

grafik systems | power panels

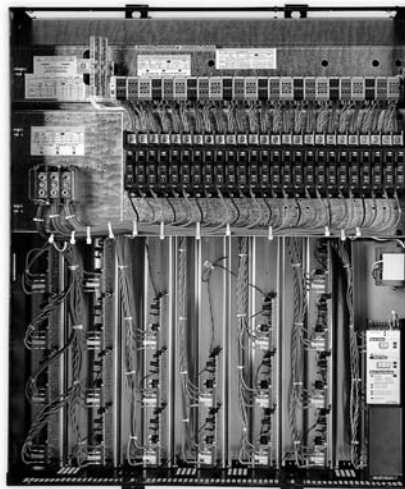
# Preassembled Dimming and Switching Panels

Lutron's Dimming and Switching Panels provide the power behind the GRAFIK Systems line of products.

A variety of panels are available to meet the performance and budget requirements of any project.

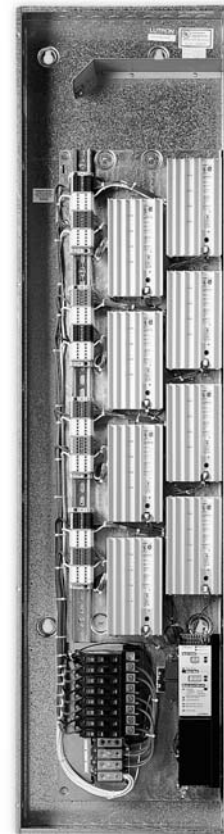
All power panels are compatible, so that they may be combined for the specific needs of each system.

Lutron can also further customize individual panels.



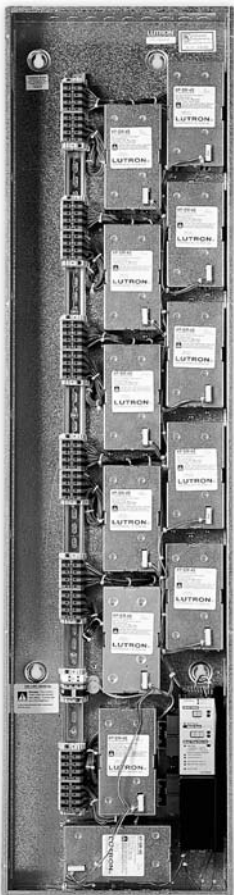
## GP Dimming Panel

Lutron's highest performance architectural Dimming Panel for all applications.



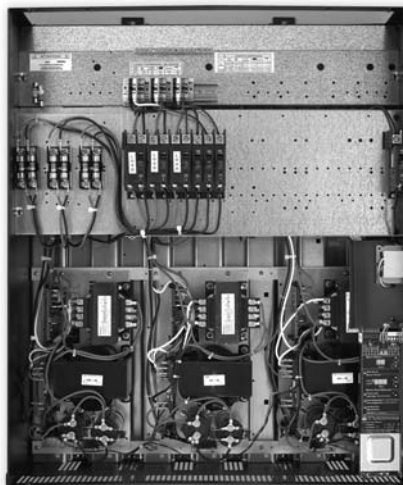
## LP Dimming Panel

Commercial Dimming Panel for handling numerous small loads.



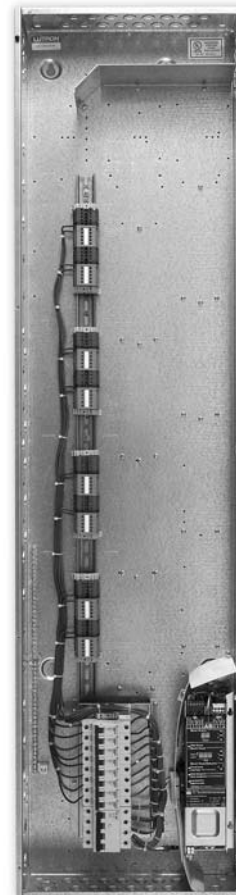
**XP Softswitch™ Panel**

Million-cycle Switching Panel employs Lutron's patented Softswitch technology.



**DC Dimming Panel**

DC Dimming Panel for noise-sensitive applications including MRI facilities and sound studios.



**Custom Combination Panel**

Custom Dimming/Switching Panel tailored to your project's requirements.



TVM Module



LP Dimming Module



ELV Dimming Module



Motor Modules







XP Switching Module



**Dimming Ballasts**

Lutron Dimming Ballasts are compatible with Lutron's Power Panels. For Ballast ordering information, see pg. 236.

