Composer Home Edition
User Guide

Control4®

Control4 Disclaimer

Control4® makes no representations or warranties with respect to this publication, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Control4 reserves the right to make changes to any and all parts of this publication at any time, without any obligation to notify any person or entity of such changes.

Trademarks

Control4 and the Control4 logo are registered trademarks of Control4 Corporation. Other product and company names mentioned in this document may be the trademarks or registered trademarks of their respective owners.

Legal Notice

GNU

GNU GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION (Section 3.b.)

You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 on a medium customarily used for software interchange.

The complete text for this license is available on the Control4 web site at: http://www.control4.com.

Gracenote

Gracenote®, Gracenote logo and logotype, and the "Powered by Gracenote" logo are either a registered trademark or a trademark of Gracenote, Inc. in the United States and/or other countries.

Music and DVD recognition technology and related data are provided by Gracenote®.

Gracenote is the industry standard in Music and DVD recognition technology and related content delivery. For more information visit www.gracenote.com.

MPEG

Fraunhofer IIS and Thomson. MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson. Supply of this product does not convey a license nor imply any right to distribute content created with this product in revenue-generating broadcast systems (terrestrial, satellite, cable, and /or other distribution channels), streaming applications (via Internet, intranets, and/or other networks), other content distribution systems (pay-audio or audio-on-demand applications, and the like) or on physical media (compact discs, digital versatile discs, semiconductor chips, hard drives, memory cards, and the like). An independent license for such use is required. For details, visit http://mp3licensing.com. Radio Locator is the service provider of AM/FM channel list.

© 2005-2008 All Media Guide, LLC provides music and video recognition technology that provides cover art and related text that enriches the Control4 user Navigators.

Copyright

© 2010 Control4. All rights reserved. Control4, Control4 logo and Everyday Easy are registered trademarks or trademarks of Control4 Corporation in the United States and/or other countries. All other brands or names may be claimed as property by their respective owners. Pricing and specifications subject to change without notice.

No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of the publisher.

Contact Information

Control4 Corporation

11734 S. Election Road

Salt Lake City, UT 84020 USA

http://www.control4.com

Part number: 200-00170

Composer Home Edition User Guide, OS 2.0

Contents

Composer HE User Guide

1. Introduction

Use the Control4® Composer Home Edition (Composer HE) Monitoring, Media, Agents and Programming views to modify your system. Refer to the Composer HE Getting Started help in the Composer HE application for basic startup information (located in the menu bar, or in PDF format on the Control4 web site).

This document gives you more comprehensive information, tips, best practices, and examples about how to use Composer HE for the Control4 Operating System (OS) Release 2.0 (OS 2.0).

1.1 Purpose

The purpose of this document is to give you instructions and examples about how to use the Composer HE application to monitor your system, set up your media, program the system, use agents, and it also describes other useful Composer HE tasks.

See *Control4 Composer HE Getting Started* for installation, setup, and other getting started instructions such as how to become familiar with the Composer HE interface.

1.2 Related Documents and Resources

Document file name	Title and location
Composer HE Getting Started (200-00169)	Application Help: Composer HE Help menu PDF: http://www.control4.com/products/documentation/
Control4 System Quick Start Guide (200-00153)	PDF: http://www.control4.com/products/documentation/
Control4 System User Guide (200-00001)	Web Help: http://www.control4.com/uploads/help/System_UG/Control4_System_User_Guide.htm PDF: http://www.control4.com/products/documentation/
Control4 System Remote Control SR-250 User Guide (200-00152)	PDF only: http://www.control4.com/products/documentation/
Composer ME User Guide (200-00171)	Application Help: Composer ME Help menu PDF: http://www.control4.com/products/documentation/

2. Monitoring the System

Note: This section assumes you are familiar with the Composer HE interface. If you are not, see *Composer HE Getting Started*.

The Control4® Composer HE Monitoring view is designed to help you view your system, rooms, and devices. To access the Monitoring view, start Composer HE. When you choose the Monitoring view (highlighted in the lower left pane), you have two (2) tabs to choose from: List View and Properties.

Monitoring view:

Check the Device Status in List View

The default page in the Monitoring view is 'List View' (first tab, top-right) which lets you view all the devices in your Control4 system and their current state.

List View groups devices under the rooms to which they're assigned. In the example above, all of the devices are located in the Living Room because the Living Room is selected in the project tree (Monitoring pane).

- **Monitor Status**

  You can monitor the status of devices in the system. In List View, double-click on the device's icon to bring up the device's controls. Light levels are indicated with slider bars and buttons for on or off state. Each device has a different set of controls.

- **Device Controls**

  You can access the device's controls by double-clicking on any device icon in either the project tree or the List View tab.

Copyright © 2010 Control4. All Rights Reserved.

Try this:

Double-click on any device with an On/Off option to access the device's controls, for example, a Switch. Turn the device on or off; some devices have a color change on the icon in the Device Control and in the List View.

See also "Checking the Device Status."

Change Project Properties

The main Composer HE view shows the Properties pane. Click the **Properties** tab to expose it.
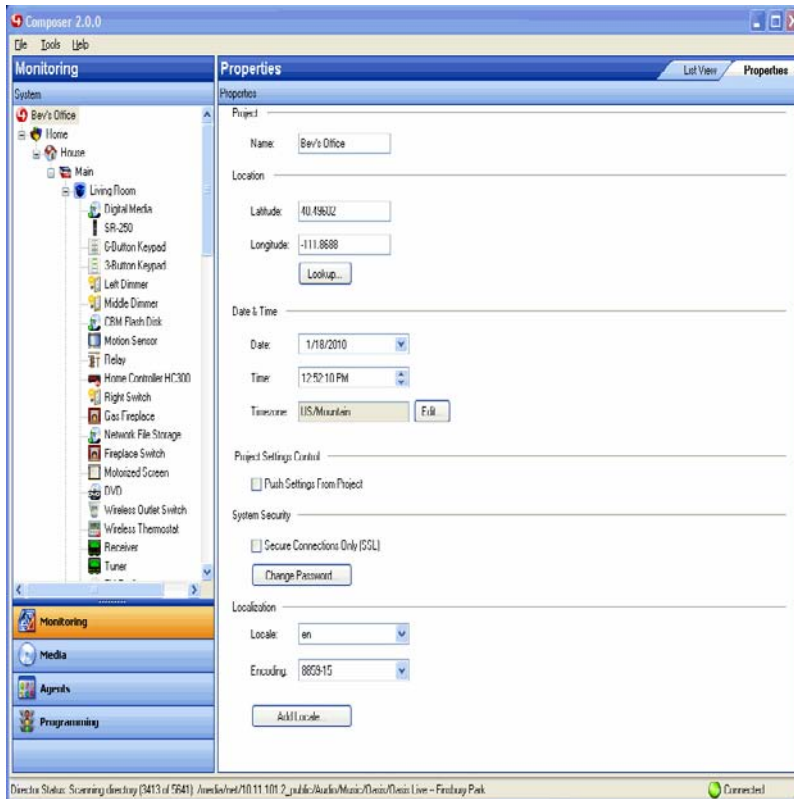
The Properties pane contains the following elements:

- **Project Properties**. Lets you change general information about the project according to the location of the Control4 system. In the *project tree*, click the **project name** (Bev's Office is the example above).

  Use the Project Properties pane to do the following:

  - Change the name of the project.
  - Change/enter the zip code of the location where the Control4 system resides.
  - Change the date and time.
  - Change the project settings.
  - Enable SSL and password for security purposes.

- Change localization options.

- **Room Properties**. In the project tree, click a **room** to view its Properties.

  This lets you edit Room Properties in the following tabs:

  - **Audio Video Devices**. Shows your available audio and video devices, where your audio and video end points are, and what is controlling the volume. If a device does not appear in this window and you think it should, check the connections. The connections probably are not mapped properly.
  - **Navigator**. Lets you hide/re-order the device's visibility and display order in a room, including Lighting Scenes.
  - **Miscellaneous**. Lets you enable the default audio or video volume for a room, and assign an IP mask to the room for programming a third-party remote.

- **Device Properties**. Click on a device from the project tree to see its editable properties. For example, you can set the one-click ramp up and ramp down rates on a Wireless Dimmer. You can also edit the LED colors for all of your Switches, Keypads, and Dimmers.

Control4 recommends that you look over the properties of each device to see how you can change them.

See also "Checking the Device Status" (next) or "Changing Project Properties" later in this document.

2.1   Checking the Device Status

Use the Control4® Composer HE Monitoring view to check the status of the *device*s in your system by room.

2.1.1 Prerequisites

Ensure that the devices you want in your system have been added and identified to the system. Check with your Control4 Dealer or Installer to add devices.

2.1.2 Procedure

To check device status:

1. Start **Composer HE** and connect to a **Director**.
2. In the project tree, select a **room**. The devices are categorized by the room in which the device is installed.
3. Click the **List View** tab.
4. Double-click a device to bring up its configuration and controls.
5. Check or change the configuration as needed.

2.2 Changing Project Properties

Use the Control4® Composer HE Monitoring view to check and change the properties of your project. You can change device and room properties also, but they aren't discussed in this section.

2.2.1 Procedure

To change the Properties:

1. Start **Composer HE** and connect to a **Director**.
2. Click the **Properties** tab.
3. Change the boxes as needed:

   - **Name**: Enter the project name.
   - **Location**: Click **Lookup** to change the Latitude and Longitude based on the location of the system by entering the city, state, or zip code.
   - **Date & Time**: Use the drop-down lists to select the date and time. Click **edit** to change the timezone.
   - **Project Settings Control**: Check **Push Settings From Project** to set a device in Composer HE not to allow the setting to be overridden at the device.
   - **System Security**: If set, all Navigators must connect through a secure connection. **Secure Connections Only (SSL)**—Check this box if you want all Navigators in this system to go through a secure connection. Click **Change Password** to change this password.
   - **Localization**: Lets you set the locale and character set for countries outside the Unites States.
     - **Locale**—Use the down arrow to change the locale.
     - **Encoding**—Use the **down** arrow to select the character set.
     - **Add Locale**—Click to locate the PO files to convert and the Locale Code. Click **OK**.

3. Setting Up Your Media and Playlists

To take full advantage of media lookup services by Gracenote®, you must be registered in 4Sight. See *Composer HE Getting Started* for details.

After you have completed the initial setup of Control4® Composer HE (see *Composer HE Getting Started*), you can set up and modify the media in your system.

Note: The AMG lookup service used in previous releases has been changed to Gracenote®. The Sony 777 Disc Changer uses Gracenote for its lookup, but the Media Controller can no longer access album, title, or artist information from AMG. CDs, however, can be imported and will show up in the Media database with a date and time stamp.

Other Media Managers: You can use other media managers, for example, iTunes, Windows Media player, and Media Monkey to create MP3s. You can still use Composer ME and Composer HE to add files to Control4.

To view and select the media from the *Navigator*s—the On-Screen, Touch Screens, System Remote Control (to select media on-screen), and LCD Keypad—you first need to add and scan the media into the Media Database which resides in Director on the Primary Controller. Use the Media view to perform these activities.

Media view:
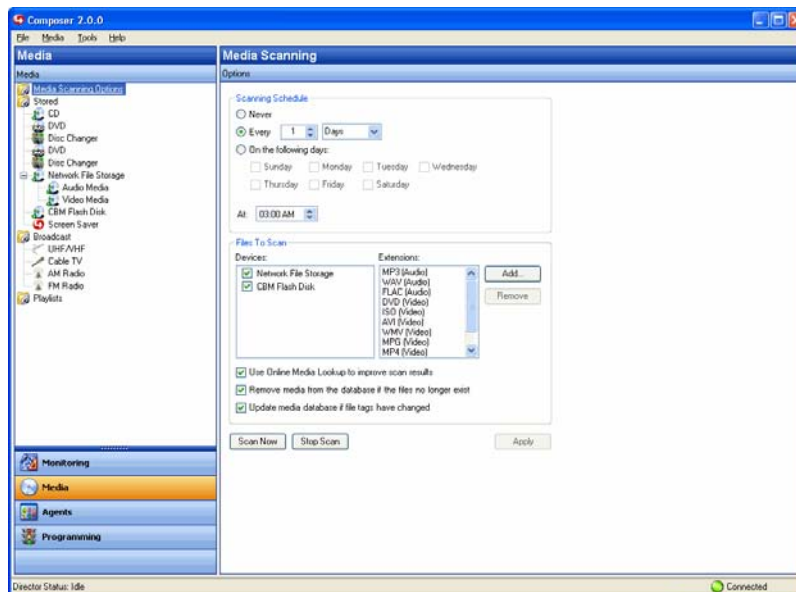
If you have *MP3*, *FLAC*, or *AAC* files stored in your system, you can create playlists. To add and scan songs and albums for playlists, they must be available in MP3, AAC, or FLAC format on a PC, Controller, or network share.

Tip: Composer HE requires that your Control4 Installer adds your system hardware successfully to your project before the media stored on that hardware can be added and scanned. For example, if a Disc Changer does not appear in the *project tree*, the media stored in the Disc Changer cannot be added or scanned. Contact your Control4 Dealer or Installer to add a device that does not appear in the system.

3.1 Setting Up Media Stored on a Controller

When you set up media on a Control4® *Controller* with storage space for media, the Controller has a built-in Digital Audio Player. A Home Controller HC-1000 V3 has disk space.

Digital Audio is the component in the Controller that provides digital audio streaming. Each source device that can provide an audio stream, whether it is a CD changer plugged into the analog inputs on a Speaker Point or a Controller, can provide audio to the digital audio servers.

Use the Composer HE Media view to set up your media to view and play.

3.1.1 Prerequisites

Ensure that the media devices have been added and identified to the Control4 system. Your Installer can help you do that.

3.1.2 Procedure

To add and scan available Digital Audio Player media:

1. In Composer, click the **Media** view.
2. In the Media view's project tree, highlight the **Controller** or attached **USB storage** with the media that you want to add to the Media pane.
3. In the Controller pane (right pane) or Network file storage, click **Add**.
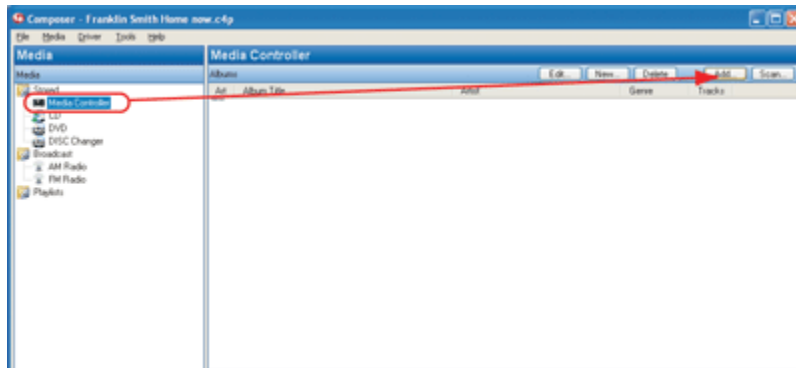
4. Browse to the directory of music files to add. Only *MP3*, M4A/*FLAC*, or *AAC* formatted files can be added.

   When the files are added, the scan automatically starts. After a few moments the media is scanned, and you will see a list of albums appear. You may see the On-screen *Navigator* update during this process also.

Copyright © 2010 Control4. All Rights Reserved.
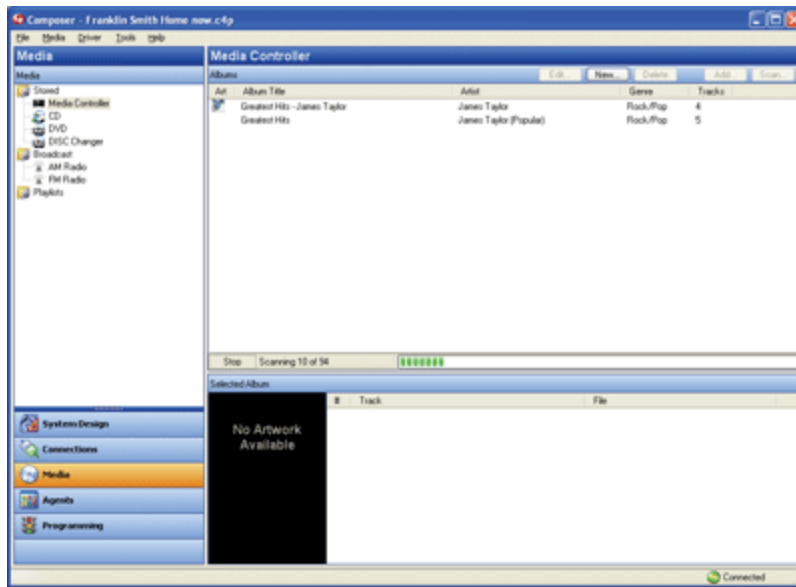
Tip: Another way to add files from a network share to a Controller is to go to the Windows Start menu, and select **Run**. Type //<Controller's IP Address**>/media/audio/music/<Artists>/<Albums>** and copy the files there.

5. Refresh the Navigators. The media is now selectable for viewing in the Navigators.

Note: If no cover art is found in the file's metadata, then no cover art is associated with the music unless the system is registered in 4Sight, and you can go to the online media lookup (Media view > Edit > Name > Search > Select > Next) to obtain the cover art for your music. Check with your Control4 Dealer or Installer for details.

3.2   Setting Up Media on a Disc Changer

When setting up a Control4® Disc Changer to play music or movies, you can add and scan media in Composer HE according to the options available on your Disc Changer. Adding and scanning populates the media information to the Media Database, which lets you view the media from your *Navigator*s.

Note: The AMG media lookup service has been changed to Gracenote®. The Sony 777 Disc Changer uses Gracenote, but the Media Controller can no longer access album, title, or artist information from AMG. CDs, however, can be imported and will show up in the Media database with a date and time stamp.

Other Media Managers: You can use other media managers, for example, iTunes, Windows Media player, and Media Monkey to create MP3s. You can still use Composer ME and Composer HE to add files to Control4.

In the Media pane, when you highlight **Disc Changer**, if the options are available on your Disc Changer, you will see following active buttons:

- **Scan**—Lets you add and scan media located on your Disc Changer, and add it to the *Media Database* (recommended if available).
- **Search**—Lets you search for media titles located on your Disc Changer, and add them to the Media Database.
- **New DVD or New CD**—Lets you add new *DVD*s and *CD*s to the Media Database.
- **Edit**—Lets you edit by Type, Title, Artist, Genre, etc.
- **Delete**—Lets you delete an entry.
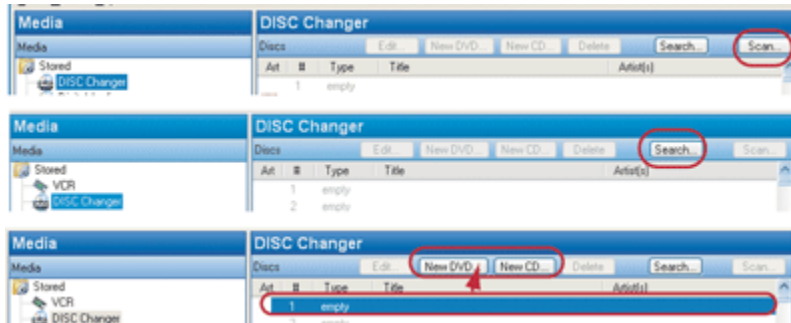
The following sections demonstrate how to add a Disc Changer to the Media Database with these options.

3.2.1 Prerequisites

Ensure that the Disc Changer has been added to the project and identified. Check with your Control4 Dealer or Installer to do this for you.

3.2.2 Procedures

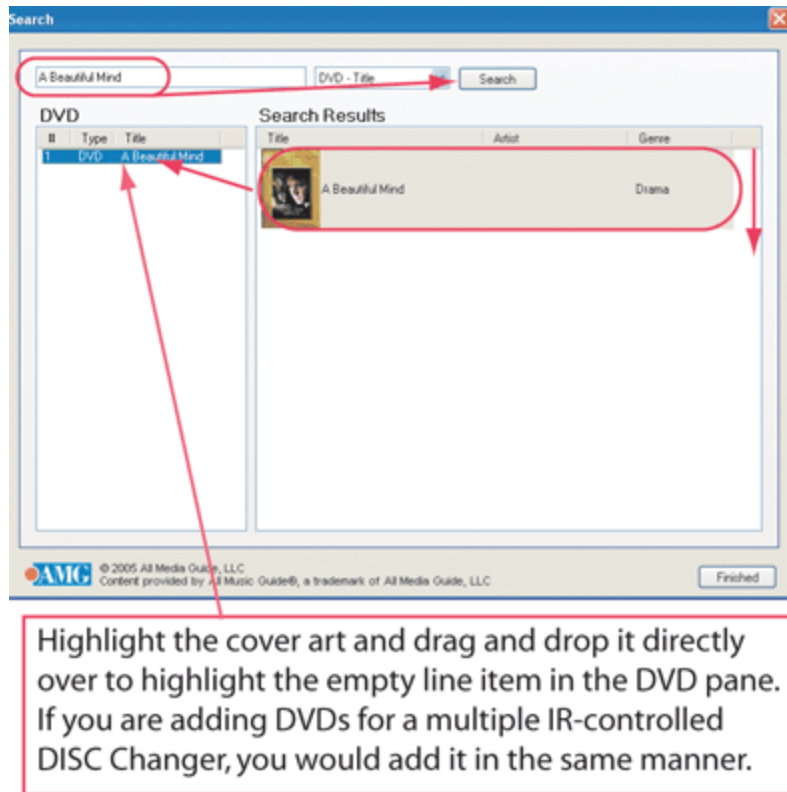To scan media on the Disc Changer to the Media Database:

1. In the Media view, select **Disc Changer** in the Media pane.
2. In the Disc Changer pane, click **Scan**. The scan results appear.
3. Refresh the Navigators. You are ready to play music now.
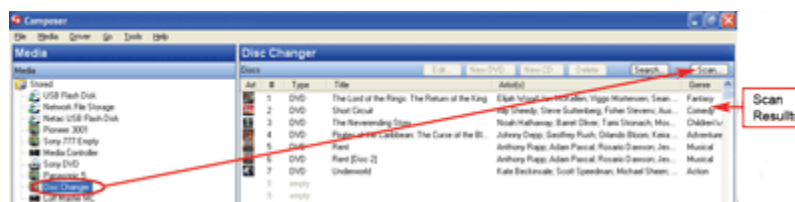
To search media on the Disc Changer and add it to the Media Database:

1. Select the Controller in the Media pane.
2. In the Disc Changer pane, click **Search**. The search dialog appears.
3. Type the DVD name in the blank box, for example, type 'A Beautiful Mind' and click **Search**. The possible DVD title matches from the Web database appear in the Search Results window.
4. Use the scrollbar if necessary to find the appropriate DVD title.
5. Highlight the appropriate DVD title, drag it directly over the empty line item, and select it.

Highlight the cover art and drag and drop it directly over to highlight the empty line item in the DVD pane. If you are adding DVDs for a multiple IR-controlled DISC Changer, you would add it in the same manner.

6. Click **Finished**.
7. Repeat these steps for the DVDs/CDs in the Disc Changer that you want to add to the Media Database.
8. Refresh your Navigators. The media you added is now selectable for viewing in the Navigators.

To add and search using the New DVD or New CD options:

1. In the **Media** view, select **Disc Changer** in the Media pane.
2. Click in the empty box for the New DVD and New CD buttons to appear.
3. Click either **New DVD** or **New CD** as appropriate.
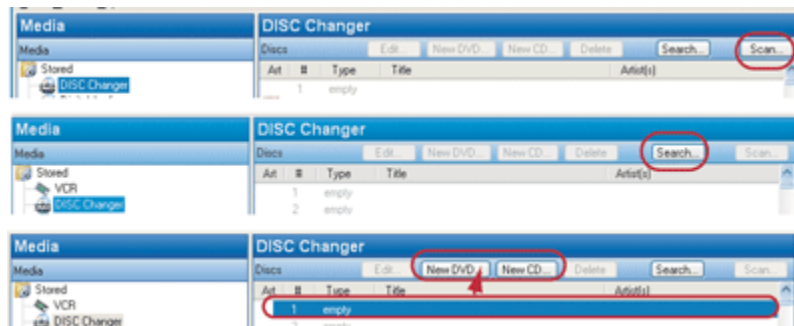
The New Movie or New Album dialog appears.

4. In the Title box, enter the **DVD** you want to play, for example, 'A Beautiful Mind.'

5. Click **Search**.

6. When the Search dialog appears, use the scrollbar if necessary to find the appropriate cover art, and then select it.
7. (Optional) You can change the search criteria and search again if necessary. The possible matches from the Web database appear in the Search Results window.
8. Click **Next**. You can choose which information to import, and then edit any associated information before adding it to the Media Database.
9. Click **Finished**.
10. Click **OK**.
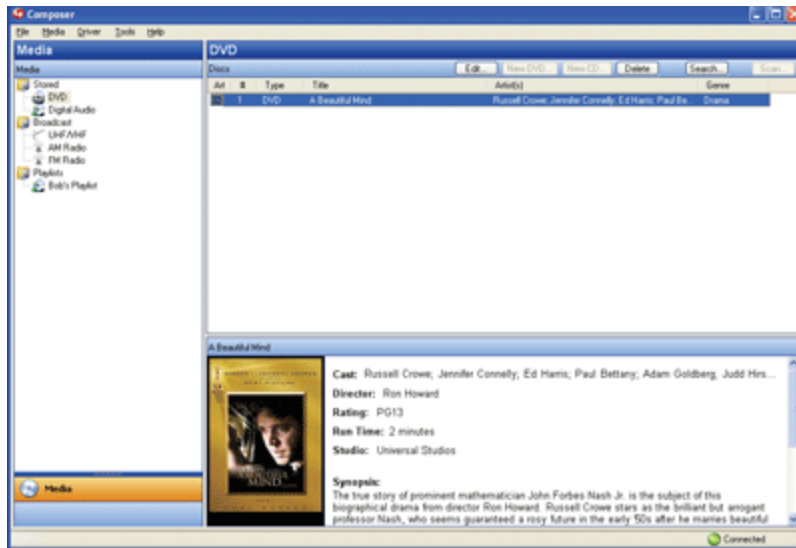
11. Refresh your Navigators. This particular DVD is now selectable for viewing in the Navigators.

   Note: Use these steps for new CDs also. Similar results occur.

3.3   Setting Up Videos for a Media Player

Your Control4 Dealer or Installer can help you get set up to play videos on your Media Player.

For information about scanning files for the Media Player, see the *Media Player Installation and Setup Guide* or the *Media Player User Guide*.

3.4   Auto-Scan Media in Composer HE

This section applies to a Sony CX777ES Disc Changer.

The benefits of running a Control4® Disc Changer with bi-directional communications (RS-232), for example, Sony CX777ES, is that you can scan your DVDs or CDs stored in the Disc Changer to identify, index, and automatically apply cover art and media information. You can have your Control4 Dealer or Installer configure your Control4 system in Composer HE to scan media automatically, or you can set a manual scan using the **Scan** button. The default is to scan media manually.

Notes:

1. If you scan a DVD or CD, and the media is not recognized, it will be titled "unknown." You can edit the DVD or CD's metadata and manually provide this information from either Composer HE or the Navigators. If this DVD or CD is then changed to a different slot, the system will apply this same information.

2. Because media scanning has been moved to the background, the scanning status is only available through Director status messages. To do this, you can either watch the Director status line or re-select the media to view the content that has been scanned.

3. Composer HE does not need to be open to scan media. This lets you use other media managers (iTunes, Windows Media Player, etc.).

3.4.1 Prerequisites

Ensure that the devices you want to scan have been added and identified in the Control4 system. Your Control4 Dealer or Installer can do this for you.

If you want to schedule regular scans, ensure that your network-attached storage is set up and is accessible from Composer HE.

3.4.2 Procedure

To schedule a regular scan of media from a network-attached device for a Media Player, for example:

1. From the Composer HE main screen, click the Media view, and then select **Media Scanning Options**. To scan your media now (and not set up a scheduled scan), click **Scan Now** and skip the Scanning Schedule in Step 2.

2. In the Options pane, set the schedule as follows:

    - **Scanning Schedule**. Select one.
        - **Never**. Select if you never want to schedule an automatic scan.
        - **Every *x* Days or Weeks** (up to 10). Select the frequency to scan.
        - **On the following days**. Select Sunday through Saturday.
        - **At <time>**. Use the **up** and **down** arrows to select the time. Highlight **AM** or **PM** and type the value: AM or PM.
    - **Files To Scan**. Select a device and extension.
        - **Network File Storage**. Select if you have a NAS you want to scan.
        - **USB Drive**. The manufacturer's USB drive appears here. Select if you have a USB drive you want to scan.
        - **Extensions**. Use the **up** and **down** arrows to choose the file type to add or remove. To add a file extension if it doesn't appear in the list use the **down** arrow to select the extension, select **Video** or **Audio**, and then click **Add**. Click **Remove** to remove that file type from the list.
        - **Use Online Media Lookup to improve scan results**. Check if you don't want the search to access the Internet for every format lookup, for example, a specific title or cover art. **Tip**: Properly tagged files will result in must faster access.
        - **Remove media from the database if the files no longer exist**. Check to remove database information when a media file has been deleted. Be careful, however, because if for example you disconnect a USB drive with media on it, the database files will delete them if checked, and you may not want to delete them if you use the drive again.
        - **Update media database if file tags have changed**. Check to have the database updated if the metadata changes.

3. Click **Apply**.

4. Click **Scan Now** to start the scan immediately or **Stop Scan** if you've started the scan and want to stop it.

3.5 Setting Up Media for Television Channels

Use the Control4® Composer HE Media view to set up your local broadcast channel stations and listings for display in the Navigators.

3.5.1   Prerequisites

Ensure that the broadcast media has been added and identified to the Control4 system. Check with your Control4 Dealer or Installer who can do this for you.

3.5.2   Procedure

To set up media for Broadcast Television Channels:

1. In the Media view, click **UHF/VHF** or other broadcast media type.
2. Click **Search**.
3. When the dialog appears, type your **zip code** in the box.
4. Click **Search** and use the pull-down menu to select the Local Broadcast Listings. The available channels are populated to the Search Results.
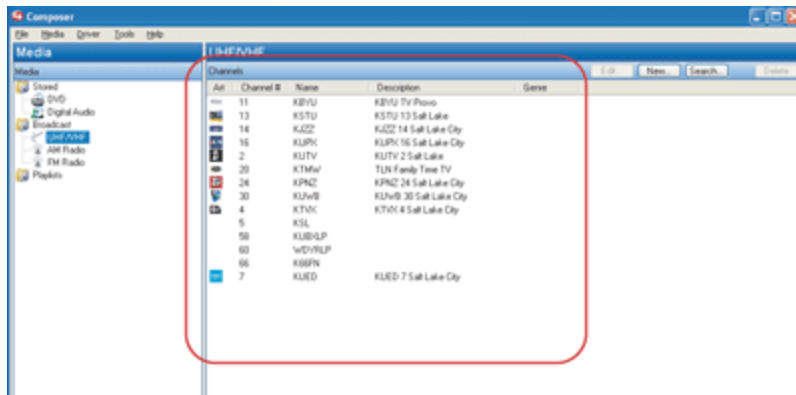
   Note: This feature is only available in the United States.

