Installer’s Guide

RadioRA® Dimmers
• Turn lights in a room on and off
• Dim lights in each room or area
• Preset light level for each room

RadioRA® 10-Button Tabletop Master
• Turns all lights on and off
• Controls groups of lights preset as a lighting scene
• Monitors on or off status of lights
• Adapter power for real time light status monitoring, or battery power for portability

RadioRA® Visor Control Transmitters
• Turns lights on to preset levels and off from the car
• Operates garage doors from the car
• HomeLink® compatible

RadioRA® RF Signal Repeater
• Ensures reliable system communications and function
• Allows for future system expansion

RadioRA® Multi-Function Entry Master Control
• Enables use of Visor Control Transmitters
• Functions as an additional Master Control
• Operates garage doors

RadioRA® Quick Start Wireless Home Lighting Control System

Package Contents:
(5) 600 W Dimmers
(2) 3-Way Accessory Dimmers
(1) 10-Button Tabletop Master Control

(1) Multi-Function Entry Master Control
(2) Car Visor Control Transmitters
(1) RF Signal Repeater

These instructions are for RALB-QS-CAR and RBLB-QS-CAR.
1. For information on integrating your RadioRA® system with a photocell, telephone interface, shade motor control, etc... see the RadioRA Application Notes on our web page at www.lutron.com/applicationnotes.

2. RadioRA lighting control systems use radio frequency technology for communication. Currently, RadioRA lighting control systems are available in two frequencies. To determine the frequency of a RadioRA product, examine the model number on the product’s unit label. The labels are located on the side of all “wallbox” products, and on the bottom of all “tabletop” products.

   The second letter in all RadioRA model numbers indicates the product’s frequency. For example: RA-6D is an “A” frequency product; whereas, RB-6D is a “B” frequency product.

   **Note:** Do not mix RadioRA “A” and “B” frequency products within the same system/residence. Products with different frequencies are not compatible.

   If you have any questions concerning the installation or operation of this product, please call the **Lutron Technical Support Center at 1-800-523-9466.**

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**Attention**

This is a quick start system, which requires minimal programming for a typical installation. Should a device be added, removed, or returned to factory default settings, additional programming will be required.

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**Safety Information**

- **This symbol is intended to alert the user to the presence of important installation and operating instructions.**

- **Danger**

  This RadioRA system must not be used to control equipment, other than lighting, which is not visible from every master or local control location. It also must not be used to control equipment which could create hazardous situations such as entrapment if operated accidentally. Examples of equipment which must not be controlled by this RadioRA system include (but are not limited to) motorized gates, garage doors, industrial doors, microwave ovens, heating pads, etc. It is the installer’s and user’s responsibility to ensure that the equipment, other than lighting, being controlled is visible from every master or local control location and that only suitable equipment is connected to this RadioRA system.

  An exception to the above is the Multi-Function Entry Master Control, which can be used to control equipment such as garage doors and motorized gates; provided, however, that this non-lighting equipment being controlled by the Multi-Function Entry Master Control is visible from the Multi-Function Entry Master Control and every Visor Control Transmitter location. It is the installer’s and user’s responsibility to ensure that this requirement is satisfied and that only suitable equipment is connected to the Multi-Function Entry Master Control.
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Package Contents and Tools Needed For Installation

⚠ Please read all of Section 1 “Getting Started” and Section 2 “Installation” before proceeding.

Package Contents

- 600 W Dimmers (5)
- 3-Way Accessory Dimmers (2)
- 10-button Tabletop (10T) Master Control (1)
- Multi-Function Entry (MFE) Master Control (1)
- Visor Control Transmitters (VCTX) (2)
- RF Signal Repeater (1)
- Adapters AC (2) DC (1)
- Button Name Label sheets (7)
- Prepaid Engraving Certificate (1)
- Lutron terminal block screwdriver (1)
- #1 Phillips head screws (14)
- Wire connectors (7)
- Yellow (7)
- Slotted screwdriver
- Phillips screwdriver
- Wire stripper
- Wire cutter
- Pencil
- Pocket Knife (optional)
- Cotton Swab (optional)

Is your package missing anything?
Please call Lutron Customer Service at (888) 588-7661 between the hours of 8 am and 8 pm M-F (EST).
Programming Overview
Refer to the illustrations below for an overview of the typical programming that is included with this package.
1. Plan the location of all the system components

Example System Layout

All components must be located within 30 feet (9 m) in any direction of the RF Signal Repeater.

