



Integrating with the Kaleidescape Mobile App for iOS and Android

The Kaleidescape Mobile App provides advanced remote-control functionality for use with all Kaleidescape players. While the app can be used standalone, it is even more powerful when integrated with third-party control systems and their corresponding mobile apps. This document describes how and why to do that integration.

This document corresponds to version 1.1.0 of the Kaleidescape Mobile App for the iPhone and iPad, and version 1.0.0 of the Kaleidescape Mobile App for Android. It is intended for both system integrators and developers of mobile controller apps. In this document, the term “controller app” refers to a mobile app that provides control of audio/visual equipment within the home, and can include control of other automated systems such as security, lighting, and HVAC. Examples include apps from Crestron, Savant, Control4, etc.

Why to Integrate with the Kaleidescape Mobile App

While a third-party controller app can control a Kaleidescape system using the Kaleidescape control protocol, such apps typically do so with a button-based interface that requires the user to frequently shift attention between the onscreen display and the mobile device’s screen. The Kaleidescape Mobile App features a gesture-based interface that can be easily used to navigate the onscreen display and control playback, all while looking up at the television or projection screen – not down at the phone or tablet. It also gives access to player features like jumping directly to each of the movie and music views in the Kaleidescape onscreen display, searching by title, artist, and genre, and (on supported players) using the Pivot functionality within the onscreen movie store.

When used in concert with a compatible control system, the app can also present volume and mute controls and provide volume feedback so that the user can manage the volume during movie playback without leaving the app.

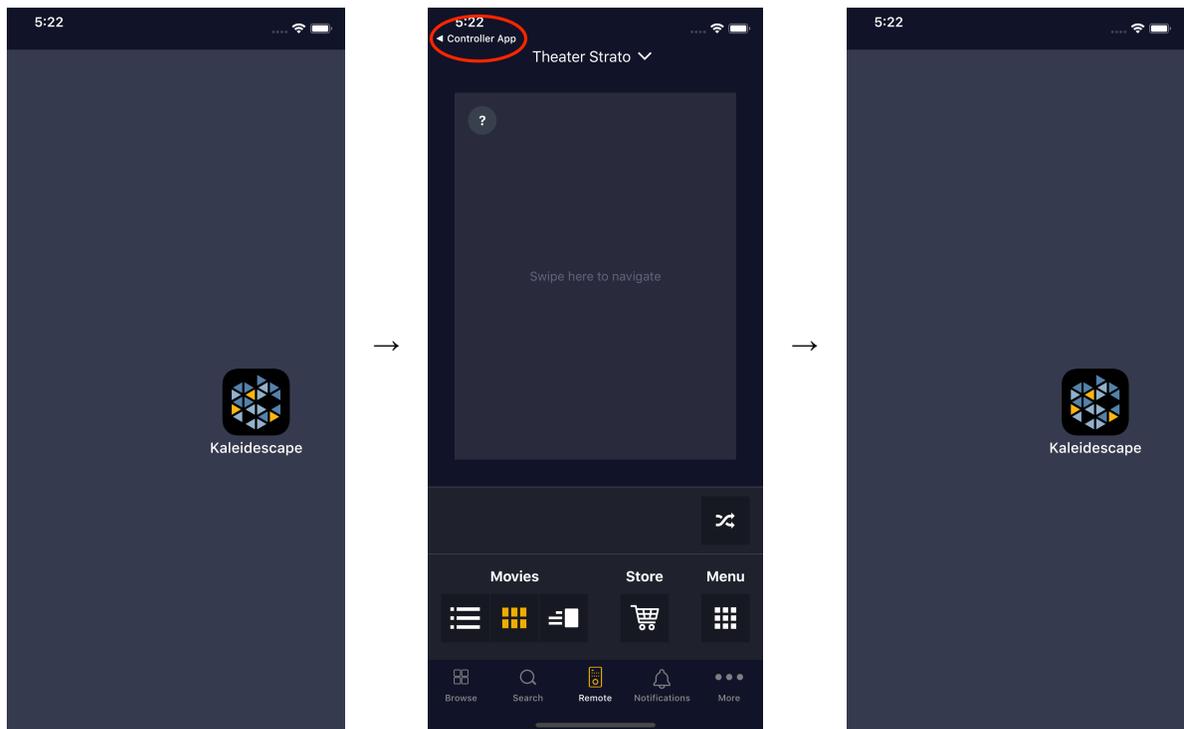
Finally, as new Kaleidescape features are introduced, third-party interfaces may become outdated unless they are proactively maintained. The Kaleidescape Mobile App can automatically update to take full advantage of the latest features.