5. Click the boxes to select the desired channels that you want to appear on the *Navigator*s.
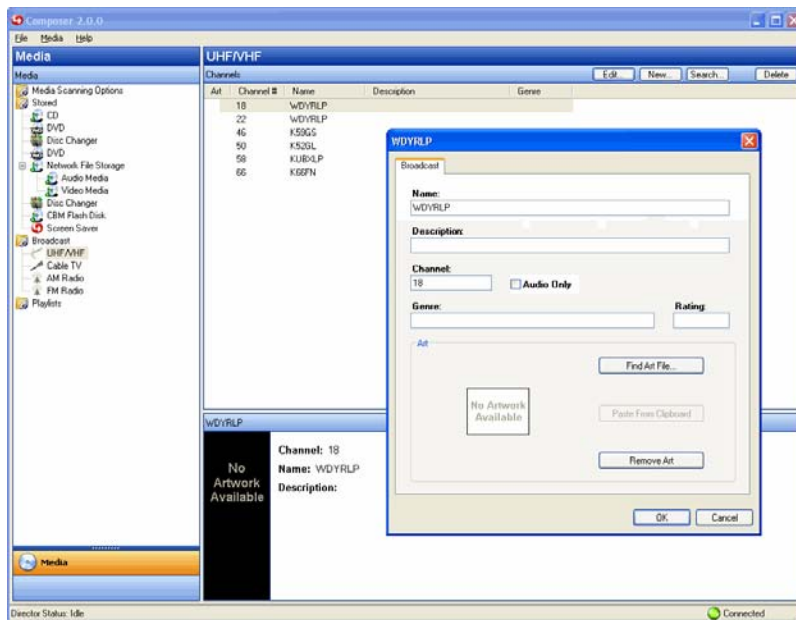6. Click **OK**.
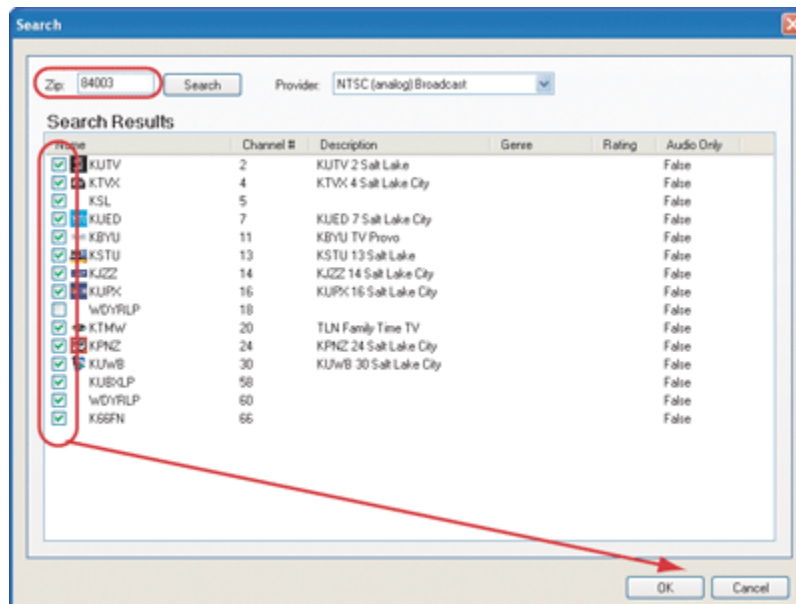
The selected stations populate in the UHF/VHF pane. You can edit the information as needed; add a description, genre, etc.

7. (Optional) To edit a channel, select the channel, and click **Edit**. The following dialog appears.
8. Edit the information and click **OK**.

9. Refresh your Navigators. You can now view and select the media from the Navigators.

3.6 Setting Up Media for Radio Stations

Use the Control4® Composer HE Media view to set up your media for radio broadcast stations.

3.6.1 Prerequisites

Ensure that the broadcast media has been added and identified to the Control4 system. Check with your Control4 Dealer or Installer who can do this for you.

3.6.2 Procedure

To set up media for broadcast radio stations:

1. In the Media view, click **AM Radio**, **FM Radio** or **XM Radio**.
2. Click **Search**.
3. When the dialog appears, type your **zip code** in the box.
4. Click **Search** again. Use the pull-down menu to select **AM Broadcast Stations** or **FM Broadcast Stations**. The available stations are populated to the Search Results window.
5. Click the **boxes** to select desired stations that you want to appear on the *Navigator*s.
6. Click **OK**.
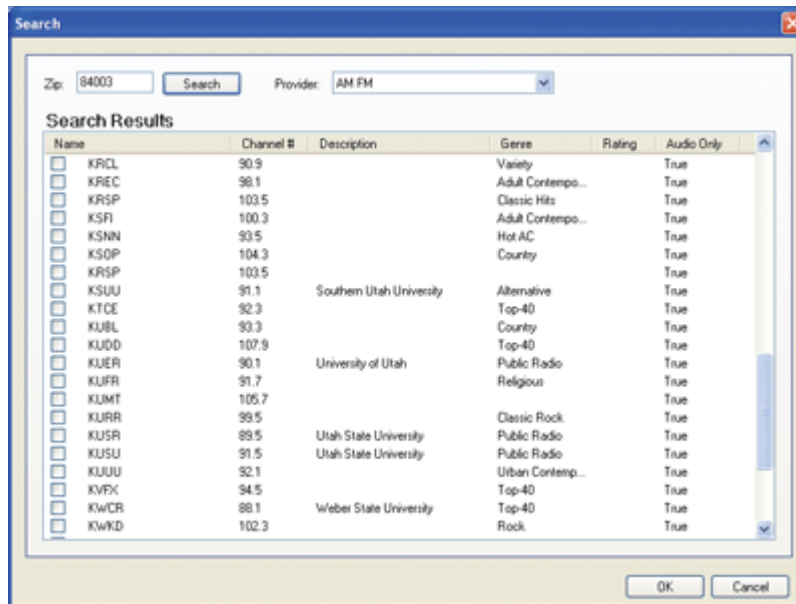
The selected stations populate in the AM or FM Radio pane.

7. (Optional) To edit a station, select the station, and then click **Edit**.
8. Edit the information, and then click **OK**.
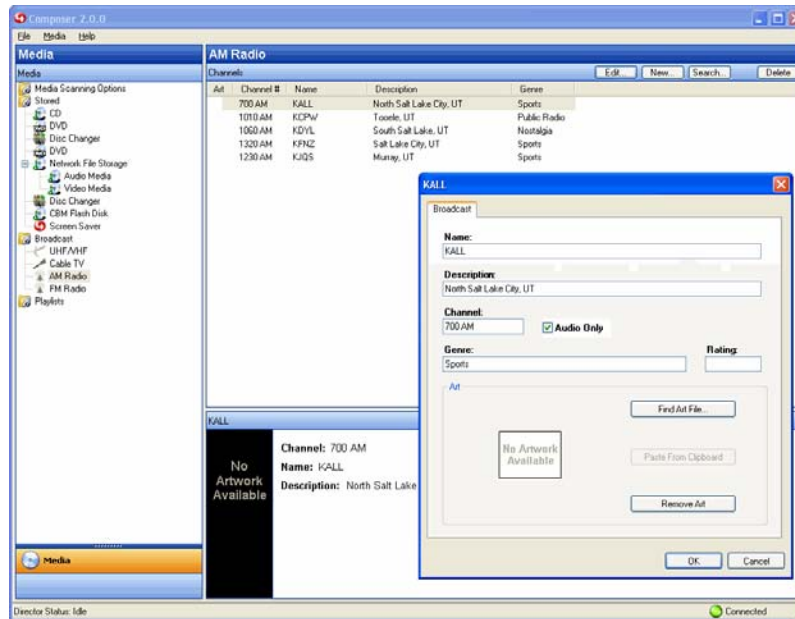
9. Refresh your Navigators.
10. Repeat the previous steps for each radio (AM, FM, XM) you want to set up. Set up each one separately. The media is now ready to view and select from the Navigators.

3.7   Setting Up Media Auto-Scan

Your Control4® Dealer or Installer can use the auto-scan feature in *Composer* Pro to scan your media automatically. Auto-scan applies to Disc Changers, Media Players, network-attached storage, and USB disks.

3.7.1 Media Player

Note: The Media Player uses the Network File Storage option in the Media view. Any time new content is added, the files must be scanned again.

For information about scanning files for the Media Player, see the *Media Player Installation and Setup Guide* or the *Media Player User Guide*.

3.7.2 Disc Changer

This section applies to a Sony CX777ES Disc Changer. The benefits of running a Disc Changer with bidirectional communications (RS-232), such as the Sony CX777ES, is that your Installer can scan your DVDs/CDs stored in the Disc Changer to identify and index media, and automatically apply cover art and information. Ask your Dealer or Installer to do this for you.

3.8   Testing the Media Information

To test control of media through the Control4® Navigators (*System Remote* Control, On-Screen *Navigator* on the TV, *LCD* Navigator, or any of the other Navigators or Touch Screens), use the steps outlined in the *Control4 System User Guide*.

Suggested test items:

- Playing an album
- Adding an album or track to the Now Playing queue
- Playing a *playlist* created in *Composer*
- Creating a playlist at a Navigator (for example, one of the Touch Screens)
- Playing multiple streams of music (play different music in different rooms)
- Playing a movie on the television

3.9 Using External Storage Devices

You can access digital music from an external storage device attached to your Control4® system. External storage devices include *USB* flash drives or USB external hard drives or a PC's drive located on the home network.

Set up your external storage device and networked file storage as described in this section using Composer HE.

Note: If you disconnect and remove the external drive (network-attached storage, USB, etc.), the music is no longer available. To access the music again, reattach and add the external storage device, and the refresh the Navigators.

3.9.1 Prerequisites

Ensure that your external storage device has been added to the Composer project and identified. Your Control4 Dealer or Installer can help you do that.

External storage devices must have media stored in unprotected *MP3*, *FLAC*, or M4A/*AAC* formats.

3.9.2 Procedure

To attach and scan external storage devices using a USB connection:

1. Power on the external storage device.
2. Use the documentation provided with your Control4 *Controller* to attach the external storage device using the USB port.
3. When you connect the external storage device, scan the music residing on that device so that the music is available to the Control4 system.
4. Click the **Media** view.
5. In the tree view, select the **external storage device**.
6. Click **Scan**. The media residing on the external storage device is available in the Control4 system.

Note: You can add media from the external storage device when connected to the Controller. However, it is recommended that you connect your external drive directly to the PC where you want to copy the media.

When scanning, the media appears when it is located on the Controller.
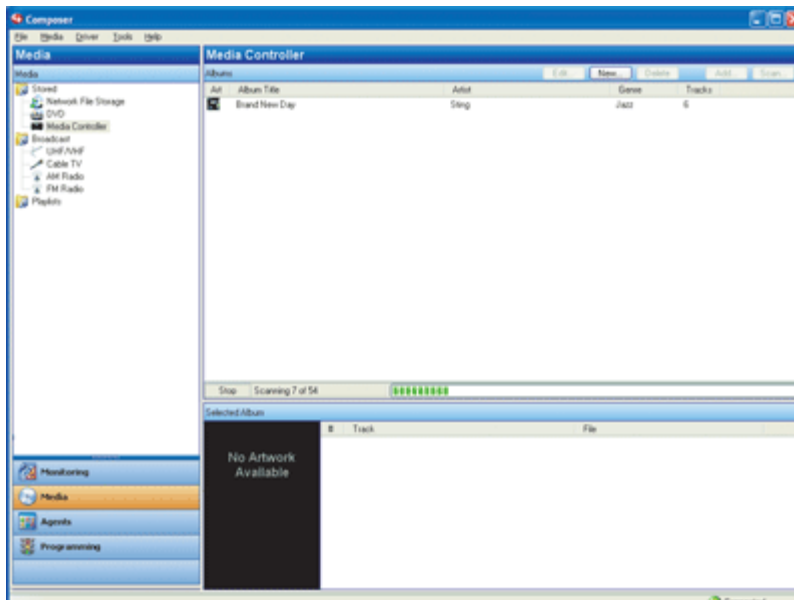
To access and scan network storage devices:

1.   Select the **Network File Storage** object.

   Note: This type of setup must be performed by your Control4 Dealer or Installer using Composer Pro.

2.   Click **Add** or **Scan**.

3.10   Creating a Playlist

Use the Control4® Composer HE Media view to set up a playlist to play songs and albums from your Touch Screens, On-Screen Navigators, or System Remote Control.

Note: To set up a playlist in Rhapsody, check with your Contol4 Dealer or Installer or see the *Control4 Quick Start Guide* or *Control4 System User Guide*.
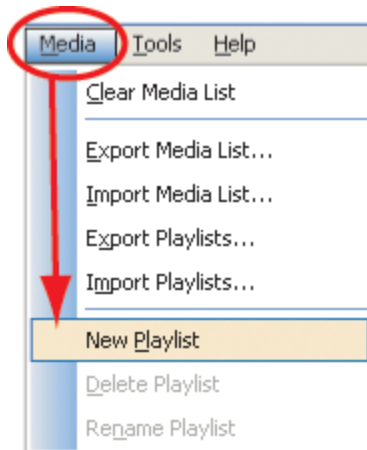
3.10.1 Prerequisites

Ensure that you have scanned your media from your media storage device to the Digital Audio player on the Controller.

3.10.2 Procedure

To create a playlist:

1.   From the Media menu, select **New Playlist**.

2. 'New playlist' appears that you can rename immediately, or later you can right-click and select **Edit** to change the name.

   Example: Change New to Frank's Playlist.

   The playlists are designed exclusively for streaming media in Digital Audio. Playlists are not intended to include broadcast channels or stations.

3. Select the **Controller**.

4. Drag and drop any albums or songs you want to add to the playlist.
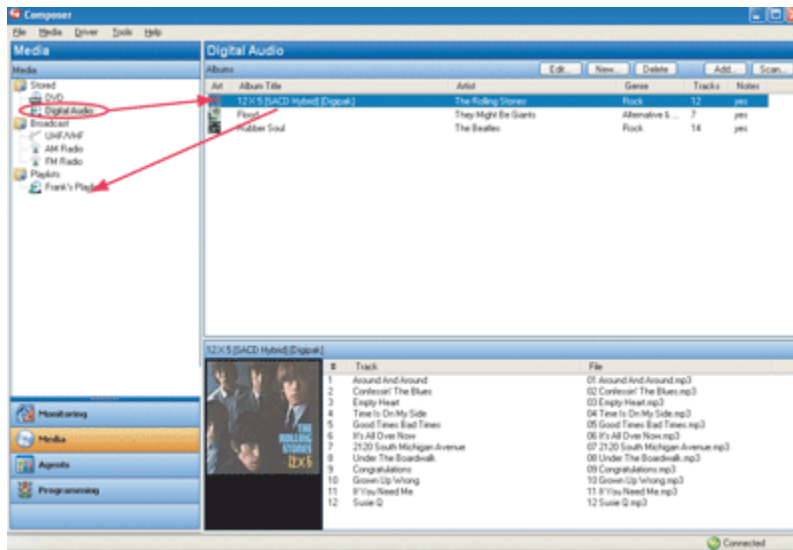
5. (Optional) To delete unwanted songs after you've added the albums, highlight the playlist by right-clicking the song and selecting **Delete**.

   Tip: To remove individual songs, right-click **Delete**. To remove multiple songs, press **Shift**, highlight the items to remove, and then right-click **Delete**.

6. Edit and play your playlists using the Navigators.

> **Tip**: You can create new playlists from your Touch Screens or On-Screen Navigator also. See the *Control4 System User Guide* for details.

3.11   Editing Media Information

Use the Control4® Composer HE Media view to edit your media information for 'unknown' *DVD*s or *CD*s. You can edit media information also in the *Navigator*s.

3.11.1 Prerequisites

Ensure that the appropriate media *device*s and media have been added and identified to the Control4 system. Your Control4 Dealer or Installer can help you do this.

3.11.2 Procedure

To edit CD information:

1. In the Media view, double-click the *device* for which you want to edit the media, such as CD, Disc Changer, Media Player, Digital Audio, etc.
2. Click **Edit** or double-click the **album** in the Album Title column. The album's dialog box appears.
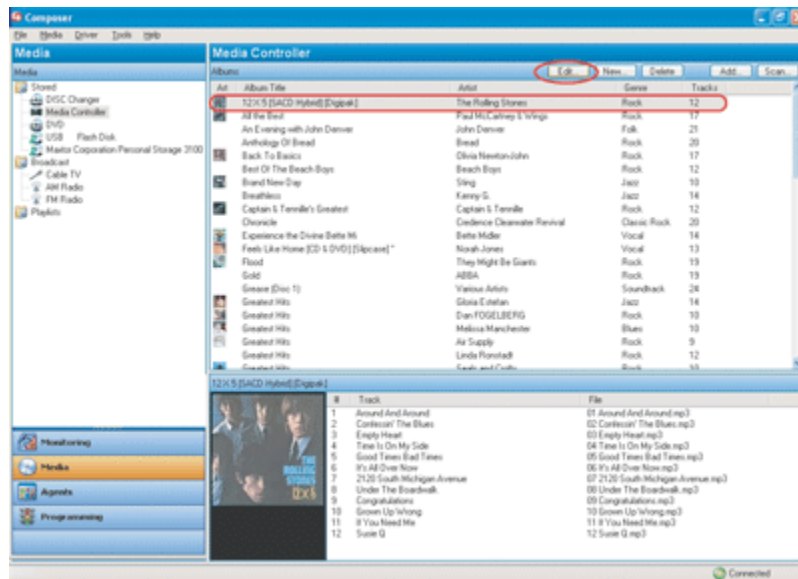
3. To edit and enter any changes, click the **Album** tab.
4. Click the boxes under **Name**, **Artist**, **Label** or **Genre**. In the Tracks and Notes tabs, view and edit **Track Titles** and **Notes**.
5. Click **Search** next to Name or Artist to search the database for similar entries.

6. To add artwork, click **Find Art File**.
7. To remove the album cover art, click **Remove Art**.
8. When you are finished, click **OK**.

9. To select a search result, select the album Title and click **Next**.
10. View and edit the information for the album, including **Name**, **Artist/Composer**, **Label**, **Genre**, **Year**, **Art**, and **Notes**.

Copyright © 2010 Control4. All Rights Reserved.

11. Make changes as desired. Click **Back** to return to previous screens.
12. Click **Finished**.

To edit DVD information:

1. In the Media view, select the **movie** under Disc Changer or DVD.
2. Click **Edit** or double-click the title under **Discs**.

3. Click the Movie tab. Edit the **Title**, **Director**, **Studio**, **Genre**, **Run Time**, **Release date** and **Rating** as desired.
4. Click the Cast and Synopsis tab. Click the **Cast** and **Synopsis** boxes, and make the desired changes.
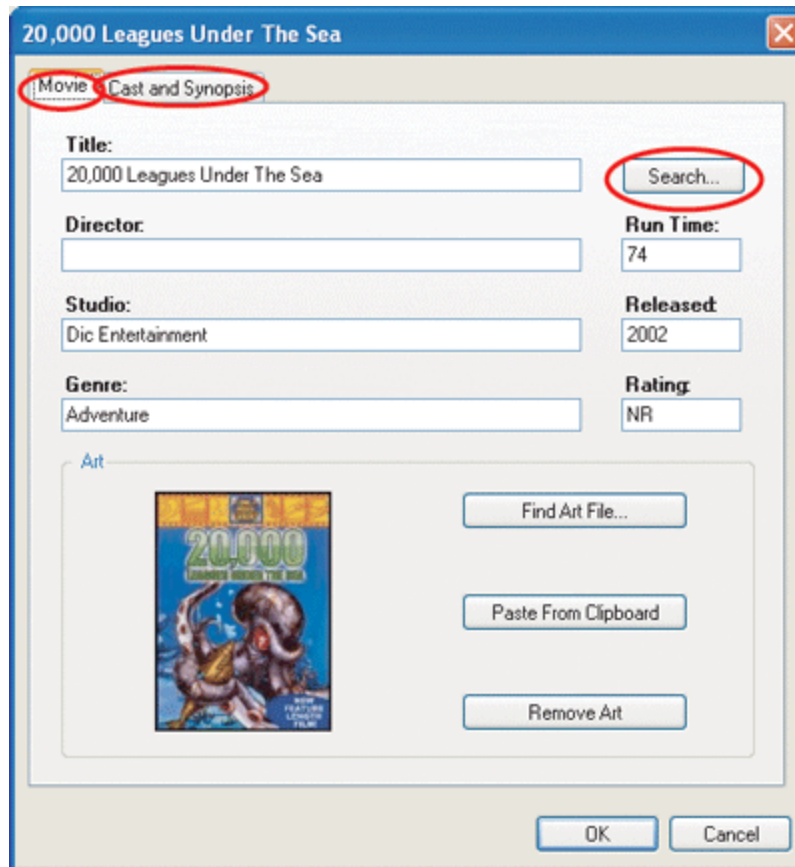
5. Click **Search** in the Movie tab to search the database for other DVDs.
6. Double-click the desired **DVD** and edit as desired according to the previous steps.
7. When you are finished, click **Finished**.

4.   Programming the System

Use the Control4® Composer HE Programming view to program your Control4 system.

4.1   Programming Basics

Use the Control4® Composer HE Programming view to configure *event*s and *action*s. In Composer HE, click **Programming** to display the Programming view.

Configuring is based on events. When an event starts, it triggers actions to take place.

Example: When the projector screen is lowered (the 'event' starts), the receiver, *DVD* player, and projector all power on (the 'actions' of the receiver, DVD player, and project are all caused by the screen-lowering event).

To program the Control4 system, you use Composer HE to drag-and-drop events and actions for corresponding devices to a Script pane. Details about how to do this are explained below.

This table describes what events, actions and scripts are used when configuring the system, and how they are used.

Item	Description
Events	All programming begins with events. An event is a "when" statement: the trigger reporting that something happened, resulting in an automated action. Events happen instantaneously.
	Example: On a Keypad, pushing a button is one event. Actions all happen under events.
	Other events include:
	When the door opens
	When it is 7:00 a.m.
	When it is sunrise
Actions	After the event communicates to the system that something happened, it will send actions.
	These methods are used to define actions:
	Commands. The Commands tab displays all available commands for a selected item in the Device Actions tree. A command is a "do" statement. Commands are actions the Director tells the device to do so it performs a certain behavior.
	Examples of commands include:
	Light: on, off
	VCR: play, stop, pause
	CD Changer: go to disk
	Security device: arm, disarm
	TV: Power on/off, change channel
	Conditionals. The Conditionals tab displays all available conditionals for a selected item in the Device Actions tree. A conditional is an "if" statement. An "if" statement asks a true/false question to the device.
	Examples of conditionals include:
	If door is open
	If after 5 p.m.
	If the light is greater than 50 percent
	Delays. A Delay stalls a program from running to ensure that the actions happen at the right time.
Script	The linking of events and actions is defined in the script. These events and actions get moved into the Script pane.

Tip: You can use Properties, Agents and Variables also to configure or program devices. These are considered advanced configuration and programming. See "Programming with Agents" in this document for information.
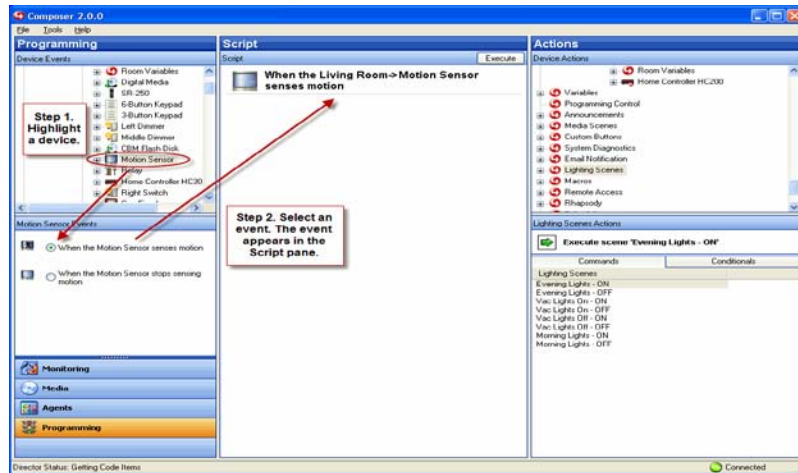
Basic programming consists of two (2) parts:

1. Define a device's *events* that trigger the actions.
2. Define a device's *actions* to trigger when an event fires.

Refer to the steps in the next two (2) figures to learn about basic Control4 system programming tasks.

1. Define the device's events (follow the screen's steps and arrows below):

2. Define the device's actions (follow the screen's steps and arrows below):
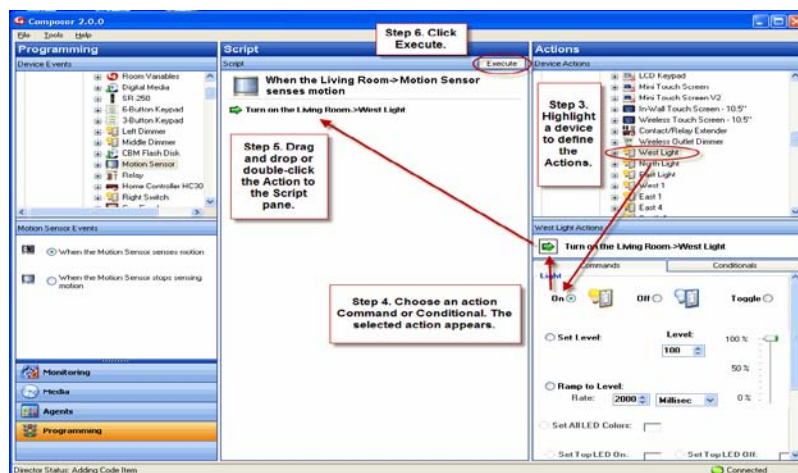
Note: Programming makes use of agents also, which let you include pre-programmed system functionality, such as scheduling, delays, or setting up Lighting Scenes.

Example: To program around sunrise and sunset, you use the Scheduler agent. See "Programming with Agents" for information about using agents in programming.

4.2   Programming with Commands

Use the Control4® Composer HE Programming view to configure *Command*s.

A Command is a "do" statement. Commands are actions that tell a specific device what to do.

Example: The steps below show how to configure a 3-Button Keypad to turn on the sprinklers using a relay for control.

4.2.1   Prerequisites

In this example, ensure that the devices you want to configure (Controller, 3 Button Keypad and Sprinklers Relay) are added and identified to the system. Your Control4 Dealer or Installer can help you do this.

The following example requires these devices in your project:

- Controller
- 3 Button Keypad
- Sprinklers

4.2.2   Procedure

To Program a 3 Button Keypad to Toggle Sprinklers On and Off:

1. In Composer HE, click **Programming**.
2. From the *project tree*, click **3 Button Keypad**.
3. Click the button that you want to program—**Button 1** (selected by default).

This automatically identifies the 'Press' event for programming. The event appears at the top of the Script pane (center pane).
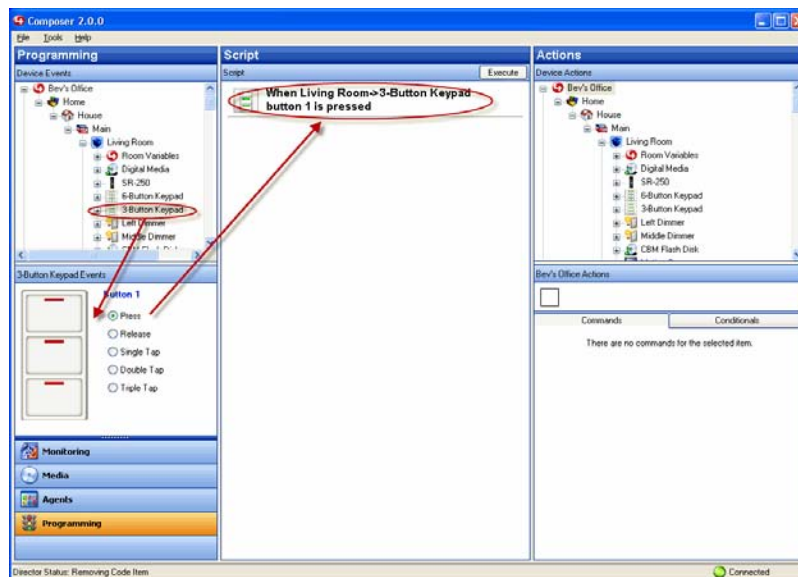
4. From the Actions pane (right pane), highlight **Sprinkler System**.

5. Click the **Commands** tab, and select **Toggle the Sprinkler System**. The command you chose (Toggle the Sprinklers) displays in the right middle pane.
6. Click the **green arrow**, and drag it to the **Script** pane (center pane).
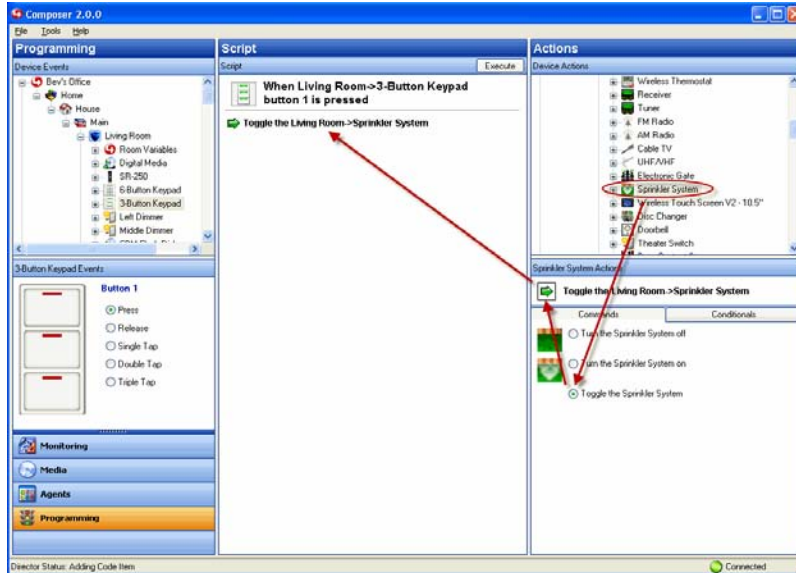
7. Click **Execute** to turn on the sprinklers.
8. Click **Execute** again to turn off the sprinklers.
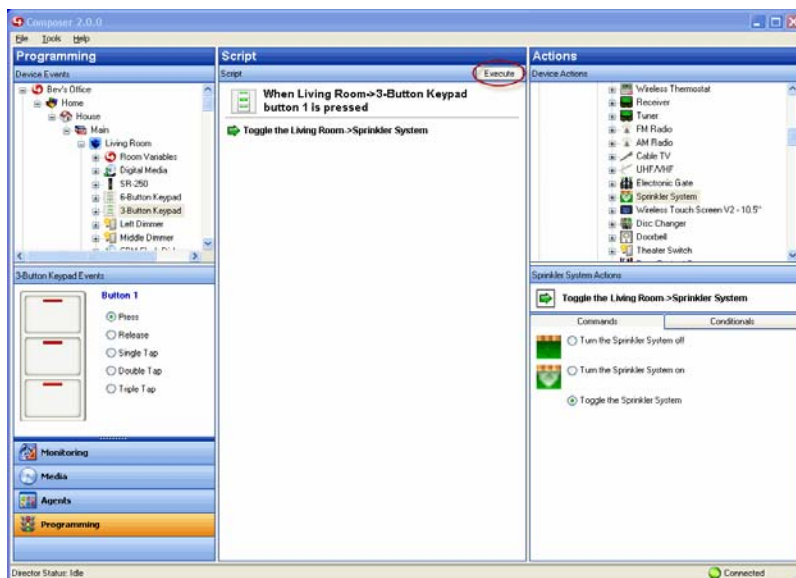
9. Now press the **top button** on your 3-Button Keypad to toggle the Sprinklers on and off.

4.3 Programming with Delay, Stop, and Break Commands

Use the Control4® Composer HE Programming view to program using Delay, Stop and Break *Command*s.

Delay provides a delay command in response to an *event* that waits for a specified period of time before executing the next command in a code item.

