GRAFIK Eye A/V Series Control Units supply power to, and control the brightness of two, three, four, or six zones of lighting. GRAFIK Eye Control Units control the intensity of all the light sources in a room. You can adjust the lights for a special event or activity with the press of a button!

IMPORTANT! GRAFIK Eye lighting controls must be installed by a qualified electrician in accordance with all applicable regulations. Improper wiring can result in personal injury or damage to GRAFIK Eye lighting controls or other equipment. Always turn off circuit breaker/MB or remove main fuse from power line before doing any work. To avoid overheating and possible damage to equipment, do not install dimming devices to dim receptacles, motor-operated appliances, or fluorescent lighting not equipped with Lutron Hi-lume®, Eco-10™, or Tu-Wire® Electronic Dimming Ballasts. In dimmed magnetic low-voltage circuits, you can prevent transformer overheating and failure by avoiding excessively high current flow. Do not operate GRAFIK Eye lighting controls with any lamps removed or burned out; Replace any burned out lamps immediately; Use only transformers that incorporate thermal protection or fused primary windings. This lighting control is designed for residential and commercial use. GRAFIK Eye Controls are designed for indoor use only.
<table>
<thead>
<tr>
<th>Do you have?</th>
<th>Then read this . . .</th>
<th>on page:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Unit only?</td>
<td>STEP 1: Installing A/V Series Control Units</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>How to wire and mount GRAFIK Eye A/V Series Control Units.</td>
<td></td>
</tr>
<tr>
<td>Accessory Controls too?</td>
<td>STEP 2: Installing Accessory Controls</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>DIP switch address settings, wiring, and mounting.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEP 3: Setting Up Control Units</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Identifying load types and setting up lighting scenes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEP 4: Setting Up System Communications</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Assigning Accessory Controls to the Control Units they should operate.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Questions about Class 2/PELV wiring?</th>
<th>Appendix A: More about Class 2/PELV Wiring</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appendix B: Special Mounting Considerations</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Appendix C: Power Boosters, Electronic Low Voltage Interfaces, and Fluorescent Dimming Ballast Interfaces</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Appendix D: GRX-TVI 0-10 Volt Ballast Interface</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Appendix E: HP 2•4•6 Dimming Modules</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Appendix F: Infrared Controls</td>
<td>18</td>
</tr>
</tbody>
</table>

| Problems?                           | Appendix G: Troubleshooting | 18      |

Questions? Need technical assistance?

**Phone Assistance . . . Worldwide!**

- **In the U.S., Canada and the Caribbean:**
  1-800-523-9466
- **In Mexico, Central and South America:**
  1-610-282-3800
- **In Japan:**
  03-5405-7333
- **In Hong Kong:**
  2104-7733
- **In the U.K.:**
  0800-282-107
- **In Europe:**
  44-171-702-0657
- **All others:**
  1-610-282-3800
- **Website address:**
  [www.lutron.com](http://www.lutron.com)
- **E-mail:**
  [product@lutron.com](mailto:product@lutron.com)

**Warranty**

Lutron warrants each new unit to be free from defects in materials and workmanship and to perform under normal use and service. This warranty shall run only for a period of one year from the date of purchase and Lutron’s obligations under this warranty are limited to remedying any defect or replacing any defective part and shall be effective only if the defective unit is shipped to Lutron postage prepaid within 12 months after purchase. Damage due to abuse, misuse, inadequate wiring or installation is not covered by this warranty. In no event shall Lutron or any other seller be liable for any other loss or damage, including consequential or special damages that may arise through the use by a purchaser or others of this device and the purchaser assumes and will hold harmless Lutron in respect of all such loss. Although every attempt is made to ensure that catalogue information is accurate and up-to-date, please check with Lutron before specifying or purchasing this equipment to confirm availability, exact specifications and suitability for your application. This product may be covered by one or more of the following U.S. patents: 4,797,599; 4,803,380; 4,825,075; 4,893,062; 5,030,893; 5,191,265; 5,430,356; 5,463,286; 5,530,322; 5,808,417; DES 308,647; DES 310,349; DES 311,170; DES 311,371; DES 311,382; DES 311,485; DES 313,738; DES 335,867; DES 344,264; DES 370,663; DES 378,814 and corresponding foreign patents. U.S. and foreign patents pending. Lutron, GRAFIK Eye, and Hi-lume are registered trademarks; Hi-Power, Eco-10, LIAISON, Designer, Tu-Wire, and Architrave are trademarks of Lutron Electronics Co., Inc. © 1999 Lutron Electronics Co., Inc.

---

Safety standards listed above apply to one or more products in the GRAFIK Eye product line. Consult factory for specific information.

LUTRON-Quality Systems
Registered to ISO 9001
First test loads for short circuits.
1. Turn power OFF at the breaker/MCB panel or fuse box.
2. Connect standard light switch between live lead and the load wire to test circuit.
3. Turn power on and check for short or open circuits: If load does not operate, circuit is open. If the breaker/MCB trips (fuse blows or opens), circuit is shorted. Correct short or open circuits and test again.

Load Types
The GRAFIK Eye A/V Series Control Units can control incandescent, halogen (tungsten), magnetic low-voltage, and neon/cold cathode load types. Electronic low-voltage and fluorescent load types can be controlled with an appropriate interface.

- Not all zones need to be connected; however, connected zones must have a load of at least 25 W.
- No zone may be loaded with more than 800 W.
- Unit must not carry more than 16A of total lighting load.
- All Electronic Low-Voltage (ELV) lighting used with the Electronic Low-Voltage Interface must be rated for reverse phase-control dimming.
- Before installing an ELV light source, verify with the manufacturer that their transformer can be dimmed. When dimming, an Electronic Low-Voltage Interface MUST be used with the GRAFIK Eye A/V Series Control Unit.

Installation instructions. First, turn power off.