Therefore, for the best customer experience, Kaleidescape recommends using the method described in this document to launch the Kaleidescape Mobile App when the Kaleidescape player becomes the selected source in a viewing zone. Once in the Kaleidescape app, the user can return to the controller app by tapping the standard iOS return-to-previous-app button in the top status bar, pressing the back button or key on Android devices, or (on iPhone X) by simply swiping the indicator bar at the bottom of the screen.

Kaleidescape also recommends supporting the volume-control features of the app by performing the necessary integrations within the control system. This will allow the user to control both playback and volume from within a single interface, without having to switch apps.

The following is a typical use case:

- The user is running a controller app on their mobile phone or tablet and wants to use the Kaleidescape system in their media room.
- The controller app includes a button with the icon of the Kaleidescape Mobile App on it, which the user taps.
- The controller app configures the A/V equipment for use with the Kaleidescape system, then launches the Kaleidescape Mobile App by opening the special URL described below. The Mobile App launches directly into the remote control interface, with the correct player zone already selected.
- The user navigates the player's onscreen display and controls movie or music playback using the gesture-based interface within the Kaleidescape Mobile App. During movie playback, the user is able to control the volume from within the Kaleidescape app.
- When the user is finished watching the movie and ready to switch to a different source or turn off the room, they can tap the return option or use the swipe gesture to return to the controller app.



User taps “Kaleidescape” in the controller app, launching the Kaleidescape Mobile App.

The Kaleidescape Mobile App opens on the Remote tab and automatically selects the correct player zone. An iOS-standard “back” item appears in the top left of the screen. On Android devices, this item will not appear, but the phone or tablet’s back button will perform the same function.

Tapping that “back” item returns to the original app.

URL Specification

The Kaleidescape Mobile App can be launched from any iOS or Android application by opening a special URL, the format of which is described below. As long as a third-party controller app has the ability to open an arbitrary URL in response to a button press or other user action, the integrator can use this mechanism to launch the Mobile App when the Kaleidescape player becomes the selected source in a playback zone.

Developers of third-party controller apps may also choose to use this mechanism to build in native support for launching the Kaleidescape Mobile App within their apps. App developers may refer to sample source code at the end of this document.

Refer to the URL components in the table below when building the custom URL used to launch the Kaleidescape app. The app will typically be launched with a full URL including scheme, host and query, but the query portion and even the host portion may be omitted depending upon the desired behavior.

scheme	kscope2	Open the Kaleidescape Mobile App.
host	launchApp	Selects the Remote tab.
query key	defaultZone	Specifies the serial number of the Kaleidescape player to be selected when the app is launched.

Examples

Scheme, Host & Query

Opening the following URL will open the app, switch to the Remote tab, and select the player with serial number 0509 0000458 if that player is available on the network. Note that the serial number in the URL must not include any spaces:

```
kscope2://launchApp?defaultZone=05090000458
```

Scheme & Host

Opening the following URL will open the app and switch to the Remote tab. The last-used player zone (if any) will be selected if it can be found on the network:

```
kscope2://launchApp
```

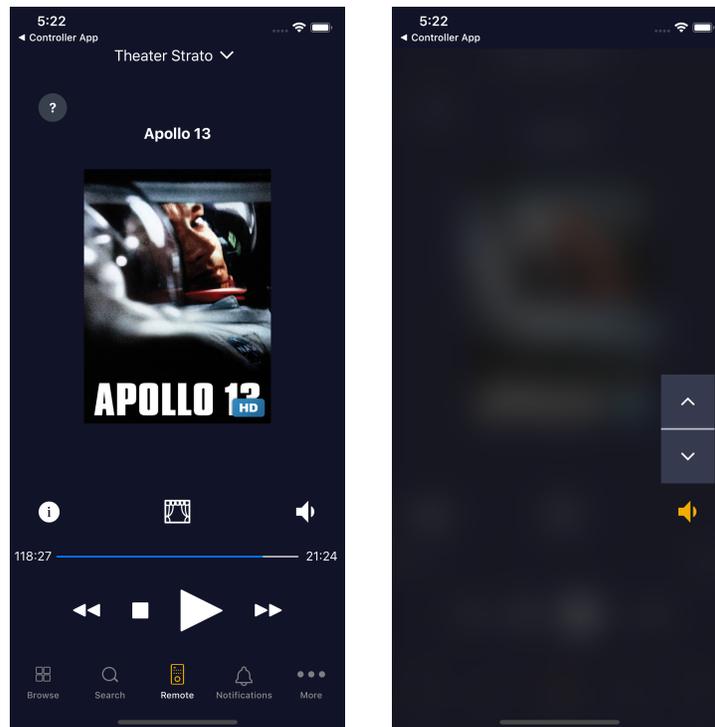
Scheme Only

Opening the following URL will open the app to wherever the user left off, or to the default screen if the app is being launched for the first time (*e.g.*, after the phone or tablet is restarted):

```
kscope2://
```

