Leprecon®
Pro Lighting Equipment

THE LP-700 Series Operational Instruction Manual

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THE LP 700 SERIES OPERATIONAL INSTRUCTION BOOKLET

The LP-700 series is a two scene control board that can be broken into 7 basic sections.

The LP-700 series has a 6 channel chase, a bump system that can change the existing look on stage momentarily, as output trim section, a master section, a dipless crossfade, a delay timer with progress meters and an individual channel adjustment section. Also the LP-700 series has a 12 volt dimmable gooseneck work lamp.

The series uses a power source of 105-125 VAC 50-60 HZ and its output is a continuous DC voltage across all channels.

POWER UP

When the power is applied to the controller the dimmable gooseneck work lamp is accessible through the power "on" switch. This lamp is available in two different wattages, 2.4 and 5 watt. The 2.4 watt bulb is standard equipment in all of our controllers. (If you require more light output, then you can order the "High Intensity" conversion kit.) You may adjust the intensity of the lamp by a clockwise rotation of the knob marked "lite". (See figure A)

To engage or disengage the controller simply push the rocker switch marked "on". The green LED marked "power", located beneath the switch, will be illuminated at this time.

If the LED is not glowing recheck your power cord and be sure the outlet that you are using is operational. If the outlet is operational and the power LED and work lamp are not working, you may have an open fuse. The fuse is located inside the controller and is mounted to the circuit board.

TRIM ADJUSTMENT

Under the "power" LED is another green LED marked "max". This LED's brightness is directly related to the amount of trim, the factory adjustment is 10 volts, and is accessible from the recessed trim pot located next to the LED.

Under the "max" trim control is another recessed control for the minimum output voltage, this is marked "min" and is factory adjusted to zero volts.

*****Do not readjust* either of these controls unless there is a reason for the adjustment, such as the implementation of another brand of dimmer. Do this only with a volt meter connected to the output of the controller. We will cover the procedure for trim adjustment later on in more detail.

CHASER

The chase section, which has two control faders and a switch, is located next to the power section. (See figure B) On the rear of the controller is a series of group selector switches. (See figure C)

This is a straight 6 channel chase operating in a sequence of 1-2-3-4-5-6 only. There are 6 LEDs that make up the chase display. These LEDs will indicate the speed that you have selected for the chase.

The chase "on/off" switch is a light-touch snap action momentary push button. At a touch of the button the operator locks the chase function "on" or "off". This gives the operator quick access and a fast response time to the chase.

The chase section is grouped into blocks of 6 channels. The selector switch located on the back of the controller can enable or disable each of these blocks. Depending on which of the LP-700 series you have will determine how many switches you will need. If you have 12 channels you have two blocks of 6 channels. The LP-760 has 36 channels, which is 6 blocks of 6. The first selector switch operates block one, channels 1-6, the second switch operates block two, 7-12, and the third operates block three, 13-18 and so on.

BUMP

At the bottom left of the controller are the control switches for the bump buttons. This section has two selector switches with corresponding yellow LED's. (See figure D) These switches allow the operator to use the bump buttons located beneath each of the controller channels to achieve different results.

The switch marked "on/off" is the bump enable switch. The yellow LED will be glowing when this switch is on. You may want to deactivate the bumps so accidental channel increases will be avoided. Above the "on/off" switch is the "solo/add" switch. When pressing a channel's bump button, while in the "add" mode, that channel will be added at full intensity. The bump button will "add" that channel to the existing look on stage; it will not effect the scene setup in any other way.

When the "solo/add" switch is depressed in the "solo" position the yellow LED will glow whenever a bump button is depressed. Also while the button is depressed the controller will delete all of the channels that are in the "X" and "Y" scene masters, this excludes independent and chase. This effect will last only as long as the bump button is depressed. When the bump button is released the scene will then return to its normal preset condition.

HINT: When the "solo" feature is activated only that channel will appear. You may rearrange channels while the bump button is depressed and return to a new stage look. This will give the effect of very fast scene changes with a minimum of fader work.

GRAND MASTER

The "grand master" section has 2 faders, a blackout switch and a subset of "M/I" selector switches. The master fader, marked "M", the independent fader, marked "I", and the board disable switch marked "black" are grouped together. (See figure E) The individual "M/I" selector switches are located above their corresponding channels. These are

rocker switches and have two positions. They can select either “I”, so that channel will be controlled by the “I” master fader or “M” so that channel will be controlled by the “M” master fader.

