Configurator Training Guide

ELAN® HOME SYSTEMS

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Your Resources at ELAN

In addition to the information in this Training Guide, be sure to check out ELAN's website at www.elanhomesystems.com. The website provides access to a wealth of documentation including *Integration Notes* for detailed information on specific systems with which the g! software integrates.

Our **Technical Support** staff can assist you Monday through Friday from 8:30 a.m. to 5:30 p.m. EST at **859-514-8289**.

Lesson 1

Training Setup

Overview

This lesson prepares your computer for the training lessons to follow.

You will:

- Install g!Demo onto your computer, which allows your computer to simulate a controller.
- Learn about the different versions of g!Connect
- Install g!Connect Pro, the tool used to access systems locally or over the Internet.
- Check the installation of the g! software.
- Install the Common Resource Library, a tool that includes documentation, firmware, IR & Serial Database, and a TV/Radio icon library.
- Check the installation of the Common Resource Library.

Requirements

- A working computer running Windows XP, Windows Vista, or Windows 7
- Access to the g!Demo Installer
- Access to the g!Connect Installers
- Access to the Common Resource Library Installer

(These can be found on your Training Resource CD)

Exercise 1: Install g!Demo

Overview

The g!Demo system is a limited build of controller software that is intended to be installed on a workstation or laptop. The software is identical to the software that runs on controllers such as the HC Series or the HomeBrick/MultiBrick controllers, but the installation is not capable of actually communicating with sub-systems.

As a result, the g!Demo is ideal for training and demonstrations. You can run the software on your laptop at any location without the need for a controller or any other hardware.

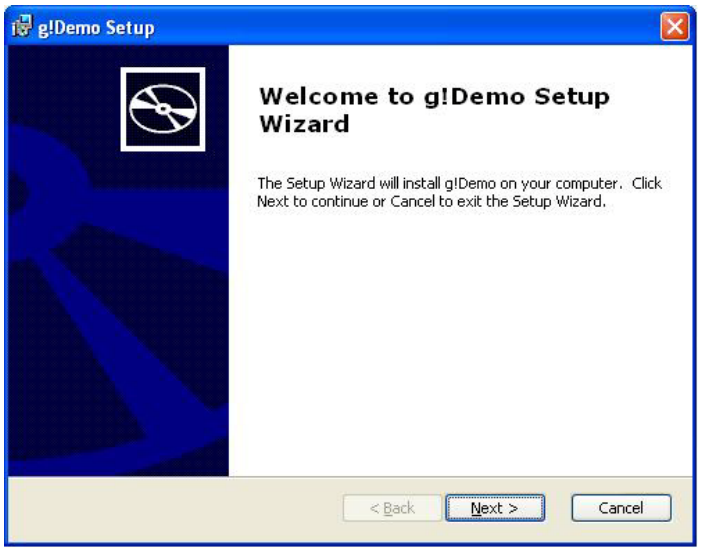
It is important to note that the g!Demo software that we will install during this exercise runs “behind the scenes” to enable your computer to behave as a ELAN Controller such as a HC/HomeBrick/MultiBrick controllers. It is NOT the interface that you will use to set up and configure the systems. That application is called g!Connect, and will be installed in Exercise 2.

Note: The installation files that will be used in this class are provided in the Training Resource CD that your instructor will give you.

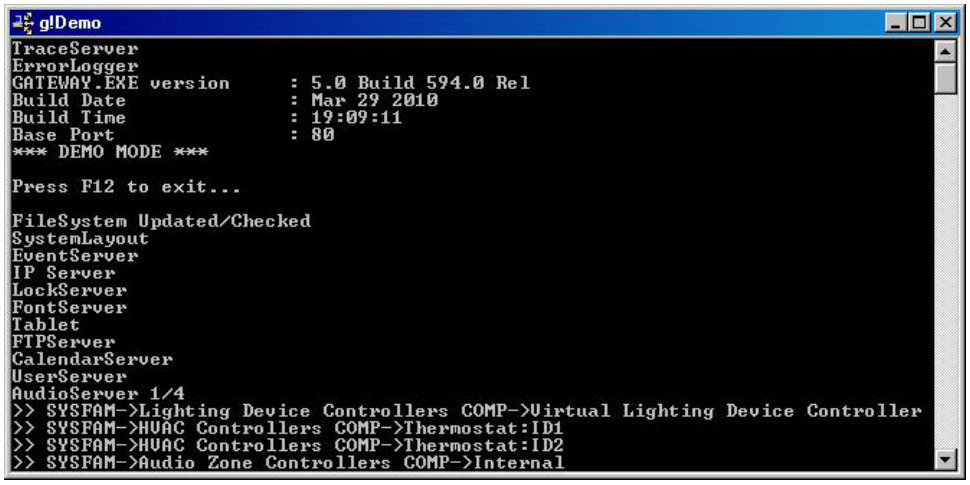
How-to

Important Note: Verify that your PC does not have the HomeLogic version 4 demo software installed. If it does be sure to uninstall it prior to continuing.

1. Locate the g!Demo Installer on the training resource CD.
2. Start the Installation Wizard.
    a. If you are running Windows XP, double-click the Installer to start the installation wizard.
    b. If you are using Windows Vista, right-click the installer and select **Run as Administrator**.



3. Click **Next>** to proceed through the installation, and accept default settings where applicable. *When the installation is complete the g!Demo icon displays on your desktop*
4. To start the controller software, double-click the **g!Demo** icon-you will see the controller software start-and then minimize to the Task Bar.
5. Locate and click the **g!Demo** on the taskbar. *The g!Demo window opens.*



6. Minimize the g!Demo by clicking the **Minimize** button at the upper-right of the window to clear the desktop and keep the g!Demo running.

Note: g!Demo is the software that runs on your computer to emulate an ELAN controller. Be sure to leave this window open during the training session.

Exercise 2: Install g!Connect Pro

Overview The g!Connect software is the tool that dealers and home owners use to connect to ELAN systems from either a network connection inside the house, or remotely over the Internet. The g! software provides two versions g!Connect. Either version or both versions of g!Connect may be installed on a single PC and will behave as independent programs.

g!Connect – This simplified connection management utility is intended for use by end-users. It provides g! Viewer access to controllers running on a local network or remotely over the internet. This version will automatically manage g! Viewer software versions to allow reliable connections to the controller. This version is available on your Training CD and on the ELAN website.

g!Connect Pro – This pro version of the connection management utility is intended for use by g! system installers and dealers. This version provides g! Viewer and g! Configurator access to controllers running on a local network or remotely over the internet. This version automatically manages g! Viewer and g! Configurator software versions to allow reliable connections to the controller. The g!Connect Pro installer includes additional installer tools accessible under the Windows start menu. This version is available on your Training CD and from the ELAN dealer website.

How-to

Note: If any versions of OneHome Connect or g!Connect are already installed on your PC, you must uninstall the software before proceeding with this exercise.

1. Navigate to g!ConnectPro_Setup.exe on your training CD.
2. Start the Installer.
    a. If you are running Windows XP, double-click the Installer and click **Run** to start the installation. *The Setup Wizard Welcome screen displays.*
    b. If you are using Windows Vista, right-click the Installer, then select **Run as Administrator**, as you did above for the g!Demo.

3. Click **Next>** to proceed through the installation, and accept default settings where applicable.
4. The g!Connect Pro icon is now on your desktop.

Note: The software must be installed to the default location C:\ELANhomesystems\gConnect to function correctly.

Exercise 3: Check the Installation and Start the Configurator

Overview

Before you begin this exercise, you must have g!Demo and g!Connect Pro installed on your computer. This exercise walks you through the steps to start both the Viewer and Configurator software.

Note: It is possible, and sometimes even preferable, to have both the Viewer and Configurator running at the same time. The Viewer updates in real-time, making it a useful tool for checking your configuration settings.

How-to

1. Check to see if g!Demo is running. Look in your taskbar: if it's running you will see it there. If it's not there, double-click the **g!Demo** icon on your desktop to start it.

Note: If you are using Windows Vista, right-click the g!Demo icon and select Run as Administrator.

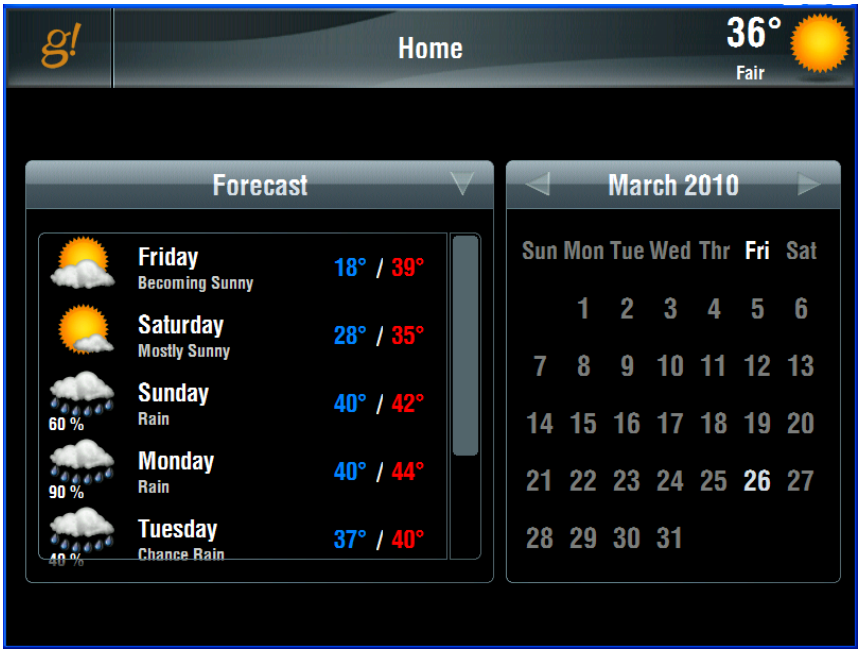
2. Double-click the **g!Connect Pro** icon on your desktop to open the login screen. *The g!Connect initial page will display.*

3. Click the **Options >>** button to expand the lower portion of the dialog box. In this section, you will find the **Local Systems** box as well as the **Configure IP Info…** and **Start Configurator** buttons.

Initial Screen: g!Demo

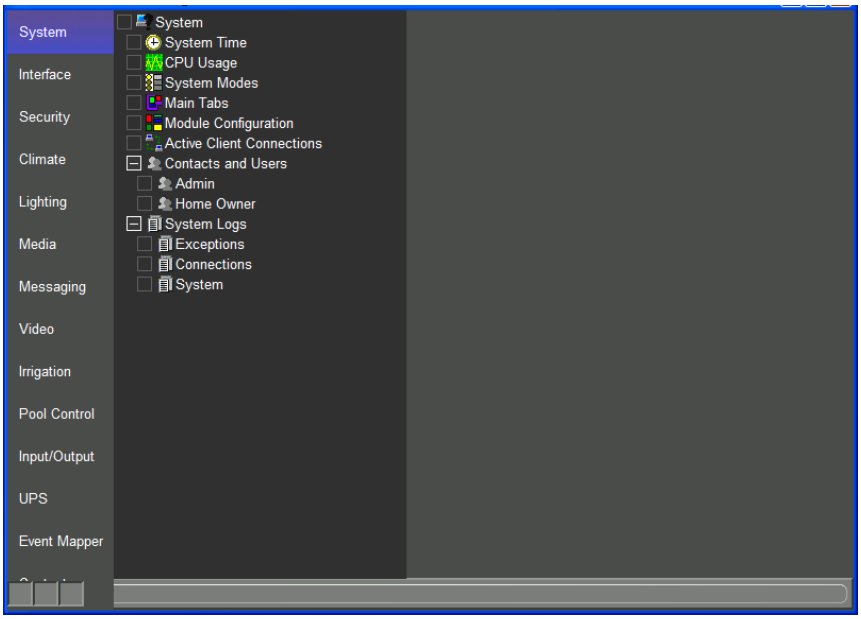
Initial Screen: ELAN Controller

4. Select **Local Machine** in the Local Systems list, and click **Start Viewer**. *The Viewer interface will display.*



5. Double-click the **g!Connect Pro** icon on your desktop again to open another login screen.

6. Select **Local Machine** in the Local Systems list, and click **Start Configurator**. *The Configurator interface will display.*



Exercise 4: Install the Common Resource Library

Overview

The Common Resource Library is an invaluable tool for the dealer setting up a g! system. The library contains:

- Manuals, Integration Notes, other documentation,
- IR codes and serial codes
- TV Channel icons
- Firmware for ELAN equipment

The library is used not only as a resource tool, but as the storage area for icons and codes used in the g! Configurator. When the Common Resources Library is installed on your PC, Configurator takes you to the correct directory where the type of file you need is stored.

This software has a built-in option to keep up to date with all of the latest files from ELAN and the files are stored locally, so they are available to you without an internet connection.

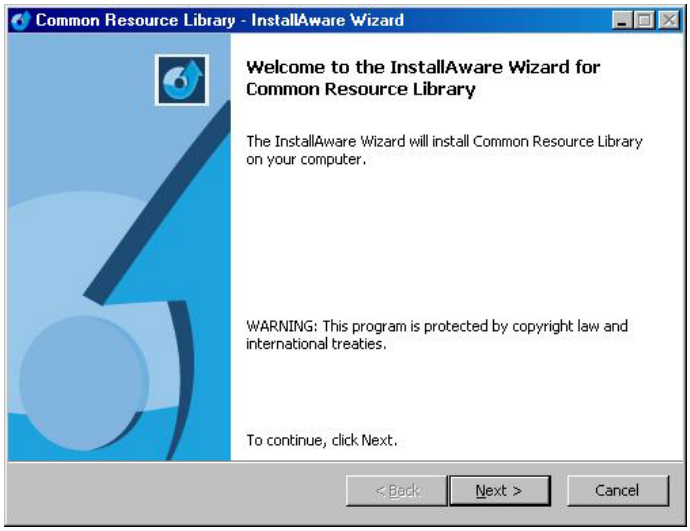
Before you begin this exercise, close g!Demo and all other running applications. Since this library is fairly large (~350mb) it may take a few minutes to install.

How-to

1. Navigate to the **Common Resource Library** installer on your training CD. Double-click the installer to begin the installation.

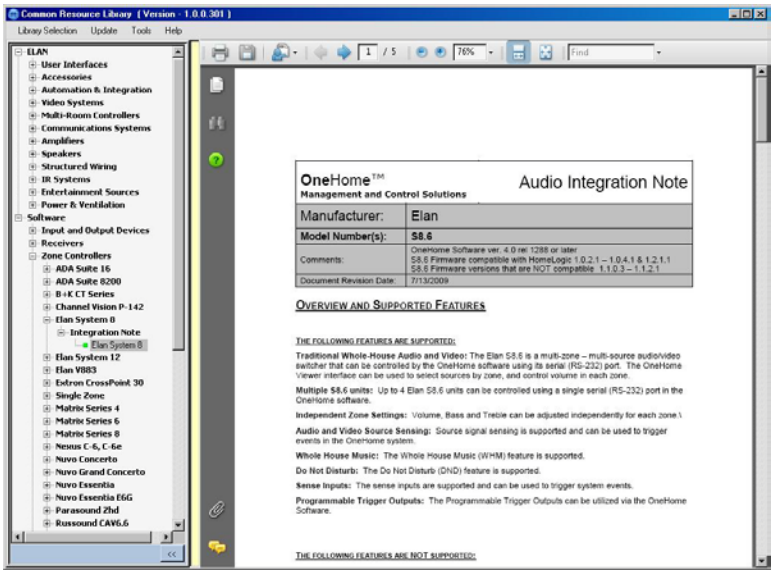
Note: If you are using Windows Vista, right-click the installer and select Run as Administrator.

Follow the on-screen instructions to accept the license agreement and install the library files and program.



2. Once the installation is complete, launch the application from the desktop icon to access the Common Resource Library.

3. From within the library, you can browse, or update the documentation and databases from the available drop down menus.



Notes:

Lesson 2

Configurator Overview

Overview

This lesson provides an overview of the Configurator tool that is used to set up the ELAN controller.

In this lesson you will:

- Learn how the Configurator window is organized.
- Navigate the Configurator's System Tab and learn its basic functions to become familiar with Configurator.
- Check basic system information, such as the software version.
- Set up users in the system.
- Configure settings to pull weather data for the home page.
- Check System Modes and Main Tab configuration.
- Learn how to check current licenses.
- Perform a Backup of your configuration.
- Learn how to update the software on your ELAN Controller.

Requirements

- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

About the Configurator Window

Overview

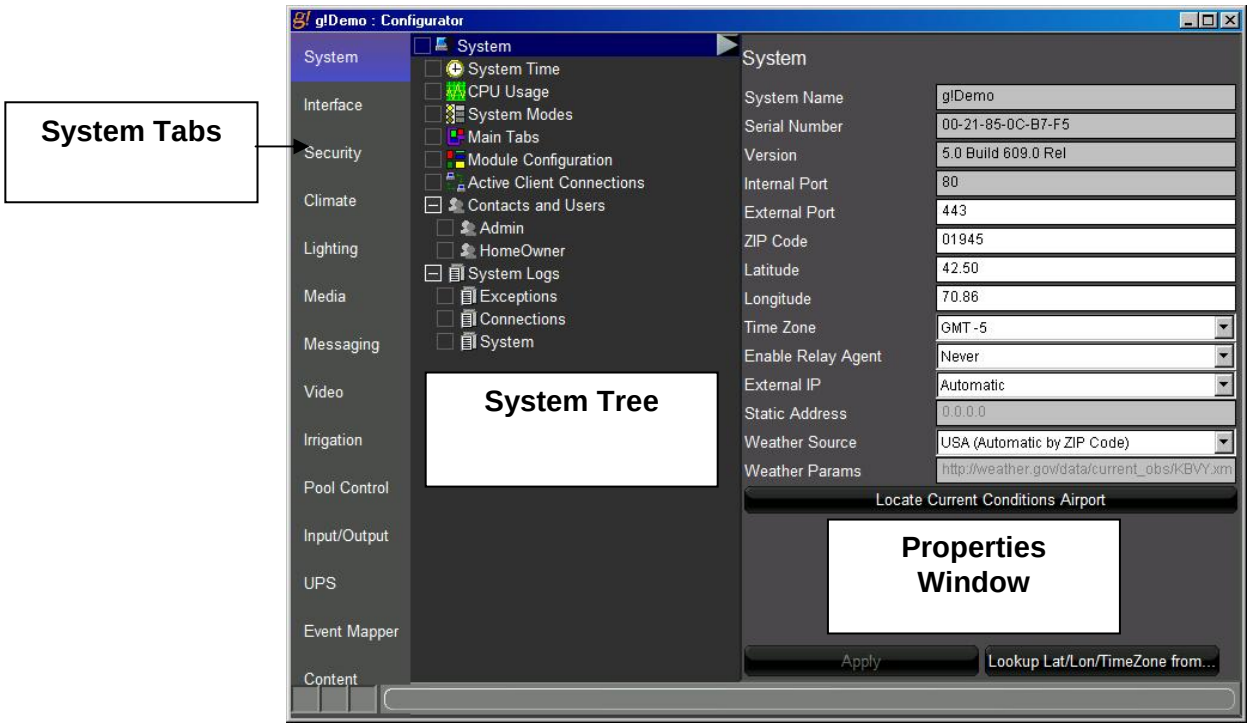
The **Configurator** is the software tool that is used to set up and manage the ELAN system. The Configurator is used to add and configure devices such as thermostats, lighting devices, audio components, and others.

The Configurator has a simple point and click interface, so that you can easily make changes to the ELAN system. Like the Viewer, the Configurator is used as an interface to the ELAN Controller to make real-time changes to the system. The Configurator cannot be used for off-line system configuration.