Preparation
1. Mount Wallbox. Use standard U.S. wallbox, 3 1/2 in. (87 mm) deep is strongly recommended, 2 3/4 in. (68 mm) deep minimum. Always allow at least 4 1/2 in. (110 mm) clearance above and below the faceplate to ensure proper heat dissipation.
2. Pull Wires. Use the rearmost knockouts when pulling wires into the wallbox. This will provide the most clearance when mounting the Control Unit.
3. Remove Cover. Remove the Control Unit’s cover and hinged faceplate by pulling outward at each corner.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Wallbox Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3102/3502</td>
<td>2-Gang</td>
</tr>
<tr>
<td>3103/3503</td>
<td>3-Gang</td>
</tr>
<tr>
<td>3104/3504</td>
<td>4-Gang</td>
</tr>
<tr>
<td>3106/3506</td>
<td>4-Gang</td>
</tr>
</tbody>
</table>

Line Voltage/Mains Wiring

IMPORTANT WIRING NOTES!
- Use properly certified cable for all line voltage/mains cables and Class 2/PELV cables.
- If certified cable with insulated cores enclosed in a sheath is used for the Power cables, the Class 2/PELV wiring can be any of the specified cables in Appendix A: More about Class 2/PELV Wiring.
- Install in accordance with all local and national electrical codes.
- CAUTION! Do not connect line voltage/mains cable to Class 2/PELV terminals.
- Earth/Ground terminal connection must be made as shown in wiring diagrams.
- Do not mix different load types on the same zone!
- Proper short-circuit and overload protection must be provided at the distribution panel. You can use up to a 20A maximum circuit breaker/MCB or equivalent (tripping curve C according to IEC60899/EN60899 is recommended) with adequate short-circuit breaking capacity for your installation.
- Fluorescent and electronic low voltage loads require interfaces. Zone loads that exceed 800W/VA and total unit loads that exceed the unit capacity require power boosters. Refer to Appendices C, D, E, and F.

Wire the Control Unit (see Page 16)
1. Strip 1/2 in. (12 mm) insulation from all wires in wallbox and connect them to appropriate terminals on the back of the Control Units. The recommended installation torque is 9.0 in.-lbs. (1.0 Nm) for line voltage connections and 10 in.-lbs. (1.3 Nm) for the earth/ground connection.
2. Each power terminal can accept up to two #12 AWG (2.5 mm²) wires. (Does not apply to Class 2/PELV terminal block.)
Class 2/PELV Wiring

Connect Class 2/PELV wiring only if your project has Accessory Controls and/or more than one Control Unit.

Use recommended cable as specified in Appendix A: More About Class 2/PELV Wiring.

Wiring Note

- Use the rearmost knockouts when pulling wires into the wallbox. This will provide the most clearance when mounting the Control Unit.

1. Strip 1 in. (25 mm) of insulation from the Class 2/PELV cable.
2. Strip 3/8 in. (8 mm) of insulation from each wire.
3. Connect the Class 2/PELV wires to the Class 2/PELV terminal block. Make sure no bare wire is exposed after making connections. The recommended installation torque is 3.5 in-lbs. (0.4 N*m) for Class 2/PELV connections.
4. The Class 2/PELV cable and terminal block should be separated from line voltage/mains cables by at least 1/4 in. (7 mm).

Mounting

1. Mount as shown using the four screws provided. (When mounted in the wallbox, the Class 2/PELV cable and terminal block should remain separated from the line voltage/mains cables.)
2. Reattach the faceplate to the Control Unit by pushing inward at each corner.

Testing: Do the lights work?

1. Restore Power.
2. Press Scene 1 button on front of the GRAFIK Eye Control Unit. The Scene 1 LED will light.
3. Press zone or to raise or lower the light levels. Make sure that the Control Unit is dimming all connected loads. Refer to Appendix G: Troubleshooting, or call Lutron.

STEP 2: Installing Accessory Controls

IMPORTANT WIRING NOTES!

Review Appendix A BEFORE wiring!

- Accessory Controls must be installed by a qualified electrician.
- Accessory Controls use Class 2 or PELV wiring methods as applicable in your locale.
  - Using Class 2 wiring methods: Accessory Controls must be connected in accordance with the 1996 National Electrical Code, Article 725-54(a), (1) Exception No. 3 or the Canadian 1994 CE Code Handbook, Rule 16-212, Subrule (4). Check with your local electrical inspector to comply with local codes and wiring practices.
- Accessory Controls must be mounted in a wallbox. Please refer to instruction sheet included with each Accessory Control to determine wallbox requirements.

Examples of Accessory Controls

- NTGRX-2B-SL Entrance/Special Function Control
- NTGRX-4S Scene Selection Control with Raise/Lower
- NTGRX-4S-IR Scene Selection Control/Infrared Receiver
- NTGRX-4B Scene Selection Control
- NTGRX-4M Master Control
- NTGRX-4PS Partition Control
- GEX-CIR* Infrared Ceiling Receiver
- GEX-4S-DW* ArchitraveTM Door Jamb Control
- GEX-AV* Interface Control
- GEX-RS232* RS-232 Interface Control
- GEX-PGR* Personal Computer Interface
- GEX-IT/GRX-8IT Infrared Handheld Transmitter
- EGRX-4S* European Style 4S Control
- EGRX-4S-IR* European Style 4S Control/Infrared Receiver

... and more!

* Wires like any other Accessory Control, but has special mounting, addressing, and/or programming requirements.
Set DIP switches 1—4 with unique system address

Each Accessory Control must have a unique system address (1—16) to identify the Accessory Control and enable it to communicate with the Control Unit(s). To set its address, set DIP switches 1—4 to one of the configurations shown at right (GRX-PRG automatically assumes address 16). Document your assignments by noting each Accessory Control’s address.

DIP SWITCHES 1—4 SET ADDRESS

For this address . . .

<table>
<thead>
<tr>
<th>SET SWITCHES LIKE THIS:</th>
<th>RECORD LOCATION AND TYPE OF CONTROL HERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1234</td>
<td></td>
</tr>
<tr>
<td>234</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Set DIP switches 5, 6 and/or 7 to specify function

For most Accessory Controls, you must also set DIP switches to specify exactly how the Accessory Control is to function. Please refer to the Instructions shipped with each Accessory Control for more detailed information.

