



THE UNIVERSITY OF NORTH CAROLINA

The CAROLINA PLAYMAKERS

DEPARTMENT OF DRAMATIC ART

CHAPEL HILL, NORTH CAROLINA

Feb. 2, 1952

MEMORANDUM TO : Samuel Selden

FROM : Harry Davis

General Recommendations on Wiring Requirements for Boone Theatre

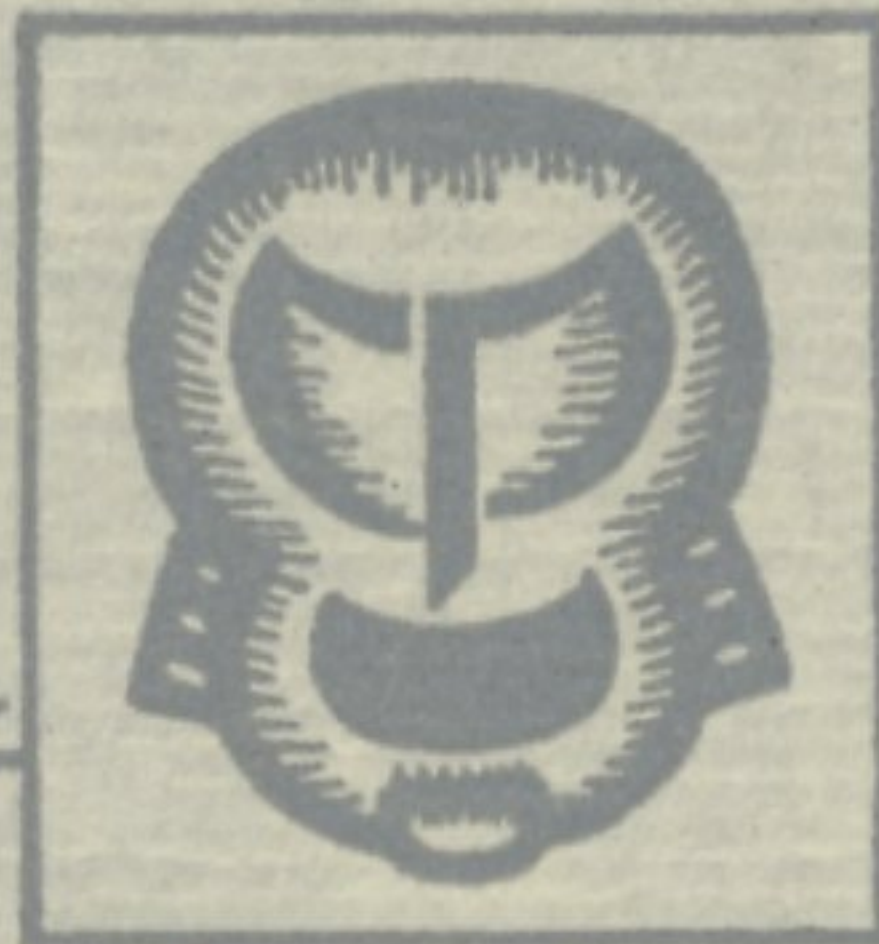
I. Main Feeds :

- A. The heaviest load will be on the Stage Controlboard, so the feed lines from the transformer location to the controlboard room should be of generous capacity. The controlboard will likely be located in the base of one of the light towers; the distance from there to the transformer station would be the length required.

The preferred service for stage lighting is Edison Three-wire 110-220 ~~single phase~~ single phase. These wires should be of proper size to carry a load of at least 300 amperes on each hot side of the supply.

- B. It is possible to branch-feed the Backstage area from the main feed of the control-room. The backstage area will probably require a service total of around 100 amperes on each leg of a three-wire Edison supply. Or it is possible to feed the backstage area with a separate service, if the location of the transformer makes this advisable. The 300-ampere size mentioned for the stage controlboard allows for 100-amperes sub-feed to the backstage area. If these are separate feeds, 200 amperes each side (a total of 400 amperes) will take care of the maximum load that might be expected on the stage controlboard supply.
- C. The Front-of-the-house feed can likely be taken care of very satisfactorily by a feed of 100 amperes each side, unless it must supply a large number of parking area and driveway lights. Normally the box-office area, the aisle lights and toilet lights for the auditorium, ^{area} are controlled from this feed. Also, any requirement for concession stand lighting or cooking. *And of course, parking area lights are usually controlled by the house manager, AND FED BY THE FRONT PANEL.*

NOTES: The three-wire Edison single phase 110-220 volt service is preferred for the stage controlboard, because it facilitates wiring, balancing the load, etc. However, the controlboard can be wired to be serviced by a four-wire three-phase supply, and it is important that both the manufacturer of the controlboard and the Power Company representatives are mutually clear on the type of supply before they go ahead.
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NOTES: (Continued) The service feeds to the backstage area and the front of the house are satisfactory either on a three-wire single phase setup, or on a four-wire three phase supply. Since all three ^{AREAS} are ~~generally~~ supplied from the same transformers, I have suggested CUSTOMARILY the Edison system for them too. The total capacity should be comparable, if a four-wire supply is used. A sub-feed, usually delivered from the controlboard station, is needed for the Hammond Organ, if one is used, and for any Public Address sound equipment. This supply is comparatively small in load, and will usually be easily taken care of by the main lines to the controlboard location. However, they are not wired under the direct control of the stage lighting man, and it might be advantageous to have them on a separate supply to reduce the effect of line surge (when a heavy load is brought up on the stage controlboard) on the organ and sound equipment. However, if the latter disturbance is a problem, a voltage regulator can be used to maintain constant voltage to organ and sound equipment.

