

# Integrating Google Assistant® with RadioRA 2 and HomeWorks

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## Overview

Voice control provides a hands-free control point in today's connected home. Google Assistant can be integrated with a RadioRA 2 or a HomeWorks system. Scenes can be activated through voice commands, delivering complete and cohesive control of a system from anywhere in the residence.

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## System Requirements and Configuration

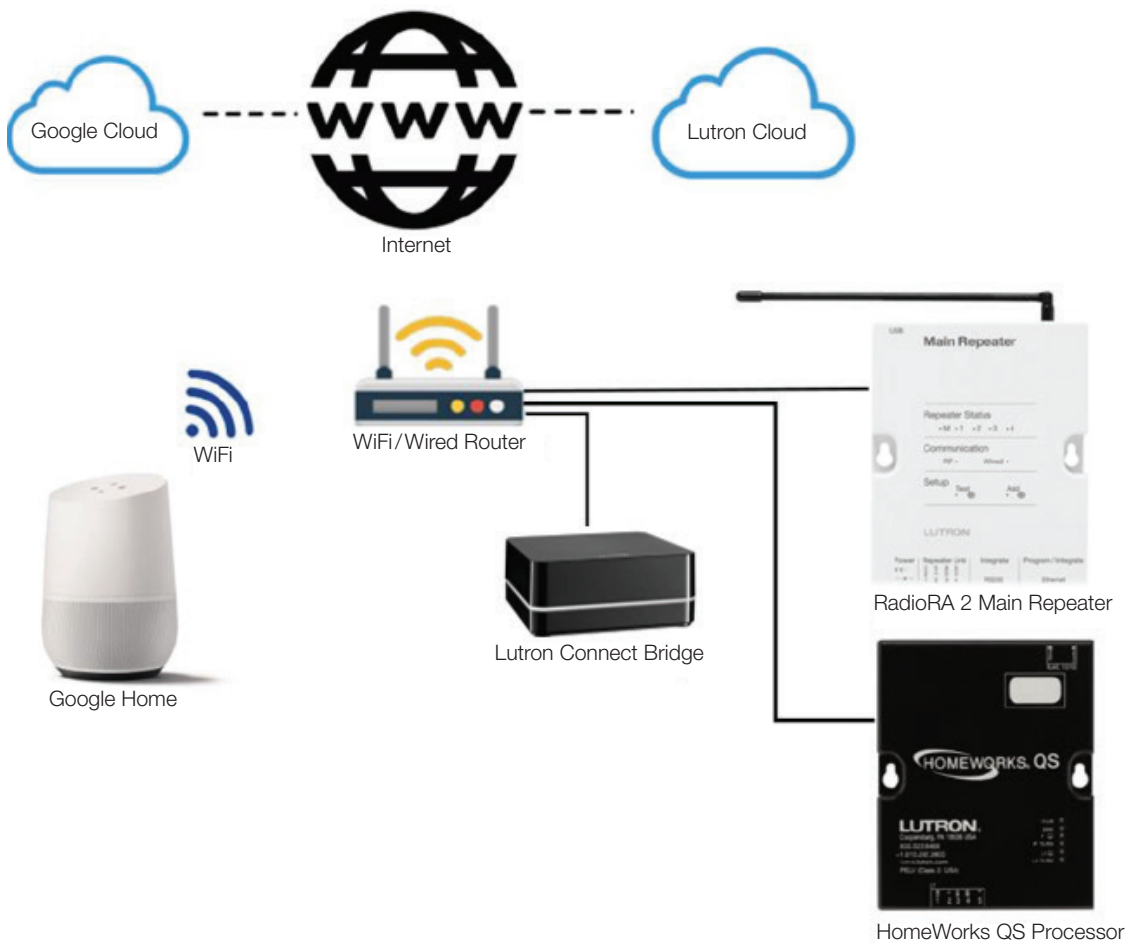
### Hardware and Software Requirements – RadioRA 2 and HomeWorks QS

Below is a list of all the minimum hardware and software required to implement Google Assistant voice integration in RadioRA 2 or HomeWorks QS.

- Google Assistant enabled device
- Lutron Connect Bridge
- Active Internet connection for the residence
- RadioRA 2 Main Repeater or HomeWorks QS Processor
- RadioRA 2 or HomeWorks QS software version 10.6 or newer
- Lutron mobile app 3.0 or newer

### Hardware Configuration – RadioRA 2 and HomeWorks QS

Below is a simplified diagram demonstrating the integration of Google Assistant with RadioRA 2 or HomeWorks QS.



## System Requirements and Configuration *(continued)*

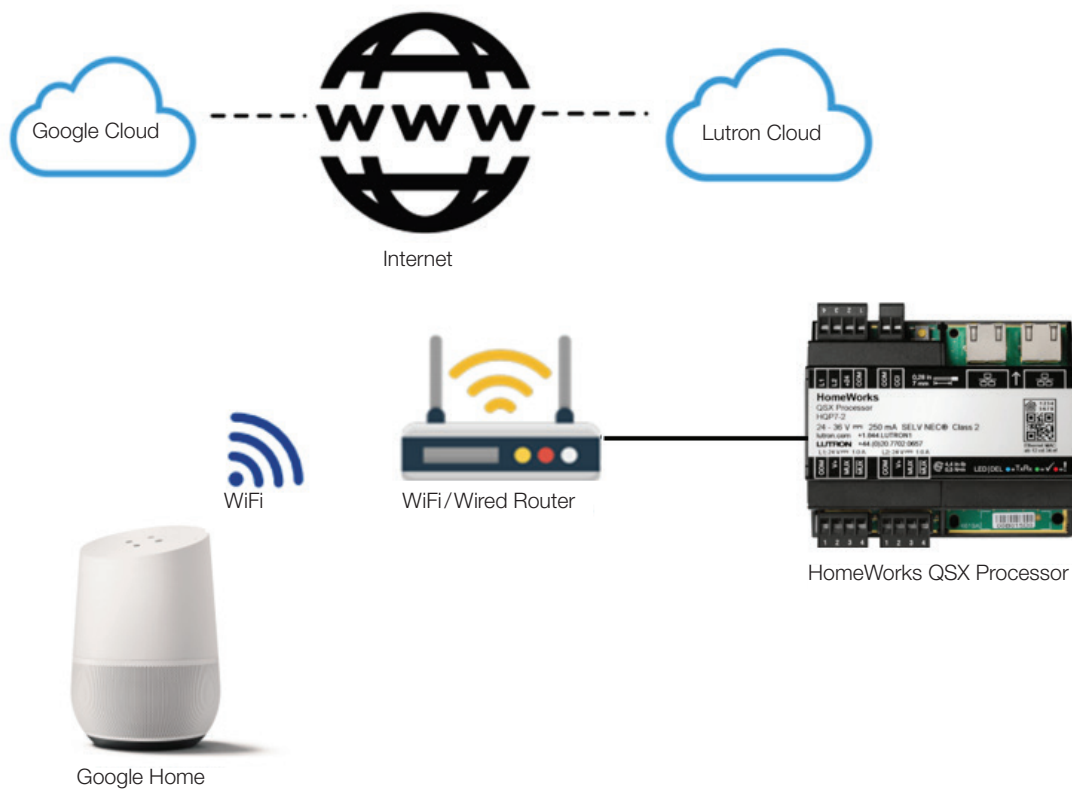
### Hardware and Software Requirements – HomeWorks QSX

