970s, and many current productions, including the 2006 revival, were set in the 1970s. The designer is assuming that this production will be set in the 1970s as well.

A Chorus Line is a meta-theatrical play, a play in which theatre and its practices are the main theme. It shows the process of dancers from various walks of life auditioning for the chorus line of an unnamed musical. The play starts with the dancers, all of whom are desperate for work, dancing as a whole group and then in smaller groups while both Zach, the choreographer and Larry, his assistant, show them dance moves and observe them. Once the opening scene has finished, the group of dancers is cut down to seventeen and they line up across the stage along a white line. They all are told to give some basic information to Zach, who then tells them to be more true to themselves, and not try to act like someone they are not. One by one each of them reveals how they started dancing, revealing childhood memories, both good and bad, along with stories of other events in their lives. One character auditioning for the chorus, Cassie, was romantically involved with Zach and has been a featured dancer in the past. After a heated discussion between the two where Zach tells Cassie she is too good for the chorus, she has a solo dance, “The Music and the Mirror.” In this solo she sings about dancing being her entire life, pleading with Zach to give her a chance. He ultimately does give her a chance and casts her in the chorus. The show ends with a musical finale in which all of the individual characters form

a chorus of dancers performing the iconic song “One” in matching gilded costumes in front of flashy scenery.

While the designer has not yet seen any preliminary scenic design ideas, an archetypical element of the scenery includes periaktoi with a mirror on one panel of each. Besides the mirrors on the periaktoi, additional mirrors are likely. The mirrors are referenced in “The Music and the Mirror” and Cassie’s monologue before it. Mirrors can create a lighting challenge. Care needs to be taken to keep light from reflecting off the mirrors into the eyes of the audience and characters need light on their face when they face the mirrors. The final number, “One (Reprise),” calls for a change of setting from the audition to a fully produced musical. The scenery becomes more theatrical in this number.

The script itself only references lighting when Zach calls for the worklights to be turned on or off. While the general lighting for the show should resemble worklights for this reason, it only needs to do so loosely. This designer feels that while the use of worklights or even rehearsal light would be supported in the script, it is not necessarily the best choice for the show. Instead these scenes should be lit in more general lighting, lighting with unsaturated colors that is still controlled, and designed to draw focus to the actors instead of just providing a general wash of light covering the entire stage.

This controlled general lighting should be able to instantly and seamlessly isolate down to lighting just one character on the line and either follow or pick up the performer wherever they move on stage. This is essential to the lighting

designer as it will allow him to isolate individual characters without pulling the audience out of the world of the audition. This can be done by hanging an individual light from the same angle for each of the seventeen characters with individual control of each light. In earlier scenes the ability to isolate each individual character will serve to intensify the exposed feeling the characters have while they are revealing details about themselves. In addition, this isolation can make transitions to the more theatrical lighting of the songs less disruptive.

The ability to isolate individual actors dancing or otherwise performing while the rest of the company remains on stage is necessary. The designer feels that using followspots is the best way to accomplish this. The designer would like to mimic the classic front-on followspot angle typical of Broadway theatres, but mirrors on stage could cause problems with light reflecting into the audience and he may need to place the followspots elsewhere.

Each solo song should have lighting which matches its emotional qualities. This can be accomplished with color, patterns and varying levels of isolation. Since these solo numbers contain dancing as well, the addition of sidelight will help accent the movement of the dancers. This designer wishes to accomplish this by creating repertory dance lighting, which includes lights from the side at shin and head height, in addition to the main theatrical lighting, using a wide variety of colors or color-changing fixtures.

During “Music and the Mirror” and likely during additional numbers, mirrors are called for on stage. Seeing footlights in these mirrors is part of the imagery

that comes to mind when thinking about *A Chorus Line*. Because of this expectation, this designer feels that keeping this effect in the show is necessary. In addition, placing other lighting instruments in position which are visible in the mirrors from the audience's perspective is also desirable. These lights need not be run at high enough levels to affect the look on stage, but rather should be visible sources of light in the mirrors. Any light sources visible in the mirrors should be incandescent source fixtures, or if LED fixtures are used, they should be disguised to keep the effect consistent with what would have been seen in the 1970s.

The Finale, or "One Reprise," is unlike any of the other musical numbers in the show, in that it is meant to represent the final product of the show that the characters are auditioning for. The costumes and scenery become intensely theatrical and the lighting should match this. The number feels like it is straight out of a highly produced musical revue on Broadway, and the designer envisions jewel box-style lighting, which is bright, nearly white light from multiple angles. In addition to this, chasing marquee lights are an image that this designer is drawn to. Light bulbs lining the proscenium are an effect the designer would like to see. Hiding these light bulbs could be accomplished by flying in a frame with the light bulbs mounted to it or by hiding them behind a scrim, as was done with the Guthrie theatre's recent production of *End of the Rainbow*. The latter effect is more desirable to this designer as it accents the magic of theatre, which is an essential theme of the final number.

This designer is excited to be able to design *A Chorus Line* and to present these ideas in production meetings and hopefully bring them to realization. The show offers a wealth of opportunities and challenges to the lighting designer. He looks forward to hearing the director's concept for the show as well as working with the director and the rest of the design team to create a unique look for the show.

CHAPTER II

HISTORICAL AND CRITICAL PERSPECTIVE

A Chorus Line with book by James Kirkwood and Nicholas Dante and lyrics by Edward Kleban was first produced in 1975, and was the first Broadway production to use a computerized lighting console (Unruh 65). This departure from the piano boards, a set of resistance dimmers that were roughly the same size and weight as an upright piano, allowed Lighting Designer Tharon Musser to design lighting that previously would have been impossible. The production won numerous Tony Awards, including Musser's award for Best Lighting Design (67). The production went on to play 6,137 performances in just under fifteen years.

When Musser was first hired to design *A Chorus Line* for the Public Theatre, her fee was a mere $850, out of which she paid Richard Winkler, her assistant $400. The show was produced in the Newman Theatre, which had a five scene preset lighting console. Five scene preset consoles allowed an operator to preset up to five scenes manually using faders. Musser designed the show to the technical capabilities of the Public Theatre, but when the decision was made to move the show to Broadway in the Shubert Theatre, Musser realized that it would be impossible to run the cues for the show on the piano boards used on Broadway. In an interview with Richard Pilbrow, Musser said that because the show was predicted to be a hit, "the Shuberts said [she] could

have whatever [she] wanted in the way of lighting control" (Pilbrow 322). Broadway lighting technology was lagging. No Broadway house had a preset console at the time. Musser is quoted in The Longest Line saying "Okay, Broadway missed one whole era of preset boards, which even colleges have. We want to go to memory" (Stevens 67). "We knew the show. We knew it was a hit" (MacKay 28).

The console chosen for *A Chorus Line* was the only console available at the time, a prototype of an Electronics Diversified, Inc. LS-8 (Pilbrow 322). The LS-8 was developed by Gordon Pearlman while at the University of North Carolina (MacKay 28). Pearlman went on to be the primary developer of the USITT DMX-512A Standard, the control language used by most lighting equipment. The Electronics Diversified LS-8 was his first control system design (Terry "Pearlman"). The console could control 120 channels and had two sets of playback faders (Electronics Diversified Inc.). Using a computerized console provided the ability to recall complicated lighting cues in rapid succession. The console was affectionately known to the cast and crew as Sam, and its replacement was known as Hank (MacKay 28). While 'Sam' was out of commission due to an electrical fault, dancers on the show would ask "How's Sam?" and Musser or Sound Engineer Steve Terry, who spent the week with a soldering iron attempting to repair the console, would have to respond with "Nope, not tonight" (Pilbrow 323).

Despite the advances in technology, the show did not use the advanced technology just because it was available. At the 2013 United States Institute for Theatre Technology Conference and Stage Expo in Milwaukee, Terry, who was the audio engineer for the Broadway production of *A Chorus Line* and a good friend of Musser, recalled that Musser made sure that the use of this technology was only in support of the production, not to be flashy (Terry "Wagging"). Terry likened the move to memory lighting consoles with the current move to LED technology.

The decision to move to computerized memory control was not without controversy. Running a show on a piano board required many skilled technicians, and the move to computerized control was a threat to their employment. Musser organized a demonstration to prove that the memory console was necessary. "She wrote out the first ten cues of the show in the form that would be used for piano boards. She played the part of stage manager, calling the cues with the appropriate intervals between. The electricians couldn't do it. They couldn't move the resistance dimmers fast enough" (Unruh 66). After the demonstration, the electricians withdrew their opposition to a computerized board. By 1981 no Broadway shows would be using piano boards, with the last show to switch being *Annie* (67).

Another first for Broadway that occurred with *A Chorus Line* was that Jeff Hamlin, the Stage Manager, was positioned front of house instead of in the wings. This was necessary because of the intricacy of the lighting cues and so

that the stage manager “could call the show with sensitivity and physicality” (Stevens 72).

The scenic design for the original production of *A Chorus Line*, designed by Robin Wagner, included only three scenic elements, eight sixteen foot tall, two and a half foot wide periaktoi, seven mirrors on castors and a white line. The periaktoi were described by Wagner as “the oldest and most classic kind of scenery” and that it “solved [their] problem at the Estelle Newman theatre where *A Chorus Line* opened because it didn’t have a fly loft” (MacKay 11). Once transferred to the Shubert, the portable mirrors would fly in. Because the mirrors were made of Mylar, they were very easy to damage. The company kept two spare panels in the back of the theatre at all times (Stevens 161). Mirrex, the company that made the Mylar panels, was made famous by *A Chorus Line*. For the finale, Wagner designed a large “fan shaped sunrise in warm colors with lots of gold Mylar” which he described as “quasi-Victorian-Deco” (MacKay 11).

Due to the mirrors on stage, a very specific front lighting angle was necessary. At the Newman theatre, the space already had front of house positions that would work for the show, but the Shubert lacked a front of house catwalk and instead utilized the balcony rails for frontlighting (Stevens 68). Bennett and Musser asked that the Shubert Organization install a lighting bridge, which necessitated the removal of the chandeliers. The support structure for the lighting bridge was installed right through the offices of the Shubert Organization, and spotlight operators had to go through the offices and climb through hatches

to access the bridge. Bernard Jacobs, the president of the Shubert Organization at the time said “we tried to talk Michael [Bennett] out of it. We tried to convince him that the lights wouldn’t have been much different off either the first or second balcony rail, or a combination of both balcony rails” (Stevens 68). The bridge was installed by Feller Scenic Studios “so that the house [could] be restored to original condition” (MacKay 28). According to Gerry Schoenfield, chairman of the Shubert Organization, the lighting bridge was the first of its kind on Broadway (Stevens 69).

Patricia MacKay described the lighting design as “clear, sharp, fast paced, and constantly moving with the dancers bodies and the music. The plot moved from work lights on the audition line to lavender thought lights that capture each dancer’s soliloquies” (MacKay 11). The stage at times is broken up into squares of different colors. Musser referred to this as “A Mondrian–in terms of pattern but not palette. Instead of a special here and a special there, we use which ever block or blocks of light is right” (MacKay 11, 26). When Musser first met with Bennet, he told her “It is a line, and I would like everything to be seen in that kind of sharpness” (MacKay 26). The concept further evolved when Musser and Bennett realized the need to separate each character’s inner thoughts from the audition, which was done with the lavender light MacKay described.

Excluding blackouts, the show contained 127 cues (Mackay 26) and used 96 dimmers (Unruh 67). This was the most technically complex lighting ever produced on Broadway, and would not have been possible without the move to

computerized control. Musser herself stated “it is a terrible thing to say, but you do tend to design for the lighting control that you have–you have to. I know if we had set out to do *A Chorus Line* on Broadway, in the usual sense of the work, we would have had a different show. It would not have been as exciting lightwise because I would not have been able to move the light so consistently with the action” (MacKay 29). Because *A Chorus Line* was a clear success when it transferred to Broadway and the production team was given nearly everything they demanded, the show was able to usher in innovation in lighting design that would have been impossible before it.

CHAPTER III

JOURNAL

April 2, 2012

Our first production meeting was today. Director Paul Finocchiaro presented his ideas for the production. To him, *A Chorus Line* is his generation's *Rent*. He would like to see a wide open stage with periaktoi in the rear. He also wanted the finale number to be larger than life and full of spectacle. Finocchiaro said his only demand for lighting was striplights along the front of the stage. We also discussed ideas for mirrors on stage, such as using Mylar or mirrored Plexiglas. I brought up marquee style chasing light bulbs to add to the finale, which the rest of the team liked.

April 9, 2012

Scene Designer Naoko Skala brought scenery research and ideas to today's meeting. She envisioned using periaktoi in the rear of the stage, but with a major change from the original Broadway periaktoi. The black velour and mirror faces remain on the periaktoi, but the shimmer Mylar side is replaced by light panels, which could change color during the show, reminiscent of disco floors. I was nervous that we wouldn't have enough LED fixtures to make this work, and I talked to Skala about potentially

reducing the number of light panels. She would like the periaktoi to move around the stage to create an arc for “Music and the Mirror,” which raised flags for me because of the cables powering any lights inside of the periaktoi which cannot be run over by the castors on the periaktoi. In addition to the periaktoi, Skala envisioned a large arc with spokes which would be covered with light bulbs that would fly in for the finale along with a lit sign which says “A Chorus Line.”

April 10, 2012

I met with Skala to talk about the technical challenges with the periaktoi and the marquee lights. I had counted the number of LED fixtures available, and it was not enough to produce the effect we needed. We discussed cutting down the number of boxes to match the number of fixtures we owned. I brought in an example of the ceramic lamp bases we owned that would be used on the marquee light frame and she took a quick measurement of the size for reference.

April 16, 2012

The number of periaktoi has been reduced from 10 to 5, but retaining the same amount of light boxes as before. I said I would ask my advisor, Steve Smith, if it would be possible to use some of the LED fixtures from the Andreas Theatre inventory, possibly trading something from the Ted Paul

Theatre inventory. I also mentioned that this would make managing the cable necessary for these lights much easier, as there would be fewer units to run cable to. We also decided that the periaktoi would not move for “The Music and the Mirror,” but instead the center periaktos would be spun to show the mirror panel and similar size mirror panels would be used to create the arc effect that Skala wanted.

April 23, 2012

At the production meeting this morning, Skala proposed building a false proscenium concealing more marquee style light bulbs as she and I had discussed potentially doing at the first production meeting. The light bulbs would be hidden under painted scrim and would turn on only during the finale for dramatic effect. Technical Director Joel Schiebout did not particularly like the idea at first as it creates some technical challenges, but we talked through how it could be done in the meeting.