NTGRX-4S, -4S-DW, -4S-IR, -CIR, -4B
Scene Selection Control
Switches 5 and 6 determine which scenes the unit will select:
Scenes 1 to 4 Scenes 9 to 12
Scenes 5 to 8 Scenes 13 to 16

NTGRX-4M
Master Control
Switches 5 and 6 determine whether bottom button turns
lights on or off:
ON only
OFF only

NTGRX-2B-SL
Multi-Control
Switches 5, 6 and 7 determine the function of the unit’s two buttons:
Scene 1 and Off Fine Tuning Control
Scene 9/ Scene 10*
Scene 13/ Scene 14*

* When using an Accessory Control to access scenes 5—16, the scene LEDs will illuminate only on the Accessory Control—not on the GRAFIK Eye Control Unit.

Turn off power and wire

Review Appendix A: More About Class 2/PELV Wiring before proceeding!

1. Mount 1-gang U.S. wallbox*, 2 3/4 in. deep (68 mm) minimum.
2. Strip 3/8 in. (9 mm) insulation from both twisted pairs in the wallbox.
3. Connect two #18 AWG (1.0 mm²) twisted pairs for Class 2/PELV wiring (daisy-chain between stations)†.
4. Confirm all connections.

Mounting

Place twisted pairs in wallbox and mount as shown. Restore power.

* Some Accessory Controls have special mounting considerations. Please refer to the detailed instructions supplied with each Accessory Control.
† If shielded wire is used, the drain wire must also be daisy-chained. Do not connect drain wire to earth/ground or Accessory Control (unless a “D” terminal is present).
STEP 3: Setting Up GRAFIK Eye Control Units

This section shows how to set up a GRAFIK Eye Control Unit, including:

- Identifying the load type for each zone of lighting connected to the Control Unit.
- Setting up the scenes to create the desired lighting effects, and make sure the Control Unit is working correctly.

To set up the GRAFIK Eye Control Unit, enter the “setup mode” and use the menu of setup codes that appear in the FADE window. Step-by-step instructions for using the setup codes are on the following pages.

How to enter and exit setup mode

To enter setup mode: Press and hold the Scene 1 and OFF button for about 3 seconds, until the scene LEDs start cycling.

To exit setup mode: Exit setup mode the same way you entered it. Press and hold the Scene 1 and OFF button for about 3 seconds, until scene LEDs stop cycling. The Control Unit is out of setup mode; back in normal operating mode.

More about the setup codes

In setup mode, the FADE window displays the setup codes. To scroll through the menu of setup codes, press the FADE or buttons.

The following is a list of the setup codes and their descriptions:

<table>
<thead>
<tr>
<th>Code</th>
<th>Stands for</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sa</td>
<td>Save Options</td>
<td>Select from several save options (p. 9)</td>
</tr>
<tr>
<td>Sc</td>
<td>Scene</td>
<td>Set unaffected zones and set any of the 16 scenes (p. 9)</td>
</tr>
<tr>
<td>A-</td>
<td>Address</td>
<td>Identify Control Units when setting up system communications (p. 10)</td>
</tr>
<tr>
<td>LS*</td>
<td>Load Select</td>
<td>Identify load type (p. 7)</td>
</tr>
<tr>
<td>LE</td>
<td>Low End</td>
<td>Set low end trim (p. 8)</td>
</tr>
</tbody>
</table>

* When you enter setup mode, this code appears first.

- If you press FADE, you will see A-, Sc, then Sa.
- If you press FADE, you will see LE.

Identifying the load type for each zone

Lutron ships GRAFIK Eye Control Units with all zones set for incandescent/halogen (tungsten) lighting. If your project has non-incandescent loads, change all non-incandescent zones to the correct load type.

1. Enter setup mode. Press and hold Scene 1 and OFF buttons for about 3 seconds, until scene LEDs start cycling.

2. Check for LS in FADE window. (LS is the first code to appear when you enter setup mode. For the LS mode, ZONE LEDs turn on from top to bottom.)

3. Set each zone’s load type. Press ZONE and until ZONE LEDs match the load type connected to each zone. Refer to chart on next page.

4. Exit setup mode. Press and hold Scene 1 and OFF buttons for about 3 seconds, until scene LEDs stop cycling.

In the 6-Zone Control Unit shown here:

- Zone 5 is set for incandescent or magnetic low-voltage.
- Zone 6 is set for neon/cold cathode.
1. Set all zones connected to HP 2•4•6 Dimming Modules as shown—no matter what load type they are (including non-dim or switching). The HP 2•4•6 can be used to switch non-capacitive ballasts. To fine-tune the dimming of these “HP-powered” zones, you must adjust high- and low-end trim on the HP 2•4•6 Dimming Module as described in the Instruction Sheet supplied with the unit. Do NOT use HP 2•4•6 Dimming Modules with generator-supplied line/mains voltage.

2. All electronic low-voltage (ELV) lighting used with the Electronic Low-Voltage Interface (ELVI) must be rated for reverse phase control dimming. Before installing an ELV light source, verify with the manufacturer that their transformer can be dimmed. When dimming, an ELVI MUST be used with the GRAFIK Eye 3000 Series Control Unit.

3. Any zones set for Lutron Hi-lume or Eco-10 fluorescent lighting must have GRX-FDBI or GRX-TVI Fluorescent Interfaces. Consult Lutron for more information.

4. Please note that the Tu-Wire Compact Fluorescent, unlike other fluorescent load types, does not require an FDBI interface. This load type is not available in GRX-CE models.

5. Use non-dim for any lights to be switched on and off only—not dimmed (unless using HP Dimming Module).

Fluorescent non-dim loads with electronic or magnetic ballasts must: use a GRX-TVI Interface and be set for non-dim mode, or use an HP 2•4•6 and be set for HP 2•4•6 loads.

---

What is a scene?

Scenes are the preset light levels and fade times stored in the Control Unit. To create a scene, set the appropriate intensity for each ZONE. To recall a scene, simply press one of the buttons. The first button calls up Scene 1; the second, Scene 2; and so on. The last button turns lights Off.

