Film-Tech

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INSTALLATION, OPERATION, AND MAINTENANCE MANUAL
MOVIE-PAK DIMMING SYSTEMS
GENERAL CINEMA CORPORATION
(TRIPLE DIMMER SERIES)

LEHIGH ELECTRIC PRODUCTS CO
ALLENTOWN, PA 18106
(215) 395-3386

INTRODUCTION

The dimming system consists of electrical and electronic components which could cause electrical shock if tampered with. Only individuals experienced with electrical and electronic equipment should remove the panels or attempt to service the equipment of this system. Always turn OFF the power feeding the dimmer panel before opening the unit for service.

Although the possibility of fire is remote, Lehigh Electric recommends the following equipment as a basic safegaurd:

A portable fire extinguisher rated for use with electrical fires should be located adjacent to the dimmerboard. Extinguishers using either dry chemical or carbon dioxide solutions with a non-metallic nozzle are recommended.

All questions regarding this equipment should be referred to:

Lehigh Electric Products Company
6265 Hamilton Blvd.
Allentown,Pa. 18106-9789
(215) 395-3386

WARRANTY

Subject to the terms of this paragraph, the supplier warrants its title to the products sold by it and warrants to the Purchaser that its products are free of defects in workmanship or material and are in conformity with applicable specifications and descriptions of the supplier. No claims shall be maintained hereunder unless the facts giving rise to it are discovered within 16 months from the Date of shipment from the factory, or 12 months after initial energization of said equipment, with the one expiring first given precedence, and written notice thereof given to the supplier within 30 days of discovery. The sole and exclusive liability of the supplier, for Breach of Warranty shall be, at its option, to replace or repair the product or part concerned F.O.B. its factory or such place as it may designate. The warranties stated in this paragraph are exclusive of all other warranties, written or oral, statutory, expressed or implied, none of which shall apply to the sale of the suppliers products hereunder.

INSTALLATION

1)MOUNTING

Mounting holes have been provided on the cabinet side brackets for wall mounting. The holes have been sized to accept 1/4" lag bolts. Consult the attached detail drawings for the location of the mounting holes.

2)WIRING

The dimming system requires a 120V, 60Hz, 3 phase power source rated as labeled on the front of the dimmer cabinet. The system feed is to be connected to the circuit breakers in the lower section of the cabinet. The circuit breakers are accessed by removing the front panel. The main power feed should be brought through the bottom panel of the rack; however, the sides or top may be used. See the cabinet details for conduit knockout locations.

All control wiring should be terminated at the control terminal strip in the bottom left side of the cabinet. Control wiring to the remote stations and automation system should be minimum 18 gauge. Control wiring to multiple control stations may be paralleled. Consult the wiring diagrams on the attached detail drawings for additional details.

Each branch circuit should have a separate neutral run from the dimmer cabinet. The neutrals should be run from the neutral buss and the power connections made directly to the output terminals L1, L2, etc.

Before energizing the system, check that all wires are securely fastened to their terminals since some may have worked loose in shipment.

3)GENERAL

The dimmer cabinet contains three 2,000 watt solid-state dimmers*. Each dimmer is protected by a primary circuit breaker and the outputs are wired to terminals in the lower left section of the dimmer cabinet. The dimmers will not operate unless the main circuit breakers are ON. Each circuit breaker is numbered to identify the dimmer it controls.

***NOTE:** Some systems have two 2,000 watt dimmers and one 4,000 watt dimmer. The 4,000 watt dimmer has a 40A/1P main circuit breaker and three output breakers.

The dimmers are designed to control incandescent loads only. Other dimmer modules are available to control fluorescent, low-voltage, or neon/cold-cathode lights. Do not operate any lights other than incandescent on these dimmers; as this may cause damage to the dimmers and/or lights.

The dimmers include a toroidal choke for limiting the current inrush to suppress lamp filament hum and radio frequency interference with sound systems and radios. Care should be taken to insure that both the dimming system and the sound equipment are properly grounded.

MAINTENANCE

The lighting control system uses solid state components which require minimal to no maintenance.

To maintain the system in good working condition the following guidelines are recommended:

1. The dimmer cabinet should be located in a clean, dry area.
2. During operation, the temperature of the room containing the dimmerboard should not exceed 40°C (104°F).
3. Allow proper ventilation around the dimmerboard cabinet. Do not block the front or bottom of the dimmer cabinet.
4. An annual inspection of the cabinet should be made by a qualified electrician or technician. The external inspection should check for loose or missing panels which should be corrected immediately. The internal inspection should check all electrical connections (terminal strips, circuit breaker lugs, and dimmer terminals) for loose wires or connections. Tighten all connections.

OPERATION

To energize the dimming system, the dimmer main circuit breakers must be set to the ON position. The circuit breakers are numbered to correspond to their respective dimmer. The control power circuit is energized through the dimmer 1 circuit breaker which must always be energized.

Each dimmer is controlled by a separate fader module which controls the light level settings and fade rates. The system contains two types of fader controls; 6-Step fader control for dimmers 1 and 2 and raise/lower fader control for dimmer 3.