April 30, 2012

Today I received the scenic drafting from Skala. The scenery seems straight-forward, although I knew this was deceptive once I considered how much lighting has to integrate with the scenery. Almost every scenic unit has lighting equipment either on it or in it. This was our final production meeting before everyone leaves for the summer.

August 16, 2012

I missed most of an e-mail chain from earlier today. A production meeting was set up for Monday, August 20. I fly back to Fargo on August 19 from the Edinburgh Festival Fringe, where I had designed *Spring Awakening*. This would have given me less than 24 hours to move from Fargo to Mankato, which wasn't going to work. Thankfully everyone was willing to move the meeting date back to Wednesday, August 22.

August 22, 2012

This was our first production meeting after summer break. Having only been back in the United States for two days now, I was a bit jet-lagged for an eight am meeting. We discussed where the production team was in their design processes. I had done some drafting over the summer, but did not have a finished light plot. We discussed the scenic construction priorities, since so much of the scenery and lighting depend on each other for scheduling. Skala requested that the false proscenium be built first since it will take her the longest to paint. I said that I could work with that and that I would get the light bulb bases wired into the false proscenium as soon as it was built. Having never used these lamp bases before I was hesitant to give a hard time estimate, but I thought I could get everything wired within two days of the false proscenium being built.

August 23, 2012

After investigating the condition of the striplights stored in the trap room, and finding that all of the wiring had been removed from the fixtures rendering them inoperable, I met with my advisor, Steve Smith to discuss options, such as renting or purchasing new traditional R40 striplights or purchasing LED striplights. Since LED striplights would be more useful to the department Smith indicated that these would be preferable. I looked up a few options online, but my preferred option, Altman Spectra Strip fixtures, was too expensive. I was able to find used Color Kinetics ColorBlaze fixtures for sale that were within our price range. I had worked with these fixtures while I was a student at Concordia College, and I was confident that they would work for our production. I also was able to get a revised inventory reflecting purchases that were made over the summer, as well as lights which were decommissioned. I also discussed with Smith the purchase of the wire needed to wire the false proscenium and the marquee frame, which the production team is now calling “bows lighting.” I decided to use three different colors of wire to avoid confusion when wiring the three circuits. Smith authorized me to purchase the required cable for the project.

I revisited the drafting for the light plot today, and adjusted it to add the new Martin MAC-350 Entour fixtures, as well as the added ETC Selador Vivid-R fixtures which were purchased over the summer. I added the LED striplights to the plot and worked on figuring out how to provide data to all of

the intelligent fixtures. I also started working on cleaning up the drafting to bring it closer to finish quality.

August 29, 2012

This morning's production meeting concentrated mostly on the false proscenium. Schiebout decided to build it in segments, and designed the segments so that no toggle would be going through a light bulb location. I asked that I be able to wire each segment on the ground before it is installed. I decided that I could go back after it was installed and wire nut each section together.

I also showed a rendering of the tightly focused individual lights on each character on the chorus line, and how each one could be seamlessly separated from the rest of the line using light. Finocchiaro liked this idea, and said he was excited to see it in reality. I also attempted to show a rendering of the periaktoi on the light panel side showing different colors, but my computer crashed in the process so I was unable to.

September 4, 2012

Today we started hanging the lights for the show. We jumped right in with the largest shift, which entailed clearing the entire second electric and hanging 19 degree fixtures on two foot centers across the entire stage for the individual chorus line backlights. There was a brief moment of panic

when I could not find enough 19 degree lens tubes for the entire electric, but I was able to swap a lens with the American Sign Language interpreter light with a different lens to complete the system. The shop finished the false proscenium today, so tomorrow we will be installing lamp bases and wiring it.

September 5, 2012

Today's production meeting consisted mostly of clarifications on scenic elements. I brought in a jpeg image of the rendering I was hoping to show of the periaktoi in different colors, which was well received. I also updated the rest of the team on where I was in my process.

This afternoon we started wiring the false proscenium. I started working on it briefly before the rest of the crew came in at 3:00. The biggest issue is ensuring that the chase circuits are in the correct order. I marked all of the locations of light bulb bases before the crew arrived, and had the shop move a few toggles that were in the way. When the crew arrived at 3, we started installing the lamp bases. The first one went slowly while we were still figuring out how we were going to do it. After that, Jaeden Wellner, an undergraduate student, was able to put his skills in automotive wiring to use and lead one team wiring while I worked with another team. We installed all of the bases and fed all of the wire, while Smith made the final connections. We were able to finish the wiring by the end of the day.

September 6, 2012

The shop finished the first periaktos today, so I was able to get a better grasp on how we would be able to install the LED fixtures. There is plenty of room for the fixtures, but the framing could complicate how the mounting bracket for the lights will fit in the bottom section. We continued hanging fixtures on the electrics, which are the pipes overhead, today, and were able to finish hanging electric 1, electric 1A and electric 2A.

September 7, 2012

Today I worked alone on the show, and I went back and cabled each of the electrics that we had finished. Since the false proscenium was completely in place, I went back and connected each segment together with wire caps on each wire. I plugged each circuit into a wall outlet individually, and only one light bulb was burnt out, which I felt was impressive considering that all forty-eight light bulbs were reused from previous shows because the new bulbs had not arrived yet.

September 9, 2012

Today I worked on more renderings of the show, including what the finale light bulbs would look like. Because of the complexity of having around two hundred light sources, WYSIWYG, the software I used to produce the drafting plates and renderings for *A Chorus Line*, repeatedly

crashed. Luckily I was able to get a few decent renderings between all of the problems. Since I learned that showing renderings in WYSIWYG is unreliable on my computer, I have been saving each rendering as a separate image now.

September 11, 2012

Smith had told me that we would be getting more Martin MAC-350 Entour fixtures at some point since they were on backorder. They came today, but there were far more than I was expecting. Smith had said to expect 19 fixtures, but I thought he meant 19 total, not 19 in addition to the 6 we already had. After verifying that we did in fact own all 25 of the fixtures, I started to rework my light plot to include these new fixtures. We unboxed and hung a few where I knew I would use them. It's definitely a good problem to have because I know they can enhance what I can do with my design, but it does create more work for me now. I updated my plot tonight to reference the new locations of every moving light in the show, along with assigning new virtual addresses for these fixtures.

September 12, 2012

In the time before the crew arrived at three today, I circuited the proscenium light bulbs and patched them into the console. I quickly created a few chase effects, and both Skala and Schiebout were very pleased with

the look. I'm glad the lamps we had in stock were S14 marquee lamps, since it makes the marquee chase sequences look perfectly authentic to 1970s Broadway. Once the crew arrived, we finished re-hanging the intelligent lights based on the new light plot and started addressing the fixtures, setting virtual control addresses. I stayed after to finish addressing the remaining fixtures that Wellner and I did not get to during the work shift.

This afternoon Schiebout, Skala and I discussed the "A Chorus Line" sign which was supposed to be lit with rope light. Since rope light cannot make the corners and maintain the integrity of the font Skala used, I offered that they could use a metallic paint or glitter on the letters and that I could light it with gobo rotators to make the sign light up and appear dynamic. Skala liked this idea, and we decided this was the best course of action.

September 13, 2012

We were able to install the LED fixtures in one of the periaktoi today. Lighting Staff Member Patrick Crowley assisted me in drilling holes for cable to pass through and then we mounted each fixture. We had the cable drops ready to go for each periaktoi, so we were able to address and test the units. Unfortunately, there were data issues and a few didn't turn on. After verifying the patch, we decided to test plugging the fixtures directly into the DMX/ACN Node, a device which converts control protocols, bypassing the optical splitter. This solved the problem, but without the optical splitter,

which has six outputs, we would not be able to feed data to each periaktos individually. I talked with Smith about this issue, and we seemed to think the DMX node, which hadn't been used lately and had older firmware on it, was not working with the optical splitter. We decided we would have to contact Gopher Stage Lighting or Electronic Theatre Controls about the issue.

September 14, 2012

Because I am working alone today, I am just finishing up details on each electric that I can fly in without changing weight or getting in the way of shop staff. I also laid out the ColorBlaze striplights across the front of the stage and circuited and addressed them. I have never used ColorBlaze fixtures in a footlight configuration before, so I decided to fire them up and see how they looked. I found that they were very bright, and that I would never want to run them over 20%. I also experimented with different diffusion and frost to see if I could mask the fact that the fixtures were LED and not halogen like the original production would have had. Nothing seems to be working great right now, but the mirrored side of the periaktoi seems to be frosted enough that it won't matter.

September 17, 2012

We continued to install Vivid-R LED fixtures in the periaktoi today. We've found that the cables are not visible through the muslin, so we aren't

being as neat as we were before, which is making it go much faster. I experimented with lenses, and decided on the combination of lenses to use. There is a slight hot spot still, but once you're in the audience the field of color looks very even. There is still a shadow of the lighting fixture, but my renderings all showed this shadow, and Finocchiaro had said that he did not mind it.

September 18, 2012

We were able to install the rest of the LED fixtures today, and we are still having an issue with data after updating the firmware. Wellner and I ran a cable to an open output on a DMX/ACN node on a different electric to see if that would solve the problem, and it unfortunately did not. Connecting directly to the permanently wired DMX output did not cause any issues, but that output is mapped to a different universe, or set of 512 addresses, than the DMX/ACN node. The permanently wired DMX is mapped to universe three, which is already very full, and does not have the capacity to add all 30 Vivid-R fixtures in the periaktoi to it.

September 19, 2012

At this morning's production meeting, I showed a rendering of the finale with the light boxes showing instead of black. Finocchiaro had previously requested black, but after seeing the rendering, both Skala and I

agreed that we liked light boxes better. Finocchiaro agreed with us and we decided that we would do a cascade, turning each periaktoi in beat with the music, from the black side of the periaktoi to the light boxes, followed by the "bows lighting" flying in.

September 20, 2012

After not coming up with a solution to the problems with the DMX/ACN node, I decided that it would be best to use the permanently wired DMX plug, which means re-patching a large part of the show. I decided the easiest way to open enough space in universe three for the Vivid-R fixtures was to move the footlights from universe three to universe nine, using the DMX/ACN node that was supposed to run the periaktoi. I quickly re-patched the rest of universe three using quicktools in WYSIWYG to remove any gaps in the data, and printed off a dimmer hookup for universe three and Wellner and I re-addressed many of the lights in universe three, as well as all of the periaktoi lights.

September 21, 2012

Over lunch today I updated the patch in the console to reflect the changes in patch from yesterday so that everything would be ready for focusing. We were able to get all of the overhead electrics focused in the first two hours, then worked on sidelight and front of house afterwards.

Smith was able to rearrange some work schedules to fully staff the focus, which made everything go much smoother. The only hiccups were one light with the wrong lens, and a few incorrect pieces of diffusing frost. After focus I turned on a few different systems of lighting and walked around on stage to see if there were any uneven spots, but everything looked good.

September 24, 2012

I thought the light bulbs and sockets for the bows lighting came in, but instead it was only light bulbs, and the sockets will be here tomorrow. We laid out where each socket would go on the arch and I had the shop provide metal self-tapping screws. I also am taking time to cue between the time the shop is closed and when rehearsal starts. I don't have much free time while the space is not in use, so it is difficult to get into the flow of things.

September 25, 2012

We installed all of the lamp sockets on the "bows lighting" today, and started running wire. As the shop wants to hang the frame as soon as possible, I had shop workers helping me out as well. The wiring process is going really slowly with 153 sockets to wire.

I continued to cue tonight as well. The amount of lighting cues is becoming large, but I believe that is appropriate considering the original production's use of technology.

September 26, 2012

This morning was the last production meeting. As nothing in my design had changed, I provided a status update, and inquired about an after-hours building pass so I could go through the entire show's cues one by one before tomorrow's light tech. I haven't been able to go through the entire show yet with the fragmented time the space was available for cueing while I was available. I also set up a time with Stage Manager Alisa Bowman to put cues in her prompt book.

It always amazes me how much more efficient it is to sit down and go through all the cues in a show from start to finish in one sitting. What had taken hours in the fragmented time before was taking minutes. With so many color changing fixtures and moving lights I was afraid that I would need a lot of time. I did end up needing the pass, but I only stayed in the building until 1:30am, far earlier than I was guessing I would finish.

September 27, 2012

The process of wiring the bows lighting is still taking a long time. I asked Sound Designer George Grubb if we could borrow his wire stripper as well, and that started to speed things up. I spent most of my time connecting the spokes of the arch to the main arch, which required much more patience than the rest of the wiring. By the end of the work day we were close to finishing.

I met with Bowman to put cues in her prompt book. Because the show is so cue heavy and a lot of cues are visual cues, I made sure to explain the more difficult cues in detail.

Tonight was first light tech, and I feel like it went very well. I sat next to Finocchiaro and took notes. Most notes were related to moving light focus, which I expected, having programmed without actors or stand-ins present. Finocchiaro seemed to like the subtle effects I put in, such as the pulsing lights after “God I Hope I Get It.” I stayed after rehearsal and did some cue notes.

September 28, 2012

Today we finished the bows lighting sockets, and while the shop was rigging the frame I ran cable to power the light bulbs. After the frame was in the air I finished making the final connections to the dimmers. Skala, Schiebout, and I put all the light bulbs in quickly, and I ran to the light board to turn them on. I was nervous with so many connections that something wasn’t going to work, but everything worked the first time. It felt really good to be done with that project.

I finished my cue notes from last night over dinner, and tonight’s technical rehearsal went a lot better for me. My notes from tonight are more artistic than mechanical. With the bows lighting in place, the periaktoi looked washed out and Finocchiaro suggested maybe switching back to the black

side of the periaktoi for the finale. Both Skala and I tried to talk him out of it, and I said that I would work on fixing the issue.

September 29, 2012

In an attempt to fix the washed out periaktoi problem I focused many of the moving lights on the surface of the periaktoi with Congo blue filters. This overpowered the light coming from the bulbs on the bows lighting frame. Finocchiaro felt that this solved the problem and we are leaving the finale scene with the light boxes showing.

October 14, 2012

Today was the final performance of *A Chorus Line*. Strike followed the performance, and with so much lighting equipment mounted to scenery, Schiebout and I had to coordinate with each other closely. We first struck all of the lighting equipment from the periaktoi, and then as pieces of the false proscenium came down we removed that equipment as well. The bows lighting frame was the last thing to be struck, and we very carefully removed all of the light bulbs before flying it to the ground and removing all of the wiring and sockets.

CHAPTER IV

POST-PRODUCTION ANALYSIS

This chapter will compare what was imagined in the pre-production analysis from Chapter I to what was actualized in the final production, and evaluate its effectiveness on stage. Discussion of Lighting Designer Jordan William Green's experience fulfilling project goals and the quality of the final design will be included. The designer will also discuss the ways in which this experience will contribute to enhancing his future design work.