For example, typical scene settings for a living room might be:

<table>
<thead>
<tr>
<th>SCENE</th>
<th>ACTIVITY</th>
<th>LIGHT LEVELS FOR ZONES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Family Gathering</td>
<td>Cove 70% 10% Hanging Down 20% 20%</td>
</tr>
<tr>
<td>2</td>
<td>Entertaining</td>
<td>Lights 80% 25% 90% 40%</td>
</tr>
<tr>
<td>3</td>
<td>Reading</td>
<td>Lights 10% 60% 40% 0%</td>
</tr>
<tr>
<td>4</td>
<td>TV</td>
<td>Lights 20% 0% 30% 20%</td>
</tr>
</tbody>
</table>

Scenes 1 through 4 can be selected on the GRAFIK Eye Control Unit. However, all GRAFIK Eye Control Units are capable of storing up to 16 scenes. Scenes 5 through 16 can be selected using Accessory Controls.

---

How to set up lighting scenes

1. Select a scene. Press the Scene button for the scene you want to adjust. (First button for Scene 1, second button for Scene 2, and so on.) Note that the last button is the “Off” Scene. You do not set intensities for this button.

2. Set each zone’s light levels. Press ZONE and to adjust each ZONE to the right visual intensity for this scene. (ZONE LEDs show intensity bargraph-style. Each LED represents ~ 15% intensity change. In this example, ZONE 6 is set to 60%.) To program scenes 5 through 16, or for more precise zone intensity adjustment with a GRAFIK Eye IA Control Unit, refer to page 8.

3. Set scene’s FADE-in time. Press FADE and to make FADE in time anything from 0—59 seconds or 1—60 minutes*. (A scene’s FADE-in time is how long it takes light intensities to adjust to their new levels when the scene is selected.) Repeat this process to set up each of the remaining scenes. Note that you can also set up a “FADE-to-off” time. Press the OFF button and adjust FADE as desired.

* The S and M indicators under the FADE window show whether FADE is “M”inutes or “S”econds. To set FADE in minutes, you press FADE to scroll through 1—59 seconds. . . the M lights. FADE is now expressed in minutes. To get back to seconds, press FADE until the window shows “S” seconds.

---

Note: Control Unit must be in S or M mode. See page 9 for more information regarding Save Options.

To set up scenes 1 through 4:

1. Select a scene. Press the Scene button for the scene you want to adjust. (First button for Scene 1, second button for Scene 2, and so on.) Note that the last button is the “Off” Scene. You do not set intensities for this button.

2. Set each zone’s light levels. Press ZONE and to adjust each ZONE to the right visual intensity for this scene. (ZONE LEDs show intensity bargraph-style. Each LED represents ~ 15% intensity change. In this example, ZONE 6 is set to 60%.) To program scenes 5 through 16, or for more precise zone intensity adjustment with a GRAFIK Eye IA Control Unit, refer to page 8.

3. Set scene’s FADE-in time. Press FADE and to make FADE in time anything from 0—59 seconds or 1—60 minutes*. (A scene’s FADE-in time is how long it takes light intensities to adjust to their new levels when the scene is selected.) Repeat this process to set up each of the remaining scenes. Note that you can also set up a “FADE-to-off” time. Press the OFF button and adjust FADE as desired.
How to adjust light levels temporarily

To adjust an entire scene:
Press the appropriate scene button.
Press MASTER  or  to raise or lower the intensity of all zones.

To adjust a zone:
If the TEMPORARY LED is not already lit, press the TEMPORARY ZONES button. The TEMPORARY LED above the TEMPORARY ZONES button will light.
Press ZONE  or  to adjust any zone’s intensity.

Note: These adjustments are temporary and remain only until a new scene selection occurs—the GRAFIK Eye Control Unit does not store them as permanent scene settings.

Control Unit must be in either  or  mode. See page 9 for more information regarding Save Options.

If necessary, adjust the low-end trim to achieve uniform low-intensity dimming and to eliminate flicker (especially with neon/ cold-cathode and fluorescent loads).

1. Enter setup mode. Press and hold Scene 1 and OFF buttons for about 3 seconds, until scene LEDs start cycling.
2. Select LE (for low end) by pressing FADE once. All zones go to their lowest possible dim levels and only their bottom LED is lit*.
3. Adjust zone’s lights for low-end trim. Use ZONE  and  to dim the zone’s lights as much as possible without causing flicker. This setting becomes the “optimum lowest level” to which the zone will dim before going off. Repeat this process for any other zones that require low-end trim.
4. Exit setup mode. Press and hold Scene 1 and OFF buttons until LEDs stop cycling.

Note: The ZONE LED bargraph does not change while you make low-end trim adjustments. The bargraph remains set to its lowest level in this mode.

How to set low-end trim—OPTIONAL

Advanced Scene Programming Options—OPTIONAL
How to set an “unaffected zone” — OPTIONAL

You can set up a zone to be “unaffected” when a certain scene is selected. (The unaffected zone’s light levels remain unchanged when the new specified scene is selected.)

1. Enter setup mode. Press and hold Scene 1 and OFF buttons about 3 seconds until scene LEDs start cycling.

2. Select 5c (the code for scene setup) by pressing FADE button twice. 5c and 1 (for scene 1) will alternately flash in the FADE window.

3. Select scene. Press MASTER button and ENTER button to select the scene that will have the unaffected zone.

4. Program any ZONE as unaffected. Press ZONE button twice and then hold until all the bargraph LEDs go out and the middle LED light. (It may take up to 10 seconds after the last LED goes out until the middle LED lights.) This zone’s light levels will no longer be affected when this scene is selected. Note that you can set up several zones to be unaffected in a scene.

5. Exit setup mode. Press and hold Scene 1 and OFF buttons until LEDs stop cycling.

How to set Save Options— OPTIONAL

The GRAFIK Eye A/V Series Control Units allow selection of several different Save Options. Follow these steps to access the Save Options.

1. Enter setup mode. Press and hold Scene 1 and OFF buttons for about 3 seconds until scene LEDs start cycling.

2. Select Sd. Press FADE button until Sd is displayed in the FADE window.

3. Select Save Options. Press MASTER button and ENTER button to select between the Save Options:
   - Save by Default. Changing a zone’s intensity level or fade time permanently changes the preset scene. To temporarily change a light level, see “How to adjust light levels temporarily” on page 8.
   - Save by Button. TEMPORARY ZONES LED is normally ON and all intensity and fade changes are temporary unless the TEMPORARY ZONES LED is turned OFF with the TEMPORARY ZONES button.
   - Save Never. TEMPORARY ZONES LED is permanently ON and cannot be turned OFF. In this mode, all intensity changes are temporary.
   - Four Scenes. This only allows the four Scene buttons, OFF button, IR receiver and the MASTER button or ENTER button to operate. All other buttons on the Control Unit are disabled.
   - Button Disable. All buttons on the Control Unit are disabled. IR Receiver, and Accessory Controls are still functional. (Setup mode is still accessible by repeating Step 1.)

