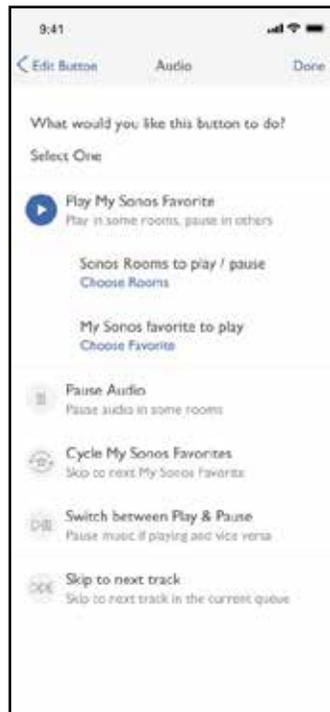


## Integrating a Sonos System with RadioRA 3 and HomeWorks QSX Systems

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### Overview

RadioRA 3 and HomeWorks systems with QSX processors integrate with Sonos systems allowing the Lutron system to seamlessly blend light, shade and audio control from any system keypad. This can also be accomplished from the Lutron mobile app for iOS® and Android® devices. The following document provides instructions on how to connect system components, basic setup, and best practices to ensure that the system is configured in a manner that meets customer expectations.



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## Minimum Hardware and Software Requirements

### Hardware

- HomeWorks QSX or RadioRA 3 system
- iOS or Android mobile device
- Router or switch ports (to connect the Lutron system processor to the same local area network [LAN] as the Sonos system)
- At least one Sonos Room (refer to **Networking Best Practices** for directions on how to connect the Sonos Room to the network)

### Software

- Lutron Designer version 21.4 or newer
- Lutron mobile app version 7.12 or newer
- iOS version 11.0 or newer; Android OS version 5.0 or newer
- Sonos Player(s) running OS version 6.3 or newer

## Lutron and Sonos Integration System Diagrams

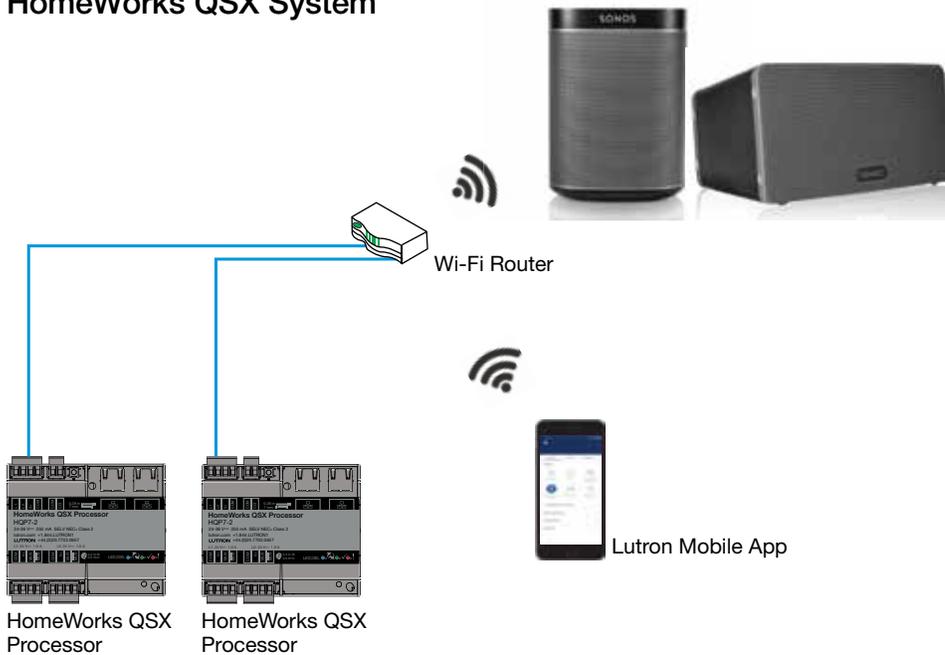
A typical connection within a home includes the Lutron mobile app establishing a Wi-Fi connection to a Wi-Fi router and the Lutron processor(s). All Sonos components should be connected to the same LAN either wired or wirelessly. No devices should be plugged into the internet port on the router as that port is dedicated to a wired connection from the internet service provider.

### RadioRA 3 System



## Lutron and Sonos Integration System Diagrams (*continued*)

### HomeWorks QSX System



### Sonos System Configuration

Prior to integrating the Lutron and Sonos systems, it is important to properly configure the Sonos system. The Sonos system configuration is completed using the Sonos mobile app. Once the initial Sonos setup is complete, it is important to create Sonos Favorites. This is one of the requirements for successful integration between the two systems. It allows control of Sonos favorites from a Pico Remote Control for Audio or the ability to add a Sonos Favorite to a scene (e.g., Morning). Download the Sonos mobile app from the app store to begin configuration of the Sonos components.

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## Integrating Sonos Speakers with RadioRA 3 and HomeWorks QSX using the Lutron App

Sonos speakers are set up through the Sonos app, and the RadioRA 3 and HomeWorks QSX processors are activated in the Lutron app.