When configuring a device, you always have the following options:

- **Delay**—Lets you delay an *action* that is taking place.
- **Stop**—Lets you stop all programming.
- **Break**—Lets you break out of a *conditional* loop when a specified condition is met and return to programming outside of the loop. **Note**: Usually, the Break command is available only in Composer Pro, but it might be present in the programming set up for your project.
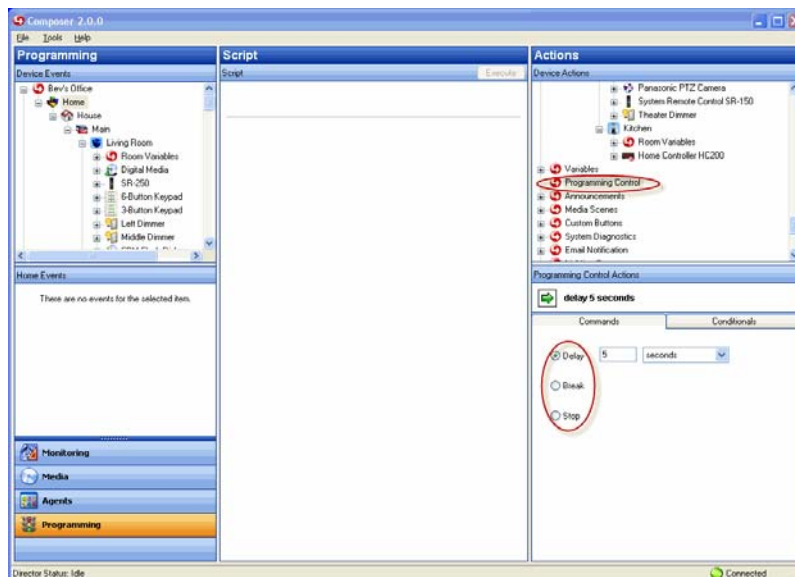
4.3.1 Prerequisites

Ensure that the devices you want to program are added and identified to the system. Your Control4 Dealer or Installer can help you do this.

4.3.2 Procedure

To use Delay, Stop, and Break commands during programming:

1. In Composer HE, click **Programming**.
2. Select a **device** and an **event**.
3. To use the Delay, Stop, or Break commands, from the right-side pane, select the **Programming Control object** (scroll down to bottom of the project tree to find it).
4. Click the **Commands** tab, select **Delay**, and select the number of seconds (for example, **5** seconds). The delay appears in the left-side middle pane.
5. Drag and drop the **delay** command to the Script pane. Example: This will ensure that there is a 5-second delay after the projector powers on.

4.4 Programming with Conditionals

Use the Control4® Composer HE Programming view to program using *conditional*s.

A conditional is an "if" statement that asks a true or false question to the device.

Example: The steps below show how to use conditionals in programming. In this example, "when" a doorbell is pressed and the light is off, program the light to turn on.

4.4.1 Prerequisites

In this example, ensure that the devices you want to program (Controller, Doorbell and Theater Switch) are added and configured in the system. Your Control4 Dealer or Installer can help you do this.

The following example uses these devices in the project:

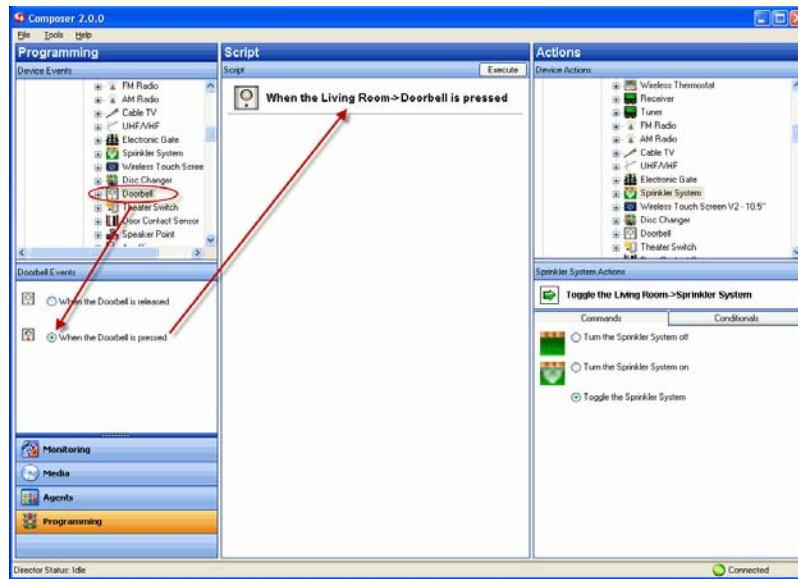- Controller
- Doorbell
- Theater Switch

4.4.2 Procedure

To program a conditional that turns on the light when the doorbell is pressed and the light is off:

1. In Composer HE, click **Programming**.
2. From the *project tree*, highlight **Doorbell**.
3. Select the **When the Doorbell is pressed** *event*.

The event appears at the top of the Script pane (center pane).

4. From the Actions pane (right pane), click **West Light** (switch).
5. Click the **Conditionals** tab, and select **Is Off**. The system displays the conditional you chose in the right middle pane.
6. Click the **blue question mark**, and drag it to the Script pane.
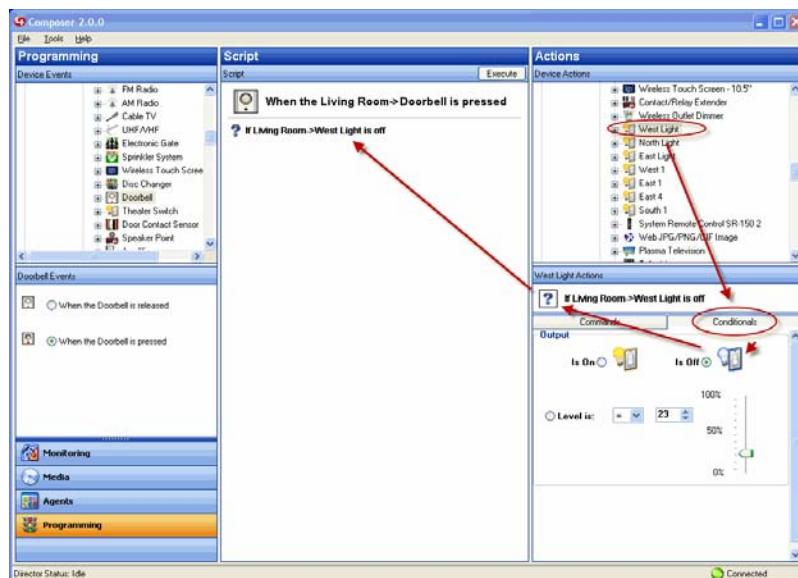
7. From the Actions pane, click **West Light** again.
8. In the Commands tab, select **On**. The command you chose displays in the right middle pane.
9. Drag the **green arrow** directly on top of the **blue question mark** in the Script pane to make it a child under the **When the Doorbell is pressed** statement.

Tip: If you drag the action to the text, or you drag the action under the text into the open space, it places the *action* as an equal above the conditional. If you drag the action to the question mark, it becomes a child under the conditional. Watch the arrow to see in which direction it points to place the action as a peer or a child below the statement.
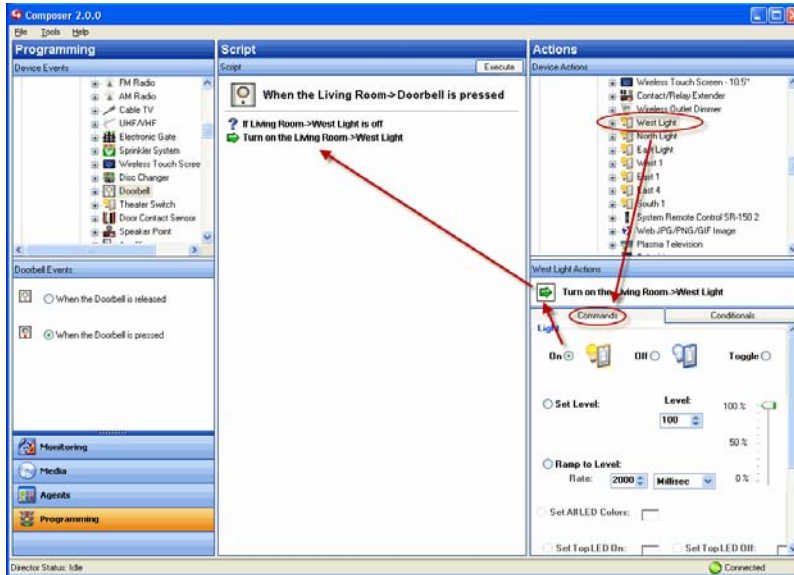
10. Go to your **Theater Switch**, and ensure that the light is off.
11. Press your **doorbell button**, and the light turns on.

4.4.3 Using Room Variables

Control4® room variables provide greater flexibility in *programming*, letting you program using events and actions at the room level.

Note: Most of the functions in Room Variables are available by selecting the Room object. Selecting the Room object is the recommended method for configuring the room. Whenever possible, use the Room object rather than Room Variables.

4.4.3.1 Procedure

To use room variables:
1. Start *Composer* **HE** and connect to a *Director*.
2. Click **Programming**. In this view listed under every room in the *project tree* is a Room Variables object.
3. Click to expand the **Room Variables** options. Room variables are available as events and actions.

Room Variables:
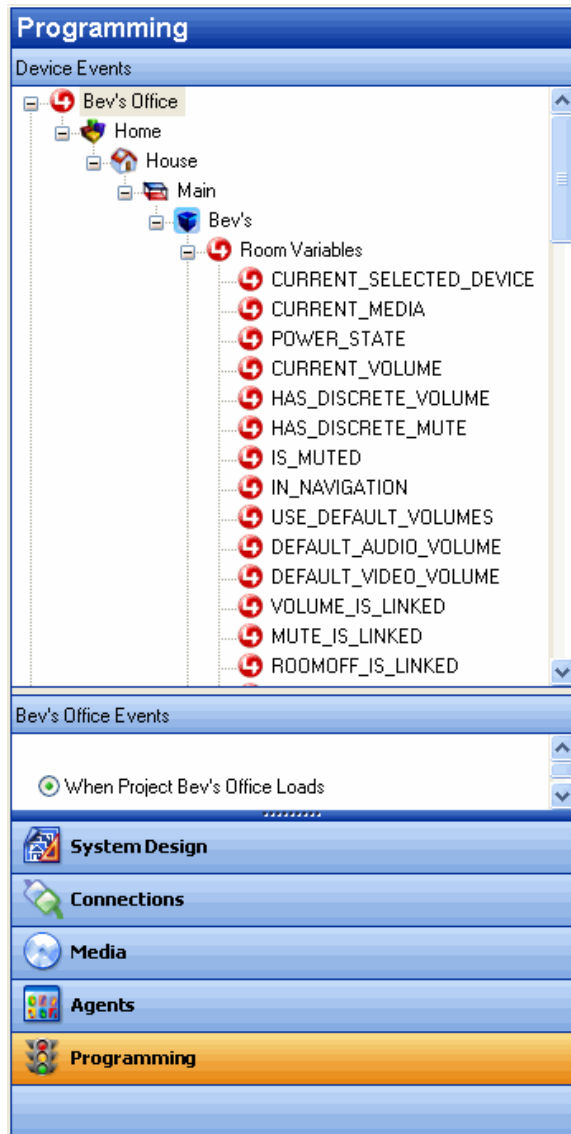
The room variables are described in the following table.

Events/Actions	Description
CURRENT_SELECTED_DEVICE	Lets you do programming when any *device* changes in the room.
CURRENT_MEDIA	Lets you do programming when any media changes in the room.
POWER_STATE	Lets you do programming when any device's power state changes from True to False in the room (read only). A device in the room is required to detect the power state.
CURRENT_VOLUME	Lets you do programming when the volume of the currently-selected audio path changes in the room (requires discrete volume). Use *conditional* programming.
HAS DISCRETE_VOLUME	Lets you do programming when any devices changes in the room (requires discrete volume). Use *command* programming.
HAS_DISCRETE_MUTE	Lets you do programming when the Mute state is known (MUTE_ON or MUTE_OFF).
IS_MUTED	Lets you do programming when in Mute state (MUTE_ON).
IN_NAVIGATION	Lets you do programming when On-screen is available.
USE_DEFAULT_VOLUME	Lets you do programming any time a selection changes to reset the default volume. For example, when changing from viewing a *DVD* to listening to music, the volume is reset to the default discrete set volume.
DEFAULT_AUDIO_VOLUME	Lets you program the default Audio volume.
DEFAULT_VIDEO_VOLUME	Lets you program the default Video Audio volume.
VOLUME_IS_LINKED	Lets you set programming not to affect already linked volume.
MUTE_IS_LINKED	Lets you set programming not to affect already linked mute state.
ROOMOFF_IS_LINKED	Lets you set programming not to affect already linked room off state.
SELECTIONS_LINKED	Lets you set programming not to affect already linked selections.
ROOM_HIDDEN	Lets you set programming to hide rooms from appearing on the navigation device.
MEDIA_SCENE_ACTIVE	Lets you set programming to set a media scene as active.

4.4.3.2 Variable Handling

In programming, Variables are easier to define than Conditional Loops.

Note: It is important to type the variable names precisely. A typographical error causes the program to fail.

Variable-handling enhancements:

- **Preserve user-defined variables**—Preserves the user-defined variable values (such as the current Dimmer light level) across a normal system restart. It may not preserve them if the system shuts down abnormally.
- **Program a system startup *event***—Initializes variables or performs other programming at system startup with a system startup event (in Programming, select the **root** of the project, and then select the event **When the project is loaded**).

- **Define one Variable to equal another**—Defines one variable to equal another variable. This can be used to save and restore variable values.

    Example: The level of a light or the volume of music in a room.

    After this value is saved to the variable, you can restore the system variable to the value stored in the user variable. The system can then compare the two (2) variables and determine if it needs to reset one of them.

- **Create the event "When a System reboots"**—Sends an email notification to the Control4 Dealer that a customer's system rebooted, helping the Dealer monitor the system's performance.

4.4.4 Using Custom Agent Variable Agent Boolean

Use the Control4® Composer HE *Programming* view to create custom variables in an *Agent* using a Boolean value.

In this example, when someone is at the door:
- Program to activate the Media Scene 'Someone is at the door,' and turn on the porch light.
- Program to play a song in the Bedroom and the Theater.
- When the Motion Sensor stops sensing motion at the door, program to turn the music and porch light off.

4.4.4.1 Prerequisites

The following devices are added and identified in the project. Your Control4 Dealer or Installer can set these up for you:
- *Controller*
- Porch Light *Switch*
- Bedroom music
- Theater music
- Motion Sensor

4.4.4.2 Procedure

#### 4.4.4.2.1 Create a New Variable Agent – Boolean
1. In Composer, click **Agents**.
2. Select **Variable**. The Variables view appears.
3. Click **New**.
4. On the dialog that appears, do the following:
   a. Click **New Variable**.
   b. In the drop-down menu, select **Boolean**.
   c. Name the Variable Power State and click **OK**. The default value is **false**.
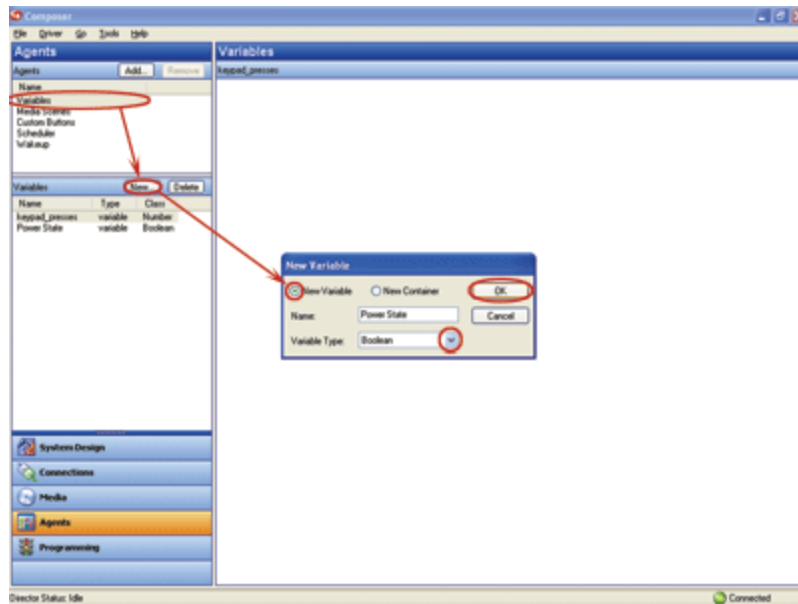
4.4.4.2.2   Create a Media Scene "Someone is at the door"
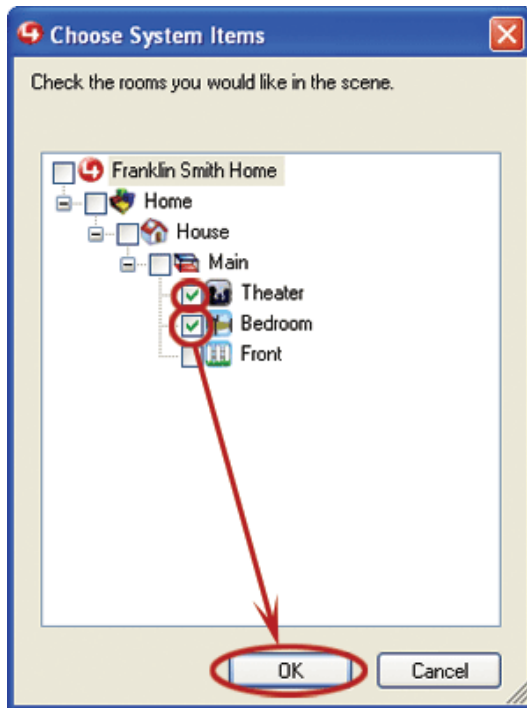
5. Select the **Media Scenes** agent, and click **New**.
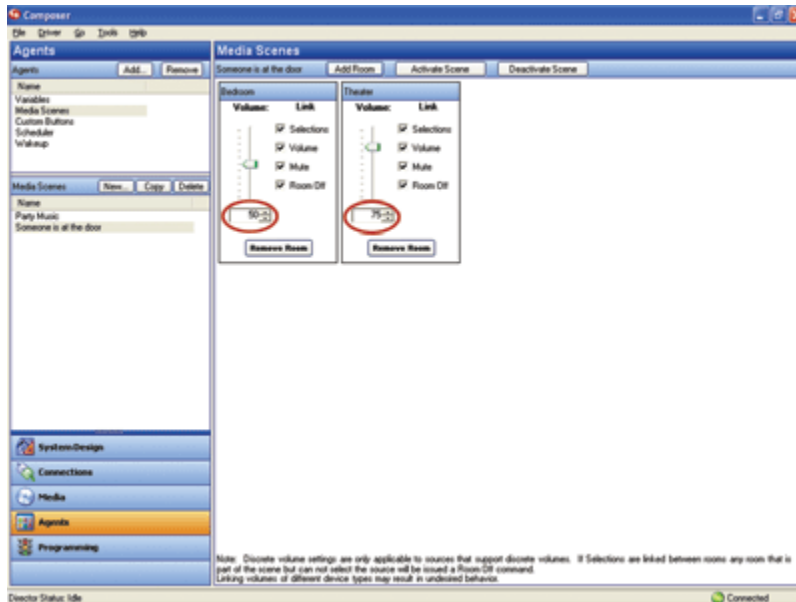6. Name the Media Scene **Someone is at the door**. Click **OK**.
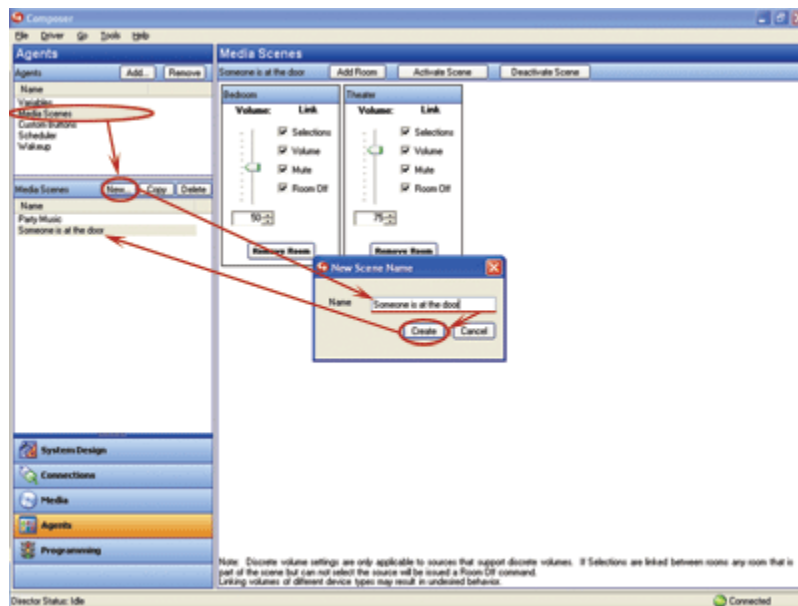
4.4.4.2.3   Add the Bedroom and Theater Room

7. Click **Add Room**, and add the **Theater** and the **Bedroom**.

8. Set the volume in the Bedroom to **50**, and the volume in the Theater to **75**.


9. Click **Programming** to display the Programming view.
10. In the *project tree* and the *Device* Events pane, click to expand Variables, and select **Power State**.
11. In the project tree and in the Device Actions pane, click to expand Variables, and select **Power State**.
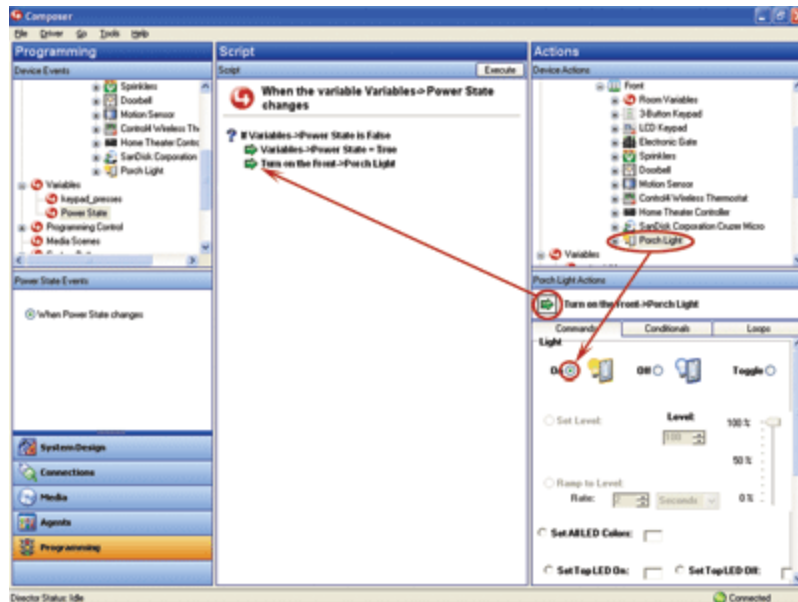
4.4.4.2.4   Add the Conditionals and Commands

12. Click the **Conditionals** tab.
13. In the Conditionals tab, click **Is False**, and drag the **blue question mark** to the **Script** pane.
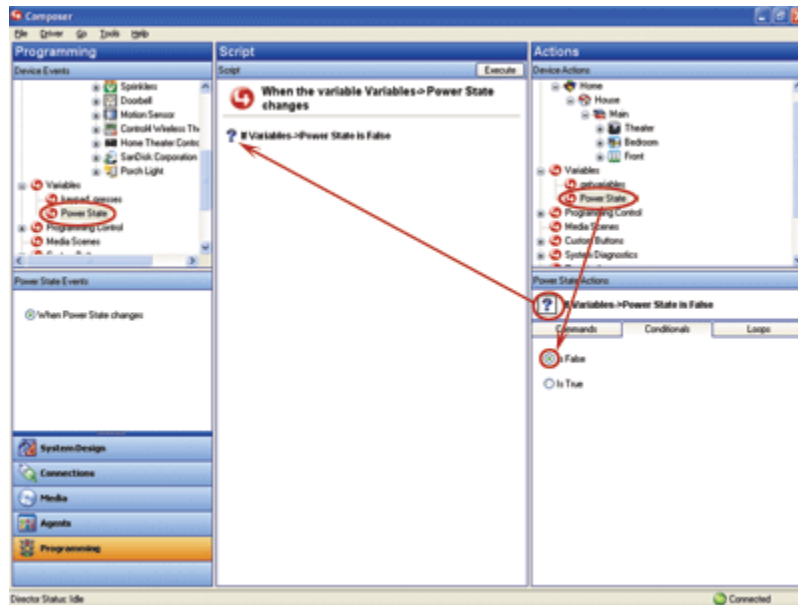
14. Click the **Commands** tab.
15. In the Commands tab, click **Set to True**, and drag the **green arrow** on top of the **blue question mark** in the **Script** pane to make it the *first* subset item of the *first conditional*.
16. In the Device Actions pane, select **Porch Light**.
17. Click the **Commands** tab.
18. In the Commands tab, click **On**, and drag the **green arrow** on top of the **blue question mark** in the **Script** pane to make it the *second* subset item of the *first* conditional.

19. In the project tree and in the Device Actions pane, select **Media Scenes**.
20. Click the **Commands** tab.
21. Click **Activate** in the Commands tab, and drag the **green arrow** on top of the **blue question mark** in the **Script** pane to make it *third* subset item of the *first* conditional.
22. In the project tree and in the Device Actions pane under Variables, select **Power State**.
23. Click the **Conditionals** tab.
24. In the Conditionals tab, click **Is True**, and drag the **blue question mark** to the **Script** pane (this is the *second* conditional).
25. Click the **Commands** tab.
26. In the Commands tab, click **Set to False**, and drag the **green arrow** on top of the **blue question mark** in the **Script** pane to make it the *first* subset item of the *second* conditional.
27. In the project tree and in the Device Actions pane, select **Front Light**.
28. Click the **Commands** tab.
29. In the Commands tab, click **Off**, and drag the **green arrow** on top of the **blue question mark** in the **Script** pane to make it the *second* subset item of the *second* conditional.
30. In the project tree and in the Device Actions pane, select **Media Scenes**.
31. In the Commands tab, click **Deactivate**, and drag the **green arrow** on top of the **blue question mark** in the **Script** pane to make it the *third* subset item of the *second* conditional.
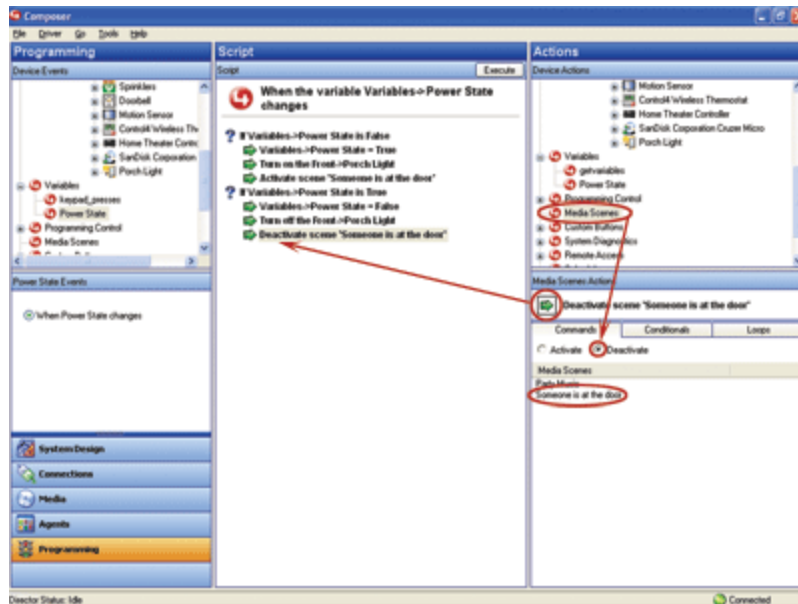
32. In the project tree and in the Device Events pane, select **Media Scenes** and choose the event **Someone is at the Door**.
33. In the project tree and in the Device Actions pane, select the **Bedroom** object. (Repeat the next four steps for the Theater also.)
34. Click the **Commands** tab.
35. In the Commands tab, click **Select Media**.
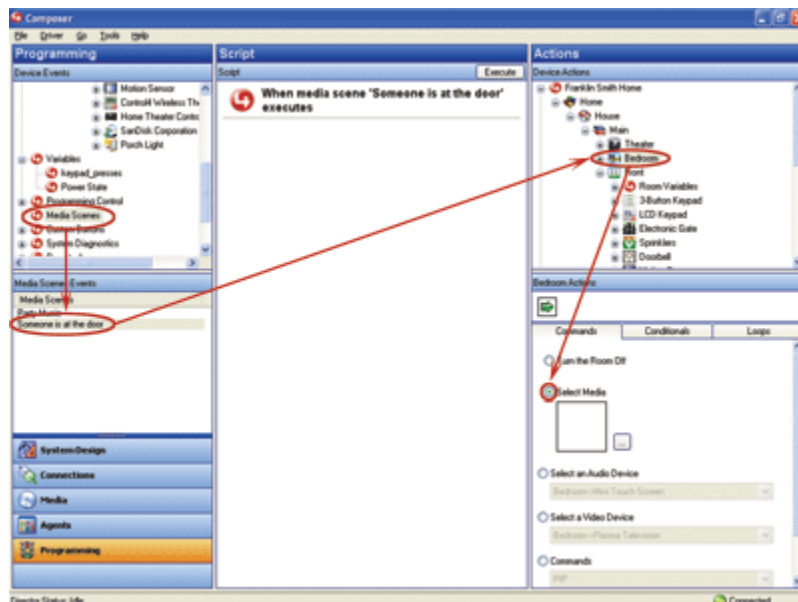
36. In the dialogue that appears, select the album and song that you want to play when **Someone is at the Door** executes. In this example, 'Knock Three Times' by Lynn Anderson is used. Click **OK**.
37. Drag the **green arrow** to the **Script** pane.
38. Repeat Steps 33-37 for the **Theater**.

39. In the project tree and in the Device Events pane, select **Motion Sensor under Front**, and choose the event **When the Motion Sensor senses motion**.

4.4.4.2.5   Add the Boolean Values

40. In the project tree and in the Device Actions pane, click to expand Variables, and select **Power State**.
41. In the Conditionals tab, click **Is False**, and drag the **blue question mark** to the **Script** pane (this is the *third* conditional).
42. In the Commands tab, click **Set to True**, and drag the **green arrow** on top of the **blue question mark** to make it the *first* subset of the *third* conditional.
43. In the project tree and in the Device Events pane, choose the event **When the Motion Sensor stops sensing motion**.
44. In the project tree and in the Device Actions pane, click to expand Variables, and select **Power State**.
45. In the Conditionals tab, click **Is True**, and drag the **blue question mark** to the **Script** pane.
46. In the Commands tab, click **Set to False**, and drag the **green arrow** on top of the **blue question mark** to make it the *second* subset of the *third* conditional.

Results: The Porch Light turns on and plays a song in the Bedroom and Theater whenever the Motion Sensor senses motion at the front door.

4.4.5   Using Custom Agent Variable Agent Number

Use the Control4® Composer HE *Programming* view to create custom variables in an *Agent* using a numeric value.

In this example, program one (1) Keypad button to toggle between turning on the Theater Dimmer and the Theater *Switch*.

4.4.5.1 Prerequisites

The following devices are added and identified in the project. Your Control4 Dealer or Installer can do this for you:

- *Controller*
- Dimmer (Theater)
- Light Switch (Theater)
- 6-Button Keypad

4.4.5.2 Procedure

4.4.5.2.1   Create a New Variable Agent – Number

1. In Composer, click **Agents**.
2. Select **Variables**. The Variable Agents view appears.
3. Click **New**.
4. On the dialog that appears, do the following:
   a. Select **New Variable**.
   b. Name the variable **Keypad_presses**.
   c. Use the Variable Type pull-down menu to select **Number**.
   d. Click **OK**.
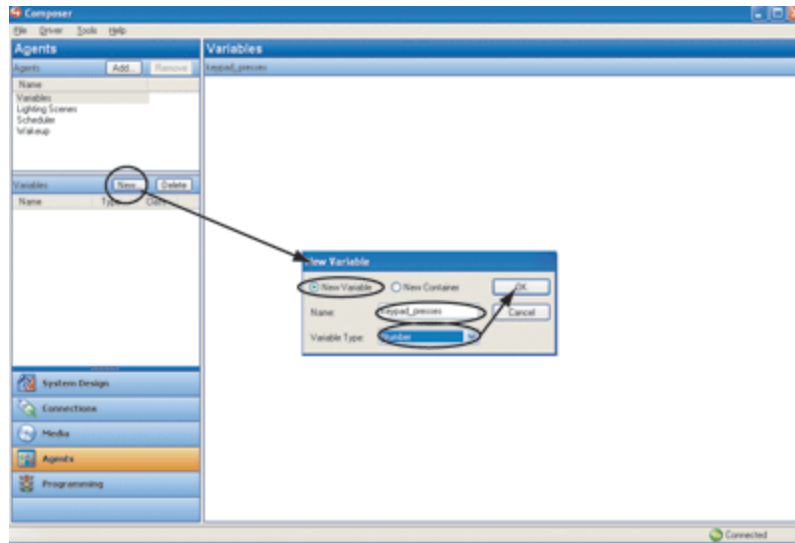
5. In the Variables pane, select the variable **Keypad_presses**. The available variables for your devices appear in the right pane.
6. Enter the value as **0** (zero).