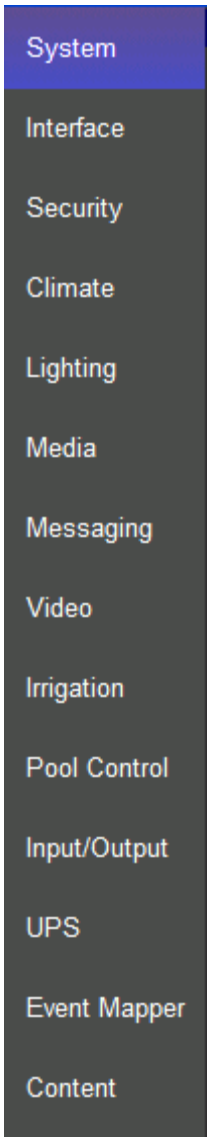
Navigating the Configurator

The Configurator is comprised of three sections:

- **System Tabs**: Main sections of the Configurator containing sub-system pertinent information.
- **System Tree**: The list of configuration options and devices for the selected subsystem.
- **Properties Window**: Detailed information and settings for the current System Tree selection.



Information flows from left to right across the screen. When you click a system tab on the left, the System Tree displays information pertinent to that tab—devices that are set up for specific sub-systems, or appropriate groups of information for global settings. When you select an item in the System Tree, its parameters display in the properties window.

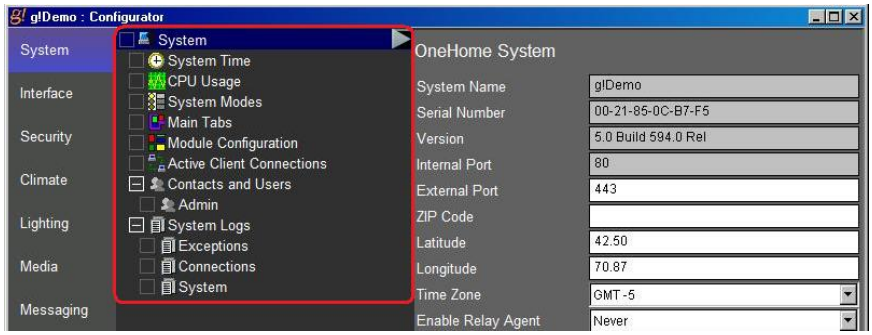


System Tabs

The System tabs on the left of the screen are your primary navigation element. System Tabs include the following:

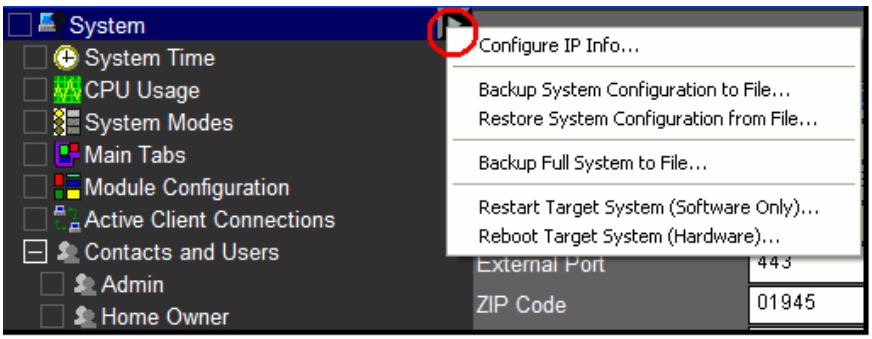
- **System**: overall system settings, including serial number, software version, date and time, user configuration, and system modes. This lesson contains further information on the System Tab.
- **Interface**: adjust user interface settings for individual touch screens and keypads. See Lesson 13, *Interfaces (GUI and TS2)* for more information.
- **Security:** configuration and status of devices, zones and partitions for integrated Security Panels. See Lesson 3, *Configuring Security Systems* for more information.
- **Climate:** configuration and status of devices, global climate settings, and scheduling for integrated climate control systems. See Lesson 4, *Configuring Climate Systems* for more information.
- **Lighting:** configuration and status of devices, scheduling, and custom interfaces pertinent to integrated lighting and shade systems. See Lesson 5, *Configuring Lighting Systems* for more information.
- **Media:** configuration and status of zone controllers, receivers, 2-way sources and other interfaces pertinent to audio and home theater control. See Lessons 9 & 10, *Configuring Distributed AV & Home Theater Systems* for more information.
- **Messaging:** configuration of the modem for answering service/dial-in system control, voice mail boxes, email and text-to-speech alert messages. See Lesson 14, *Messaging* for more information.
- **Video:** configuration and status of video cameras and IP video servers, DVR and custom interfacess. See Lesson 11, *Configuring Video Cameras* for more information.
- **Irrigation:** device, zone, schedule and area configuration of integrated irrigation controllers. See Lesson 15, *Irrigation* for more information
- **Pool Control:** configuration and status of devices and circuits for integrated Pool/Spa controllers. See Lesson 16, *Configuring Pool Systems* for more information.
- **Input/Output:** configuration and status for input/output devices such as contact closures, sense inputs, custom serial drivers, IR devices and other system objects. See Lessons 6 though 9 for more information.
- **UPS:** configuration and status of integrated Uninterruptable Power Supplies.
- **Event Mapper**: custom macro programming, such as turning lights on when a door is opened. See Lesson 12, *Event Mapper* for more information.
- **Content**: options for editing music share folders for the internal player, picture folders for the photo screensaver, TV channel favorites and web pictures.

System Tree

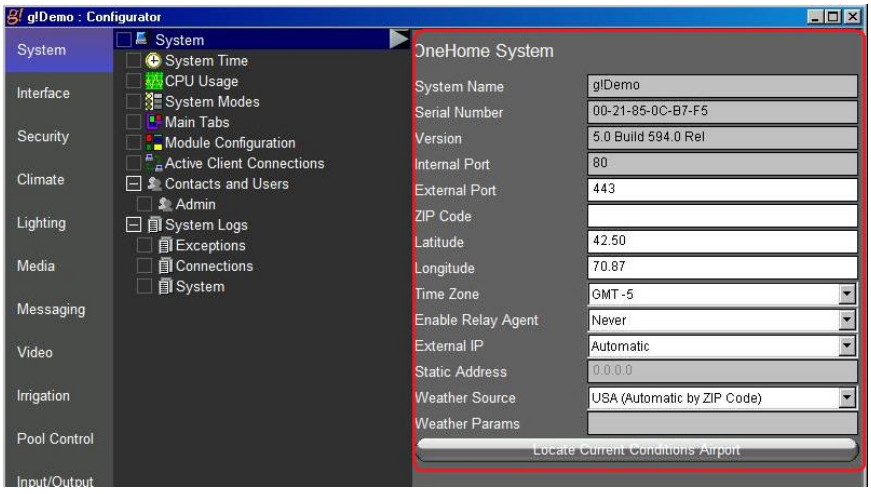


The **System Tree** in the middle of the screen displays a listing of sub-systems, devices or option groupings that can be selected for editing within a particular System Tab.

Items in the System Tree that have an arrow next to them when selected (highlighted) have additional options or actions that can be configured. Either right-click on the item, or click on the arrow to display a pop-up menu.



Properties Window



The **Properties** window at right shows details of the item you select in the System Tree. The properties window is typically used for specific device configuration, such as selecting a COM port, or editing the options for a device; but can include non-editable reference information as well. Custom interfaces and home pages are also created in the properties window.

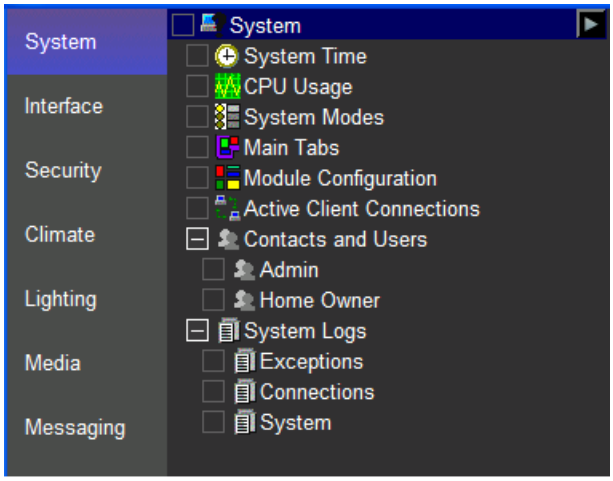
Exercise 1: Software Version and General Settings

Overview

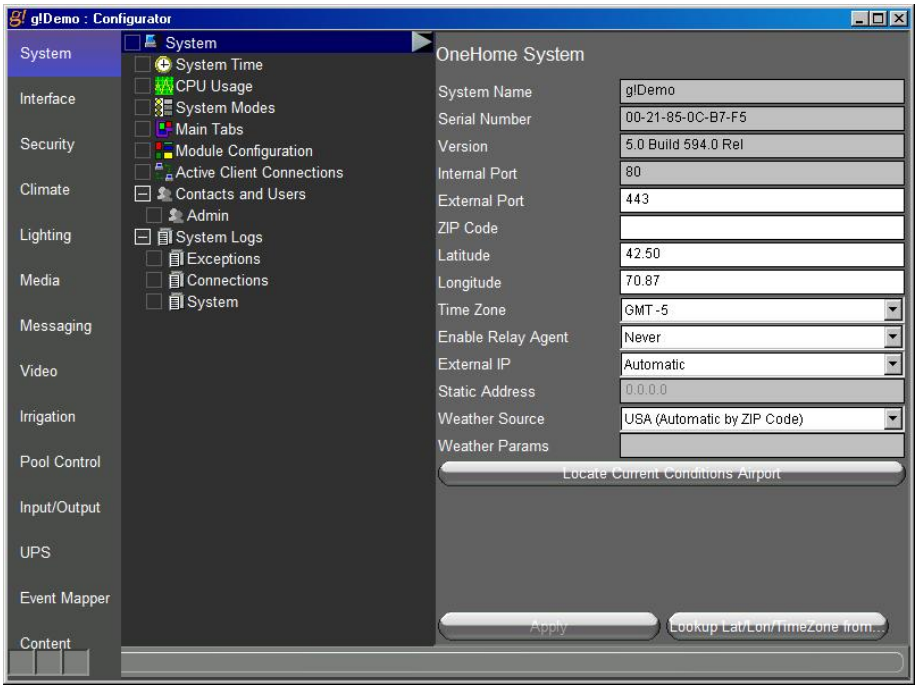
This exercise demonstrates the System tab and explains several general parameters used in an ELAN system.

How-to

1. With the Configurator running, click the **System** tab on the left side of the window if it is not active already. The window will appear as follows, showing the System Tree in the middle section.



2. Click **System** in the System Tree to display the general system parameters.



Quick Reference: System Settings	
System Name	This is the name that is used to log in remotely. You cannot change this name yourself, but the name can be changed by ELAN.
Serial Number	The serial number displays the last 6 digits of the serial number displayed on your Controller. By default, the model of your controller plus these digits makes up your System Name. The serial number may also be useful information to technical support during troubleshooting.
Version Number	The software version number of the controller to which you are currently connected.
ZIP Code	Enter the correct ZIP Code for the home in which the system is installed. If you have entered a zip code and have an internet connection, you may click the **Lookup Lat/Lon/Time Zone from ZIP Code** button to automatically populate the correct values.
Latitude / Longitude / Time Zone	The appropriate latitude and longitude should appear in the **Latitude** and **Longitude** edit boxes. If these values are not added automatically, they may be entered manually.

3. Enter a ZIP code and click the **Lookup Lat/Lon/Time Zone from ZIP Code** button. If you have internet access, after a moment the correct Latitude, Longitude and Time Zone should populate. Once the correct values are entered, click **Apply** to save the settings.

Note: Correct ZIP code, latitude/longitude and time zone must be entered for astronomical settings such as weather icons, outside temperature and sunset/sunrise scheduling to be effective.

Exercise 2: Check System Modes, Main Tabs and Modules

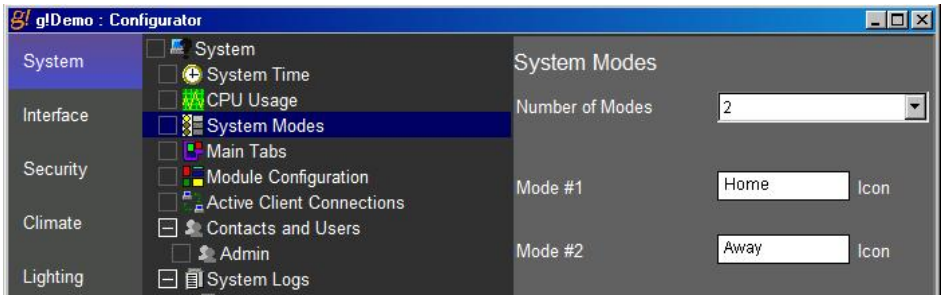
Overview This exercise explains current system settings.

Terms The following terms are important to know for this exercise:

- **System Modes:** Different states that the system can be set to; for example, “Home” when the homeowner is present and “Away” for when the house is empty. System Modes are primarily used to set up schedules for lighting and climate control, but can also be configured through the Event Mapper to add additional functions; allowing the homeowner one-touch control of the behavior of several sub-systems. Although most installations use the default number of two modes, up to ten can be configured through the System tab.
- **Main Tabs:** Icons that appear on the main menu page of the Viewer interface. You can change the order of the icons, and change the text that appears above each icon.

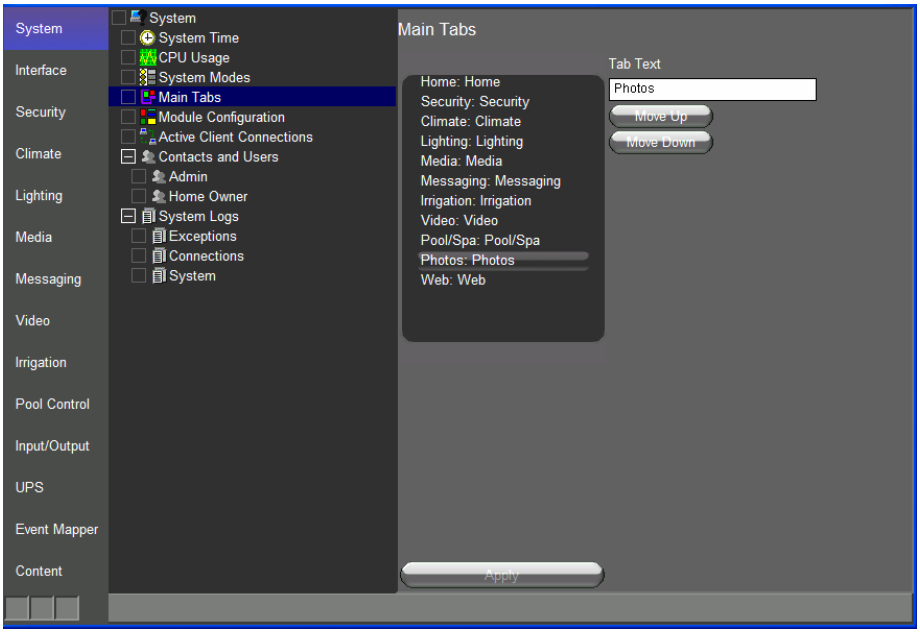
How-to

1. Click **System Modes** in the System Tree as shown below. *In this screen, notice that the house is set up with 2 modes, Home and Away.*



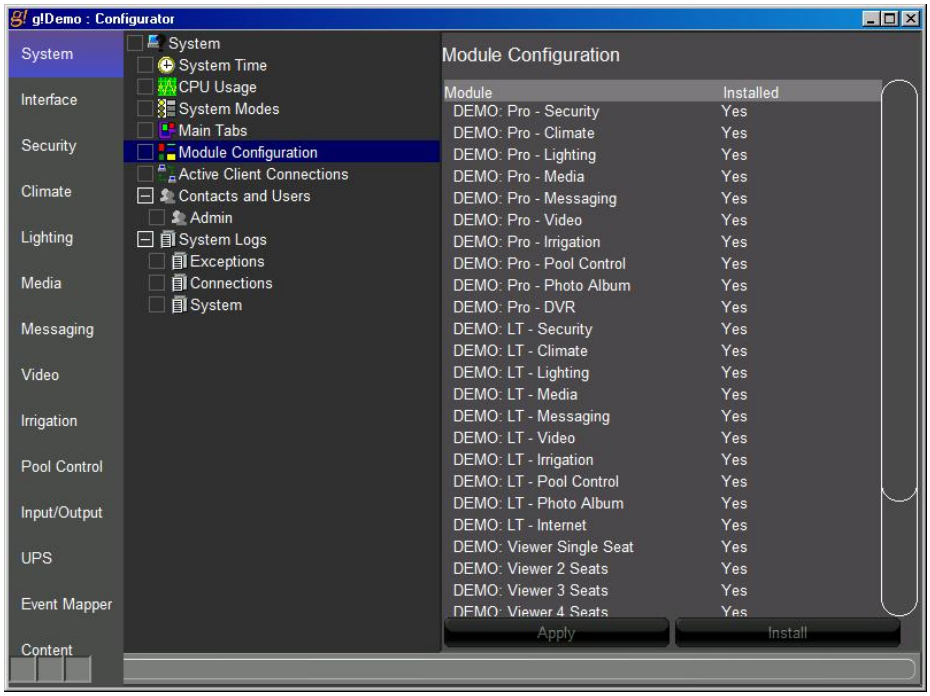
Notes: From this screen you can add up to 8 more modes for a total of 10 house modes. For each mode you will need to configure a button to display on the Home page in the Viewer to select and indicate the currently active mode.

2. Click **Main Tabs** in the System Tree to display the Main Tab settings, as shown below.

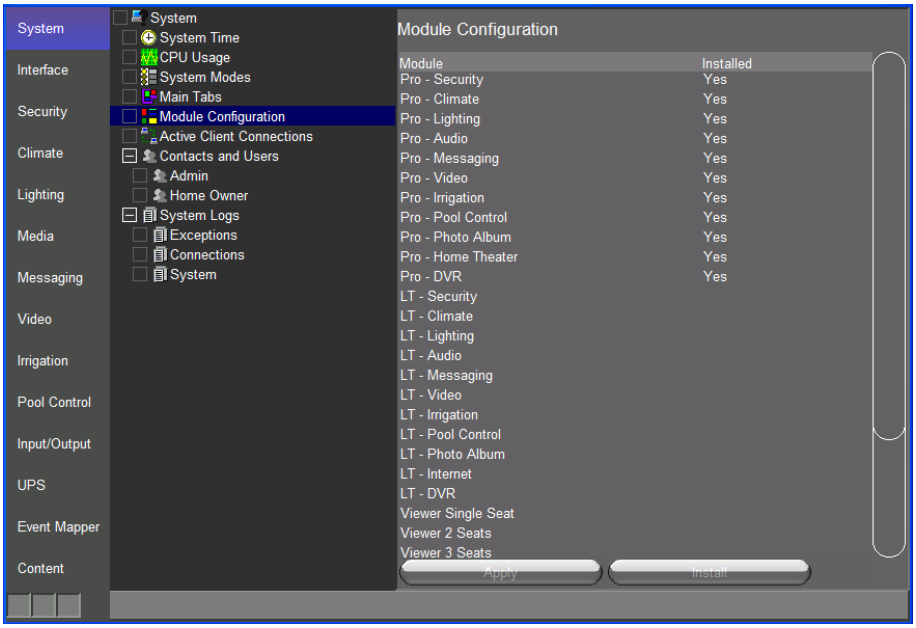


Note: When you click on a specific system in the list you can change the order of the display and change the name to display for each system in the Viewer.

3. Click **Module Configuration** in the System Tree to display the software licenses (the Apps) which have been enabled on your controller.