Use only all wired or all wireless Sonos speakers. Do not use a combination of wired and wireless speakers as this can cause network connection issues. For the best experience, Lutron recommends adding one or more Pico Remote Controls for Audio (PJ2-3BRL-Gxx-A02, where xx = color) to the RadioRA 3 and HomeWorks QSX system. **Note:** Each Pico Remote Control for Audio can control only one **Sonos Room** at a time.

### Integrating Sonos Speakers:

1. Sign into the Lutron app as **Homeowner**.  
**Note:** Pro Installer Mode cannot access the Sonos integration.
2. Tap the **Settings icon** in the top left-hand corner of the Home screen.
3. Select **Integrations** from the Settings Menu.
4. Select **Sonos - The Home Sound System**. (Scroll down to reveal additional integrations).
5. Tap **Sign in to Sonos**.  
**Note:** Before logging into Sonos, ensure your Lutron system is connected to the internet and is on the same network as your Sonos system.
6. Tap **Continue** from the Sonos sign-in screen.
7. Enter your Sonos account information and tap **Sign In**.
8. Select **Okay** to allow Lutron to control your Sonos system. The Lutron app automatically discovers the available Sonos speakers. If the app displays “No Sonos System was found”, ensure the Sonos speaker and RadioRA 3/ HomeWorks QSX processors are connected to the same network.
9. Tap **Done/Save** to finish integrating Sonos with the RadioRA 3/HomeWorks QSX system.

## Lutron Programming

Prior to adding Sonos Rooms to the Lutron programming using the Lutron mobile app, there are some general guidelines to follow. The following section will explore programming using three different examples of keypads: Pico Remote Control for Audio, in-wall and tabletop keypads (Sunnata, Alisse, Palladiom, etc.), and Lutron mobile app only keypads (Homeowner and virtual keypads).

In general, Sonos Rooms can be added only to buttons set as the following button types:

### RadioRA 3 System

- Single Action
- Raise – Single Scene Raise
- Lower – Single Scene Lower

### HomeWorks QSX System

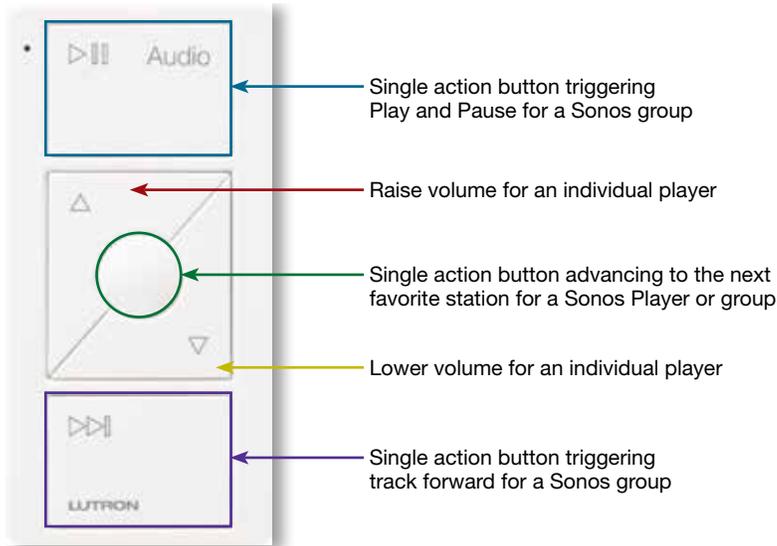
- Single Action (set LED Logic to “Momentary On When Pressed” when possible)
- Raise – Single Scene Raise
- Lower – Single Scene Lower

**Note:** Buttons with Cycle Dim enabled cannot have Sonos programming added.

## Lutron Programming (continued)

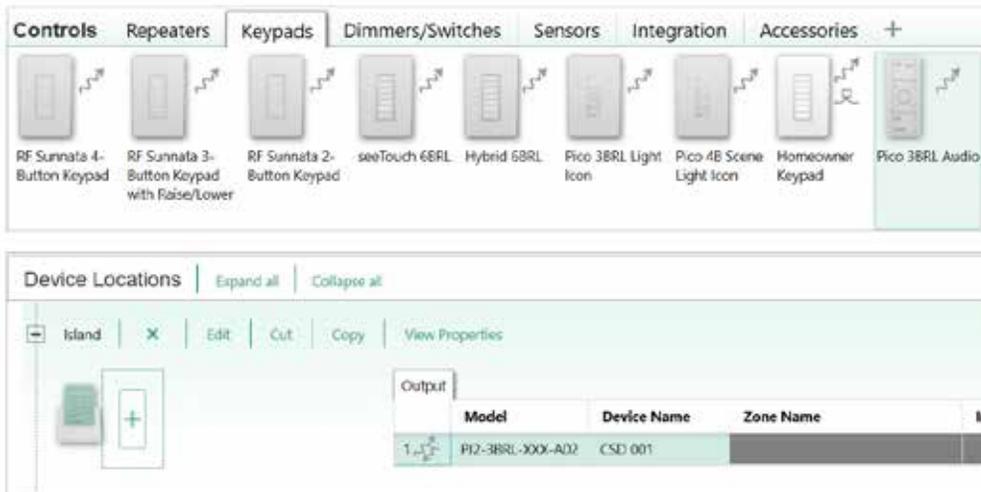
### Pico Remote Control for Audio

The Pico Remote Control for Audio is based upon the 3-button with raise and lower style of Pico wireless control.