The designer's original concepts for the show centered on *A Chorus Line* being a meta-theatrical script. From this, he developed his initial ideas for the show, which included the ability to seamlessly isolate the lighting down to one character, creating enhanced worklight for rehearsal scenes, and creating different looks for each song in the show. Other design ideas included individual lights for each character on the chorus line and chasing light bulbs around the proscenium. These ideas were based upon reading the script and initial research, along with analysis of the script, and were created prior to the initial production meeting with Director Paul Finocchiaro. The ideas were refined throughout the production process, and the means of implementation differ from what the designer initially intended, but with the addition of the light boxes in the periaktoi, his ideas largely stayed the same.

While initially envisioning the lighting for *A Chorus Line*, the designer drew upon past experiences with productions he had previously designed as well as productions he had witnessed. While the director's design concepts fit with the designer's original ideas, working with the director and the rest of the design team shaped the his ideas for how to execute the design. Collaborating with Scene Designer Naoko Skala was particularly rewarding, and her idea to use light boxes on one side of each periaktoi definitely enhanced the show.

The designer appreciated collaborating with Skala. Every major scenic element had lighting attached to it, and Skala worked with the designer to make sure each scenic element was designed with that lighting in mind. Working out the details of the light boxes was done without any disagreement from either designer, and before designing the false proscenium Skala checked with Green to see how much space each light bulb needed.

The controlled general lighting envisioned by the designer evolved from what was to be enhanced worklight into lighting that appeared more theatrical, with the addition of blue backlight and steel blue toplight. Initially the designer envisioned very little saturation in these cues, but when cuing felt it lacked dimension. The use of saturated blue backlight allowed the designer to fulfill his original goal of drawing focus to the actors by making the actors stand out from the black background.

The designer's vision of being able to isolate down to single characters seamlessly worked very well, and provided for some of the effects that the

designer is most proud of from the production. This allowed for the pulsing lights after “I Hope I Get It,” the isolation in “And…,” and the back and forth between individual characters during “Montage Part 1.” Each light grounded each character as an individual during the audition process, and by removing the individual lights in “One (Reprise),” it helped to reinforce the fact that the characters were no longer individuals. They were a chorus of dancers, indistinguishable from each other.

While the designer initially envisioned followspots coming from the lighting booth, the use of mirrors and the angle of the lighting booth forced the designer to move the followspots to the box booms, positions on the side walls of the auditorium, instead. This meant that he lost the effect of the blinding light from the front typical of Broadway theatres of the day, but the followspots were still effective at drawing focus to characters during dance numbers.

When initially conceiving the light box idea, the designer was worried that using a large amount of the inventory of color changing fixtures would make it difficult to realize his goal of using color to keep each song different from the others. The added Martin MAC-350 Entour fixtures helped solve this problem, and allowed even more control over isolation than he initially had envisioned. Sidelight for the dance numbers was not as effective as the designer had initially thought it would be, but it still added to the dances where it was used, especially for “The Music and the Mirror” where Cassie was solo on stage.

The use of footlights combined with the mirrors was a design aspect that both Green and Finocchiaro agreed was essential. While it was initially heartbreaking for the designer to see that the stock striplights had been stripped of their wiring, the resulting use of LED striplights allowed the designer to experiment more with different looks than would have been typical of striplights in the 1970s. Each time the footlights were used they had a different configuration, something that would have been impossible with R40 striplights. Because the Mylar mirrors were slightly fogged, the fact that the fixtures were LED was masked.

The designer's initial ideas for the finale, or "One (Reprise)" were magnified tenfold through collaboration with Skala. What Green envisioned as a portal with a few chasing light bulbs turned into over two hundred light bulbs, all wired in a three circuit chase, all in front of Congo blue chasing light boxes and intense, bright lighting. The designer felt that the light bulbs appearing within the false proscenium worked really well, and helped to accent the magic of theatre. The use of golden lighting on white costumes popped the characters away from the background of Congo blue. While the final scene was the most time consuming and labor intensive part of the entire show, the designer felt that every bit of that time and effort was worth it.

A Chorus Line had more lighting cues than any other show that the designer has programmed. The amount of shifts within musical numbers and even within dialogue caused the designer to worry that the lighting might become

distracting, but he found after the first technical rehearsal that the shifts in lighting were effective at pushing focus to the correct actors, and he decided to add even more cues to other numbers. The designer felt this paid homage to the original production and the fact that it was the first production to use a computerized lighting console. Stage Manager Alisa Bowman called all of the cues very well.

This was the designer's first design in the Ted Paul Theatre, but he had worked in similar proscenium theatres in the past. The designer felt that he did well adapting to the space. Masking and sightlines were the biggest challenge of working in the space, but by using his drafting to determine what height each border and electric needed to be at he was able to meet this challenge. He found the theatre to be really well equipped for lighting, and enjoyed working in it. It was also his first time programming on this lighting console, an EOS console.

A Chorus Line is the most technically and artistically complex production the designer has worked on, and he has learned valuable skills from the production process that will help him in the future. The complexity of the data distribution system for the show and the problem solving that went along with it provided a challenge that the designer felt he met effectively.

The designer felt like the level of collaboration within the production team for the production was excellent and that it improved the final outcome of the show. He will strive for this level of collaboration in future projects. Overall, the designer felt that he met or exceeded his goals and that his design created the appropriate atmosphere and aesthetic for this production of *A Chorus Line*.

CHAPTER V

PROCESS DEVELOPMENT

Before enrolling in the graduate program at Minnesota State University, Mankato, the Master of Fine Arts candidate received a Bachelor of Arts Degree from Concordia College in Moorhead, Minnesota. There the candidate participated in several aspects of theatre including sound design, projection design, and lighting design and was a student manager of the department which provided lighting for events across campus, Campus Lights. There he completed the lighting design for *Godspell* as well as serving as a master electrician on numerous shows, including three of the Concordia College Christmas Concerts. Prior to graduating from Concordia College, he also designed one production as a freelance designer. When approaching graduation, he did not feel qualified to move directly into the professional world, and therefore he decided to pursue further education at Minnesota State Mankato.

One aspect of the program at Minnesota State Mankato which initially attracted the candidate was the number of productions produced every year. He was excited by the number of realized designs he would be able to complete over the course of the three year program. He quickly learned how to work in this fast-paced environment while completing the obligations of his assistantship as a leader of the lighting crew. This ability to work quickly and efficiently has

benefited the candidate as a designer, both at Minnesota State Mankato and as a freelance designer.

The candidate has completed five design projects including *A Chorus Line*. He also designed the lighting for *True West*, directed by Rusty Ruth, and *Evil Dead: The Musical* and *Wait Until Dark*, both directed by Heather Hamilton, all of which were presented in the Andreas Theatre. In addition to these lighting designs, he designed the sound for *Frozen*, directed by fellow Master of Fine Arts candidate Adam Sahli, also presented in the Andreas Theatre.

A Chorus Line was the candidate's first show in the Ted Paul Theatre, while three of his designs were in the Andreas Theatre. Two designs, *Wait Until Dark* and *True West*, were presented in the deep thrust configuration and one, *Evil Dead: The Musical*, was presented in the shallow thrust configuration. Because of this, the candidate has been able to expand his experience to three different styles of staging.

With *Evil Dead: The Musical*, the entire production team, except for the director, were students. This provided him the opportunity to work with students of various experience levels, an experience which has proved invaluable in his freelance work. Learning to be patient and to be flexible are skills which will undoubtedly be a valuable asset in the future. The candidate has used the opportunity to teach and mentor less experienced student designers.

As sound designer for *Frozen*, the candidate was presented with a unique challenge to overcome. The sound console for the Andreas Theatre was

removed and taken for the production of *The Odyssey* at the Kennedy Center. This created numerous issues for the designer, who no longer had manual control over volume levels of sound effects and had to rely on pre-programed levels. While he feels the design was mostly effective, he did receive criticism for the levels of sound effects being a little off. Had the candidate not had to work without a console, he feels that this would not have been an issue.

Wait Until Dark in the Andreas Theatre was the candidate's first mainstage design. While this was his first mainstage design, he had worked with Director Hamilton before. He struggled to communicate effectively with the design team, which resulted in a few arguments between him and other members of the production team. This provided a valuable learning experience. *Wait Until Dark* was also the first non-musical theatre production the candidate had worked on. The designer seized the opportunity to complete a realistic lighting design.

The candidate's major project, the lighting design for *True West*, provided him with the opportunity to design for a very similar set while using entirely different concepts and implementation ideas. Working with Director Rusty Ruth and Scenic Designer Mary Jane Olson was very enjoyable due to the collaborative nature of the production team.

The designer entered Minnesota State Mankato fairly confident of his design ability, however he was not as confident in his academic abilities. When he interviewed for the program and Department Chair Paul Hustoles told him that his academic record from his undergraduate degree would not be acceptable in

the graduate program, the designer knew that academics would be an area of concern. Academic coursework has been a source of anxiety for the candidate. At Concordia College almost all of his courses were evaluated subjectively with mostly essay tests and research or opinion papers. Adjusting to the objective evaluation of some of the courses at Minnesota State Mankato was difficult, and he still struggles with it.

He is more confident in design courses. While he had completed a lighting design course at Concordia College, it concentrated mainly on the artistic and conceptual side of design rather than the mechanics of design. The lighting courses the candidate has completed at Minnesota State Mankato have taught him more about the mechanics of design such as drafting and calculating photometric data. One idea presented in his lighting design class which the candidate appreciates was forcing the designer to justify each implementation idea against concise concept statement.

The candidate also took design classes in scenery, sound and costuming. These courses, while not directly related to the candidate's field, are necessary for being able to communicate and collaborate with other designers. Being able to be part of a team that can create a production in which all design areas complement each other is essential in theatre These courses will help this designer be a successful collaborator.

The scene design course taken by the candidate was essential to his ability to collaborate effectively with scenic designers. Not only did this course

help the candidate to communicate with scenic designers, but it taught him about skills applicable to lighting design such as color and pattern choices, as well as drafting skills.

The sound design course taken by the candidate also improved his process as a lighting designer. Much of the class centered around how music affects mood and how to select sounds that match the mood of a production. This meant analyzing scripts in a new way, and this improved the designer's ability to analyze scripts for lighting ideas as well. While sound design is the only non-visual design element in theatre, the methods in creating a sound design are very similar to lighting design, and the candidate related well to these methods.

The technical direction course expanded the candidate's knowledge of stagecraft practices. The information presented in this class is valuable to any of the design fields. In addition to learning more about scenery construction methods, he learned a lot about safety, rigging, and budgeting, which are all necessary parts of a lighting professional's job.

The candidate's costume design course was perhaps the most foreign to him, and therefore the most difficult. Even though it was foreign to him, he did learn valuable information on how costumes and lighting can work together, along with numerous examples of how they can work against each other. Learning to design and draw costumes, which are not at all systematic like lighting designs, forced the candidate to think in new ways. Discussions of how colored light can affect different colored costumes were helpful for the designer.

The more academically oriented classes attended by the candidate were much more difficult for him. Dramaturgy forced the candidate to face his anxiety of public speaking, which he feels he has improved upon greatly over his time at Minnesota State Mankato. Dramaturgy also aided the candidate in his lighting design by improving his research abilities. Theory and Criticism was the most rewarding class to the candidate, who thoroughly enjoyed the discussions in class. This course also expanded the candidate's appreciation for why theatre remains an important craft today. Research Methods proved to be a great help in writing project papers and researching for other courses.

The two theatre history courses were the most challenging classes the candidate has ever taken. He has difficulty memorizing material and has anxiety issues which make the exams and quizzes especially difficult. With all of these courses, time management has become a priority, and he still struggles with time management. While the candidate surely will not remember the entirety of the material covered in these classes, his knowledge of theatre history provides a strong starting point for future research.

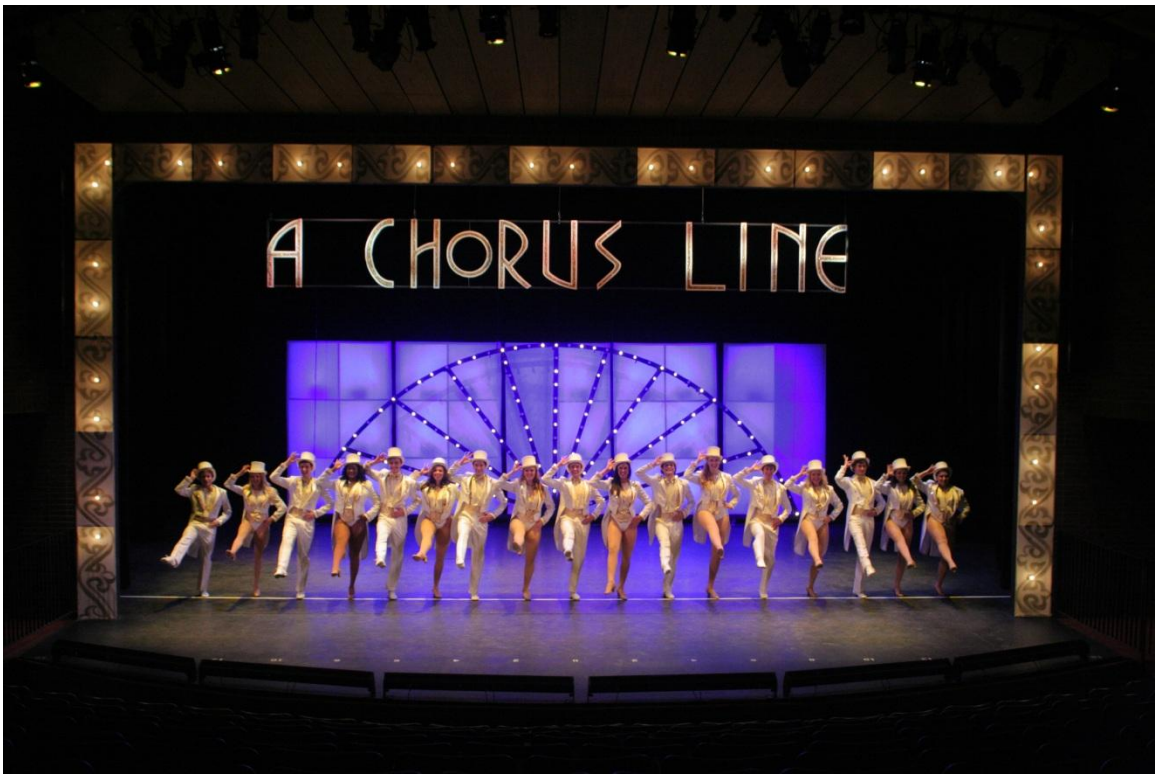
Another element of the graduate program which has proven to be a valuable learning experience is the candidate's assistantship work. The candidate has worked on the lighting crew for nearly every production over the past three years. This has provided him with a great deal of experience in the physical side of hanging and focusing a light plot. It has also provided him with different ideas of how to use light for specific effects. Working as a leader and

supervisor of both skilled and unskilled student labor has provided the candidate with the opportunity to teach and mentor younger students, as well as improve his own personnel management skills. Working with faculty Designer Steven Smith has provided an opportunity to witness efficient and effective production processes, and the candidate has followed his example when leading light crews both at Minnesota State Mankato and elsewhere. This, along with observing Smith's designs has been an immense influence on the candidate's own artistic expression.

