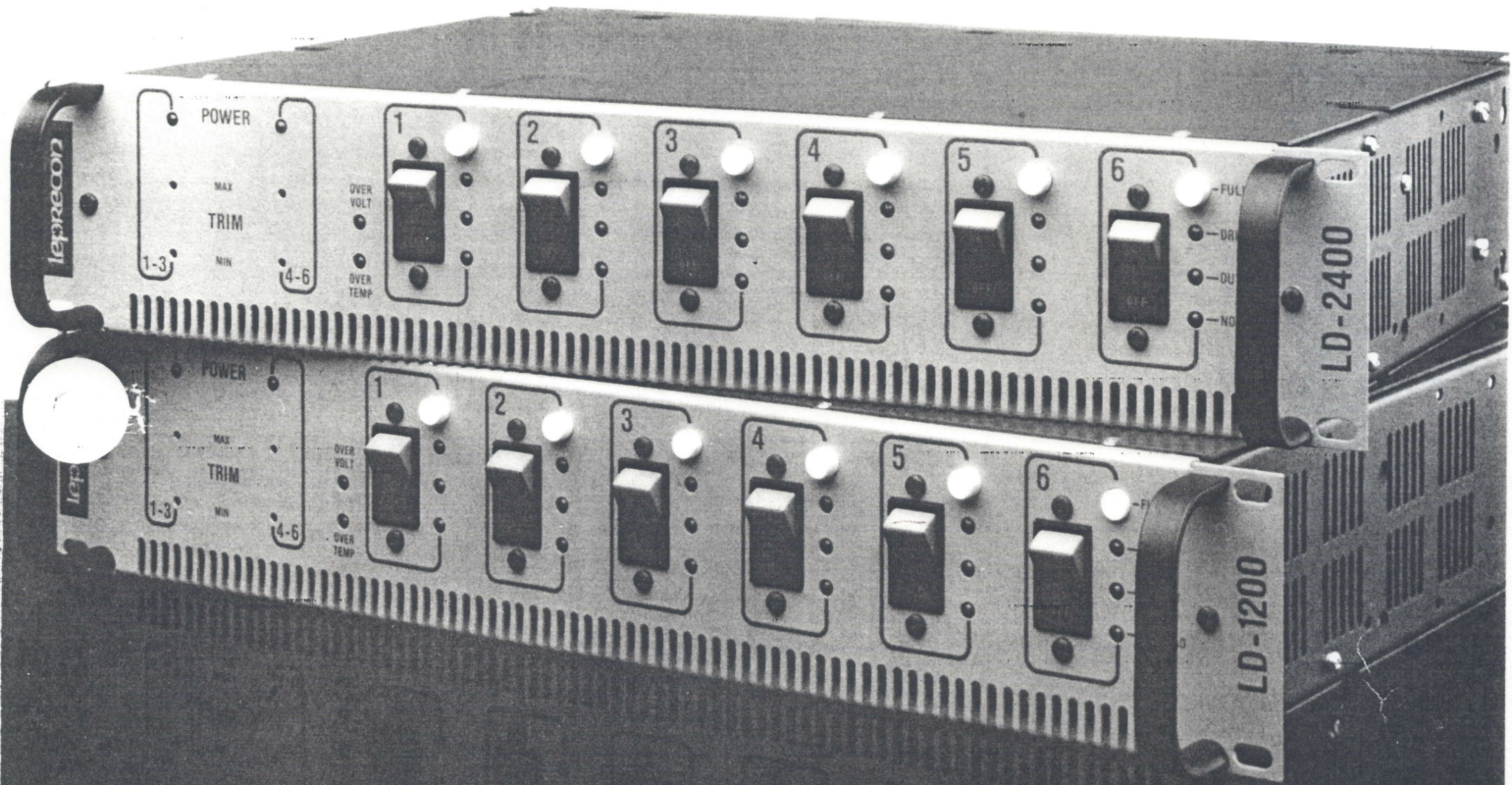


Leprecon[®]
Pro Lighting Equipment

LD-1200
LD-2400
6 Channel Dimmer Packs



COMPACT SIZE • FULL FUNCTION L.E.D. INDICATORS • HIGHLY RELIABLE SCR POWER MODULES • EFFECTIVE FILTERING • AUTOMATIC OVERTEMP/OVERVOLT PROTECTION • MODULAR POWER INPUT & OUTPUT PANEL