### Adding/Configuring a Pico Remote Control for Audio in the RadioRA 3 Software

To design the audio engraved Pico Remote Control for Audio into a database, it must be added as a 3-button with raise and lower configuration. The image below shows the selection of the standard lights icon engraved option with the model number changed, in the Model field, to the Audio Pico model. The Audio Pico can also be selected into the toolbox directly.

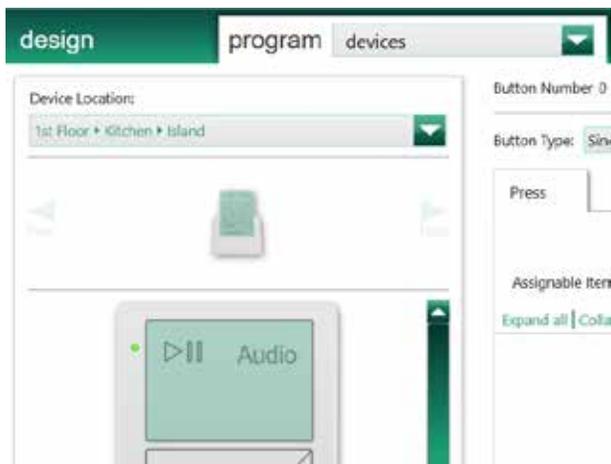


## Lutron Programming *(continued)*

### Pico Remote Control for Audio *(continued)*

#### Adding/Configuring a Pico Remote Control for Audio in the RadioRA 3 Software *(continued)*

After the Pico Remote Control for Audio has been added to the database, proceed to the **Program** tab of the software and select the Pico Remote Control for Audio from the **Selected Device Location** drop-down list.



When programming a Pico Remote Control for Audio, ensure that all buttons are set to **Single Action** button types.



Keep the raise and lower buttons set as **Single Scene Raise** and **Single Scene Lower**.



Do not program any other load to the Pico Remote Control for Audio. The Pico Remote Control for Audio must have nothing programmed to it in order to allow it to be programmed to control the Sonos system, using the Lutron mobile app.

## Lutron Programming *(continued)*

### Pico Remote Control for Audio *(continued)*

#### Adding/Configuring a Pico Remote Control for Audio in the HomeWorks QSX Software

To design the audio engraved Pico Remote Control for Audio into a database, it must be added as a 3-button with raise and lower configuration. The image below shows the selection of the standard lights icon engraved option with the model number changed, in the Model field, to the Audio Pico model. The Audio Pico can also be selected into the toolbox directly.



After the Pico Remote Control for Audio has been added to the database, proceed to the **Program** tab of the software and select the Pico Remote Control for Audio from the **Device Location** drop-down list.



When programming a Pico Remote Control for Audio, ensure that the **On**, **Favorite**, and **Off** buttons are set to **Single Action** button type with **Momentary On When Pressed** LED logic.



Keep the raise and lower buttons set as **Single Scene Raise** and **Single Scene Lower**.



Do not program any other load to the Pico Remote Control for Audio. The Pico Remote Control for Audio must have nothing programmed to it in order to allow it to be programmed to control the Sonos system, using the Lutron mobile app.