Note: If you are running g!Demo, all apps will appear as installed. A typical system is shown below:



Exercise 3: Setting Up Users

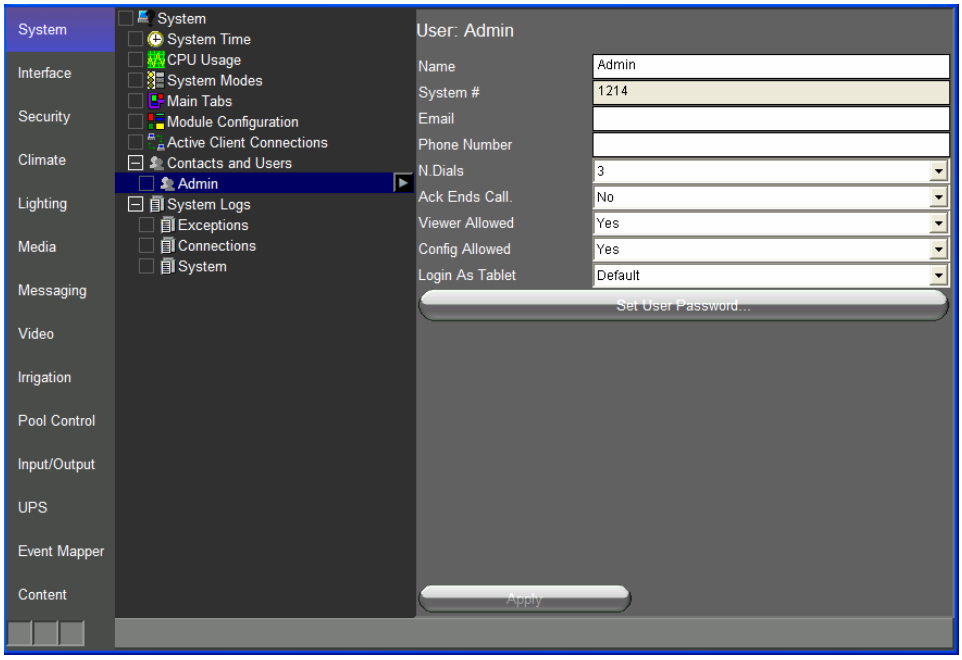
Overview

By default, one user – Admin— is set up in the system, as shown in the System Tree, under **Contacts and Users** on the System tab. Admin has access to both the Configurator and the Viewer, and can therefore make changes to the system.

In the following exercise you will setup a password for **Admin** to prevent the homeowner from accidentally changing important settings. Then you will add a new user for the homeowner so they can access the Viewer (but not the Configurator).

How-to

1. Navigate to the System tab, and then select the **Admin** user under Contacts and Users in the System Tree, as shown below.



2. Click **Set User Password** in the properties window at right. *The Set User Password window opens.*

3. Enter **Admin** in the **Password** and **Confirm** boxes, and click **OK**. *In the future, when you login to the system with this password, the system will know that you are the Admin, and allow you to access the Configurator.*

Note: When setting up a password for the Admin, ELAN highly recommends that you make a note of the password in a secure place for future reference. If you forget the password, you will be locked out of the Configurator.

4. Right-click **Contacts and Users**, and select **Add New User**. *The Add New User window opens.*

Note: The user name entered here is NOT a login name for the system. This name will only appear in the Contacts and User list in the Configurator. The g! software identifies the user by the PASSWORD they use to log into the system.

5. Type in the desired name for the homeowner in the Name field, and click **OK**. You will then be prompted for the homeowner password.

Note: The name you enter here for the user is only for your reference. You will always log into the System with the System Name.

6. Enter **1234** in the Password and Confirm boxes, and click **OK**.

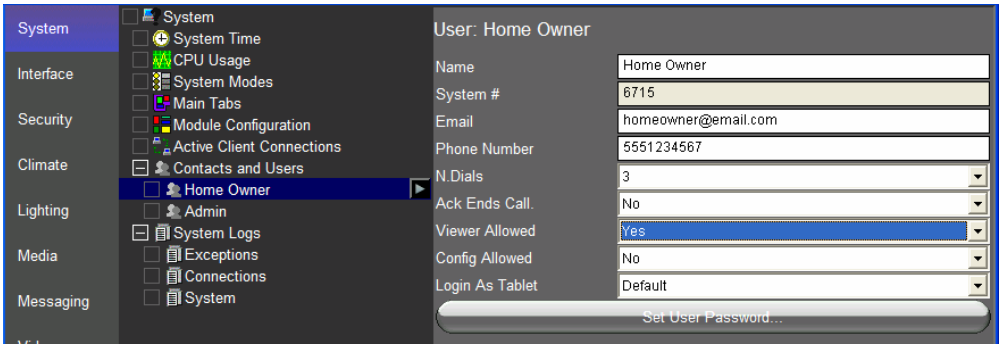
Note: To allow access to the Viewer without a password, leave both boxes blank and click **OK**. It is important to note though, that all user authentications in the g! software are by password, and each user must have a unique password. Leaving the password fields blank is recognized as a password and can therefore only be used for one user per system.

7. Select the Home Owner user from the list.

8. Enter an email address and phone number for the Home Owner contact. This contact information may be used later for sending alerts to the user based on system events; see *Lesson 12, Event Mapper* to learn about sending system alerts to a contact.

9. Change **Viewer Allowed** for the Home Owner to **Yes**, then click **Apply**. *This will then provide access to the Viewer, but not the Configurator.*

Note: By default access to the Viewer and Configurator are both initially set to **No**.



10. Test your settings. Close the Configurator and then try to start the Viewer using the home owner's password – this should work.

11. Close the Viewer, and then try to start the Configurator with the home owner's password – this should fail.

12. Type in the password you set for Admin and start the Configurator to log back in.

Exercise 4: Backing up the System

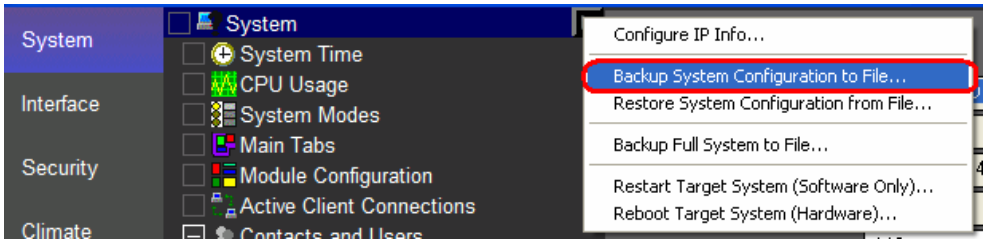
Overview

In this exercise you will learn how to create a backup of the current configuration, and learn when to use the different types of backup. Backup files can be created either on-site or remotely; but on-site is recommended. Remote backups take significantly longer, and are more likely to be interrupted due to connection problems. Keep in mind that performing any backup operation essentially shuts down the system so that it can copy files that might otherwise be in use. This might interrupt customer use of the system.

Note: It is possible to backup many individual components. Right-click on items in the Configurator and you will notice an Import/Export function. This can be used on components such as Custom Tabs, Display Settings, TV Channel Favorites and IR Devices and can be very useful for copying and backing up the settings of devices or settings you use frequently.

How-to

1. Click on the **System** tab in Configurator, if you are not already on it.
2. Right-click on **System** at the top of the System-Tree. *A selection menu appears*.



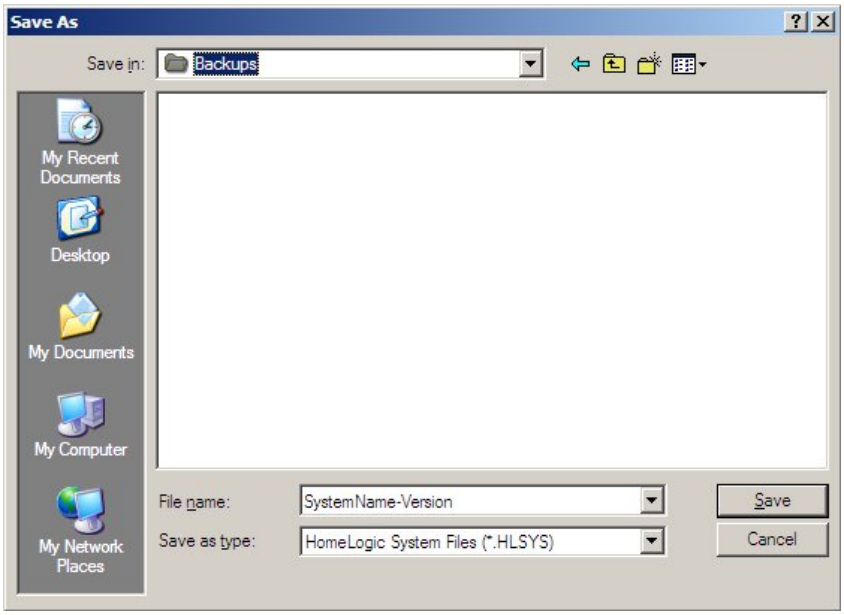
Quick Reference	
Configure IP Info	View/edit the current IP Settings of the ELAN Controller. *Note: clicking OK in the IP Settings dialog ALWAYS results in a hardware reboot. If you make no changes remember to click Cancel.*
Backup System Configuration to File	Create a **System Configuration** backup. *See details on System Configuration backup below.*
Restore System Configuration to File	Restore a previously created System Configuration or Full System backup to the ELAN Controller
Backup Full System to File	Create a **Full System** backup. *See details on Full Backups below.*
Restart Target System (Software Only)	Restart the g! software on an ELAN Controller.
Restart Target System (Hardware)	Perform a full hardware reboot of the ELAN Controller.

3. You can create two types of System Backup files. In the majority of cases, you will create a System Configuration backup; full details follow.

Note: Neither type of backup will include pictures or music added to network share folders.

- **System Configuration Backup**: Creates a backup file containing all data relevant to system configuration. This type of backup file can be used to restore into the original system or another system; which is important in the unlikely event of controller failure. This type of backup will not alter the version of software on the ELAN Controller and is intended to be used on the same version software.
- **Full System Backup**: Creates a full backup file of the entire system configuration folder, including data not related to system configuration. This type of backup is typically **only** used for reverting a controller to a previous version of software. The will only work properly on the controller that created the file.

4. Select **Backup System Configuration to File…** *You will be prompted to choose a save location and file name.*

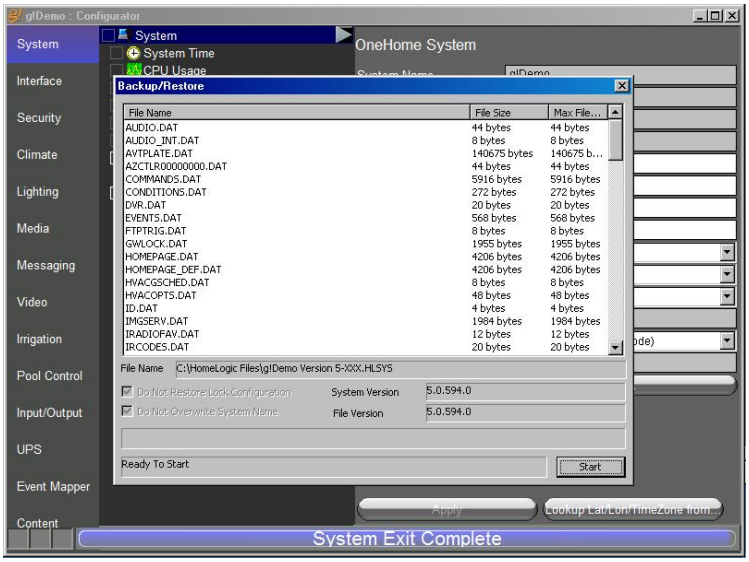


Notes about Backup Files:

The backup file name should be descriptive, and should include the system name and version.

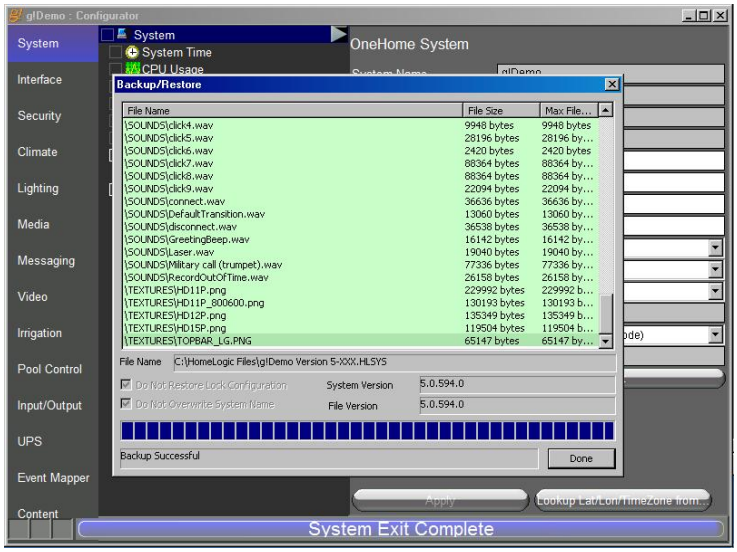
ELAN recommends that you create a new file for each backup, rather than continuously overwriting the same file.

5. Navigate to a directory for the backup, enter a name for the backup file, and click **Save**. *The system will now open a Backup/Restore window and should quickly populate the list of files to backup. A red bar will also draw across the bottom of the Configurator window indicating System Exit progress.*



6. When the data gathering process is complete and files have fully populated the Backup/Restore window (usually a few seconds), click **Start**.

7. Wait a moment while the backup completes. *During backup, you will see the files color as they are completed and blue progress bar will draw along the bottom indicating the progress of each file. When file backup is complete, verify that the status line on the bottom indicates* ***Backup Successful****.*



8. Click **Done** to exit the *backup* dialog.

Notes:

Lesson 3

Configuring Security Systems

Overview

This lesson shows you how to configure a security system.

You will:

- Learn how security systems are organized in the Configurator.
- Use the Configurator to set up communication for the panel, set up the panel and detect partitions and zones for the security system.
- Check the Viewer to confirm proper configuration.
- Understand the various features available in the Viewer.

Sample House

Our sample house and attached garage will be configured as two partitions:

- House containing four zones.
- Garage containing two zones.

Requirements

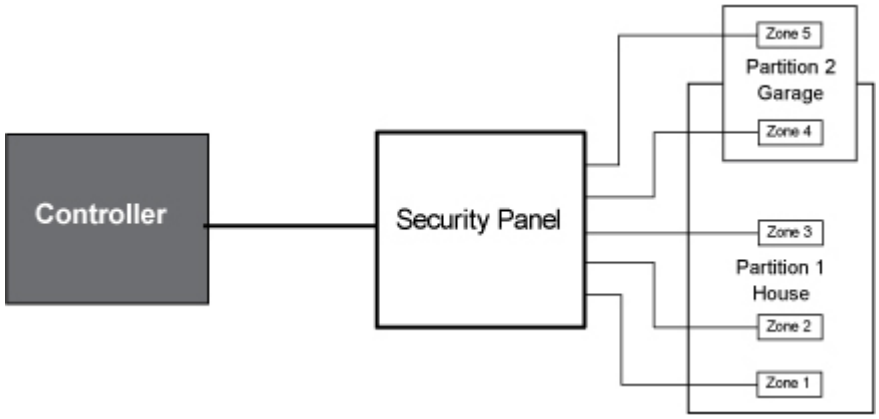
- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

Security Integration Overview

Overview The following diagram shows the sample house security system schematically, illustrating the components that are important to the ELAN controller.



Integrating the security panel with g! software will provide the homeowner access to their security system through the g! Viewer. For each security partition in their home, they will be able to:

- Arm and Disarm the system
- View partition and zone status and optionally bypass faulted zones.
- Review zone fault and armed status history.

A note about Application functionality:

Included Security Functionality: Supports control of one partition with up to eight security zones for any of the security panels with which ELAN automation controllers integrate.

Security Pro App: Supports control of up to 8 partitions and up to 256 security zones for any of the security panels with which ELAN automation controllers integrate.

Terms

The following terms are used in the Configurator:

- **Communication Device:** The method the g! software will use to communicate with an external device, including information about the connection type and protocol. In the overview diagram, the communication device is one of the built-in COM ports on the ELAN controller.
- **Security Panel:** The actual security controller.
- **Partition (Area):** A group of zones in a security panel. Typical partitions include **Whole House** and **Garage**, as in the example above. Note that some zones (like a door from the house into the garage) may appear in two different partitions.
- **Zone:** An individual sensor in the system, such as **Front Door**, **First Floor Motion**, etc.

How-to

To integrate a security system:

- Add the **Communication Device**
- Add the **Security Panel**
- **Discover Devices** installed on the security panel
- Check the **Viewer** interface

Once the security panel has been added, the g! software is able (in most cases) to automatically import all the zone and partition information from the panel. This is accomplished using the **Discover Devices** feature on the security panel's Property window. In those cases, the security system configuration will be complete once you verify that zone and partition information appears in the system tree.

Exercise 1: Add the Communication Device

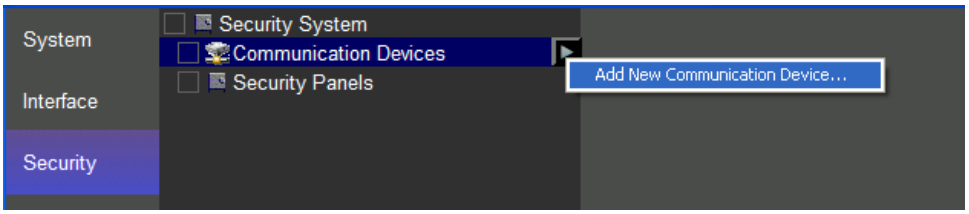
Overview

In the following steps you will add a **Communication Device**. The **Communication Device** is the bridge between the g! software and the Security Panel, and is where you will specify how the systems are physically connected and what communication protocol should be used.

Note: Actual system setup may be different depending upon which Security panel is installed on site. Refer to the *Integration Notes* for the particular panel for details.

How-to

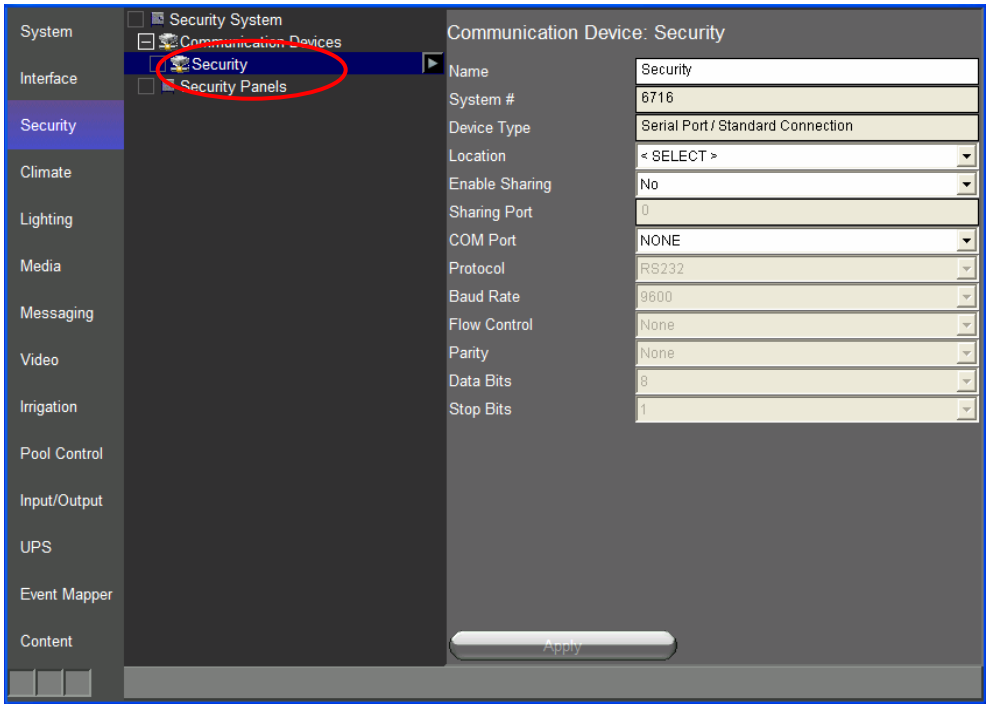
1. Start the Configurator, click the **Security** tab at left, then click **Communication Devices**, as shown below:



2. Right-click **Communication Device** and select **Add New Communication Device**. In the dialog box, configure the settings as shown below for a standard serial port, and click **OK**.