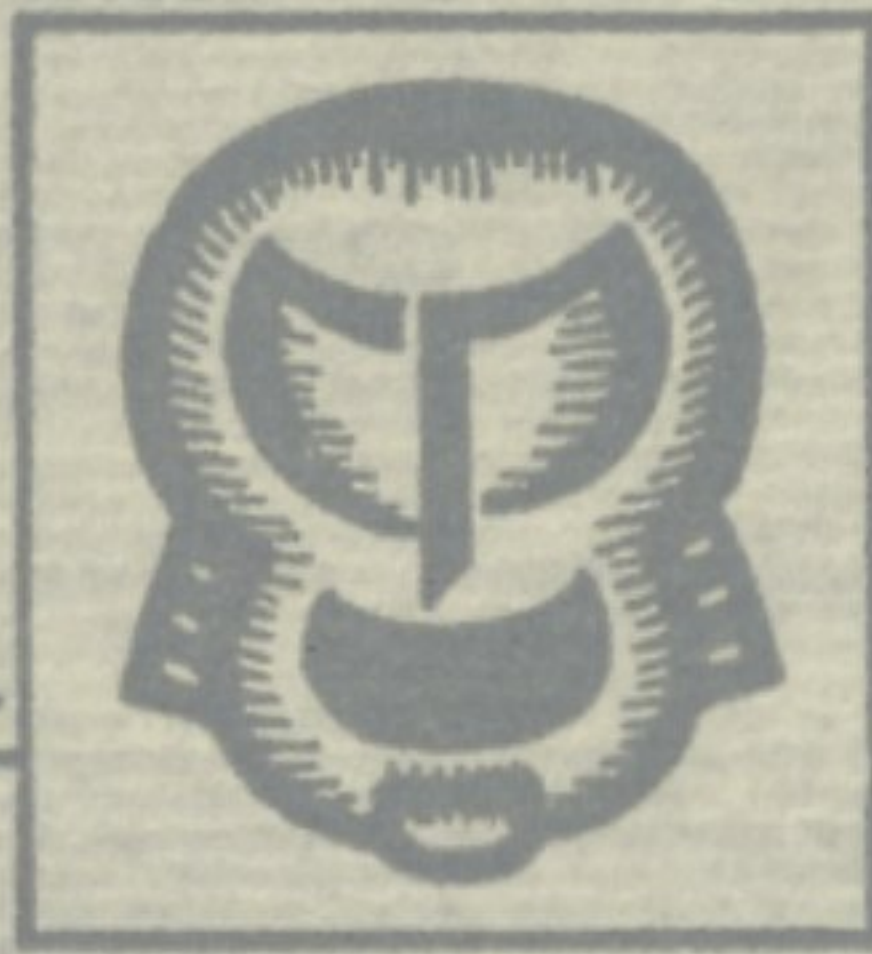
II. Individual Stage Lighting circuits. The controlboard is the central distribution point from which individual circuit lines radiate to all of the lighting instruments used in the production. The floodlights which light the auditorium must also be under the control of the stage lighting operator, and are therefore incorporated into the wiring system of the stage controlboard. The probable location and minimum number of these individual circuits is listed below. These circuits will average a load of from 10 to 15 amperes, and a size 12 earth-burial wire is recommended to offset voltage drop due to distance. The actual footage will of course depend on the routing of the trenches (or conduit, if the latter is used), and the distances from the controlboard position to the instrument locations.

Individual Circuits (#12 neoprene trench cable suitable) (2-wire)
(All from controlboard position to instrument position)

1. To side stage on near side, 4 to ~~6~~ circuits
- 1b. To side stage on far side, 4 to 6 circuits
2. To Proscenium edge on Main stage, ~~8 to 12~~ ^{8 to 12} ~~right~~ stage side, 8 to 12 circuits
- 2.b To Proscenium edge on Main Stage, Leftstage edge, 8 to 12 circuits.
3. To far lighting tower (opposite tower from one in which controlboard is located), 12 to 18 circuits.

(Note, If Hammond organ console and sound equipment is to be located in this opposite tower, an independent feed should also be run to supply them. Depending on the type of equipment used, a 60-ampere feed will usually take care of organ and sound needs.)

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3.

Individual Circuits (Continued)

4. Footlight strip, Main Stage, 3 circuits

5. House lighting circuits, to locations of house floods, four to 6 circuits (If high-wattage lamps, such as ~~500~~ ²⁰⁰⁰ watt floods are contemplated, the wire size should be stepped up to #10 for these circuits.)

The Tower in

Note : (Circuits to lighting instruments in which the controlboard itself is located can be run inside the tower, and do not necessarily have to be of the earth-buried type. Ordinary SBRC wire Size 12 can be used, or stage cable as available.)

Front of the house circuits usually are not earth-buried, except in the case of aisle safety lights. These should be laid, of course while the theatre is being built. Requirements of size and distance is a local problem, and no estimate of number and size is offered herewith. But it should be remembered that they will usually be needed, and they are customarily fed and controlled from the front of the house, not by the stage lighting man.