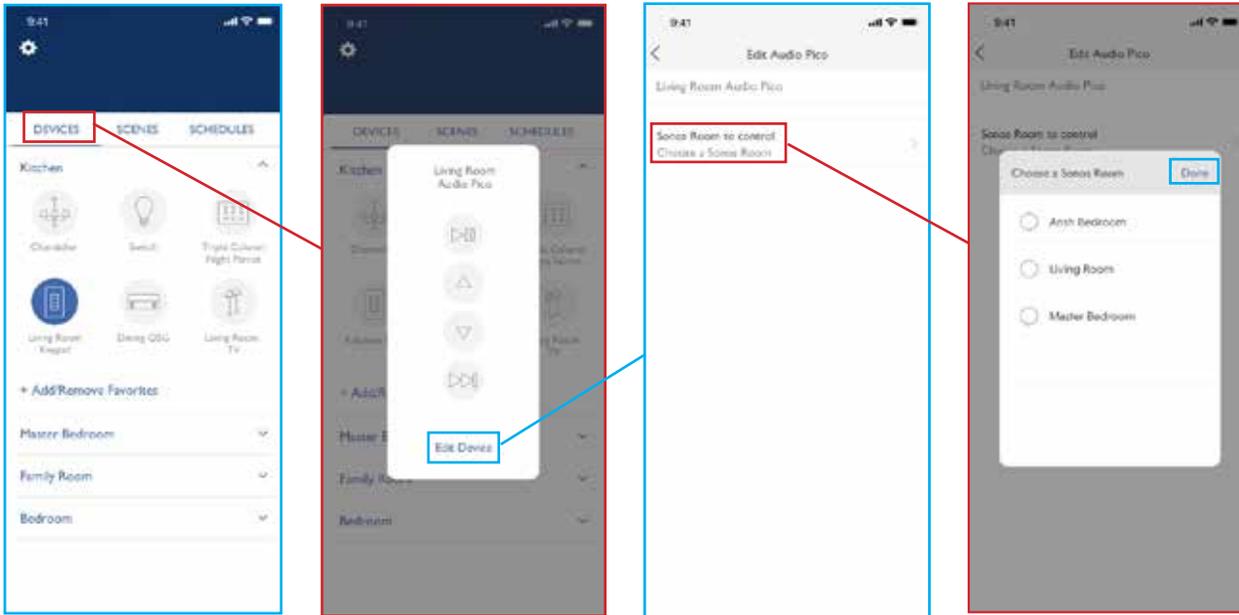
## Lutron Programming *(continued)*

### Pico Remote Control for Audio *(continued)*

#### Using the Lutron Mobile App to Program the Pico Remote Control for Audio

In the Lutron mobile app, navigate to the area tree using the **Devices** selection from the Home screen. Use the area tree to navigate to the Pico Remote Control for Audio engraving to which you would like to add the Sonos Room(s).

Tap **Edit Device** at the bottom of the Pico Remote Control for Audio pop-up and then tap **Use as a home audio Pico**. Select the Sonos Room that you would like to control and then tap **Done**.



## Lutron Programming *(continued)*

### Keypad Programming Best Practices

Sonos Rooms can be controlled from a single action button, on a physical keypad in the living space, or as part of a HomeWorks QSX or RadioRA 3 system. Only keypads that appear in the Lutron mobile app can have Sonos Room control added to the buttons. Compatible keypads that can control Sonos Rooms include:

#### RadioRA 3 Keypads

- Pico Remote Control for Audio Engraving
- Pico wireless control
- seeTouch wall-mount, tabletop, and hybrid keypads
- Sunnata RF keypads
- Homeowner keypad

#### HomeWorks QSX Keypads

- Pico Remote Control for Audio Engraving
- Pico wireless control
- seeTouch wall-mount, tabletop, and hybrid keypads
- GRAFIK T hybrid keypads
- Palladiom keypads
- Sunnata RF keypads
- Alisse keypads
- Architrave keypads
- Signature Series keypads
- Homeowner keypad

Devices that are **NOT** compatible, because they are not shown in the Lutron mobile app, include:

- HomeWorks QSX phantom keypads
- HomeWorks QSX and RadioRA 3 visor control receiver

Sonos Rooms can be controlled by RadioRA 3 and HomeWorks QSX single action button presses as follows:

- **Toggle Play/Pause** – a single action press that plays or pauses an individual Sonos Room; if the room is currently grouped with other rooms, all rooms will follow
- **Skip Next** – a single action press that advances to the next track in a playlist in whatever source is currently active on an individual Sonos Room; if the room is currently grouped with other rooms, all rooms will follow
- **Cycle Sonos Favorite** – advances to the next Sonos Favorite (configured in the Sonos app); if the room is currently grouped with other rooms, all rooms will follow
- **Volume Up/Down** – increase or decrease the volume of an individual Sonos Room using raise and lower buttons on compatible keypads
- **Play or Pause Rooms**<sup>1</sup> – blend in an audio preset to an existing scene controlling lights, shades, and temperature (ex. Welcome, Away, Morning, Goodnight); user sets the Sonos Rooms to play or pause, which Favorite to play, and the volume for all selected rooms

<sup>1</sup> Play or pause rooms may experience a slight delay in activation, coming on after lights and shades have moved to their levels, due to the amount of information being sent and the responsiveness of the audio streaming service. Each instance sends play/pause commands to Rooms, chooses a Favorite, and sets the volume for all Sonos Rooms which are playing.

## Lutron Programming *(continued)*

### Keypad Programming Best Practices *(continued)*

#### RadioRA 3 Keypad Programming

Prior to having the ability to add Sonos Rooms to buttons in the app, it is important to properly set the keypad buttons up in the Lutron Designer software.

First, proceed to the **Program** tab of the software and select the keypad to be assigned to control Sonos Rooms as part of a scene. After the keypad has been selected from the **Device Location** drop-down menu, select the appropriate button. Be sure to provide engraving text as this will not only show on the actual keypad but also in the Lutron mobile app.



Once the button has been selected and engraved, change the button type to **Single Action**.



**Single action** is a best practice because a RadioRA 3 system will not be able to utilize the Sonos Room status in its determination of the LED feedback for the keypad button. If only Sonos Rooms were applied to a toggle button, for example, the toggle off portion of the button function would never execute since the LED would never stay on. Also, when editing buttons using the Lutron mobile app, it is the Press On function of a button which is able to be edited.