Panel Type	GP	LP	XP Softswitch™	DCI
<b>CHOOSING A PANEL</b>				
Function	Lutron's highest performance architectural dimming panel for all applications	Commercial dimming panel for handling numerous small loads	Million-cycle switching panel employs Lutron's patented Softswitch technology	DC Dimming Panel for noise-sensitive applications including MRI rooms and sound studios
Voltage <sup>1</sup>	120V, 277V 220-240V (AU) 230V (CE) 100V (JA) 50 or 60Hz	120V, 220-240V (AU) 230V (CE) 50 or 60Hz	120V, 277V, 347V 220-240V (AU) 230V (CE) 50 or 60Hz	120V 60Hz
Panel Feed Type	Feed Through Main Lugs Main Breaker Dual Tap Main Lugs Isolator Switch	Main Lugs Main Breaker Isolation Switch	Feed Through Main Lugs	Feed Through
Number of Circuits	3-144	4-32 lighting zones (1-8 dimming modules)	4-48 (Feed Through Panels) 4-42 (Panels with Breakers)	1-3
Thermal Magnetic Circuit Breaker	1 per circuit	1 per module (4 lighting zones per module)	1 per circuit (for main lug panels only)	1 per circuit
Load Rating	2000W/VA <sup>8</sup> , 16A continuous/circuit 10A 230V (CE)	16A continuous/module 13A 230V (CE)	16A continuous/circuit	1200W continuous/circuit
Load Type <sup>3</sup>	inc, mlv, elv <sup>5</sup> , fl <sup>6</sup> , n, cc, nd	inc, mlv, elv <sup>5</sup> , n, cc, nd, motor <sup>7</sup> , interface needed for fl <sup>6</sup> .	All lamp types <sup>6</sup> and motor loads	inc
Lamp Noise Suppression	Architectural	Commercial	Not required for switching	Inaudible
RFI Suppression	Highest-grade choke	High-grade choke	Switching only; no choke required	Specifically for noise-sensitive environments
Ambient Temperature	32°-104°F (0°-40°C)	32°-104°F (0°-40°C)	32°-104°F (0°-40°C)	32°-104°F (0°-40°C)
Mounting	Surface-mount (3-24 circuits) Floor mount (36-144 circuits)	Surface-mount or recessed between 16" studs	Surface-mount or recessed between 16" studs	Surface-mount (1-3 circuits)

Standards listed below apply to one or more products in the Lutron product line. Consult factory for specific information.