Below is a list of all the minimum hardware and software required to implement Google Assistant voice integration in HomeWorks QSX.

- Google Assistant enabled device
- Active Internet connection for the residence
- HomeWorks QSX Processor
- HomeWorks Designer software version 16.0 or newer
- Lutron mobile app 7.0 or newer

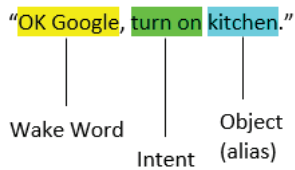
### Hardware Configuration – HomeWorks QSX

Below is a simplified diagram demonstrating the integration of Google Assistant with a HomeWorks QSX processor.



## Voice Control Basics

### Voice Control Structure



Control of the residence using Google Assistant first requires an understanding of the basics of voice control. Voice commands can be based upon Single Action or Toggle buttons from the keypad in the home. Google Assistant operates by receiving information from the homeowner's voice in a specific structure that translates into the appropriate action to execute. All voice commands can be programmed within the Lutron mobile app.

Every voice command to Google Assistant is composed of three core components:

1. **Wake Word** – The word that triggers the Google Assistant device to wake up and listen for the direction on what to do.
  - a. Default is "OK Google"
  - b. The wake word can be altered in the Lutron mobile app
2. **Intent** – Words that supply Google Assistant with direction on what action to take.
  - a. For lighting control, common intents include:
    - i. Turn On
    - ii. Turn Off
    - iii. Set
    - iv. Raise
    - v. Lower
3. **Object** – The device or button being controlled by Google Assistant; the name of the Object is known as the Alias.
  - a. Each alias must be unique
  - b. For lighting control, common aliases include:
    - i. Scenes:
      - Morning
      - Goodnight
      - Prepare
      - Dining
    - ii. Lights:
      - Pendants
      - Downlights
      - Cove
      - Lamp

## Voice Control Basics *(continued)*

### Voice Control Best Practices

Voice Control provides a convenient layer of control for the end user, offering hands-free support for physical devices and scenes. The idea is for voice control to be a complimentary piece to the existing control structure provided by the Lutron system. Ideally, each space of a home will provide multiple layer of control to provide a cohesive and complete experience for the end user.

Physical keypads and local zone controls offer instant response and tactile feedback. With good programming design and engraving on the button, homeowners can easily understand what each press will do, and the expectation will be reliable performance, using Lutron device communication. Physical keypads also compliment the aesthetic and design of the space.

Voice control offers a way to control a space from anywhere within the residence without having to go to a specific physical location. To ensure that the voice control is also intuitive, the integrator must understand the capabilities of the system and design with the end user in mind.

Here are the important rules to remember when designing voice control into a system:

1. Remember, every object being controlled needs a unique name (the Alias).
2. Keep it simple!
  - a. Many devices and scenes can be controlled via voice control but since everything requires a unique alias, can the end user remember the name of all these devices?
3. Do not use the words “On”, “Off”, “Lights”, or “Scene” in the alias name.
  - a. “On” and “Off” are intent words and using them in the object will be confusing for both the end user and the Google Assistant system.
  - b. The simplest command often leads to the greatest successes.
4. Use favorite devices and scenes.
  - a. Objects already selected as favorites in the Lutron mobile app are selected because the end user commonly controls them. This frequent interaction makes them memorable and ideal for the use in voice control.

## Lutron Programming Requirements

Google Assistant can control individual lighting zones, shading zones, and button presses. For Google Assistant to be able to control a button, it must be configured properly in the programming software.

### Compatible Button Programming in RadioRA 2

LED logic and button functions are defined in RadioRA 2 by the selection of the Button Type. Google Assistant can control the following button types:

- Single/Multi-Room Scene
- Toggle Control/Room Monitoring
- Shared Scene (inclusive only)
- Shared Toggle (inclusive only)

Toggle buttons provide both On and Off functionality via voice command.

- On action triggered by “OK Google, turn on Kitchen”
- Off action triggered by “OK Google, turn off Kitchen”

Scene buttons only offer an On action. An Off action would require a different button.

- “OK Google, turn on Welcome”
- “OK Google, turn on Goodnight”

### Compatible Button Programming in HomeWorks

LED logic and button functions are defined in HomeWorks by two separate selections – Program Type and Button Type. Google Assistant can control the following types of button programming:

Program Types

- Normal

Button Types

- Single Action
- Toggle

Toggle buttons provide both On and Off functionality via voice command.

- On action triggered by “OK Google, turn on Kitchen”
- Off action triggered by “OK Google, turn off Kitchen”

Scene buttons only offer an On action. An Off action would require a different button.

