

Section 5

Control Systems

Kaleidescape players support almost any control device.

- Infrared (IR) remotes
- Touch panels
- Computer with a web browser
- Web tablets
- One-way keypads
- iPhone or iPod software applications

Kaleidescape provides control modules along with touch panel templates and sample programs for most leading control systems. Kaleidescape also provides databases and IR codes for popular IR remotes.

For specific product support including modules and reference manuals, go to www.kaleidescape.com/support/control-systems.

The following figures show examples of typical setups for Kaleidescape players and control devices.

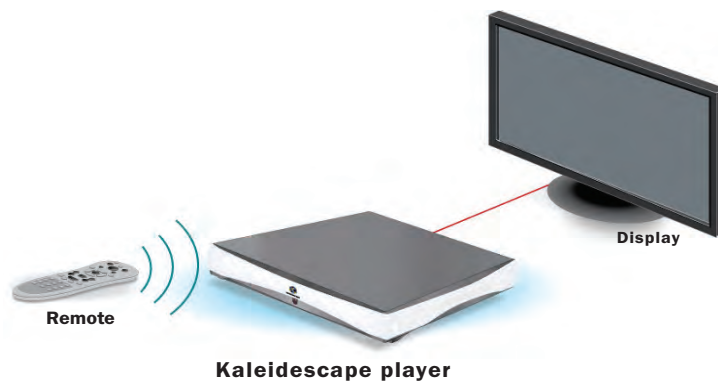


Figure 5-1 Kaleidescape Player and IR Remote Control



Figure 5-2 Kaleidescape Player and Touch Panel

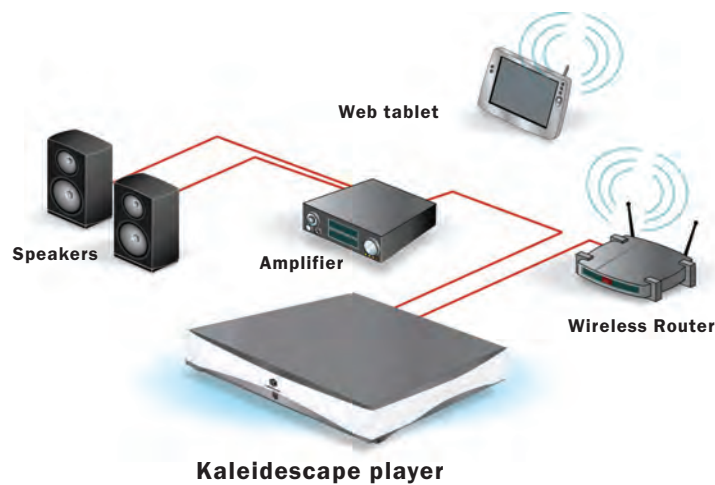


Figure 5-3 Kaleidescape Player and Web Tablet

Communication

A control device communicates with a Kaleidescape System using a simple text-based protocol over Ethernet or RS-232, or IR. Although connected to a single component, a control device can route messages to any Kaleidescape component using device ID numbers or serial numbers. IR control cannot be routed like serial and Ethernet commands.

Control devices can use three types of control interfaces.

- ▶ Ethernet
- ▶ RS-232
- ▶ IR (one-way communication)

Kaleidescape recommends using **TCP/IP over Ethernet** for control connection in most cases. TCP/IP over Ethernet has several advantages over RS-232.

- Enables significantly faster communications
- Provides error detection and correction
- Uses standard Cat5/5e/6 cable and pinout
- Allows longer cable run
- Requires only a single network port
- Usually requires no additional equipment or wiring

Bandwidth can be a key issue, especially with multi-zone systems. Text-based feedback from several zones can cause noticeable response latency over an RS-232 connection. This is especially critical if controlling multiple Kaleidescape components through a single RS-232 port.

If the controller does not support an Ethernet connection, an RS-232 connection can provide the same level of control. If the controller does not support either an Ethernet or RS-232 connection, IR can be used for one-way control.

For more information on control connections, refer to the *Kaleidescape System Control Protocol Reference Manual* at www.kaleidescape.com/go/control-protocol and the IR Hex codes at www.kaleidescape.com/go/ir-hex.