Each 6-step fader module(2 are provided) contains eight linear slide controllers which provide the following controls: six(6) lighting presets, Raise fade rate, Lower fade rate, and a six position selector switch to set the number of preset steps the controls will use. The control terminals for the 6-step controls are label STEP and RESET with the controls for dimmer 1 labeled STEP 1/RESET 1 and dimmer 2 labeled STEP 2/RESET 2.

The raise/lower fader module contains four controllers which provide the following controls: Maximum light level setting, Minimum light level setting, Raise fade rate, and Lower fade rate. The control terminals for the raise/lower controls are labeled RAISE AND LOWER.

CONTROL MODULE OPERATION - 6 STEP CONTROL

The control system provides 6 preset lighting levels numbered one thru six. To set the controls for a show, use the preset selector switch to set the desired number of presets. The preset selector switch determines how many control presets will be used before the controls reset themselves and return to the No. 1 preset(i.e. If the preset selector switch is set to #4, the controls will cycle from presets 1 to 2 to 3 to 4 and back to 1 to restart the cycle.). The controls must be pulsed either manually from a remote station or through the automation system.

IF USING AN AUTOMATION SYSTEM, THE AUTOMATION CONTROLS MUST BE DESIGNED TO SEND MULTIPLE PULSES(ONE FOR EACH PRESET REQUIRED) FROM THE SAME CUE DETECTOR. SOME SYSTEMS HAVE MULTIPLE CUE DETECTORS TO PERMIT DEDICATING ONE OF THE CUE DETECTORS(INBOUND OR OUTBOUND) TO THE DIMMER CONTROLS OR AN AUXILIARY CUE DETECTOR MAY HAVE TO BE ADDED TO THE AUTOMATION CONTROLS. CONSULT THE MANUFACTURER OF THE AUTOMATION SYSTEM FOR DETAILS REGARDING THEIR SYSTEM CAPABILITIES OR NECESSARY MODIFICATIONS.

To set the lighting levels for a show, start with the No. 1 controller and set the preshow light leveling. Move to controller No. 2 for the next level and continue with the other controllers until all of the lighting presets have been set. A typical set-up for a six step show could be as follows: Preshow: Controller #1 @ 10, Previews: Controller #2 @ 6, Movie Running: Controller #3 @ 3(To provide minimum ambient lighting if required), Intermission: Controller #4 @ 10, Movie Running Again: Controller #5 @ 3, Credits: Controller #6 @ 6, Show Over: Controls reset to Controller 1 which raises the lights up for the patrons to leave and also becomes the Preshow setting for the next show. The controls will continue to cycle to each succeeding preset whenever pulsed manually or by the automation system.

The control system has a reset feature which returns the controls to Preset 1. To reset the controls, pulse the remote station switch to RESET which will pulse the control module and reset the controls to preset 1. Pulsing the remote station switch to STEP will cause the controls to fade to the next preset level and will continue to do so with each STEP pulse. If the automation system permits, the reset may be connected to the automation equipment for automatic reset in case of equipment failure.

Two controllers are marked Fade Rates and provide the timed fade rate settings for raising and lowering the lights. The controllers are marked

Faster at the top and Slower at the bottom. Moving the controller towards Faster decreases the fade time and at the extreme Faster setting, the fade will be almost instantaneous. Moving the controller towards the Slower setting increases the fade time up to approximately 60 seconds at the extreme Slower setting.

PANIC CONTROL

The panic control relay permits you to override the control of the main house dimmer, regardless of the light level setting for the dimmer. The panic relay is controlled from a remote stations labeled PANIC and NORMAL. To energize the panic mode, pulse the switch towards PANIC and the house lights will instantly go to full ON. The lights will stay at the full output until the NORMAL setting is pulsed. The house lights cannot be dimmed either at the dimmer board or through the automation when in the panic mode. The dimmer circuit breaker must be energized for the panic mode to function. The circuit breaker for dimmer #1 must also be ON to energize the control power circuitry.

CONTROL MODULE OPERATION - RAISE/LOWER CONTROL

To set the desired lighting levels, move the Maximum level controller to '10' and pulse the controls(through the automation or remote station) to raise the dimmer output. This will set the dimmer to full output for the maximum lighting level. If less light is desired, slide the Maximum controller down until the desired lighting level is reached. The Maximum controller has a control range from full output to OFF and will limit the Minimum light level setting if set too low.

To set the minimum lighting level, move the Minimum level controller to the 0 level and pulse the controls(through the automation or remote station) to lower the dimmer output. The dimmer will fade to OFF when in the Lower mode. If a minimum lighting level is required, slide the Minimum controller up until the desired lighting level is reached. The Minimum controller has a control range from approximately 50% output to OFF.

Two controllers are marked Fade Rates and provide the timed fade rate settings for raising and lowering the lights. The controllers are marked Slower at the top and Faster at the bottom. Moving the controller towards Faster decreases the fade time and at the extreme Faster setting, the fade will be almost instantaneous. Moving the controller towards the Slower setting increases the fade time up to approximately 60 seconds at the extreme Slower setting.

