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**HOUSE**

FOCUS SERIES

# SMART LIGHTING CONTROL STARTS WITH SMART DEVICES

- How smart phones and tablets can control your lights
- The importance of mobile device control
- Advanced light and shade control benefits
  - Lighting and shade control for your home theater or media room
  - Lutron's Caséta™ Wireless system with Smart Bridge

Presented by

 **LUTRON**®



# How -&- Why of Smart Device Control



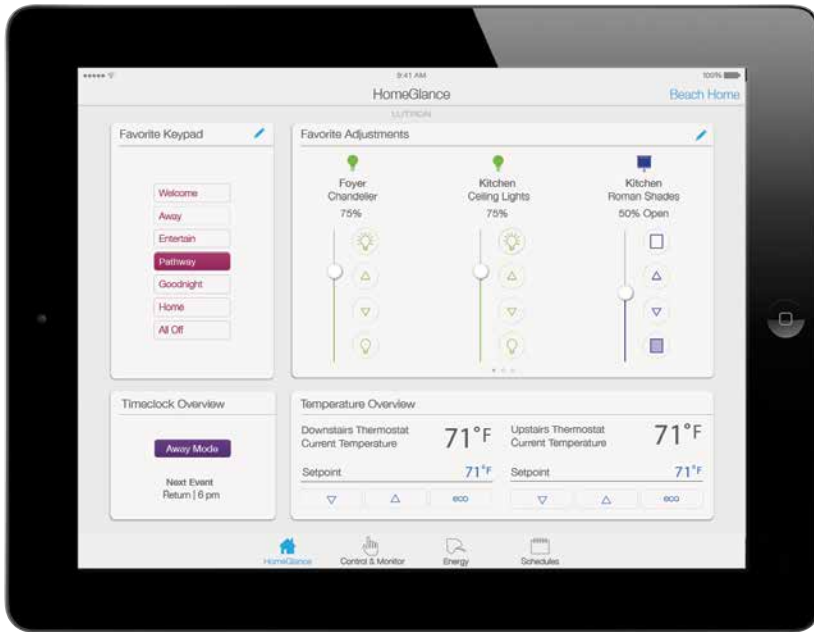
**ONE OF THE MOST DRAMATIC** technological advances in recent years has been the expansion of the smart phone (and the tablet) into more and more facets of our lives. These relatively inexpensive portable devices can do far more than was ever dreamed when the first web-surfing phones began hitting the market.

Nearly every person you run into has one or more smart mobile devices with them at all times. We use them to catch up on news, check work email, record special (and even not so special) events, connect with long-lost friends and occasionally to even make phone calls.

Their powerful processors and ability to connect to both the home and global networks also makes them ideal tools for connecting to other electronic devices in our homes. This why smart phones and tablets are quickly becoming the most popular interfaces of both professionally installed and do-it-yourself home control systems.

Aside from the mobile nature of smart phones and tablets, the other feature that makes them especially suitable for smart home systems is their large displays with easily customizable graphics. The same device you use to text friends and check Facebook can also be the device you use to control your home's lights, adjust the temperature and open the window shades when you get up in the morning. Home automation systems have provided similar capabilities for years, but connecting them to smart phones and tablets makes control easier and more economical.

In the past, color touchscreens for home control systems were expensive luxuries. With a smart phone or tablet, you're not restricted to a finite number of buttons to control your home's lights, shades and other connected systems. Just as a custom home automation system can be designed



Mobile device interfaces come in a variety of styles designed to make them easy to use.

uniquely for each family, the interface for operating the system can also be unique.