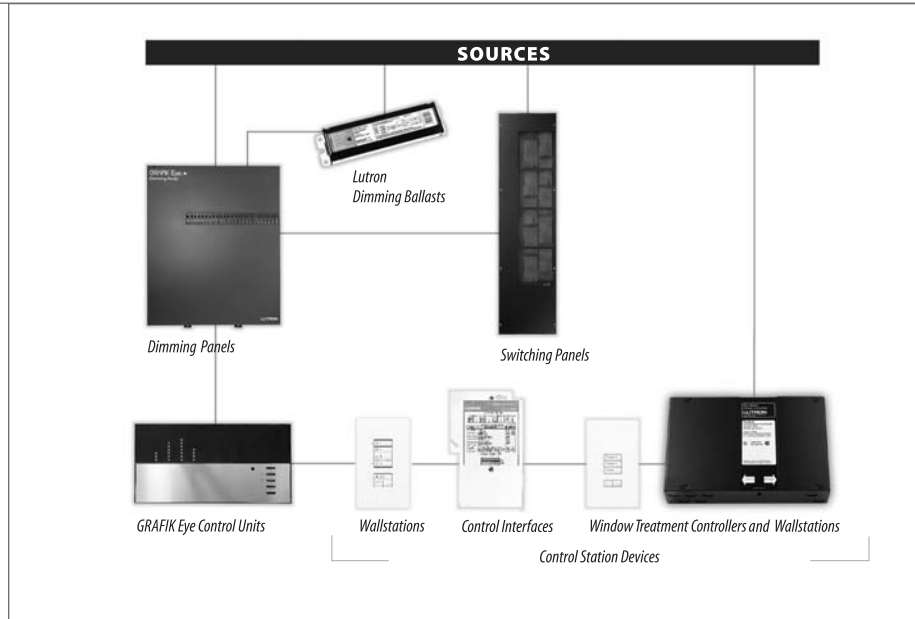
### Footnotes, pg. 148

- 1 All voltages are nominal.
- 2 JDP is similar in performance; only for installation in Japan; see pg. 157.
- 3 Load type key: inc=incandescent, mlv=magnetic low-voltage, n=neon, cc=cold cathode, fl=fluorescent (magnetic and capacitive), elv=electronic low-voltage, nd=non-dim, HID.
- 4 FDB Interface works with Lutron Eco-10™ (ECO-Series) and Hi-lume® Electronic Fluorescent Dimming Ballasts.
- 5 Contact Lutron Technical Support for a list of approved electronic low-voltage transformers.
- 6 Ten Volt Module (option), see pg. 173.
- 7 3-wire AC motor types; Motor Module (option), see pg. 173.
- 8 Measured current will not exceed continuous load rating due to voltage drop in the dimmer.

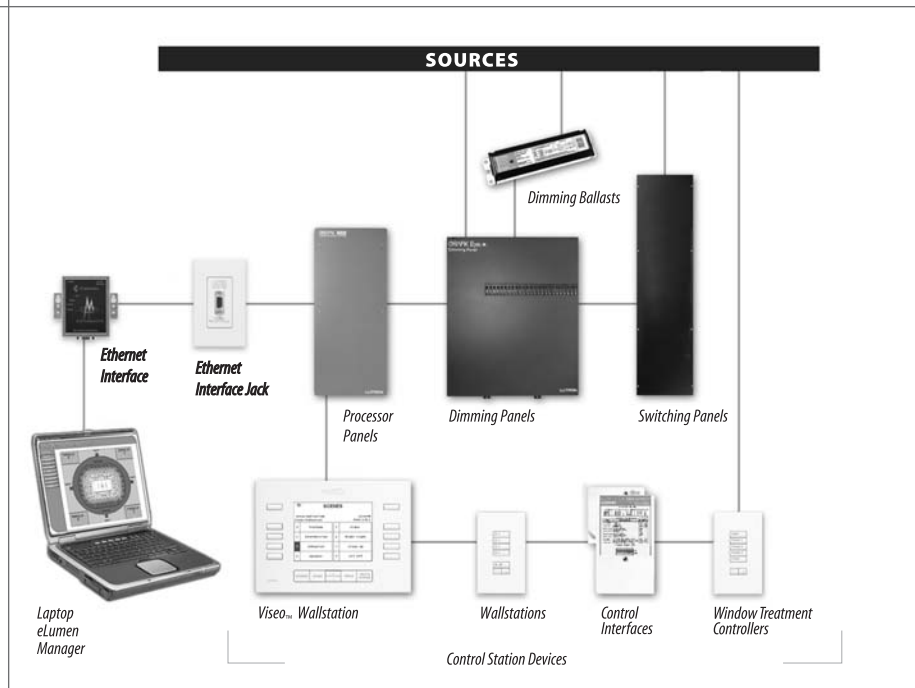
<p><b>SPECIFICATIONS</b></p>	<p><b>Prewired</b> Lutron® power panels are prewired at the factory. Requires only service feed and branch circuit load wiring. No other wiring of assembly required.</p> <hr/> <p><b>Thermal Magnetic Breakers</b> Circuit breakers are UL-rated thermal magnetic.</p> <hr/> <p><b>Lightning Strike Protection</b> Power panels meet ANSI/IEEE standard 62.41-1980 and can withstand voltage surges of up to 6000V and current surges of up to 3000A.</p> <hr/> <p><b>No Flicker</b> RTISS™ filter circuit technology compensates for incoming line voltage variations: No visible flicker with +/-2% change in RMS voltage/cycle and +/-2 Hz change in frequency/second.</p> <hr/> <p><b>Air Gap-off Switches</b> Ensures an open circuit when off function is selected.</p> <hr/> <p><b>Arcless relays</b> Eliminate arcing at mechanical contacts when loads are switched.</p> <hr/> <p><b>Convection Cooled</b> Patented, ribbed aluminum heat sink base cools panel by convection. No fans.</p> <hr/> <p><b>Enclosure</b> NEMA-Type 1 (Type 2 available upon request), IP-20 protection; #16 U.S. Gauge steel. Indoors only.</p>
<p><b>TAILORED TO YOUR NEEDS</b></p>	<p><b>Custom Combination Panels</b> Custom Combination panels will allow you to create a project-specific power panel, see pg 172.</p> <hr/> <p><b>Main Breaker</b> Main breaker can be sized per job-specific load requirements. Consult Lutron for order information and exact model number.</p> <hr/> <p><b>Special Branch Circuit Protection</b> Lutron Panels typically provide standard AIC-rated thermal magnetic branch breakers (for 120V, 10,000AIC; for 277V, 14,000AIC; and for 220-240V, 6,000AIC). Lutron can provide higher AIC-rated circuit breakers if necessary. Additionally, Lutron can provide unique branch circuit protection, such as GFI (Ground Fault Interrupt), ELB (Earth Leakage Breaker), RCD (Residual Circuit Device), and AFI (Arc Fault Interrupt). Consult Lutron for ordering information and exact model numbers.</p> <hr/> <p><b>480V Switching</b> 480V two-pole and four-pole contactors can be installed into XP switching panels. Consult Lutron for order information and exact model numbers.</p> <hr/> <p><b>0-10V Control</b> The Lutron Ten Volt Module (TVM) can operate fluorescent ballasts that meet IEC 929 standards for 0-10V control (such as Lutron's TVE™ ballasts) or Tridonic DSI™ (Digital Serial Interface). The TVM can sink or source 50mA (typically 25-50 ballasts) on each control circuit. Consult Lutron for ordering information and exact model numbers.</p> <hr/> <p><b>Entertainment DMX512</b> Allows architectural lighting to be operated by an architectural control system – <b>GRAFIK Eye® 4000</b> or <b>Centralized Lighting Control System</b> – and a theatrical DMX512 console when it is required. Dimmers with programmable air gap for rapid flash rates are available. The <b>2Link™</b> Option can also be used for a redundant link of controls to provide ultimate reliability. Consult Lutron for details on these functions.</p> <p>Note: Lutron can provide DMX theatrical consoles, jacks, and cable, pgs. 128-131.</p>