The graduate program at Minnesota State Mankato has taught the candidate many important lessons on how to improve his craft. These experiences have also increased his confidence in his abilities. Holes in his previous experience are quickly being filled and he has gained invaluable experience that will help him be successful in the future.

APPENDIX A

PRODUCTION PHOTOGRAPHS



“One (Reprise)”

“Montage Part 4-‘Shit Richie’”

“Montage Part 1-‘Hello Twelve’”

“One (Reprise)”

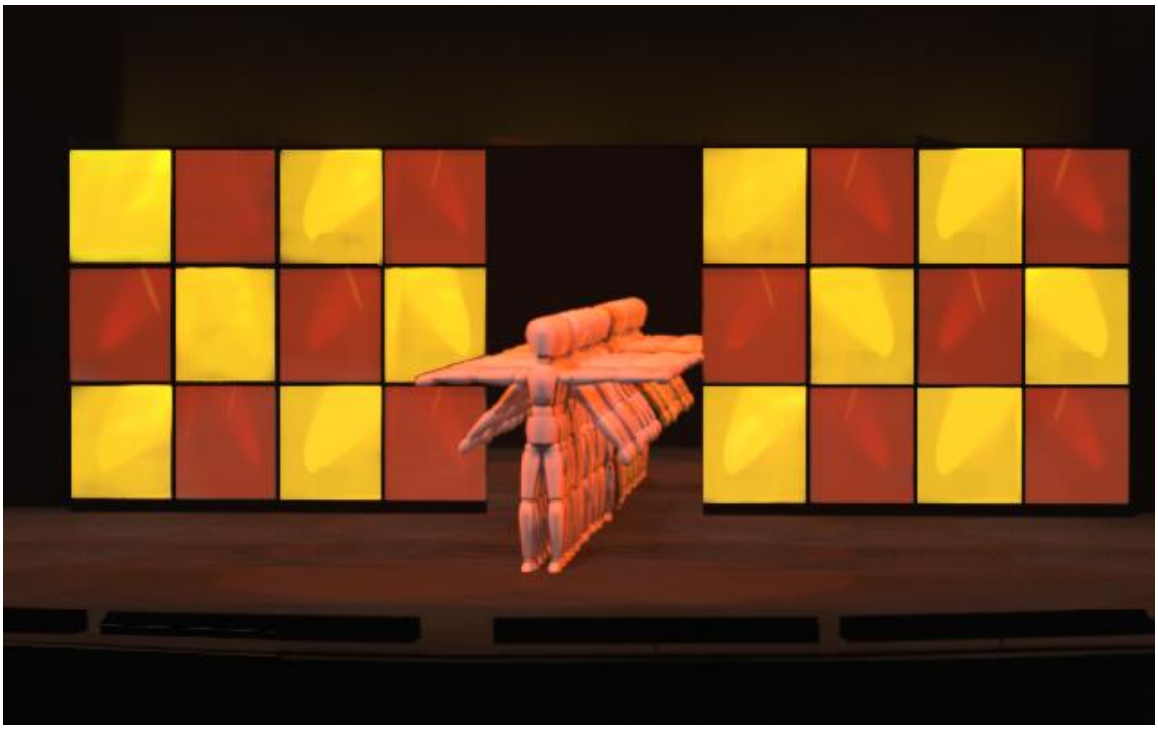
“The Music and the Mirror”

Dancers silhouetted in their specials.

APPENDIX B

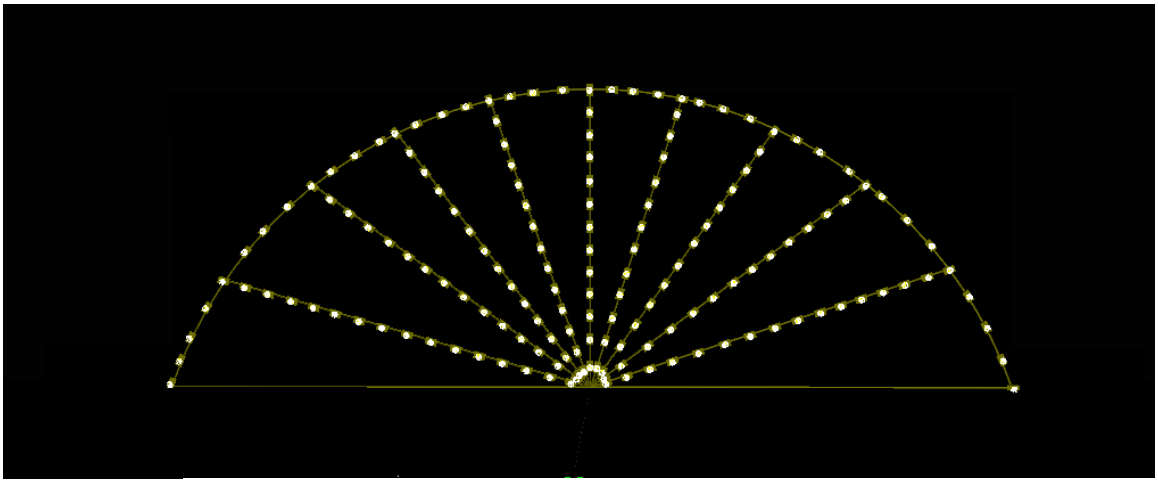
LIGHTING RENDERINGS

“One (Reprise)”



“Montage Part 4-‘Shit Richie’”

Dancers silhouetted in their specials.



Bows Lighting

APPENDIX C

CHANNEL HOOKUP

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Designed By Jordan W Green
jwgreenlighting@gmail.com

Minnesota State University, Mankato
www.greenlightdesigns.us

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(1)	1/16 = 16	2nd Catwalk	10	A	14° Source 4 575w	R360
(2)	1/11 = 11	2nd Catwalk	9	B	14° Source 4 575w	R360
(3)	1/10 = 10	2nd Catwalk	7	C	14° Source 4 575w	R360
(4)	1/8 = 8	2nd Catwalk	5	D	14° Source 4 575w	R360
(5)	1/34 = 34	2nd Catwalk	3	E	14° Source 4 575w	R360
(6)	1/32 = 32	1st Catwalk	8	F	19° Source 4 575w	R360
(7)	1/30 = 30	1st Catwalk	7	G	19° Source 4 575w	R360
(8)	1/24 = 24	1st Catwalk	6	H	19° Source 4 575w	R360
(9)	1/21 = 21	1st Catwalk	5	I	19° Source 4 575w	R360
(10)	1/22 = 22	1st Catwalk	4	J	19° Source 4 575w	R360
(11)	1/71 = 71	Pit Pipe	18	K	26° Source 4 575w	R360
(12)	1/67 = 67	Pit Pipe	15	L	19° Source 4 575w	R360
(13)	1/41 = 41	Pit Pipe	11	M	19° Source 4 575w	R360
(14)	1/36 = 36	Pit Pipe	6	N	19° Source 4 575w	R360
(15)	1/61 = 61	Pit Pipe	3	O	19° Source 4 575w	R360
(16)	1/125 = 125	1st Electric	19	P	26° Source 4 575w	R360
(17)	1/122 = 122	1st Electric	16	Q	26° Source 4 575w	R360
(18)	1/115 = 115	1st Electric	11	R	26° Source 4 575w	R360

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(19)	1/109 = 109	1st Electric	7	S	26° Source 4 575w	R360
(20)	1/105 = 105	1st Electric	4	T	26° Source 4 575w	R360
(21)	1/14 = 14	2nd Catwalk	11	AB	26° Source 4 575w	R360
(22)	1/9 = 9	2nd Catwalk	8	BC	26° Source 4 575w	R360
(23)	1/7 = 7	2nd Catwalk	6	CD	26° Source 4 575w	R360
(24)	1/1 = 1	2nd Catwalk	4	DE	26° Source 4 575w	R360
(32)	1/51 = 51	SR Box Boom 2		C	NSP Source 4 Par 575w	O/W
	"	"		"	"	"
(33)	1/28 = 28	1st Catwalk	9	IJ	MFL Source 4 Par 575w	O/W
	1/29 = 29	"	10	H	"	"
(34)	1/13 = 13	2nd Catwalk	12	E	NSP Source 4 Par 575w	O/W
	"	"	13	CD	"	"
(35)	1/3 = 3	2nd Catwalk	1	CD	NSP Source 4 Par 575w	O/W
	"	"	2	B	"	"
(36)	1/20 = 20	1st Catwalk	1	I	MFL Source 4 Par 575w	O/W
	1/19 = 19	"	2	G	"	"
(37)	1/48 = 48	SL Box Boom 2		C	NSP Source 4 Par 575w	O/W
	"	"		"	"	"
(51)	1/26 = 26	Pit Pipe	19	A	Nexera Spotlight 575w	R119
	2/401 = 913	"	"	"	"	"
(52)	1/31 = 31	Pit Pipe	16	B	Nexera Spotlight 575w	R119
	2/410 = 922	"	"	"	"	"

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(53)	1/63 = 63	Pit Pipe	8	C	Nexera Spotlight 575w	O/W
	2/430 = 942	"	"	"	"	"
	1/72 = 72	"	10	CH	"	R119
	2/420 = 932	"	"	"	"	"
(54)	2/440 = 952	Pit Pipe	4	D	Nexera Spotlight 575w	R119
	1/60 = 60	"	"	"	"	"
(55)	2/450 = 962	Pit Pipe	1	E	Nexera Spotlight 575w	R119
	1/17 = 17	"	"	"	"	"
(56)	3/1 = 1025	1st Electric	20	F	Nexera Spotlight 575w	R119
	1/126 = 126	"	"	"	"	"
(57)	3/4 = 1028	1st Electric	15	G	Nexera Spotlight 575w	R119
	1/120 = 120	"	"	"	"	"
(58)	1/114 = 114	1st Electric	12	H	Nexera Spotlight 575w	R119
	3/7 = 1031	"	"	"	"	"
(59)	3/10 = 1034	1st Electric	8	I	Nexera Spotlight 575w	R119
	1/108 = 108	"	"	"	"	"
(60)	1/103 = 103	1st Electric	3	J	Nexera Spotlight 575w	R119
	3/13 = 1037	"	"	"	"	"
(61)	1/87 = 87	2A Electric	21	K	Nexera Spotlight 575w	R119
	8/1 = 3585	"	"	"	"	"
(62)	8/4 = 3588	2A Electric	17	L	Nexera Spotlight 575w	R119
	1/282 = 282	"	"	"	"	"
(63)	1/281 = 281	2A Electric	12	M	Nexera Spotlight 575w	R119
	8/7 = 3591	"	"	"	"	"
(64)	1/288 = 288	2A Electric	6	N	Nexera Spotlight 575w	R119
	8/10 = 3594	"	"	"	"	"

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(66)	1/182 = 182	3rd Electric	19	P	Nexera Spotlight 575w	R119
	5/1 = 2049	"	"	"	"	"
(67)	1/179 = 179	3rd Electric	15	Q	Nexera Spotlight 575w	R119
	5/4 = 2052	"	"	"	"	"
(68)	5/7 = 2055	3rd Electric	11	R	Nexera Spotlight 575w	R119
	1/176 = 176	"	"	"	"	"
(69)	1/172 = 172	3rd Electric	7	S	Nexera Spotlight 575w	R119
	5/10 = 2058	"	"	"	"	"
(70)	5/13 = 2061	3rd Electric	3	T	Nexera Spotlight 575w	R119
	1/159 = 159	"	"	"	"	"
(71)	1/124 = 124	1st Electric	18	AB	WFL Source 4 Par 575w	R80
(72)	1/118 = 118	1st Electric	14	BC	WFL Source 4 Par 575w	R80
(73)	1/112 = 112	1st Electric	10	CD	WFL Source 4 Par 575w	R80
(74)	1/107 = 107	1st Electric	6	DE	WFL Source 4 Par 575w	R80
(76)	1/284 = 284	2A Electric	15	GH	WFL Source 4 Par 575w	R80
	"	"	20	FG	"	"
(78)	1/287 = 287	2A Electric	5	IJ	WFL Source 4 Par 575w	R80
	"	"	10	HI	"	"
(81)	1/181 = 181	3rd Electric	18	KL	WFL Source 4 Par 575w	R80
(82)	1/178 = 178	3rd Electric	14	LM	WFL Source 4 Par 575w	R80
(83)	1/175 = 175	3rd Electric	10	MN	WFL Source 4 Par 575w	R80
(84)	1/171 = 171	3rd Electric	6	NO	WFL Source 4 Par 575w	R80
(86)	1/207 = 207	4th Electric	11	PQ	WFL Source 4 Par 575w	R80

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(87)	1/202 = 202	4th Electric	8	QR	WFL Source 4 Par 575w	R80
(88)	1/195 = 195	4th Electric	5	RS	WFL Source 4 Par 575w	R80
(89)	1/191 = 191	4th Electric	2	ST	WFL Source 4 Par 575w	R80
(91)	1/123 = 123	1st Electric	17	AB	WFL Source 4 Par 575w	R58
(92)	1/117 = 117	1st Electric	13	BC	WFL Source 4 Par 575w	R58
(93)	1/111 = 111	1st Electric	9	CD	WFL Source 4 Par 575w	R58
(94)	1/106 = 106	1st Electric	5	DE	WFL Source 4 Par 575w	R58
(96)	1/283 = 283	2A Electric	13	GH	WFL Source 4 Par 575w	R58
	"	"	18	FG	"	"
(98)	1/286 = 286	2A Electric	3	IJ	WFL Source 4 Par 575w	R58
	"	"	8	HI	"	"
(101)	1/180 = 180	3rd Electric	16	KL	WFL Source 4 Par 575w	R58
(102)	1/137 = 137	3rd Electric	12	LM	WFL Source 4 Par 575w	R58
(103)	1/174 = 174	3rd Electric	8	MN	WFL Source 4 Par 575w	R58
(104)	1/160 = 160	3rd Electric	4	NO	WFL Source 4 Par 575w	R58
(106)	1/205 = 205	4th Electric	10	PQ	WFL Source 4 Par 575w	R58
(107)	1/201 = 201	4th Electric	7	QR	WFL Source 4 Par 575w	R58
(108)	1/194 = 194	4th Electric	4	RS	WFL Source 4 Par 575w	R58
(109)	1/187 = 187	4th Electric	1	ST	WFL Source 4 Par 575w	R58
(111)	1/204 = 204	4th Electric	9	L	Strand 8" Fresnel 2kw	O/W
(112)	1/198 = 198	4th Electric	6	M	Strand 8" Fresnel 2kw	O/W
(113)	1/192 = 192	4th Electric	3	N	Strand 8" Fresnel 2kw	O/W