The remote stations permit operating the dimmer controls manually without using the automation equipment or to override the automation during intermission or cleaning. Pulsing the switch to Raise will cause the corresponding dimmer to fade up to the maximum light level set at the fader control module. Conversely, pulsing the switch to Lower will cause the dimmer to fade to the minimum light level set at the control module.

THE FOLLOWING TWO PAGES OF OPERATION INFORMATION ARE FOR THOSE SYSTEMS CONTROLLED BY THE MAXI 10 SERIES AUTOMATION SYSTEM WHICH REQUIRE ADDING A NORMAL/SYNCH MODE SWITCH TO THE DIMMER CABINET.

NORMAL MODE OPERATION

In the Normal mode the control system provides 6 steps of lighting presets which are numbered from one to six. To set the controls for a show, place the Normal/Synch toggle switch in the Normal mode and use the preset selector switch to set the number of presets to be used. The preset selector switch determines how many control presets will be used before the controls reset themselves and return to the No. 1 preset(i.e. If the preset selector is set to #4, the controls will cycle from presets 1 to 2 to 3 to 4 and back to 1 to restart the cycle.). The controls must be pulsed either manually from a remote station or through the automation system.

IF USING AN AUTOMATION SYSTEM, THE AUTOMATION CONTROLS MUST BE DESIGNED TO SEND MULTIPLE PULSES(ONE FOR EACH PRESET REQUIRED) FROM THE SAME CUE DETECTOR. SOME SYSTEMS HAVE MULTIPLE CUE DETECTORS TO PERMIT DEDICATING ONE OF THE CUE DETECTORS(INBOUND OR OUTBOUND) TO THE DIMMER CONTROLS OR AN AUXILIARY CUE DETECTOR MAY HAVE TO BE ADDED TO THE AUTOMATION CONTROLS. CONSULT THE MANUFACTURER OF THE AUTOMATION SYSTEM FOR DETAILS REGARDING THEIR SYSTEM CAPABILITIES OR NECESSARY MODIFICATIONS.

To set the lighting levels for a show, start with the No. 1 controller and set the preshow light leveling. Move to controller No. 2 for the next level and continue with the other controllers until all of the lighting presets have been set. A typical set-up for a six step show could be as follows: Preshow: Controller #1 @ 10, Previews: Controller #2 @ 6, Movie Running: Controller #3 @ 3(To provide minimum ambient lighting if required), Intermission: Controller #4 @ 10, Movie Running Again: Controller #5 @ 3, Credits: Controller #6 @ 6, Show Over: Controls reset to Controller 1 which raises the lights up for the patrons to leave and also becomes the Preshow setting for the next show. The controls will continue to cycle to each succeeding preset whenever pulsed manually or by the automation system.

The control system has a reset feature which will return the preset controls to preset 1. To reset the controls, pulse the remote station switch to RESET which will pulse the control module and reset the controls to preset 1. Pulsing the remote station switch to STEP will cause the controls to fade to the next preset level and will continue to do so with each STEP pulse.

Two controllers are marked Fade Rates and provide the timed fade rate settings for raising and lowering the lights. The controllers are marked Faster at the top and Slower at the bottom. Moving the controller towards Faster decreases the fade time and at the extreme Faster setting, the fade will be almost instantaneous. Moving the controller towards the Slower setting increases the fade time up to approximately 60 seconds at the extreme Slower setting.

SYNCH MODE

The Synch mode is provided to transfer the control functions from the inbound cue detector to the standard Raise/Lower functions controlled by the outbound cue detector of the automation(Maxi 10C Systems). In the Synch mode, the controls can only provide two lighting levels - maximum and minimum.

To set the controls for a show, place the Normal/Synch toggle switch in the Synch mode and use the preset selector switch to set the number of presets to Two(2). IF THE PRESET SELECTOR SWITCH IS NOT SET ON TWO, THE CONTROL SYSTEM WILL NOT OPERATE PROPERLY.

To set the desired lighting levels, move controller No. 1 up to '10' and pulse the controls(through the automation or remote station) to raise the dimmer output. This will set the dimmer to full output for the maximum lighting level. If less light is desired, slide the Maximum controller down

until the desired lighting level is reached. The controller has a control range from full output to OFF.

To set the minimum lighting level, move controller No. 2 to the 'O' level and pulse the controls(through the automation or remote station) to lower the dimmer output. The dimmer will fade to OFF when in the lower mode. If a minimum lighting level is required, slide the NO 2 controller up until the desired lighting level is reached. The controller has a control range from full output to OFF.

The remote stations will permit operating the dimmer controls manually in the Synch mode without using the automation equipment or to override the automation during intermission or cleaning. Pulsing the switch to RESET will cause the corresponding dimmer to fade up to the light level set by controller No. 1. Conversely, pulsing the switch to STEP will cause the dimmer to fade to the light level set by controller No. 2.

