

LIGHT CONTROL CONSOLE

PRELIMINARY SPECIFICATION.

(Revised 12/5/34)

High Voltage Section (200v.)

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The General wiring layout of this section is shown on Sheet 9.

DIMMER BANK.

This will consist of an angle iron frame carrying the following dimmers.

White Bank.

Float.	600 w.
No.1.Batten.	800 w.
No.2.Batten.	800 w.
Dips P.	750 - - 1/3.
Dips O.P.	750 - - 1/3.
Acting Area.	1000 w.
Perch P.1.	500 w.
Perch P.2.	750 - -
Perch O.P.1.	500 w.
Perch O.P.2.	750 - -
F.O.W.Spot.	1000 w.

Red Bank.

Float.	600w.
No.1.Batten.	800w.
No.2.Batten.	800w.
Cyc.Top.	1500w.
Cyc.Pit.	1300w.
Dips P.	750 - - 1/3.
Dips O.P.	750 - - 1/3.
Pros. Arch.	925w.

Blue Bank.

Float.	600 w.
No.1.Batten.	800 w.
No.2.Batten.	800 w.
Cyc.Top.	3750 w.
Cyc.Pit.	2700 w.
Dips P.	750 - - 1/3.
Dips O.P.	750 - - 1/3.
Pros. Arch.	1480.

Green Bank.

Float.	600w.
No.1.Batten.	800w.
No.2.Batten.	800w.
Cyc.Top.	1500w.
Cyc.Pit.	1300w.
Dips P.	750 - - 1/3.
Dips O.P.	750 - - 1/3.
Pros. Arch.	925.

The dimmers will be connectible to a common driving shaft by means of pairs of 16 volt magnetic clutches. The shaft will be constantly revolved in one direction at such a speed to give a complete dimmer travel in 5 secs. The pairs of clutches will give reverse operation of the dimmers though on the same shaft. Speed control will be effected by supplying an intermittant current to these magnets. Five speeds are required to each colour to each of the two manuals. The speeds will probably be 5 secs, 15, 30, 45 and 60 to complete travel of a dimmer. Depression of the manual keys will determine the rate of impulse to be supplied through the stop keys drawn on that manual.

CONTACTOR BANK. This will consist of four rows of 10 amp S.P. Normally open Contactors closing 200 volt circuits with 15 volt operating coils, and four rows of 10 amp. S.P. Normally closed Contactors breaking 200 volt circuits with 15 volt operating coils. The Normally open Contactors will be connected across their dimmers while the normally closed contactors will be in series with the dimmers. The whole of the contactor bank should be enclosed in a sheet metal cabinet to keep out the dust.

WIRING. This will be as shown in Sheet 8. The high voltage wiring will terminate in two rows of 15amp. H.O. pattern fuses. The low voltage wiring may be carried out in multicore telephone cable, but care should be taken to insulate the leads from the dimmer frame and to keep such leads as remote from high voltage circuits as possible. The low voltage leads will probably terminate in a junction board.

MOTOR GENERATOR. This should consist of a 200 volt motor coupled to a compound wound generator to give 30 amps at 15 volts. This generator will supply the current for the Console action and lights selection control, and operation control.

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to give 30 amps at 15 volts. The generator will supply the current for the
console action and lights selection control, and operation control.*

CONTACTOR BANK.

This will consist of four rows of 10 amp 2. P. Normally open Contactors closing 200 volt circuits with 15 volt operating coils, and four rows of 10 amp 2. P. Normally closed Contactors breaking 200 volt circuits with 15 volt operating coils. The normally open Contactors will be connected across their dimmers while the normally closed contactors will be in series with the dimmers. The whole of the contactor bank should be enclosed in a sheet metal cabinet to keep out the dust.

WIRING.

This will be as shown in Sheet 8. The high voltage wiring will terminate in two rows of 15 amp. H.O. pattern fuses. The low voltage wiring may be carried out in multicore telephone cable, but care should be taken to insulate the leads from the dimmer frame and to keep such leads as remote from high voltage circuits as possible. The low voltage leads will probably terminate in a junction board.