Raise and lower buttons can be programmed to control volume for a Sonos Room. Controlling the volume in this way only affects the particular Sonos Room, not the group that it is in. Using a raise and lower for volume control is possible on all of the compatible RadioRA 3 keypad styles listed on previous page.

In order to utilize the raise and lower buttons of a keypad for volume control, the button type must be set as **Single Scene Raise** or **Single Scene Lower** instead of using the default Master setting.



## Lutron Programming *(continued)*

### Keypad Programming Best Practices *(continued)*

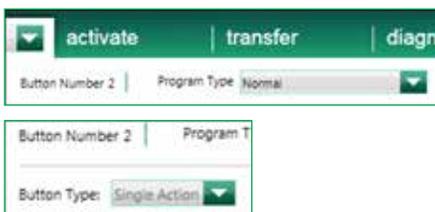
#### HomeWorks QSX Keypad Programming

Prior to the end-user having the ability to add Sonos Rooms to buttons in the app, it is important to properly set the keypad buttons up in the Lutron Designer software.

First, proceed to the **Program** tab of the software and select the keypad to be assigned to control Sonos Rooms as part of a scene. After the keypad has been selected from the **Device Location** drop-down menu, select the appropriate button. Be sure to provide engraving text as this will not only show on the actual keypad but also in the Lutron mobile app.



Once the button has been selected and engraved, make sure that the **Program Type** is set to **Normal** and change the **Button Type** (in the upper-middle of the screen) to **Single Action**. **Single Variable** and **Conditional** button types are considered advanced button types and cannot be edited from within the Lutron mobile app, preventing the end user from being able to apply Sonos Room control.



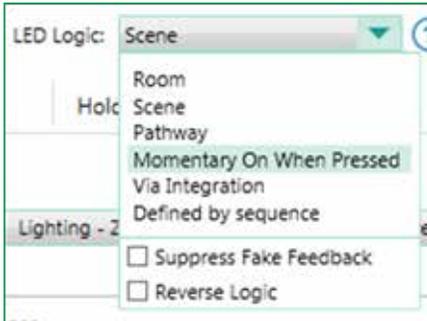
**Single action** is a best practice because the HomeWorks QSX system will not be able to utilize the Sonos Room status in its determination of the LED feedback for the keypad button. If only Sonos Rooms were applied to a toggle button, for example, the Toggle Off portion of the button function would never execute since the LED would never stay on. Also, when editing buttons using the Lutron mobile app, it is the Press On function of a button which is able to be edited.

## Lutron Programming *(continued)*

### Keypad Programming Best Practices *(continued)*

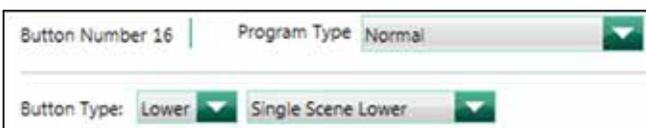
#### HomeWorks QSX Keypad Programming *(continued)*

If the button is only going to control Sonos Rooms (no control of any other output in the HomeWorks QSX system such as a light or shade), it is a best practice to also set the LED status to **Momentary On When Pressed**.



Raise and lower buttons can be programmed to control volume for a Sonos Room. Controlling the volume in this way only affects the particular Sonos Room not the group that it is in. Using a raise and lower for volume control is possible on all of the compatible HomeWorks QSX keypad styles listed on page 10.

In order to utilize the raise and lower buttons of a keypad for volume control, the button type must be set as **Single Scene Raise** or **Single Scene Lower** instead of using the default Master setting.



## Lutron Programming (continued)

### Homeowner Keypads

The virtual Homeowner keypad provides a way to have additional music presets without the need for an actual keypad. The scenes created can then be set as **Favorites** on the Lutron mobile app home screen, providing a quick and easy way to control Sonos Rooms.

### RadioRA 3 Software

Proceed to the **Design** tab of the software. Select the image of the **Homeowner Keypad** from the toolbox and provide a **Device Location** name. If the Homeowner keypad is not in the toolbox, first add it to the toolbox by clicking on **Edit Toolbox** in the upper-right corner of the screen and then searching for **Homeowner** in the search field.



No physical keypad will get activated to this software keypad. Keep in mind that the Homeowner keypad will still consume one of the available 95 device addresses on the Clear Connect Wireless – Type A link on the RadioRA 3 processor. The main repeater and four auxiliary repeaters each consume an address, leaving 95 out of 100 addresses for devices.

The Homeowner keypad will show up on the list of keypads that can be programmed in the **Program** tab of the software. Each button should be set to the Single Action button type which is ideal for Sonos control. The homeowner can edit the names of the buttons and assign Sonos control using the Lutron mobile app, as shown on page 17.