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(121)	1/83 = 83	SR Box Boom 1		AB	26° Source 4 575w	SCR
	2/307 = 819	"		"	Forerunner 4"	Control
(122)	1/81 = 81	SR Box Boom 1		CD	26° Source 4 575w	SCR
	2/308 = 820	"		"	Forerunner 4"	Control
(123)	1/127 = 127	1st Electric	22	H	26° Source 4 750w	SCR
	3/16 = 1040	"	"	"	Forerunner 4"	Control
(124)	1/128 = 128	1st Electric	21	I	26° Source 4 750w	SCR
	3/17 = 1041	"	"	"	Forerunner 4"	Control
(125)	1/156 = 156	2nd Electric	25	M	26° Source 4 750w	SCR
	7/217 = 3289	"	"	"	Forerunner 4"	Control
(126)	1/155 = 155	2nd Electric	24	N	26° Source 4 750w	SCR
	7/218 = 3290	"	"	"	Forerunner 4"	Control
(127)	1/184 = 184	3rd Electric	21	R	26° Source 4 750w	SCR
	5/16 = 2064	"	"	"	Forerunner 4"	Control
(128)	1/183 = 183	3rd Electric	20	S	26° Source 4 750w	SCR
	5/17 = 2065	"	"	"	Forerunner 4"	Control
(131)	1/78 = 78	SL Box Boom 1		H	26° Source 4 575w	SCR
	2/309 = 821	"		"	Forerunner 4"	Control
(132)	1/76 = 76	SL Box Boom 1		G	26° Source 4 575w	SCR
	2/310 = 822	"		"	Forerunner 4"	Control
(133)	1/101 = 101	1st Electric	2	G	26° Source 4 750w	SCR
	3/18 = 1042	"	"	"	Forerunner 4"	Control
(134)	1/102 = 102	1st Electric	1	H	26° Source 4 750w	SCR
	3/19 = 1043	"	"	"	Forerunner 4"	Control

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(135)	1/130 = 130	2nd Electric	2	L	26° Source 4 750w	SCR
	7/219 = 3291	"	"	"	Forerunner 4"	Control
(136)	1/129 = 129	2nd Electric	1	M	26° Source 4 750w	SCR
	7/220 = 3292	"	"	"	Forerunner 4"	Control
(137)	1/158 = 158	3rd Electric	2	Q	26° Source 4 750w	SCR
	5/18 = 2066	"	"	"	Forerunner 4"	Control
(138)	1/157 = 157	3rd Electric	1	R	26° Source 4 750w	SCR
	5/19 = 2067	"	"	"	Forerunner 4"	Control
(141)	2/289 = 801	SR Box Boom 2		F	Nexera Spotlight 575w	O/W
	1/55 = 55	"		"	"	"
(142)	2/292 = 804	SR Box Boom 2		G	Nexera Spotlight 575w	O/W
	1/56 = 56	"		"	"	"
(143)	1/54 = 54	SR Box Boom 2		H	Nexera Spotlight 575w	O/W
	2/295 = 807	"		"	"	"
(144)	2/304 = 816	SL Box Boom 2		G	Nexera Spotlight 575w	O/W
	1/50 = 50	"		"	"	"
(145)	2/301 = 813	SL Box Boom 2		H	Nexera Spotlight 575w	O/W
	1/45 = 45	"		"	"	"
(146)	2/298 = 810	SL Box Boom 2		I	Nexera Spotlight 575w	O/W
	1/46 = 46	"		"	"	"
(201)	2/157 = 669	Pit Pipe	13		MAC 101 123w	O/W
(202)	2/145 = 657	Pit Pipe	12		MAC 101 123w	O/W
(203)	2/133 = 645	Pit Pipe	9		MAC 101 123w	O/W
(204)	2/109 = 621	Pit Pipe	5		MAC 101 123w	O/W

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(205)	3/369 = 1393	1A Electric	10		MAC 101 123w	O/W
(206)	3/381 = 1405	1A Electric	8		MAC 101 123w	O/W
(207)	3/393 = 1417	1A Electric	6		MAC 101 123w	O/W
(208)	3/405 = 1429	1A Electric	4		MAC 101 123w	O/W
(209)	3/417 = 1441	1A Electric	2		MAC 101 123w	O/W
(211)	3/352 = 1376	1A Electric	11		MAC 350 Entour 81w	O/W
(212)	3/20 = 1044	1A Electric	9		MAC 350 Entour 81w	O/W
(213)	3/37 = 1061	1A Electric	7		MAC 350 Entour 81w	O/W
(214)	3/54 = 1078	1A Electric	5		MAC 350 Entour 81w	O/W
(215)	3/71 = 1095	1A Electric	3		MAC 350 Entour 81w	O/W
(216)	3/429 = 1453	1A Electric	1		MAC 350 Entour 81w	O/W
(217)	8/16 = 3600	2A Electric	22		MAC 350 Entour 81w	O/W
(218)	8/33 = 3617	2A Electric	19		MAC 350 Entour 81w	O/W
(219)	8/66 = 3650	2A Electric	14		MAC 350 Entour 81w	O/W
(220)	8/99 = 3683	2A Electric	9		MAC 350 Entour 81w	O/W
(221)	8/132 = 3716	2A Electric	4		MAC 350 Entour 81w	O/W
(222)	8/149 = 3733	2A Electric	1		MAC 350 Entour 81w	O/W
(223)	5/20 = 2068	3rd Electric	17		MAC 350 Entour 81w	O/W
(224)	5/37 = 2085	3rd Electric	13		MAC 350 Entour 81w	O/W
(225)	5/54 = 2102	3rd Electric	9		MAC 350 Entour 81w	O/W
(226)	5/71 = 2119	3rd Electric	5		MAC 350 Entour 81w	O/W
(227)	8/50 = 3634	2A Electric	16		MAC 301 Wash 300w	O/W

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(228)	8/83 = 3667	2A Electric	11		MAC 301 Wash 300w	O/W
(229)	8/116 = 3700	2A Electric	7		MAC 301 Wash 300w	O/W
(231)	2/101 = 613	Pit Pipe	17		I-Cue	O/W
	1/69 = 69	"	"		19° Source 4 575w	R360
(232)	2/91 = 603	Pit Pipe	14		I-Cue	O/W
	1/68 = 68	"	"		26° Source 4 575w	R360
(233)	2/81 = 593	Pit Pipe	7		I-Cue	O/W
	1/62 = 62	"	"		19° Source 4 575w	R360
(234)	2/71 = 583	Pit Pipe	2		I-Cue	O/W
	1/59 = 59	"	"		26° Source 4 575w	R360
(235)	7/13 = 3085	2nd Electric	6		I-Cue	O/W
	1/135 = 135	"	"		19° Source 4 575w	"
	7/5 = 3077	"	16		I-Cue	"
	1/145 = 145	"	"		19° Source 4 575w	"
	7/1 = 3073	"	20		I-Cue	"
	1/149 = 149	"	"		19° Source 4 575w	"
(236)	7/9 = 3081	2nd Electric	10		I-Cue	O/W
	1/139 = 139	"	"		19° Source 4 575w	"
(301)	1/152 = 152	2nd Electric	23		19° Source 4 575w	O/W
(302)	1/151 = 151	2nd Electric	22		19° Source 4 575w	O/W
(303)	1/150 = 150	2nd Electric	21		19° Source 4 575w	O/W
(304)	1/148 = 148	2nd Electric	19		19° Source 4 575w	O/W
(305)	1/147 = 147	2nd Electric	18		19° Source 4 575w	O/W
(306)	1/146 = 146	2nd Electric	17		19° Source 4 575w	O/W

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(307)	1/144 = 144	2nd Electric	15		19° Source 4 575w	O/W
(308)	1/143 = 143	2nd Electric	14		19° Source 4 575w	O/W
(309)	1/142 = 142	2nd Electric	13		19° Source 4 575w	O/W
(310)	1/141 = 141	2nd Electric	12		19° Source 4 575w	O/W
(311)	1/140 = 140	2nd Electric	11		19° Source 4 575w	O/W
(312)	1/138 = 138	2nd Electric	9		19° Source 4 575w	O/W
(313)	1/137 = 137	2nd Electric	8		19° Source 4 575w	O/W
(314)	1/136 = 136	2nd Electric	7		19° Source 4 575w	O/W
(315)	1/134 = 134	2nd Electric	5		19° Source 4 575w	O/W
(316)	1/133 = 133	2nd Electric	4		19° Source 4 575w	O/W
(317)	1/132 = 132	2nd Electric	3		19° Source 4 575w	O/W
(390)	1/18 = 18	1st Catwalk	3	ASL	19° Source 4 575w	R360
(401)	3/184 = 1208	Periaktoi	1		Vivid-R 11" - V40 H40 120w	O/W
(402)	3/176 = 1200	Periaktoi	2		Vivid-R 11" - V40 H40 120w	O/W
(403)	3/168 = 1192	Periaktoi	3		Vivid-R 11" - V40 H40 120w	O/W
(404)	3/160 = 1184	Periaktoi	4		Vivid-R 11" - V40 H40 120w	O/W
(405)	3/152 = 1176	Periaktoi	5		Vivid-R 11" - V40 H40 120w	O/W
(406)	3/144 = 1168	Periaktoi	6		Vivid-R 11" - V40 H40 120w	O/W
(407)	3/136 = 1160	Periaktoi	7		Vivid-R 11" - V40 H40 120w	O/W

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5

4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(408)	3/128 = 1152	Periaktoi	8		Vivid-R 11" - V40 H40 120w	O/W
(409)	3/120 = 1144	Periaktoi	9		Vivid-R 11" - V40 H40 120w	O/W
(410)	3/112 = 1136	Periaktoi	10		Vivid-R 11" - V40 H40 120w	O/W
(411)	3/264 = 1288	Periaktoi	11		Vivid-R 11" - V40 H40 120w	O/W
(412)	3/256 = 1280	Periaktoi	12		Vivid-R 11" - V40 H40 120w	O/W
(413)	3/248 = 1272	Periaktoi	13		Vivid-R 11" - V40 H40 120w	O/W
(414)	3/240 = 1264	Periaktoi	14		Vivid-R 11" - V40 H40 120w	O/W
(415)	3/232 = 1256	Periaktoi	15		Vivid-R 11" - V40 H40 120w	O/W
(416)	3/224 = 1248	Periaktoi	16		Vivid-R 11" - V40 H40 120w	O/W
(417)	3/216 = 1240	Periaktoi	17		Vivid-R 11" - V40 H40 120w	O/W
(418)	3/208 = 1232	Periaktoi	18		Vivid-R 11" - V40 H40 120w	O/W
(419)	3/200 = 1224	Periaktoi	19		Vivid-R 11" - V40 H40 120w	O/W
(420)	3/192 = 1216	Periaktoi	20		Vivid-R 11" - V40 H40 120w	O/W
(421)	3/344 = 1368	Periaktoi	21		Vivid-R 11" - V40 H40 120w	O/W
(422)	3/336 = 1360	Periaktoi	22		Vivid-R 11" - V40 H40 120w	O/W
(423)	3/328 = 1352	Periaktoi	23		Vivid-R 11" - V40 H40 120w	O/W

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(424)	3/320 = 1344	Periaktoi	24		Vivid-R 11" - V40 H40 120w	O/W
(425)	3/312 = 1336	Periaktoi	25		Vivid-R 11" - V40 H40 120w	O/W
(426)	3/304 = 1328	Periaktoi	26		Vivid-R 11" - V40 H40 120w	O/W
(427)	3/296 = 1320	Periaktoi	27		Vivid-R 11" - V40 H40 120w	O/W
(428)	3/288 = 1312	Periaktoi	28		Vivid-R 11" - V40 H40 120w	O/W
(429)	3/280 = 1304	Periaktoi	29		Vivid-R 11" - V40 H40 120w	O/W
(430)	3/272 = 1296	Periaktoi	30		Vivid-R 11" - V40 H40 120w	O/W
(601)	9/1 = 4097	Groundrow	1		ColorBlaze 72 12w	O/W
(613)	9/37 = 4133	Groundrow	2		ColorBlaze 72 12w	O/W
(625)	9/73 = 4169	Groundrow	3		ColorBlaze 72 12w	O/W
(637)	9/109 = 4205	Groundrow	4		ColorBlaze 72 12w	O/W
(649)	9/145 = 4241	Groundrow	5		ColorBlaze 72 12w	O/W
(661)	9/181 = 4277	Groundrow	6		ColorBlaze 72 12w	O/W
(701)	1/90 = 90	SR Tree 1		I	36° Source 4 575w	O/W
(702)	1/267 = 267	SR Tree 2		N	36° Source 4 575w	O/W
(703)	1/273 = 273	SR Tree 3		S	36° Source 4 575w	O/W
(704)	3/88 = 1112	SR Tree 1			Vivid-R 11" 120w	O/W
(705)	3/96 = 1120	SR Tree 2			Vivid-R 11" 120w	O/W
(706)	3/104 = 1128	SR Tree 3			Vivid-R 11" 120w	O/W
(707)	1/89 = 89	SR Tree 1		I	36° Source 4 575w	O/W

A Chorus Line CHANNEL HOOKUP

Chorus Line.lw5 4/1/2013

Channel	Dimmer	Position	U	Purp	Type & Acc & W	Color
(708)	1/268 = 268	SR Tree 2		N	36° Source 4 575w	O/W
(709)	1/276 = 276	SR Tree 3		S	36° Source 4 575w	O/W
(711)	1/94 = 94	SL Tree 1			36° Source 4 575w	O/W
(712)	1/270 = 270	SL Tree 2		L	36° Source 4 575w	O/W
(713)	1/277 = 277	SL Tree 3		Q	36° Source 4 575w	O/W
(714)	8/1 = 3585	SL Tree 1			Vivid-R 11" 120w	
(715)	8/9 = 3593	SL Tree 2			Vivid-R 11" 120w	O/W
(716)	8/17 = 3601	SL Tree 3			Vivid-R 11" 120w	O/W
(717)	1/97 = 97	SL Tree 1			36° Source 4 575w	O/W
(718)	1/267 = 267	SL Tree 2		L	36° Source 4 575w	O/W
(719)	1/278 = 278	SL Tree 3		Q	36° Source 4 575w	O/W