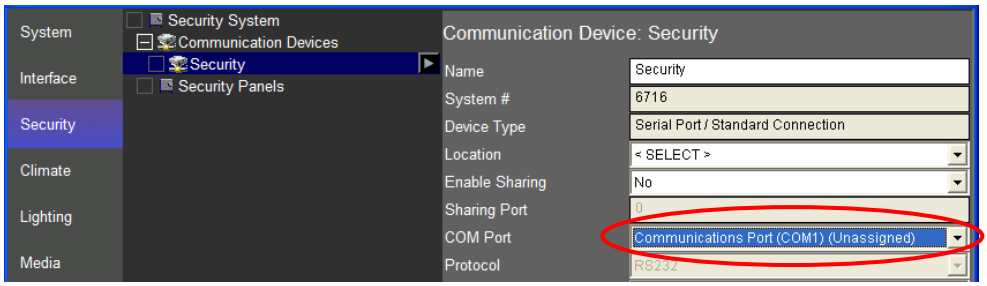
Quick Reference: Add New Communication Device	
Device Name	Enter a name for the external device. This can be any name, but should be descriptive so that you can identify this specific device in the Configurator. DO NOT leave this field set to “New Device”.
Type	The type of connection you are using, such as serial port or Ethernet.
Device	This field will populate only if needed, depending on the selected Type. See the Advanced Topics section at the end of this lesson for more information.
Communication Type	This is the protocol of the communication. See the *Integration Note* for the specific security panel for more information.

3. Select the **Security** device in the system tree.



4. In the properties window at right, select the desired COM port (COM1 in the screen below).

Note: The drop-down menu only shows the ports that are available. If you are running **g!Demo** on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo.**



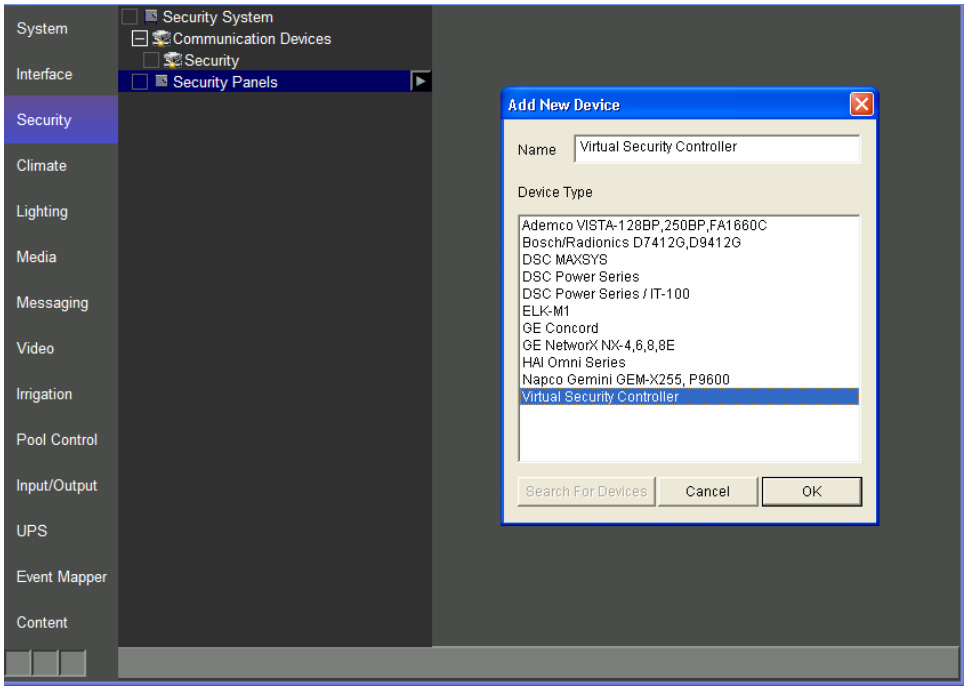
Exercise 2: Add the Security Panel

Overview At this point the **Communication Device** is configured, and the security panel can be added.

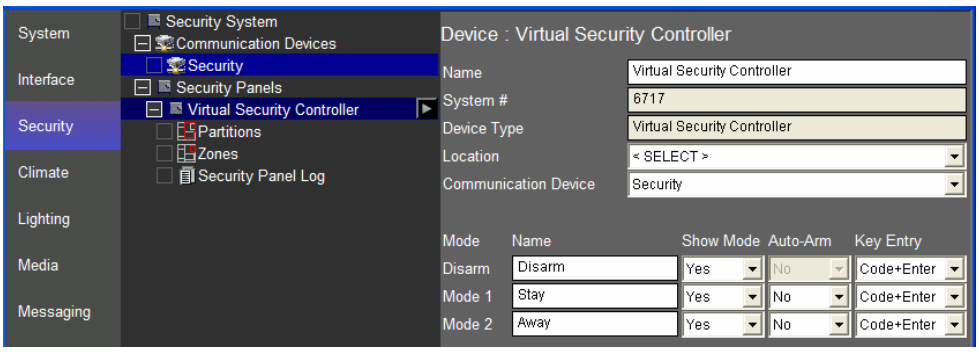
Note: Actual system setup may be different depending upon which Security panel is installed on site. Refer to the *Integration Notes* for the particular panel for details.

How-to

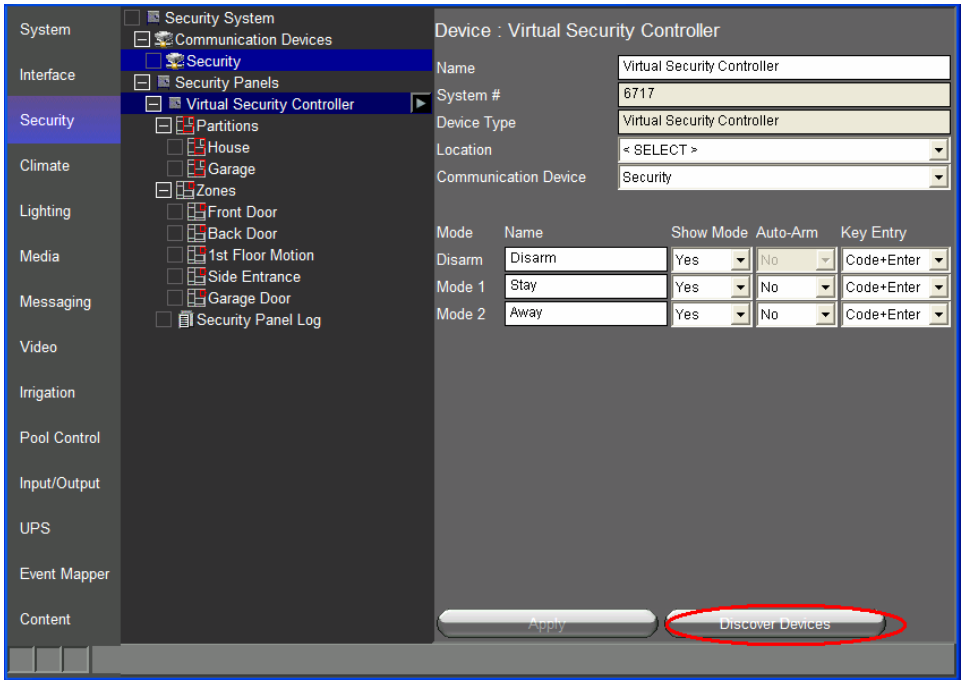
1. In the Configurator, right-click **Security Panels**, then click **Add New Device**.
2. In the **Add New Device** dialog box, select **Virtual Security Controller**, and then click **OK**.
   This adds a new security panel, and also automatically connects the panel to the Communication Device added in the last exercise.



3. Select the new security panel in the Configurator.
   The properties for that panel display on the right.

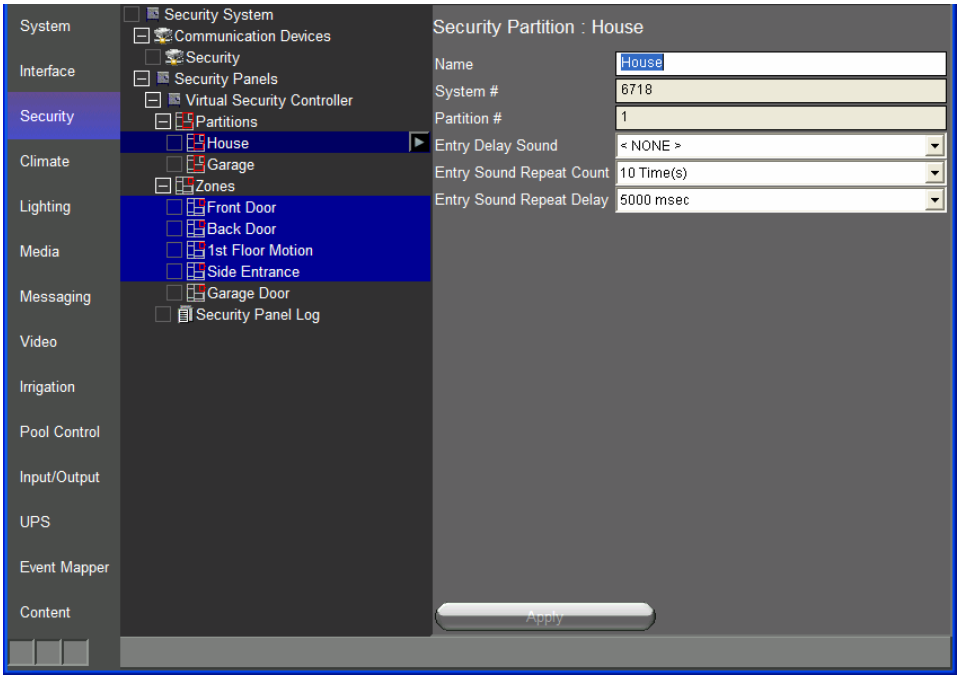


4. Click the **Discover Devices** button at the bottom of the window.
   The Configurator queries the security panel to read the partitions and zones from the hardware. This configuration is then displayed in the system tree. The virtual Security simulates a response.



Quick Reference: Security Controller Properties	
Mode	A “state” that the security system can be in. Typically each mode will provide a different level of security.
Name	A name for the mode, such as “disarm” or “away”. This is the name will appear on the mode’s button in the Viewer.
Show Mode	Select Yes or No to display or hide a button for this mode in the Viewer.
Auto-Arm	Select whether this mode is “auto-armed”- that is, the panel is armed without entering a security code when this mode is selected.
Key Entry	The format for entering the security code on the Viewer keypad.

In the following screen, the two partitions -House and Garage- were discovered. Each partition has zones associated with it. When you click on a partition, its zones are highlighted in blue.



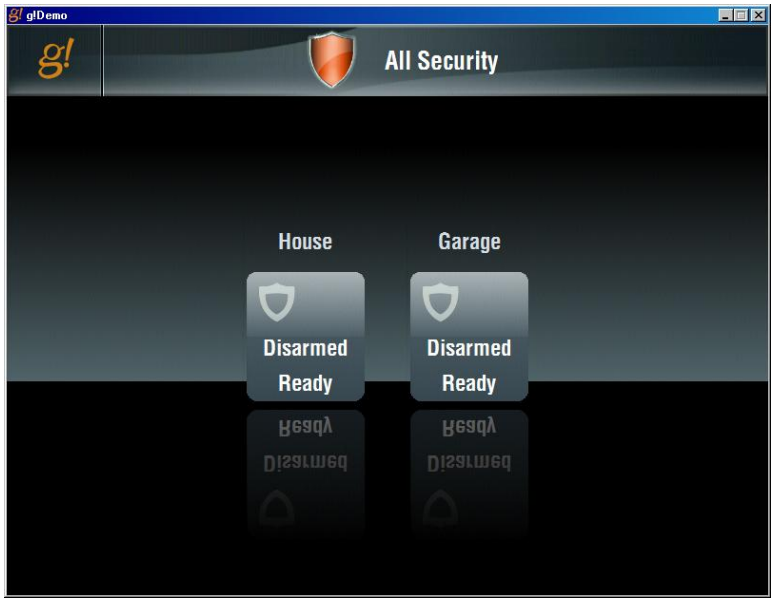
Exercise 3: Check the Viewer

Overview

At this point the security panel has been added and set to communicate with the ELAN controller. You should now check the **Viewer** to verify that the setup displays properly.

How-to

1. Minimize the Configurator so that the Windows desktop is visible.
2. From the g!Connect Pro main screen, click Start Viewer. The viewer starts and displays the Home page.
3. Click the g! icon to access the main menu then click the Security icon to display the configured security partitions.



Note on this screen you can view the status of all the visible partitions.

4. Click on the House partition icon to access House partition screen.
   In the example below, you can see:
   - The system is Ready to Arm.
   - There are no System Faults (such as low battery)
   - There are no Bypassed Zones.
   - The “House” partition is displayed in the top center of the screen.

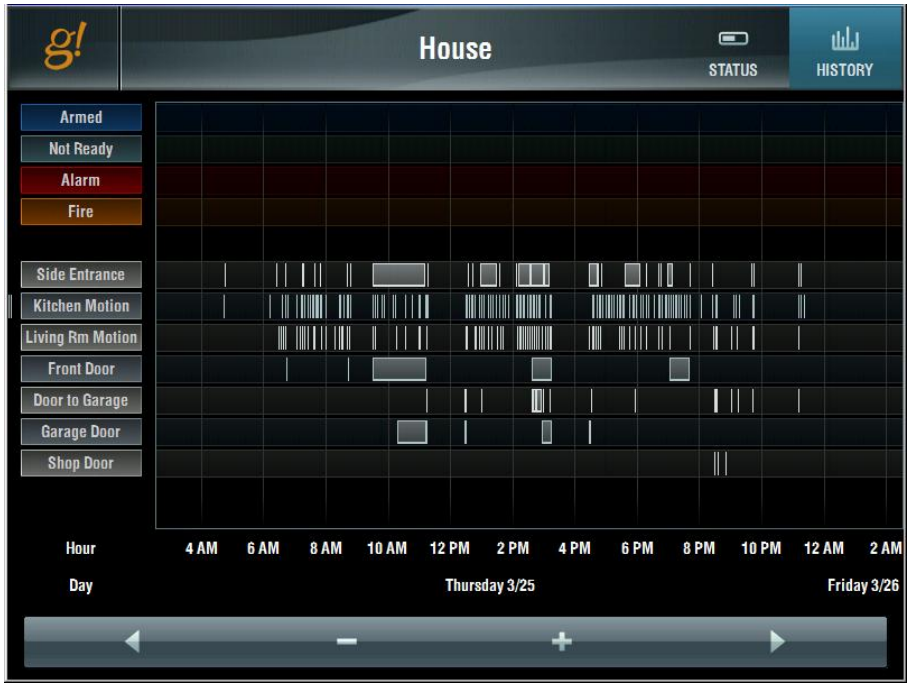
5. Try to Arm the system. Click **Away**, then click **1**, **2**, **3**, **4** and **Enter** in order (this is the default security code for the Virtual Security device). *After a short delay, the display will show **Armed**.*

6. Click on the **History** button at top right. The Viewer will display the system history tab.

Note: Keep in mind that a newly added security panel will have no history to display.

Example

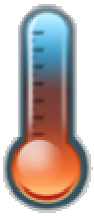
The screen below shows the Security History from a real system.



Notes:

Lesson 4

Configuring Climate Systems



Overview

This lesson shows you how to configure a climate control system.

You will:

- Learn how climate control systems are organized in the Configurator.
- Use the Configurator to setup communication for the thermostats and setup the equipment
- Check the Viewer interface to confirm proper configuration
- Understand the various features available in the Viewer.
- Learn how to set up schedules for the heating and cooling systems.

Sample House

Our sample house and attached garage will be configured with two heating and cooling zones:

- Living Room
- Bedroom

Requirements

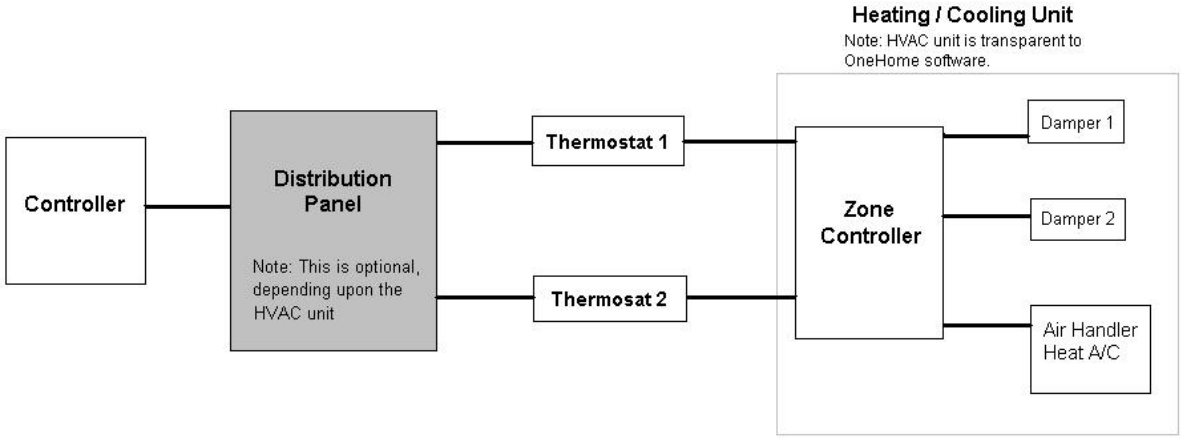
- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

Climate Integration Overview

Overview The following diagram shows the equipment in a typical climate system schematically, illustrating the components that are important to the ELAN controller.



Integrating a climate system with the g! software will provide the homeowner access to their climate system through the g! Viewer. For each thermostat in their home, they will be able to:

- Turn on and off the heating and cooling system
- Make adjustments to the heating and cooling set points
- Make adjustments to the heating and cooling schedule
- View the heating and cooling history
- Control fans

A note about Application licensing:

Included Climate Functionality: Supports all thermostats with which The g! software integrates. This version is intended for smaller systems and allows control of up to two thermostats.

Climate PRO APP: Supports all thermostats with which The g! software integrates. This version allows for control of up to 32 thermostats.

Terms

The following terms are used in the **Configurator** to describe the equipment in a climate system:

- **Communication Device:** The method the g! software will use to communicate with an external device, including information about the connection type and protocol. In the overview diagram, the communication device uses one of the built-in COM ports on the ELAN controller.
- **Thermostat:** The physical thermostat which can control heating, cooling, or fans.
- **Heating/Cooling (HVAC) Unit:** The HVAC equipment as seen by the thermostat. From the g! software's perspective, there are only three aspects of the Heating /Cooling Unit that are important:
  - Heating control
  - Cooling control
  - Fan control

How-to

To integrate a climate system:

- Add the **Communication Device**
- Add and configure **Heating/Cooling Units**
- Discover and configure the **Thermostats**
- Configure **Schedules** (optional)

Once the Communication Device has been added, The g! software is able (in most cases) to automatically import all the thermostats. This is accomplished using the **Discover Devices** feature on the Communication Device's Property window.

Exercise 1: Add a Communication Device

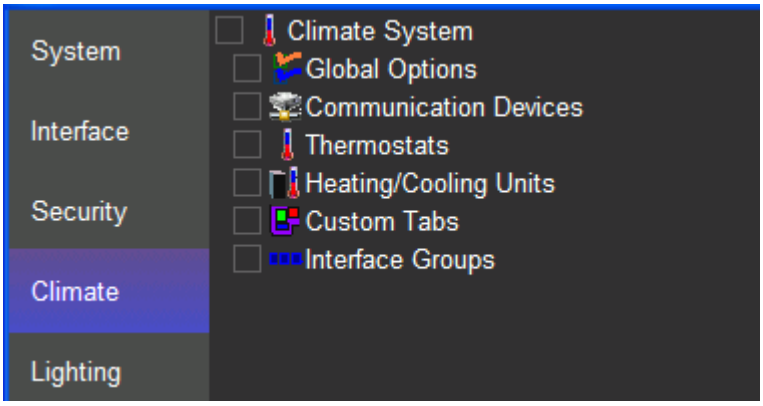
Overview

In the following steps you will add a **Communication Device** to communicate with the thermostats. The **Communication Device** is the bridge between The g! software and the thermostats, and is where you will specify how the systems are physically connected and what communication protocol should be used.