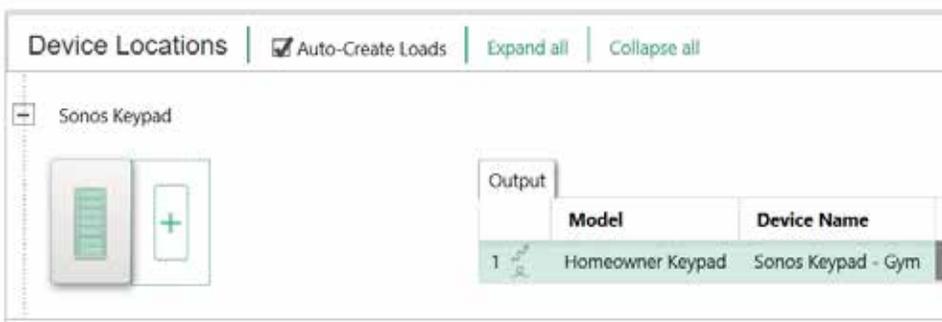
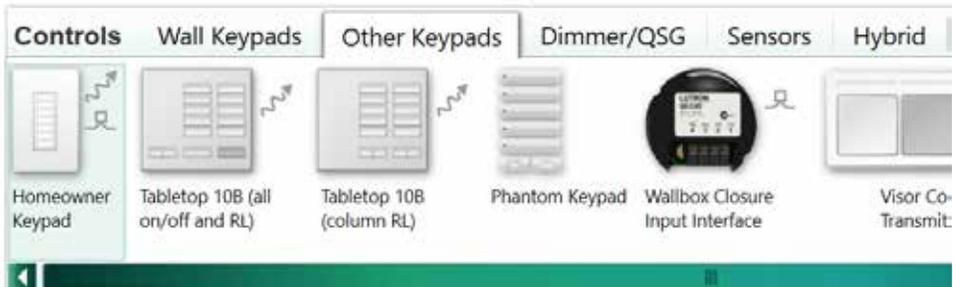
A database transfer must be performed after adding the Homeowner keypad into the system in order for it to be accessible via the Lutron mobile app.

## Lutron Programming (continued)

### Homeowner Keypads (continued)

#### HomeWorks QSX Software

Proceed to the **Design** tab of the software. Select the image of the **Homeowner Keypad** from the toolbox and provide a **Device Location** name. If the Homeowner keypad is not in the toolbox, first add it to the toolbox by clicking on **Edit Toolbox** in the upper-right corner of the screen and then searching for **Homeowner** in the search field.



## Lutron Programming *(continued)*

### Homeowner Keypads *(continued)*

#### HomeWorks QSX Software *(continued)*

After the Homeowner keypad has been added to the database, it must be linked by going to **Design > Link Assignment**. The Homeowner keypad can be linked to either a QS or RF link and will consume one of the available device addresses on the link.

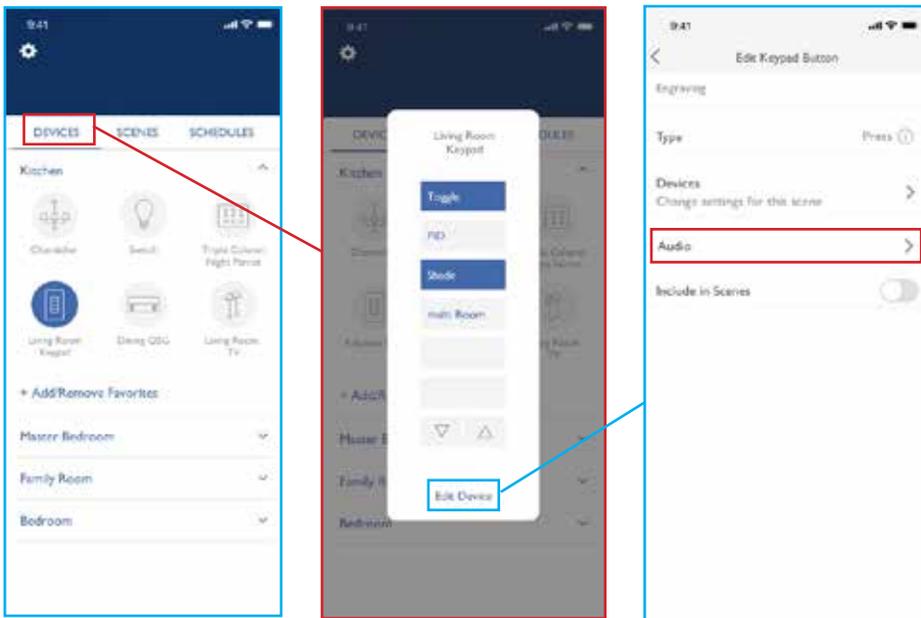
The Homeowner keypad will show up on the list of keypads that can be programmed in the **Program** tab of the software. Each button should be set to the Single Action button type which is ideal for Sonos control. The homeowner can edit the names of the buttons and assign Sonos control using the Lutron mobile app, as shown on page 17.