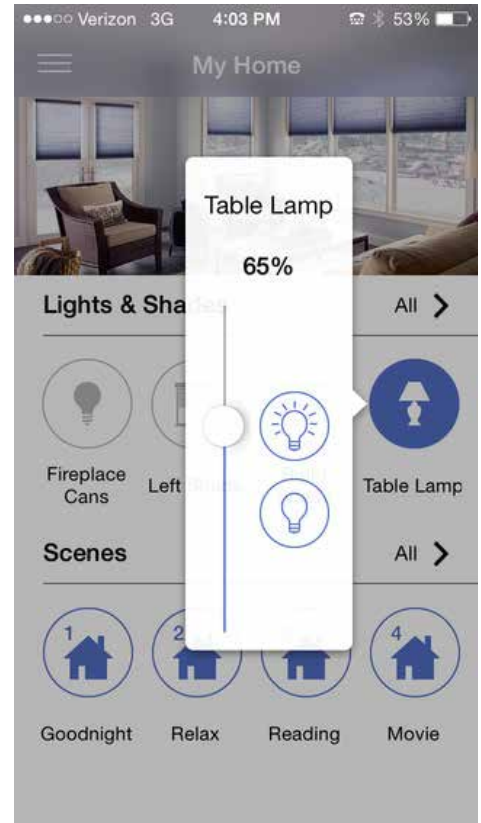
In custom designed systems, often the programmers will create a graphic user interface (GUI) just for a particular user and will incorporate design and convenience elements that reflect that user's desired experience. Even in less complex do-it-yourself smart home systems, the app and functions can usually be customized quite easily.

Using a smart phone or tablet also allows you to tap into your home's capabilities remotely, no matter how far away you are. With the right connected devices, you can lock and unlock doors, adjust indoor and exterior lights, manage the thermostat and check on your home security status.

The benefits of such a system are many. Most of us keep our mobile devices within reach at all times, which means that every function of a home automation system can now fit into a pocket. Controlling all the lights in a home to the perfect evening setting can be done while sitting on the sofa. Smart scene design allows connected devices to be grouped by activities or zones, making your system even more convenient to use. Schedules and sensors can be used to make actions happen all automatically.

Getting started with a smart home system begins by asking yourself some questions. First, you need to decide what you want your system to do or what you want it to control. Lights and shades are a common first step, because operating those devices is something we all do every day, so automating our lighting and window tasks makes perfect sense.

Connected home systems can be professionally installed, or DIY. The requirements can be complex for large homes, or simple, for small homes and basic needs. The best systems are scalable, because a family's needs will change over time. Getting started is very easy. A basic starter system or product, a free app download and a little bit of setup time is all it takes to get a taste of what home automation can do.



# Advanced Lighting & Shade Control

When looking for a light and shade control solution, there are several features to consider first.

## How Lights and Shades Can Highlight Your Home

Is there a particular architectural element of your home that you'd like to show off? Are there parts of the interior design that you find particularly beautiful? Maybe you have a collection of art that you'd like to showcase or an area of interest that demands attention? A lighting control system can ensure that all the favorite parts of your house are never lost in the shadows. They'll make those features stand out for all to admire by simply illuminating them in a way that draws the eye and accentuates the positive.

A lighting control system dims and brightens light fixtures to certain settings, and goes beyond simply mounting dimmers on the walls of your home. With a system you'll be able to adjust multiple areas or rooms at the same time from one device. Moreover, a lighting control



system enables switches to be grouped together to create lighting "zones." For example, in the living room, one zone of lights could include all the overhead fixtures; another the table lamps, a third the small LED strips mounted inside a bookshelf and the last tiny LED bulbs tucked around the perimeter of the cove ceiling. By arranging the room lights in this manner and tying them to a lighting control system each zone can be controlled independently. During a holiday gathering, you might activate a zone to call attention to a family portrait above the mantel; at a cocktail party a different zone of lights could be activated to bring out the color and texture of cozy furnishings in the sitting area.

Like lights, shades too are part of a complete control package. Even with the best, most intricately designed lighting control system installed in your house, sunlight can throw a huge monkey wrench into its effectiveness. It's wise to complement your smart lighting products and systems with motorized window treatments.

When motorized, window shades and draperies can position themselves in a way that allows the lights in the room to do their magic without any interference from the conditions outside. Conversely, they can adjust to allow sunlight to contribute to the look and feel of the room and to fuse the outdoor scenery into the room environment. No matter what their objective, the shades themselves can function as a decorative element. Shades also protect your furniture or artwork from the intense rays of the sun. With an automated system, you don't need to be in the room to make sure your furnishings are protected.



Motorized shades can add security, ambiance and simplicity.

And it's not just about windows. Motorized drapes and shades can be used to conceal TVs and projection screens in media rooms or to create a visual separation between a kitchen and dining room, for example.

"When considering a new smart home system for your lights and shades, compatibility and interoperability are key issues. Not all systems are alike, and not all devices will work together. You don't want a separate system for your temperature control, another one for your shades, and yet another for your lights. Look for a system that can integrate all those important functions together. Also, when evaluating a system, make sure the devices such as wall switches and dimmers, can control a variety of lighting types. Your house may have a mix of incandescent, compact fluorescent and LED lamps, so your lighting system should be compatible with all of those."