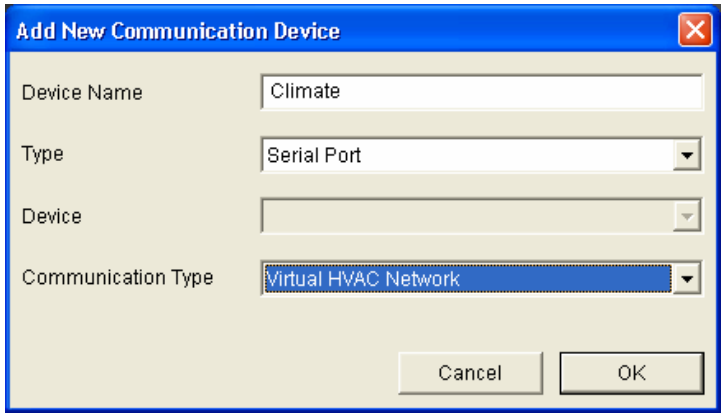
Note: Actual system setup may be different depending upon which thermostats are installed on site. Refer to the *Integration Notes* for the thermostats you are working with for more detailed information.

How-to

1. Start the **Configurator**, click the **Climate** tab at left, then click **Communication Devices**, as shown below:



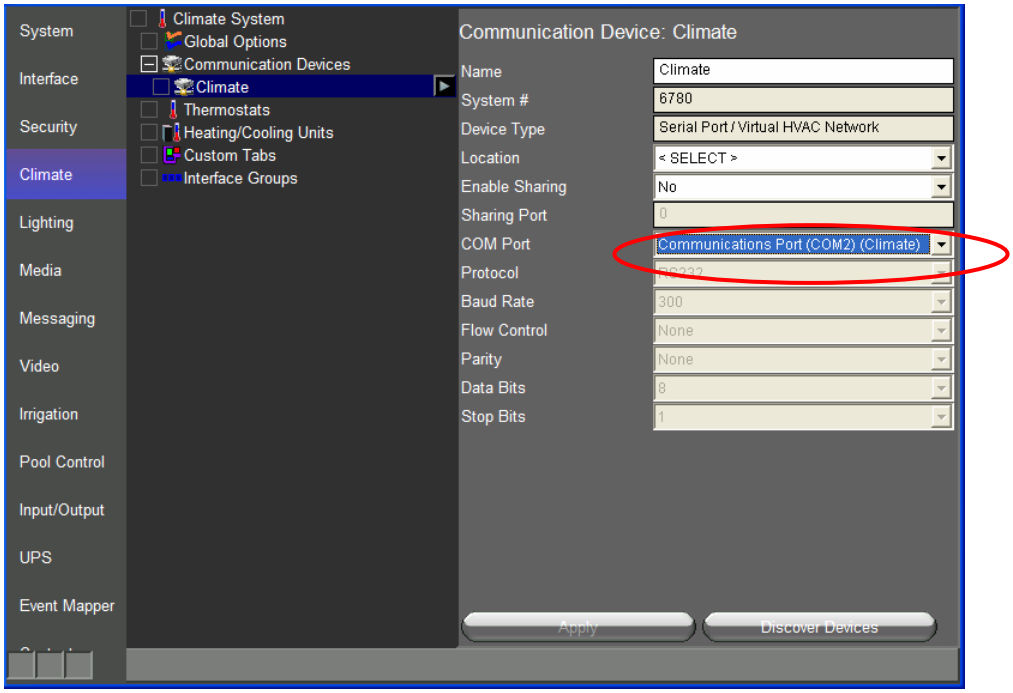
2. Right-click **Communication Device** and select **Add New Communication Device**. In the dialog box:
    a. Select **Serial Port** in the Type drop-down box
    b. Select **Virtual HVAC Network** in the Communication Type drop-down box.
    c. Enter “Climate” as the Device Name.
    d. Click **OK**.



Quick Reference: Add New Communication Device	
Device Name	Enter a name for the external device. This can be any name, but should be descriptive so that you can identify this specific device in the Configurator. DO NOT leave this field set to “New Device”.
Type	The type of connection you are using, such as serial port or Ethernet.
Device	This field will populate only if needed, depending on the selected Type.
Communication Type	This is the protocol of the communication. See the *Integration Note* for the specific thermostat for more information.

3. Select the **Communication Device** in the system tree as shown below.
4. In the Property window at right, select the desired port (COM2 in the example below), then click **Apply**.

Note: The drop-down menu only shows the ports that are available. If you are running **g!Demo** on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo.**



Exercise 2: Add the Heating/Cooling Equipment

Overview

Now that the Communication Device is Configured, we must add in the Heating/Cooling Unit(s) prior to adding the Thermostats.

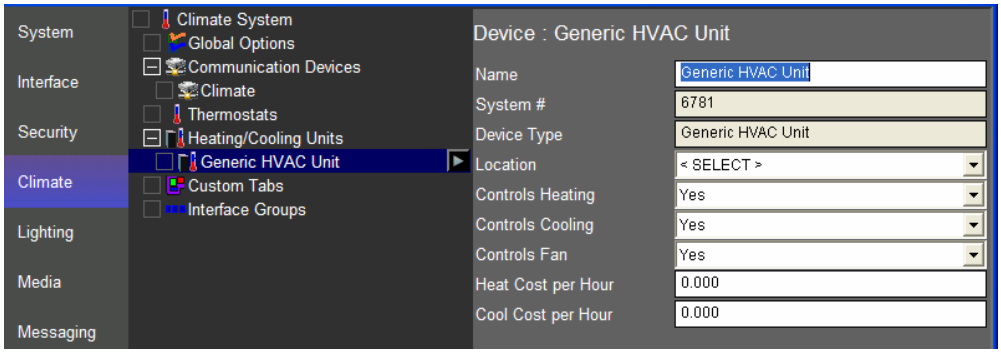
In a typical installation, the specifics of the heating and cooling systems are transparent to the g! software. The software communicates with the thermostat to change modes and set temperatures, and the thermostat itself turns the heating and cooling units on or off, depending on the chosen set points.

While the particulars of the HVAC equipment aren't required, the g! software does need to know the types of equipment the thermostat controls so it can display the proper modes in the Viewer and track system usage appropriately in the History tab.

In the steps below, we will add an HVAC Unit and have the opportunity to choose the types of systems it controls: Heating, Cooling, or Fans.

How-to

1. In the **Configurator**, right-click **Heating/Cooling Units**, then click **Add New Device**.
2. In the **Add New Device** dialog box, select **Generic HVAC Unit** as shown below, and then click **OK**.
3. Select the new Generic HVAC Unit in the system tree as shown below. Note that by default this unit controls Heating, Cooling and Fan(s), so these options are set to **Yes**. This will result in buttons displaying on the **Viewer** to allow the homeowner to set heating and cooling set points, as well as control the fans.



Note: In an actual system, you will need to set up a Generic HVAC Unit in the Configurator for each physical unit in the home. If you are setting up multiple systems, be sure to assign a unique name to each unit to make it easier to identify if you need to troubleshoot later on.

Exercise 3: Discover and Configure Thermostats

Overview

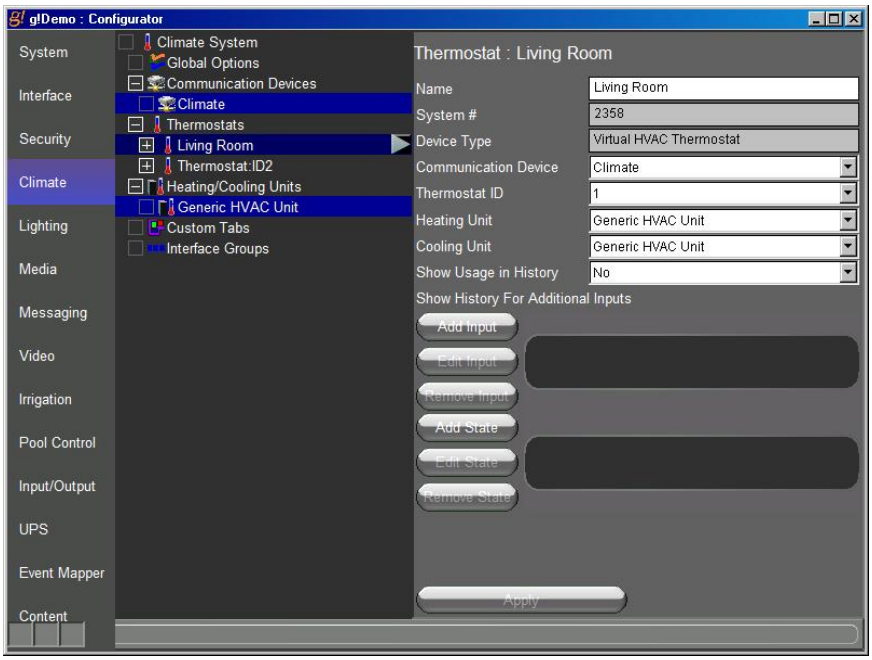
Before beginning this exercise, be sure that you have completed Exercise 2, *Add the Heating/Cooling Equipment*. You will need to associate the HVAC unit with the system thermostats in this exercise.

In a typical installation, the system can often detect how many thermostats are present and automatically add them to the System Tree. Once the thermostats have been recognized by the g! software, you then need to name each one and assign its **Heating and Cooling Units.**

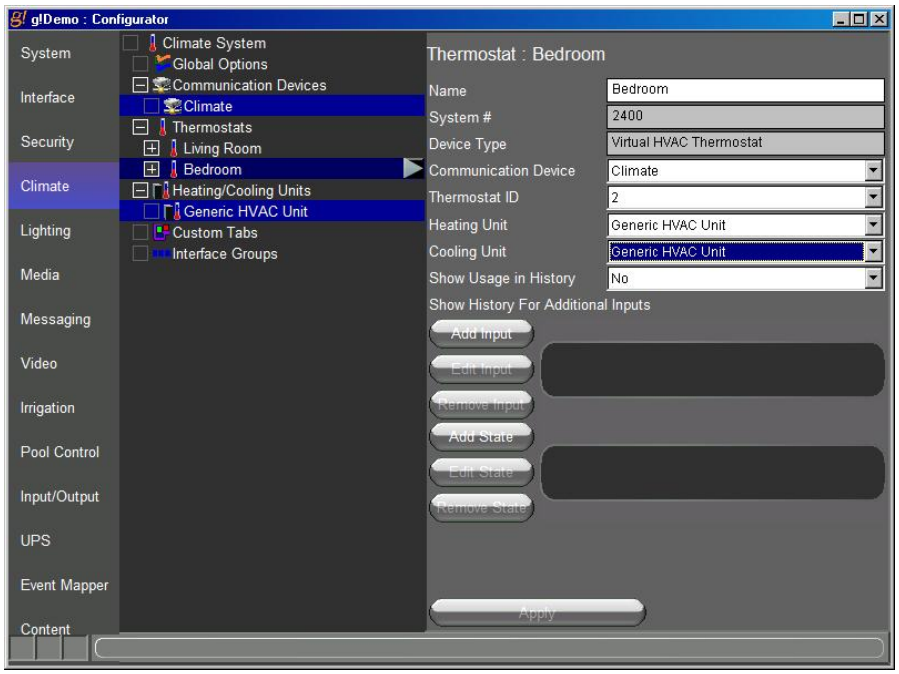
Note: Actual system setup may be different depending upon which HVAC Unit is installed on site. Refer to the *Integration Notes* for the particular thermostat for details.

How-to

1. In the **Configurator**, navigate to the properties window for the Communication Device you set up in Exercise 1.
2. Click **Discover Devices** at the bottom of the screen. After a slight pause, the thermostats will be displayed in the System Tree.
3. Select the first thermostat, **Thermostat: ID1**, in the System Tree and do the following:
    a. Change the **Name** to “Living Room.”
    b. Set the **Heating Unit** and the **Cooling Unit** to the **Generic HVAC Unit** you set up in Exercise 2.
    c. Click **Apply**.



4. Select the next thermostat in the System Tree and do the following:
    a. Change the **Name** to “Bedroom.”
    b. Set the **Heating Unit** and **Cooling Unit** to the **Generic HVAC Unit** that you set up in Exercise 2.
    c. Click **Apply**.



At this point the equipment has been added and you are ready to set up **Schedules**.

Climate Scheduling Overview

Overview

The g! software provides the ability to set up different schedules for the home's thermostats so that heating and/or cooling can turn on automatically at different times of day, according to the homeowner's preferences.

The g! software uses the following concepts for schedule management:

- **Mode**. A unique schedule can be configured for each house mode (Home, Away, etc.) so that when the home owner changes house modes, the climate schedules automatically change too.
- **Weekly Program**. The days of the week that you want this schedule to be in effect for the selected Mode. An example is to set up one schedule for weekdays, and a different schedule for weekends.
- **Period**. A period is a portion of the day for which you want a specific heating/cooling range to be in effect. In the g! software, you can configure up to four periods in a day.

Note: Each thermostat in the Configurator System Tree is tied to its own schedule. Making changes to the schedule on one thermostat does not change the settings on any other thermostat.

Schedules are set up and managed in two separate steps:

1. The **Configurator** is used to perform initial setup to create, name and provide the basic structure for schedules.
2. The **Viewer** is then used to change the actual start times and the set points and work with schedules on a regular basis.

Example for Training

In the following exercises, you will configure the system to:

- Use the two house modes Home and Away.
- Set up different schedules for each thermostat: Living Room and Bedroom.

  Home Mode:
  - Living Room will have two weekly programs, one for weekdays and one for weekends. Each program will have two periods.
  - Bedroom will also have two weekly programs, one for weekdays and one for weekends. Each program will have four periods.

  Away Mode:
  - Living Room and Bedroom will both have one weekly program with one period per day.

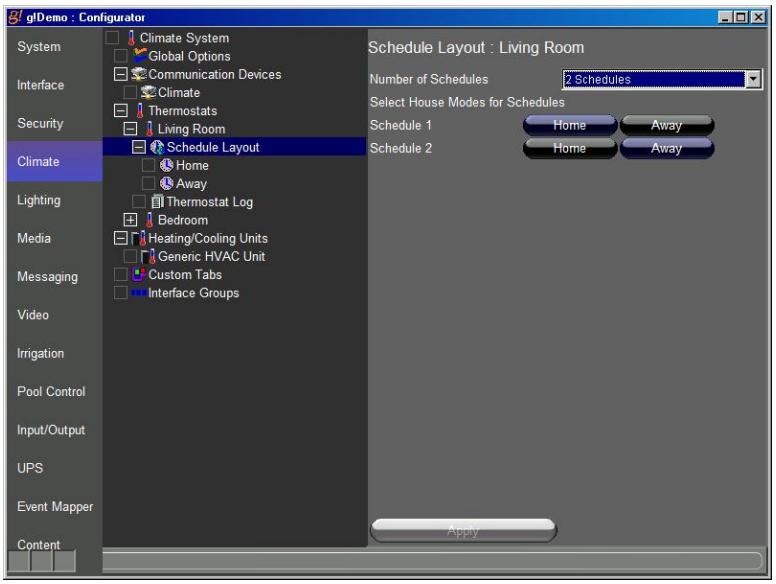
Exercise 4: Set Schedules

Overview

In this exercise, you will set up the thermostats so they have weekday and weekend schedules, like the example above, using two periods per day for the Living Room and four periods per day for the Bedroom. Both the Living Room and Bedroom will be set up so that when the home owner is away there is one set point for the whole week with just one period for the whole day.

How-to

1. In the Configurator, expand the **Living Room** thermostat and select **Schedule Layout.** *The Schedule Layout properties display on the right.*
2. *In this screen:*
    a. Change the **Number of Schedules** to 2. *A second line, Schedule 2, displays on the screen.*
    b. Select **Home** for Schedule 1, and Away for Schedule 2.
    c. Click **Apply**. *The screen should match the following:*



3. Click the **Home** schedule in the System Tree at left. *The weekly program for the Home mode displays on the right.*

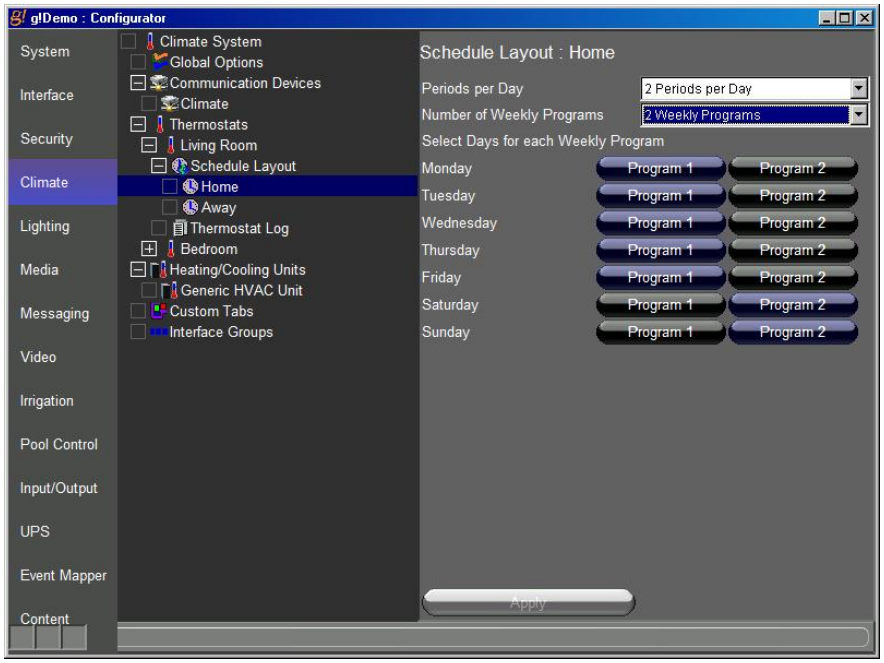
4. Set the Home schedule properties:

    a. Change the **Periods per Day** to 2

    b. Set the **Number of Weekly Programs** to 2

    c. Click on **Program 2** for Saturday and Sunday; click **Program 1** for all other days.

    d. Click **Apply**. *The screen will look like the one shown below.*



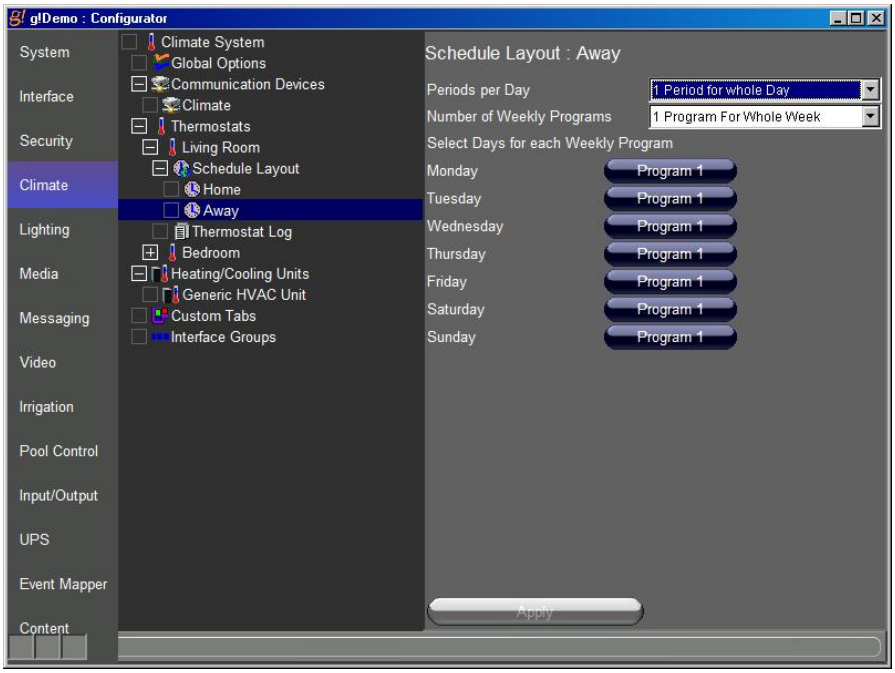
5. Select the Living Room **Away** schedule in the System Tree. *The weekly program for the Away mode displays on the right.*