Component Number	Engraving
1	Button 1
2	Button 2
3	Button 3
4	Button 4
5	Button 5
6	Button 6
7	Button 7

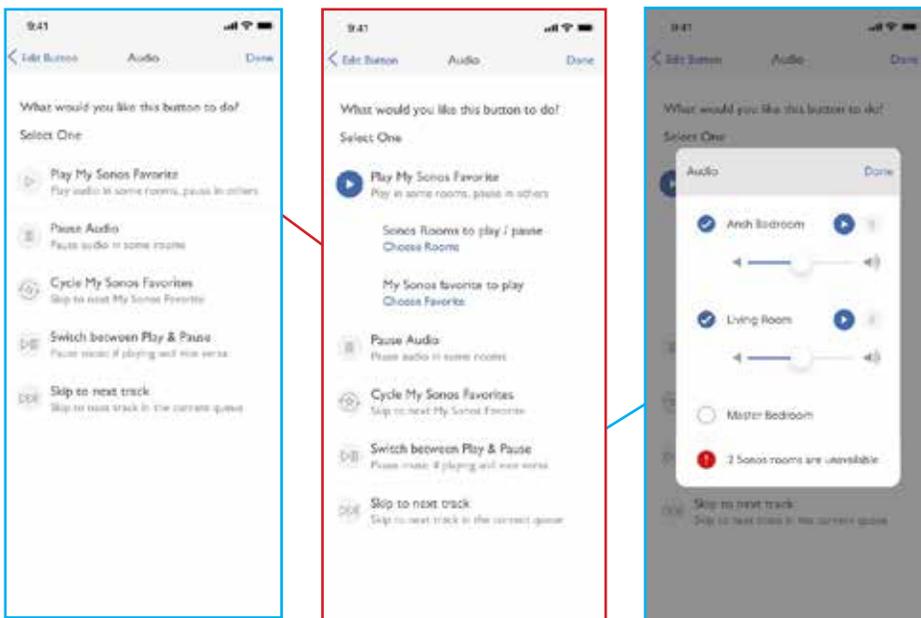
A database transfer must be performed after adding the Homeowner keypad into the system in order for it to be accessible via the Lutron mobile app.

## Using the Lutron Mobile App to Add Sonos Room Control

From the **Home** screen of the Lutron mobile app, proceed to **Devices** and navigate to the keypad that is to have Sonos Room control added to it. Once the keypad has been selected, tap **Edit Device** and tap the chevron to edit the desired button. Tap **Audio** to begin adding Sonos Room control to the button.

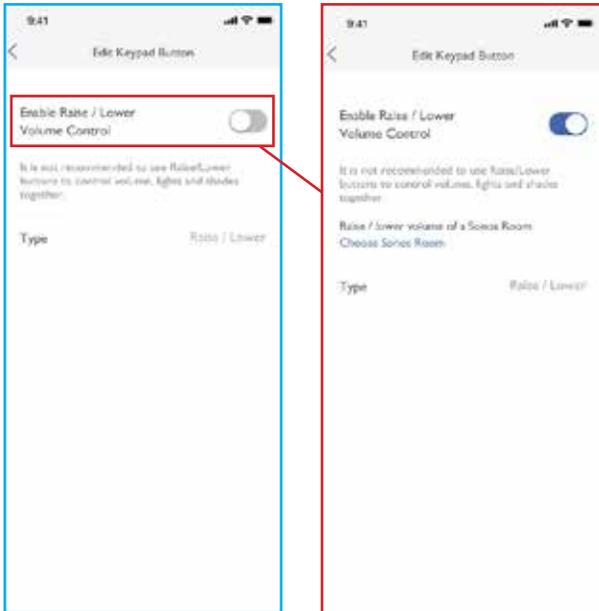


**Play or pause rooms, Toggle play/pause, Skip next, or Cycle SONOS Favorite** capability can be added to the Single Action button. To add Sonos Rooms to a scene, tap on **Play or pause rooms**. **Play or pause rooms** requires a **Favorite** to be selected as well as **Rooms to played** and **Rooms to pause**. For each one being played as part of the preset, the volume must be set.



## Using the Lutron Mobile App to Add Sonos Room Control *(continued)*

For raise and lower buttons on keypads, an **Enable Raise/Lower Volume** option will appear. The raise and lower buttons have been set to **Single Scene Raise/Lower** button types. No other loads have been assigned to them. After enabling the feature, select the Room to be affected.



## Networking Best Practices

Sonos Rooms can be set up in one of two ways:

1. Standard – All Rooms connected wirelessly through the LAN



2. Boost Mode – One Room connected via wire into a router or switch and all others connected wirelessly



When using Boost Mode, where one Room is wired into the physical network, it is important to limit the number of hard-wired Rooms to one network. Connecting more than one Room to the network using a wired connection could cause a network loop.



The network loop will cause broadcast and multicast commands to be repeated to all devices on the network. As network traffic builds, it will become increasingly difficult for other devices to communicate over the same network causing disruptions to all network devices.

## **Networking Best Practices *(continued)***

Sonos Rooms will attempt to mitigate the issue using spanning tree protocol (STP) but some prosumer and commercial grade routers block STP by default, thus allowing the network loop to continue in these instances.