- “OK Google, turn on Welcome”
- “OK Google, turn on Goodnight”

**Important Note:** Single variable and conditional logic Program Types are not supported.

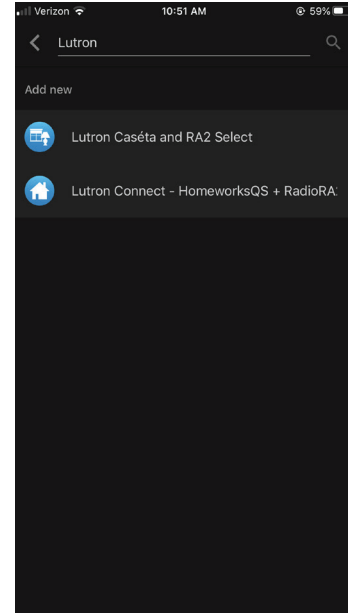
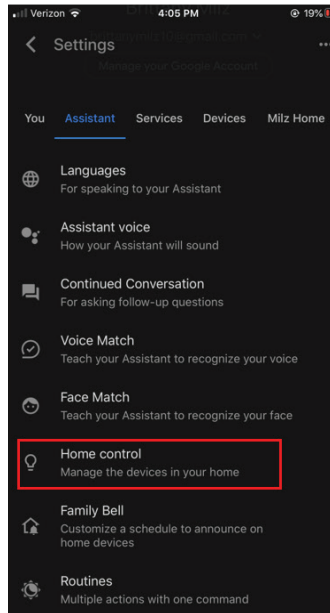
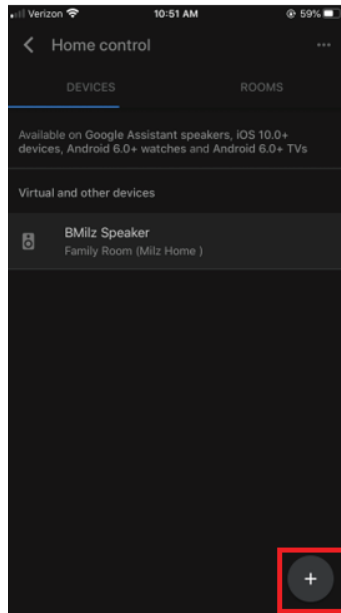
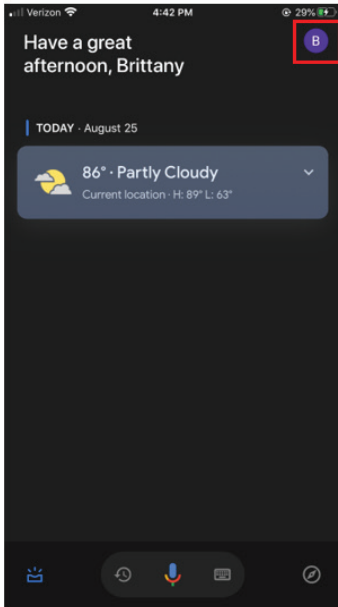
## Integrating Google Assistant with the Lutron System

Prior to proceeding, the following steps need to be completed:

1. Complete commissioning of the Lutron system – be sure to transfer the latest system files.
2. Power up the applicable Google Home device.
3. Download Google Home and Google Assistant applications to a mobile device.
4. Configure the applicable Google Home device to the appropriate Google Home account.

### Setting up Lutron with Google Assistant

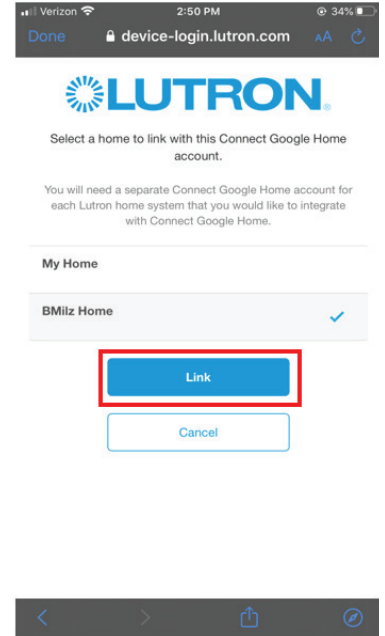
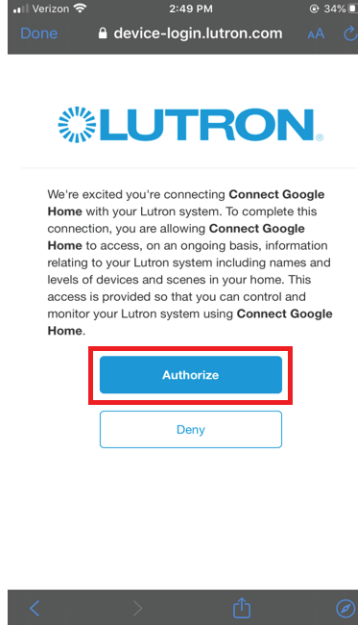
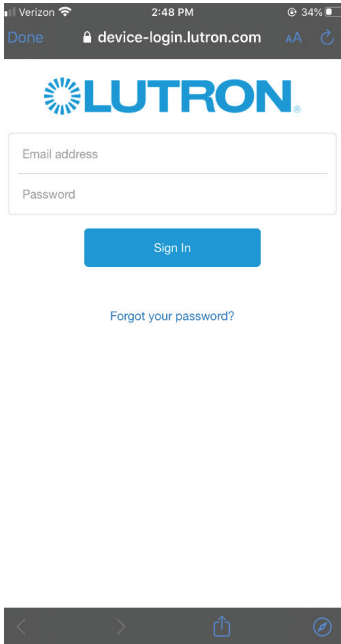
Open the Google Assistant mobile app and proceed to **Settings** in the top right corner of the screen. From there select the option for **Home Control** and click add (+) on the bottom right corner and search for Lutron. Select **Lutron Caséta and RA2 Select** for the HomeWorks QSX system or select **Lutron Connect** for either HomeWorks QS or RadioRA 2 system.



## Integrating Google Assistant with the Lutron System *(continued)*

### Setting up Lutron with Google Assistant *(continued)*

Select the correct Lutron system. Next, it will prompt for the Lutron account email address and password. Once the Lutron account login information is successfully entered, an access page will appear, click **Authorize**. Then, select a home to link with a Connect Google Home account, click **Link**. The accounts will now be linked.