PANIC CONTROL

The panic control relay permits you to override the control of the house dimmer, regardless of the light level setting of the dimmer. The panic relay is controlled from a remote station labeled PANIC and NORMAL. To energize the panic mode, pulse the switch towards PANIC and the lights will instantly go to full ON. The lights will stay at the full output until the NORMAL setting is pulsed. The lights cannot be dimmed either at the dimmer board or through the automation when in the panic mode. The dimmer circuit breaker must be energized for the panic mode to function. The circuit breaker for dimmer #1 must also be ON to energize the control power circuitry.

TROUBLE SHOOTING

BEFORE CALLING FOR SERVICE, CHECK THE FOLLOWING TO SEE IF THE EQUIPMENT IS WORKING PROPERLY:

CAUTION! THE DIMMER CABINET CONTAINS HIGH VOLTAGE POWER WHICH MAY GIVE HAZARDOUS OR FATAL ELECTRICAL SHOCK. DO NOT ATTEMPT TO OPEN THE CABINET WITHOUT FIRST TURNING OFF THE MAIN POWER FEEDING THE CABINET. SERVICE SHOULD ONLY BE ATTEMPTED BY EXPERIENCED ELECTRICIANS OR ELECTRONIC TECHNICIANS.

NEW INSTALLATIONS: All systems are checked and operated prior to shipment; however, problems may occur due to wires working loose during shipment or wiring problems in the field. 1)If the system is not working properly, first check for loose wires or connections. 2)If the control wires to the remote stations become crossed or shorted, the control system will not operate properly. To check for remote wiring problems, remove the field installed remote wires from the terminal strip and test the unit as follows:

6-STEP FADER: To manually test the unit without the automation or remote stations, connect a wire or test lead to '+15' on the terminal strip and place the Normal/Synch(If provided) switch to Normal, the fade rates to faster, and the preset selector to 6. Using this jumper, pulse the 'RS' terminal(RESET) which will cause the controls to reset to Preset 1(controller No. 1). The lights should now be at the level set by controller No. 1 and moving controller No. 1 should manually control the lights. To check the other presets, pulse the corresponding 'S' terminal(STEP) with your jumper cable which will step the lights to preset 2. Each time 'S1' is pulsed, the controls will fade to the next preset. If the system now operates properly, check the remote wires for crossed or shorted connections.

If the system still does not operate properly, the fader module or dimmer may be defective. For additional trouble shooting information for the dimmer and fader modules, see page 8 or call the factory for assistance.

RAISE/LOWER FADER: To manually test the unit without the automation or remote stations, connect a wire or test lead to 'C'(35-) on the terminal strip. Using this jumper, pulse the 'R' terminal which will cause the controls to raise that dimmer. Conversely, pulsing 'L' will fade that dimmer to the minimum lighting level. If the system now operates properly, check the the remote wires for crossed or shorted connections.

If the system still does not operate properly, the fader module or dimmer may be defective. For additional trouble shooting information for the dimmer and fader modules, see page 8 or call the factory for assistance.

If other sytems are available, the easiest form of trouble shooting is to replace the suspected bad part with one that is working. If the new part corrects the problem, the previous part is probably defective and should be returned to the factory for service. If spare parts are not available or replacing parts does not repair the problem, the following guidelines can be used to find the source of the problem:

DIMMER REMOVAL

NOTE: BEFORE ATTEMPTING TO REMOVE OR SERVICE ANY DIMMER PARTS, THE MAIN POWER TO THE CABINET SHOULD BE OFF.

The dimmer consists of three parts; control card, triac, and filter choke. The filter choke contains no electronic parts and seldom needs to be replaced.

The control cards are mounted on four supports on the right side of the cabinet and have plug-in wire connectors. To remove the control card, disconnect the connectors and remove the card from the four supports. The supports have a small tab which locks the card to the support; using a small screwdriver, press the tab in and the control board will slide off.

A new control card will snap onto the same supports. When replacing the connector plug to the control module, care should be taken not to force the plug onto the connector pins and check that the plug is not reversed.

The triac has three wire assemblies attached to it using slide-on type terminals and is secured to the heat sink with two sheet metal screws. To remove the triac pull the wires off the triac and remove the mounting screws. The white heat sink compound on the old triac should be rubbed on the bottom of the new triac before remounting.

Any questions regarding the dimmers, should be referred to the factory field service manager. Call LEHIGH ELECTRIC PRODUCTS CO. at (215) 395-3386.

FADER CONTROL MODULE REMOVAL

The fader control modules are located behind the front panel. To remove the fader module; disconnect the wiring harness plug on the back of the module, and remove the module from the standoffs(same stand-offs used with the dimmer control card). The raise/lower fader has white knobs on the controller handles which must be removed before the fader can be removed. When replacing the connector plug to the control module, care should be taken not to force the plug onto the connector pins and check that the plug is not reversed.

IF NO LIGHTS ARE ON:

1. Check that the dimmer main circuit breakers and any output circuit breakers are ON(NOTE: The circuit breaker for dimmer #1 must be ON to energize the control power circuitry.). The indicator lights on the 6-step faders will indicate that the system is ON. If the 6-step lights are not ON, the main power to the dimmerboard may be turned OFF. Find the main breaker for the dimmerboard and turn it ON.