RF Signal Repeater Location:
Place RF Signal Repeater in a central location that is within 30 feet (in any direction, including above and below) of the 10T Master Control, MFE Master Control, and all Dimmers. The RF Signal Repeater can be hidden under a sofa, placed in a closet, or any other out-of-the-way location.

Suggested 10T Master Control Location:
Adapter Power: Place Master Control on a bedside table. With one glance it can be determined if Dimmers are on or off.
Battery Power: Place Master Control on coffee table, end table or kitchen island.

Suggested MFE Master Control Location:
Place where standard garage door opener controls are located, to allow for simple wiring of MFE garage door outputs.

Suggested Visor Control Transmitter Locations:
Attach to the sun visor in each of two vehicles.
When installing a system, keep in mind that more than one dimmer may be programmed to a Master Control button. When additional dimmers need to be added to the system, programming can be minimized later by placing one Quick Start dimmer in each room and using non-Quick Start dimmers for the remaining dimmers. For instance, if two dimmers are needed for the Hall, place one Quick Start dimmer and one non-Quick Start dimmer in the Hall.

**Suggested Dimmer Locations:**

Use Dimmers to control the lights in the busiest areas of your home, such as the Foyer, Kitchen, Family Room, Main Hallway, and Bedroom. Other possible locations are Kitchen Nook, Kitchen Island, Dining Room, Bathroom, and Mudroom.

All of the Dimmers included in this package can replace single-location (lights controlled by only one switch) or multi-location (lights controlled by more than one switch) installations.

The placement of Dimmer 1 should be carefully considered. In the Away scene for the MFE and Visor Controls, all Dimmers will be turned OFF, except Dimmer 1, which will be turned ON. This programming can be changed to turn ON any other dimmers in the Away Scene (see page 13).

**Accessory Dimmer Locations:**

Two Accessory Dimmers are included in this package to allow for 1 or multi-location installations. Some homes do not have multi-location installations. In these cases, the Accessory Dimmers will not be installed.

**2 Record the Dimmer Locations:**

Dimmers are labeled with numbers 1-5. Use the Dimmer Location Chart below to record the location of each Dimmer.

**Dimmer Location Chart**

<table>
<thead>
<tr>
<th>Typical ROOM Name</th>
<th>Your ROOM Name</th>
<th>Accessory Dimmer Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master Bedroom</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**3 Place Dimmer Location Labels on Master Controls:**

Use tip of pocket knife to carefully remove desired labels from sheet and place onto Master Control.

Use cotton swab to smooth all labels into place.
Component Installation

Important Notes

1. **Caution:** To avoid overheating and possible damage to other equipment, do not use the included 6D Dimmers to control receptacles, fluorescent lighting fixtures, motor-operated or transformer-supplied appliances. For more information on controlling these load types, contact the Lutron Technical Support Center at 1-800-523-9466.

2. Use the included 6D Dimmers with 120 V incandescent or magnetic low voltage lighting fixtures only. Do not use with electronic low-voltage transformers. For more information on controlling electronic low-voltage loads, contact the Lutron Technical Support Center at 1-800-523-9466.

3. Install in accordance with all national and local electrical codes.

4. When no “ground means” exists within the wallbox, then NEC 2005 404-9 exception to (b) allows a control without a ground connection, to be installed as a replacement. For this type of installation, cap or remove the green control ground wire. A control installed under this exception (NEC 2005 404-9 exception to (b)) must be provided with a plastic, noncombustible, UL listed wallplate.

5. Do not paint controls or wallplates.

6. The total wattage of all light bulbs controlled by each dimmer must be between 50 and 600 watts. Refer to the Installation Instructions packaged with each Dimmer for important derating information when ganging with other devices.

7. Dimmers work with most incandescent light bulbs. Dimmers may not work with dioded light bulbs (Sylvania Designer 16™ or Philips PAR-16™).

8. Operate in temperatures between 0°C (32°F) and 40°C (104°F).

9. Dimmers may feel warm to the touch during normal operation.

10. Recommended wallbox depth: 3-1/2” deep recommended, 2-1/2” deep minimum.

Installation

1. **Install Repeater**
   Plug the included AC adapters into standard receptacles.

2. **Install Dimmers and Accessory Dimmers.**
   Refer to the Installation Instructions included with the dimmers and install according to the Dimmer Installation Chart you completed on page 7.

3. **Install 10T Master Control**
   Plug the included DC adapter into a standard receptacle, or install (2) AAA alkaline batteries.