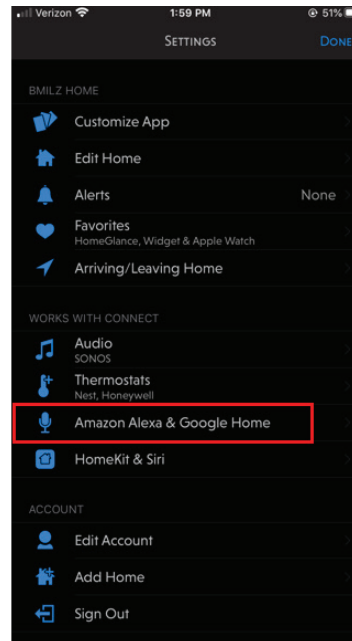
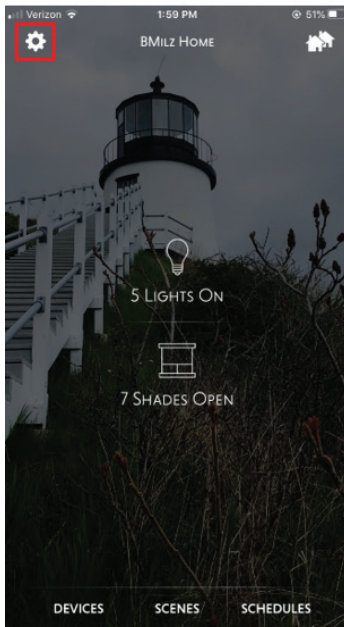
**Important Note:** If using the Multiple Homes feature through the Lutron mobile app, separate Connect Google Home accounts are required for each home.



## Integrating Google Assistant with the Lutron System *(continued)*

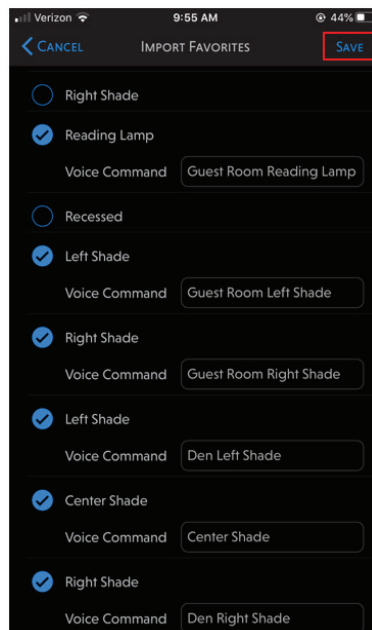
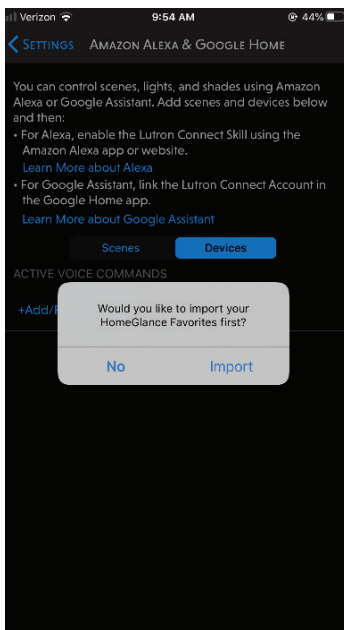
### Selecting Scenes and Devices for Google Assistant Control

Lutron allows for the exposure of 100 scenes or devices to be controlled by Google Assistant. Open the Lutron mobile app and tap on the gear icon, in the top left corner of the screen to access the in-app settings. Select the option for Google Home from the settings menu.




If the Google Assistant voice integration is being configured for the first time, the Lutron mobile app will inquire if it is desired to automatically enable all scenes and devices designated as Favorites. This helps to make the initial setup efficient and aligns with the goal of delivering a good user experience – devices and scenes that are configured as Favorites are those which are most often utilized and are subsequently more likely to be desired for voice control.

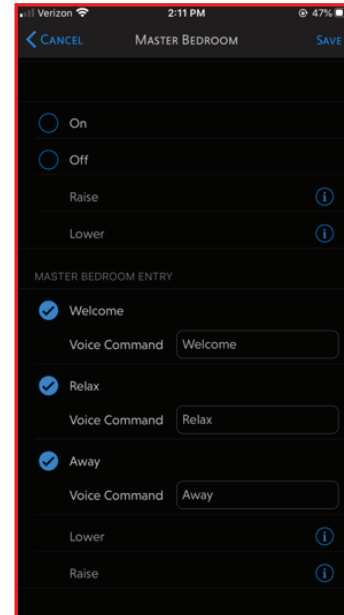
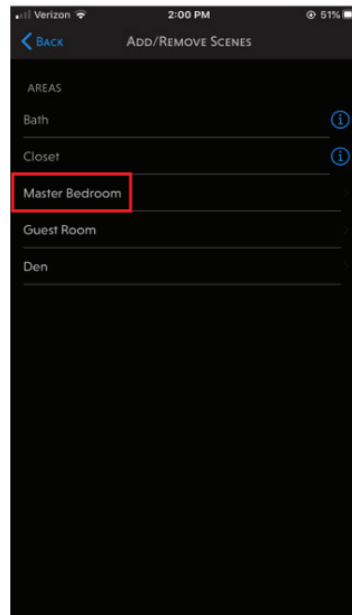
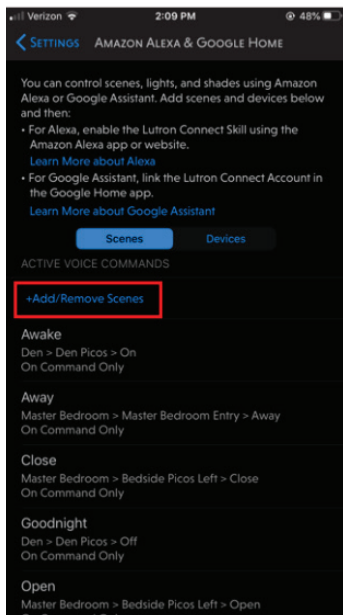
For information on how to configure Favorites in Lutron Connect, refer to Application Note 649 (P/N 048649) **Lutron Connect App Guide** at [www.lutron.com](http://www.lutron.com). To use Favorites for Google Assistant integration, click **Import**, then select the Favorites to import and click **Save**.