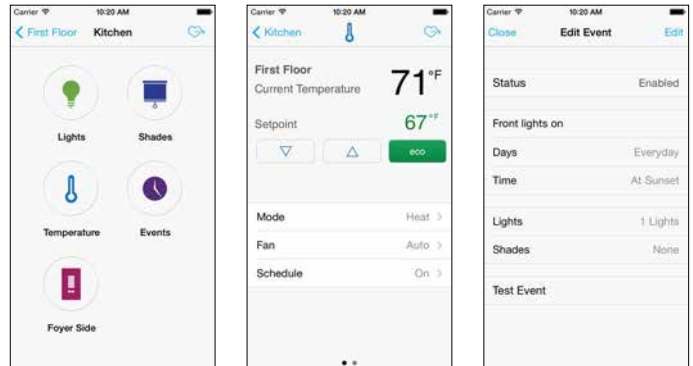
## LIGHTING AND SHADE CONTROL TIPS

- Arrange the lights in groups, or zones, so features within a room can be illuminated individually
- Create lighting scenes to evoke moods and ambiance
- The position, angle, and intensity level of the lights will impact its effect on a home's architecture and interior, so hire someone knowledgeable in lighting design to install a lighting control system
- Feel free to experiment with the settings, as lighting control systems can be easily reprogrammed
- Consider wireless lighting control systems for installation during a remodel or renovation
- Consider color, texture, style and opacity when selecting motorized window treatments
- Use a system that can be easily integrated with the lights for a pleasing blend of natural and artificial illumination
- Have the drapes and shades position themselves automatically based on the position of the sun, the time of day or the intensity of the room lights
- Incorporate controls that provide precise positioning of the window treatments
- Use motorized drapes to conceal a projection screen in a home theater

# Apps, Keypads and More

**A FEW YEARS AGO** it would have been unheard of to be able to control your lights and shade from a cell phone, but now that process is very simple and affordable. Some systems offer dedicated apps for your connected products, while others integrate all your automation functions into single apps.

Here are some features to look for in smart phone or tablet-controlled lighting system:



**Integration:** Lights and shades go together, so make sure you can operate both within

the same interface. The best systems and app controls are able to integrate with thermostats, security and entertainment systems as well, without requiring you to switch interfaces.

**Grouping:** Your house may have dozens or hundreds of lighting loads and shading devices. Operating each one individually can be tedious. On the other hand, systems that allow you to group devices by room, area, or scene are very convenient. These “scenes” are then assigned to a custom-labeled button on a lighting control keypad. Now, when you press a button labeled “cocktail,” for instance, the lights illuminate the sitting area to the most eye-pleasing level.

**Scheduling:** You can’t always be around when it’s time to turn on, off or dim your lights or adjust your shades. Look for a system that allows those devices to be set to predetermined schedules. Some schedules can be designed around your daily activities (such as Morning, Evening) or by events (Watch TV, Party). You can also schedule random lighting events to make a home look lived in while you’re away.

**Remote access:** Do you ever forget to turn off the lights or check your shades as you leave the house? Of course you do. Look for a system that allows remote access so you can control your house even when you’re thousands of miles away.

As convenient as a smart phone or tablet is, you may like adjusting your lighting and shade system through more traditional methods as well. That’s why lighting control manufacturers offer keypads, dimmers and switches that integrate wirelessly with your smart lighting system. The keypads that are typically used to engage lighting scenes are just as elegant as the scenes they elicit. Manufacturers offer a plethora of styles, colors, finishes, as well as custom engraving of the keypad buttons. The fact that a single keypad can do the job of six or more individual light switches is reason enough for many aesthetically conscious homeowners to invest in a control system, as it clears away what architects, interior designers and home systems integrators refer to as wall acne or wall warts. Although a lighting control system is high-tech, the day-to-day interaction with it should be intuitive and easy—never complicated and intimidating to the end-user.



# Lights & Shades for Home Theater

Create the right ambience for movie night with lighting and shade control

**ONE OF THE MOST EFFECTIVE WAYS** to add drama and excitement to movie night in your media room or home theater is with sensational, well-designed architectural lighting and shade control.