4. **Install MFE Master Control**
   **Wire inputs and outputs according to the Installation Instructions included with the control.**
   Plug the included AC adapter into a standard receptacle.
Verifying Installation

If any device does not function as described below, see the Troubleshooting Section.

1 Dimmers
   Tap the tapswitch on each Dimmer. Each Dimmer will turn on.

   Tap the tapswitch on each Dimmer again. Each Dimmer will turn off.

2 10T Master Control
   Press the bottom-most button in the left column (ALL ON). All Dimmers will turn on rapidly to full intensity.

   Press the bottom-most button in the right column (ALL OFF). All Dimmers will turn off.

3 MFE Master Control
   Press the ALL ON button. All Dimmers will turn on rapidly to full intensity.

   Press the ALL OFF button. All Dimmers will turn off.

4 Visor Control Transmitter (VCTX)
   Press the White Button. All Dimmers will turn on to 90%.

   Press the Gray Button. Dimmer 1 will dim to 50%; all other Dimmers will turn off.

   Press the Gray Button with the White circle. The Garage 1 LED on the MFE will briefly light. If a garage door is properly wired to the MFE output 1, it will operate when this button is pressed.

   If any device does not function as described above, see the Troubleshooting Section.

Congratulations! Your system is now installed. Please complete the Device Location chart on page 2 of the Homeowner’s Guide and review operation of the system with the Homeowner.
**Personalizing the System**

**Customizing Buttons**
This Quick Start Package has been configured to fit typical installations. The system can be customized to suit the user’s needs. For example, the button labels on the 10T, MFE, and VCTX can be changed when the button’s programming changes. Also, the Dimmers that are assigned to the buttons and the garage door that the Visor Control Transmitter opens can be changed.

⚠️ At this point, it may be helpful to walk the Homeowner through using their system. This will help you determine what programming changes, if any, are needed.

### 1 Record the SCENE names:
Fill out the Scene names in the SCENES chart. A sample of the most common Scenes will be used as a guide throughout setup and are already programmed when the system was installed—feel free to use these examples or create new ones.

<table>
<thead>
<tr>
<th>Button Number</th>
<th>Typical Scene Name</th>
<th>Your Scene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Welcome</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Morning</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Evening</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Bedtime</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Night Light</td>
<td></td>
</tr>
</tbody>
</table>

**10T Master Control SCENES**

### 2 Apply Labels

a. Be sure to have clean hands—any dirt on fingers can get under the labels permanently.

b. Use a pocket knife or other small thin instrument to help place the labels cleanly.

c. Use a cotton swab to firmly press label in place.
Customizing Preset Levels
This section describes changing the preset levels for Master Control buttons.

Note: To change the Dimmers assigned to MFE Security Buttons, see “Programming the FULL and FLASH Buttons” in the Setup and Installation Guide For a RadioRA® Multi-Function Entry Master Control (P/N 044-022) that came with your MFE Master Control. Dimmers can be added or removed from the 10T and MFE buttons—see the Start-Up section of the RadioRA Setup Guide (P/N 044-001) that came with your RF Signal Repeater.

3 Plan Scenes

The programmed levels for the ROOM and SCENE buttons can be customized. Use the Scene Reference Chart below to plan Scene programming changes before beginning the next step.

Scene Reference Chart

![Scene Reference Chart Diagram]

Plan Scenes

The programmed levels for the ROOM and SCENE buttons can be customized. Use the Scene Reference Chart below to plan Scene programming changes before beginning the next step.

LED 7
90-100%
LED 4
50-60%
LED 1
10-20%

4 Set Levels on 10T and MFE

a. Press the button (buttons 1 through 10 on 10T; buttons 1 through 7 on MFE) that is to be programmed.
b. Adjust each Dimmer to the desired level using the Scene Reference Chart for Scene buttons.
c. Press and hold that button to save the level. The corresponding LED will first flash, turn on, blink twice, and then remain on (this will take 5-8 seconds).
d. Repeat steps a-c for all buttons.