**Lutron Power Panels are compatible with the following systems:**

**GRAFIK Eye®  
4000 Series  
pg. 32**



**Centralized Lighting  
Control System  
pg. 88**



Contact Lutron for additional sales and technical literature, or visit [www.lutron.com](http://www.lutron.com)

**POWER BOOSTERS OR POWER PANEL?**

Want system design time to be two to four times faster? Lutron's **Designer™** software automatically assigns Boosters/Interfaces or Dimming Panels, removing any guesswork when designing a system. Consult Lutron or visit the Lutron website for more information about this time-saving software tool.

**There are specific requirements of the system that could lead to designing with either approach. Factors that need to be examined include:**

**Simplicity of Design**

Deciding on an approach is a matter of personal design preferences. A project may require additional interfaces solely because of the chosen lighting sources or may require power boosters for higher wattages. A GP Power Panel can handle any load type without additional interfaces.

**Space for Equipment**

If Power Boosters/Interfaces can be located throughout the building, it may be the preferred approach. If all Power Boosters/Interfaces are located in the same electrical room, a Power Panel will typically require less space. Power Panels also include branch circuit breakers, reducing the size of the lighting distribution panel or eliminating it altogether.

**Emergency**

One of the circuits may need to be an emergency circuit. If using an upstream main transfer switch (i.e., 100A, 3P), a Power Panel solution is the better choice. Lutron also offers a UL924 Emergency Lighting Interface to sense loss of voltage on a single- or multi-phase system. For more information, see Application Notes pg. 176.

**Installation Time**

A Power Panel will require less time to install than numerous Power Boosters.

**ACOUSTIC PERFORMANCE**

**Lamp Noise Suppression**

GP Dimming Panels provide the highest level of lamp noise suppression for:

- high wattage situations
- incandescent sources
- halogen sources
- extremely quiet ambient environments

Lamp Debuzzing Coils (LDC) can be added to Power Boosters to provide the same performance. For more information, see Application Notes, pg. 175.

**ENTERTAINMENT DMX512 OPTIONS**

**2Link™**

The **2Link** option provides two distinct control links inside each Power Panel. Each link—Link A and Link B—is capable of operating on any one of these systems—Lutron's **GRAFIK Eye® 4000**, Lutron's **Centralized Lighting Control System**, or USITT DMX512 protocol. Each system or protocol is unique, but the Power Panel is designed to automatically detect which one is present and operate accordingly.

When ordering the appropriate panel, ask for the **2Link** option.