4. Exit setup mode. Press and hold Scene 1 and OFF buttons until scene LEDs stop cycling.
STEP 4: Setting Up System Communications

This section shows how to set up communications between Accessory Controls and the Control Units they should operate.

Do not set up communications if . . .

- You have only one Control Unit and . . .
- You have up to three of the following Accessory Controls: NTGRX-4S, -4B, -4S-IR, -4S-DW, or EGRX-4S, -4S-IR, in any combination.

Do set up communications if . . .

- You have more than one Control Unit or . . .
- You have Accessory Controls other than the NTGRX-4S, -4B, -4S-IR, -4S-DW, or EGRX-4S, -4S-IR.

Why do you set up communications?

- You have only one Control Unit and . . .
  - you have up to three of the following Accessory Controls: NTGRX-4S, -4B, -4S-IR, -4S-DW, or EGRX-4S, -4S-IR, in any combination.

Close this manual and relax — your project will work as specified without any further wiring or setup!

IMPORTANT!

First check Class 2/PELV wiring.

Before you set up communications, make sure your Class 2/PELV system interconnections are working.

- Select Scene 1 (press the top button) on one of the Control Units.
- Is Scene 1 selected on all other Control Units and NTGRX-4S controls?
  - YES: Class 2/PELV wiring is OK. Proceed.
  - NO: Class 2/PELV wiring has a miswire. Check for loose connections, shorted or crossed links. Refer to Appendix A for details on Class 2/PELV wiring.

OR

GRAFIK Eye Control Unit has been addressed to other than R- (factory default). See below for more information on addressing Control Units.

Assign addresses to GRAFIK Eye Control Units

Assign each GRAFIK Eye Control Unit in your project a unique system address (R1 through R8).

To assign an address:

1. Enter setup mode. Press and hold Scene 1 and OFF buttons about 3 seconds, until scene LEDs cycle.
2. Select R- (the address display). Press FADE once, R- appears in the FADE window.
3. Assign a unique address. Press MASTER once, the next “free” (unassigned) address automatically appears in the FADE window. This will be the Control Unit’s address. (If you are working on the first Control Unit in the project, R1 will appear.)
4. Exit setup mode. Press and hold Scene 1 and OFF buttons about 3 seconds, until the LEDs stop cycling.
5. Repeat steps 1 through 4 for each GRAFIK Eye Control Unit.
How to set up an Accessory Control to “talk” to a “listening” Control Unit.

In order for Accessory Controls to communicate with a Control Unit, each Accessory Control must be individually configured to “talk.”

1. Enter setup mode.
   - Press and hold top Scene and OFF button for 3 seconds . . .
   - LEDs cycle—Accessory Control is “talking”

2. Make the Control Unit “listen.”
   - Press and hold Scene 1 button for 3 seconds
   - LEDs flash in unison—Control Unit is “listening”

3. Take the Accessory Control out of setup mode.
   - Press and hold top Scene and OFF button for 3 seconds . . .
   - LEDs stop cycling

The communication link is now established. The Control Unit will “listen” when the user presses a button on the Accessory Control. You can proceed to the next Accessory Control and set up its communications.

For more specific, step-by-step instructions about setting up communications for each type of GRAFIK Eye Accessory Control, please refer to the instructions included with each Accessory Control.

How to set up 2-way communication between 2 (or more) Control Units.

This page explains how to use 2-way communications to set up lighting effects for more than six zones (the maximum number of zones any one A/V Series Control Unit can operate).

When you set up two-way communications between Control Units, selecting a scene at any one of these Units automatically activates the same scene in the others. By linking eight 6-Zone Control Units, you can create scenes that control the intensity of up to 48 zones. This “large-zone” capability is ideal for large spaces with dramatic lighting that changes frequently (e.g., churches).

Set up communications in one direction . . .

For example: 16-Zone Control

- Selecting a scene on A1 . . . . . . Activation on A2
- Therefore, activation is on A3
- Therefore, activation is on A4
- Therefore, activation is on A5
- Therefore, activation is on A6
- Therefore, activation is on A7
- Therefore, activation is on A8
- Therefore, activation is on A9
- Therefore, activation is on A10
- Therefore, activation is on A11
- Therefore, activation is on A12
- Therefore, activation is on A13
- Therefore, activation is on A14
- Therefore, activation is on A15
- Therefore, activation is on A16

Set up communications in one direction . . . then the other.

1. Put A1 in setup mode. Press and hold Scene 1 and OFF buttons for about 3 seconds, until LEDs cycle.
2. Identify the Control Units to “listen” (A2 and up to 6 others). Press and hold the Scene 1 button for about 3 seconds until LEDs flash in unison, showing that these Control Unit(s) are “listening” to A1. (To make a “listening” Control Unit not listen to A1: Put A1 in setup mode, then press the “listening” Control Unit’s OFF button until the LEDs stop flashing.)
3. Take A1 out of setup mode. Press and hold Scene 1 and OFF buttons for about 3 seconds, until LEDs on A1, and all other linked Control Unit(s), stop cycling.
   - You have set up communications in one direction between A1 and all “listening” Control Units.
4. To complete the two-way communication, reverse the process described above: Put A2 in setup mode; then make A1 (and any other Control Units) “listen”; then take A2 out of setup mode.
Appendix A: More about Class 2/PELV Wiring

This appendix explains the Class 2/PELV wiring used to carry communications between GRAFIK Eye Control Units and Accessory Controls.

Lutron requires that you connect (daisy-chain) all GRAFIK Eye A/V Series Control Units and Accessory Controls with two twisted pair for operation. If shielded wire is used, the drain wires must be connected to each other or to Terminal D, if present. Drain wires should not be connected to Earth/Ground.