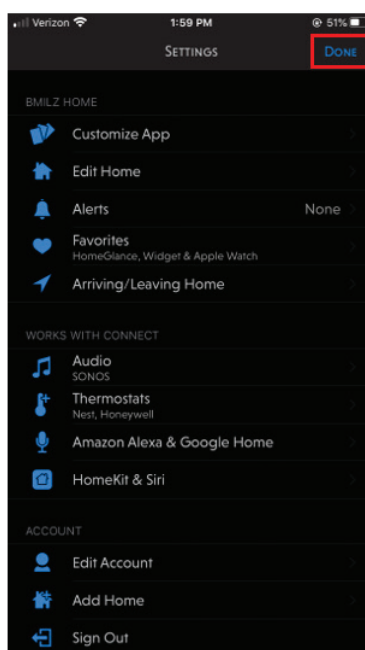
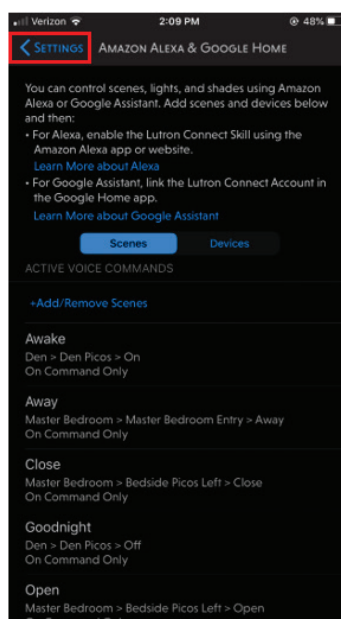
## Integrating Google Assistant with the Lutron System *(continued)*

### Selecting Scenes and Devices for Google Assistant Control *(continued)*

Additional scenes and devices can be added by choosing the option of Scenes or Devices, then tapping on **+Add/Remove Scenes** or **+Add/Remove Devices**. These same areas of the Lutron mobile app can be used to remove scenes and devices from Google Assistant integration. Only supported button types and device types will be available to be selected. Components that are not supported or areas that do not contain supported components will be represented by the information  icon.



Each scene or device available to be selected for Google Assistant integration will be assigned a unique alias, as described in the **Voice Command Structure** and **Voice Control Best Practice** section. Aliases can be edited in the Lutron mobile app but must remain unique and cannot use the words On or Off. Once all the necessary scenes and devices have been identified for integration, click **Settings** in the top left corner of the screen and click **Done** in the top right corner of the Settings menu.

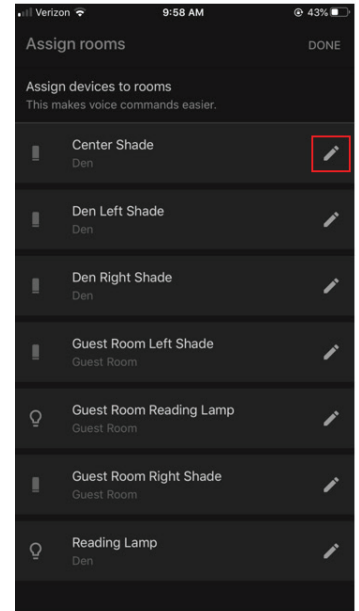
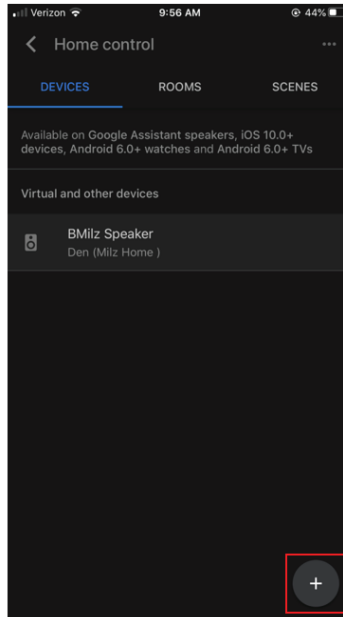
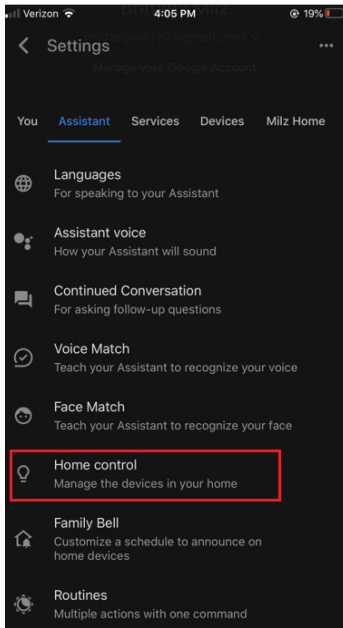


## Integrating Google Assistant with the Lutron System *(continued)*

### Addition of New Devices

After completing the steps in the **Selecting Scenes and Devices for Google Assistant Control** section, the final step to complete, prior to being able to use Google Home to control the elected scenes and device, is to check for new devices within the Google Assistant app. Google Assistant will require checking for new devices after any change in alias or addition/removal of a device or scene.

The most common way to check for new devices is to configure within the Google Assistant app. Open the Google Assistant app, select **Home Control**, and under Devices, select the **(+)** to add devices. Since the Lutron account is linked, select a room, then click **Check for new devices**. Google Assistant will take up to one minute to link new devices. An **Assign rooms** page will be prompted to assign devices to rooms then devices should be immediately available for control via voice control and Google Assistant app control.