LD-1200

LD

-2400

The Leprecon™ series dimmers are the direct result of our extensive experience in supplying and servicing the touring lighting industry. We have worked with bulky, heavy, and expensive architectural dimmers; flimsy, poorly filtered, and unreliable "semi-professional" dimmers; and slow-to-respond dimmers with crude, widely varying response curves. We envisioned a dimmer embodying all of their *desirable* features — a solid, light weight, compact, well behaved, and versatile lamp dimming system, with interchangeable input, output, and control panels. We sought to reduce the bulk of the high reactance inductor necessary for low noise operation; to eliminate inefficient extruded heat sinks; to closely approach the ideal dimmer response curve; to have connectors between major components

for serviceability; to include diagnostic indicators for ease of system troubleshooting; and to put it all in a compact, sturdy, modular package. All of these goals have been realized in the Leprecon LD-1200 and LD-2400. We worked to keep it simple and solid without compromising specifications — and the resulting products meet all of our design goals at very reasonable prices!

Whether your application is touring or a permanent installation you will appreciate the features of Leprecon dimmers.

You will not find another top quality dimmer at a lower price . . . and you will not find one at *any* price that outperforms the Leprecon LD series dimmers. Read on and compare! You'll see what we mean.

Standard Features

Power: Any one of the available power connection panels can be selected. The panels mate with an internal connector block in each pack, and are easily interchangeable.

The power input to each pack of dimmers should be overcurrent protected according to the power panel option selected. Relative phase of the two legs is unimportant.

Control Input: Input voltage can be DC, or variable duty cycle pulsating DC at a frequency of 1KHz or more. Input impedance is 200K ohm with input common floating. Control voltage may exceed 200% of maximum trim without damage or flickering of output.

Load: Any one of the available load connection panels can be selected. The panels mate with an internal connector block in each dimmer and are easily interchangeable.

Drive Indicators: Drive LED's display the level of the drive signal from the control card to the power card of each channel.

Output Indicator: Each channel's output voltage level is displayed on the front panel by an output LED.

No Load Indicator: A red LED lights when there is an open circuit on the output of a channel.

Control Voltage Range: Maximum control voltage is trimmable from +5 to +15 volts. Minimum is trimmable from 0 to +2 volts. Trim pots are provided for each group of three channels and are easily accessible through the front panel. LD series dimmers are compatible with most controllers and dimmer packs.

Preheat: The dimmer's outputs, with minimum control voltage applied, can be trimmed to zero, or can be trimmed up a few volts with the trimmer. This keeps lamp filaments warm so they will respond more quickly. They will also last longer because they undergo less thermal shock when turned on.

Curve: The curve of the Leprecon dimmers (i.e. the relationship between control voltage input and RMS voltage output) is within 5% of the theoretical "Square Law Curve." Response at low light levels is particularly smooth, with no evidence of the hop-on or dead space that many dimmers exhibit.

Full On Switch: Each output channel has a locking front panel switch which, when pushed, brings that channel to full output. This may be used to verify output and load conditions.

Power Devices: Six dual SCR modules with drive electronics bolt directly to the internal heat sink and are easily removeable for servicing. The SCR's are conservatively specified at two to three times the dimmer current rating.

Circuit Breakers: Each channel is protected from short circuits and overloads by a heavy-duty magnetic circuit breaker, which also serves as a channel disable switch for testing purposes.

Overvoltage Protection: Should the input power line voltage increase above 150VAC through miswiring or neutral fault, this circuit will turn off the dimmer outputs and flash the "overvoltage" LED. The dimmer will return to normal operation when the fault is corrected. Accidental connection to 240VAC will not damage the dimmer.