Power Supply Board: Between the + and - terminals should be 35 to 40V DC. If not, check that the power supply input is 110v and, if there is input power, turn off the power to the dimmers and check the fuse on the power supply board. If the fuse is good, the transformer has failed and must be replaced.

2. 6-STEP FADER MODULE:
Set controller No. 1 to '10' and pulse the controls (through a remote stations or at the cabinet terminal strip) to Reset, so that controller No. 1 is controlling the dimmer. If there still are no lights, make the following voltage checks:

Fader Control Module: 1) Between 35+(Fourth post from the top) and C(Fifth post) should be 35 to 40 V DC. If not, check the connections between the fader control module and the power supply. 2) Between SIG(Bottom) and C should be approximately 24V DC when controller No.1 is set at 10 and the controls pulsed to Reset. If the signal is appreciably less than 24V DC, the fader control module is not working properly and must be replaced.

RAISE/LOWER FADER MODULE:
Set the Maximum light level controller at '10' and pulse the controls (through the automation system or remote stations) to raise the dimmer. If there still are no lights, make the following voltage checks:

Fader Control Module: 1) Between 35+(Third post from the bottom) and C(Bottom two posts) should be 35 to 40 V DC. If not, check the connections between the fader control module and the power supply. 2) Between SIG(Third post from the top) and C should be approximately 24V DC at the Maximum controller setting of 10 and the controls pulsed to raise. If the signal is appreciably less than

24V DC, the fader control module is not working properly and must be replaced.

Dimmer: Check that the control signal from the fader module is reaching the dimmer firing card. Between the top post(pin 1) and bottom post(pin 4) on the dimmer firing card connector J5(See dimmer control card detail) you should have the same control voltage as on the output of the fader module(approx. 24V DC). If no signal exists, check the wiring between the fader control module and the dimmer. If the 24V signal is there, the dimmer is not working properly (either the control card or the triac)or there is a problem between the dimmer and the lights. Check that the lights are working properly before replacing the dimmer.

3. The high limit thermal cutout(TCO) may have opened due to an overheat condition in the cabinet. The TCO must be replaced for the system to resume operation. The cause of the overheating should be determined before replacing the TCO.

IF THE LIGHTS WILL NOT GO OUT:

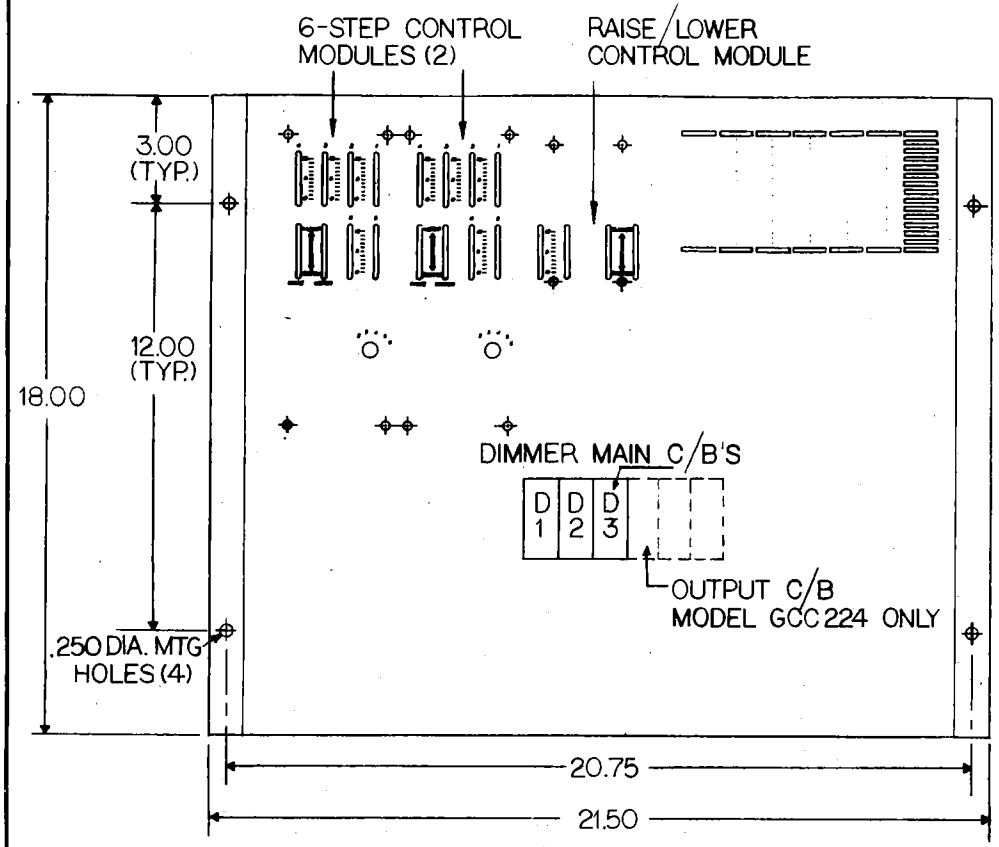
1. If only the main house lights will not go out, check that the panic relay is not in the panic mode. Go to a remote station and pulse the Panic switch to the Normal position to release the panic relay. The panic relay can also be operated at the dimmerboard by pulsing between the 35+ terminal and the P and N terminals with a jumper cable. If the relay is operating properly, it makes an audible click when it is pulsed. If no noise is heard, the relay may be stuck in the panic mode due to crossed wires going to the remote station or malfunction of the relay. To check for crossed wires, remove the wires running to the remote station and operate the relay manually as described above. If the relay now works, check the wiring to the remote stations.