- One pair is for the low-voltage power wiring that enables each GRAFIK Eye Control Unit to supply power to up to three Accessory Controls. Connect this twisted pair to terminals 1 (COMMON) and 2 (12VDC). Terminate the 12VDC power to ensure that each Control Unit powers no more than three Accessory Controls.
- The second pair is for a data link (up to 2000 ft. or 450 m long) that enables Accessory Controls to communicate with GRAFIK Eye Control Units. Connect this twisted pair to terminals 3 (MUX) and 4 (MUX) of every Control Unit and Accessory Control.

Each twisted pair in the Class 2/PELV wiring link should consist of two #18 AWG (1.0 mm²) stranded conductors.

Lutron offers a one-cable (non-plenum), low-voltage solution. Please ask for P/N GRX-CBL-346S.

Recommended unshielded cables:
- For non-plenum installations, use (2) Belden 9470, (1) Belden 9156, or (2) Liberty 181P/2C-EX-GRN, or equivalent.
- For plenum installations, use (2) Belden 82740, or equivalent.

Accessory Control circuits are classified as Class 2 circuits (U.S.A) and PELV circuits (IEC). Unless otherwise specified, the voltages do not exceed 24VAC or 15VDC. As Class 2 circuits, they comply with the requirements of NFPA 70. National Electrical Code (NEC). As PELV circuits, they comply with the requirements of IEC 60364-4-41, VDE 0100 Part 410, BS7671:1992 and other equivalent standards. When installing and wiring to these Accessory Controls, follow all applicable national and/or local wiring regulations. External circuits connected to input, output, RS232, DMX512, and other communication terminals of Accessory Controls, must be supplied from a Listed Class 2 source or comply with the requirements for PELV circuits as applicable in your country.

The GRAFIK Eye 3000 Series Control Unit Class 2/PELV circuit is 12VDC.

What is PELV?

In countries that abide by the IEC regulations, PELV is commonly referred to as Protective Extra-Low Voltage. A PELV circuit is an earthed circuit in which the voltage cannot exceed 50VAC or 120V ripple-free DC. The power source must be supplied by a safety isolating transformer or equivalent.

IMPORTANT WIRING NOTE!

Proper separation is required between the Line Voltage/Mains cables and PELV cables. Use certified cable for all Line Voltage/Mains cables and PELV cables. Cable bearing HAR or national certification marks are acceptable, provided it covers all applicable wiring regulations for fixed installations. See Important Wiring Note on page 3.

A small project: One Control Unit with up to three Accessory Controls

Each Control Unit can power up to three Accessory Controls. If you need to power more than three Accessory Controls from one Control Unit, install an external 12VDC power supply as described later in this section.

IMPORTANT WIRING NOTES!

1. Daisy-chain the terminal 1, terminal 2, terminal 3, and terminal 4 connections to all Control Units and Accessory Controls. The Control Unit has its own power supply.
2. Each Control Unit can power up to three Accessory Controls. If you need to power more than three Accessory Controls from one Control Unit, install an external 12VDC power supply as described later in this section.
3. Lutron recommends that all connections be made in the unit wallbox. Remote connection must be in a switchbox or junction box with a maximum wire length of 8 ft. (2.5 m) from the link to the connected unit.

Note: Do not allow Class 2/PELV wires to contact line/mains wires. Refer to Class 2/PELV wiring on page 4.
A large project: Up to 8 Control Units and 16 Accessory Controls

**IMPORTANT WIRING NOTES!**

1. Daisy-chain the terminal 1, terminal 3, and terminal 4 connections to all Control Units and Accessory Controls. Each Control Unit has its own power supply. Terminate the terminal 2 connection (12VDC power) so that:
   - Each Control Unit supplies power to a maximum of three Accessory Controls.
   - Each Accessory Control receives power from only one Control Unit.

2. Lutron recommends that all connections be made in the Control Unit’s wallbox. Remote connection must be in a switchbox or junction box with a maximum wire length of 8 ft. (2.5 m) from the link to the connected unit.

**Note:** Do not allow Class 2/PELV wires to contact line/mains wires. Refer to Class 2/PELV wiring on page 2.

**Installing an external power supply**

Install an external Class 2/PELV rated 12VDC power supply as shown below. This power must be Class 2/PELV rated and be a regulated supply rated for at least 50 mA per Accessory Control on the link. It can supply power to up to 16 Accessory Controls, enabling you to use up to 16 Accessory Controls with one Control Unit.

Use an external power supply if you need to power more than 3 Accessory Controls from a single Control Unit or if your wire lengths exceed maximums. Power supplies do not boost data line signals. The distance limitation for the data line is 2000 ft. (450 m).

Make sure you review the manufacturer’s instructions before installing.

Lutron offers a 12VDC transformer for 120V applications. Please ask for P/N GRX-12VDC.

**IMPORTANT WIRING NOTES!**

1. Connect the +12VDC wire from the power supply to the terminal 2 connection on all Accessory Controls. Do not connect this wire to any Control Units on the link. Be sure that the terminal 1 connection is made to all Accessory Controls and Control Units.

2. Lutron recommends these maximum distances from the external 12VDC power supply to the sixteenth Accessory Control:
   - #18 AWG (1.0 mm²) wire: 575 ft. (170 m).
   - #12 AWG (2.5 mm²) wire: 2000 ft. (450 m).

Note that the allowable maximum distance depends on the number of Accessory Controls in the system. Please see Application Note W14 or consult the Lutron Technical Assistance Hotline for more detailed information.
Spacing of the GRAFIK Eye A/V Series Control Unit

When mounting multiple GRAFIK Eye A/V Series Control Units near each other, the following spacing and ventilation guidelines are required for proper operation.

1. All GRAFIK Eye A/V Series Control Units MUST be mounted in a standard U.S. Wallbox. These are available from Lutron:
   - For two-zone Control Units, Power Boosters, Fluorescent Interfaces, and Electronic Low-Voltage Interfaces, use two P/N 241-519 single-gang wallboxes.
   - For three-zone Control Units, use three P/N 241-519 single-gang wallboxes.
   - For four-zone (or larger) Control Units, use one P/N 241-400 four-gang wallbox.

2. All GRAFIK Eye A/V Series Control Units, Power Boosters, Fluorescent Interfaces, and Electronic Low-Voltage Interfaces MUST have 4 1/2 in. (11 cm) of space above and below the faceplate to dissipate the heat caused by normal operation.