The “M”, master, fader controls only the “crossfader” section. The overall level that is set by the “M” fader can be seen with the LED located directly above it.

The “I”, independent, fader controls only those channels that have been selected “I” by the “M/I” rocker switches. The “I” fader also has a level LED located above it.

The switch marked “black” will disable the “M” fader on the board. This gives the operator instant control over the scene outputs. When the disable function is activated the red LED above it will be glowing.

HINT: This can also help in a quick change from an existing stage look to a chase sequence. Activate the “black” switch and push the chase “on/off” at the same time. Then reverse the operation to return the original stage look.

NOTE: All of the controls in the “grandmaster” section are overridden by the chase and the bump sections.

CROSSFADER

The “crossfader” section controls the top, “X” scene, and bottom, “Y” scene, channels. (See figure F) There are two control faders and they operate in reverse order to accomplish a smooth crossing between the scenes. In order for the crossfade to work the “M/I” selector switches need to be in the “M” position.

The leftmost fader is the “X” scene master and it operates the top row of the “X” scene faders. The “X” scene master fader is at its maximum output when in the upward position. The “X” fader has a corresponding level LED above it.

To its right is the “Y” scene master and it operates the bottom set of faders. This master fader has a maximum output when in the downward position. The “Y” fader has an output LED just below it.

With both crossfader controls in the up position the look on stage is accomplished from the “X” scene, the “Y” scene fader is off. The operator sets up the next stage look to be used on the “Y” scene controls. When it is time to change the look on stage the operator brings both “crossfader” controls to the down position. This turns down the “X” scene and turns up the “Y” scene. Creating a smooth dipless scene transition with a rate determined by the operator.

DELAY

The delay unit allows a timed transition of 5 to 100 seconds between the “crossfader” or “independent” controls.

There are 4 switches and a delay rate fader. (See figure G) The switch marked “on/off” injects the delay circuitry into the system. When in the on position, the progress meters will be glowing.

The “norm/trig” switch allows the user to either start the timing process when the fader is moved or when the “go” button is depressed. When in the “trig” position, the yellow LED above the “go” button will be glowing. This indicates the “go” button is ready.

The “go” button, beneath the “norm/trig” switch, allows the operator to precisely start the timing process. Either the “I” or “crossfade” section will be inoperative, depending which function was selected, until the “go” button is depressed.

Underneath the “go” button is a rocker switch labeled “I/crossfade”. In the “I” position the timing circuit operates the independent, “I”, fader and the progress meter to the right shows the level. If the “trig” position is used the operator has to select where the next fader level should be. When the “go” button is depressed the “I” level will seek the new intended level. Also note that when in the “I” position the “Y” progress meter is disabled.

When the “I/crossfade” switch is in the “crossfade” position the timing circuit operated the “crossfade” section. The progress meters are on either side of their respective faders. If the “trig” position is used the operator needs to preset where the next fader levels should be. When the “go” button is depressed the “crossfade” levels will seek the new intended levels. The “X” progress meter is a dual meter; it is used for the “I” fader or the “X” fader, depending on where the “I/crossfade” selector switch is set.

The rate fader is to the left of the switches and is marked with time increments. The fastest time is 5 seconds and the slowest is 100 seconds. The time can be varied while it is in operation. If the scene needs to be changing faster then you have intended just move the fader to a faster setting.

HINT: While the timed circuit is operating the “I” fader, at a slow rate, the “X” and “Y” crossfader are manually controlled and full scene changes are still accomplished. Such as a slow sunrise, “I” master fader, while the various scene changes, “X” and “Y”, are still going on.

CONTROL CHANNELS

The control section, (see figure G) is at the right of the board. This section contains the individual channel faders, the “M/I” switches, the bump buttons and output LEDs.

The output LEDs located at the top are directly related to that channels output. The two position rocker switches located beneath the output LEDs select either the “M”, master, or “I”, independent as a fader source for that channel. The momentary switches at the bottom of each channel are for the bump button operations.

TRIM

To adjust the trim of any LEPRECON controller you need a volt meter and a small flat blade screwdriver. The first item that should be done is to determine which pin is common with your controller.

On the LP-700 series there are two different types of output connectors used. The 15 pin cinch jones connector and the 27 pin cinch jones connector. On the 15 pin CJ pins 1 – 12 are channels 1 – 12 and pin 13 is a 28 volt DC supply use by another brand of dimmers for a fan relay switch. Pin 15 is use for common and common is isolated from

ground. On the 27 pin CJ pins 1 – 24 are channels 1 – 24, pin 25 is the 28 volt DC supply and pins 26 and 27 common.