MOTOR GENERATOR. This should consist of a 200 volt motor coupled to a compound wound generator to give 30 amps at 15 volts. This generator will supply the current for the Console section and lights selection control, and operation control.

Operation of particular keys or groups of keys at 1st or 2nd touch ~~produces~~ give control of the light circuits in any conceivable manner.

SCHEDULE OF APPARATUS.

- 35. Dimmer Plates (for loads see specification)
fitted with 4 low voltage limit switches.
- 8. Variable speed motors. (200 volt)
- 70. Magnetic Clutches. (15 volt)
- 35. 10 amp. normally open S.P. contactors. Closing
200 volt circuit, 15 volt operation coil.
- 35. 10 amp. normally closed S.P. contactors opening
200 volt circuit with 15 volt operation coil.
- 8. Speed regulators. Framework carrying 4 sections
of resistance & one full on stud. One section
to remain in circuit while the remaining four
are to be put in circuit by means of 4 SP contactor
switches mounted on same frame.
- 8. Reduction gears.
- 70. SP 15 amp. H.O. Patt. fuses.
- 2. SP Low voltage fuses.
- 1. Motor Generator set consisting of 200 volt
motor coupled to compound wound generation
to give 30 amp. at 15 volts.

PRELIMINARY SPECIFICATION OF LIGHT CONSOLE.

LOW VOLTAGE (15) ACTION.

All low voltage apparatus will be contained in the control console. This apparatus will consist of the following.

Two Keyboards each of 28 keys. Keys to be coloured White, Red, Blue and Green and to alternate in that order. All keys to make two contacts (excluding feed) at 1st. touch and one at 2nd. touch.

35, 2-way Stop Keys on the left hand side of console (as shown on console plan). These stop keys will make a contact in the "on" and in the "off" position. These stops will become playable from No. 1. Manual and should be fitted with magnetic action for combinational movements and 2nd. touch cancellation. The stop keys are to be arranged in two rows, the top row containing the general lighting circuits, and the bottom the directional lighting circuits. Each stop key will be engraved with the name of the circuit controlled and a large letter W.R.B. or G. as the case may be indicating from which series of colour keys on the keyboards that stop becomes playable. The stop keys will also be coloured according to the system shown on console layout.

35, 1-way stop keys (standard) on the right hand side of console. These stop keys will make a contact in the "on" position only. They will be playable from No. 2 Manual and will be a repeat in every respect of the 35, 2 way stop keys.

2 - Additional stop keys fitted with magnetic control action but not 2nd touch cancel are to be provided to control Manual 1 to Pedal and Manual 2 to Pedal couplers respectively.

16- Switch "on", switch "off" stop keys without combinational action will be provided to control the 8 manual sustainers to each keyboard.

10- Double touch adjustable combination pistons to each manual 1st touch giving stop combinations, 2nd touch giving pedal coupler on the manual concerned. Combinations to be adjustable from 35 way switchboards situated in some convenient position in console.

4 - Double Touch adjustable toe pistons two to each manual. 1st touch giving combination, 2nd touch adding pedal coupler.

1 - Toe piston for general dimming without stop keys (see sheet 8).

1 - Double Touch Toe Piston 1st touch flash Batten White. 2nd. touch adds Float White.

1. "On" and "Off" toe piston for Full Stage (See Sheet 1)

1. "On" and "Off" toe piston for Full Cyclorama (Sheet 1)

4. Standard Bell pushes to be mounted on to each key cheek for signalling purposes.

4. Balanced pedals giving foot operation of keyboards (action to be determined)

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The wiring to Combinational action etc. is to be as standard organ practice (Sheet 5). Stop Keys, Toe Pistons and Keyboard contacts to be of standard type (with the exception of the 35 two way Stop Keys)

In addition to the multi contact switches called for by the combinational action pedal couplers etc (Sheet 3), three 8 way and one 9 way multi-contact switch are necessary. These will be operated from the keyboard contacts as shown in sheet 2. and will be similar to those employed in the combinational section.

The internal connections will be carried out as in sheet 8, and will terminate in a 126 way Connection board, from which a 126 way multicore cable will be run to 15 volt to 200 volt relays mounted in dimmer room and supplied under high voltage section. The console should be as small as possible consistent with efficiency and easy access to all contacts.