Panel Mounting

- The enclosure must be in accordance with all local and national electrical codes.
- Lutron does not recommend using a door to enclose the front of a panel, since this restricts airflow to the GRAFIK Eye A/V Series Control Units and Interface Devices.
- If mounting multiple GRAFIK Eye A/V Series Control Units or Interface Devices in an enclosure:
  1. Ambient temperature within an enclosure must remain between 32°—104° F (0°—40° C).
  2. If not mounting in a metal enclosure, all units must be mounted in a wallbox. Refer to Wallbox Mounting above.
- To improve heat dissipation of Interface Units, (i.e., NGRX-PB, GRX-ELVI, etc.), remove the faceplate from the unit.

IMPORTANT NOTE:
GRAFIK Eye A/V Series Control Units and Interface Devices, such as NGRX-PB, dissipate heat when operating. Obstructing these units can cause malfunction to both the Control Unit and the Interface Device if ambient temperature does not remain between 32°—104° F (0°—40° C).

Appendix C: Power Boosters, Electronic Low-Voltage Interfaces, and Fluorescent Dimming Ballast Interfaces

This “load-side” equipment installs on the zone wiring between the Control Unit and the lighting load. The PB increases a Control Unit’s zone load capacity for Incandescent/Halogen (Tungsten), Magnetic Low Voltage, and Neon/cold Cathode load types. The ELVI enables a zone of the Control Unit to control electronic low-voltage loads. The FDBI enables a zone on the Control Unit to operate fluorescent loads outfitted with Lutron’s Hi-Lume or Eco-10 phase-controlled dimming ballasts.

CAUTION! Test load for short circuits.

- Turn power off.
- PB/ELVI: Connect standard switch between hot/live lead and the load wire to test circuit.
- FDBI: Connect standard switch between hot/live lead and the dimmed hot/live and switched hot/live leads of the ballast.
- Turn power on and check for short or open circuits.

Wiring instructions

1. Turn off power to the Control Unit and the feed to the PB, ELVI, or FDBI!
2. Mount 2-gang wall box: 3 1/2 in. (87.5 mm) deep recommended, 2 3/4 in. (68.75 mm) minimum. When mounting several units one underneath the other, allow at least 4 1/2 in. (11 cm) between units.
3. Strip 1/2 in. (12 mm) insulation from #12 (2.5 mm2) 75 °C copper (CU) AWG wires and connect as shown. Please see the Instruction Sheet supplied with the unit for more detailed wiring diagrams.
**Appendix D: GRX-TVI 0-10 Volt Ballast and Switching Interface**

The GRX-TVI provides 0-10V control and ballast switching capabilities in one enclosure. The interface gives GRAFIK Eye A/V Series Control Units the ability to control 0-10V ballasts powered by 100V to 277V and provides switching relays that can handle the in-rush current of ballasts. The interface gives GRAFIK Eye A/V Series Control Units the ability to both dim and switch electronic ballasts, such as Lutron’s Eco-10 (TVE models).

### FEATURES

- Provides a Class 2/PELV isolated 0-10V output signal that conforms to EN60929 and IEC60929. Complies with UL Standard 508.
- Accepts a constant-gate drive fluorescent signal. (100-127V, 220-240V, 50/60Hz).

### CONTROL INPUT POWER RATING

<table>
<thead>
<tr>
<th>Load Type</th>
<th>Switched Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent (with Lutron TVE ballasts)</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Fluorescent (with ballasts by others)</td>
<td>5A 5AX</td>
</tr>
<tr>
<td>Incandescent</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Low Voltage</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Metal Halide</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Neon/Cold Cathode</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Motor @ 100-127V</td>
<td>1/4Hp</td>
</tr>
<tr>
<td>Motor @ 220-277V</td>
<td>1/2Hp</td>
</tr>
</tbody>
</table>

### OUTPUT SWITCHING CAPACITIES

<table>
<thead>
<tr>
<th>Load Type</th>
<th>Switched Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incandescent</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Fluorescent</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Magnetic Low-voltage</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Electronic Low-voltage</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Neon/Cold Cathode</td>
<td>16A 10A</td>
</tr>
<tr>
<td>Motor @ 100-127V</td>
<td>1/4Hp</td>
</tr>
<tr>
<td>Motor @ 220-277V</td>
<td>1/2Hp</td>
</tr>
</tbody>
</table>

### TERMINALS

- **Mounting**
- **Environmental**
- **Weight**

### INSTALLATION

Mount vertically on a wall using four screws. Use the unit to mark the position of the holes.

Terminal blocks on the PCB accept up to two #12 AWG (2.5 mm²) wires. This allows the interface to be wired in multiple ways. The GRX-TVI can be wired from one or two distribution panels. The switched power can be from a different source than the control power.
For phase-to-phase wiring, connect one phase to Hot/Live and the other phase to Neutral. When wired phase-to-phase, there is no air gap when the Control Unit is Off: the MCB(s) must be turned off when servicing the Control Unit or associated loads.

* For phase-to-phase wiring, connect one phase to Hot/Live and the other phase to Neutral. When wired phase-to-phase, there is no air gap when the Control Unit is Off: the MCB(s) must be turned off when servicing the Control Unit or associated loads.
Appendix E: HP 2•4•6 Dimming Modules (120V control feed only)

Not for use with generator-supplied power! HP 2•4•6 Modules increase the load capacity of a zone in a Control Unit from 800W/VA to:
- 1920W/VA with the HP•2
- 3840W/VA with the HP•4
- 5760W/VA with the HP•6
- Up to 28,800W/VA by daisy-chaining five HP•6 Modules.