With your volt meter's negative lead connected to the controller's common pin and the positive lead connected to channel number one, you raise all channels to maximum. With all channels up you adjust the "max" trim to the desired level, factory adjustment is 10 volts.

To adjust the minimum voltage you bring channel number one down. (All other channels must remain at maximum output) With the screwdriver in the "min" pot you turn it counterclockwise to the near zero position.

*NOTE: Once the trim has been adjusted it does not need to be readjusted unless another brand of dimmers have been introduced with different input control.

LP-750 PARTS LIST

DESCRIPTION	PART	CAE ORDER NUMBER
RESISTORS----------		
160 OHM, .25 W	R2	01-0054
240 OHM, .25 W	R4	01-0058
1K OHM, .25 W	R22, R17	01-0073
2K OHM, .25 W	R3, R10, R12, R15, R19, R20, R23, R26, R43, R44, R49, R61, R64	01-0080
3.9K OHM, .25 W	R6, R7, R8	01-0087
4.7K OHM, .25 W	R66	01-0089
6.2K OHM, .25 W	R30, R31	01-0092
10K OHM, .25 W	R18, R27, R28, R34, R45, R46, R47, R48, R65	01-0097
15K OHM, .25 W	R62	01-0101
47K OHM, .25 W	R41, R42	01-0113
100K OHM, .25 W	R24, R35, R36, R39, R40	01-0121
220K OHM, .25 W	R60	01-0129
330K OHM, .25 W	R29, R32	01-0133
2.2 MEG, .25 W	R25	01-0153
221 OHM, .25 W	R11	01-2002
1.21K OHM, .25 W	R52	01-2003
4.75K OHM, .25 W	R13, R53	01-2004
10K OHM, .25 W	R55, R56, R57, R58, R59, R68, R69	01-2009
4.22 OHM, .25 W	R54	01-2012
11K OHM, .25 W	R51	01-2013
470 OHM, 3.0 W	R14	01-9001
CAPACITORS----------		
.01 mf, 50 V	C3, C7, C8, C11	02-0003
33 pf, 50 V	C4	02-0006
220 pf, 50 V	C6	02-0016
.1 mf, 250 V	C10	02-1001
.0033 mf, 100 V	C5	02-1012
10 mf, 16 V	C12	02-2020
1.0 mf, 35 V	C2, C9, C13	02-2026
1K mf, 50 V	C1	02-2041
DIODES----------		
IN 4002	D1, D2, D3, D4, D9, D11, D12, D13, D14, D19, D20	03-0013
BRIDGE 1A, 200 V	D17	03-0013

DIODES----------

LED YELLOW .1 Dia.	D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, D38, D39 D40, D41, D43, D44, D45, D46, D47, D48	03-1005
LED GREEN .2 Dia.	D7, D8, D15, D16, D50, D51	03-1009
LED YELLOW .2 Dia.	D10, D18, D21, D42	03-1010
LED RED .2 Dia.	D49	03-1011
4.7 V ZENNER .5 W	D5	03-2001
12 V ZENNER 500 ma	D6	03-2004

TRANSISTOR----------

2N3904	Q2, Q4, Q5	04-0011
2N6109	Q1	04-0013
J174 FET	Q3	04-0017

INTEGRATED CIRCUIT----------

LM 324 N	IC2, IC3, IC6	06-0001
RC 3403	IC5, CI11	06-0002
CD 4040	IC8	06-0051
CD 4051	IC9, IC10	06-0054
LM 317 Regulator	IC1, IC4	06-0057
LM 3914	IC12, IC13	06-0062
CD 4093	IC7	06-0066

POTENTIOMETERS----------

100K SLIDER ALPS	R16, R21, R37, R38, R50, R63, R67	08-0001
10K LINEAR ROT.	R5, R9	08-1029

SWITCHES----------

ROCKER DPDT	S1, S2, S3, S4, S5, S6, S7	09-0038
MOMENTARY	S8, S9	09-0044

MISCELLANEOUS----------

10 PIN MALE	P4	07-0019
6 PIN HEADER	P5	07-0020
2 PIN .156 Cen.	P2, P3	07-0028
IEC INLET	P1	07-3006
ST 3-24 Trans.	T2	10-0016
ST 5-24 Trans.	T1	10-0022
MOV 130 V		15-9005