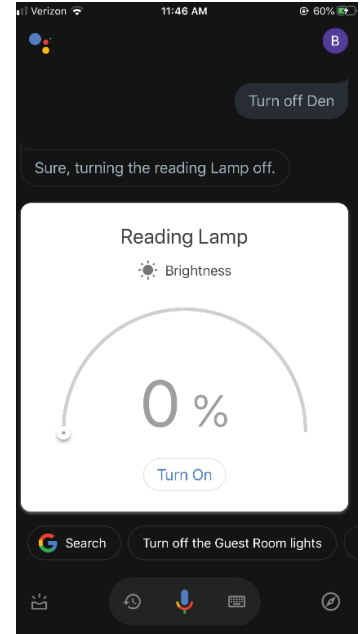
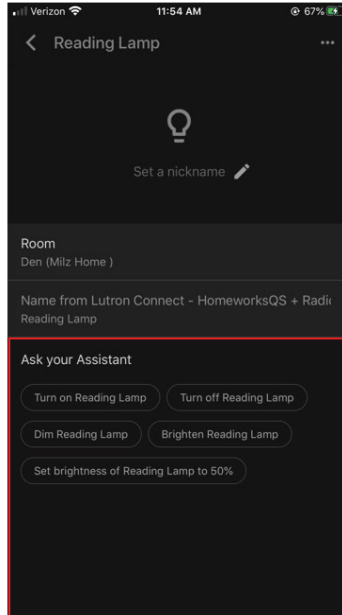
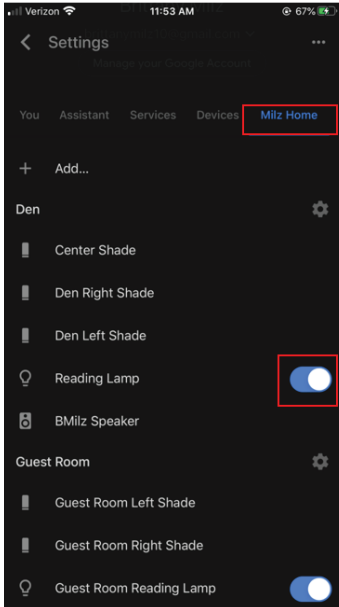


## Control of Lutron Devices and Scenes from the Google Assistant App

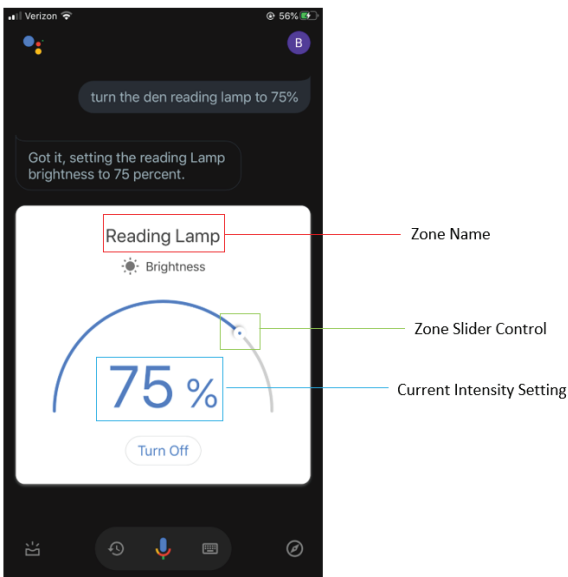
Google Assistant integration goes beyond the obvious aspects of voice control.

### Control of Individual Lighting Zones

Each individual Lutron lighting zone that has been enabled to with Google Home, will appear in the Google Assistant app and can be controlled directly from the app.



Each available standard dimmable zone will appear with the user interface shown below. Examples of standard dimmable zones would be zones from a Maestro Wireless-style dimmer or the output of a Phase Adaptive DIN Rail Power Module.



## Control of Lutron Devices and Scenes from the Google Assistant App

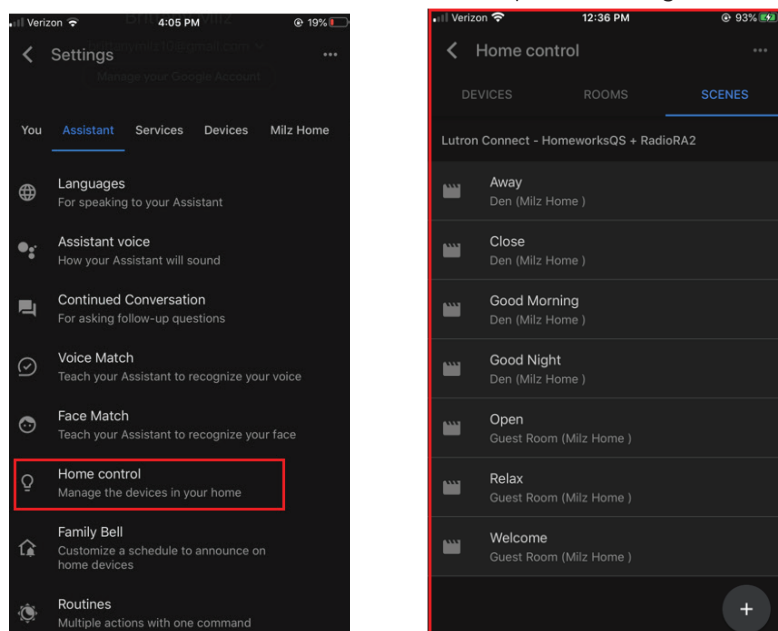
### Control of Individual Lighting Zones (*continued*)

For voice control of a standard dimmable zone, below are examples of common commands:

- To turn a light on or off
  - “OK Google, turn on or off <light name>”
- Dim a light
  - “OK Google, dim the <light name>”
- Brighten a light
  - “Hey Google, brighten the <light name>”
- Set a light brightness to a certain percentage
  - “OK Google, set <light name> to 75%”
- Dim or Brighten lights by a certain percentage
  - “OK Google, dim <light name> by 50%”
  - “Hey Google, brighten <light name> by 75%”
- Turn all lights in room on or off
  - “Hey Google, turn on or off lights in <room name>” or “Lights off or on”
- Turn all lights on or off
  - “OK Google, turn on or off all of the lights”

### Control of Scenes

The list of all associated scenes will show up in the Google Assistant app, visible under **Scenes**.



Scenes are not controllable via the app like lighting zones, but are available for control via voice and other Google Assistant features, such as routines. For information on the purpose of routines and how to configure them, refer to the **Using Google Assistant Routines** section.

Remember, single action scenes can only be turned on. To have the ability to toggle the button off, it must be defined as a toggle in the Lutron programming software.