Some network devices are capable of weathering the loop such as:

### **PCs/Tablets/Phones**

- Internet browsers stop working, any internet reliant service is not functional

### **Sonos Rooms**

- Playback will fail and app control will no longer work

### **RadioRA 3 Processor/HomeWorks QSX Processor**

- No longer able to use your smart phone to control your lights
- Network based integrations will not work
- Cross-processor actions no longer work in the HomeWorks QSX processor

## Frequently Asked Questions

### What is a Sonos system?

Sonos is a smart audio player system that streams all your favorite music to any room, or every room. Control your music with one simple app, and fill your home with pure, immersive sound. A Sonos system offers a variety of players in different shapes and sizes for any or every room of your home. You can find out more at [www.sonos.com](http://www.sonos.com).

### What version of the Lutron Mobile App is required for use with the Sonos system?

Lutron mobile app version 7.12 or later is required for integration with the Sonos system.

### What are the benefits of integrating Lutron with a Sonos system?

There are several benefits when integrating a Lutron system with a Sonos system. Sonos Rooms can be added to any single action scene button on an in-wall, tabletop keypad, or Lutron mobile app keypad. For example, music could be layered in with the lights, shades, and temperature control of the Morning scene, setting the perfect atmosphere for waking up in the morning and getting ready for the day. Also, you can use the new Pico Remote Control for Audio<sup>1</sup> to control your Sonos Rooms from anywhere in your home (e.g., from the wall, nightstand, coffee table). Finally, scenes that have had Sonos programming added can be controlled through voice control integration using the Lutron mobile app.

### What can I do with a Pico Remote Control for Audio<sup>1</sup> and a Sonos system?

The Pico Remote Control for Audio allows you to play/pause your Sonos Rooms, raise or lower the volume, skip tracks and change between your Sonos Favorites.

### What can I do with scenes and a Sonos system?

You can create manual scenes that control lights, shades, and sound together (e.g., Dinner scene, Relax scene).

### What Sonos products work with Lutron systems?

All Sonos components are compatible with Lutron systems, including the Sonos Roam, Move, One SL, PLAY:1, PLAY:3, PLAY:5, PLAYBAR, PLAYBASE, Beam, Arc, SUB, Port, CONNECT, and AMP components.

<sup>1</sup> App will only be able to program a Pico Remote Control for Audio if there is no other load type (non-Sonos) or devices programmed to it (e.g., lights, shades, fans, CCOs, etc.).

## **Frequently Asked Questions *(continued)***

### **What hardware is required from a Sonos system to work with Lutron systems?**

At least one compatible component listed on the previous page. When using the SUB component, it must be paired with at least one room.

### **What software is required from a Sonos system to work with Lutron systems?**

You will need to install the Sonos app on your smartphone in order to initially setup your Sonos system and select your Sonos Favorites.

### **What hardware is required from a Lutron system to work with a Sonos system?**

You will need a RadioRA 3 or HomeWorks QSX system with at least one keypad with single action button programming or a Pico Remote Control for Audio.

### **What software is required from a Lutron system to work with a Sonos system?**

You will need to install the free Lutron mobile app for Caséta, RA2 Select, RadioRA 3, and HomeWorks QSX systems on your smartphone in order to set up your system and add Sonos Rooms to the Lutron app.

### **Is there a fee for the Lutron Mobile App?**

No, the app is free.

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## Lutron Contact Numbers

### WORLD HEADQUARTERS

#### USA

Lutron Electronics Co., Inc.

7200 Suter Road

Coopersburg, PA 18036-1299

TEL: +1.610.282.3800

FAX: +1.610.282.1243

Customer Assistance:

1.844.LUTRON1

support@lutron.com

www.lutron.com/support

### North & South America

#### Customer Assistance

USA, Canada, Caribbean:

1.844.LUTRON1 (1.844.588.7661)

Mexico:

+1.888.235.2910

Central/South America:

+1.610.282.6701

### EUROPEAN HEADQUARTERS

#### United Kingdom

Lutron EA Limited

51 Lime Street, 3rd floor

London EC3M 7DQ UK

TEL: +44.(0)20.7702.0657

FAX: +44.(0)20.7480.6899

FREEPHONE (UK): 0800.282.107

Technical Support: +44.(0)20.7680.4481

lutronlondon@lutron.com

### ASIAN HEADQUARTERS

#### Singapore

Lutron GL Ltd.

15 Hoe Chiang Road

#07-03 Tower Fifteen

Singapore 089316

TEL: +65.6220.4666

FAX: +65.6220.4333

Technical Support: 800.120.4491

lutronsea@lutron.com

### Asia Technical Hotlines

Northern China: 10.800.712.1536

Southern China: 10.800.120.1536

Hong Kong: 800.901.849

Indonesia: 001.803.011.3994

Japan: +81.3.5575.8411

Macau: 0800.401

Taiwan: 00.801.137.737

Thailand: 001.800.120.665853

Other Countries: +65.6220.4666