Volume Control

To provide volume control without switching between apps, the Kaleidescape Mobile App and the Kaleidescape player work together with a third-party control system to adjust the volume in the user's viewing zone. Volume commands from the Mobile App are sent to the Kaleidescape player, which emits control protocol events that are received by the control system. The control system responds to those events by adjusting the volume of the TV or audio equipment.



If the audio equipment supports volume feedback (*i.e.*, an indication that the current zone's volume is at a specific level like 75%), then that feedback is sent by the control system to the Kaleidescape player, which relays it to the Mobile App.

Support for volume control functionality is included in Kaleidescape control system drivers for Crestron, AMX, and Control4, with support for other systems planned. Integrators working with these drivers can easily utilize this functionality by setting up each viewing zone's volume capabilities within the driver, and responding to the generated events. The process for setting up this functionality is described within the documentation for each Kaleidescape driver, available from the links below.

Driver developers and integrators working with other control systems can learn how to add support for the volume functionality by referring to the Kaleidescape System Control Protocol Reference Manual at www.kaleidescape.com/go/control-protocol. It is described in the section, "Kaleidescape Mobile App and Kaleidescape App for iPad."

Crestron

<https://www.kaleidescape.com/wp-content/uploads/kaleidescape-programming-manual-for-crestron.pdf>

Control4

<https://www.kaleidescape.com/wp-content/uploads/programming-control4-controllers-for-a-kaleidescape-system.pdf>

AMX

Launch Button

Kaleidescape provides PNG artwork for the Kaleidescape app icon in a ZIP file at www.kaleidescape.com/go/app-icon.



Apply the guidelines in this section to the button in the controller app that launches the Kaleidescape app.

Kaleidescape strongly recommends that developers:

1. use the Kaleidescape app icon as the artwork for the button in the controller app, and
2. use the caption “Kaleidescape” centered underneath the Kaleidescape app icon.

Do not abbreviate, misspell or mis-capitalize the word Kaleidescape in the button, its caption, or anywhere else in the controller app interface. For example, “Kscape”, “k-scape”, and “kaleidescape” are all incorrect.

Do not modify the Kaleidescape app icon. If the Kaleidescape app icon is used in the controller app, then the image file must be used exactly as provided by Kaleidescape.

Do not create your own button artwork that resembles the Kaleidescape logo. If the provided Kaleidescape app icon artwork is unsuitable for the controller app, and you want to use artwork based on the Kaleidescape logo, please contact Kaleidescape for assistance.

If the controller app uses the Kaleidescape app icon, the Kaleidescape logo, or the trademark word Kaleidescape, and if the controller app already includes some legal notice with copyright or trademark notices, then include one of the following trademark acknowledgements in the controller app legal notices as appropriate to acknowledge the Kaleidescape trademarks used:

- Kaleidescape and the Kaleidescape logo are trademarks of Kaleidescape, Inc. and are registered in the United States and certain other jurisdictions.
- Kaleidescape is a trademark of Kaleidescape, Inc. and is registered in the United States and certain other jurisdictions.
- The Kaleidescape logo is a trademark of Kaleidescape, Inc. and is registered in the United States and certain other jurisdictions.

Code Example (iOS)

Writing code to launch the Mobile App from another iOS application is very straightforward. This Swift code sample will launch the app, switch to the remote tab, and select the player with the supplied serial number, if it is available on the network.

```
func launchKaleidescapeApp() {
    // Replace this string with an appropriate serial number
    let serialNumber = "050900012345"
    guard let url = URL.init(string: "kscape2://launchApp?desiredZone=\(serialNumber)") else { return }
    UIApplication.shared.open(url)
}
```

Code Example (Android)

This Kotlin code sample will launch the app, switch to the remote tab, and select the player with the supplied serial number, if it is available on the network.

```
fun launchKaleidescapeApp() {
    val launchIntent = Intent(android.content.Intent.ACTION_VIEW)
    // Replace this string with an appropriate serial number
    val serialNumber = "050900012345"
    launchIntent.data = Uri.parse("kscape2://launchApp?desiredZone=${serialNumber}")
    startActivity(launchIntent)
}
```