Types of Control Devices

Kaleidescape provides a wide range of templates, modules, and sample programs for control systems from several manufacturers.

Some manufacturers also provide templates, modules and IR libraries to control Kaleidescape movie servers.

Control devices can be simple IR remotes or touch panels.

IR Remote Control

The simplest control device is a generic IR remote control for a DVD player. Every M-Class player and Mini System comes with a Kaleidescape Remote. Insert the batteries that come with the remote; the remote does not have to be programmed.

IR Code Sets

The Kaleidescape movie player supports two major infrared remote control code sets.

- Code set used by Toshiba DVD players and other manufacturers including Philips, Magnavox, Zenith, Onkyo, and Marantz
- Code set used by Kenwood DVD players

Types of Remotes

IR remotes (other than the Kaleidescape Remote) fall into the following basic categories:

- Pre-programmed
- Learning
- PC Programmable

Pre-programmed Remotes

Pre-programmed remotes only require setting the remote to control a Toshiba or Kenwood DVD player. Custom buttons that jump directly to Kaleidescape menu selections are not available.

Learning Remotes

Learning remotes can be used two ways: as a general remote with a Toshiba or Kenwood code set, or set to accept (learn) Kaleidescape-specific commands from a device that can generate these commands (for example, the Kaleidescape Remote).

PC Programmable Remotes

PC Programmable remotes can support commands specific to the Kaleidescape interface and provide a more complete experience. The manufacturer provides software that allows the remote to be programmed via a computer. This type of programming often allows IR codes to be imported in hex format (usually copying and pasting the codes into a text box), or from a Philips CCF file.

For a list of all IR codes (in hex) or CCF format available from Kaleidescape, or for the CCF file, go to www.kaleidescape.com/go/ir.

Templates are available for download for RTI, URC, and Elan remotes. Kaleidescape is also included in IR code database libraries for URC, Logitech Harmony and Opus.

Computer with a Web Browser

The Kaleidescape System can be controlled from a web browser using the control panels on the browser interface.

Access the browser interface, go to the **HOME** tab, and select a player or music zone from the **CONTROL PANELS** section on the bottom right of the Home page. See Figure 5-4.

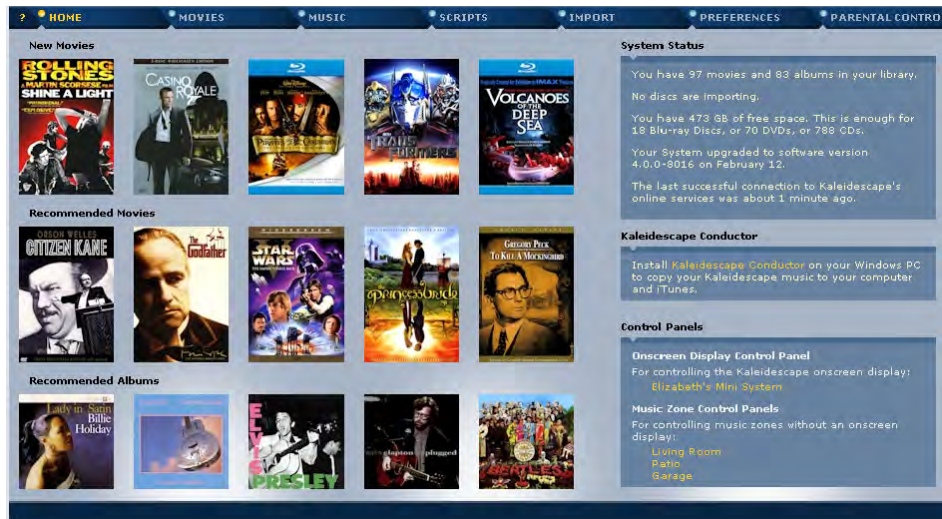


Figure 5-4 Home Page of the User Pages of the Browser Interface

Depending on the selection, the control panel for the onscreen display or music zone appears. Figure 5-5 shows the control panel for a player with an onscreen display. Figure 5-6 shows the control panel for a music zone without an onscreen display.