4.4.5.2.2   Create an Event

7. Click **Programming** to display the Programming view.
8. In the project tree and in the *Device* Events pane, select **6 Button Keypad**.
9. Click **Button 1** on the 6 Button Keypad.
10. Select **Press** for the *event*. The event appears at the top of the Script pane.

4.4.5.2.3   Create the Actions

11. In the Actions pane, scroll down to view the agents.
12. Click to expand **Variables**.
13. Select **Keypad_presses**.
14. Click the **Commands** tab.
15. In the Commands tab, select the following to add **1** to the present value:
    a. Select the **radio button** by the plus (**+**) sign. Ensure the plus sign is selected.
    b. Select **1** (one). The *action* appears in the Actions pane.
16. Drag the **green arrow** icon to the **Script** pane.

4.4.5.2.4   Create the Conditionals

17. Click the **Conditionals** tab.
    a. Select the **Is** radio button option.
    b. Select **equals** (**=**) sign.
    c. Select **1** (one).
18. Drag the **blue question mark** below the previous *command* in the **Script** pane. This places the *conditional* Action parallel to the previous Action command.
19. In the Actions pane, select **Theater Dimmer**.
20. In the Command tab, select **On**. The action command appears in the Actions pane.

Copyright © 2010 Control4. All Rights Reserved.

21. Drag the **green arrow** to the **blue question mark** in the **Script** pane to make it a subset of this conditional item.
22. In the Actions pane, scroll down to the **Agents**.
23. In the Variable agent, select **Keypad_presses**.
24. Click the **Conditional** tab.
    a. Select the **Is** radio button option.
    b. Select **equals** (**=**) sign.
    c. Select **2** (two).
25. Drag the **blue question mark** to the blank space under the previous Action command. This places the conditional Action parallel to the previous Action conditional.
26. In the Actions pane, select **Theater Switch**.
27. In the Command tab, select **On**. The action command appears in the Actions pane.
28. Drag the **green arrow** to the **blue question mark** in the **Script** pane to make it a subset of the conditional item.

29. In the Actions pane, scroll down to the Agents list.
30. In the Variable agent, select **Keypad_presses**.
31. In the Commands tab, select the following:
    a. Select the **Set to Value** radio button.
    b. Set the value to **0** (zero). The Action command appears in the Actions pane.
32. Drag the **green arrow** icon to the **blue question mark** icon in the **Script** pane to make it a *second* subset of the conditional.

4.4.6   Using Custom Agent Variable Agent String

Use the Control4® Composer HE *Programming* view to create custom variables in an *Agent* using a numeric value. **Note**: The steps in this section are for more advanced Composer users. This example includes many steps.

In this example, you will program Button 4 on a Keypad to toggle through four (4) playlists.

4.4.6.1 Prerequisites

The following items are added and identified in the project. Your Control4 Dealer or Installer can do that for you:

- *Controller*
- 6-Button Keypad

- 4 Playlists: Mom's Favorites, Dad's Favorites, Choral Music, and Kid's Music
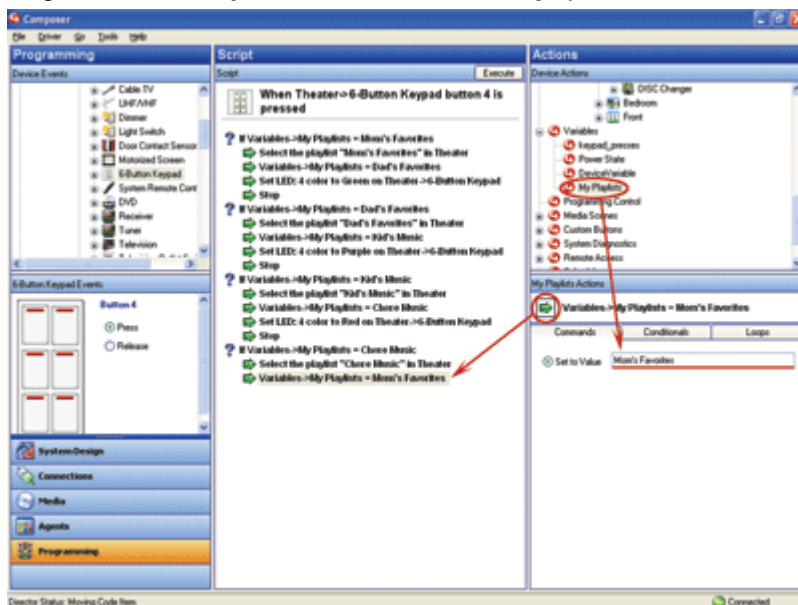
4.4.6.2 Procedure

4.4.6.2.1 Add a New Variable

1. In Composer, click **Agents**.
2. Select **Variables**. The Variables agent list appears.
3. Click **New**.
4. On the dialog that appears, do the following:
   a. Select **New Variable**, and name the variable **My Playlists**.
   b. In Variable Type, use the pull-down menu to select **String**, and click **OK**.


4.4.6.2.2 Set Up Mom's Favorites Playlist in the Theater

5. Click **Programming** to display the Programming view.
6. In Programming, select **6 Button Keypad** in the **Theater** from the *Device* Events pane.
7. In 6-Button Keypad Events, click **Button 4** on the Keypad.
8. In the Device Actions pane, scroll down and click to expand **Variables**.
9. Select **My Playlists**.
10. In My Playlists Actions pane, click the **Conditionals** tab, and enter the name of a *playlist*; for example, **Mom's Favorites**.
11. Drag the first **blue question mark** to the **Script** pane.

12. In Device Actions, select the **Theater** room object.
13. In Theater Actions, select **Media**.
14. In the window that pops up, select **Playlists**, **Mom's Favorites**, and then click **OK**.
15. Drag the **green arrow** icon on top of the first **blue question mark** in the **Script** pane to make it the *first* subset of the *first conditional*.
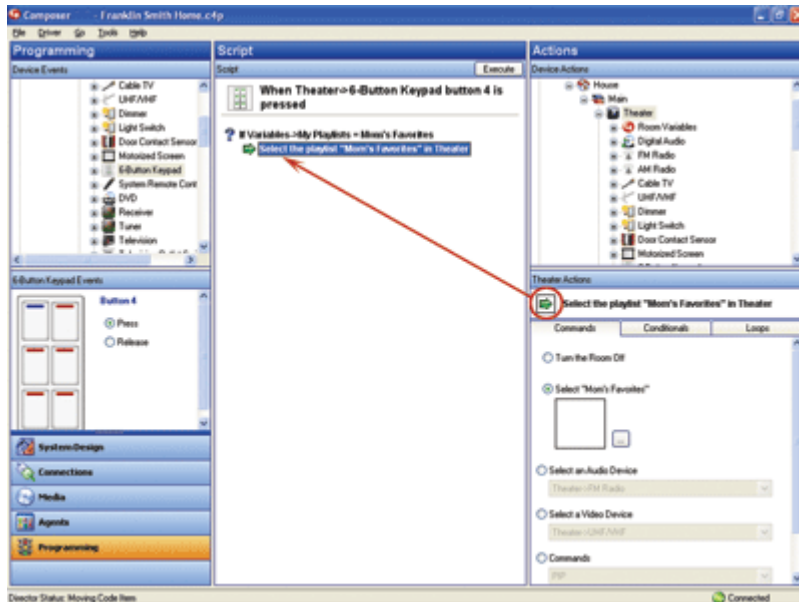

16. In Device Actions, select **My Playlists**.
17. In the Commands tab under My Playlists, enter the name of the next playlist that you'd like to play; for example, **Mom's Favorites**.
18. Drag the **green arrow** on top of the first **blue question mark** to the **Script** pane to make it a *second* subset of the *first* conditional.

The next time the button on the Keypad is pressed, the value of the variable will be **Mom's Favorites**, and will then cue that playlist in the **Theater**.
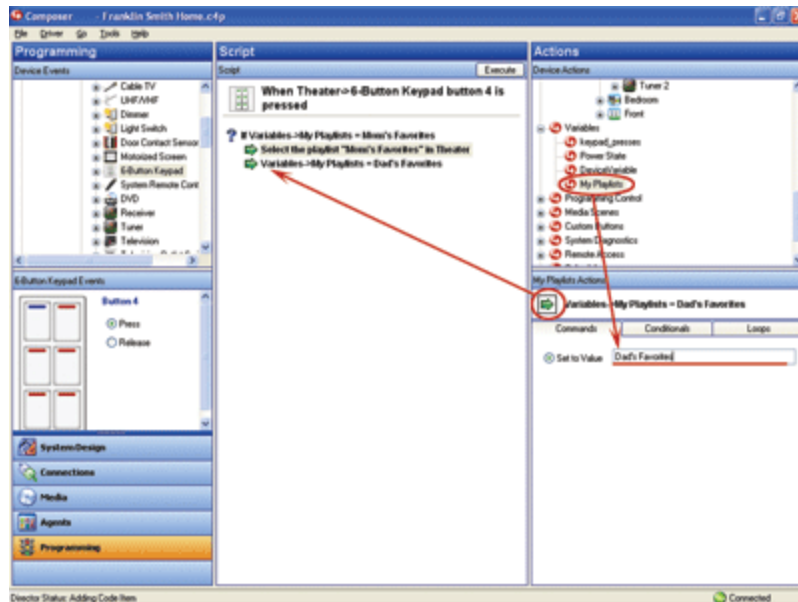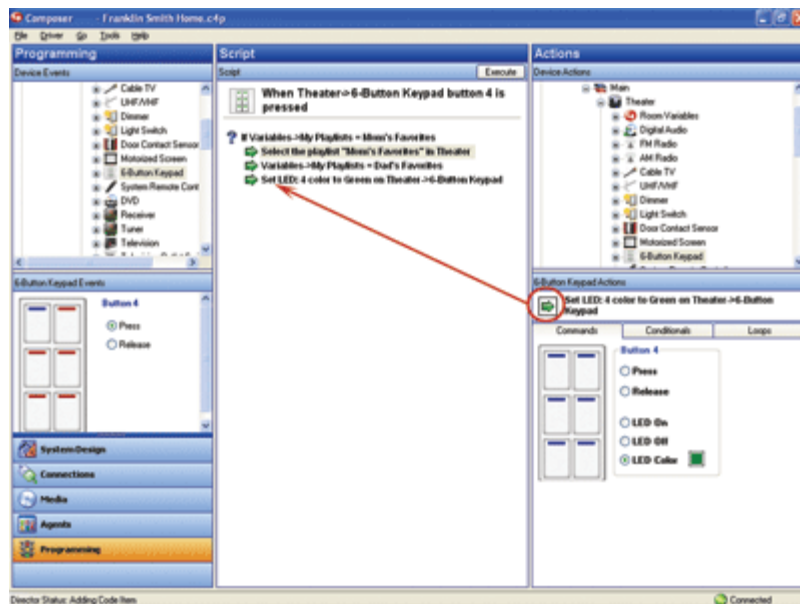
19. In Device Actions, scroll up, and select the **6 Button Keypad** in the **Theater**.
20. In 6 Button Keypad Actions, click **Button 4**.
21. Click the **square of color** to choose the color you want Button 4's LED to be when Mom's Favorites plays. Choose the color in the menu that pops up (in this example: green), and click **OK**.
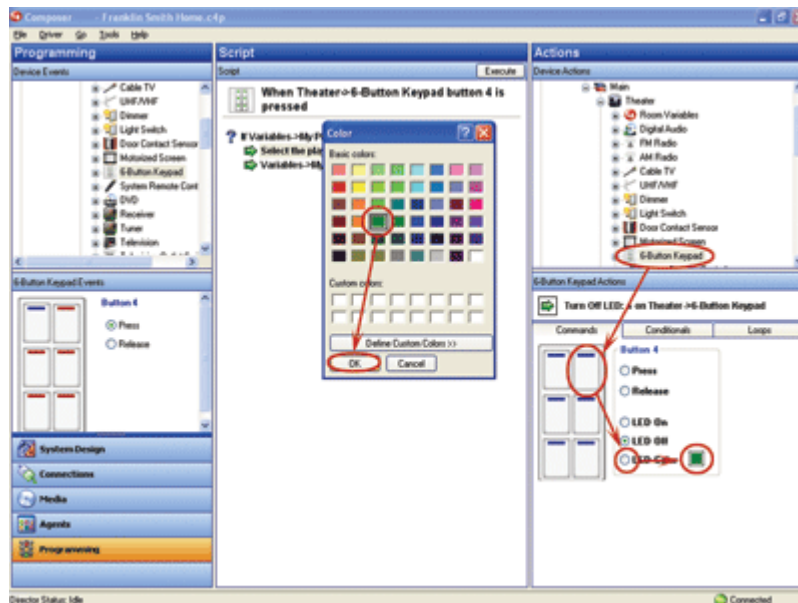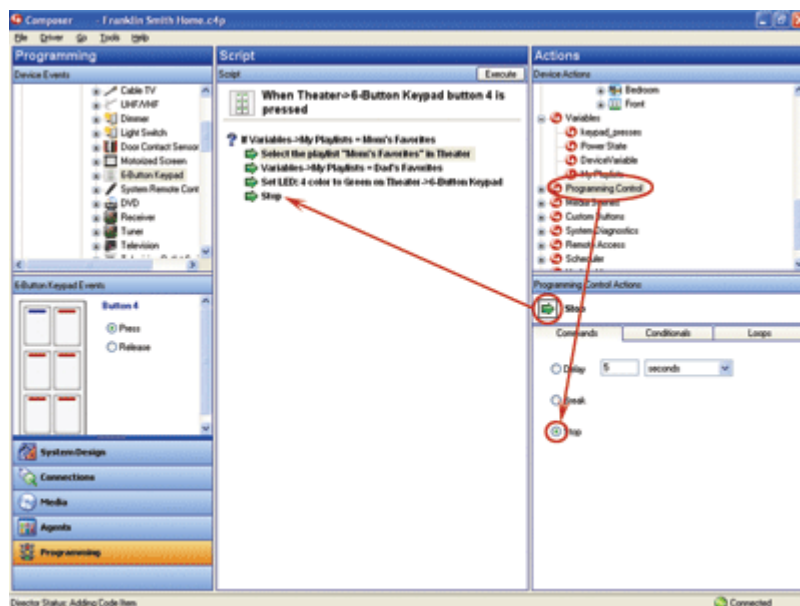

22. Drag the **green arrow** on top of the first **blue question mark** in the **Script** pane to make it a *third* subset of the *first* conditional.

23. In Device Actions, scroll down and select **Programming Control**.
24. In the Programming Control Actions, select the **Stop** radio button.
25. Drag the **green arrow** on top of the first **blue question mark** in the **Script** pane to make it a *fourth* subset of the *first* conditional.

Note: It is important to add a **Stop** command here so that when the conditional is fulfilled, the programming will not continue. Because of the way this programming is set up when it's finished, without the stop, the button on the Keypad will always select the last playlist in the script.

4.4.6.2.3   Set Up Dad's Favorites Playlist in the Theater

26. In Device Actions, select **My Playlists** again.
27. In the Conditionals tab, next to 'Is' enter **Dad's Favorites** in the text box.
28. Drag the second **blue question mark** to the **Script** pane.
29. In Device Actions, select the **Theater**.
30. In Theater Actions, select **Media**.
31. In the window that pops up, select **Playlists**, **Dad's Favorites**, and then click **OK**.
32. Drag the **green arrow** on top of the second **blue question mark** in the **Script** pane to make it the *first* subset of the *second* conditional.

4.4.6.2.4   Set Up Kid's Room Playlist in the Theater

33. In Device Actions, select **My Playlists**.
34. In the Commands tab under My Playlist Actions, enter the name of the next playlist that you'd like to play; for example, **Kid's Music**.
35. Drag the **green arrow** on top of the second **blue question mark** in the **Script** pane to make it a *second* subset of the *second* conditional.
36. In Device Actions, select the **6 Button Keypad** in the **Theater**.
37. In 6 Button Keypad Actions, click on **Button 4**. Click the **square of color** to choose the color you want **Button 4's** LED to be when Kid's Music plays. Choose the color in the menu that pops up (in this example: purple), and click **OK**.
38. Drag the **green arrow** on top of the second **blue question mark** in the **Script** pane to make it a *third* subset of the *second* conditional.
39. In Device Actions, select **Programming Control**.
40. In the Programming Control Actions pane, select **Stop**.
41. Drag the **green arrow** on top of the second **blue question mark** to make it a *fourth* subset of the *second* conditional.
42. In Device Actions, select **My Playlists** again.
43. In the Conditionals tab, enter **Kid's Music**.
44. Drag the **blue question** mark to the **Script** pane to make it the *third* conditional.
45. In Device Actions, select the **Theater** room object.
46. In Theater Actions, select **Select Media**.
47. In the window that pops up, select **Playlists**, **Kid's Music**, and then click **OK**.
48. Drag the **green arrow** on top of the third **blue question mark** in the **Script** pane to make it the *first* subset of the *third* conditional.

4.4.6.2.5   Set Up Choral Music in the Theater

49. In Device Actions, select **My Playlists**.
50. In the Commands tab under My Playlists, enter the name of the next playlist that you'd like to play; for example, **Choral Music**.
51. Drag the **green arrow** on top of the third **blue question mark** to make it a *second* subset item of the *third* conditional.
52. In Device Actions, select the **6 Button Keypad** in the **Theater**.
53. In 6 Button Keypad Actions, click on **Button 4**. Click the square of color to choose the color you want button 4's LED to be when Kid's Music plays. Choose the color in the menu that pops up (in this example: red), and click **OK**.
54. Drag the **green arrow** on top of the third **blue question mark** in the **Script** pane to make it the *third* subset of the *third* conditional.

55. In Device Actions, select **Programming Control**.
56. In the Programming Control Actions, select the **Stop** radio button.
57. Drag the **green arrow** on top of the third **blue question mark** in the **Script** pane to make it a *fourth* subset of the *third* conditional.
58. In Device Actions, select **My Playlists** again.
59. In the Conditionals tab, enter **Choral Music**.
60. Drag the fourth **blue question** mark to the **Script** pane.
61. In Device Actions, select the **Theater** room object.
62. In Theater Actions, select the **Select Media** radio button.
63. In the window that pops up, select **Playlists**, **Choral Music**, and then click **OK**.
64. Drag the **green arrow** on top of the fourth **blue question mark** in the **Script** pane to make it the *first* subset of the *fourth* conditional.
65. In Device Actions, select **My Playlists**.
66. In the Commands tab under My Playlists, enter the name of the next playlist that you'd like to play; for example, **Mom's Favorites**.
67. Drag the **green arrow** on top of the fourth **blue question mark** in the **Script** pane to make it a *second* subset of the *fourth* conditional.
68. In Device Actions, select the **6 Button Keypad** in the **Theater**.
69. In 6 Button Keypad Actions, click on **Button 4**.
70. Click the **square of color** to choose the color you want Button 4's LED to be when **Choral Music** plays. Choose the color in the menu that pops up (in this example: yellow), and click **OK**.
71. Drag the **green arrow** on top of the fourth **blue question mark** to make it a *third* subset of the *fourth* conditional.
72. In Device Actions, select **Programming Control**.
73. In the Programming Control Actions, select the **Stop** radio button.
74. Drag the **green arrow** on top of the fourth **blue question mark** to make it a *fourth* subset of the *fourth* conditional.
75. In Device Actions, select the **Theater** room.
76. In Theater Actions, select **Media**.
77. In the window that pops up, select **Playlists**, **Mom's Favorites**, and then click **OK**.

Note: You do this is because the first time the button on the Keypad is pushed, the string variable does not have a value, and nothing happens. This last command is created when none of the conditionals are fulfilled, something will play; each time the button is pushed thereafter, a conditional is fulfilled.

78. Drag the **green arrow** below the previous **Stop** command in the **Script** pane. It is not a subset of the previous conditionals, but a command on its own.
79. In Device Actions, select **My Playlists**.
80. In the Commands tab under My Playlists, enter the name of the next playlist that you'd like to play; for example, **Dad's Favorites**.
81. Drag the **green arrow** below the previous command in the **Script** pane.
82. In Device Actions, select the **6 Button Keypad** in the **Theater**.
83. In 6 Button Keypad Actions, click on **Button 4**. Click the **square of color** to choose the color you want Button 4's LED to be when **Mom's Favorites** plays. Choose the color in the menu that pops up (in this example: green), and click **OK**

84. Drag the **green arrow** below the previous command in the **Script** pane. You do not need a stop at this point, because the programming automatically stops at the end of the script.

5.   Programming with Agents

Use the Control4® Composer HE Agents and Programming views to configure Properties, Delays and Agents.

An *agent* provides the ability to perform complex programming by using functional modules. Various types of agents are available, for example, Announcements, Email Notifications, Scheduler, Lighting Scenes, Wakeup, etc.

Example: The Scheduler agent lets you configure dates and times.

When using agents in the Programming view, you configure them in two (2) parts:

1. In the Agents view, you first **define** an instance of a type of agent.
2. In the Programming view, you **use** the instance of the agent for event programming.

Example: In the Agents view, you can create an instance of Custom Buttons where you identify all of the buttons you want to create. Then, in the Programming view, you program the Custom Buttons to perform specific tasks on your devices.

The "Agent Examples" section can guide you through the process for each type of agent available. Agents can vary greatly in functionality.

Note: Ensure that the devices to which you want to apply the agents are added and identified in the system. Your Control4 Dealer or Installer can help you do this.

5.1   Agent Types

Use the Control4® Composer HE Agents and Programming views to add agents to your system.

Available *agent*s:
- **Announcement**—Provides the ability to play a pre-recorded .WAV file or to display a text message whenever a given event occurs. An audio announcement can play on any audio output device in the selected rooms. Likewise, a supporting text message or stand-alone text message can display on the Navigators in the selected rooms. **Example**: You can create a "Doorbell" announcement that will play a .WAV file (a tone or voice) and display the text message on the Navigators, "Someone is at the front door" each time a doorbell is pressed.
- **Custom Buttons**—Lets you create user interface buttons to use for specialized devices on the Navigators. See "Programming with the Room or Global Access Custom Buttons" in "Agent Examples."
- **E-mail Notification**—Lets you have an email message sent to your email address when specified events occur as defined in programming.
  Notes:
  1. Remote access is required to use the Email Notification agent.

2. Avoid setting up email notifications for events that occur frequently (such as when a motion sensor senses motion). If the email notification trigger event occurs too often, it will cause the system to become sluggish.

- **Lighting Scenes**—Provides the ability to set up a Lighting Scene. **Example**: By pressing one button on a Keypad, you can turn on specific lights at set ramping levels. See "Programming with the Lighting Scenes Agent" in "Agent Examples."

- **Media Scenes**—Lets you create a scene that plays music in selected rooms on your Control4 system.

- **Macro**—Macro agents associate programming with *event*s. For example, you can create one macro to use in several different programming events.

- **Scheduler**—Defines conditionals of time to the system, and adds the ability to have scheduled events. See "Programming with the Scheduler Agent" in "Agent Examples."

- **Screen Saver**—Lets you set up a Screen Saver agent so you can create various Screen Savers.

- **Timer**—Provides the ability to start a timer, stop a timer, or repeat a timer based on a given event and action. **Example**: If a motion sensor in the system turns on a light when it detects motion, then a timer can be used to turn off the light after 15 minutes. Alternatively, a timer can be set to repeat an action whenever the timer expires.

- **Variables**—A variable is a representation of information about the controlled devices, such as a power state or current level of the device, and it works much like a Media Scene. Variables provide other programming options not available by using *Command*s, *conditional*s, or *Loop*s. There are three (3) kinds of variables:

  1. **Room Variables**—Provide you with additional programming options not available from the Room object programming. Use Room object programming in preference to room variables whenever possible.

  2. **Custom Variables**—Let you define additional programming options using:

     o **Boolean**—Provides a true/false option. **Example**: The light level is 70 percent.
     o **Device**—Provides a list of device options.
     o **Number**—Provides a value option. **Example**: The light level is 70 percent.
     o **String**—Provides the option to enter a string.

  3. **Container Variables**—Provide the ability to bind two (2) or more devices together using device variables. Container variables are available from the Agents view, and by highlighting variables.

     Note: Issues with various implementations have been found. The use of container variables for future implementation is not recommended. Where possible, replace existing implementations with alternate programming.

- **Video Wall**—(10.5" Touch Screens only) Creates a video wall for simultaneous viewing and control of multiple video sources on multiple displays. A video wall is commonly used for viewing multiple sports or news channels while in the same room and incorporates multiple video displays and multiple cable/satellite tuners equipped with Digital Video Recorders (DVRs). The agent provides the ability to control these multiple video displays from the Wireless Touch Screen.

- **Wakeup**—Has the ability to initiate a pre-specified wakeup time in the Navigators. The Wakeup agent lets you play music, turn on lights, and change temperatures. See "Programming with the Wakeup Agent" in "Agent Examples."

5.1.1   Agent Examples

Use the Control4® Composer HE Agents and Programming views to create and apply *agent*s to *device*s in the Control4 system.

The following examples are used in the Agents-related sections of this document:

- "Programming with the Announcement Agent"
- "Programming with a Custom Buttons Agent"
- "Programming with the E-Mail Notification Agent"
- "Programming with the Lighting Scenes Agent"
- "Programming with the Macro Agent"
- "Programming with the Media Scenes Agent"
- "Programming with the Rhapsody Agent"
- "Programming with the Scheduler Agent"
- "Programming with the Screen Saver Agent"
- "Programming with the Timer Agent"
- "Programming with the Variables Agent"
- "Programming with the Video Wall Agent"
- "Programming with the Wakeup Agent"

Note: Ensure that the devices to which you want to apply agents are added and configured in the system. Your Control4 Dealer or Installer can help you do this.

5.1.2   Programming with the Announcement Agent

Use the Control4® Composer HE Agents and Programming views to program this agent.

You can create an announcement that

1. Displays a text-message or Web page on any of the Graphical Navigators (TV on-screen menu, Touch Screens, or LCD Keypad),
2. Plays a WAV-formatted audio announcement through any audio endpoint, or
3. A combination of the two.

Note: The *Control4 system* allows up to 10MB of files for the Announcement agent, and plays a maximum of 15 seconds per announcement.

Example: Create a 'Dinner is Ready' announcement that is activated when the family chef presses a custom-programmed button. When the button is pressed, the text message "Dinner is ready" displays on all of the On-Screen Navigators and Touch Screens in the home, while an audio file plays a dinner bell ringing.

5.1.2.1 Prerequisites

1. Ensure that the devices to which you want to apply agents are added and identified in the system. Your Control4 Dealer or Installer can help you do this.
2. For this example, ensure the project tree includes the following devices:
   - A *Controller*

- An audio output *device* (such as a TV or connected speakers)
- A *Navigator* with a screen (Touch Screen, TV, or LCD Keypad)
- Any device involved in the triggering *event* (such as a Doorbell Contact, 3-Button Keypad. etc.)

5.1.2.2 Procedure

To set up an Announcement agent:

1. Start **Composer** and connect to a **Director**.
2. Click the **Agents** view.
3. (Initial Announcement Agent only) Click **Add**.
4. In the Agents pane, select **Announcements**, and then click **OK** to add Announcements to the Available Agents list in the project. The next time you want to create an announcement, select the item in the Agents pane, and then click **New**.

Announcements agent:
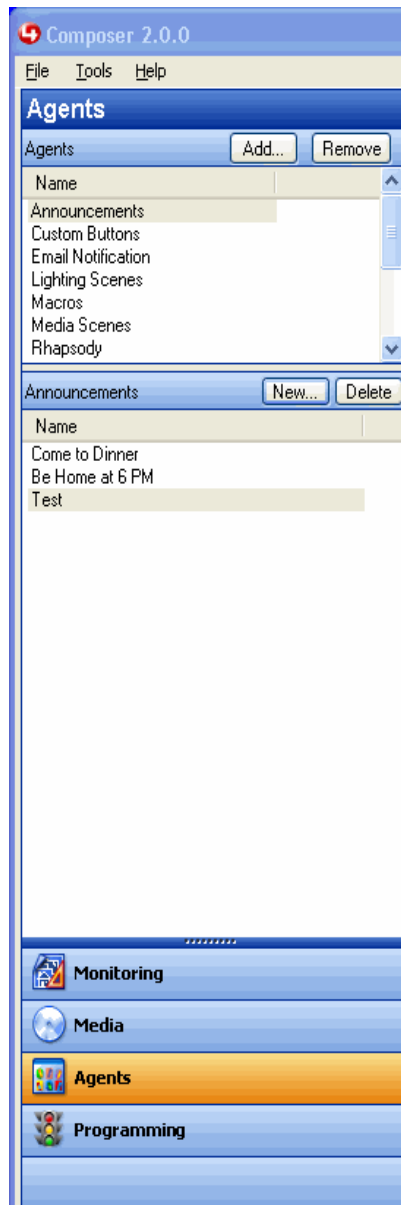
5. With Announcements selected in the agents <name> pane, click **New**.

6. Add a name to the new announcement, and then click **Create**.
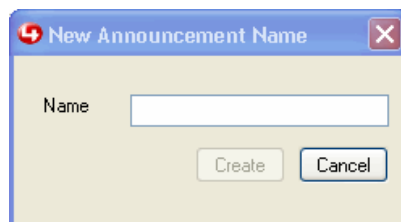
7. Set up the Navigator text message to be displayed.
    - Check the **Display Navigator Text/Image Popup** box.
    - Click **Edit Text/Image**.
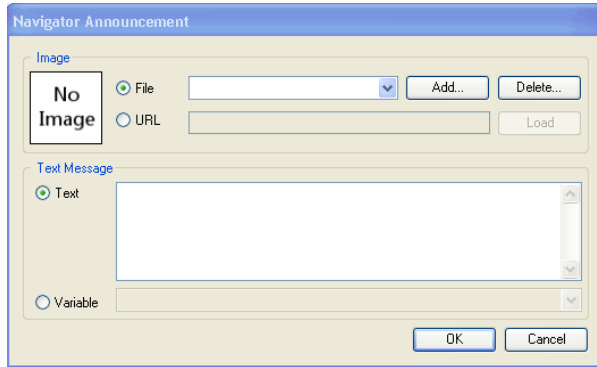
    - Enter a text message, a URL, or browse to an image (JPG, GIF, or PNG) to be displayed.

The text box accepts any HTML code. While certain links and scripts won't be handled, when the announcement is triggered, for example, if you put this text in an announcement, it will show up just as if it were a Web page.

The following text will display the latest snapshot of a Web page:

<HTML><BODY><IMG SRC="http://tbn0.google.com/images?q=tbn:1uOhCnlc3zbQgM:http://www.inkycircus.com/jargon/images/mountain.jpg" ALT="pumpkin">Visit W3Schools!</BODY></HTML>

Note: A static image file (JPG, GIF, or PNG) only has to be added to your project one time, because it is copied to the Controller. When added, it is available in the Text Message drop-down list for use in any additional announcements created.