2. If one of the two dimmers controlled by a 6-step fader, check the output on the 6-step fader control module card. Set controller No. 1 to '0' and pulse the Reset function as described previously(If the system has a Synch/Normal switch, set the Normal/Synch switch to the Normal mode. The lights should fade out after Reset has been pulsed and the output voltage between SIG and C(35-) on the control card should drop from 24V DC to 0V. If the output voltage does not drop, the control module is defective and should be returned for repair.

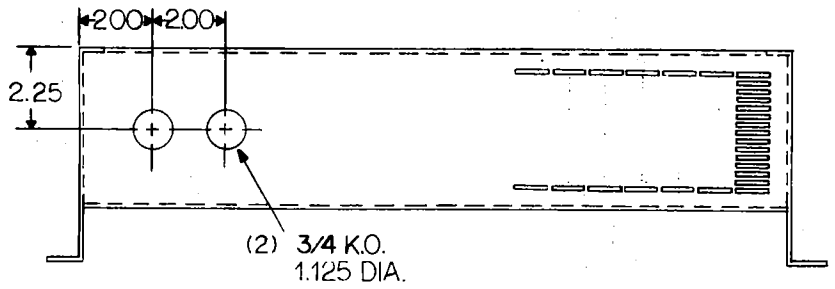
If a dimmer controlled by the Raise/Lower fader, set the maximum controller to '0' and pulse the Raise function as described previously. The lights should fade out after Raise has been pulsed and the output voltage between SIG and C on the control card should drop from 24V DC to 0V. If the output voltage does not drop, the control module is defective and should be returned for repair.

3. If the fader control card module is working, the dimmer triac or control card is probably defective. Interchange the suspected bad part with one that is working. If the problem follows the bad dimmer, it should be returned to the factory for repair. To test if the triac is bad when a spare dimmer is not available, remove the plug from the control card module and if the lights do not go out the triac is bad.

4. If the lights have a faint glow when the controller is at '0', the trim potentiometer on the dimmer control card may need to be reajusted. Rotate the trimpot until the lights go out.



BOTTOM VIEW



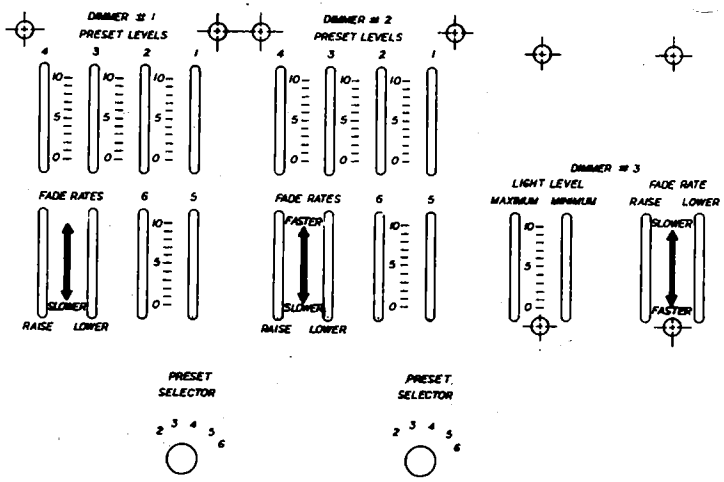
NOTES:

1.) ALLOW FREE AIRFLOW AROUND CABINET. MINIMUM CLEARANCE ABOVE & BELOW CABINET IS 4".

2.) DIMMERS ARE FOR 120V INCANDESCENT LIGHTS ONLY.

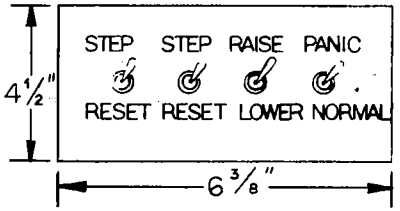
3.) MAXIMUM LOADING PER DIMMER IS 2000 WATTS.

4.) WIRING TO REMOTE STATIONS IS 18 GA. MINIMUM.

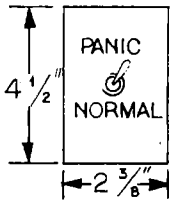


FRONT PANEL DETAIL

CONTROL STATIONS - (1) EA.