APPENDIX D

INSTRUMENT SCHEDULE

A Chorus Line INSTRUMENT SCHEDULE

Chorus Line.lw5

4/2/2013

Designed By Jordan W Green
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2nd Catwalk

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	NSP Source 4 Par	CD	O/W		1/3 = 3	(35)
2	NSP Source 4 Par	B	O/W		1/3 = 3	(35)
3	14° Source 4	E	R360		1/34 = 34	(5)
4	26° Source 4	DE	R360		1/1 = 1	(24)
5	14° Source 4	D	R360		1/8 = 8	(4)
6	26° Source 4	CD	R360		1/7 = 7	(23)
7	14° Source 4	C	R360		1/10 = 10	(3)
8	26° Source 4	BC	R360		1/9 = 9	(22)
9	14° Source 4	B	R360		1/11 = 11	(2)
10	14° Source 4	A	R360		1/16 = 16	(1)
11	26° Source 4	AB	R360		1/14 = 14	(21)
12	NSP Source 4 Par	E	O/W		1/13 = 13	(34)
13	NSP Source 4 Par	CD	O/W		1/13 = 13	(34)

1st Catwalk

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	MFL Source 4 Par	I	O/W		1/20 = 20	(36)
2	MFL Source 4 Par	G	O/W		1/19 = 19	(36)
3	19° Source 4	ASL	R360		1/18 = 18	(390)
4	19° Source 4	J	R360		1/22 = 22	(10)
5	19° Source 4	I	R360		1/21 = 21	(9)
6	19° Source 4	H	R360		1/24 = 24	(8)
7	19° Source 4	G	R360		1/30 = 30	(7)
8	19° Source 4	F	R360		1/32 = 32	(6)
9	MFL Source 4 Par	IJ	O/W		1/28 = 28	(33)
10	MFL Source 4 Par	H	O/W		1/29 = 29	(33)

Pit Pipe

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	Nexera Spotlight	E	R119		2/450 = 962	(55)
1	Nexera Spotlight	E	R119		1/17 = 17	(55)
2	I-Cue		O/W		2/71 = 583	(234)
2	26° Source 4		R360	A2101	1/59 = 59	(234)
3	19° Source 4	O	R360		1/61 = 61	(15)
4	Nexera Spotlight	D	R119		2/440 = 952	(54)
4	Nexera Spotlight	D	R119		1/60 = 60	(54)
5	MAC 101		O/W		2/109 = 621	(204)
6	19° Source 4	N	R360		1/36 = 36	(14)
7	I-Cue		O/W		2/81 = 593	(233)
7	19° Source 4		R360	A2101	1/62 = 62	(233)
8	Nexera Spotlight	C	O/W		1/63 = 63	(53)
8	Nexera Spotlight	C	O/W		2/430 = 942	(53)
9	MAC 101		O/W		2/133 = 645	(203)
10	Nexera Spotlight	CH	R119		1/72 = 72	(53)
10	Nexera Spotlight	CH	R119		2/420 = 932	(53)
11	19° Source 4	M	R360		1/41 = 41	(13)
12	MAC 101		O/W		2/145 = 657	(202)
13	MAC 101		O/W		2/157 = 669	(201)
14	I-Cue		O/W		2/91 = 603	(232)
14	26° Source 4		R360	A2101	1/68 = 68	(232)
15	19° Source 4	L	R360		1/67 = 67	(12)
16	Nexera Spotlight	B	R119		1/31 = 31	(52)
16	Nexera Spotlight	B	R119		2/410 = 922	(52)
17	I-Cue		O/W		2/101 = 613	(231)
17	19° Source 4		R360	A2101	1/69 = 69	(231)

Pit Pipe

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
18	26° Source 4	K	R360		1/71 = 71	(11)
19	Nexera Spotlight	A	R119		1/26 = 26	(51)
19	Nexera Spotlight	A	R119		2/401 = 913	(51)

A Chorus Line INSTRUMENT SCHEDULE

Chorus Line.lw5

4/2/2013

1st Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	26° Source 4	H	SCR		1/102 = 102	(134)
1	Forerunner 4"	H	Control	Control	3/19 = 1043	(134)
2	26° Source 4	G	SCR		1/101 = 101	(133)
2	Forerunner 4"	G	Control	Control	3/18 = 1042	(133)
3	Nexera Spotlight	J	R119		1/103 = 103	(60)
3	Nexera Spotlight	J	R119		3/13 = 1037	(60)
4	26° Source 4	T	R360		1/105 = 105	(20)
5	WFL Source 4 Par	DE	R58		1/106 = 106	(94)
6	WFL Source 4 Par	DE	R80		1/107 = 107	(74)
7	26° Source 4	S	R360		1/109 = 109	(19)
8	Nexera Spotlight	I	R119		3/10 = 1034	(59)
8	Nexera Spotlight	I	R119		1/108 = 108	(59)
9	WFL Source 4 Par	CD	R58		1/111 = 111	(93)
10	WFL Source 4 Par	CD	R80		1/112 = 112	(73)
11	26° Source 4	R	R360		1/115 = 115	(18)
12	Nexera Spotlight	H	R119		1/114 = 114	(58)
12	Nexera Spotlight	H	R119		3/7 = 1031	(58)
13	WFL Source 4 Par	BC	R58		1/117 = 117	(92)
14	WFL Source 4 Par	BC	R80		1/118 = 118	(72)
15	Nexera Spotlight	G	R119		3/4 = 1028	(57)
15	Nexera Spotlight	G	R119		1/120 = 120	(57)
16	26° Source 4	Q	R360		1/122 = 122	(17)
17	WFL Source 4 Par	AB	R58		1/123 = 123	(91)
18	WFL Source 4 Par	AB	R80		1/124 = 124	(71)
19	26° Source 4	P	R360		1/125 = 125	(16)

1st Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
- 20	Nexera Spotlight	F	R119		3/1 = 1025	(56)
- 20	Nexera Spotlight	F	R119		1/126 = 126	(56)
21	26° Source 4	I	SCR		1/128 = 128	(124)
21	Forerunner 4"	I	Control	Control	3/17 = 1041	(124)
22	26° Source 4	H	SCR		1/127 = 127	(123)
22	Forerunner 4"	H	Control	Control	3/16 = 1040	(123)

1A Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	MAC 350 Entour		O/W		3/429 = 1453	(216)
2	MAC 101		O/W		3/417 = 1441	(209)
3	MAC 350 Entour		O/W		3/71 = 1095	(215)
4	MAC 101		O/W		3/405 = 1429	(208)
5	MAC 350 Entour		O/W		3/54 = 1078	(214)
6	MAC 101		O/W		3/393 = 1417	(207)
7	MAC 350 Entour		O/W		3/37 = 1061	(213)
8	MAC 101		O/W		3/381 = 1405	(206)
9	MAC 350 Entour		O/W		3/20 = 1044	(212)
10	MAC 101		O/W		3/369 = 1393	(205)
11	MAC 350 Entour		O/W		3/352 = 1376	(211)

2nd Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	26° Source 4	M	SCR		1/129 = 129	(136)
1	Forerunner 4"	M	Control	Control	7/220 = 3292	(136)
2	26° Source 4	L	SCR		1/130 = 130	(135)
2	Forerunner 4"	L	Control	Control		(135)
3	19° Source 4		O/W	A2101	1/132 = 132	(317)
4	19° Source 4		O/W	A2101	1/133 = 133	(316)
5	19° Source 4		O/W	A2101	1/134 = 134	(315)
6	I-Cue		O/W		7/13 = 3085	(235)
6	19° Source 4		O/W	A2101	1/135 = 135	(235)
7	19° Source 4		O/W	A2101	1/136 = 136	(314)
8	19° Source 4		O/W	A2101	1/137 = 137	(313)
9	19° Source 4		O/W	A2101	1/138 = 138	(312)
10	I-Cue		O/W		7/9 = 3081	(236)
10	19° Source 4		O/W	A2101	1/139 = 139	(236)
11	19° Source 4		O/W	A2101	1/140 = 140	(311)
12	19° Source 4		O/W	A2101	1/141 = 141	(310)
13	19° Source 4		O/W	A2101	1/142 = 142	(309)
14	19° Source 4		O/W	A2101	1/143 = 143	(308)
15	19° Source 4		O/W	A2101	1/144 = 144	(307)
16	I-Cue		O/W		7/5 = 3077	(235)
16	19° Source 4		O/W	A2101	1/145 = 145	(235)
17	19° Source 4		O/W	A2101	1/146 = 146	(306)
18	19° Source 4		O/W	A2101	1/147 = 147	(305)
19	19° Source 4		O/W	A2101	1/148 = 148	(304)
20	I-Cue		O/W		7/1 = 3073	(235)
20	19° Source 4		O/W	A2101	1/149 = 149	(235)

2nd Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
21	19° Source 4		O/W	A2101	1/150 = 150	(303)
22	19° Source 4		O/W	A2101	1/151 = 151	(302)
23	19° Source 4		O/W	A2101	1/152 = 152	(301)
24	26° Source 4	N	SCR		1/155 = 155	(126)
24	Forerunner 4"	N	Control	Control	7/218 = 3290	(126)
25	26° Source 4	M	SCR		1/156 = 156	(125)
25	Forerunner 4"	M	Control	Control	7/217 = 3289	(125)

2A Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	MAC 350 Entour		O/W		8/149 = 3733	(222)
2	Nexera Spotlight	O	R119		1/285 = 285	(65)
2	Nexera Spotlight	O	R119		8/13 = 3597	(65)
3	WFL Source 4 Par	IJ	R58		1/286 = 286	(98)
4	MAC 350 Entour		O/W		8/132 = 3716	(221)
5	WFL Source 4 Par	IJ	R80		1/287 = 287	(78)
6	Nexera Spotlight	N	R119		1/288 = 288	(64)
6	Nexera Spotlight	N	R119		8/10 = 3594	(64)
7	MAC 301 Wash		O/W		8/116 = 3700	(229)
8	WFL Source 4 Par	HI	R58		1/286 = 286	(98)
9	MAC 350 Entour		O/W		8/99 = 3683	(220)
10	WFL Source 4 Par	HI	R80		1/287 = 287	(78)
11	MAC 301 Wash		O/W		8/83 = 3667	(228)
12	Nexera Spotlight	M	R119		1/281 = 281	(63)
12	Nexera Spotlight	M	R119		8/7 = 3591	(63)
13	WFL Source 4 Par	GH	R58		1/283 = 283	(96)
14	MAC 350 Entour		O/W		8/66 = 3650	(219)
15	WFL Source 4 Par	GH	R80		1/284 = 284	(76)
16	MAC 301 Wash		O/W		8/50 = 3634	(227)
17	Nexera Spotlight	L	R119		8/4 = 3588	(62)
17	Nexera Spotlight	L	R119		1/282 = 282	(62)
18	WFL Source 4 Par	FG	R58		1/283 = 283	(96)
19	MAC 350 Entour		O/W		8/33 = 3617	(218)
20	WFL Source 4 Par	FG	R80		1/284 = 284	(76)
21	Nexera Spotlight	K	R119		1/87 = 87	(61)
21	Nexera Spotlight	K	R119		8/1 = 3585	(61)

2A Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
22	MAC 350 Entour		O/W		8/16 = 3600	(217)

3rd Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	26° Source 4	R	SCR		1/157 = 157	(138)
1	Forerunner 4"	R	Control	Control	5/19 = 2067	(138)
2	26° Source 4	Q	SCR		1/158 = 158	(137)
2	Forerunner 4"	Q	Control	Control	5/18 = 2066	(137)
3	Nexera Spotlight	T	R119		5/13 = 2061	(70)
3	Nexera Spotlight	T	R119		1/159 = 159	(70)
4	WFL Source 4 Par	NO	R58		1/160 = 160	(104)
5	MAC 350 Entour		O/W		5/71 = 2119	(226)
6	WFL Source 4 Par	NO	R80		1/171 = 171	(84)
7	Nexera Spotlight	S	R119		1/172 = 172	(69)
7	Nexera Spotlight	S	R119		5/10 = 2058	(69)
8	WFL Source 4 Par	MN	R58		1/174 = 174	(103)
9	MAC 350 Entour		O/W		5/54 = 2102	(225)
10	WFL Source 4 Par	MN	R80		1/175 = 175	(83)
11	Nexera Spotlight	R	R119		5/7 = 2055	(68)
11	Nexera Spotlight	R	R119		1/176 = 176	(68)
12	WFL Source 4 Par	LM	R58		1/137 = 137	(102)
13	MAC 350 Entour		O/W		5/37 = 2085	(224)
14	WFL Source 4 Par	LM	R80		1/178 = 178	(82)
15	Nexera Spotlight	Q	R119		1/179 = 179	(67)
15	Nexera Spotlight	Q	R119		5/4 = 2052	(67)
16	WFL Source 4 Par	KL	R58		1/180 = 180	(101)
17	MAC 350 Entour		O/W		5/20 = 2068	(223)

3rd Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
18	WFL Source 4 Par	KL	R80		1/181 = 181	(81)
19	Nexera Spotlight	P	R119		1/182 = 182	(66)
19	Nexera Spotlight	P	R119		5/1 = 2049	(66)
20	26° Source 4	S	SCR		1/183 = 183	(128)
20	Forerunner 4"	S	Control	Control	5/17 = 2065	(128)
21	26° Source 4	R	SCR		1/184 = 184	(127)
21	Forerunner 4"	R	Control	Control	5/16 = 2064	(127)

4th Electric

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	WFL Source 4 Par	ST	R58		1/187 = 187	(109)
2	WFL Source 4 Par	ST	R80		1/191 = 191	(89)
3	Strand 8" Fresnel	N	O/W		1/192 = 192	(113)
4	WFL Source 4 Par	RS	R58		1/194 = 194	(108)
5	WFL Source 4 Par	RS	R80		1/195 = 195	(88)
6	Strand 8" Fresnel	M	O/W		1/198 = 198	(112)
7	WFL Source 4 Par	QR	R58		1/201 = 201	(107)
8	WFL Source 4 Par	QR	R80		1/202 = 202	(87)
9	Strand 8" Fresnel	L	O/W		1/204 = 204	(111)
10	WFL Source 4 Par	PQ	R58		1/205 = 205	(106)
11	WFL Source 4 Par	PQ	R80		1/207 = 207	(86)