    - Select the time you want the text message to display by selecting a **Close after** drop-down option (supported display times are from 5 seconds to 10 minutes).
    - Click **Add/Remove** and add the Navigators that will display the message. Click **OK**.
8. Audio file. Add a **WAV** audio file and set up the audio file to play.
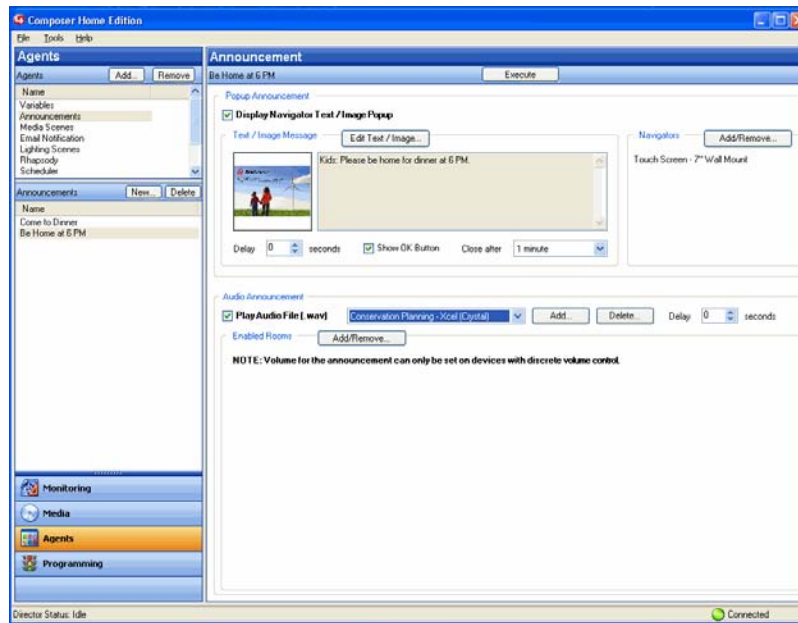
a. Check the **Play Audio File** (.WAV) box.

b. (One time per audio file.) Click **Add** and browse to the .WAV audio file to add it to the drop-down list.

   Note: An audio file only has to be added to your project one time, because it is copied to the Controller. When added, it is available in the Audio File drop-down list for use in any additional announcements created.

c. Choose the **WAV** file from the drop-down list.

d. Click **Add/Remove Rooms** and add the rooms where the audio file will play.

e. Set the volume of the audio play for each room.

   Note: Volume for the announcement can be set only on devices with discrete volume control.
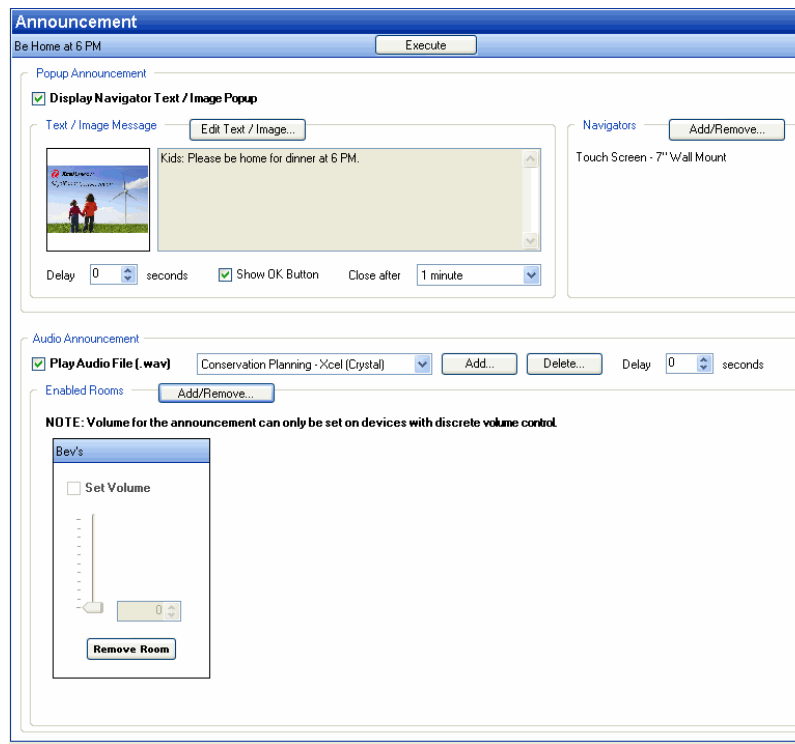
9. Click the **Programming** view.

10. Verify that the new Announcement Agent displays in the Actions list (bottom of list).
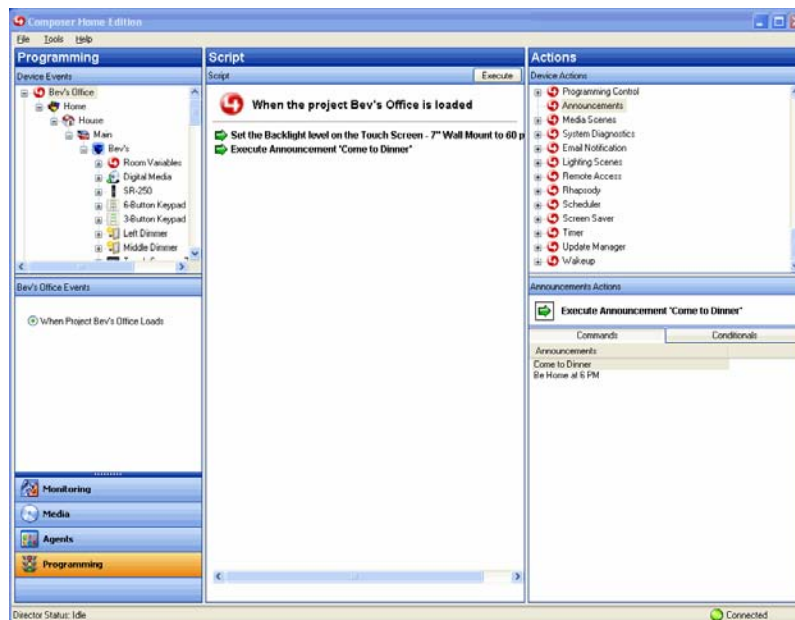
a. Select **Announcements**.

b. Make sure the 'Come to Dinner!' message displays in the Announcement Actions pane, and that the *command* is there (green arrow).

11. Program the announcement to play or display with a triggering event.

Exa**mple**: Program a button-press event (left pane) to trigger the Announcement agent "Dinner is ready" (right pane) to run.

5.1.3 Programming with a Custom Buttons Agent

Use the Control4® Composer HE Custom Buttons *Agent* to create up to four (4) custom screens to display on the Navigators (including Touch Screens and On-Screen devices).

Example: If you have a heated driveway or some other specialty *device*, you can set up a screen with custom buttons to operate the heated driveway from your Navigators.

5.1.3.1 Guidelines

- You can access each screen on the Navigators from the Control4 main menu or for a room from four (4) available tabs. For example, the heated driveway screen is accessed from a custom tab on the main menu. You can configure the tab to be viewed system-wide on all screens, or to view in one room.
- The Navigators allow up to four (4) tabs per room to access custom screens with custom buttons. Each screen can provide up to six (6) custom buttons for a total of 24 custom buttons. The four (4) tabs in each room can be allocated either as room or global tabs.
- On the Navigators, you can set up a room or global tabs. The example shows the creation of custom tabs that appear in the Front room to access a custom screen.

Note: If you want to create a Custom tab to appear globally, check the Global box next to the Screen Name. Because only four (4) screens are available for each room, if a Global button is added and another room already has four (4) screens, the Global button replaces the first screen in that room.

5.1.3.1.1 **Prerequisites**

The following devices are added and identified (with a network address) in the project:

- *Controller*
- Electronic Gate (In the Control & Audio Video Connections tab, ensure that the Electronic Gate is connected to Controller *Relay* Port 4.)

5.1.3.1.2 **Procedure**

To set up a Custom Buttons agent:

1. Start **Composer** and connect to a **Director**.
2. Click **Agents**.
3. In the Agents view, click **Add** to choose an agent type **Custom Buttons**.
4. When the dialog appears, choose **Custom Buttons**.
5. Click **OK**.
6. Select the **Custom Buttons** agent.
7. From the list that appears in the left pane, select the **room** for the Custom Button.
8. Select **Front**.
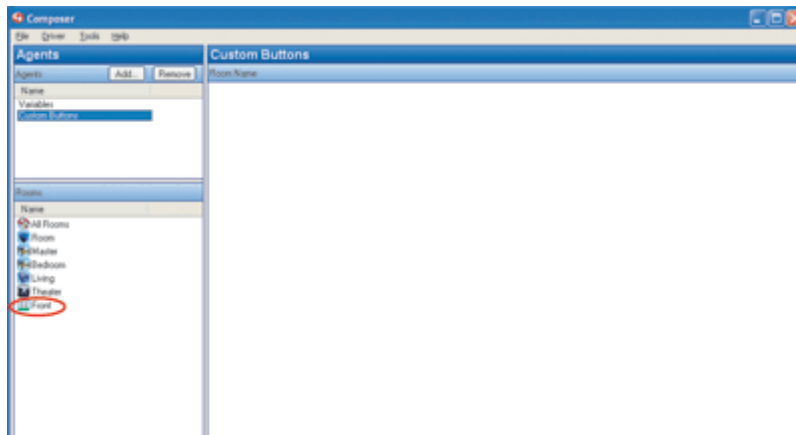
9. When the Custom Buttons interface appears, in the Screen 1 area, click **Add**.
10. Enter the name of the buttons to appear on the *Navigator* screen.
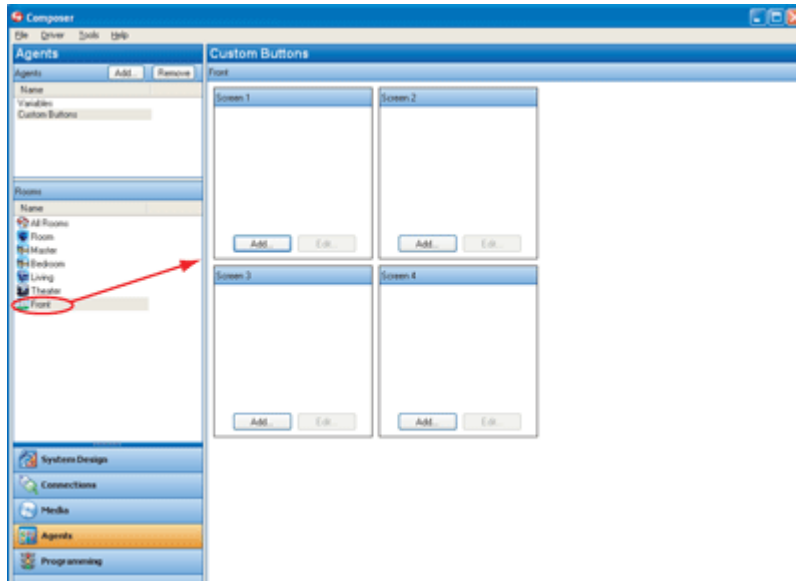
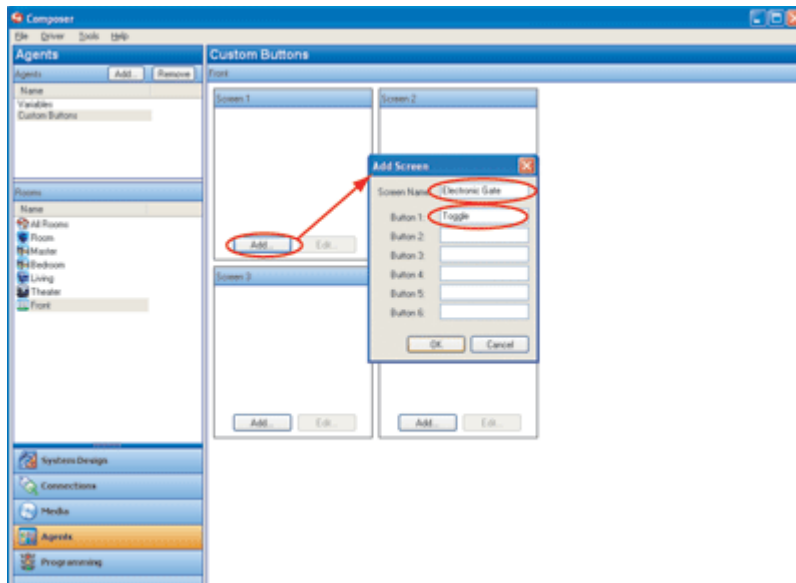11. Enter the relevant information for the device.

    The Screen Name is the name that appears on the access tab to enter the custom screen. The buttons are the names that appear on the custom buttons.

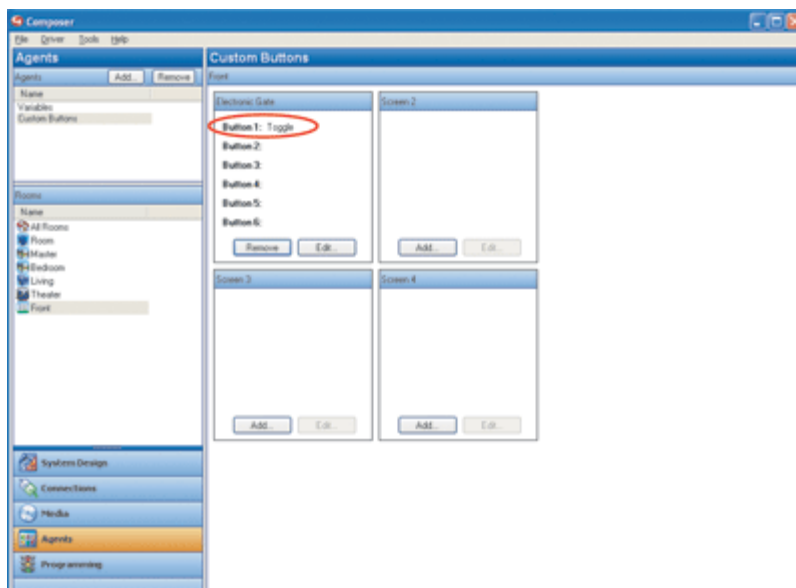   **Example**: For the Electronic Gate, enter the following:

    - Screen Name: Electronic Gate
    - Button 1: Toggle

12. Click **OK**.

13. Click the **Programming** view to program your Custom Buttons.

14. In the Device Events pane, scroll down to the agents and select the **Custom Buttons** agent.
15. In the Custom Buttons Events pane, ensure that **Front-Electronic Gate** is selected under the Event Screen next to Toggle, and then select the **Press** radio button. When custom button 'Toggle' on screen 'Electronic Gate' in Front is pressed, it appears at the top of the Script pane.
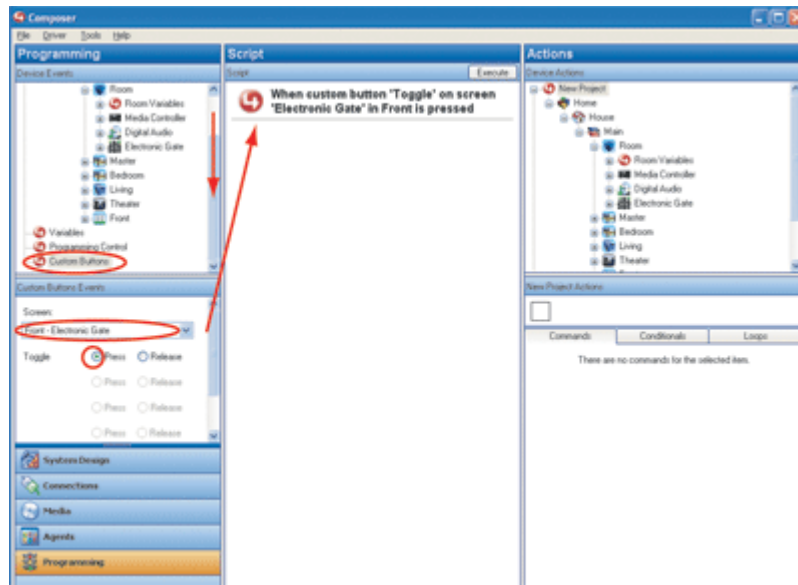
16. In the Actions pane, select **Electronic Gate**.

17. From the Command tab, select the **Toggle the Electronic Gate** radio button. The action command appears in the Actions pane.

18. Drag the **green arrow** to the Script pane.

19. Select **File** > **Refresh Navigators**.

5.1.4 Programming with the E-Mail Notification Agent

IMPORTANT: An active *4Sight* Internet Service subscription is required for Email Notification to work. See *Composer HE Getting Started* or the *Control4 System User Guide* for details.

Use the Control4® Composer HE E-Mail Notification *Agent* to have an e-mail sent to an e-mail address automatically when specific events occur that you define in *programming*.

Example: If you want to know when the Basement door opens, you can set up an E-mail Notification agent to send an e-mail to your e-mail application's Inbox when the Basement door is opened.

- The E-mail Notification agent is a Control4 service. To use the E-mail Notification agent, *Remote Access* is required to facilitate a secure *connection* between the *Controller* and the Control4 service.

- The E-mail Notification agent uses templates to enhance usability. You can use a template to define a To, Subject, or Body for use when creating instances of the Email Notification agent. See "Connecting to a Director" or "Setting Up Remote Access" in *Composer HE Getting Started*.

- Use the Programming view to define the individual instance that triggers an e-mail and completes the definition.

Example: A security threat to the house notified you of broken windows, doors opening, and motion detected in Away mode. In the template, you define Subject: Security Alert and To: fsmith@myemail.com. In the Programming view, you might define the zone. Examples of other incidents to use E-mail Notification include: Basement Door Opened, Front Gate Opened, Water

Sensor detection, Carbon Monoxide Sensor detection, Motion Sensor detection, Sprinklers On/Off, etc.

Tip: When setting up an Email Notification agent, note the frequency that an *event* can happen, because if it is too frequent it can slow down the system. For example, if an e-mail is sent when a motion sensor detects motion, the frequent email messages could cause sluggishness.

5.1.4.1 Prerequisites

The following example devices are added and identified (with a network address) in the project:

- Controller
- Door *Contact* Sensor

5.1.4.2 Procedure

To set up an E-Mail Notification agent:

1. Start **Composer** and connect to a Director.
2. Click **Agents**.
3. In the Agents view, click **Add** to an agent type.
4. When the dialog appears, select **Email Notification**.
5. Click **OK**.
6. Select **Email Notification**, and click **Add** in the pane that follows. The New Template Name dialog appears.

    Tip: Control4 now includes Control4 system and user-defined variables in the templates created using this agent. To use this function, your Control4 Installer can create or modify e-mail templates using Composer HE, Agents, Email Notification, and then use the **Add Variable** option.

7. Enter a name on the dialog that appears, for example, 'Security Alert.'
8. Click **Create**.
9. In Email Notification Template Name, select **Security Alert** for the Composer email screen to appear.
10. Fill out the information for the email you want sent to you when an event occurs.

    Example:
    To: **fsmith@myemail.com**
    Subject: **Security Alert**
    Body: **The security of the Franklin Smith House may have been compromised.**
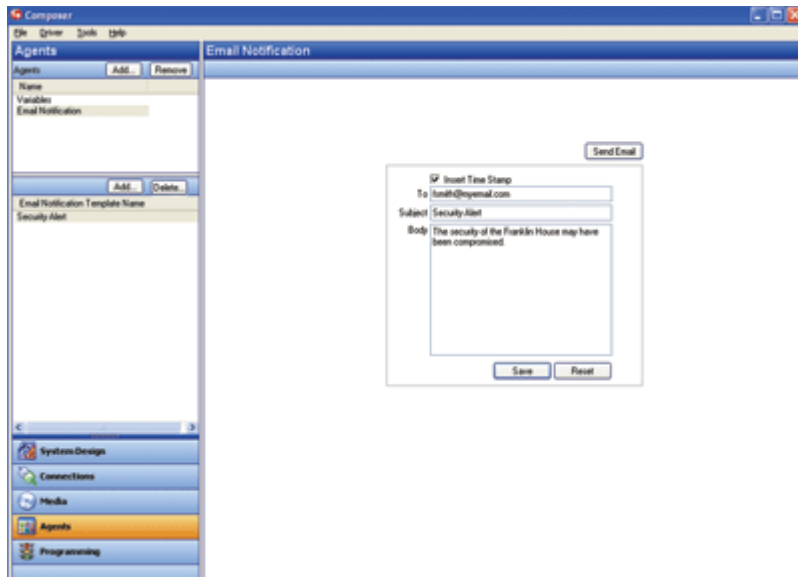
11. Do the following as needed:
    a. Click **Send Email** to test whether you receive an email to your email address.
    b. Click **Save** to exit and go to the Programming view to set up the programming.
    c. Click **Reset** to clear the To, Subject, and Body of the email to start again.
12. With the Agent template created, you can create one instance of the Security Alert for each security zone (or object).
13. Click **Programming** to display the Programming view.
    a. In Programming under Theater, select **Door Contact Sensor**.
    b. In Door Contact Sensor Events, select **When Door Contact Sensor opens**.
    c. In the Actions pane, scroll down and select **Email Notification**.
    d. Make any changes to the e-mail as necessary.
    e. Drag the **green arrow** to the Script pane.
14. In the File menu, click **Refresh**.
15. Test the Email Notification agent by going to the door and opening it. An e-mail is sent to your Inbox with the Security Alert as a subject.

5.1.5 Programming with the Lighting Scenes Agent

Use the Control4® Composer HE Agents and Programming views to set up a Lighting Scene *agent*. Lighting Scenes let you set up lights in your home to pre-determined settings and *ramp rate*s.

Example: Set up the Bedroom Dimmer and Theater Dimmer to a pre-determined level and ramp rate when they are turned on. Turn the Dimmer off and on.

5.1.5.1 Prerequisites

1. Ensure that the devices to which you want to apply agents to are added and configured in the system. Your Control4 Dealer or Installer can help you do this.
2. Ensure the project tree includes the following devices:
   - Controller
   - Theater Dimmer
   - Theater Switch
   - 6-Button Keypad
   - Bedroom Dimmer

5.1.5.2 Procedure

To set up a Lighting Scenes agent:

1. Start **Composer** and connect to a **Director**.
2. Click the **Agents** view.
3. Click **Add** to add an agent type.
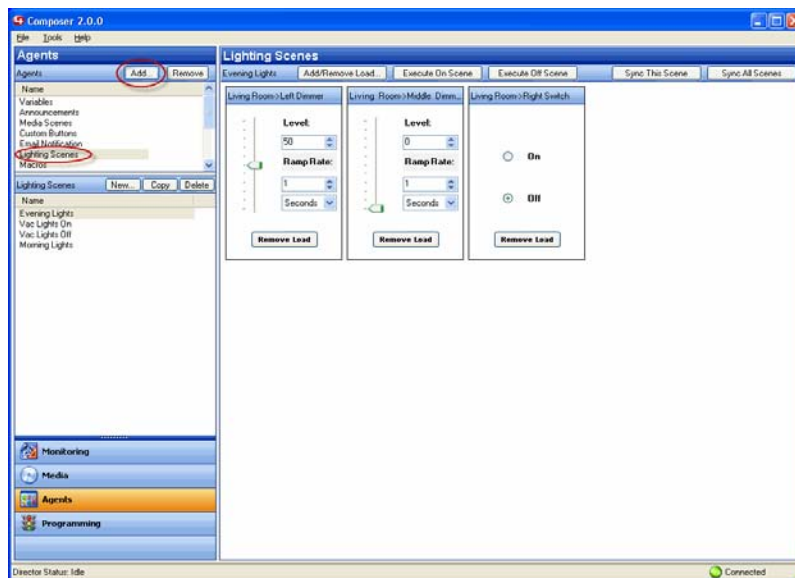
4. When the dialog appears, select **Lighting Scenes**.
5. Click **OK**.
6. Highlight **Lighting Scenes** and click **New**. The Lighting Scene interface appears.
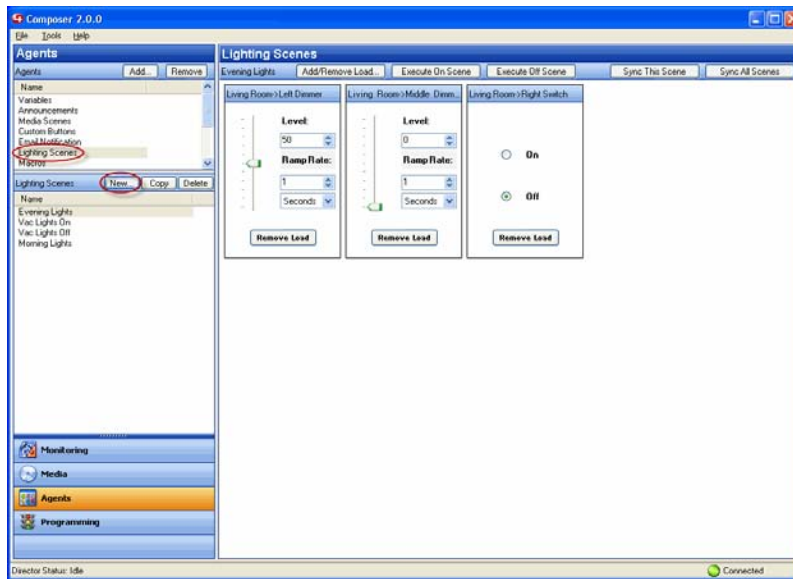
7. Enter a name for the Lighting Scene on the dialog that appears, such as **Evening Lights**.
8. Click **Create**.
9. The instance of the agent you created appears. Highlight the instance you just created, and click **Add/Remove Load** to continue.
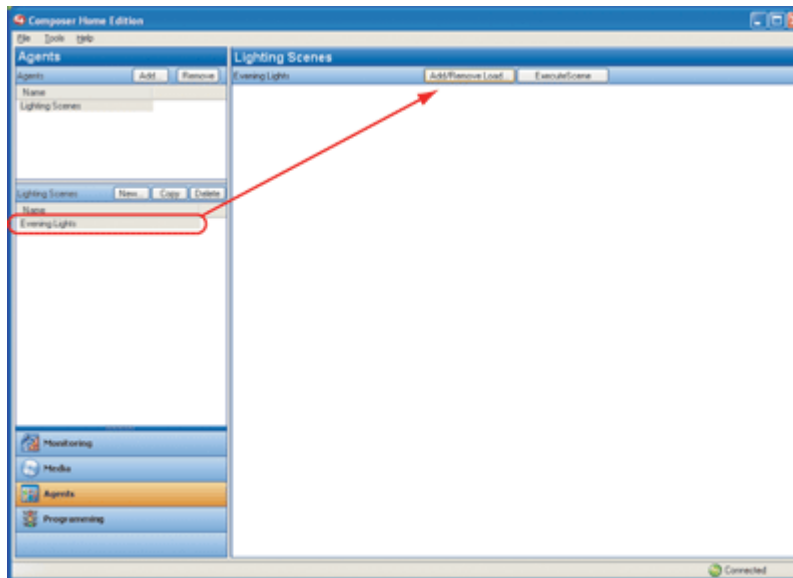
10. Check the lighting loads for the Theater Dimmer, Theater Switch, and Bedroom Dimmer you want to add to the scene, and then click **OK**.

11. Set the desired settings for each load:

   - **Dimmer Options**

      - **Level**—Lets you set a lighting level as appropriate by using the bar or Level pull-down menu, such as **50** percent for the Bedroom Dimmer and **20** percent for the Theater Dimmer.

      - **Ramp Rate**—Lets you set the Ramp Rate, which is the speed used to get to the specified level. Use the pull-down menu to set the Milliseconds, Seconds, or Minutes of the ramp rate. Then set the amount of time you want for the level to change. **Example**: Set the time to **1** second for both the Bedroom Dimmer and the Theater Dimmer.

      - **Remove Load**—Lets you remove this particular load by clicking **Remove Load**.

   - **Switch Options**—You can turn the light on or off for the Lighting Scene. **Example**: Turn the light Off.

12. When you finish setting the Lighting Scene for each load, click **Execute Scene**.

   Note: Other buttons may apply as needed.

   - **Add/Remove Load**. Click to add or remove Dimmers or Switches. Select the **Dimmer** or **Switch** from the tree and click **OK**.

   - **Execute On Scene**. Click to have all Dimmers and Switches in this scene turn on when executed.

   - **Execute Off Scene**. Click to have all Dimmers and Switches in this scene turn off when executed.

   - **Sync This Scene**. Click to synchronize the behavior of the devices in this scene. Used mostly for updates and testing.

   - **Sync All Scenes**. Click to synchronize the behavior of all devices in all scenes. Used mostly for updates and testing.
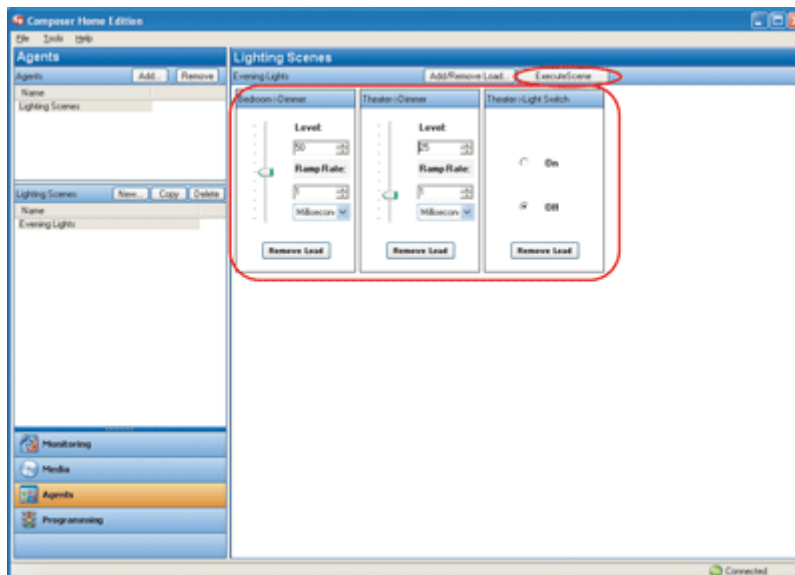
13. A dialog appears that the scene is executed. Click **OK**.
14. Click the **Programming** view.
15. In the left pane, highlight the **device** to program.

Example: 6 Button Keypad

16. In the left middle pane, click the **top right button** (Button 4).
17. Select **Press** as the event to trigger and program. The event appears at the top of the Script pane.
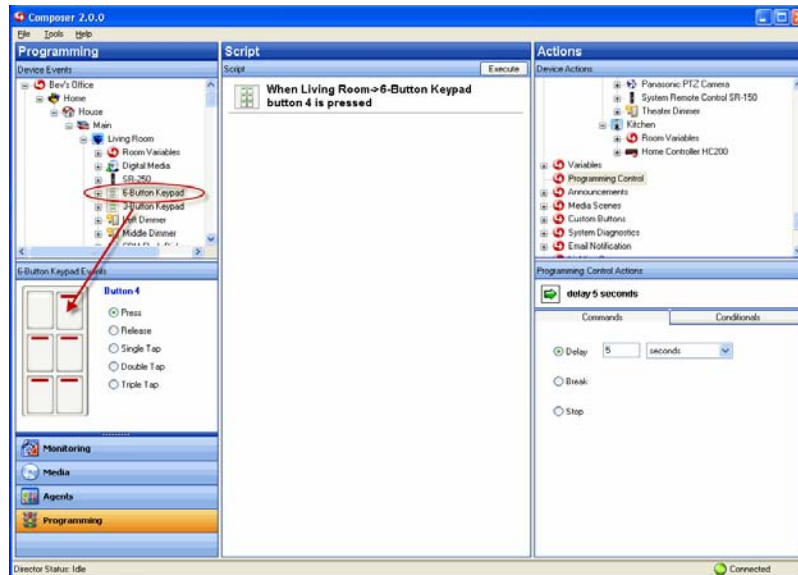
18. From the Actions pane, scroll down to view the available agents in the project.
19. Highlight the **agents** that you want to configure.