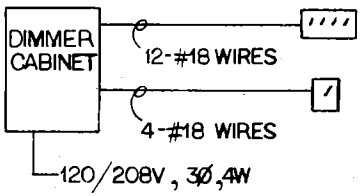


3 GANG BACKBOX REQUIRED



1 GANG BACKBOX REQUIRED

SYSTEM RISER



LEHIGH
ELECTRIC PRODUCTS COMPANY
ALLENTOWN, PA 18106

MOVIE-PAK MODEL GCC-222,224 (MP87-3, MP87-4)

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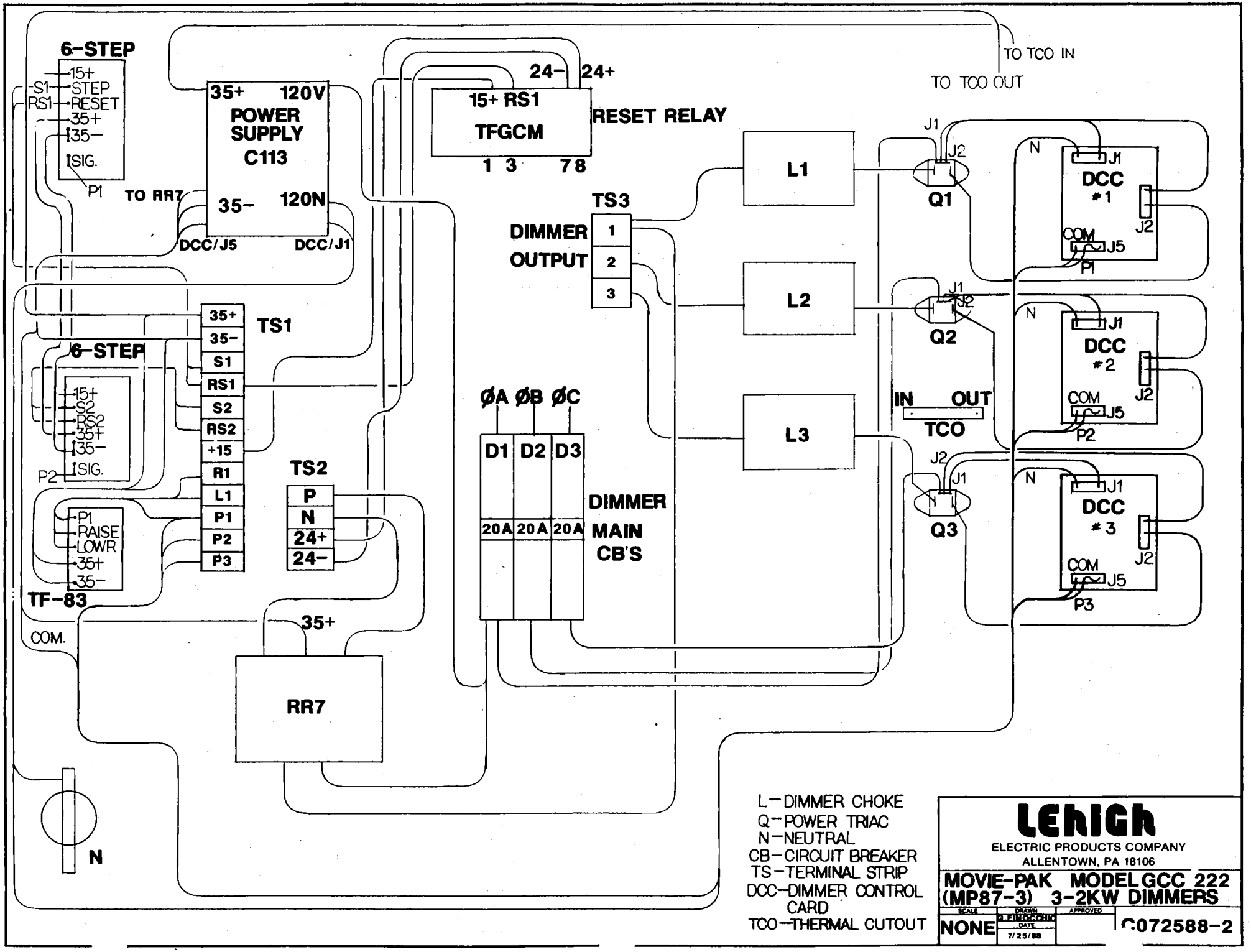
NONE	G. FINOCCHIO DATE 7/25/86		C072588-1