Periaktoi

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	Vivid-R 11" - V40 H40		O/W		3/184 = 1208	(401)
2	Vivid-R 11" - V40 H40		O/W		3/176 = 1200	(402)
3	Vivid-R 11" - V40 H40		O/W		3/168 = 1192	(403)
4	Vivid-R 11" - V40 H40		O/W		3/160 = 1184	(404)
5	Vivid-R 11" - V40 H40		O/W		3/152 = 1176	(405)
6	Vivid-R 11" - V40 H40		O/W		3/144 = 1168	(406)
7	Vivid-R 11" - V40 H40		O/W		3/136 = 1160	(407)
8	Vivid-R 11" - V40 H40		O/W		3/128 = 1152	(408)
9	Vivid-R 11" - V40 H40		O/W		3/120 = 1144	(409)
10	Vivid-R 11" - V40 H40		O/W		3/112 = 1136	(410)
11	Vivid-R 11" - V40 H40		O/W		3/264 = 1288	(411)
12	Vivid-R 11" - V40 H40		O/W		3/256 = 1280	(412)
13	Vivid-R 11" - V40 H40		O/W		3/248 = 1272	(413)
14	Vivid-R 11" - V40 H40		O/W		3/240 = 1264	(414)
15	Vivid-R 11" - V40 H40		O/W		3/232 = 1256	(415)
16	Vivid-R 11" - V40 H40		O/W		3/224 = 1248	(416)
17	Vivid-R 11" - V40 H40		O/W		3/216 = 1240	(417)
18	Vivid-R 11" - V40 H40		O/W		3/208 = 1232	(418)
19	Vivid-R 11" - V40 H40		O/W		3/200 = 1224	(419)
20	Vivid-R 11" - V40 H40		O/W		3/192 = 1216	(420)
21	Vivid-R 11" - V40 H40		O/W		3/344 = 1368	(421)
22	Vivid-R 11" - V40 H40		O/W		3/336 = 1360	(422)
23	Vivid-R 11" - V40 H40		O/W		3/328 = 1352	(423)
24	Vivid-R 11" - V40 H40		O/W		3/320 = 1344	(424)
25	Vivid-R 11" - V40 H40		O/W		3/312 = 1336	(425)
26	Vivid-R 11" - V40 H40		O/W		3/304 = 1328	(426)

Periaktoi

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
27	Vivid-R 11" - V40 H40		O/W		3/296 = 1320	(427)
28	Vivid-R 11" - V40 H40		O/W		3/288 = 1312	(428)
29	Vivid-R 11" - V40 H40		O/W		3/280 = 1304	(429)
30	Vivid-R 11" - V40 H40		O/W		3/272 = 1296	(430)

Groundrow

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
1	ColorBlaze 72		O/W		9/1 = 4097	(601)
2	ColorBlaze 72		O/W		9/37 = 4133	(613)
3	ColorBlaze 72		O/W		9/73 = 4169	(625)
4	ColorBlaze 72		O/W		9/109 = 4205	(637)
5	ColorBlaze 72		O/W		9/145 = 4241	(649)
6	ColorBlaze 72		O/W		9/181 = 4277	(661)

SL Box Boom 1

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	26° Source 4	G	SCR		1/76 = 76	(132)
	26° Source 4	H	SCR		1/78 = 78	(131)
	Forerunner 4"	G	Control	Control	2/310 = 822	(132)
	Forerunner 4"	H	Control	Control	2/309 = 821	(131)

SR Box Boom 1

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	26° Source 4	CD	SCR		1/81 = 81	(122)
	26° Source 4	AB	SCR		1/83 = 83	(121)
	Forerunner 4"	CD	Control	Control	2/308 = 820	(122)
	Forerunner 4"	AB	Control	Control	2/307 = 819	(121)

SL Box Boom 2

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	NSP Source 4 Par	C	O/W		1/48 = 48	(37)
	NSP Source 4 Par	C	O/W		1/48 = 48	(37)
	Nexera Spotlight	I	O/W		2/298 = 810	(146)
	Nexera Spotlight	I	O/W		1/46 = 46	(146)
	Nexera Spotlight	H	O/W		2/301 = 813	(145)
	Nexera Spotlight	H	O/W		1/45 = 45	(145)
	Nexera Spotlight	G	O/W		2/304 = 816	(144)
	Nexera Spotlight	G	O/W		1/50 = 50	(144)

SR Box Boom 2

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	NSP Source 4 Par	C	O/W		1/51 = 51	(32)
	NSP Source 4 Par	C	O/W		1/51 = 51	(32)
	Nexera Spotlight	H	O/W		1/54 = 54	(143)
	Nexera Spotlight	H	O/W		2/295 = 807	(143)
	Nexera Spotlight	G	O/W		2/292 = 804	(142)
	Nexera Spotlight	G	O/W		1/56 = 56	(142)
	Nexera Spotlight	F	O/W		2/289 = 801	(141)
	Nexera Spotlight	F	O/W		1/55 = 55	(141)

SL Tree 1

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	36° Source 4		O/W		1/97 = 97	(717)
	36° Source 4		O/W		1/94 = 94	(711)
	Vivid-R 11"				8/1 = 3585	(714)

SL Tree 2

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	36° Source 4	L	O/W		1/267 = 267	(718)
	36° Source 4	L	O/W		1/270 = 270	(712)
	Vivid-R 11"		O/W		8/9 = 3593	(715)

SL Tree 3

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	36° Source 4	Q	O/W		1/278 = 278	(719)
	36° Source 4	Q	O/W		1/277 = 277	(713)
	Vivid-R 11"		O/W		8/17 = 3601	(716)

SR Tree 1

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	36° Source 4	I	O/W		1/89 = 89	(707)
	36° Source 4	I	O/W		1/90 = 90	(701)
	Vivid-R 11"		O/W		3/88 = 1112	(704)

SR Tree 2

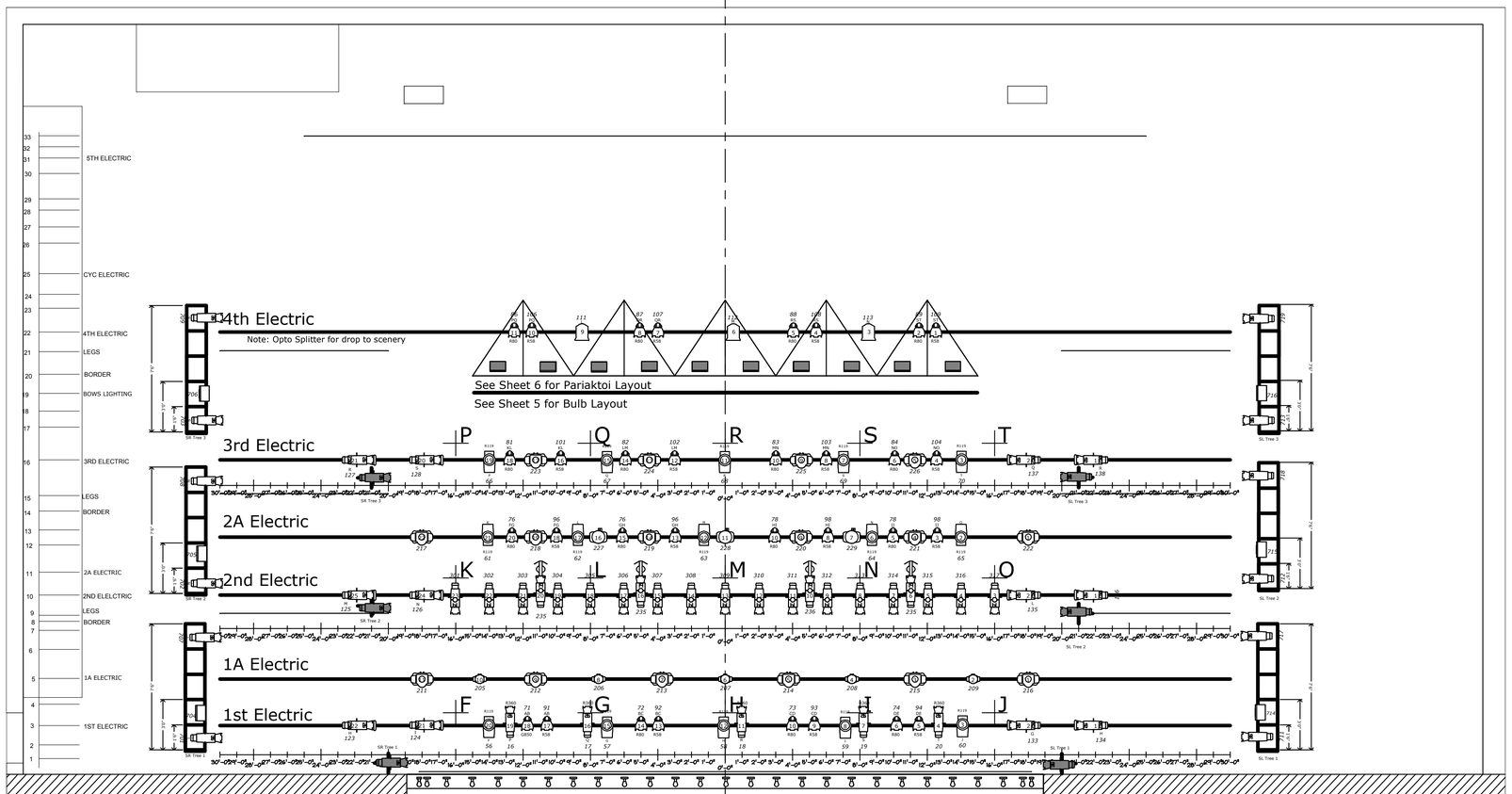
U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	36° Source 4	N	O/W		1/268 = 268	(708)
	36° Source 4	N	O/W		1/267 = 267	(702)
	Vivid-R 11"		O/W		3/96 = 1120	(705)

SR Tree 3

U#	Instrument Type	Purp	Color	Gobo	Dimmer	Chan
	36° Source 4	S	O/W		1/276 = 276	(709)
	36° Source 4	S	O/W		1/273 = 273	(703)
	Vivid-R 11"		O/W		3/104 = 1128	(706)

APPENDIX E

LIGHT PLOTS



Color
25
Unit
Focus
Channel

LEGEND

SYMBOL	INSTRUMENT TYPE	QTY
	14 Degree Source Four	5
	19 Degree Source Four	24
	26 Degree Source Four	12
	36 Degree Source Four	13
	26 Degree S4 750 w/Scroller	16
	19 Degree S4 w/I-Cue	8
	WFL Source Four PAR	32
	MFL Source Four PAR	4
	NSP Souce Four PAR	8
	Strand 8" Fresnelite	3
	Nexera Spotlight	27
	Vivid R 11"	35
	ColorBlaze 72	6
	MAC 101	9
	MAC 301	3
	MAC 350 Entour	16
	S14 11w Frosted Bulb	199

A CHORUS LINE

LIGHTING DESIGN:	JORDAN W GREEN
SCENIC DESIGN:	NAOKO SKALA
DIRECTOR:	PAUL FINOCCIARO
PLAN VIEW: 1/4" = 1' - 0"	SHEET 1 of 6
MINNESOTA STATE UNIVERSY, MANKATO	
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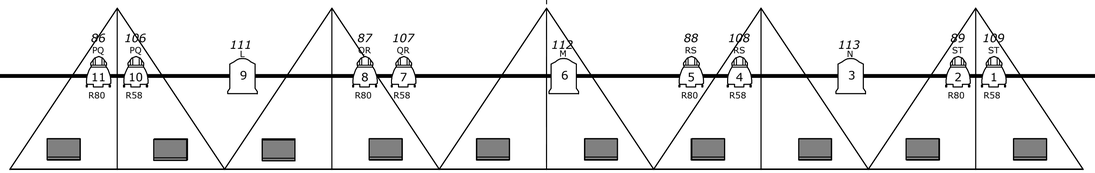
LEGEND

SYMBOL	INSTRUMENT TYPE	QTY
	14 Degree Source Four	5
	19 Degree Source Four	24
	26 Degree Source Four	12
	36 Degree Source Four	13
	26 Degree S4 750 w/Scroller	16
	19 Degree S4 w/I-Cue	8
	WFL Source Four PAR	32
	MFL Source Four PAR	4
	NSP Souce Four PAR	8
	Strand 8" Fresnelite	3
	Nexera Spotlight	27
	Vivid R 11"	35
	ColorBlaze 72	6
	MAC 101	9
	MAC 301	3
	MAC 350 Entour	16
	S14 11w Frosted Bulb	199