Decorative sconces and recessed ceiling lights, combined with LED strips placed around moldings and steps, are just the start of what's possible when you let your creativity take over. You can use tiny fixtures to frame movie posters, install uplights to accentuate the texture of a wall, or apply colored LED lights around the counter of the bar at the back of the room.

Strategically placed and designed lighting can serve more practical purposes, too. Small LED fixtures planted around the perimeter of the room and on steps can provide a safe walkway for theatergoers as they take their seats or briefly visit the powder room. It can make a small room seem larger, draw attention to the screen and allow you to see the buttons on your remote control.

Then there's lighting's ability to turn a potential eyesore into a thing of beauty. This is particularly helpful when renovating a basement. Wrapped in beautiful lighting, the steel lally columns become an element of architectural interest. Even a rack of A/V gear looks suddenly sexy when it's framed in lighting.

Although standard recessed ceiling lights will always be useful in a theater, LED fixtures are becoming an increasingly popular lighting choice in home theaters—and not just for their energy efficiency. In addition to introducing color to the room illumination, LEDs allow custom electronics (CE) pros to

adjust the color temperature of the lighting, which can have a direct impact on the quality of the video.

Once all the light sources have been selected – sconces, overhead cans, step lights, decorative LEDs, etc.—you’ll want to group certain lights together on individual circuits, or zones. This way you’ll be able to control each zone individually, choosing which areas to illuminate and which to keep dark. One zone might be comprised of accent lighting to showcase certain architectural features; another might include fixtures that illuminate the back part of the room where the equipment resides.

In addition to grouping the theater lights into zones, it’s also beneficial to a theater when lights are programmed into scenes. Scenes enable the lights to adjust to suit the type of viewing or activity that’s taking place. For example, an Intermission scene could be set up to have the step lights and sconce lights brighten to a 50 percent intensity level. Another scene could command all of the fixtures to go to their brightest settings for cleanup. Other popular scenes in a theater could tailor the lights for the type of video you’ll be watching; for instance, dim for movies but brighter for sports and video games.

If your room has windows, you can keep the outside world from intruding on the entertainment by adding motorized shades. Many home theater installers use a combination of blackout shades to completely block outside light, with decorative drapes to complement the room’s aesthetics. Making the window covers motorized allows you to press a single button on a remote or app to get the room in the perfect entertaining mood.

The best way to manage the various lighting zones and scenes in a theater is by having a lighting control system installed. This will allow you easily and conveniently elicit a variety of different viewing environments with just a tap of a button on a wall-mounted keypad, touchpanel, handheld remote, tablet or smart phone. What once was a room where drinks and conversation happened naturally on the couch can instantly transform into a theater as the lights slowly fade to black. Touch another button labeled Pigskin and the system sets the lights perfectly for watching football, highlighting all the memorabilia from your favorite team that you’ve collected over the years. When the kids hit the floor for video game marathons, another button tap can lower the lights in the back of the room but keep the fixtures near the front bright so gamers can see their controls.

In most cases, a lighting and shade control system can be integrated into the control system that you use to operate the home theater gear. The pairing will afford even greater convenience and put your theater’s wow factor off the charts. Now, in addition to gradually fading out the lights when the Movie button is pressed, the video projector and surround-sound system can activate, the screen can lower from the ceiling and the motorized shades close over the windows. In an instant, the room has readied itself... and all you had to do was press a button on a remote.





# DIY or Professionally Installed?

**LIGHTING CONTROL CAN BE** a DIY weekend or a professionally installed project, depending on how complex your needs are and how flexible your budget is.

The smart lighting market is expanding with systems that some homeowners can install themselves. It's a shift that has made lighting control and automation accessible to people who may not have been able to afford to pay a professional to install a system, and has given tech-savvy consumers fun, doable projects to tackle on the weekends. Still, there are many good reasons to leave the installation of a home automation system to a pro. No matter how handy you are, there are certain features that only a professional is able to unlock.

**Understanding the Differences:** Most DIY lighting and automation systems are wireless. This will make installation significantly easier. The less wiring, especially when it comes to fooling with your home's electrical system, the better. In fact, new motorized window shade systems come in battery-operated versions, and the batteries last for years.

**Technical Expertise:** However, often a professionally installed system will include a mix of wired and wireless these days, because wireless communication technologies are getting much better.