6. Set the Away schedule properties:

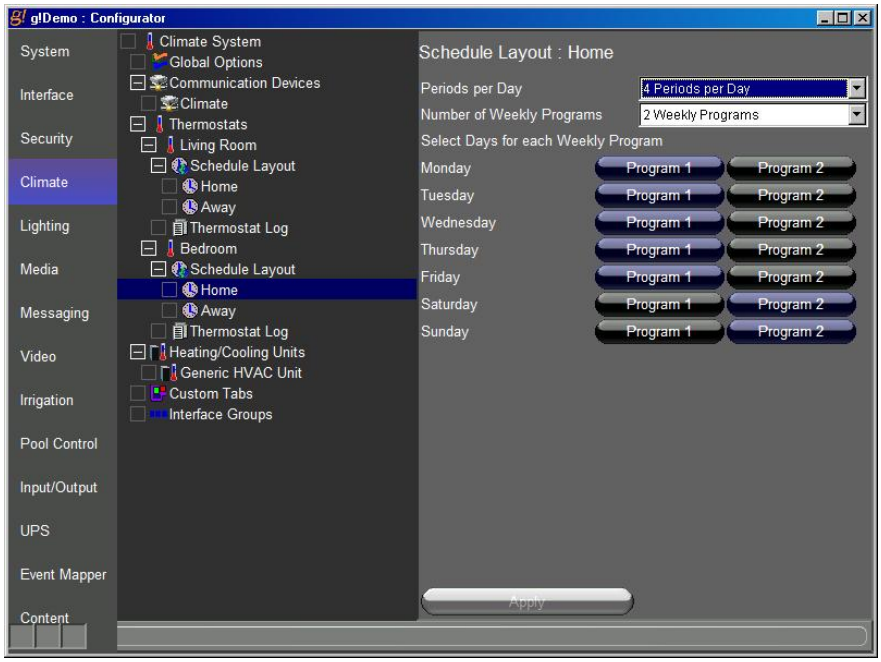
    a. Set **Periods per Day** to 1

    b. Set **Number of Weekly Programs** to 1

    c. Click **Apply**. *The screen will look like the one shown below.*



7. In the System Tree, select **Schedule Layout** for the **Bedroom** thermostat.
8. Set **Number of Schedules** to **2, Home** and **Away.**
9. Set up the Bedroom **Home** schedule as follows:
    a. Set **Periods per Day** to **4**
    b. Set the **Number of Weekly Programs** to **2**
    c. Click on **Program 2** for Saturday and Sunday; click **Program 1** for all other days.
    d. Click **Apply**. *The screen will look like the one shown below.*

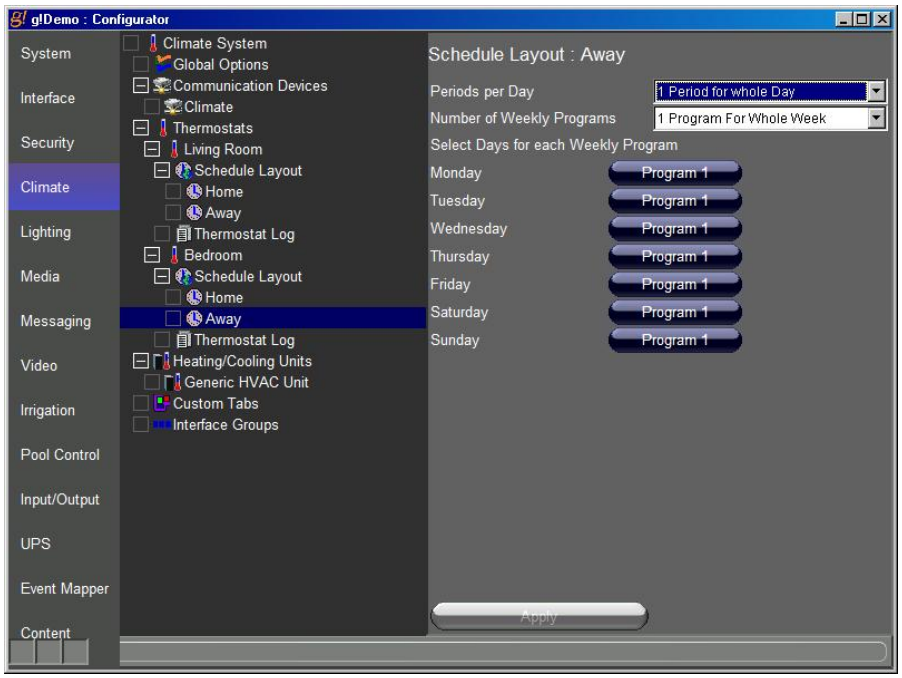


10. Select the Bedroom **Away** schedule in the System Tree, and set the properties as follows:

    a. Set **Periods per Day** to **1**

    b. Set the **Number of Weekly Programs** to **1**.

    c. Click **Apply.**



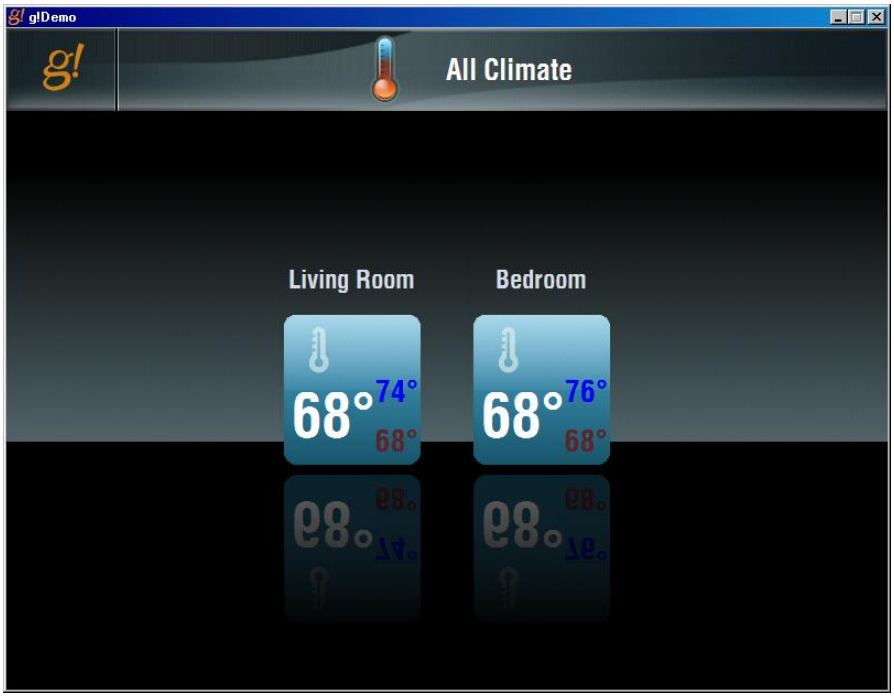
Exercise 5: Check the Viewer

Overview

In exercises 1-4, you used the Configurator to set up the Climate app. In exercises 5 and 6, you will check your configuration in the Viewer and use the Viewer to set the heating and cooling set points for each period in each thermostat's schedule.

How-to

1. From the g!Connect Pro main screen, click Start Viewer. The Viewer interface displays the Home page.
2. Click the g! icon to access the main menu then select the **Climate** icon to show the available climate zones. Select the **Living Room** zone.



On this screen notice:

- The Heating setpoint is 60
- The Cooling setpoint is 85
- The Room Temperature is 68
- The thermostat and fan are running in Auto Mode
- Buttons at the bottom indicate and provide control for Fan state and Thermostat mode.
- Access is provided at the top to view the Schedules and History

3. Click the Up arrow next to the Heating Set Point to change the setting to 70 degrees.

- Note that after a short pause the heat Setpoint will begin to blink indicating that it is actively heating.

4. Press and hold the Heat Mode button to change from auto mode to heat mode. (Note that in order to change mode you must press and hold the button for a few seconds. This feature helps prevent potentially dangerous accidental mode changes.)

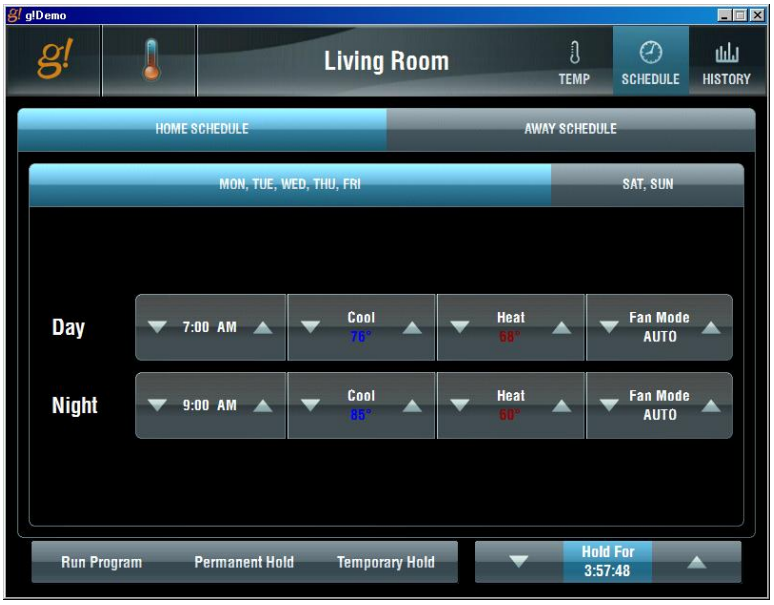
Exercise 6: Check the Schedule tabs in the Viewer

Overview

In this exercise you will check the Living Room and Bedroom schedules that configured in the previous exercises and adjust the period start times and set points.

How-to

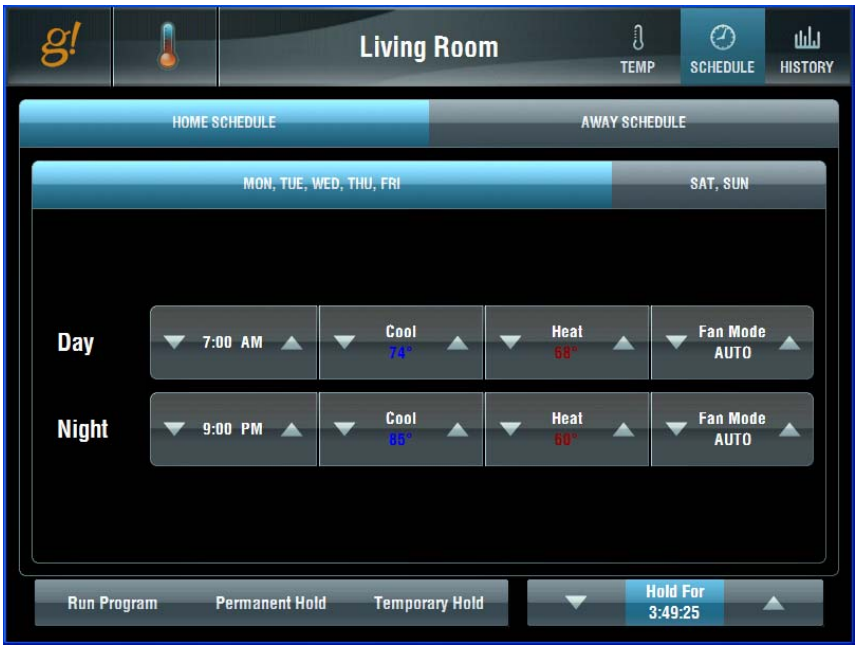
1. Click the **Schedule** button at the top right of the screen. This brings up the schedule controls where the homeowner can adjust times and temperature for the thermostat schedule.



Note on this page

- Buttons on the bottom left control and indicate the schedule program status.
- Buttons on the bottom right are for controlling timed hold behavior.

2. Click the **Home Schedule** tab then click the **Mon, Tue, Wed Thu, Fri** tab at the top to bring up the Home Schedule for the Living Room weekday settings as shown below.

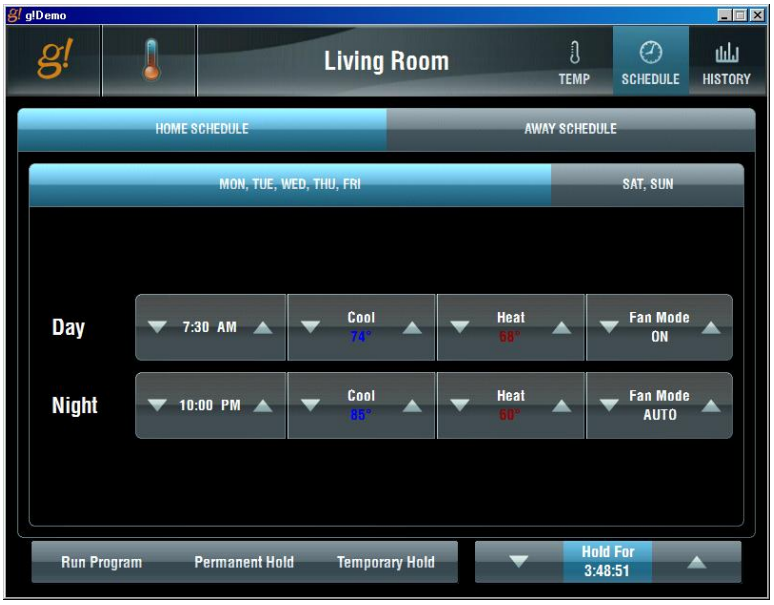


Notice that for each period, Day and Night you can adjust:

- Start Time
- Cool Set Point
- Heat Set Point
- Fan State

3. Use the arrows to change the settings so that:
    - **Day** starts at **7:30am**
    - **Night** starts at **10:00pm**.
    - **Day Cool** setting is **74**.
    - **Fan** is ON (will run all day).

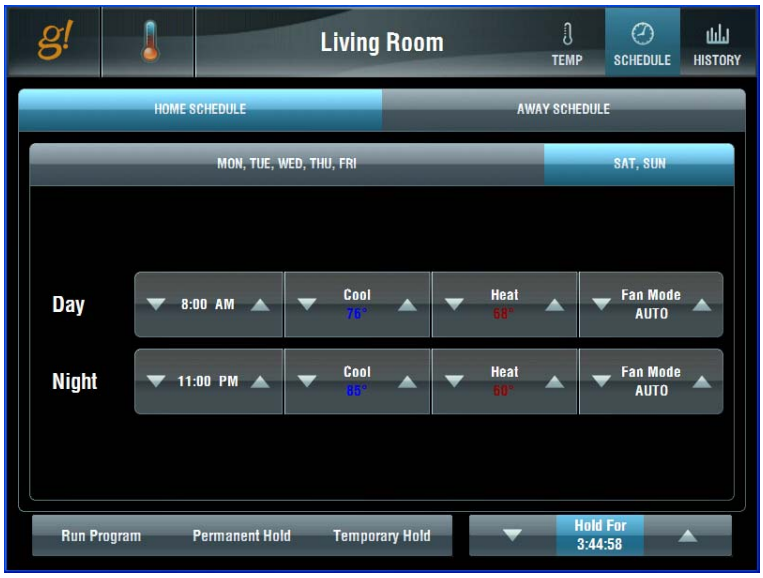
These are settings for Monday - Friday. *Your screen should look like the one shown below.*



4. Click the **Sat, Sun** button to display the weekend schedule. Change the settings so that:

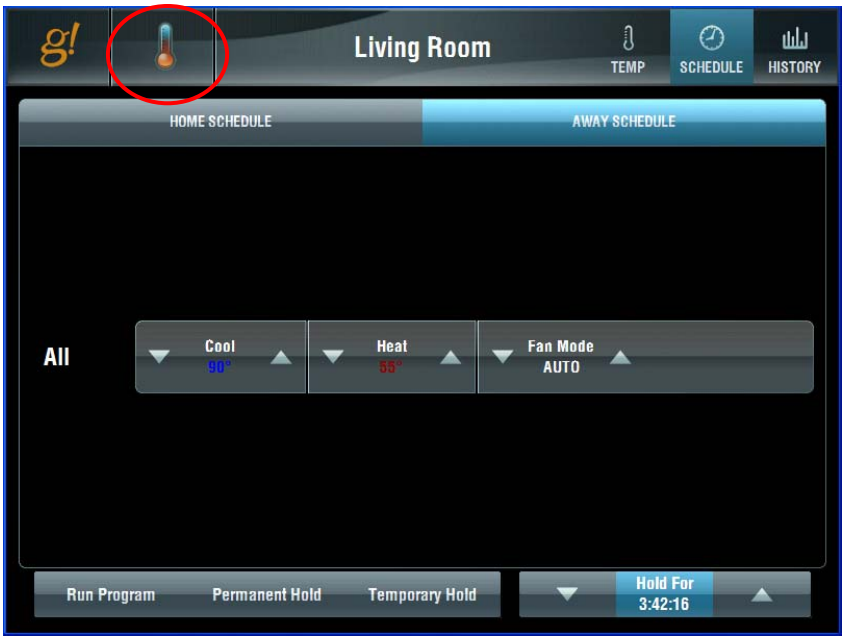
   a. **Day** starts at **8:00 AM**

   b. **Night** starts at **11:00 PM**.



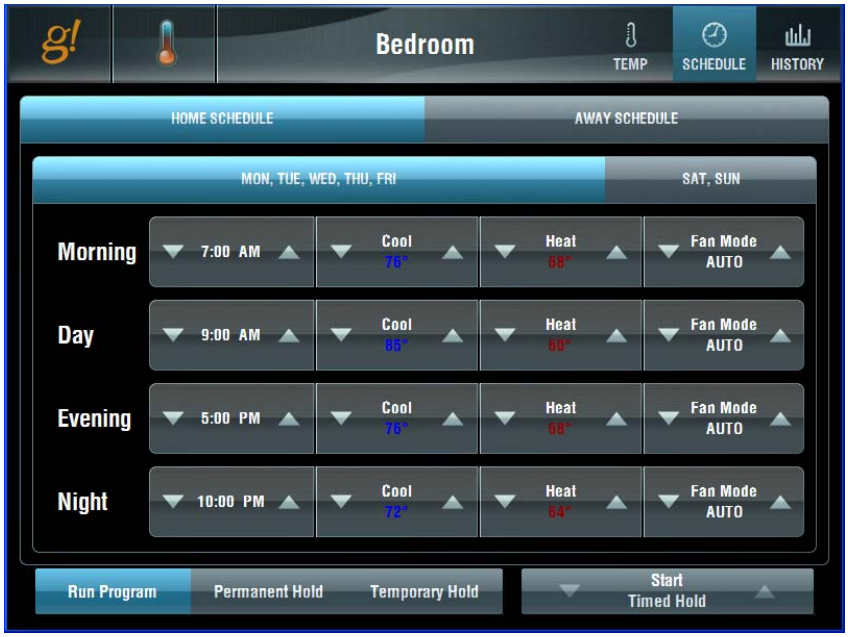
5. Click the **Away Schedule** tab to display the **Living Room** schedule for when the house mode is set to Away.

6. Note that there is just one Heating set point and one Cooling set point, and that all the days are the same. Click the arrows to set the **Heating** to **55** and the **Cooling** to **90**. *Your screen should look like the one shown below.*



7. Click the Thermostat icon at the top of the screen (circled above) to view all climate zones, then select the Bedroom icon to switch to the **Bedroom** thermostat.