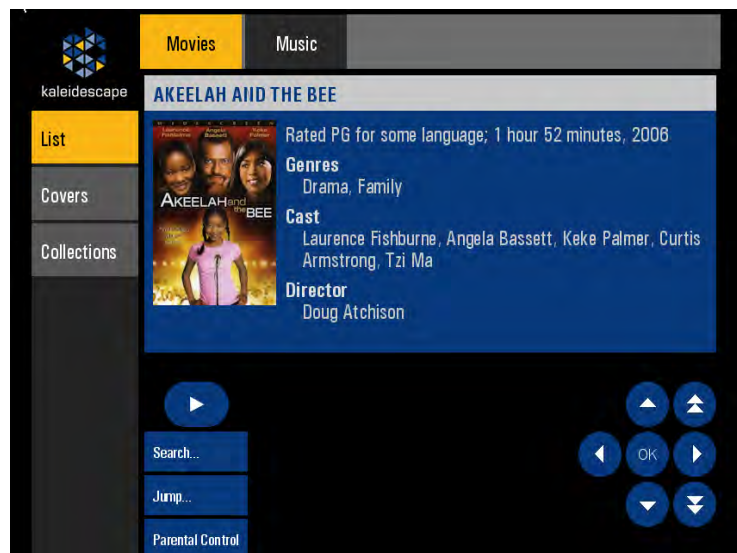


Figure 5-5 Onscreen Display Control Panel

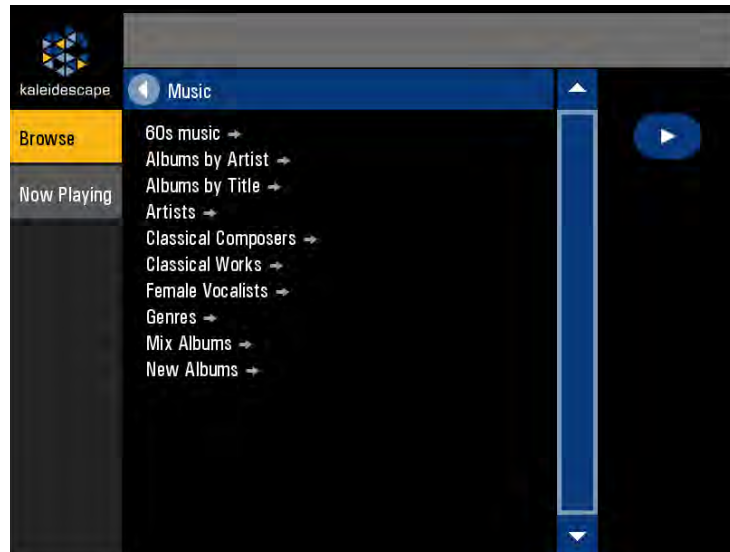


Figure 5-6 Music Zone Control Panel

Web Tablet

Any Windows-based web tablet can be used as a **dedicated** Kaleidescape controller with the **Web Tablet Setup** program.

This program prompts for information, then creates shortcuts on the **Start Menu**. The web tablet now displays the player control panel in full screen mode when turned on.

For more information on web tablet control, go to www.kaleidescape.com/support/control-systems.

Touch Panels

Kaleidescape supports several variations of touch panel control.

- Onscreen Display with Video
- Onscreen Display without Video
- Standalone music control interface for music zones

Onscreen Display with Video

Onscreen Display with Video (OSD Video) displays the Kaleidescape onscreen display on the touch panel, along with other controls, by using a video window on the touch panel. Touching the video display makes selections or navigates menus. OSD Video provides the richest user experience and is the implementation suggested by Kaleidescape whenever possible. See [Figure 5-7](#).

Note: Always use the connection that provides the highest signal quality. Fonts are small and hard to read if using composite video connections.