## WHY DIY

- To save money
- To take pride in your work
- To experiment freely with technology

## WHY GO TO A PRO

- When your automation needs are extensive and your expectations are high
- Pre- and post-installation advice
- Timely, hassle-free installation

Despite their installation ease, DIY systems require some technical know-how. Do you know where you're home's network router is and how to connect an Ethernet cable? Are you comfortable downloading an app and configuring your room's lights into groups and scenes? What about replacing a standard light switch with a smart dimmer? These are tasks that may seem simple to some people, but others may prefer a helping hand. Luckily both options are available.

**Capabilities and Requirements:** Another thing that might sway a person from a DIY option to a professional option is the size and complexity of the home. One wireless smart hub may not be able to communicate with all areas of a sprawling house, but an installed wired or wireless/wired hybrid solution can. How many interfaces will you need? Are you comfortable with just your smart phone app and maybe a small remote (Lutron's Pico remotes, for example, are very handy supplemental devices for controlling a room's lights or shades), or will you need wall keypads of various shapes and sizes throughout the home?

**Integration and Interoperability:** Also consider how much integration you need. Are you looking to simply wirelessly control a few light bulbs or switches, or do you want multiple scenes and zones all over your home integrated with thermostats, shades and a security system. The complexity of a fully-integrated system may push the average do-it-yourselfer over the edge. Luckily, finding a good installer is easy.

## EDITORIAL REVIEW

# Lutron Smart Bridge Caséta™ Wireless System

Designed as a simple-to-install, simple-to-use lighting control system that can evolve with homeowners' needs, Lutron's Smart Bridge makes automated lighting something any family can enjoy. **By Robert Archer for *Electronic House***

**SMART LIGHTING CONTROL SYSTEMS** have come a long way in recent years. Lutron's Smart Bridge offers an easy-to-setup solution for people who want to add automated lighting, motorized shades and more to their homes.

## Features

Currently the line includes the Caséta Wireless

In-Wall Dimmer (which works with incandescent, CFL, LED and halogen lights), the Caséta Wireless Lamp Dimmer (plugs into a standard wall socket) Lutron Serena® and Sivoia® QS Trathlon® battery-powered wireless shades, and Lutron's Pico® remote. The system is also compatible with a Honeywell Wi-Fi thermostat and other products.

Managing the devices within a Caséta-based system is the Smart Bridge unit (pro and DIY versions available). It acts as the central processor and gateway for the system. Lutron says the Smart Bridge supports as many as 50 devices.

Key to the system is the iOS or Android app which allows the user to operate all the integrated devices, run scenes and lighting zones, and access the system remotely from a smart phone or tablet.

## Setup and Use

Living up to its marketing message, Caséta does setup within minutes. I configured two "zones" of lighting with an In-Wall Dimmer in one room and a Lamp Dimmer in another.

Starting with the Lamp Dimmer, I plugged the Lutron product into my wall socket and connected a lamp. Then I installed the wireless wall dimmer in place of a traditional manual dimmer. Then I plugged in the Smart Bridge to a network switch and downloaded the Lutron app.



Lutron's easy-to-use Smart Bridge.



After installing the app on my iPhone and iPad I followed Lutron's step-by-step instructions within the app to link the control functions of the Lamp dimmer to my iOS devices and the Pico remote. I finished setting the zones up by naming them and creating lighting scenes.

I estimate the install took me about a half hour.

The scenes worked as I expect them to, changing the light intensity as I'd programmed. Overall the interface experience is as good as any app I've encountered. The system responded very quickly with both the app and Pico® remote.

**The key to the Smart Bridge system is the iOS or Android Lutron app which allows the user to operate all the integrated devices, run scenes and lighting zones, and access the system remotely from a smart phone or tablet.**



## Conclusions

The Smart Bridge, Lutron App, and Caséta Wireless delivers a user experience that rivals much larger and more expensive solutions. While it doesn't have quite the flexibility of Lutron's RadioRA® 2 or HomeWorks® QS Systems, it's an effective option for basic home lighting needs. The Smart Bridge is available in both a DIY version and a Pro version which requires professional integration, but is able to provide more functionality and control more devices.

For more on smart lighting, shading and other ideas for your Electronic House check out these resources:

Lutron: [All About Pleasance](#)

Electronic House [Learning Center](#)

Focus Series: [Wireless Speakers and Wireless Audio Systems](#)

Focus Series: [Home Security and Monitoring](#)

[Find an Installer](#)