8. Click the **Schedule** button and select the Home schedule. Note that here there are four periods per day, with **Monday-Friday** the same, and then **Saturday** and **Sunday** the same.



Exercise 7: Check the History in the Viewer

Overview

The **History** in the **Viewer** tracks historical information so that homeowner can see what has been happening with their system. Because the g!Demo has not been running for long, your history will be minimal. The screen shot below was taken from a live system.

Example Screen

Notes:

Notes:

Lesson 5
Configuring Lighting Systems

Overview

This lesson shows you how to configure a lighting system.

You will:

- Learn how lighting systems are organized in the Configurator.
- Use the Configurator to setup the Communication and Lighting Interfaces that represent the basic lighting hardware.
- Add switches and keypads to the configuration.
- Learn how to create a custom keypad for the Viewer interface.
- Learn how to create a custom interface layout for the Viewer interface.

Sample House

Our Sample House and attached garage will be configured with ten lighting loads and one physical keypad. The loads will be distributed as follows:

- Main House- Four dimmers and a physical keypad
- Theater- Three Dimmers
- Garage and Outside- Three Dimmers

Requirements

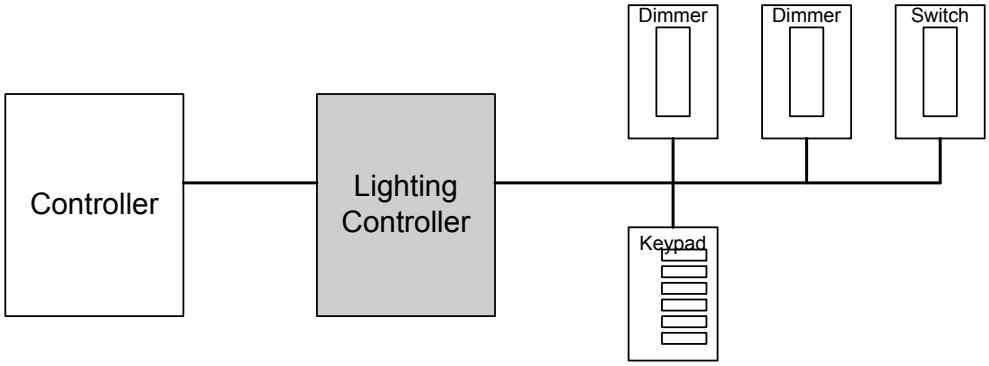
- A PC running g!Demo and g!Connect Pro.

-OR-

- ELAN Controller and g!Connect Pro.

Lighting Integration Overview

Overview The following diagram shows the equipment in a typical lighting system schematically, illustrating the components that are important to the ELAN controller. The lines drawn between the lighting controller and the dimmers, switch and keypad represent the communication link between the controller and these devices. These links can be created using low-voltage cables, RF signals or the power lines themselves, depending upon the lighting system.



Integrating a lighting system with the g! software will provide the homeowner access to their system through the Viewer. This will enable them to:

- Turn loads on and off
- Set the brightness of loads controlled by dimmers
- Actuate pre-programmed scenes
- Set up a lighting schedule
- View status of the loads in the lighting system

A note about license versions:

Included Lighting Functionality: Supports all lighting systems with which the g! software integrates. This version is intended for smaller systems and allows control of up to sixteen lighting loads or system scenes.

Lighting PRO App: Supports all lighting systems with which the g! software integrates. This version allows for control of all available loads and keypads in the lighting system.

Terms

The following terms are used in the Configurator to describe the equipment in a lighting system:

- **Communication Device:** The method the g! software will use to communicate with an external device, including information about the connection type and protocol. In the overview diagram, the communication device uses one of the built-in COM ports on the ELAN controller.
- **Lighting Interface:** The lighting controller or interface module.
- **Switch / Dimmer:** The device that switches the load (turns lights on, off, or dim/brighten).
- **Keypad:** Typically a wall-mounted controller with several **Scene** buttons. In some cases, a keypad can also switch a load.
- **Virtual Keypad:** A software representation of the wall-mounted keypad that can also be used to control lighting loads.
- **Custom Keypad:** A software keypad that is configured to provide a more personalized experience for the user such as access to user-preferred controls, or preferred buttons, etc.
- **Custom Tab.** A custom interface page that can optionally be added to the lighting Viewer interface. The custom interface can be configured with any of the available controls.
- **Scene.** A group of switches and dimmers that turn on to a specific level or turn off from a single command.

How-To

To integrate a lighting system with ELAN:

- Add the **Communication Device**.
- Add the **Lighting Interface**
- **Discover Devices** to add the **lighting loads** and **keypads**.
- Organize the **Viewer** interface with the desired **keypads, custom interfaces,** and **custom controls**.

Once the lighting interface has been added, the g! software is able (in most cases) to automatically import all of the lighting loads and keypads. This is accomplished by using the **Discover Devices** or **Read Config File** feature in the lighting interface.

Exercise 1: Add Communication Device

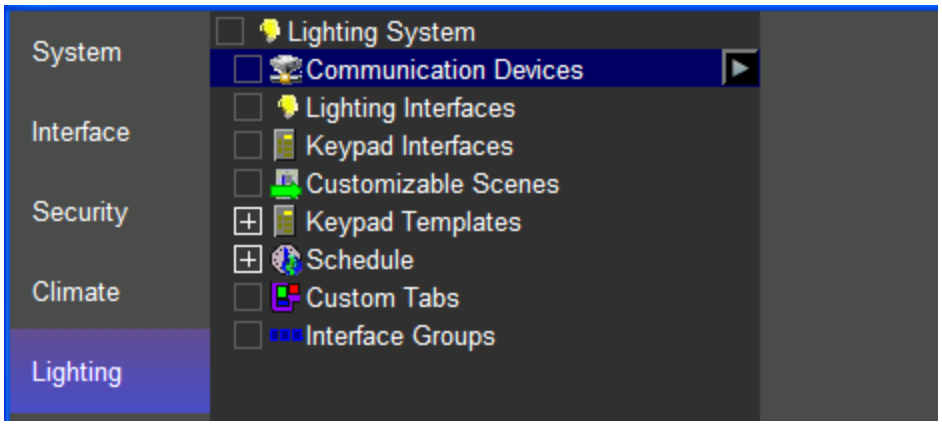
Overview

In the following steps you will add a Communication Device to communicate with the lighting system. The communication device is the bridge between the g! software and the light switches, and is where you specify how the system is physically connected and what communication protocol should be used.

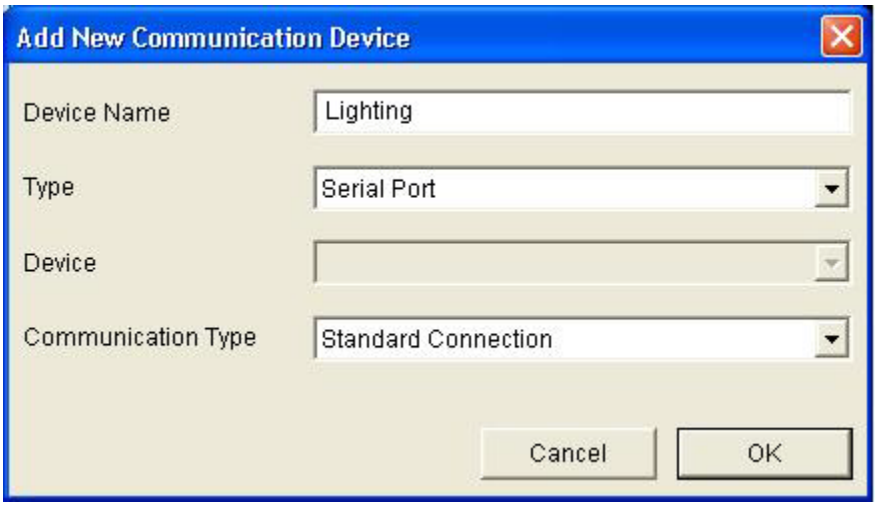
Note: Actual system setup may be different depending upon which lighting system is installed on site. Refer to the *Integration Notes* for the particular lighting systems for details.

How-To

1. Start the Configurator, click the **Lighting** tab at left, then click **Communication Devices**, as shown below:



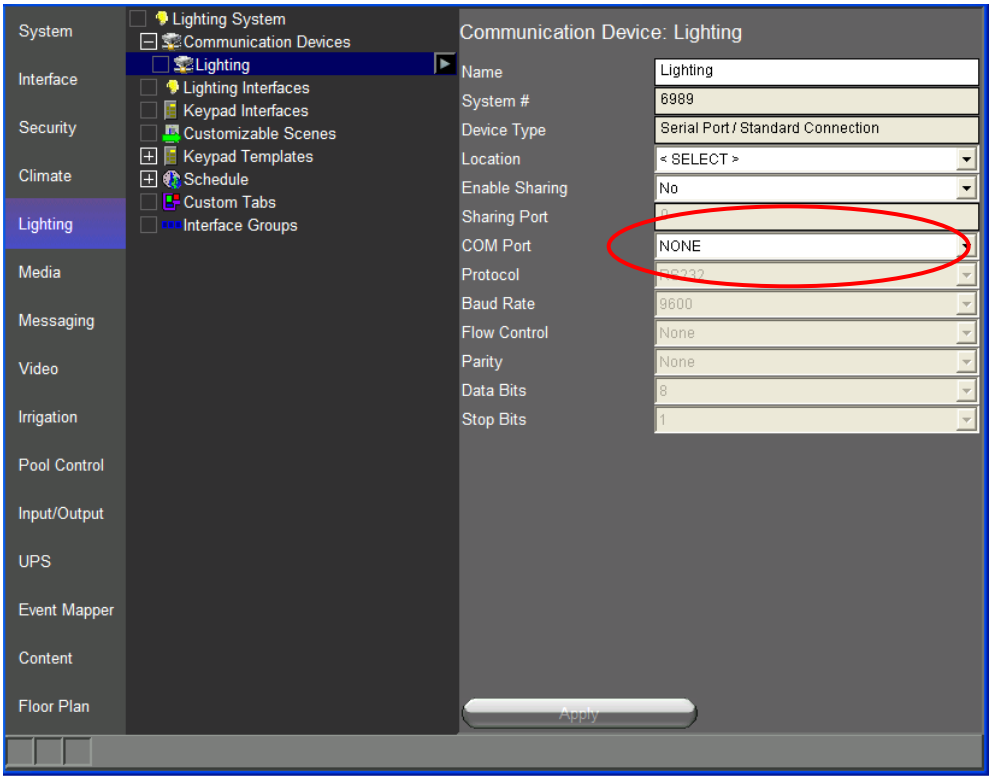
2. Right-click **Communication Device** and select **Add New Communication Device**. In the dialog box:
   a. Select **Serial Port** in the Type drop-down box
   b. Select **Standard Connection** in the Communication Type drop-down box.
   c. Enter “Lighting” as the Device Name.
   d. Click **OK**.



Quick Reference: Add New Communication Device	
Device Name	Enter a name for the external device. This can be any name, but should be descriptive so that you can identify this specific device in the Configurator. DO NOT leave this field set to “New Device”.
Type	The type of connection you are using, such as serial port or Ethernet.
Device	This field will populate only if needed, depending on the selected Type.
Communication Type	This is the protocol of the communication. See the *Integration Note* for the specific lighting system for more information.

3. Select the **Communication Device** in the system tree as shown below.
4. In the properties window at right, select the desired **COM Port** (NONE in the example below), then click **Apply**.

Note: The drop-down menu only shows the ports that are available. If you are running g!Demo on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo**.



Exercise 2: Add the Lighting System and Discover Devices

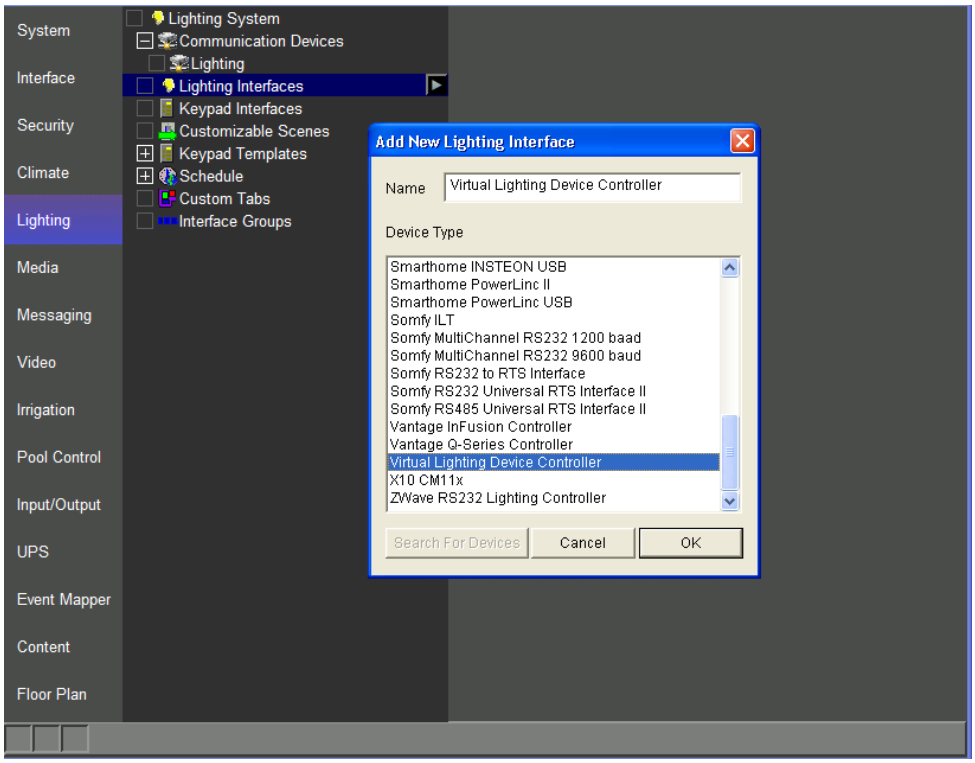
Overview

Before beginning this exercise, be sure that you have completed Exercise 1, *Add the Communication Device.* You will need to associate the communication device with the lighting device in this exercise. For most lighting systems, the names of the devices will be populated automatically.

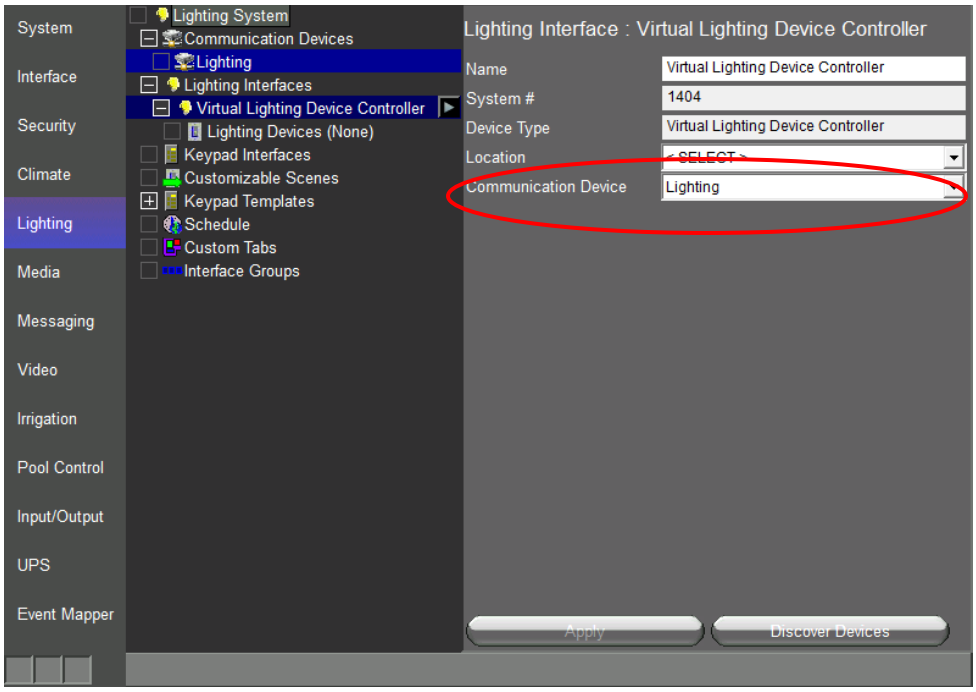
Note: Actual system setup may be different depending upon which lighting system is installed on site. Refer to the *Integration Notes* for the particular lighting system for more details.

How-To

1. On the Lighting tab, right click on Lighting Interfaces and select Add New Lighting Interface.
2. Select Virtual Lighting Device Controller, and then click OK

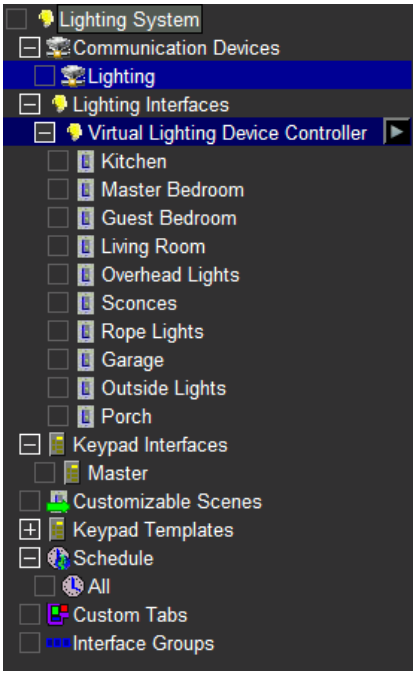


3. Verify that the **Communication Device** is set to **Lighting**.



4. Click **Discover Devices** at the bottom of the screen.
   After a slight pause, the lighting loads and keypads will be displayed in the System Tree.

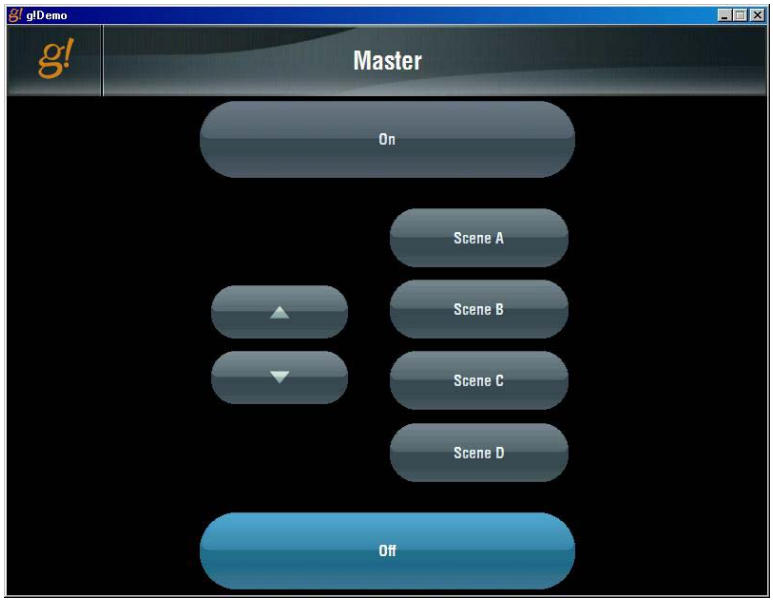
Once the Discover Devices process is complete, there will be ten dimmers and one keypad in the configuration.



Check the Viewer Interface

When you've finished the configuration, check your work in the Viewer.

1. From the g!Connect Pro main screen, click **Start Viewer**.
2. From the homepage click the **g!** icon to access the main menu then click the **Lighting** icon.
3. *You will see the "Master" keypad listed in the Configurator.*



Note: The Configurator adds Viewer interface pages for each keypad by default. Note that individual loads (switches and dimmers) don't automatically display in the interface.

Note: The names of the buttons that display in the virtual keypad can be edited. See Exercise 3, *Create a Custom Keypad* for more information on editing the button text.