Examples of scene voice commands are as followed:

- “OK Google, turn on Good Morning”
- “Hey Google, turn on Relax”
- “Hey Google, turn off Good Night”
- “OK Google, turn on Welcome”

# Control of Lutron Devices and Scenes from the Google Assistant App

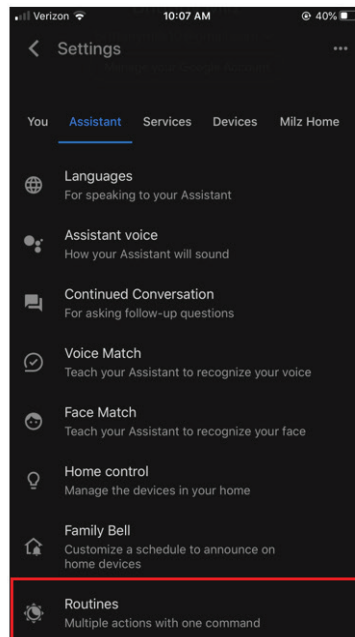
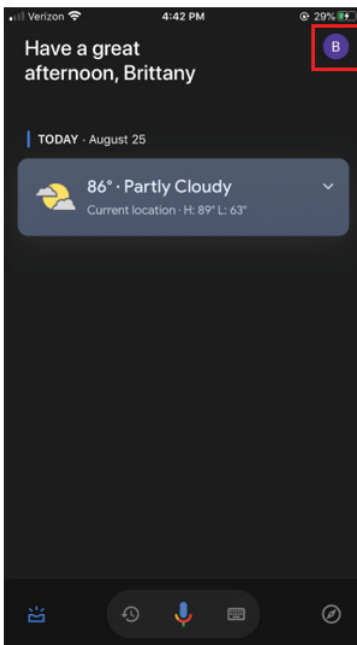
## Using Google Assistant Routines

Normal voice control using Google Assistant is done on a command-by-command basis. In other words, if it was desired to check the weather for the week ahead, traffic to work, and trigger the Good Morning scene, that would normally be executed by three different voice commands.

- “OK Google, what is the weather for the week ahead?”
- “OK Google, how is traffic to work looking?”
- “OK Google, turn on Good Morning”

Also, there would be a pause between each step as delivering weather or traffic reports using Google Home takes time. Issuing a command while Google Home is reviewing the weather could also cause an interruption of that action causing it to be incomplete. While this style of control works, it is inefficient and does not deliver the best user experience.

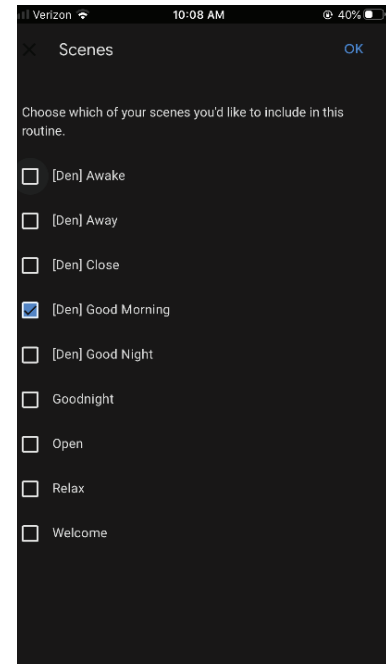
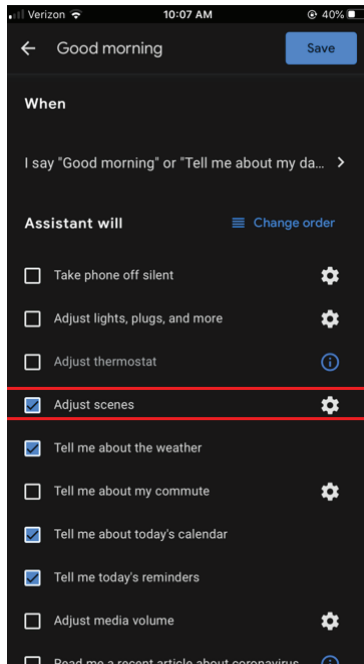
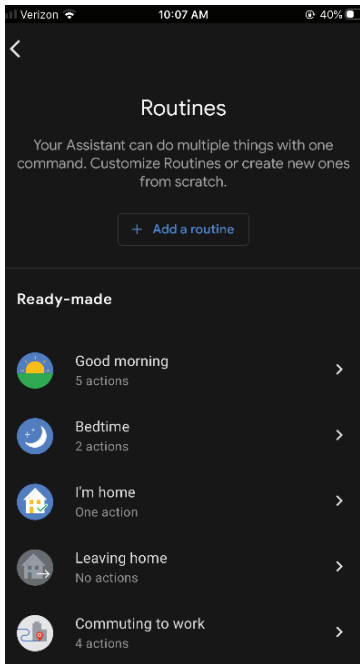
Using routines with Google Assistant helps to eliminate this inefficiency by grouping multiple commands into one. To demonstrate the effectiveness of routines and how to define them, open the Google Assistant mobile app and proceed to **Settings** in the top right corner of the screen. From there select the option for **Routines**.



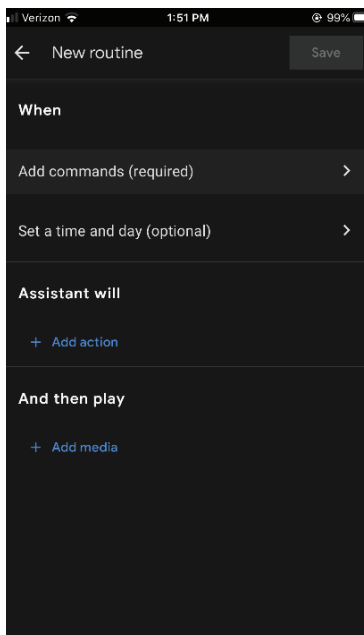
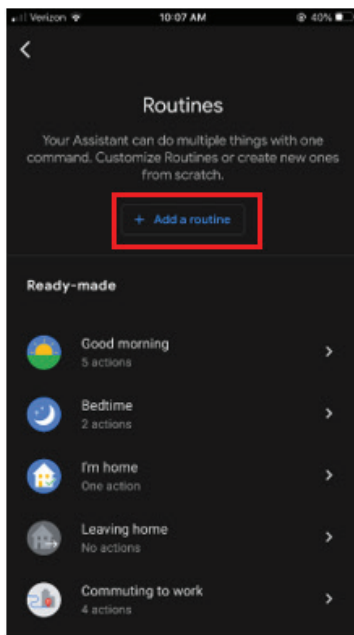
## Control of Lutron Devices and Scenes from the Google Assistant App *(continued)*

### Using Google Assistant Routines *(continued)*

Google Assistant can do multiple things with one command. Routines can be customized or created from scratch. If using **Ready-made** routines, select a routine, then choose what the assistant will do. Commands can also be edited under **When**. Select **Adjust scenes**, then click the gear icon to choose the scenes to include in the routine.