Color / Unit / Focus / *Channel*

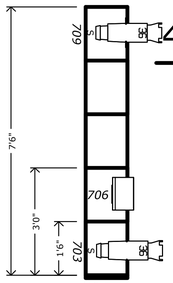
4th Electric

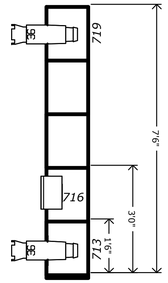
Note: Opto Splitter for drop to scenery



See Sheet 6 for Pariaktoi Layout

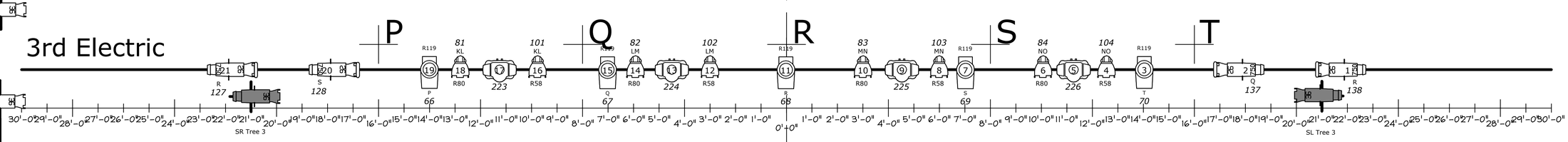
See Sheet 5 for Bulb Layout

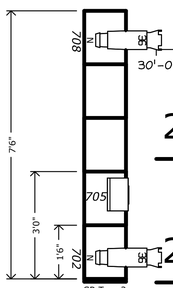


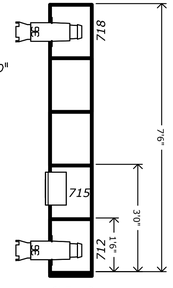


3rd Electric

P Q R S T



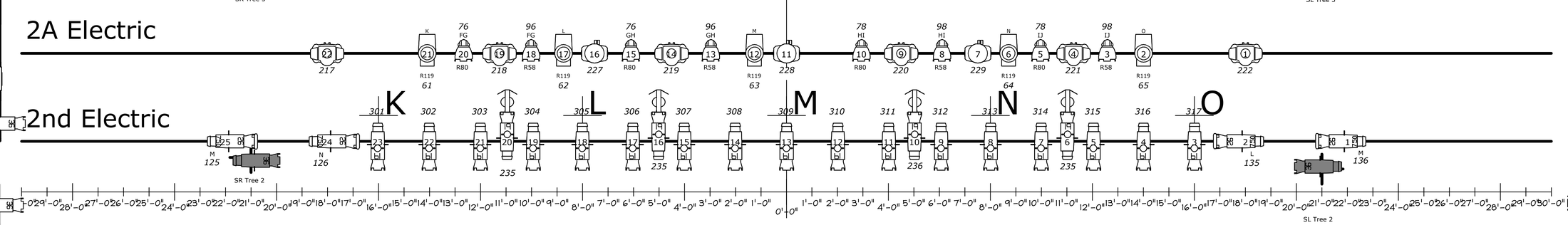




2A Electric

2nd Electric

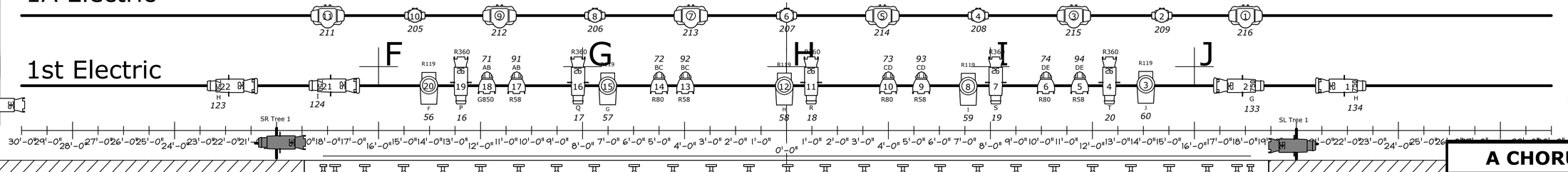
K L M N O

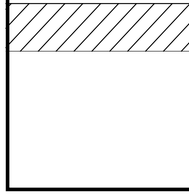


1A Electric

1st Electric

F G H I J





See Sheet 5 for Bulb Layout

A CHORUS LINE

LIGHTING DESIGN:	JORDAN W GREEN
SCENIC DESIGN:	NAOKO SKALA
DIRECTOR:	PAUL FINOCCHIARO
PLAN VIEW: 1/2" = 1' - 0"	SHEET 2 of 6
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Color
Unit
Focus
Channel

See Sheet 5 for Bulb Layout

Pit Pipe

A B C D E

1st Catwalk

2nd Catwalk

SR Box Boom 1

SL Box Boom 1

SR Box Boom 2

HL Box Boom 2

LEGEND

SYMBOL	INSTRUMENT TYPE	QTY
	14 Degree Source Four	5
	19 Degree Source Four	24
	26 Degree Source Four	12
	36 Degree Source Four	13
	26 Degree S4 750 w/Scroller	16
	19 Degree S4 w/I-Cue	8
	WFL Source Four PAR	32
	MFL Source Four PAR	4
	NSP Souce Four PAR	8
	Strand 8" Fresnelite	3
	Nexera Spotlight	27
	Vivid R 11"	35
	ColorBlaze 72	6
	MAC 101	9
	MAC 301	3
	MAC 350 Entour	16
	S14 11w Frosted Bulb	199

A CHORUS LINE

LIGHTING DESIGN:	JORDAN W GREEN
SCENIC DESIGN:	NAOKO SKALA
DIRECTOR:	PAUL FINOCCHIARO
PLAN VIEW: 1/2" = 1' - 0"	SHEET 3 of 6
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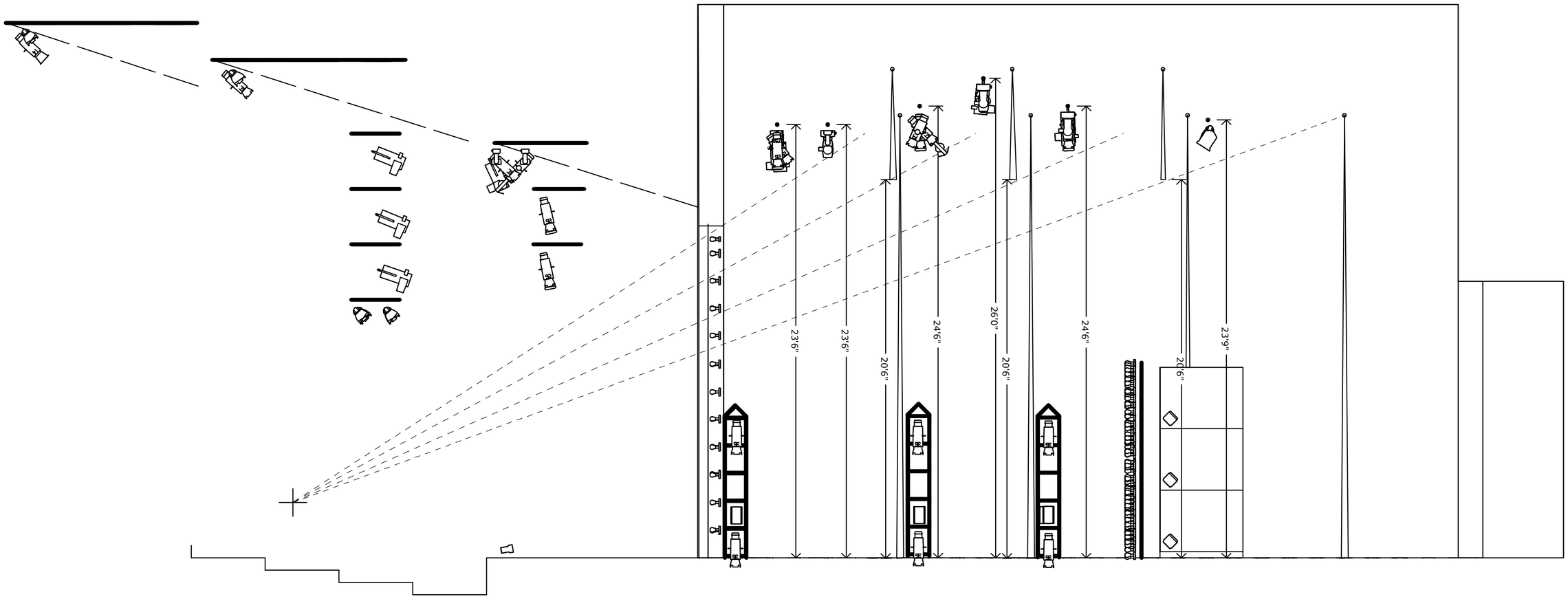
RIGHT SECTION



A CHORUS LINE

LIGHTING DESIGN:	JORDAN W GREEN
SCENIC DESIGN:	NAOKO SKALA
DIRECTOR:	PAUL FINOCCHIARO
SECTION: 1/4" = 1' - 0"	SHEET 4 of 6
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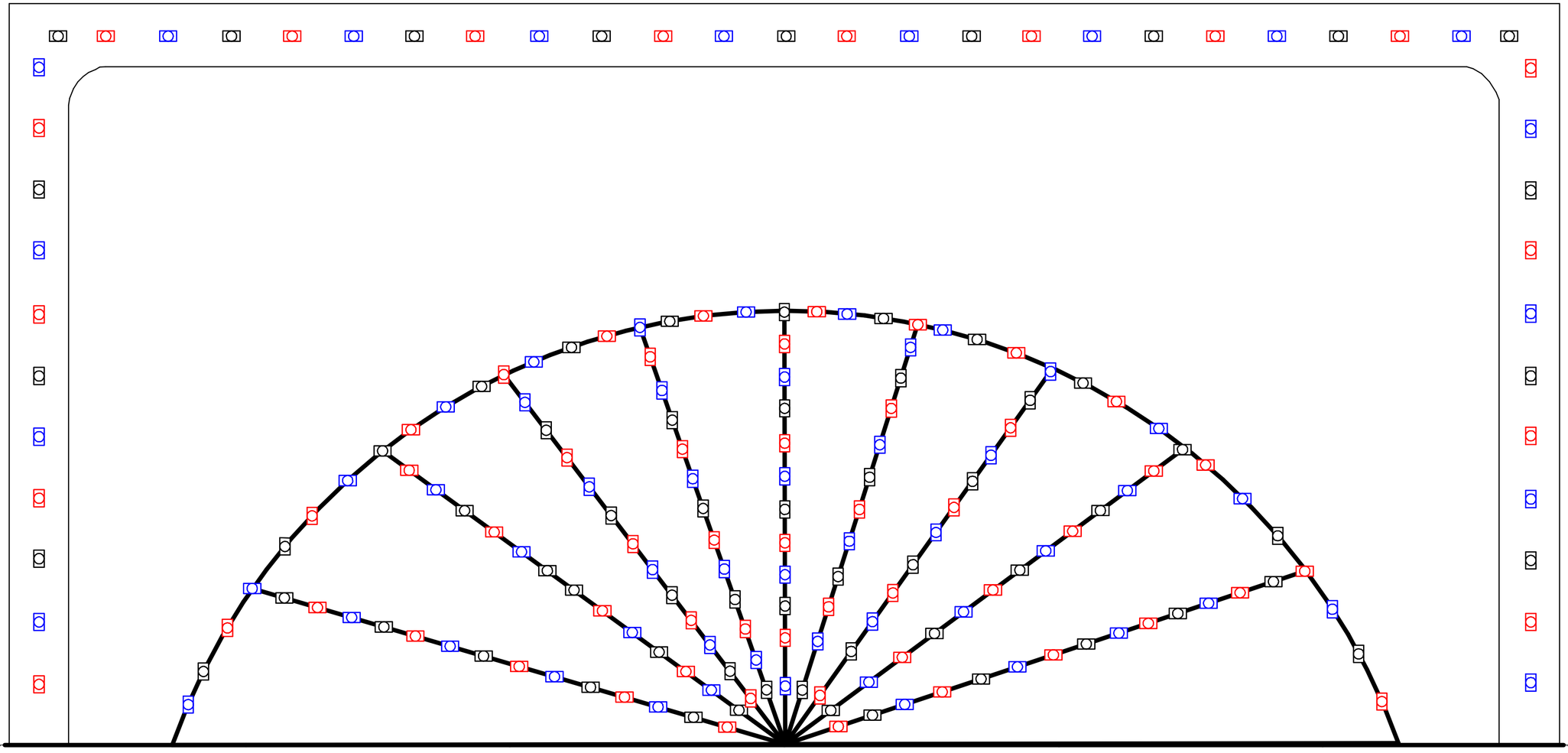
BULB LAYOUT



NOTE:

Both Procenium and Frame wired for 3 circuit chase
Color on plot indicates hot wire color
Procenium Circuits feed from SL
Frame Circuits feed from SR and follow cable to batten

S14 11w Light Bulb

A CHORUS LINE

LIGHTING DESIGN:	JORDAN W GREEN
SCENIC DESIGN:	NAOKO SKALA
DIRECTOR:	PAUL FINOCCHIARO
BLUB LAYOUT: 1/2" = 1' - 0"	SHEET 5 of 6
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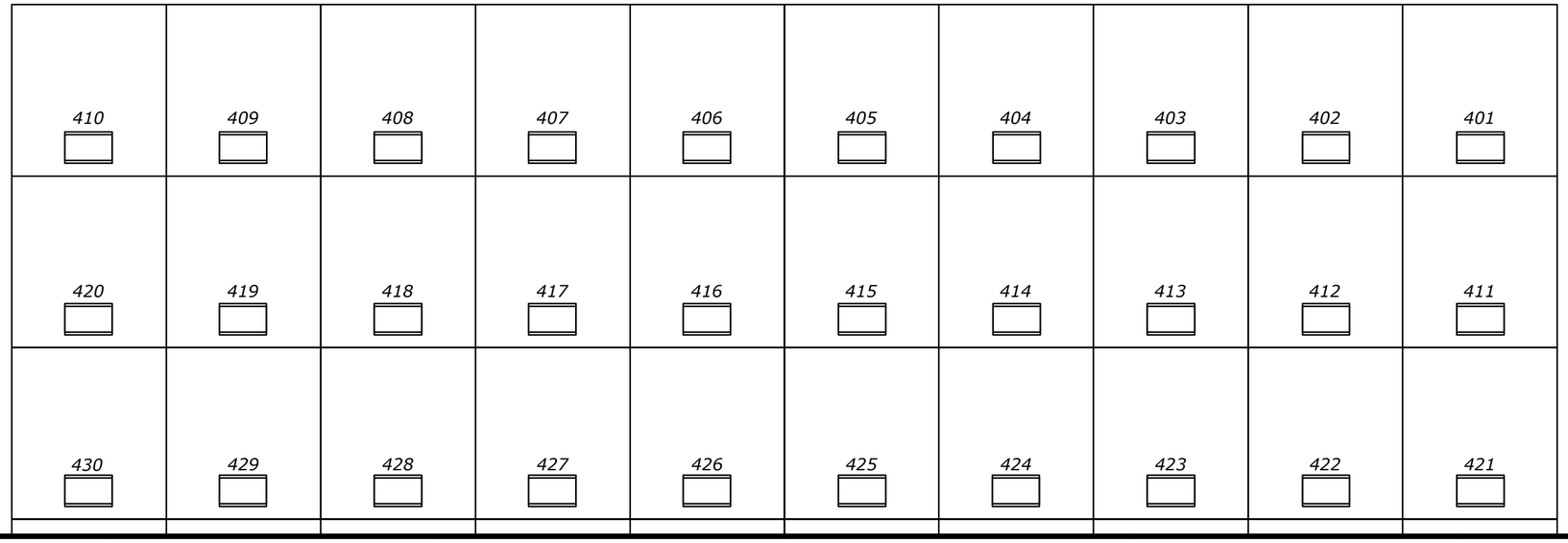
PERIAKTOI LAYOUT



NOTE:

Power and Data fed from 4th Electric through center of top panel of periaktoi
Cables must be run against interior pannels
Fixtures bolted to plywood with carriage bolts
All fixtures use V40 and H40 lenses

A CHORUS LINE

LIGHTING DESIGN:	JORDAN W GREEN
SCENIC DESIGN:	NAOKO SKALA
DIRECTOR:	PAUL FINOCCHIARO
PERIAKTOI: 1/2" = 1' - 0"	SHEET 6 of 6
MINNESOTA STATE UNIVERSITY, MANKATO	
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