Specifications

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MODEL NUMBER</th>
<th>NO. OF OUTPUTS TO LOAD CIRCUITS</th>
<th>CAPACITY@120VAC, 20A</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPERATING</td>
<td>HP•2</td>
<td>1</td>
<td>1920W/VA</td>
</tr>
<tr>
<td></td>
<td>HP•4</td>
<td>2</td>
<td>3840W/VA</td>
</tr>
<tr>
<td></td>
<td>HP•6</td>
<td>3</td>
<td>5760W/VA</td>
</tr>
<tr>
<td>ENVIRONMENTAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPACITIES</td>
<td></td>
<td>DIMMED</td>
<td>SWITCHED</td>
</tr>
<tr>
<td>PER LOAD</td>
<td></td>
<td>120VAC/277VAC</td>
<td>120VAC/277VAC</td>
</tr>
<tr>
<td>CIRCUIT</td>
<td></td>
<td>OUTPUT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incandescent</td>
<td>16A</td>
<td>10A</td>
</tr>
<tr>
<td></td>
<td>Magnetic/electronic low voltage; neon/cold cathode</td>
<td>16A</td>
<td>10A</td>
</tr>
<tr>
<td></td>
<td>Hi-lume or ECO-10 Fluorescent</td>
<td>16A</td>
<td>16A</td>
</tr>
<tr>
<td></td>
<td>Fluorescent (non-dim)</td>
<td>—</td>
<td>16A</td>
</tr>
<tr>
<td></td>
<td>Metal Halide</td>
<td>N/A</td>
<td>10A</td>
</tr>
</tbody>
</table>

MAXIMUM HEAT DISSIPATION 200BTU per hour per load circuit output.
* For neon/cold cathode light sources, consult Lutron Application Note #25.

Choosing a mounting location

- Must be within 1000 ft. (300 m) of the Control Unit.
- Must allow for adequate cooling. (Make sure ambient temperature is 32°—104 °F (0°—40 °C). Allow for adequate air space.
- Must be at least 6 ft. (1.8 m) away from sensitive electronic equipment.
- Must be placed where the HP 2•4•6’s slight operating noise is acceptable.

IMPORTANT!

Leave the HP 2•4•6’s factory-installed bypass jumpers in place until you have installed and tested the Module.

Mounting

1. Hold unit vertically.
2. Mark and drill holes.
3. Using the keyed upper holes for easy positioning, secure the unit to the wall.

Please see the Instruction Sheet provided with the unit for more detailed programming instructions.

Appendix D: Wiring overview

A GRX Interface is required for each fluorescent dimming zone. (A 3-zone Control Unit with two fluorescent zones and one incandescent zone is shown as an example.)

Please note that the power feed to the Control Unit and Hi/L2 of the GRX Interface must be the same phase!
## Appendix G: Troubleshooting

If the GRAFIK Eye lighting controls in your project aren’t working as specified...  
- Consult the chart below to identify and correct the problem.  
- If necessary, call Lutron.

### Problem
<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit does not turn lights on</td>
<td>Switch breaker/MCB on.</td>
</tr>
<tr>
<td>Unit does not control load</td>
<td>Miswire</td>
</tr>
<tr>
<td>ZONE control does not work</td>
<td>Miswire</td>
</tr>
<tr>
<td>1 or more zones are “full-on” when any scene is on and zone intensity is not adjustable (and zone is not a non-dim)</td>
<td>Miswire</td>
</tr>
<tr>
<td>A ZONE control affects more than one zone</td>
<td>Miswire</td>
</tr>
<tr>
<td>Accessory Control does not function properly</td>
<td>Miswire or loose connection</td>
</tr>
<tr>
<td>Faceplate is warm</td>
<td>Normal</td>
</tr>
<tr>
<td>Unit does not allow scene changes or zone adjustments</td>
<td>Unit may be set to an optional Save Option.</td>
</tr>
</tbody>
</table>

### Infrared Transmitters

GRAFIK Eye Control Units are equipped with an Infrared Receiver. This allows control of the Control Unit with the optional Handheld Infrared Wireless Remote Control Transmitters. The Infrared Transmitters control 4 (or 8) scenes plus master raise/lower and Off. With this you can recall scenes or fine-tune light levels.

### Infrared Interference

All GRAFIK Eye A/V Series Control Units are equipped with an IR Receiver for use with Lutron GRX-IT and GRX-8IT handheld remote controls. The IR frequency for all Control Units is 40.000 KHz. Any other device continuously operating in the frequency range from 30 KHz to 50 KHz may cause either no response or unwanted scene changes on the Control Unit. Fluorescent ballasts are a known cause of IR interference to the Control Unit and Accessory Controls. Lutron dimming ballasts have been thoroughly tested to ensure that there is no IR interference with any GRAFIK Eye product. However, other manufacturer’s ballasts may cause interference. It is the responsibility of the contractor to determine the operating frequency of the ballasts used on the project. Lutron takes no responsibility for ballast interference to the GRAFIK Eye system.

### Appendix F: Infrared Transmitters

<table>
<thead>
<tr>
<th>Infrared Transmitters</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GRX-IT</strong></td>
<td></td>
</tr>
<tr>
<td>Scene Buttons (1—4)</td>
<td></td>
</tr>
<tr>
<td>Off Button</td>
<td></td>
</tr>
<tr>
<td>Master Raise/Lower</td>
<td></td>
</tr>
<tr>
<td><strong>GRX-8IT</strong></td>
<td></td>
</tr>
<tr>
<td>Scene Buttons (5—8)</td>
<td></td>
</tr>
<tr>
<td>Off Button</td>
<td></td>
</tr>
<tr>
<td>Master Raise/Lower</td>
<td></td>
</tr>
</tbody>
</table>

### Infrared Transmitters

All GRAFIK Eye A/V Series Control Units are equipped with an Infrared Receiver. This allows control of the Control Unit with the optional Handheld Infrared Wireless Remote Control Transmitters. The Infrared Transmitters control 4 (or 8) scenes plus master raise/lower and Off. With this you can recall scenes or fine-tune light levels.

### Infrared Interference

All GRAFIK Eye A/V Series Control Units are equipped with an IR Receiver for use with Lutron GRX-IT and GRX-8IT handheld remote controls. The IR frequency for all Control Units is 40.000 KHz. Any other device continuously operating in the frequency range from 30 KHz to 50 KHz may cause either no response or unwanted scene changes on the Control Unit. Fluorescent ballasts are a known cause of IR interference to the Control Unit and Accessory Controls. Lutron dimming ballasts have been thoroughly tested to ensure that there is no IR interference with any GRAFIK Eye product. However, other manufacturer’s ballasts may cause interference. It is the responsibility of the contractor to determine the operating frequency of the ballasts used on the project. Lutron takes no responsibility for ballast interference to the GRAFIK Eye system.