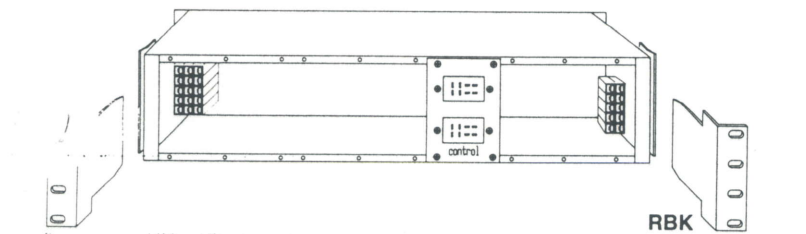
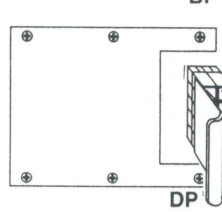
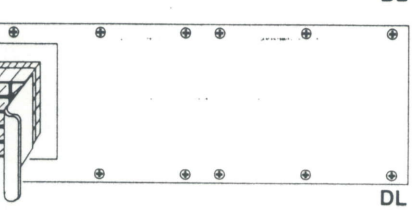
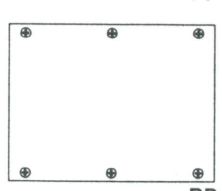
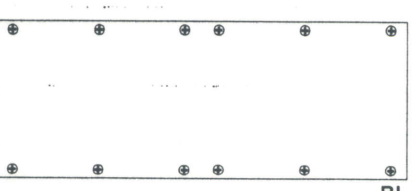
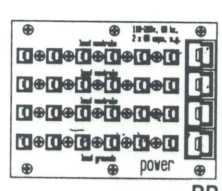
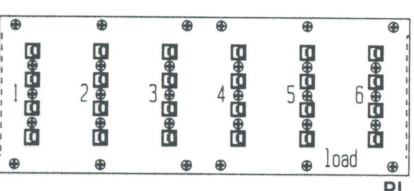
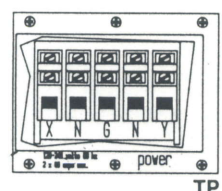
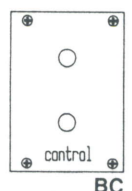
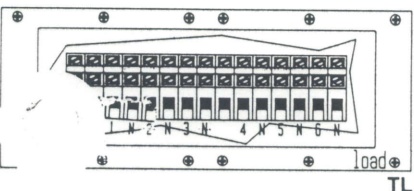
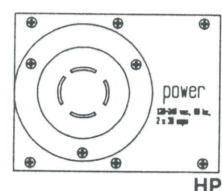
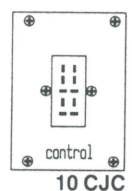
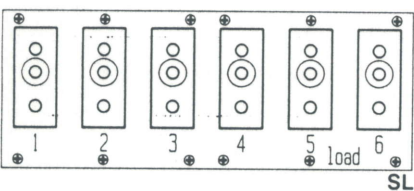
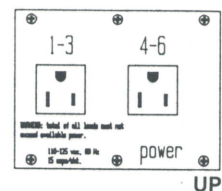
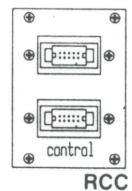
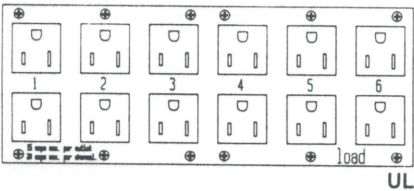
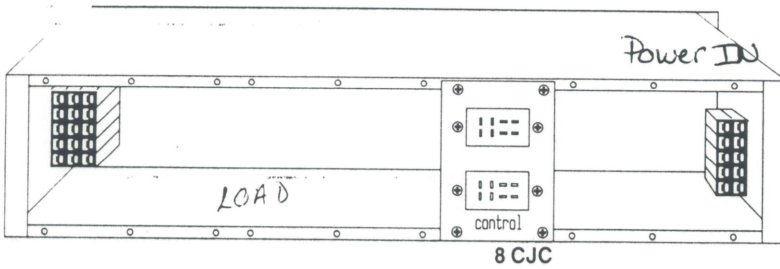
Cooling: Air is drawn in through the sides and across the electronics by the internal fan. The cool air is blown through the lower plenum containing the heat sinks, and the warmed air exhausts out the front panel. SCR packages operate at less than 40°C above ambient temperature even after hours of operation with all channels full up and fully loaded, resulting in exceptional overload immunity and long term reliability in the most demanding applications.

Leprecon dimmers can run continuously with all outputs fully loaded and at 100% level without overheating, thermal shutdown or degradation of specifications or reliability even when stacked in a rack with no additional cooling fans. (The dimmer should not be operated in areas where ambient temperature is above 50°C.)

Overtemperature Protection: If the internal temperature should rise above 75°C because of restriction of ventilation, or exceptionally high ambient temperature, this circuit will drop the dimmer output to zero and flash the "overtemp" LED, until the condition is corrected. The dimmer shuts down at 75°C, and returns to normal at 50°C.

Filtering: The rise time of the load current, measured from 10% to 90% of maximum current at 90° conduction angle with full rated load, is 400 μS for the LD-1200 and 350 μS for the LD-2400. The peak rate of rise (under the same conditions) is 90 mA/μS for the LD-1200 and 75 mA/μS for the LD-2400.

LD-1200/2400 Dimmer Input and Output Panels



Load Panel Options Each dimmer has a 14 contact Amp Powerlock connector mounted internally. Load panels simply plug into this connector from the rear.