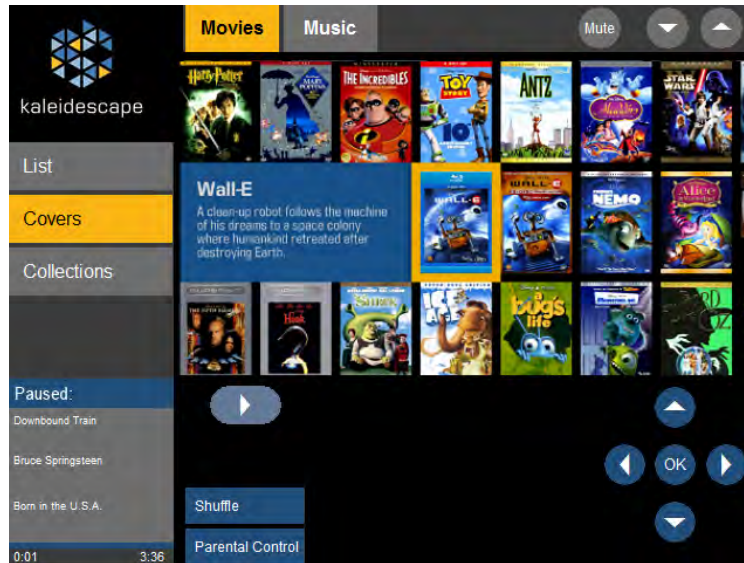


Figure 5-7 Example Onscreen Display with Video

Onscreen Display without Video

Onscreen Display without Video (OSD No Video) provides supplemental information with text-based details for content. The touch panel replicates the details pages for movies or albums while browsing the onscreen display. See [Figure 5-8](#).



Figure 5-8 Example Onscreen Display without Video

Standalone Control for Music Zones

The standalone music control interface for music zones provides text-based music controls on touch panels in rooms without video displays (e.g., hallways). A user can browse and control music playback. See [Figure 5-9](#).

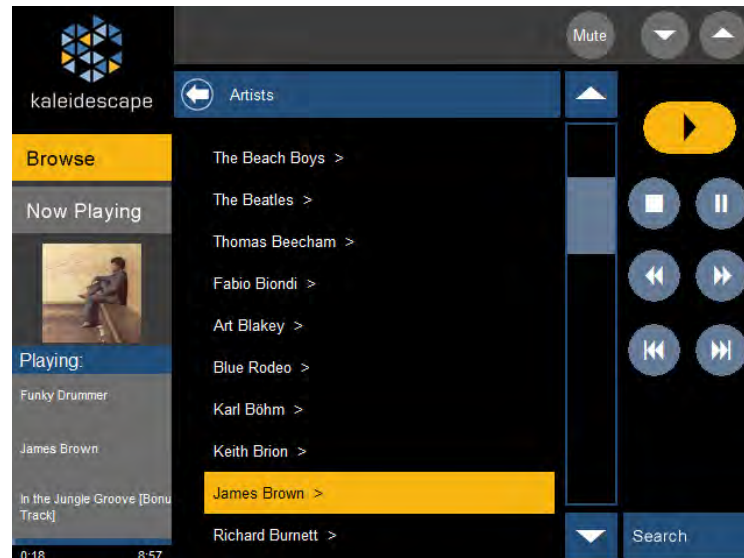


Figure 5-9 Example Music Control Interface

When selecting the touch screen for an installation, consider whether a video display is present and the technical capabilities of the touch panel. Installations can require more than one type of touch panel interface to provide the best control for every zone.

For more information, go to www.kaleidescape.com/support/control-systems.

Keypad Control for Music

In-wall keypads are convenient for music zones that have no video display and no touch panel. There are two types of keypad control.

▶ Keypad presets

With keypad presets, a keypad can be programmed to play a music selection. Presets can be set to behave like car radio buttons. Press and hold to store, then press to recall.

▶ Music collections

With music collections, a keypad can be programmed so users can cycle through music selections within a music collection. This interface enables cycling through any collection by using the **NEXT** and **PREVIOUS** buttons.

An installer can program a keypad to control music on a Kaleidescape System as long as the keypad can send a programmer-defined string over RS-232 or TCP/IP. Kaleidescape also provides keypad control modules for several manufacturers that can be downloaded from the Kaleidescape website.

Note: The keypad must be able to send a programmer-defined string. Presets cannot be triggered via IR.

For more information on keypad control commands, refer to the *Kaleidescape System Control Protocol Reference Manual* at www.kaleidescape.com/go/control-protocol.

iPhone or iPod Software Applications

Remotescape Inc., has developed an iPhone and iPod touch application specifically designed to provide remote control for the Kaleidescape System. The **Remotescape** application brings the Kaleidescape Experience to the familiar iPhone interface.