To create a new routine, click + **Add a routine**. The first thing to define is **When** the routine happens (setting a time and day is optional). The routine can be scheduled, occur as a result of the action of supported devices, or via voice.

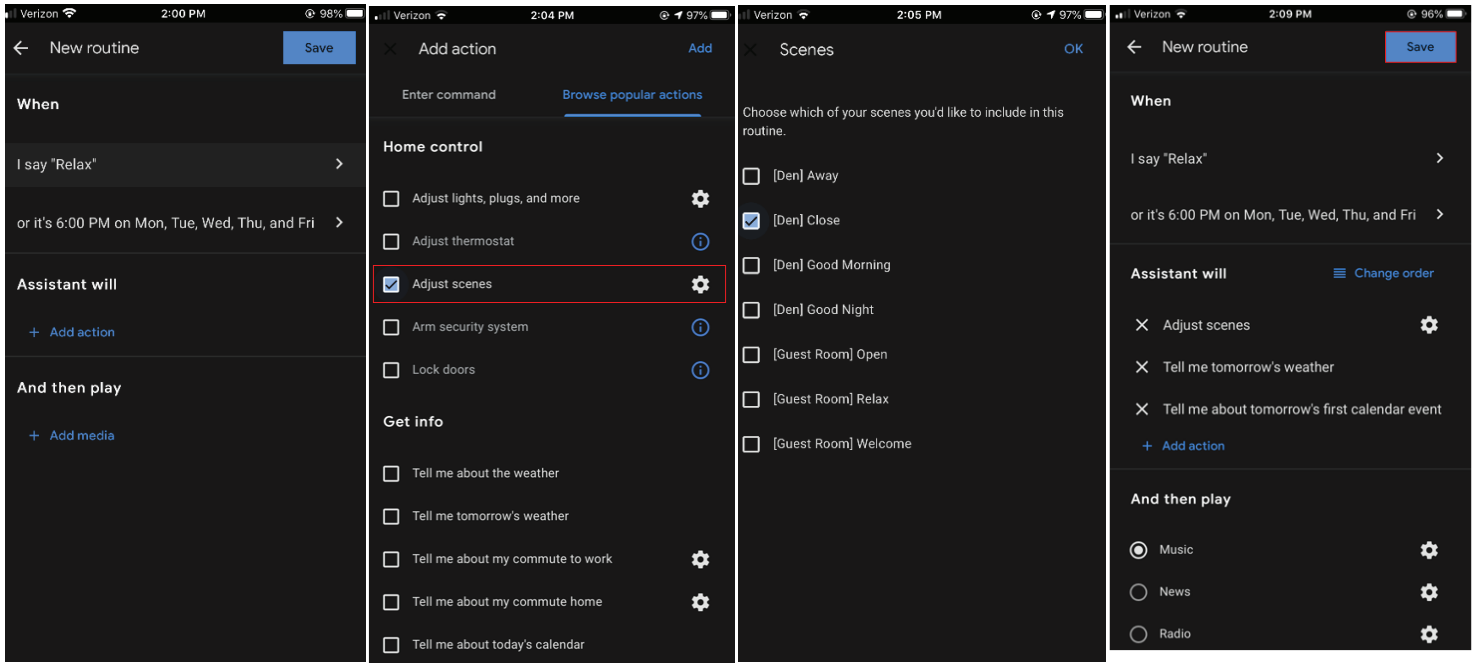




## Control of Lutron Devices and Scenes from the Google Assistant App *(continued)*

### Using Google Assistant Routines *(continued)*

Type in the phrase used to trigger the routine, in this case **Relax** will be used. Next, under **Assistant** will click the **+** to add an action. Either a command can be entered, or a popular action can be selected. Under **Home Control**, select **Adjust scenes** and click the gear icon to choose the scene(s) to include in the routine. There are a variety of actions including Smart Home (such as Lutron scenes and devices), weather, commute to work or home, etc. Click **Save**.



After clicking **Save**, it may take up to one minute for the routine to be available to use. Instead of having to issue multiple commands when the end user is ready to relax in the evening, they can now simply say “OK Google, Relax” and have Google Home:

1. Turn on the Relax scene.
2. Provide tomorrow's weather.
3. Provide tomorrow's first calendar event.
4. Play music.



## Frequently Asked Questions

### **What is Google Assistant?**

Google Assistant is Google's voice service that responds to questions or commands. For example, Google Assistant can provide the current weather forecast, the latest news, play music, control select connected home products, and much more.

You can find out more at <https://assistant.google.com/>

### **What is Google Home?**

Google Home is Google's voice control speaker that uses Google Assistant to respond to questions or commands. For example, Google Home can provide the current weather forecast, the latest news, play music, control select connected home products, and much more.

### **What hardware is required from Google to use Google Home?**

Google Home or a compatible Google Assistant enabled device.

### **What software is required from Google to use Google Home?**

Google Home app on an Apple® or Android device.

### **What do I need from Lutron to use Google Home with a RadioRA 2 or HomeWorks QS system?**

You will need a Lutron Connect Bridge and either a RadioRA 2 Main Repeater or HomeWorks QS Processor running version 10.6 or newer. The Lutron mobile app needs to be version 3.0 or newer.

### **What do I need from Lutron to use Google Home with a HomeWorks QSX processor?**

You will need a HomeWorks QSX processor running version 16.0 or newer. The Lutron mobile app needs to be version 7.0 or newer.

### **Is there a fee for using Google Home with Lutron?**

No, there is no fee to use Google Home or the Lutron mobile app.

### **What parts of a Lutron system can be controlled by Google Assistant?**

Google Assistant can control individual lighting zones, shades, and scenes.

### **How do I know if my Google Home can hear me?**

When you say "OK Google" the LED ring on top of your Google Home will light up indicating Google Home heard you and is waiting for a voice command.

### **Is it possible for Google Home to perform multiple actions with a single command?**

Google Home can only perform single actions.

### **Do I need to have my smartphone with me to use Google Home?**

No, you don't need to have your smartphone with you. You just need to be in listening range of your Google Home when saying a command.

### **How many scenes or devices can be controlled by Google Assistant?**

Lutron allows for 100 scenes or devices to be controlled by Google Assistant.

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