Example: Lighting Scenes
The available commands appear in the Lighting Scene Actions pane and Commands tab.
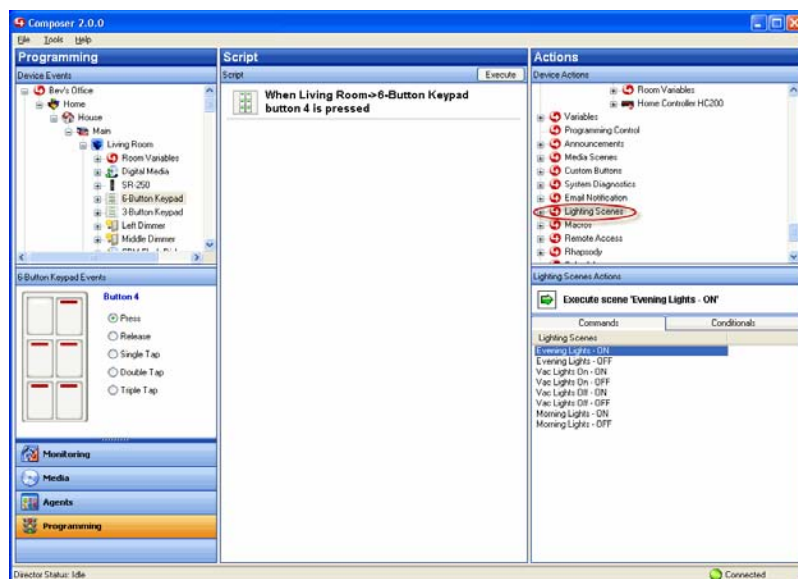
20. Select the **command** to view it.
21. Drag the **green arrow** to the Script pane.
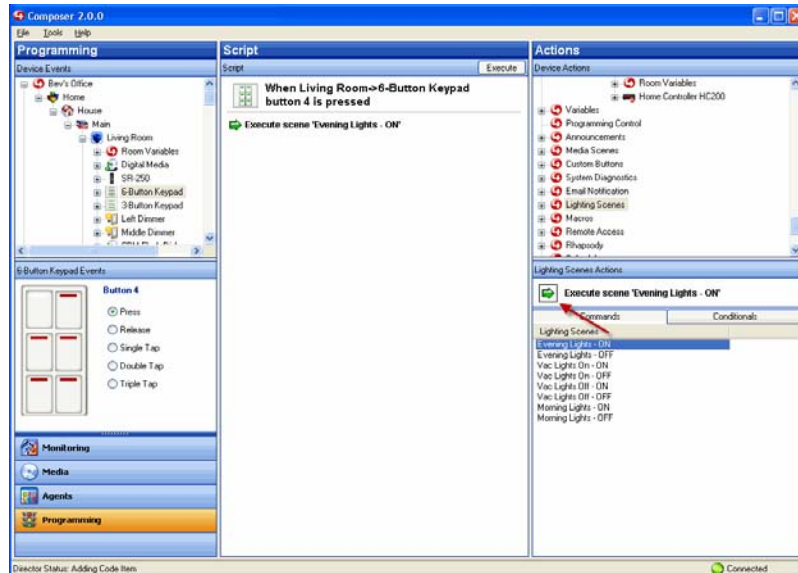
22. Press **Button 1** on the 6 Button Keypad, or click **Execute** in the Script pane to test the Lighting Scene.

5.1.6 Programming with the Macros Agent

Use the Control4® Composer HE Agents and *Programming* views to program this *agent*. Macro agents associate programming with *event*s. For example, you can create and name a macro to use in several different events. You can bring the macro in from a particular program in the Programming view > Programming Actions pane.

You can create macros agents:

- To use in various programmed events
- To use in custom pages
- To embed directly into the Navigators

See your Control4 Dealer or Installer for more information.

5.1.6.1 Prerequisites

The following devices are added and identified (with a network address) in the project:

- *Controller*
- Light Switch
- *Navigator* with a screen (*Touch Screen*, LCD Keypad, Television)
- Any device involved in the triggering *event* (Doorbell *Contact*, 3-Button Keypad, etc.)

5.1.6.2 Procedures

To set up a Macros agent:

1. Start **Composer** and connect to a **Director**.
2. Click **Agents**.
3. (Initial Macro agent only) Click **Add**.
4. Select **Macros**, and then click **OK** to add the agent types list to the project.

To create a new Macros agent:

1. Select **Macros** in the Agents pane, and click **New**.
2. Name the new macro, for example, **Bob**, and then click **Create**.

To add the agent's programming script:

In this script, select the **Living Room Right Switch** which is on, and then turn off everything in the Living Room.

1. Click the **Programming** view.
2. In the Device Events pane, scroll down to Macros and select **Bob**. "When Bob is executed" appears in the Script pane.
3. In the Device Actions pane, select **Living Room** and the **Right Switch**.
4. Drag the **green arrow** 'Living Room ->Right Switch->LIGHT_STATE=True' to the Script pane.
5. In the Device Actions pane, select **Living Room**.
6. Drag the **green arrow** 'Turn off Living Room' to the Script pane.
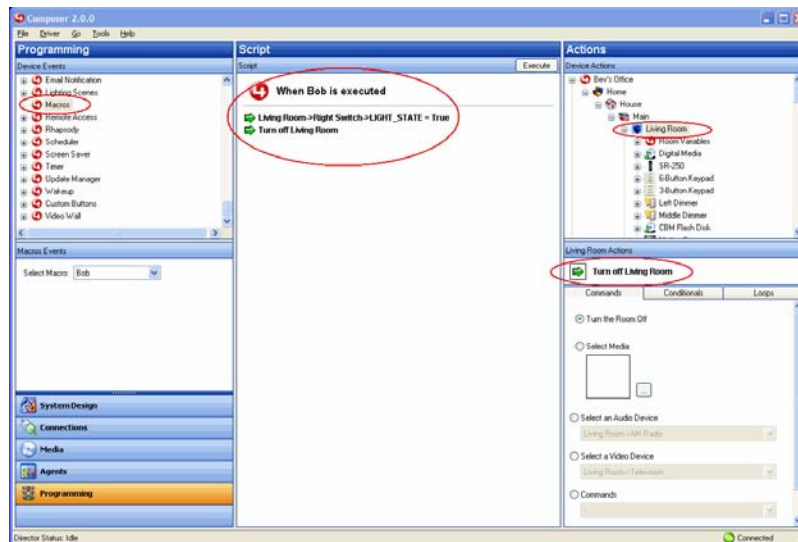
7. You can add this agent to many programs that you create if you want to perform similar tasks, or you can program the agent for a specific device. For example, you can assign this agent to **Button 1** on a 3-Button Keypad to run the program when executed.

Note: A unique Macros agent cannot be edited or copied; only created or deleted. If you want to create a new Macros agent based on another one, you must create a new Macros agent.

5.1.7   Programming with the Media Scenes Agent

Use the Control4® Composer HE Media Scenes *agent* to allow simpler multi-zone audio control. Media Scenes link source, volume, and room-off commands. With Media Scenes, you can configure one or more rooms in a system to play the same music at the same volume.

Example: A Media Scene for the entire house can include all the rooms in the Control4 system. Another Media Scene can include only the Master Bedroom and Bath. You can create any number of Media Scenes for any number of rooms.

5.1.7.1 Guidelines

1. To activate a Media Scene successfully (with the rooms being controlled simultaneously), activate the Media Scenes agent before starting any music playback.
2. Media scenes are persistent; when activated, a Media Scene remains active until deactivated or until the Controller is powered down. If a Media Scene is deactivated while music is playing, the music continues to play in the associated rooms, but the rooms are no longer controlled in unison. Therefore, music can be stopped in one room while it continues to play in another room.
3. You can set up the Media Scene one time, and activate it when desired. Then play the music.

5.1.7.2 Procedure

To create a Media Scenes agent:

1. Start **Composer** and connect to a **Director**.
2. In the Agents view, click **Add**.
3. On the dialog that appears, click **Media Scenes**, and then click **OK**.
4. In the Agents pane, select **Media Scenes**, and click **New**.
5. Enter a name for your new Media Scene. **Example**: **Party Music**.
6. In the Agents pane, select **Party Music**, and then click **Add Room** in the Media Scenes pane.
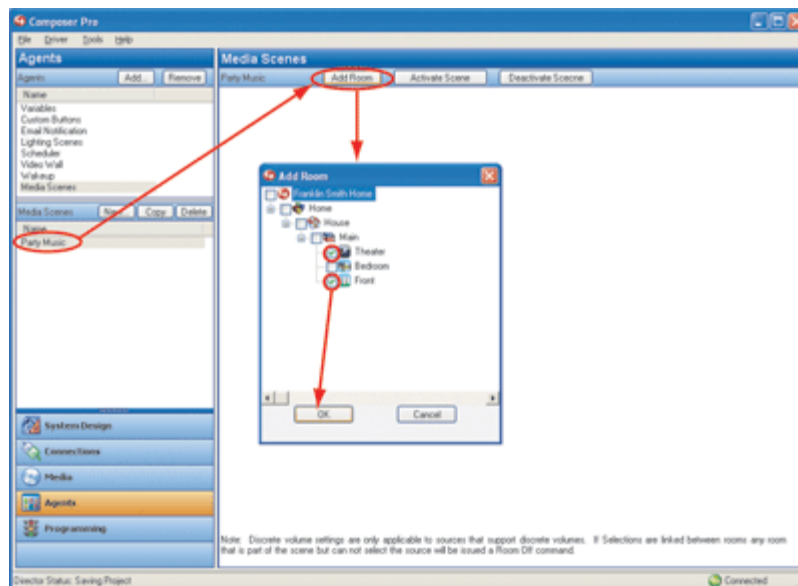
7. The dialog box lists the rooms in your system. Check the **rooms** where you want to play your Party Music, and then click **OK**. **Example**: **Theater** and **Front**.

Copyright © 2010 Control4. All Rights Reserved.

Tips: To remove a room from a scene, click **Remove Room**. To create another Media Scene, return to Step 1.
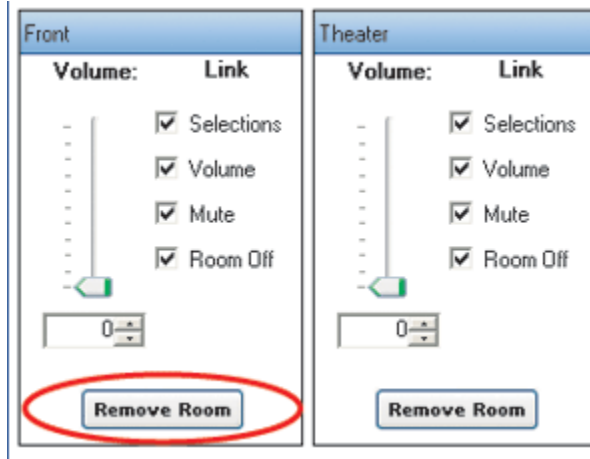
Tip: You can add all rooms on a floor by clicking **Main**. This automatically selects all other rooms in that category. You can include also all rooms in your entire system in the Media Scene by clicking **House**.

The rooms you selected appear in the new Media scene 'Party Music.'
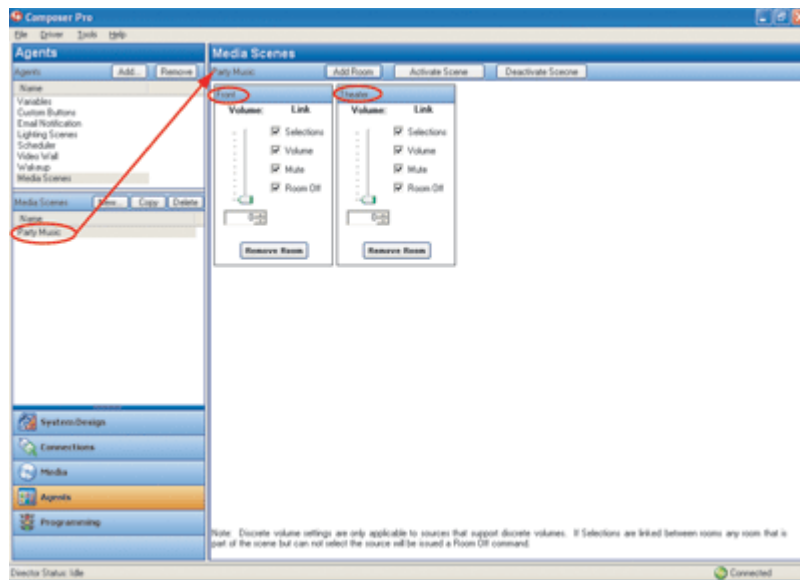
8.   To activate the scene, click **Activate Scene** at the top of the screen.
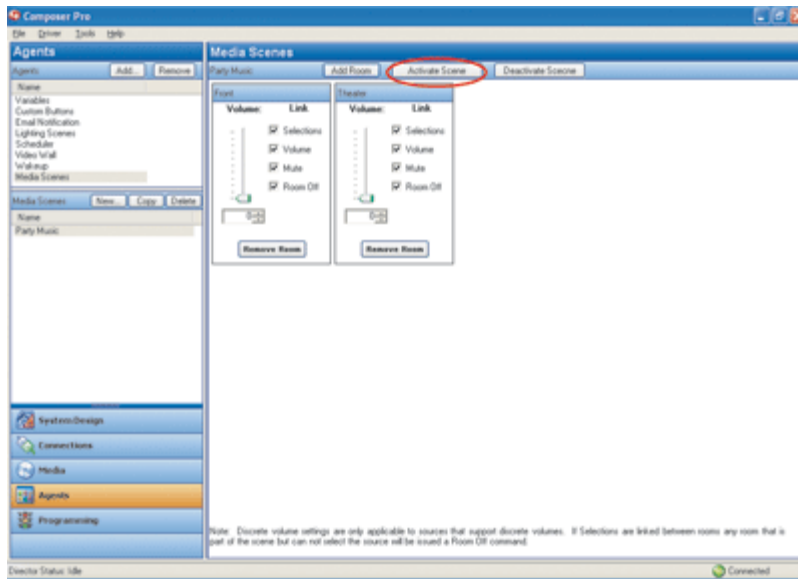
To deactivate the scene, click the **Deactivate Scene** button.

9. You can program a button for your Media Scene. Do this by creating a new Custom Buttons agent.
   a. In the Agents view, click **Custom Buttons**, and then below, click a **room**. In the Custom Buttons pane, click **Add**.
   b. In the Add Screen dialog that appears, enter the name of the Custom Button, and then click **OK**.

   Example: Click **Theater** and call the Screen name **Media Scene**. Name Button 1: **On/Off**.

   The Custom Button name appears in the pane.

10. Click the **Programming** view.
11. In the Device Events pane scroll down, and click **Custom Buttons**. In the pane below, Custom Button Events, select the screen you want to program, and then select the **Press** radio button.

    Example: Select the screen **Theater - Media Scene**, and then select the **Press** radio button.

12. In the Actions pane, select **Theater**.
13. In the Theater Actions pane under Conditionals, press the **Media Scene Active** button, and then the **True** button.
14. Drag the **blue question** mark to the Script pane.
15. In the Actions pane, scroll down and select **Media Scenes**.
16. In the Media Scenes Actions pane under Commands, press the **Deactivate** button, and then select **Party Music**.
17. Drag the **green arrow** on top of the **blue question** mark in the Script pane.
18. In the Actions pane, scroll up and select **Theater**. In the Theater Actions pane and in Conditionals, press the **Media Scene Active** button, and then the **False** button.
19. Drag the **blue question mark** to the Script pane.

Copyright © 2010 Control4. All Rights Reserved.

20. In the Actions pane, scroll down and select **Media Scenes**. In the Media Scenes Actions pane and in Commands, press the **Activate** button, and then select **Party Music**.

21. Drag the **green arrow** icon on top of the **blue question** mark in the Script pane.
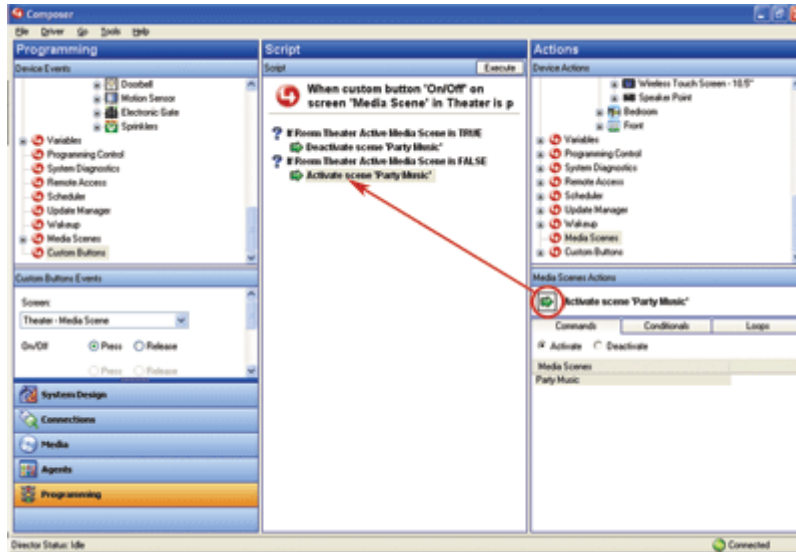
The Script pane now reads, 'When custom button 'On/Off' on screen 'Media Scene' in Theater is pressed...Activate scene 'Party Music.'

22. To execute the scene, click **Execute**.

5.1.8   Programming with the Rhapsody Agent

Use the Control4® Composer HE Agents view to activate or disable a Rhapsody® agent.

Note: Rhapsody is a subscription-based music service that gives you unlimited access to a catalog of millions of full-length, CD-quality tracks. You can listen to any Rhapsody album, songs, or playlists whenever you want, in any room of your house through the Control4 system.
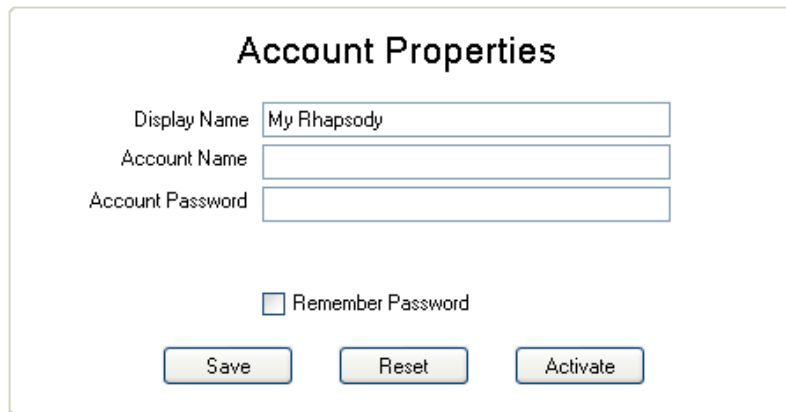
5.1.8.1 Prerequisites

1. Ensure that a Rhapsody account has been set up. See "Registering the System on my.control4.com" in *Composer HE Getting Started* or your Control4 Dealer or Installer for details.

2. Ensure that the devices you want to use for Rhapsody output are added and identified to the system.

5.1.8.2 Procedure

To activate a Rhapsody agent:

1. Start **Composer** and connect to a **Director**.

2. Click **Agents**.

3. (Initial Rhapsody agent only) Click **Add**.

4. Select **Rhapsody**, and then click **OK** to add Rhapsody to the agent types list in the project.

5. With Rhapsody selected in the left pane, click **New**. The following dialog box appears in the right pane.

6. Enter your Rhapsody account name and password.
7. Click **Save**.
8. Click **Activate**.

To disable Rhapsody:

1. Start **Composer** and connect to a **Director**.
2. Click **Agents**.
3. Select **Rhapsody** from the agents list.
4. Select **Disable Rhapsody**.

5.1.9 Programming with the Room or Global Access Custom Buttons

Use the Control4® Composer HE Agents and Programming views to create custom buttons for display on your Navigators. The Custom Button Agent lets you create up to four (4) custom screens to display on the three (3) Navigators (Mini Touch Screen, On-Screen, and Wireless Touch Screen - 10.5).

Example: If you have a heated driveway or some other specialty device, you can set up a screen with custom buttons to operate the heated driveway from your Navigators.

Each screen is accessed from the main menu or from a room from four (4) available tabs. For example, the heated driveway screen is accessed from a custom tab from the main menu. You can configure the tab to be viewed system-wide on all screens or to be viewed in only one room.

The Navigators contain up to four (4) tabs per room to access custom screens using custom buttons. Each screen can provide up to six (6) custom buttons for a total of 24 custom buttons. The four (4) tabs in each room can be allocated either as room or global tabs.

Note: On the Navigators, you can set up room or global tabs. The example shows the creation of custom tabs that appear in the Front room and access a custom screen. If you want to create a Custom tab to appear globally, check the **Global** box next to the Screen Name. Because only four (4) screens are available for each room, if a Global button is added and another room already has four (4) screens, the Global button will replace the first screen in that room.

5.1.9.1 Prerequisites

1. Ensure that the devices to which you want to apply agents to are added and configured in the system. Your Control4 Dealer or Installer can help you do this.

2. Ensure the project tree includes the following devices:
   - Controller
   - Electronic Gate

5.1.9.2 Procedure

To program using the Custom Buttons agent:

1. Start **Composer** and connect to a **Director**.
2. Click the **Agents** view.
3. Click **Add**. To choose an agent, type **Custom Buttons**.
4. When the dialog appears, choose **Custom Buttons**.
5. Click **OK**.
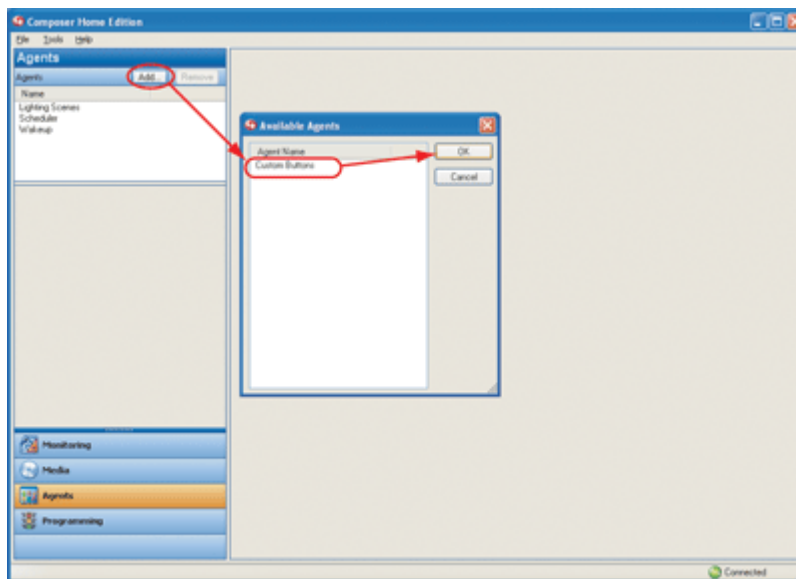
6. Highlight the **Custom Buttons** agent.
7. Select the **room** where you want the Custom Button to appear from the list in the left pane.
8. Highlight **Front**.
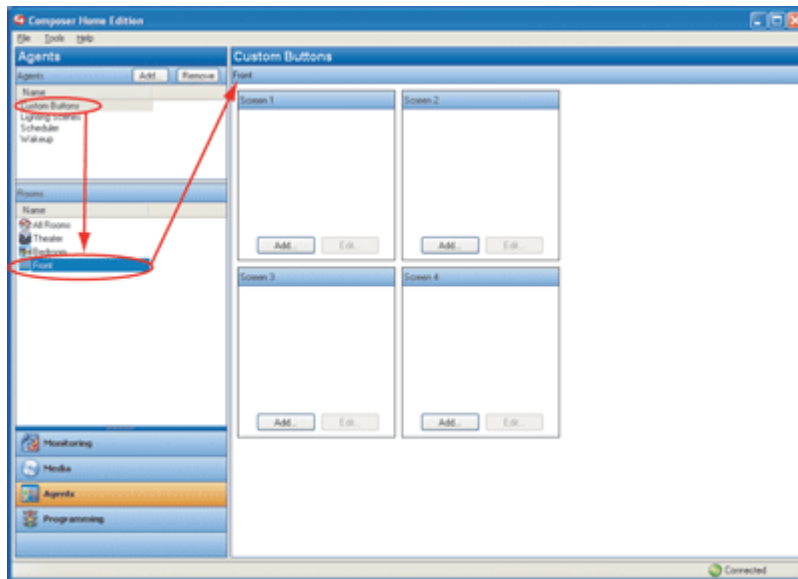
9. When the Custom Buttons interface appears, in the Screen 1 area, click **Add**. In the next few steps, you enter the name of the buttons you want to appear on the Navigator device screen you are creating.

10. Enter the relevant information for the device.

    The Screen Name is the name that appears on the access tab to enter the custom screen. The buttons are the names that appear on the custom buttons. For example, using the Electronic Gate, enter the following:

    Screen Name: **Electronic Gate**
    Button 1: **Toggle**

11. Click **OK**.
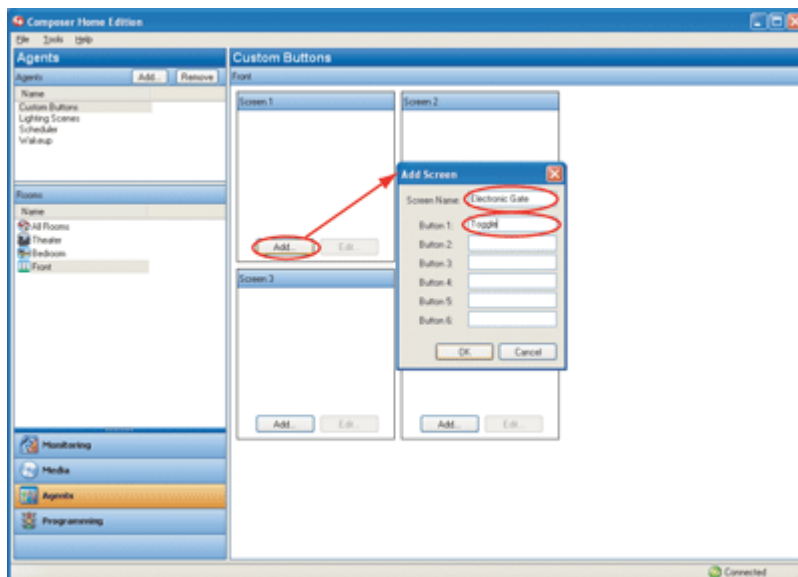
Copyright © 2010 Control4. All Rights Reserved.

12. Click the **Programming** view to program your custom button.
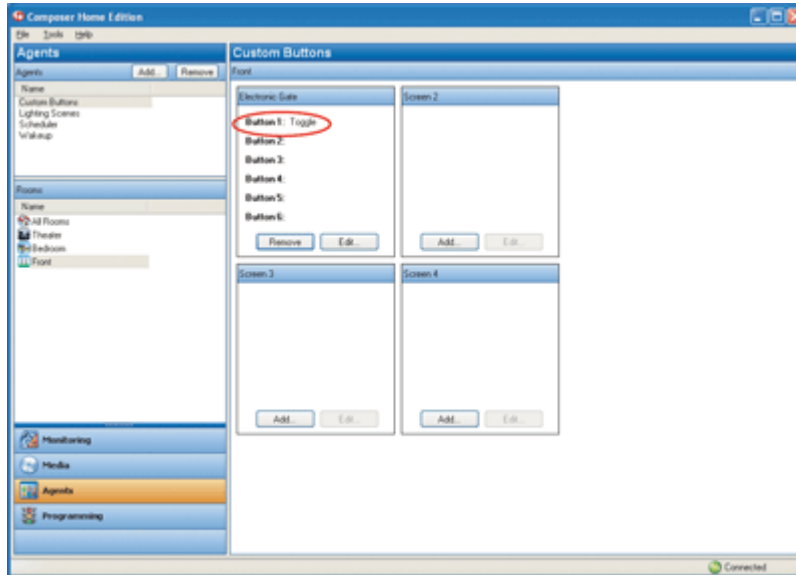
13. Under Device Events, scroll down to the agents and highlight the **Custom Buttons** agent.
14. In the Custom Buttons Events pane, ensure that **Front- Electronic Gate** is selected under Screen next to Toggle.
15. Select the **Press** radio button.

The event 'When custom button 'Toggle' on screen 'Electronic Gate' in Front is pressed' appears at the top of the Script pane.
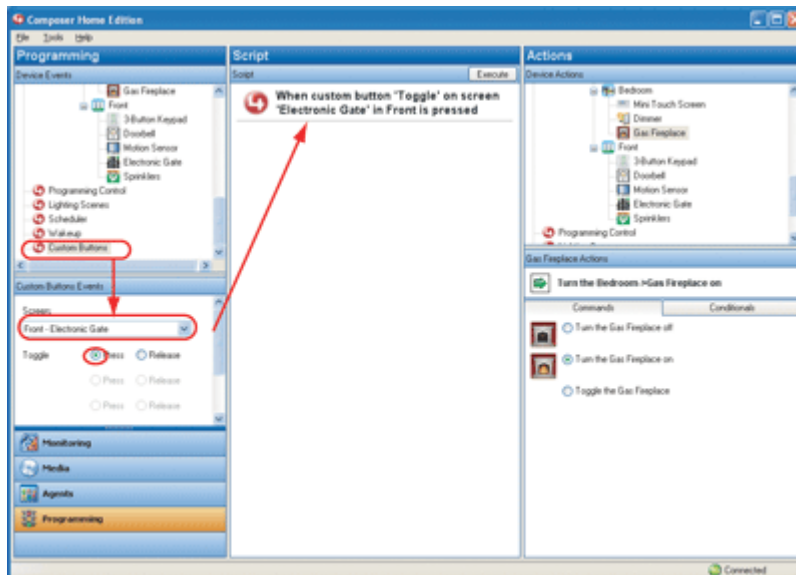
16. Under the Actions pane, highlight **Electronic Gate**.

17. Click the **Commands** tab.
18. Select the **Toggle the Electronic Gate** radio button. The action appears in the right middle pane.
19. Click and drag the **green arrow** to the Script pane.
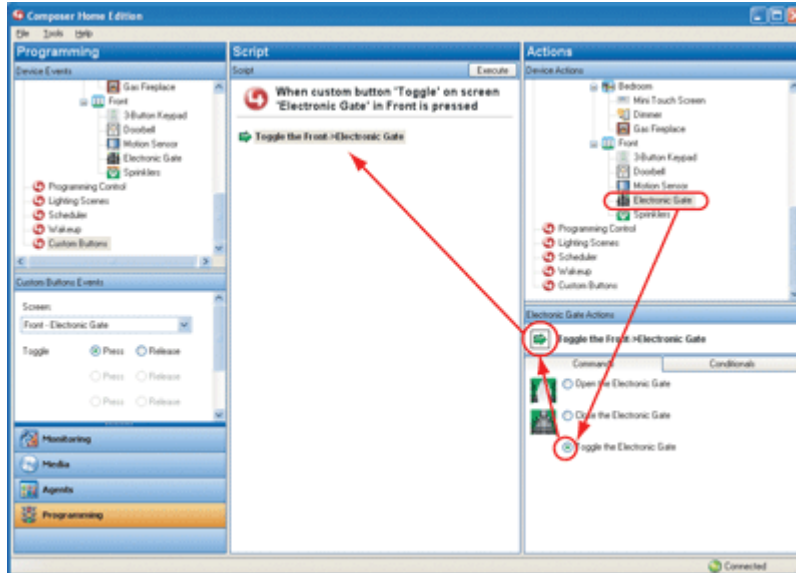
20. From the File menu, select **Refresh Navigators**.

Try the On-Screen Navigator or another Navigator to see the Custom Button you just created.

5.1.10 Programming with the Scheduler Agent

Use the Control4® Composer HE Agents and Programming views to create a Scheduler *agent*. The Scheduler agent lets you schedule time on the system to trigger *event*s. You have the flexibility to program a specific one-time event, multiple events to re-occur daily, weekly, monthly, yearly, etc.

Example: Schedule a fun event to wake up dad by playing his favorite song at 7:30 AM on his birthday.

5.1.10.1 Prerequisites

1. Ensure that the devices to which you want to apply agents are added and identified in the system. Your Control4 Dealer or Installer can help you do this.
2. Ensure the project tree includes the Controller.