Typical Configuration:

<table>
<thead>
<tr>
<th>ROOM NAMES (from chart on page 7)</th>
<th>10T</th>
<th>MFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCENES</td>
<td>Entry</td>
<td>Kitchen</td>
</tr>
<tr>
<td>Welcome</td>
<td>LED #6</td>
<td>LED #6</td>
</tr>
<tr>
<td>Morning</td>
<td>LED #5</td>
<td>LED #5</td>
</tr>
<tr>
<td>Evening</td>
<td>LED #4</td>
<td>LED #4</td>
</tr>
<tr>
<td>Bedtime</td>
<td>LED #3</td>
<td>LED #3</td>
</tr>
<tr>
<td>Night Lt</td>
<td>LED #2</td>
<td>LED #2</td>
</tr>
<tr>
<td>SCENES</td>
<td>Entry</td>
<td>Kitchen</td>
</tr>
<tr>
<td>Home</td>
<td>LED #6</td>
<td>LED #6</td>
</tr>
<tr>
<td>Away</td>
<td>LED #4</td>
<td>OFF</td>
</tr>
<tr>
<td>Security Full</td>
<td>Not Assigned</td>
<td>Assigned</td>
</tr>
<tr>
<td>Security Flash</td>
<td>Assigned</td>
<td>Not Assigned</td>
</tr>
</tbody>
</table>

If LED does not blink twice as described above, see the Troubleshooting Section.
5 Fill Out Engraving Schedule

When final engraving is determined fill out Engraving Schedule(s) at www.lutron.com/buttons.

Redeem Prepaid Engraving Certificate

Choose one of the following options to redeem the Prepaid Engraving Certificate(s) for your personalized engraved buttons.

- **E-mail** Engraving Schedule pdf(s) with Engraving Certificate Number(s) filled in to: engraving@lutron.com
- **Fax** Engraving Schedule(s) with Engraving Certificate Number(s) filled in to: 610.282.3090
- **Mail** Engraving Schedule(s) and Engraving Certificate(s) to: Lutron Electronics Co., Inc. Dept. 309, Engraving 7200 Suter Road Coopersburg, PA 18036
Personalizing the System

Customizing Visor Control Transmitter Buttons
The Visor Control Transmitters (VCTX) can control any of the functions (except for Learn) on the MFE Master Control. Use the VCTX Programming Chart to plan changes before beginning the next step. To program the VCTX to HomeLink® buttons in the car, consult the owner’s manual for the car.

1 Apply Labels

Use the VCTX Assignment Chart below to determine what the Visor Control Transmitters should control. Apply the appropriate labels (provided with the VCTX) to the label pockets above the VCTX buttons.

If the typical assignments are appropriate for your installation, skip Step 2 below.

VCTX Assignment Chart

<table>
<thead>
<tr>
<th>Button #</th>
<th>Typical Assignment</th>
<th>Your Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Home</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Away</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Garage 1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Home</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Away</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Garage 1</td>
<td></td>
</tr>
</tbody>
</table>

2 Programming VCTX to MFE Master Control Functions

a. Press and hold the Learn button on the MFE until the green Learn LED turns ON (approximately 3 seconds).

b. Press and release the MFE button that is to learn a Transmitter button; its LED will turn ON.

c. Press and hold the VCTX button until the orange LED next to the selected MFE button flashes (approximately 3 seconds). The Learn LED will also flash while the VCTX button is pressed.

d. Repeat steps b and c to learn additional Transmitter buttons.

e. Press and release the Learn button. The Learn LED turns off.
Expanding the System

Adding Repeaters, Dimmers, or Master Controls to the System
This Quick Start System can be expanded. Commonly added devices are:

- Dimmers to have more lights controlled by the RadioRA® System
- Master Controls to have more places in the home to control the Dimmers
- Repeaters to extend RF range when expanding to other parts of the home.

Perform these steps specified in Section 1 “Start-Up” of the RadioRA Setup Guide (P/N 044-001) that came with your RF Signal Repeater to add Dimmers, Master Controls, or Repeaters to the system.

### Dimmers

<table>
<thead>
<tr>
<th>Task</th>
<th>Step in Setup Guide (P/N 044-001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add the Dimmer(s) to the system to initialize All On/All Off functionality.</td>
<td>Activating Your System</td>
</tr>
<tr>
<td>Program the Dimmer(s) to Master Control ROOM buttons.</td>
<td>ROOM Button Programming</td>
</tr>
<tr>
<td>Program the Dimmer(s) to Master Control SCENE buttons.</td>
<td>SCENE Button Programming</td>
</tr>
</tbody>
</table>

### Master Controls

<table>
<thead>
<tr>
<th>Task</th>
<th>Step in Setup Guide (P/N 044-001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add the Master Control(s) to the system to initialize All On/All Off functionality.</td>
<td>Activating Your System</td>
</tr>
<tr>
<td>Choose Master Control button names and set the button types to either ROOM or SCENE.</td>
<td>Programming Preparations</td>
</tr>
<tr>
<td>Program the Dimmers to Master Control ROOM buttons.</td>
<td>ROOM Button Programming</td>
</tr>
<tr>
<td>Program the Dimmers to Master Control SCENE buttons.</td>
<td>SCENE Button Programming</td>
</tr>
</tbody>
</table>