L-DIMMER CHOKE
Q-POWER TRIAC
N-NEUTRAL
CB-CIRCUIT BREAKER
TS-TERMINAL STRIP
DCC-DIMMER CONTROL CARD
TCO-THERMAL CUTOUT

LEHIGH
ELECTRIC PRODUCTS COMPANY
ALLENTOWN, PA 18106

MOVIE-PAK MODEL GCC 222 (MP87-3) 3-2KW DIMMERS

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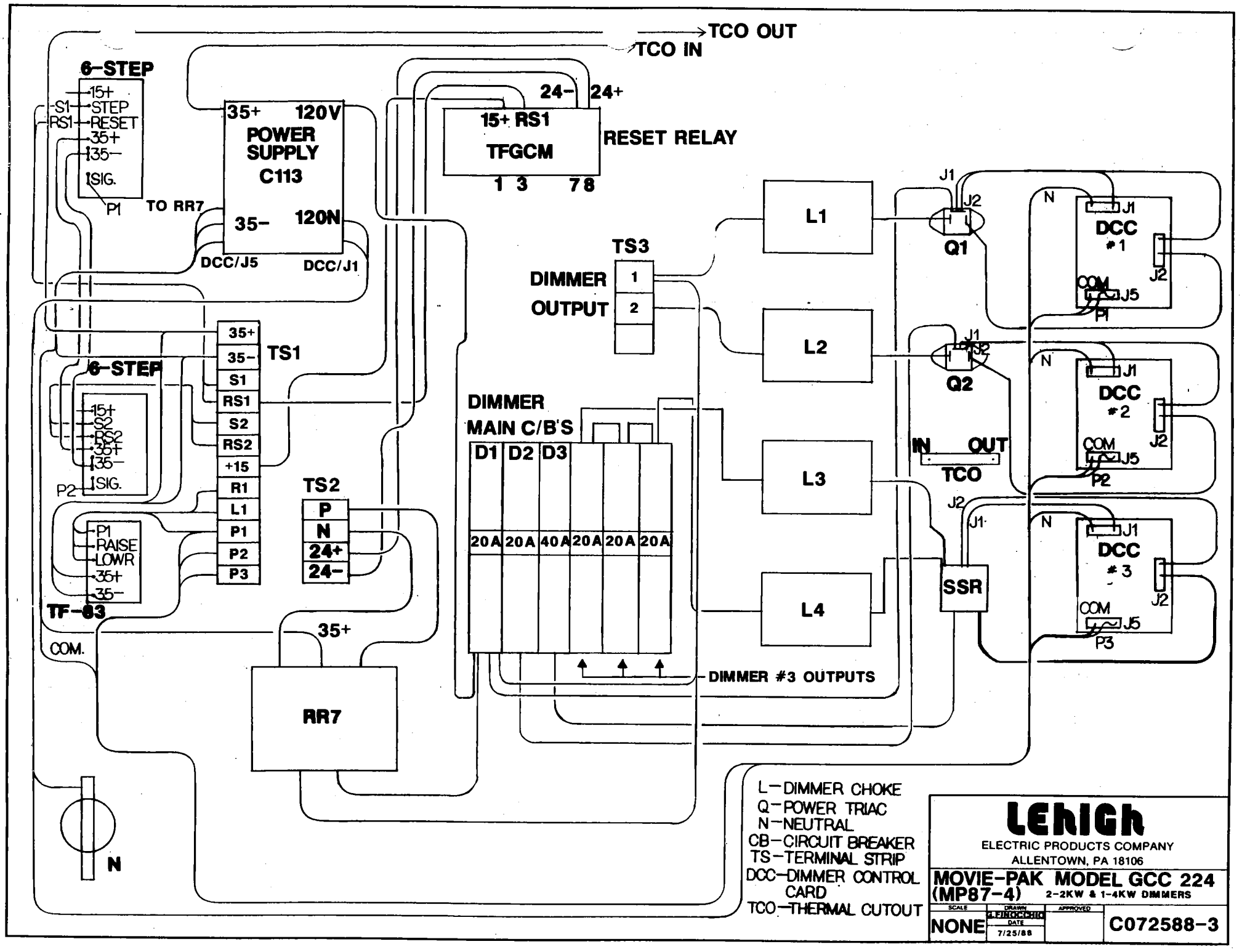
	DATE 7/25/88		


TCO OUT
TCO IN
6-STEP
15+
S1
STEP
RS1
RESET
35+
35-
SIG.
P1
TO RR7
35+
120V
POWER SUPPLY
C113
35-
120N
DCC/J5
DCC/J1
24-
24+
15+ RS1
TFGCM
RESET RELAY
1 3
7 8
TS3
DIMMER
OUTPUT
1
2
L1
L2
L3
L4
J1
J2
Q1
Q2
N
DCC #1
DCC #2
DCC #3
COM
J5
P1
P2
P3
IN
OUT
TCO
SSR
6-STEP
S2
RS2
P2
TS1
35+
35-
S1
RS1
S2
RS2
+15
R1
L1
P1
P2
P3
TS2
P
N
24+
24-
DIMMER
MAIN C/B'S
D1 D2 D3
20A 20A 40A 20A 20A 20A
DIMMER #3 OUTPUTS
P1
RAISE
LOWR
35+
35-
TF-83
COM.
35+
RR7
N
L-DIMMER CHOKE
Q-POWER TRIAC
N-NEUTRAL
CB-CIRCUIT BREAKER
TS-TERMINAL STRIP
DCC-DIMMER CONTROL CARD
TCO-THERMAL CUTOUT
LEHIGH
ELECTRIC PRODUCTS COMPANY
ALLENTOWN, PA 18106
MOVIE-PAK MODEL GCC 224 (MP87-4)
2-2KW & 1-4KW DIMMERS
SCALE
NONE
DRAWN
J.FINOCCHIO
DATE
7/25/88
APPROVED
C072588-3