5.1.10.2 Procedure

To create a Scheduler agent:

1. Start **Composer** and connect to a **Director**.
2. Click the **Agents** view.
3. Click **Add** for the Available Agents screen to appear.
4. Select **Scheduler** > **OK**.
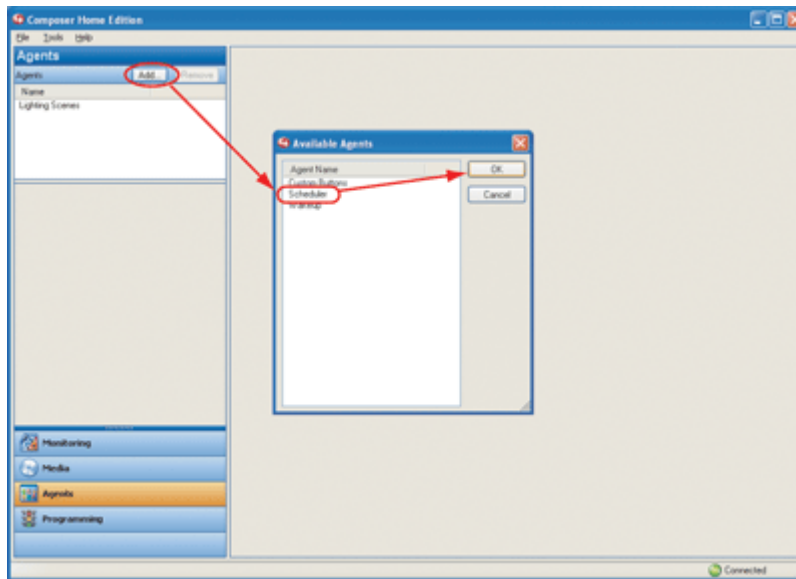
5. In the Agents pane, select **Scheduler**. The Scheduler interface panes appear.
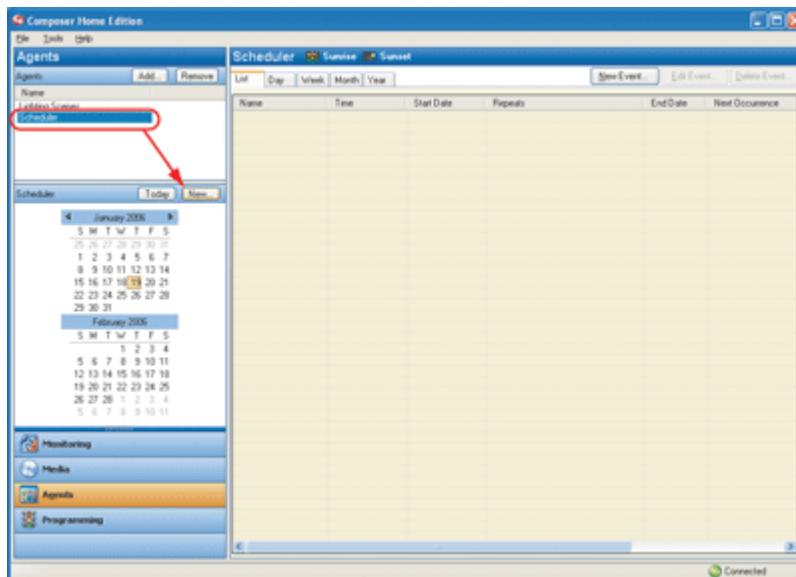
6. In the Scheduler pane, click **New**.
7. In the New Event dialog, enter the relevant information for this Scheduler instance:
   a. Enter the Name **Dad's Birthday**.
      - In Time:

         Select the **Time** radio button.

         Highlight the hour: **07**, minutes: **30**, and **AM**. Use the drop-down list to select each time separately.

      - In Start Date, select one of the following:

         Select the **Start** radio button. Use the drop-down list to select today's date.

Select **Start** on the radio button to choose an exact day, month, and year. Use the drop-down lists to make your selections.

- Select **Repeats**:

    Select **Yearly**. Example: You want dad's favorite song to play at 7:30 AM. This dialog lets you schedule one-time events and recurring events.

    Select **Stop on**, and use the drop-down list to select a month and year to stop this agent.

b. Click **OK**. The event is now added to the list of events.

c. To delete an event, select the event in the list, and click **Delete**.
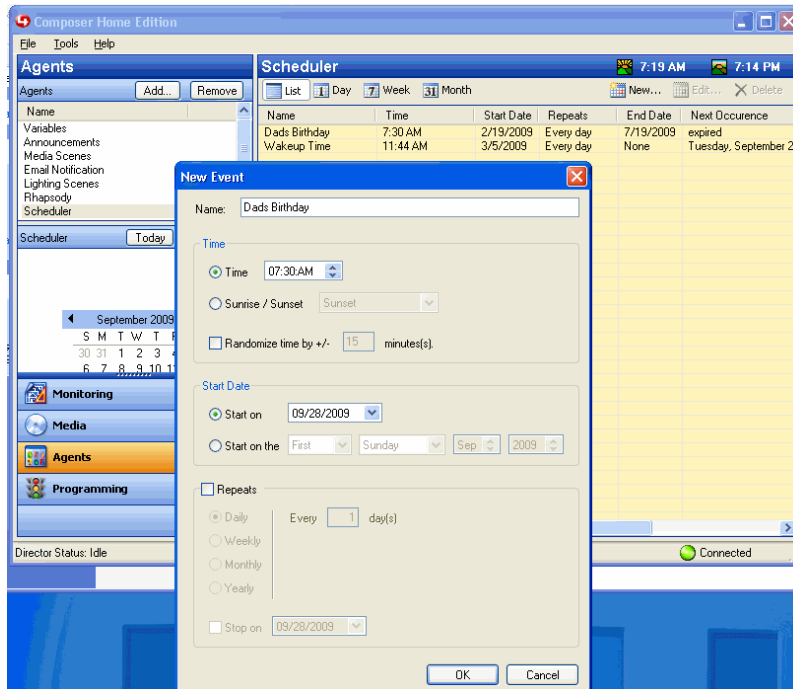
8. Click **Programming** to display the Programming view.

9. In the Device Events pane, select the **Scheduler** object at the bottom of the list.

10. In Scheduler Events, click **Dad's Birthday** event. The Script pane shows Dad's Birthday event.
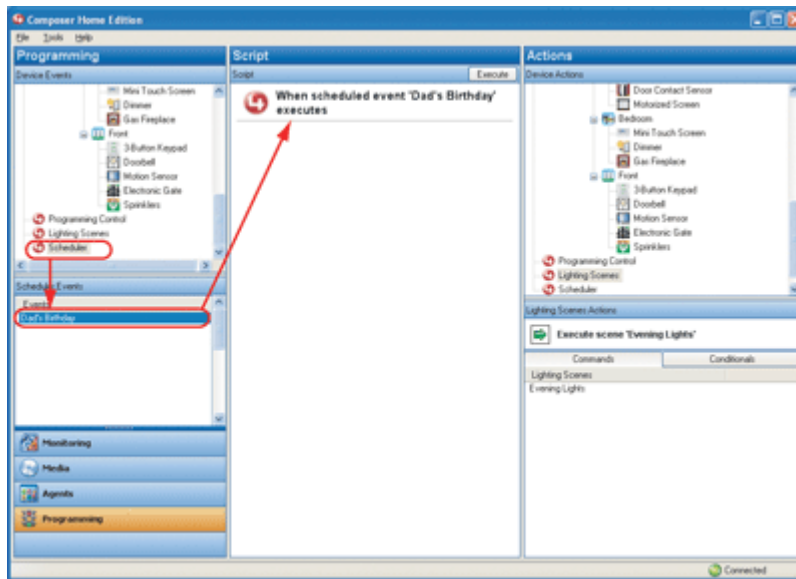
11. Choose the **Device Actions** to initiate in the Actions pane.

12. Drag the actions to the Script pane. These scripted actions execute when Dad's Birthday event executes.

13. You can use the Scheduler agent in programming also to add Conditionals or Loops to your scripts.

14. In the project tree (left pane), select the **3 Button Keypad**.

    a. In the Actions pane, scroll down and select the **Scheduler** agent.

    b. Click the **Conditionals** tab, select **Time**, and **Within 5 minutes before Sunset**.

    c. Drag the **blue question mark** to the Script pane.

    d. In the project tree (right pane), select the **light**.

    e. Click the **Commands** tab, select **turn the room on**, and drag the **green arrow** on top of the blue **question mark** in the Script pane.

When the top button of the 3 Button Keypad is pressed, if it is within 5 minutes before sunrise, the light comes on. The Scheduler agent lets you define one-time events and recurring events.

5.1.11 Programming with the Screen Saver Agent

Use the Control4® Composer HE Agents view to set up a Screen Saver agent.

5.1.11.1 Prerequisites

Ensure that the devices you will use to set up a screen saver and store your photos (for example, a network-attached storage) are added and/or identified to the Control4 system. Your Control4 Dealer or Installer can help you do this.

5.1.11.2 Procedure

To set up a Screen Saver agent:

1. Start **Composer** and connect to a **Director**.

2. Click **Agents**.

3. (Initial Screen Saver agent only) Click **Add**.

4. Select **Screen Saver**, and then click **OK** to add Screen Saver to the agent types list in the project. The next time you want to create a Screen Saver, click the Screen Saver item in the Agents pane, and then click **New**.

5. With Screen Saver selected in the left pane, click **New**.

6. From the drop-down menu, select the File Storage Location.

To find out more about setting up a custom screen saver on your Navigators, see the *Control4 System User Guide*.

5.1.12 Programming with the Timer Agent

Use the Control4® Composer HE Agents and Programming views to set up a timer. A Timer *agent* provides the ability to start a timer, stop a timer, or repeat a timer based on a given *event* and *action*.

Example: A motion sensor in the system turns on a light when it detects motion, and then a timer is used to turn off the light after 15 minutes. Alternatively, a timer can be set to repeat an action whenever the timer expires, such as a Bathroom fan that restarts each time the light switch is turned on.

5.1.12.1 Prerequisites

1. Ensure that the devices to which you want to apply the agents are added and configured in the system. Your Control4 Dealer or Installer can help you do this.

2. Ensure the project tree includes the following devices:

   - Controller

   - Any device involved in a triggering event (such as a sensor for a motion detector)

5.1.12.2 Procedure

To set up a Timer agent:

1. Start **Composer** and connect to a **Director**.

2. Click the **Agents** view.

3. (Initial Timer Agent only) Add **Timer** to the list of types of agents in this project:

   a. Click **Add**.

   b. Highlight **Timer Agent**.

   c. Click **OK**.

4. With Timer Agent highlighted in the left pane, click **New**.
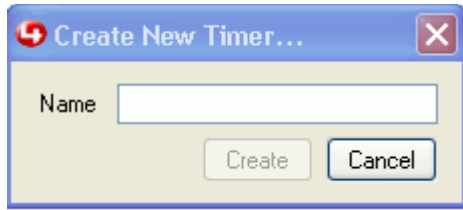
5. Type the **name** of the new Timer (such as Bathroom Fan), and click **Create**.
6. In Interval, use the drop-down list to set the timer in seconds, minutes, or hours (hh:mm:ss), and then click **OK**.
7. Click **Start** to start the timer.
8. Click the **Programming** view.
9. Highlight the **Timer Action** (upper-right of screen), and ensure the new Timer Actions display in the **Commands** tab (Start, Reset, and Stop in lower-right of screen).
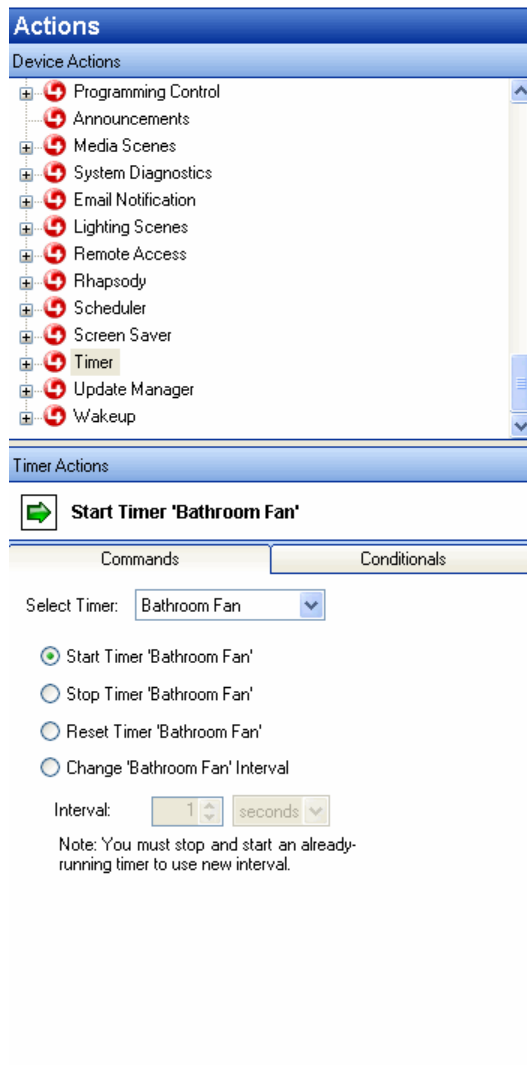
10. Start, Restart, or Stop the timer as needed.

The following table outlines how the timer behaves depending on the state of the timer when a command is executed.

Command Executed is...	And Timer is ...	Then Event	Affect on Timer
Start	Running	None	Restarts
Reset		Stop and Start	Restarts
Stop		Stop	Stops
Start	Not Running	Start	Starts
Reset		Start	Starts
Stop		Stop	Stops

Examples:

- When you execute a **Start** command through programming on a running timer, no event is fired and the time is restarted.
- When you execute a **Start** command through programming on a timer that is not running, the Start event is fired and the timer starts.
- When you execute a **Reset** command through programming on a running timer, the Stop and Start events are fired and the time is restarted.
- When you execute a **Reset** command through programming on a timer that is not running, the Start event is fired and the time is restarted.

11. Program to connect the timer to an event and action, and choose to **Start**, **Restart**, or **Stop** the timer.

5.1.12.3   Example Screens

See the example screens that follow. Notice how the timer is first used as an action, and then as an event.

Composer HE User Guide

Event Screen:

Copyright © 2010 Control4. All Rights Reserved.
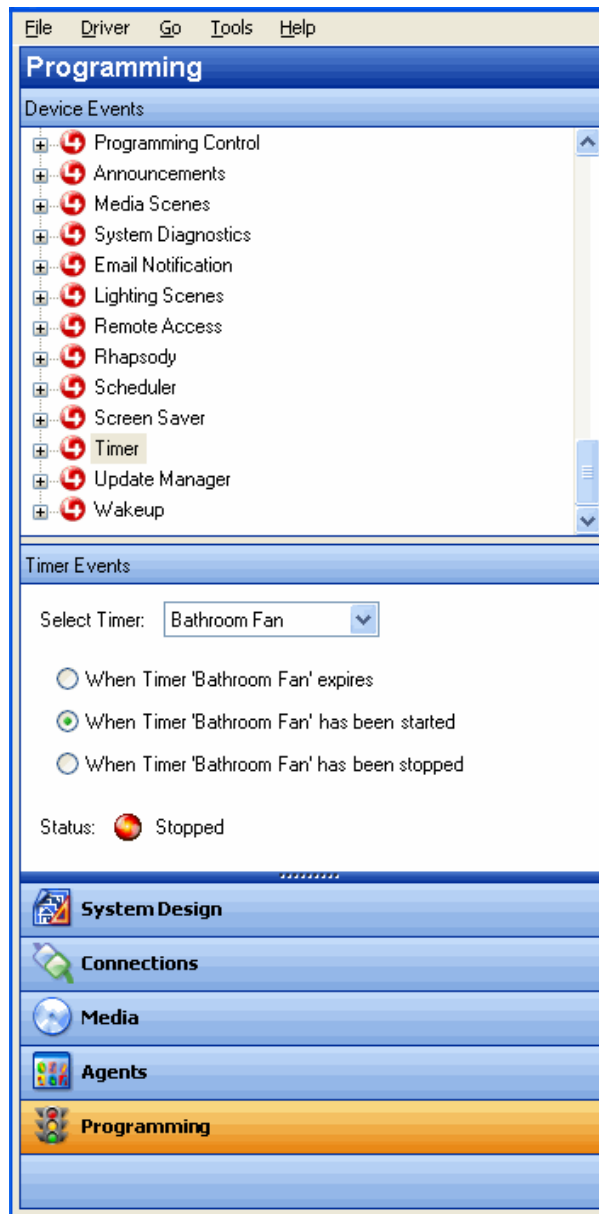
Actions Screen:
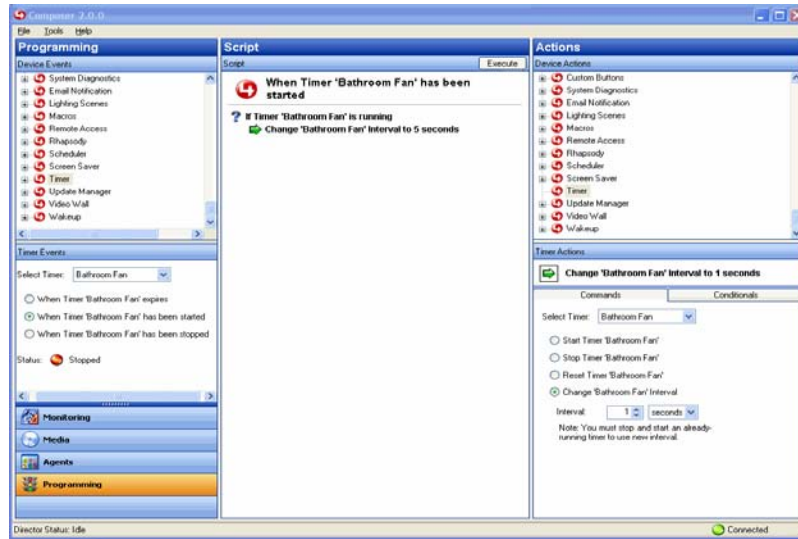
5.1.13 Programming with the Variables Agent

Use the Control4® Composer HE Agents view to set up a Variables agent. Ensure that the devices you want to use for variables are added and identified to the system.

Variables provide other programming options not available using *Command*s, *conditional*s, or *Loop*s.

There are three (3) types of variables you can use:

1. **Room Variables**—Provide you with additional programming options not available in the room object programming. Use Room object programming as a preference to room variables whenever possible. See "Using Room Variables."

2. **Custom Variables**—Let you define additional programming options using:

    Boolean—Provides a True/False option. For example, the light is on or off. If the light is on, it is True. If the light is off, it is False.

    Device—Provides a list of device options.

    Number—Provides a value option. For example, the light level is 70 percent.

    String—Provides the option to enter a string.

To program using a custom variable, in the *Agent* view select **Variable** and click **New** to set up a New Variable.

Example: Use one (1) Keypad button to toggle between turning on the Theater Dimmer and the Theater *Switch*.

3. **Container Variables**—Provide the ability to bind two (2) or more devices together by using the device variables. A variable is a representation of information about the controlled devices, such as a power state or current level of the device. It works much like a Media Scenes agent. Container variables are available in the Agent view by selecting **Variables**.

Note: Container variables are provided only for backward capability in Release 1.3 and subsequent releases. Issues with various implementations have been found. The use of Container variables for future implementations is not recommended. Where possible, replace existing implementations with alternate programming.

5.1.14 Programming with the Video Wall Agent

Use the Control4® Composer HE Video Wall *agent* to create a Video Wall for simultaneous viewing and control of multiple video sources on multiple displays.

A video wall is commonly used for viewing multiple sports or news channels in the same room. It incorporates multiple video displays and multiple cable/satellite tuners equipped with Digital Video Recorders (DVRs). The agent provides the ability to control these multiple video displays with the use of the Wireless *Touch Screen*.

Example: You can have a Video Wall with multiple video displays (center, left, and right) and the same number of satellites with the same functionality, service, and set of channels. You can use the Video Wall for replaying sports, news, or any user-specified set of channels, including full-control of the Video Wall through a single interface—the Wireless Touch Screen.

The following hardware is required to use the Video Wall agent:

- *Controller* and *Navigator*—Control4 Home Controller and Wireless Touch Screen.
- **Video displays**—One center and multiple auxiliary displays. A total of three (3) displays are supported, including screens, televisions, and video monitors.
- **Video sources**—Cable/Satellite tuner for each monitor. Each must provide the same broadcast on the same channel, e.g., ESPN is on Channel 110. For instance, each must have *DVR* capability.
- **Video switching capability**—The video source received on each video display can *switch* between each of the video displays. This traditionally is done using a video switching *device*, but can be accomplished using modulators also.
- **Audio output capability**—A mechanism to provide audio signal output for the center display. This is accomplished through the use of receivers and speakers.

Example: The following configuration steps include: three (3) Televisions, three (3) Satellite systems, one (1) Receiver, and one (1) Controller as shown.
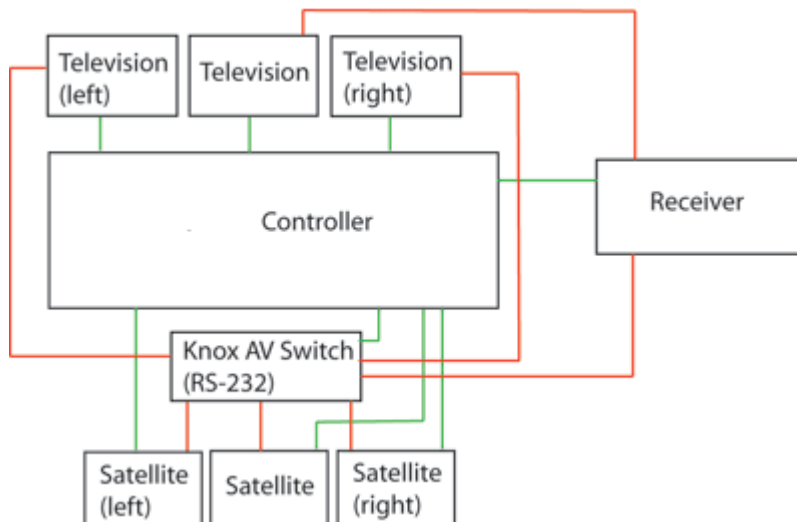
5.1.14.1 Prerequisites

Ensure that your Control4 Dealer or Installer has added and identified the video wall devices to the system.

To add a Video Wall agent:

1. In Composer, click **Agents**.
2. In the Agents pane, click **Add**.
3. On the dialog that appears, select **Video Wall** and click **OK**.
4. In the Agents pane, select the **Video Wall**.
5. In the Ultimate Sports Agents pane and in the Channel pane, select the channels you want available. Click **Add** to add them to the "Display these channels List." This is similar to adding them to a "Favorite's" list. The list you create is used for each monitor.
6. Using the three (3) panes at the bottom, use the pull-down menus to select the **Location**, **Video Source**, and **Starting Channel** for each monitor.
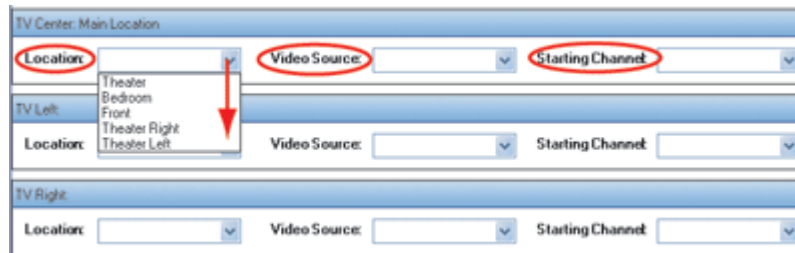
5.1.15 Programming with the Wakeup Agent

Use the Control4® Composer HE Agents and Programming views to program a Wakeup agent. The Wakeup agent lets you set wakeup times, lighting, music, and so on.

Note: Wakeup times set in Composer HE synchronize with the Navigators. Likewise, wakeup times changed on the Navigators will synchronize with Composer.

Example: At a specified time in the Navigators, in the Bedroom start playing music from a CD and ramp up the light progressively from 10 to 70 percent light level in 15 minutes. Thirty minutes before wakeup starts, set the temperature in the room to 72 degrees. After 15 minutes of playing music, turn on the TV and play the Local News.

5.1.15.1 Prerequisites

1. Ensure that the devices to which you want to apply the agents are added and configured in the system. Your Control4 Dealer or Installer can help you do this.
2. Ensure that you can play music in the project.
3. Schedule a wakeup time. See "Programming with the Scheduler Agent" for details.
4. Ensure the project tree includes the following devices:
   - Controller
   - Digital Audio
   - Bedroom Dimmer
   - Gas Fireplace

5.1.15.2 Procedures

To program using a Wakeup agent:

1. Start **Composer** and connect to a **Director**.
2. Click the **Agents** view.
3. Click **Add** for the Available Agents screen to appear. Select **Wakeup** > **OK**.
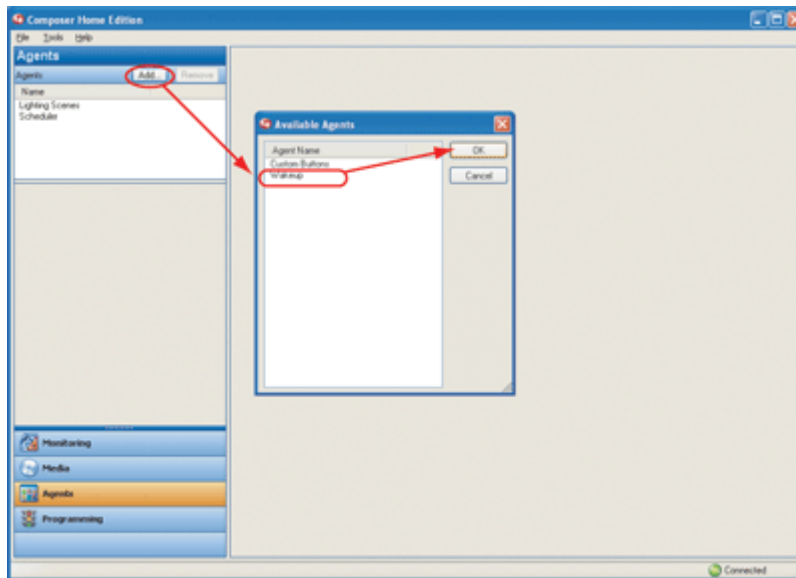
4. Highlight **Wakeup**. The Wakeup panes appear.
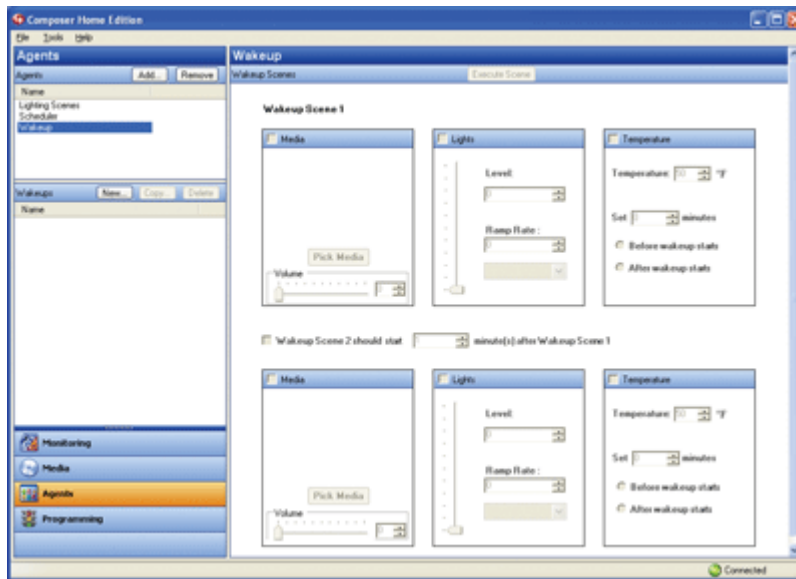
5. Click **New**.
6. On the dialog that appears, enter a **name**.

    Example: Bedroom Wakeup

7. Click **Create**.
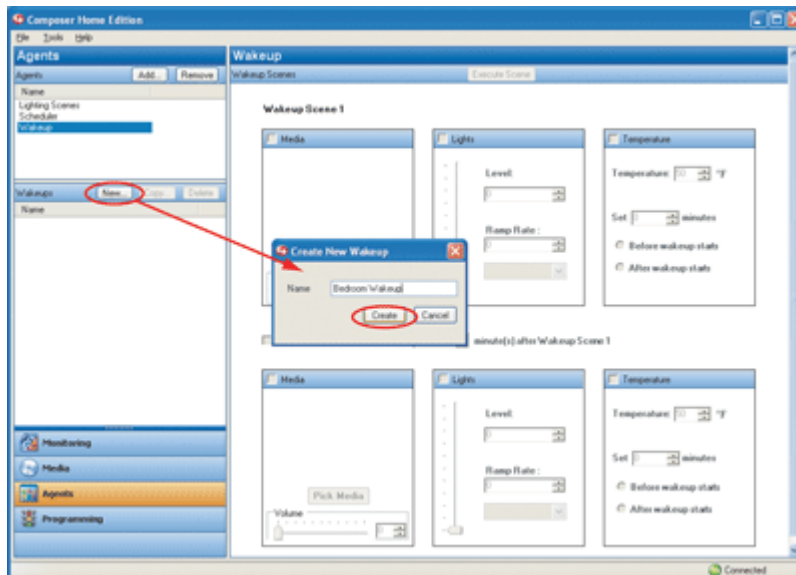
8. Enter **Wakeup Scene 1** information.
    a. **Media**—Click **Pick Media**. Checked by default. Use the drop-down list to select **Albums**, and then click a particular album and song you want to play when the Wakeup starts, such as Norah Jones "Sunrise." Set the desired **volume** using the scrollbar or the drop-down list.

b. **Lights**—Use the scrollbar or set the Light Level to **70**, and use drop-down list to set the Ramp Rate to **15** minutes.

c. **Temperature**—Set the temperature to **72** degrees Fahrenheit to come on **30** minutes before Wakeup starts.
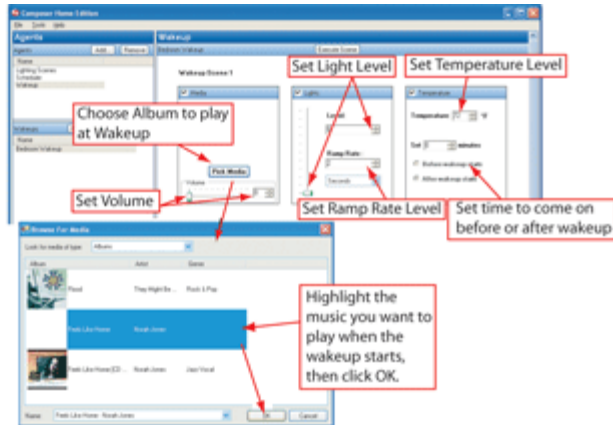
9. Enter **Wakeup Scene 2** information.

a. **Scene 2**—Check **Wakeup Scene 2** and set the Start time to **15** minutes after Wakeup Scene 1. Set the desired **volume** for Wakeup Scene 2 using the scrollbar or drop-down list.

b. **Media**—Click **Pick Media** and use the drop-down list to select **Broadcast Video**. Highlight a local **channel**, (for example, 4-KTVX), and click **OK**. Set the Volume to **70**.

c. **Lights**—De-select the box to make no changes for Wakeup Scene 2.

d. **Temperature**—De-select the box to make no changes for Wakeup Scene 2.

10. Click the **Programming** view.

   Note: Your scene saves automatically, even when you leave the Agents view.