- UL** Load panel with 2-U-ground outlets per channel (12 total) (15 Amps maximum per connector.)
- SL** Load panel with 1-20 Amp Harj-Lock stage pin connector per channel (6 total)
- TL** Load panel with rear accessible terminal strip (15 lugs) and cover box (3" deep)
- PL** Patchbay Powerlock load panel with four Amp Powerlock connectors per channel (24 total) rated at 30 amps each. For load/hot connections only.
- BL** Blank load panel with uncrimped Powerlock connector & contacts (for user panel punching, crimping & wiring of user's connector)
- DL** Direct load cover panel with a 14 contact Amp Powerlock connector and handle which plugs directly into dimmer through access hole in metal cover plate (included)

Control Input Options

- 8 CJC** Dual 8 pin Jones-type input connectors (1 male, 1 female)
- RCC** Dual male 10 pin IDP ribbon cable input connectors
- 10 CJC** Single 10 pin male Jones-type input connector with input filtering (male)
- BC** Blank control input panel allows for user punching and wiring
- RBK** Rear brace kit option. Provides support to the back of the dimmer while allowing the dimmer to slide out for easy removal.

Power Panel Options Each dimmer has a 10 contact Amp Powerlock connector mounted internally. Power panels simply plug into this connector from the rear.

- UP** Power panel with dual U-ground inlet *15 amps each (limits output to 1800 watts per 3 channels)
- HP** Power panel with twistlock – Hubbell #27153 3 pole 4 wire 30 amp with ground (limits output to 3600 watts per 3 channels) (cable female: #2713)
- TP** Power panel with rear accessible terminal strip (5 lugs and cover box (3" deep)
- PP** Patchbay power panel with four 75 amp Powerlock power input connectors (2 hot, 1 neutral, 1 ground), neutral "load" patchpoints and 6 ground "load" patchpoints, rated at 30 amps each. *~ 9" long*
- BP** Blank power panel with Powerlock connector & contacts (for user punching, crimping & wiring of user's connector)
- DP** Direct power panel with a 10 contact Amp Powerlock connector and handle which plugs directly into dimmer through access hole in metal cover plate (included)

Specifications:

LD-1200

LD-2400

Power Input	105-125VAC 60HZ One 60 or two 30 Amp circuits	105-125VAC 60 HZ Two 60 Amp circuits
Control Input	Input impedance — 200K ohm Minimum trimmable 0 to 2V Maximum trimmable + 5 to + 15 volts	Same
Preheat Range	Trimmable from 0 to 30 Volts RMS	Same
Load Capability	1.2KW per channel, 7.2KW total	2.4KW per channel, 14.4KW total
Minimum Load: (for proper function)	15 watts per channel	Same
Circuit Breakers	One magnetic 10 Amp breaker per channel	One magnetic 20 Amp breaker per channel
Curve	**** "Square Law" (within 5% of theoretical)	Same
**Filtering: -Rise Time -Max. Rate-Of-Rise	400 microseconds 90 milliamperes per microsecond	350 microseconds 75 milliamperes per microsecond
Size	19"Wx3½"Hx12"D	Same
Net Weight	22 lbs.	29 lbs.
***Response Time	60 milliseconds	Same
Temperature Rise	40°C above ambient all channels fully loaded, and full up, <i>maximum</i> .	Same
*Full Load Voltage Drop	4.5 Volts RMS	3 Volts RMS
Output Range	0-96.3% of line voltage	0-97.5% of line voltage
Conduction Angle Range	0-180°	Same
Efficiency	96.3%	97.5%

*Full Load Voltage Drop: The difference between power line voltage at the dimmer and the voltage the dimmer passes to the load, measured at 180° conduction angle (100% output) driving maximum load into all channels. (True R.M.S.)

**Rise Time: The time the load current takes to rise from 10% to 90% of its peak value in each half cycle when the dimmer is switching at 90° conduction angle, fully loaded. Maximum rate of rise is the steepest rate of rise of the load current under the same conditions.

***Response Time: Maximum time for load voltage to reach maximum when control voltage is stepped from min. to max.

****Square Law: $V_{out} (RMS) / V_{line} (RMS) = [V_c(in) / V_c(max.)]^{.592}$

Note: All spec's are ± 5% unless otherwise noted. Tests were conducted with 120V RMS line voltage, under worst case temp. and load conditions. All AC voltages are true R.M.S. measurements.

Limited Warranty: For a period of one year from the date of original sale, CAE, Inc. will replace any defective parts and will repair any defective module returned to the factory prepaid, without charge for parts or labor. Please consult your dealer for full warranty details.

Leprecon/CAE, Inc.

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