### Repeaters

<table>
<thead>
<tr>
<th>Task</th>
<th>Step in Setup Guide (P/N 044-001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add Repeater(s) to the system where expanded RF coverage is needed.</td>
<td>Activating Your System</td>
</tr>
</tbody>
</table>
## Troubleshooting

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Control or MFE appears not to be working.</td>
<td>• No power available to unit.</td>
<td>• Plug in adapter.</td>
</tr>
<tr>
<td></td>
<td>• Using wrong adapter.</td>
<td>• Use the AC adapter with the MFE.</td>
</tr>
<tr>
<td></td>
<td>• Device is out of system range.</td>
<td>• Use the DC adapter with the Master Control.</td>
</tr>
<tr>
<td></td>
<td>• Faulty power supply.</td>
<td>• Move device to within 30 feet (9 m) of an RF Signal Repeater.</td>
</tr>
<tr>
<td></td>
<td>• Dead batteries.</td>
<td>• Replace adapter.</td>
</tr>
<tr>
<td></td>
<td>• Front Accessible Service Switch (FASS\textsuperscript{TM}) on the Dimmer is</td>
<td>• Replace batteries.</td>
</tr>
<tr>
<td></td>
<td>switched off.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Light bulb(s) burned out.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Breaker is off or tripped.</td>
<td></td>
</tr>
<tr>
<td>Light does not turn on.</td>
<td>• Blue wire/connection on Accessory Dimmer is not attached to the same color wire as on the Dimmer.</td>
<td>• Move FASS completely to the on position.</td>
</tr>
<tr>
<td>Light turns on and Dimmer works, but Accessory Dimmer does not work.</td>
<td>• Blue wire/connection on Accessory Dimmer is not attached to the same color wire as on the Dimmer.</td>
<td>• Replace light bulb(s).</td>
</tr>
<tr>
<td></td>
<td>• Total load wattage is less than minimum load.</td>
<td>• Turn on breaker or resolve tripped breaker.</td>
</tr>
<tr>
<td>Dimmer keeps turning on and off.</td>
<td>• Button not held long enough.</td>
<td>• Increase total load to achieve minimum load requirement.</td>
</tr>
<tr>
<td>Master Control LED does not blink twice when setting preset levels.</td>
<td>• Service Switch on the front of Dimmer or Switch may be in the OFF position.</td>
<td>• Hold button longer (up to 10 seconds).</td>
</tr>
<tr>
<td></td>
<td>• No load/bulb burned out or missing.</td>
<td>• Place Service Switch in the ON position.</td>
</tr>
<tr>
<td></td>
<td>• System Repeaters are OFF or not working.</td>
<td>• Connect fixture, replace/install bulb.</td>
</tr>
<tr>
<td></td>
<td>• One or more Dimmers or Switches assigned to a ROOM button are OFF.</td>
<td>• Check that all System Repeaters are plugged in and working.</td>
</tr>
<tr>
<td></td>
<td>• Button not held long enough.</td>
<td>• Make sure all Dimmers and Switches assigned to a ROOM button are ON.</td>
</tr>
</tbody>
</table>
Worldwide Technical and Sales Assistance
If you have questions concerning the installation or operation of this product, call the Lutron Technical Support Center. Please provide exact model number when calling.
+1.800.523.9466 (U.S.A., Canada, and the Caribbean)
Other countries call +1.610.282.3800
Fax +1.610.282.3090
Visit us on the Web at www.lutron.com/radiora

For Warranty information, please see the warranty that was enclosed with the product, or visit: www.lutron.com/resinfo.

This product may be covered under one or more of the following U.S. patents: 5,248,919; 5,399,940; 5,637,930; 5,788,581; 5,838,228; 5,848,054; 5,865,442; 5,982,103; 6,169,377; 6,687,487; 7,071,634; 7,166,970; D353,798; D389,805; D404,013; and D461,782 and corresponding foreign patents. U.S. and foreign patents pending. NEC is a registered trademark of the National Fire Protection Association, Quincy, Massachusetts. HomeLink is a registered trademark of Johnson Controls, Inc., Milwaukee, Wisconsin. Lutron, RadioRA and the Sunburst logo are registered trademarks of Lutron Electronics Co., Inc.
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