11. In the left pane, scroll down to view the available agents.

12. Select the **Scheduler** agent event.

   The agent event appears at the top of the Script pane.
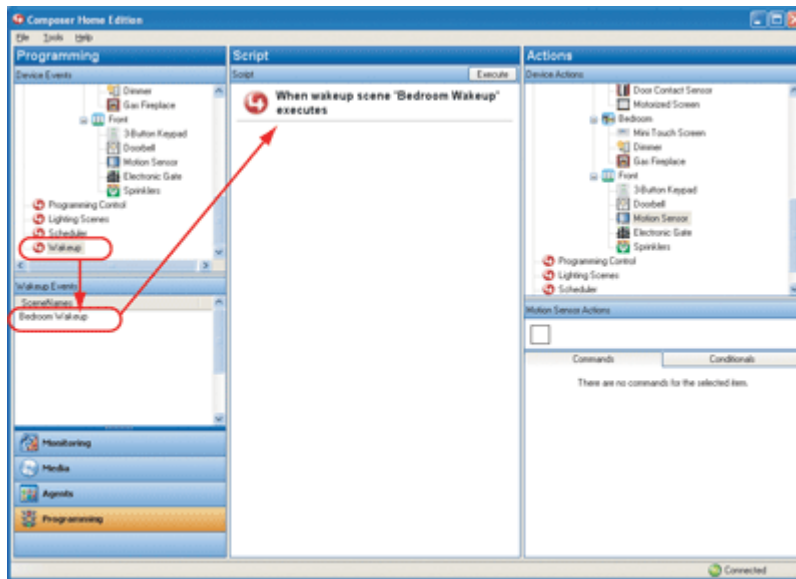
13. In the Actions pane, scroll to the bottom to see the available agents.
14. Highlight the **Wakeup** agent. The available commands appear.
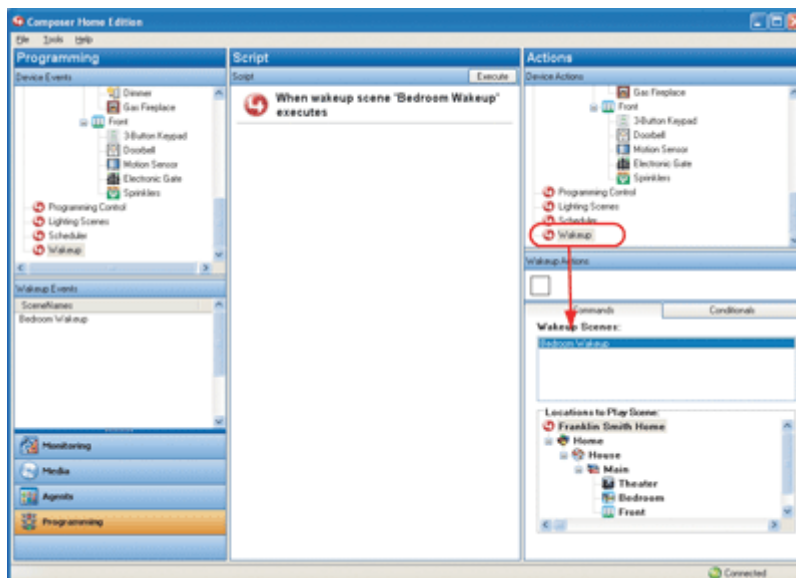
15. Under the **Commands** tab, do the following:
    a. Highlight the **Wakeup** scene you want to use, such as **Bedroom Wakeup**.
    b. Highlight the **location** to play the scene, such as **Bedroom**.
16. Drag the **green arrow** to the Script pane.
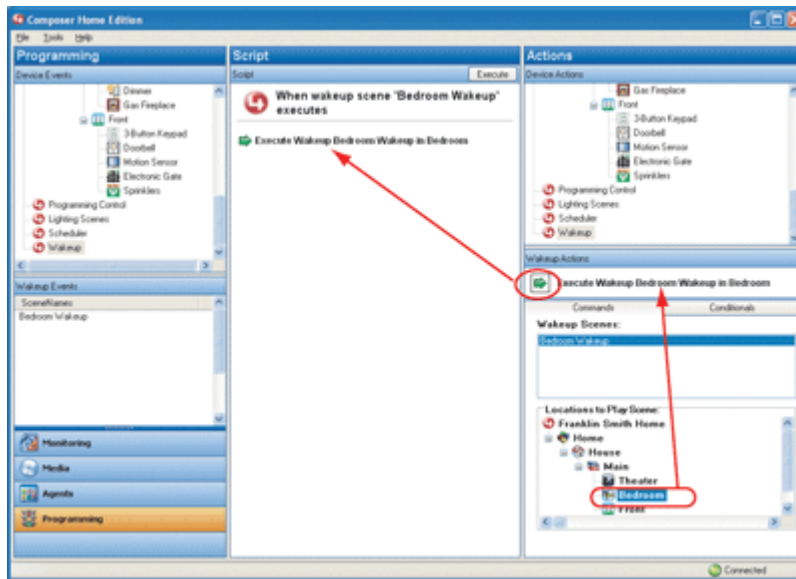
17. When you finish, click **Execute**.

5.1.15.3 Adding More Devices

To include an additional device to the Wakeup scene:

1. In the project tree under Device Events, if you want to include additional devices in your Wakeup scene, scroll to the bottom of the project tree.

2. Highlight the **Wakeup** agent.

3. Highlight the **Bedroom Wakeup**.

The Wakeup event appears at the top of the Script pane.
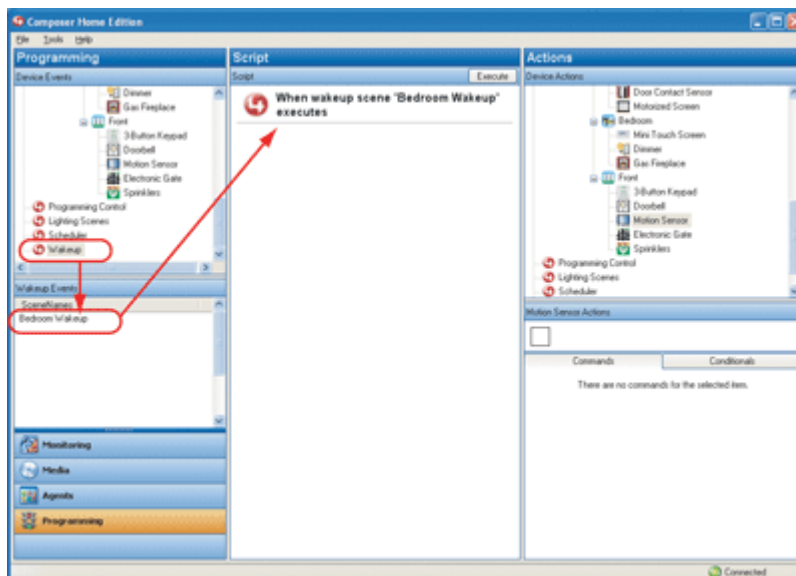
4. Under the Actions pane, select the **device** for which you want to trigger the actions when the Wakeup event happens. **Example**: Select **Fireplace**.
5. Click the **Commands** tab.
6. Select the **Turn the Bedroom** ->**Gas Fireplace on** command. The action appears in the right middle pane.
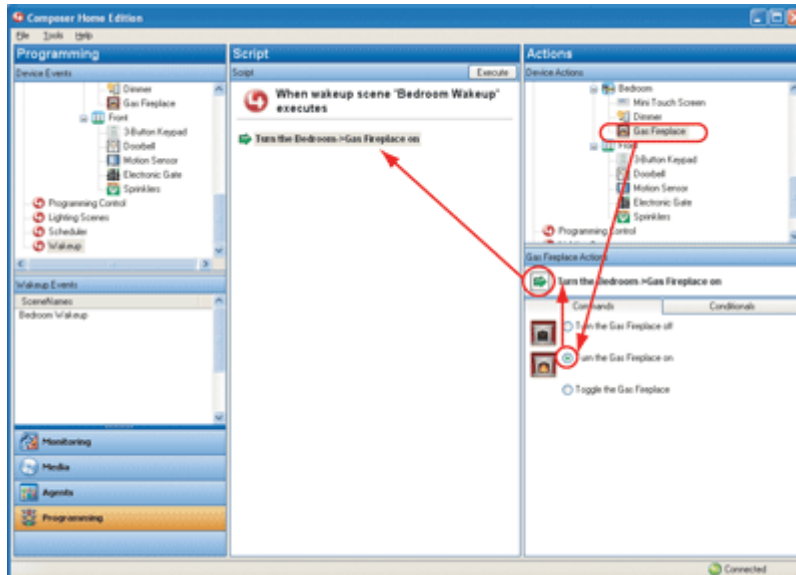
7. Click and drag the **green arrow** to the Script pane.
8. Click **Execute** to execute the command.
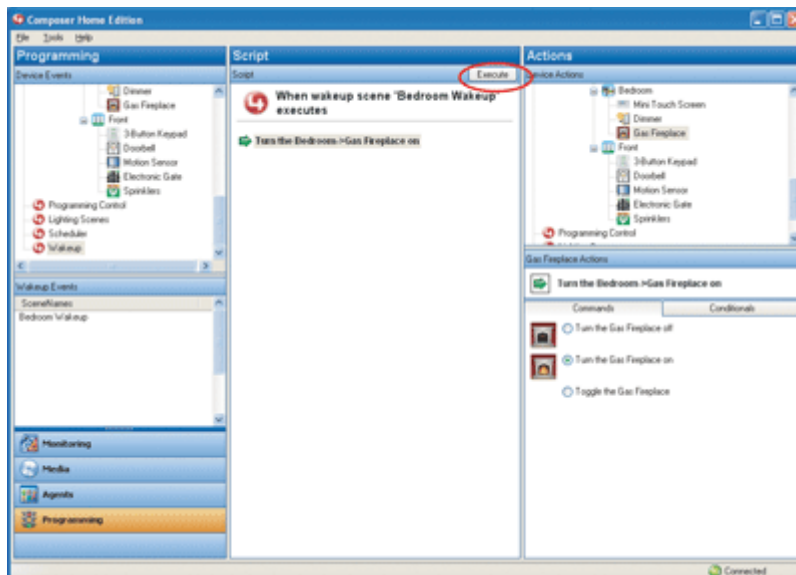
5.1.15.4 Bedroom Wakeup Example

At the specified time in Navigators:

1. Thirty minutes prior to wake-up time the temperature rises to 72 degrees.
2. The album of choice starts playing at 6:45 AM.
3. The lights start ramping up to 70 percent light level by 7:00 AM.
4. The fireplace turns on.
5. In 15 minutes, Wakeup Scene 2 begins.
6. The TV turns on to the local news at 7:00 AM. The Wakeup is completed.

Note: You can schedule the wakeup time from your Navigators.

6.   Related Composer HE Tasks

Use the Control4® Composer HE menu bar and views to perform the following sections.

- "Using Backup As for Project Configuration and Media"
- "Connecting to a Director"
- "Exiting Composer"
- "Getting Controller Project Configuration"
- "Loading the Project Configuration"
- "Searching a Topic"
- "Controlling Devices from the Interface"
- "Refreshing Navigators"
- "Viewing the Index"

6.1   Using 'Backup As' for Project Configuration and Media

Use the Control4® Composer HE File menu to back up your project's configuration. When you start Composer HE and change your configuration or settings, Composer HE will ask you if you want to back up your project. You can back it up using a different file name if you'd like.

6.1.1 Procedure

To back up the file to a PC and save it as a different file name:

1. From the File menu, select **Backup As**.
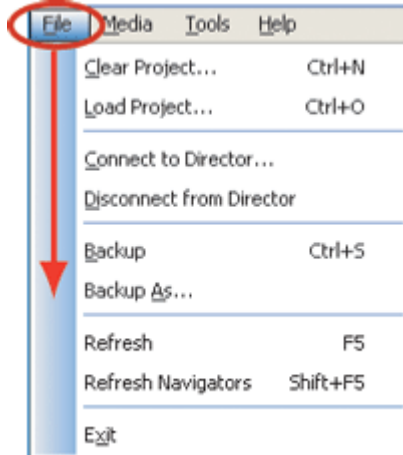
2. Type the new file name for your backup. **Example**: Jones Project.
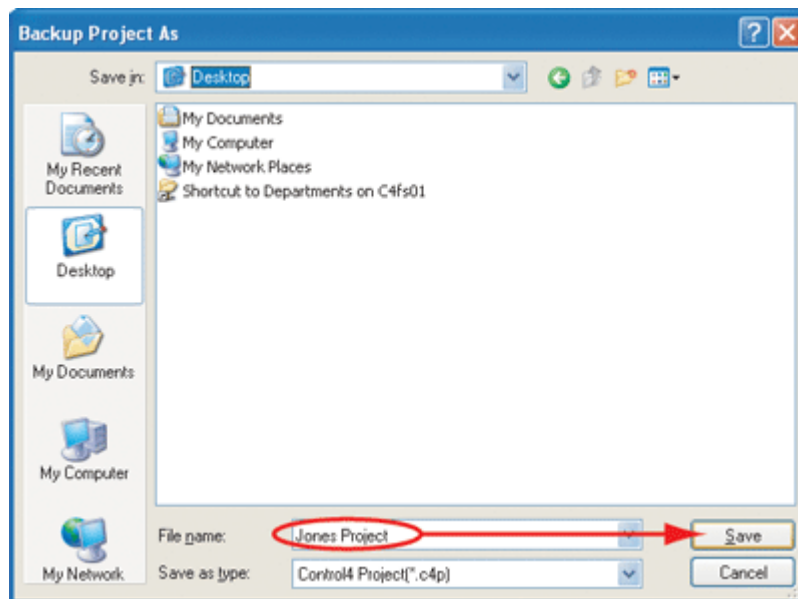
3. When prompted, click **Yes** if you want to back up your media information. It's always good practice to do so.

6.2 Connecting to a Director

Use the Control4® Composer HE menu bar to connect to a Director if you don't use the Startup screen to connect.

6.2.1 Procedure

To connect to a Director:

1. Start **Composer**.
2. From the File menu, select **Connect to Director**.
3. From the Directors dialog, choose the **Director** (the network address of the Controller you are connecting to), and then click **Connect**.
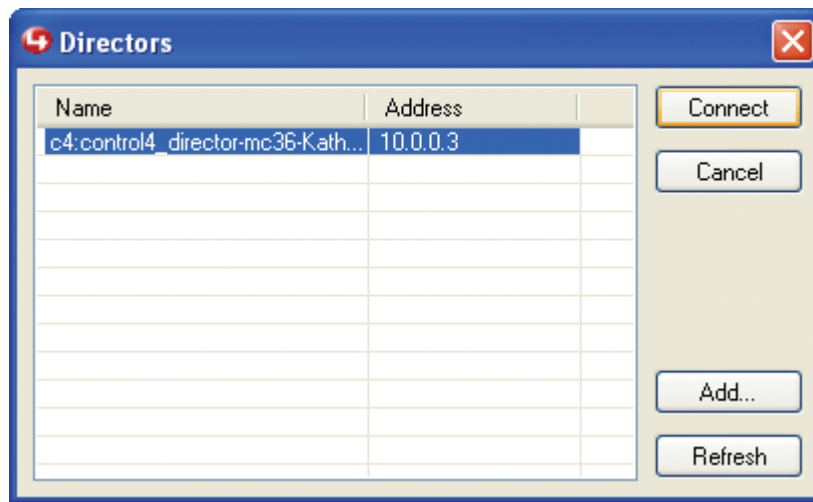
6.3 Exiting Composer

Use the Control4® Composer HE menu bar or main menu to close and exit Composer HE.

6.3.1 Procedure

To exit Composer HE two (2) ways:

1. From the Composer main menu, click **Exit Composer**.
2. From the File menu, select **Exit**. The system will ask you if you want to back up your project. It is always good practice to do so.
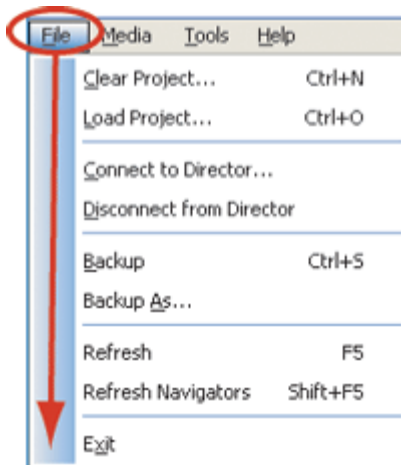
6.4 Getting Controller Project Configuration

Use the Control4® Composer HE startup screen or menu bar to access the latest Controller configuration.

6.4.1 Procedure

To get the existing project configuration from a Controller:

1. Verify that your PC and the Controller are connected to the same network.

2. You can connect two (2) ways:

- From the Composer startup screen, click **Director on Local Network**.

- From the File menu, select **Connect to Director**.
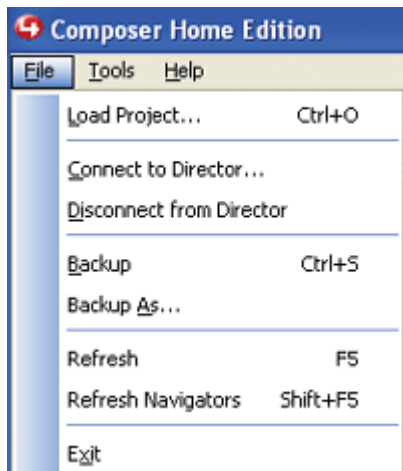
When you connect to the Controller's Director, if it exists, the project configuration appears in Composer.

6.5 Loading the Project Configuration

Use the Control4® Composer HE startup screen or menu bar to load a project.

WARNING: Loading a project will cause the current project configuration to be replaced. To avoid losing your current project, back up your file first.

6.5.1 Prerequisite

Verify that your PC and the Controller are connected to the same network.

6.5.2 Procedure

To load the project configuration from a PC to the Controller:

1. Connect to the Director (you can do this two ways):

   - From the Composer HE startup screen, click **Director on Local Network**.

   - From the File menu, select **Connect to Director**.
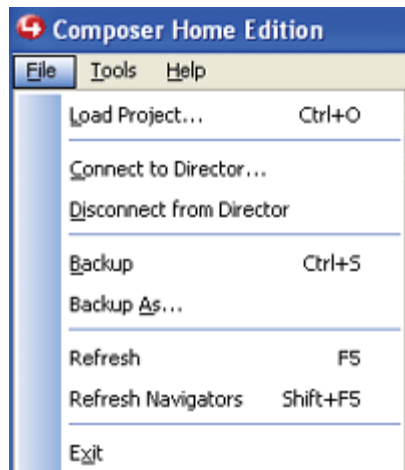
2. From the File menu, select **Load Project**.
3. Click **Yes** when prompted to back up the project.
4. Browse to choose another project file. **Example**: SmithProject.c4p. When you see the new project displayed in the System Design View, the project is loaded to the Controller, and you are connected.
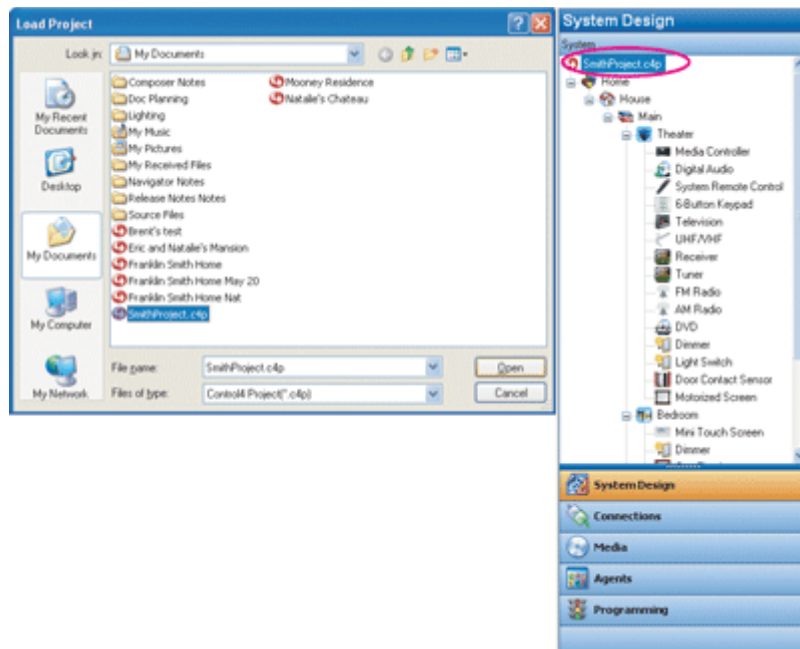
6.6　Searching a Topic

Use the Control4® Composer HE menu bar to search for a Help topic. Other topics may be available on the Control4 web site.

6.6.1　Procedure

To search for Help topics:

1. From the Help menu, select **Contents**.
2. When the Help file opens, click the **Search** tab.
3. In the keyword box, type the topic or keywords to locate the list of related topics, and then click **List Topics**.
4. In Select Topic to display, click a **topic** from the list of links.

Tip: You can use the Index to search for keywords by clicking the **Index** tab.
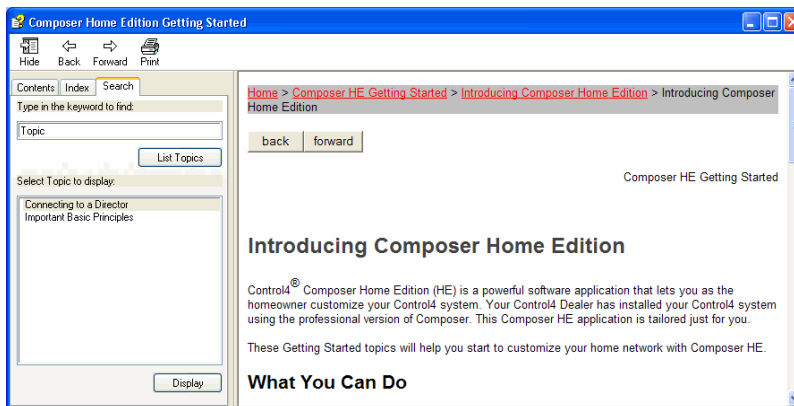
6.7　Controlling Devices from the Interface

Use the Control4® Composer HE main menu to configure devices.

6.7.1　Prerequisites

Ensure that the device is added and configured in the project. Check with your Control4 Dealer or Installer to help you do that.

6.7.2　Procedure

To control a device:

1. From the project tree or Devices pane, double-click the **device**.
2. When the Device Control window appears, use it to control the device from the software interface or to set parameters (such as configuring LED lights on Dimmers) temporarily.
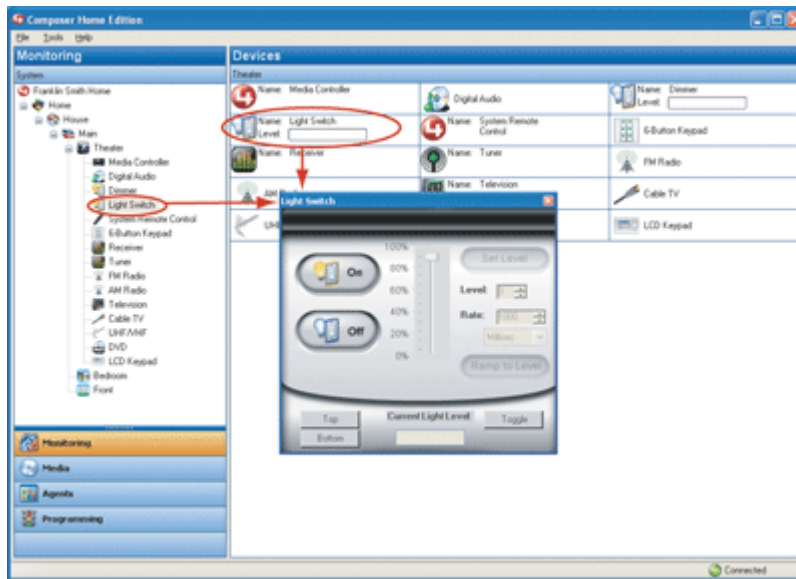
Note: If you make changes in the Device Control windows for a device, it only changes the device settings temporarily. Use the Properties pane or Programming view to change the device settings permanently.

6.8   Refreshing the Navigators

Use the Control4® Composer HE menu bar to refresh your Navigators after you've made changes to your system. You refresh the Navigators when you change a setting in the system, attach a device, etc.

6.8.1 Procedure

To refresh your Navigators:

From the File menu, select **Refresh Navigators**.

Tip: New media appears automatically in the Navigators unless you have a device that is disconnected or has changed locations.

Composer HE User Guide
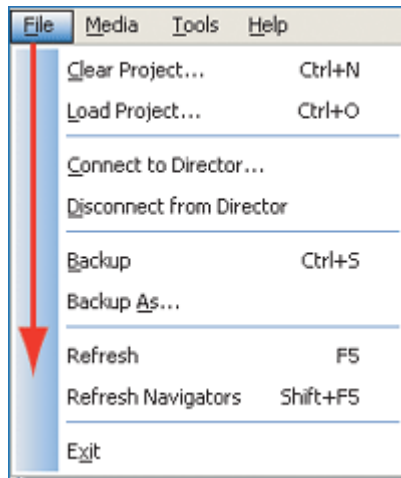
7. Glossary

4Sight: An Internet service that provides a connection to the Home-Automation System any time and from any place worldwide.

A

AAC: Advanced Audio Coding. A successor to the MP3 format. A standard, lossy compression and encoding scheme for digital audio. Touts better sound quality.

action: An activity that occurs when an event prompts it to do so.

agent: In Control4 programming, agents provide the ability to perform complex programming by using functional modules. There are various types of agents; for example, Announcements, Email Notifications, Scheduler, Lighting Scenes, Wakeup, etc.

AV: Audio Video

C

CD: (Compact Disc) - An optical disc that stores digital data. This format is compatible with Control4 products.

client: A software or hardware device that communicates to a server for feedback from the server via an application for the user.

Command: A 'do' statement; actions the Director communicates to a device.

Composer: The Control4 software used to design and define a Control4 Home-Automation System.

Composer Pro: Composer is used to set up and configure Control4 devices to communicate with each other in a Home-Automation System.

conditional: An 'if' statement that asks a true/false questions which are acted upon in Composer programming.

connection: Binding or linking devices together in Composer so they can communicate with each other.

contact: Contacts are generally used to monitor the status of something (door, window, water sensor, etc.) and can be hooked up through a security panel or directly using a Control4 Controller or Contact/Relay Extender. Contacts connected to a Control4 Controller or Contact/Relay Extender can be configured either as NC (normally closed) or NO (normally open).

Control4 system: A Home-Automation System designed and developed by Control4.

Controller: The main device that makes Home Automation possible. There may be multiple Controllers within a Control4 system. The Controller that runs Director is referred to as the Primary Controller.

D

device: A component that requires a device driver; code that is used to allow the Control4 system to work with that device.

device driver: Every device in the Control4 system needs a corresponding device driver to control the device.

DHCP: DHCP (Dynamic Host Configuration Protocol) - A protocol used between a network client and a DHCP server (usually a router or access point) that dynamically assigns IP addresses from a pre-defined list to clients on a network.

Digital Audio Player: Provides digital audio streaming capabilities from a Controller with hard disk space for music and movies.

Director: Each Control4 Controller (such as a Home Controller HC-500) ships with pre-installed Director software (Linux based) embedded in the device. The Director communicates with Control4 products and third-party products to enable Home Automation and interaction of individual devices.

Director runs the Control4 devices. Composer Pro is the software used to connect to and program a system Director that resides on a Controller.

DriverWorks: The DriverWorks SDK is used to create two-way drivers for audio video (AV) and non-AV devices.

DVD: (Digital Versatile Disc) – A media format for video and data storage.

DVR: Digital Video Recorder

E

end point: The end point is the final point (device) on the defined path over which audio and/or video content is routed to a room. An example of this would be a TV or Receiver.

Ethernet: Uses Ethernet category 5 (CAT5 or CAT5e) wiring to transfer data. Ethernet uses a star network topology that allows multiple points to communicate to a single point. The Speaker Point® and Mini Touch Screens use Ethernet to communicate to the Control4 Controller.

event: An action; used to trigger Composer programming when programming Control4 devices.

F

file format: A format used by applications to store/read files.

FLAC: Supported by Control4 for software release 1.8, this is a free, open source, lossless audio codec format that supports tagging, cover art and fast seeking. Audio is compressed with no loss in quality.

G

gateway: (router)- Provides a means of communicating between two separate networks.

H

home network: A network installed in the customer's home that provides an Ethernet or wireless connection so that Control4 devices can communicate with each other.

Home-Automation System: The Control4 system: a line of Home Automation products that communicate with each other over Ethernet, WiFi, or ZigBee for a total Home Automation experience.

I

Interviewer Wizard: An automated setup program in Composer that builds a project for Home Automation.

IR: A device controlled using a wireless remote control device. Commands are sent via pulses of infrared light to the device.

L

LCD: (Lighted Crystal Display) - A display used with some Control4 interfaces.

LCD Navigator: An LCD device used to control lighting, music, videos, etc., on an LCD screen.

Linux: An operating system used by several Control4 devices.

List Navigator: A System Remote Control device uses a Navigator that lists the options.

Live Connection: A term used in Composer Pro to indicate an actual connection to the network.

Loop: A type of conditional in programming; a 'while' statement; for example, "while the sprinklers are on…"

M

Media Database: Media information is stored in the Media Database, which will permit users to view the media from the Navigators.

MP3: A music format that makes streaming audio available.

N

Navigator: A Control4 Navigator used with the Control4 system to control lights, music, videos, etc. Navigator is software that the customer interacts with using a Universal Remote Control, On-Screen Navigator, Touch Screen, or LCD Screen.

O

On-Screen Device: Allows you to select the controller (Media Controller or Home Theater Controller) in the room that controls the source for the on-screen display.

P

playlist: A list of songs compiled in a list. The list can be compiled by songwriter, album, song type, or any combination.

Power Over Ethernet (POE): A Control4 device that is Ethernet controlled.

programming: A machine-readable artificial language used to express computations that can be performed by a device.

project tree: A tree view in Composer where the project is layered by the larger branches (Home, Office, etc.) and then the lower branches (floor, rooms, etc.), and finally to the leaf level (drivers).

R

ramp rate: The rate that a Dimmer ramps up its voltage.

relay: An electrical switch that opens and closes. A relay is controlled by another electrical circuit.

remote access: The ability to access a device from a remote location.

Remote Director: Connects you to the home network while working in Composer from a remote location.

retrofit: The ability to set up a Home-Automation System in an existing structure or home. Compare this with new building construction.

RJ-45 jack: An eight-pin jack used to connect CAT5e network cables to devices through Ethernet signals.

router: See gateway. Functions similar to an AP but with additional functionality for controlling the network; for example, coordinating traffic between different networks.

S

serial-controlled device: Serial-controlled devices with an RS-232 interface and control protocol often have a higher level of controllability than IR-controlled devices. Examples of serial-controlled devices are projectors, multi-disc DVD changers, etc.

switch: An extension of a router that adds more Ethernet ports to support additional devices or clients on the local network.

system event: An action that causes another action; for example, if a projector turns on, it enables the other devices in the system that work with the projector.

system remote: System Remote Control

System Remote Control: A Control4 System Remote Control is a universal solution that replaces System Remote Control devices from other manufacturers, and includes programmable buttons. This System Remote Control can access on-screen (Graphical) Navigators.

T

Touch Screen: A Touch Screen is a Home-Automation System Navigator that controls the home's lighting, music, videos, and other devices on the Home-Automation System.

U

UI (user interface): The preferred term is Navigator. The Control4 interface used with Control4 devices to control Home Automation, such as Touch Screens or On-Screen Navigators.

universal remote: Universal remote control. A third-party remote control that can be programmed to replace other remotes in the home so that only one remote is needed, replacing all others. Control4 System Remote Control devices are a type of universal remote control.

USB: Universal Serial Bus) - A format used with USB sticks that plug in to a USB port on Control4 devices.

V

Virtual Connection: A term used in Composer Pro to indicate a connection outside the network.

Virtual Director: A connection to a virtual Controller only (a PC is the Director host rather than the Controller). Projects created or edited here are benign until the saved project is loaded onto a Controller.

W

WiFi: Uses bi-directional wireless technology to transfer data. WiFi (wireless fidelity) devices "connect" to each other by transmitting and receiving signals on a specific frequency of the radio band using a wireless access point. This technology uses the star network topology. WiFi uses high bandwidth 802.11.

wired network: Uses Ethernet Category 5 (CAT5) wiring to send and receive data between devices connected to a network.

wireless access point: A router extension with an antenna that communicates with WiFi devices and clients in the home. A wireless hub that connects to the wired network, and distributes the wireless signal.

Wireless Switch: Uses the ZigBee. UL listed dimmer. Single or multi-gang. Has an air gap to cut power.

WLAN: Wireless local area network.

WMA: (Windows Media Audio) – Audio data compression technology developed at Microsoft; an audio file format that competes with MP3.

Z

ZigBee: A wireless network that uses bi-directional wireless mesh network technology to transfer messages from one device to another. Unlike a star network topology where devices can only send messages to each other by sending them first to a single central device (which then delivers the message to the recipient device), a mesh network topology allows the devices to forward messages from one device to another, thereby extending the effective range of the network. Uses low bandwidth 802.15.4. 250 devices are allowed per controller but Control4 recommends 125.

ZigBee Pro: The 1.1 version of ZigBee that provides improvements in standardization by: allowing more interoperability with other Control4 devices, support for home automation profiles, and improves the scalability of multiple ZigBee access points.

8.   Index