Exercise 3: Create a Custom Keypad

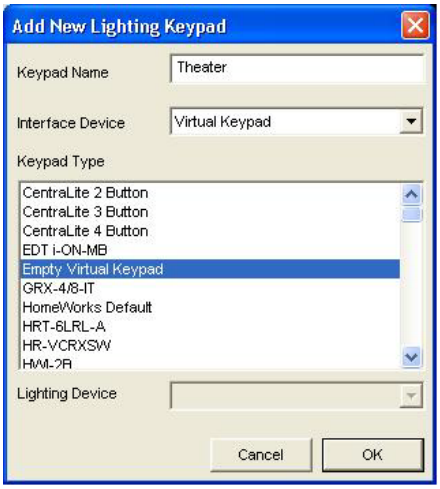
Overview

Before beginning this exercise, be sure that you have completed Exercise 2, *Add the Lighting System and Discover Devices.*

In this exercise, we'll create the graphic layout for a simple three-button keypad to control lighting scenes in the theater.

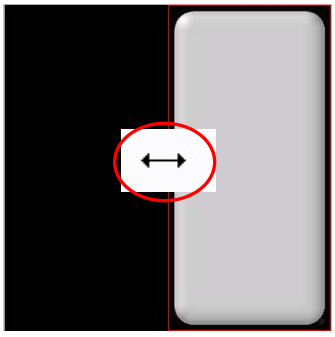
How-To

1. In the Configurator **Lighting** tab, right-click **Keypad Interfaces** in the System Tree.
2. Click **Add New Keypad**. *The Add New Lighting Keypad window displays.*
   a. Type "Theater" in the **Keypad Name** box.
   b. Select **Virtual Keypad** from the **Interface Device** drop-down list.
   c. Select **Empty Virtual Keypad** as the **Keypad Type**.



   d. Click **OK**. *An empty custom keypad bezel displays in the properties window. This keypad is now part if the system and can be seen in the Viewer.*
3. In the properties window, click on the new keypad bezel once to select it- notice that the keypad is outlined in yellow. Click the blank keypad again and notice that the yellow outline turns to red. A red outline indicates that the keypad can be moved or resized.

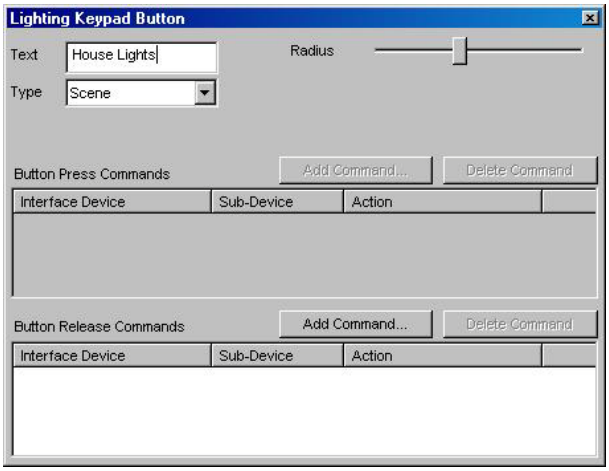
4. Click and hold the mouse over the red line on the left side of the keypad. The cursor will turn into a double-headed arrow, indicating that you can click and drag to resize the selected object. Click and hold your left mouse button, then move your mouse to the right to make the blank keypad bezel take up about half of the black background:



5. Right-click inside the empty keypad at (or near) the spot where you want to add a button and select **Add New Control** from the pop up menu. *A new control appears on the keypad*.

6. Select the New Control by clicking on it with your mouse. *The Lighting Keypad Button properties window displays.*

7. Type **House Lights** in the **Text** field.



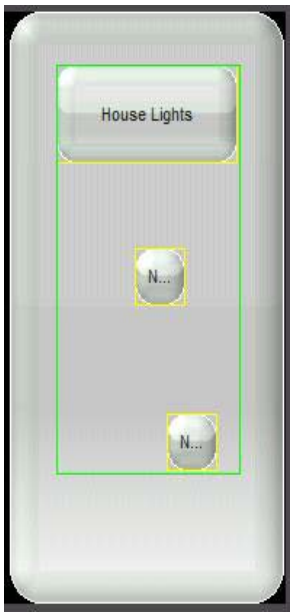
8. Repeat steps 3 and 4, adding two more buttons for a total of three. Name these buttons **Show Movie** and **All Off**.

9. Resize the House Lights button.

   a. Click the House Lights button. *It will be surrounded by a yellow line, indicating that it is the selected object.*
   b. Move the mouse cursor over the yellow line on the left or right hand side.

   The cursor will become a double headed arrow. ↔
   c. Click and hold the mouse button. *The yellow line will turn red, indicating that the button can be resized.*
   d. Stretch the button horizontally until you can read all of the words “House Lights”.

10. Center the House Lights button in the keypad.



   a. Place the cursor to the center of the button.

   The double headed arrow will become a four way arrow. ✥
   b. Click and hold the mouse button again, and drag the button so that it is centered left and right, and in the top third of the keypad.

11. Align the buttons on the keypad.

   a. Click the **All Off** button to select it, then hold the CTRL keyboard key and click the **Show Movie** and **House Lights** buttons to select them. *Individual selected button will be highlighted in yellow, and all three will be surrounded by a green box.*
   b. Right-click the **All Off** button and select **Align Left Edges**. *All of the buttons will line up with the left side edge of the House Lights button. Since the House Lights button was the last one selected in the group it will be the master that the other controls will reference in the following steps* .
   c. Right-click the **All Off** button and select **Make Same Width**. *All of the buttons will become the same width as the House Lights button.*
   d. Right-click the All Off button and select **Make Same Height**. *All of the buttons will become the same height as the House Lights button.*
   e. Right-click the All Off button and select **Space Evenly (Y)**. *This will space the buttons evenly on the Y-axis (vertically).*

Your keypad should now look similar to this:

A few notes about working with the keypad control:

- The last keypad control selected is the "master" for right-click options such as resizing and centering.
- The keypad itself is resizable.
- To move a control, click and drag it to its new location.
- To resize a control, click the red border and drag it in the desired direction.
- Use the radius slide control to make the control more or less round.
- Selected item(s) can be moved "bumped" a pixel at a time using the keyboard arrows.

Lighting Keypad Button Properties Reference	
Text	The word(s) that will appear on the button in the user interface.
Type	Selects the button action. Choices are: **Toggle**- Changes the load or scene from one state to another (on/off) **Momentary**- Typically used for dimming, this will allow configuration of a lighting action based on press and release, such as begin dim/end dim. **Scene**- Activates a group of lighting devices to a pre-configured level. In contrast to the toggle button, pressing a scene button a second time will re-issue the same scene command.
Radius	Click and drag this slide control to the right to make the corners of the button more round; to the left to make them more square.
Button Press Commands	Action to be executed upon button press. Only applies to Momentary button type.
Button Release Commands	Action to be executed upon button release.

Exercise 4: Add Scenes to Keypad Buttons

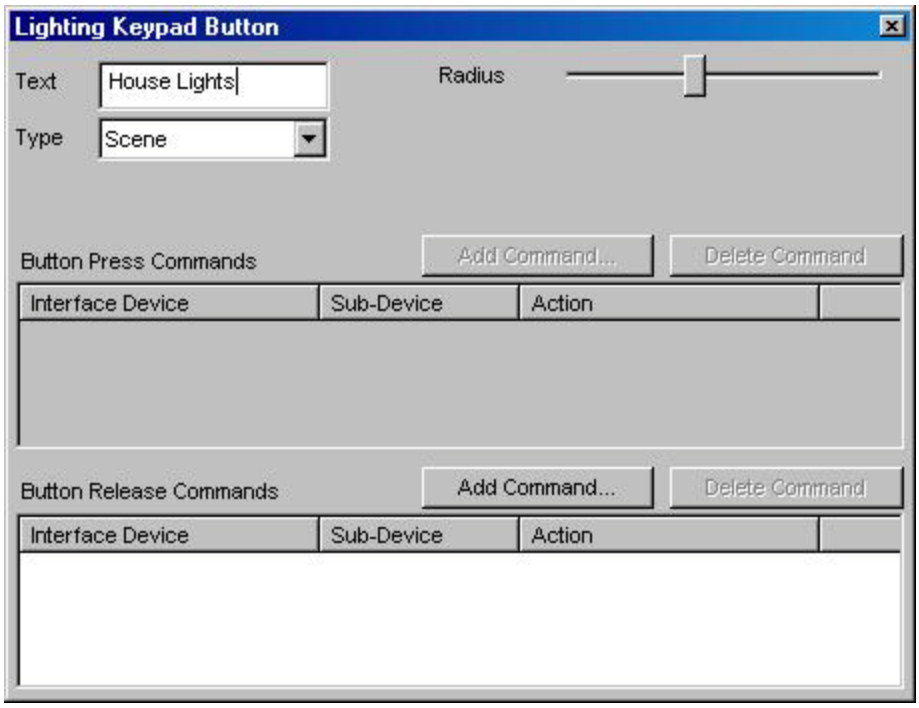
Overview

Before beginning this exercise, be sure that you have completed Exercise 2, *Add the Lighting System and Discover Devices* and Exercise 3, *Add a Custom Keypad.* You will need to associate the lighting loads added in Exercise 2 with the keypad buttons added in Exercise 3.

In this exercise, you will assign lighting loads to turn on at specified levels when buttons on the Custom Keypad are pressed.

How-To

1. In the Configurator, Lighting tab, under **Keypad Interfaces**¸ select the **Theater** keypad interface.
2. Click the **House Lights** button on the keypad. *The Lighting Keypad Button window will open.*

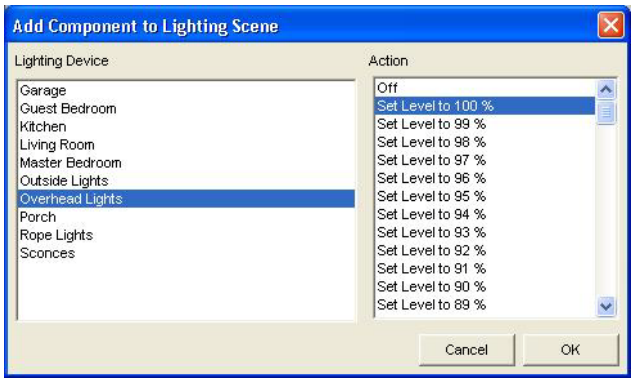


3. Create a scene for the **House Lights** button.

    a. Verify the **Type** is set to **Scene**.

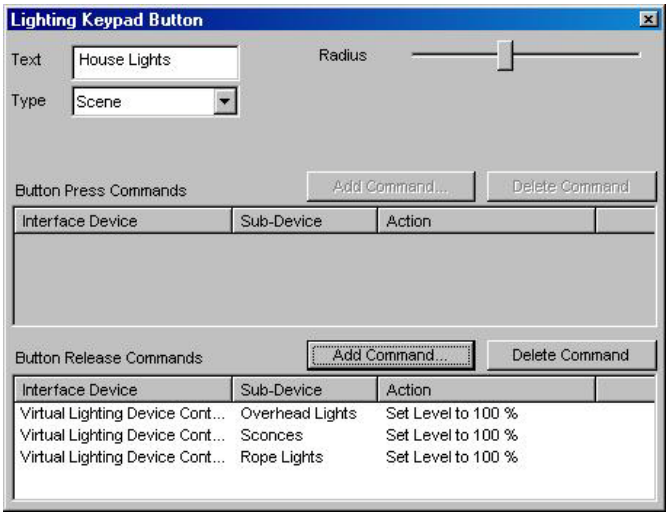
    b. Click the **Add Command…** button in the **Button Release Commands** section. *The Add Component Lighting Scene window opens*.

    c. From the **Lighting Device** column, select **Overhead Lights**, then from the **Action** column, select **Set Level to 100%** and click **OK**.



    d. Click the **Add Command…** again. Select **Sconces** in the Lighting Devices column and set the sconce level to 100%. Do the same for **Rope Lights**.

    e. Close the Lighting Keypad Button properties window.



4. Select the **Show Movie** button, and create a scene for this button as follows:

    a. Set the Overhead and Sconces to “Off”

    b. Set the Rope Lights to 30%.

    c. Close the Lighting Keypad Button properties window.

5. Select the **All Off** button. For this scene, set all three loads we have been working with to “Off”. Close the Lighting Keypad Button properties window.

Exercise 5: Create a Custom Interface

Overview

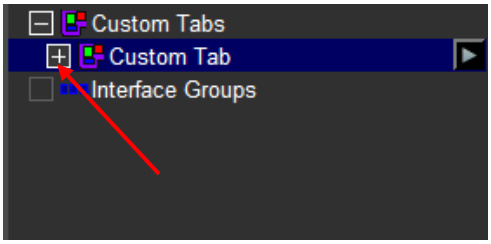
Before beginning this exercise, be sure that you have completed Exercise 2, *Add the Lighting System and Discover Devices,* Exercise 3, *Add a Custom Keypad,* and Exercise 4, *Add Scenes to Keypad Buttons.*

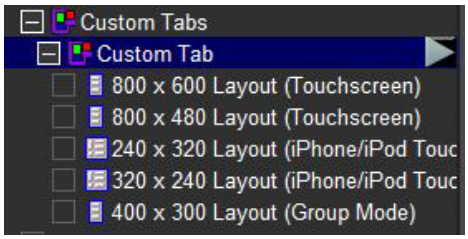
In this exercise, you will create a custom user interface that includes a keypad and some individual lighting controls.

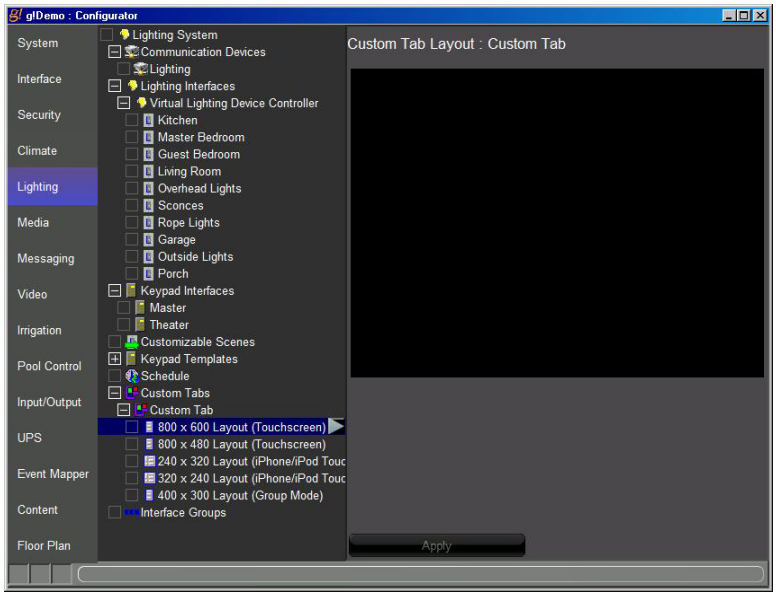
When creating custom User interfaces for a homeowner, it is important to note that you need to create a separate layout for each interface that the homeowner will be using to access their system, such as an in-wall touch screen and an iPhone.

How-To

1. From the Configurator, Lighting tab, right-click **Custom Tabs** in the System Tree, then select **Add New Custom Tab**.
2. Type “Custom Tab” in the **Name** field.
3. Click the + sign next to **Custom Tab**, then select **800 x 600 Layout (Touchscreen)**.



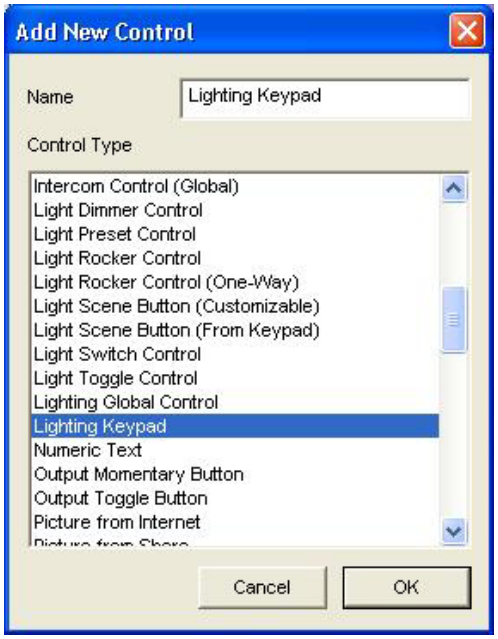




4. Add the Custom Keypad created in previous exercises to the custom tab.

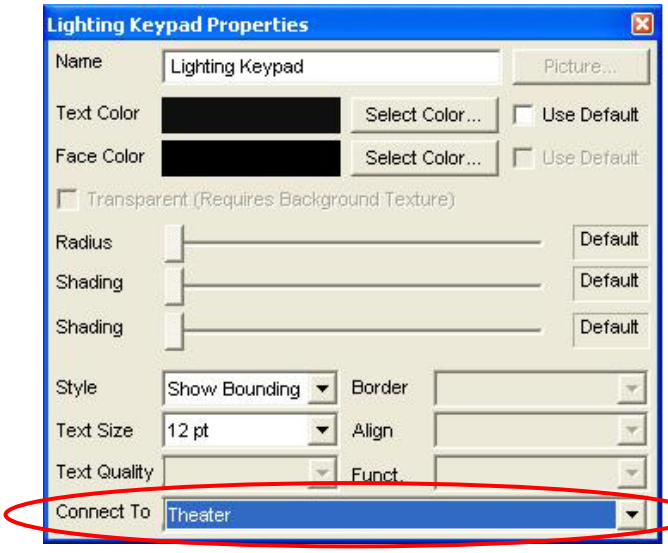
   a. In the blank area in the properties window, right-click and select **Add New Control**. *The Add New Control window opens.*

   b. Select **Lighting Keypad** from the **Control Type** list, and then click **OK**. *A preview box labeled Lighting Keypad will appear on the page.*



   c. Select the box to display the **Lighting Keypad Properties** window.

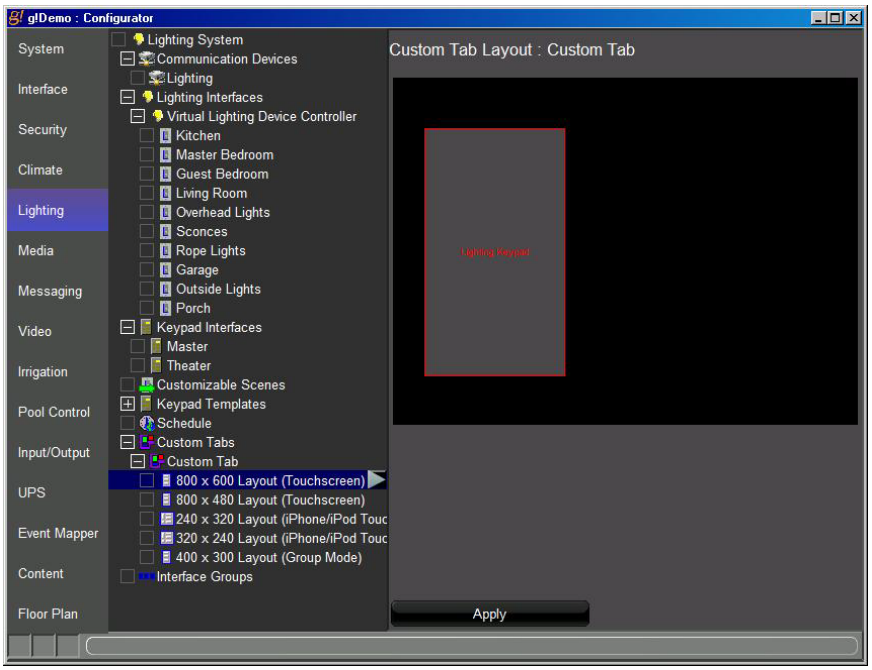
   d. Select **Theater** from the **Connect To** drop-down list. T*his will associate the Theater keypad you created in Exercise 3 with the keypad control on the custom page.*



   e. Close the **Lighting Keypad Properties** window, and click **Apply** at the bottom of the screen.

f. Click the small control again and resize it so that it fills most of the height of the screen. Move it to the left side as shown below.

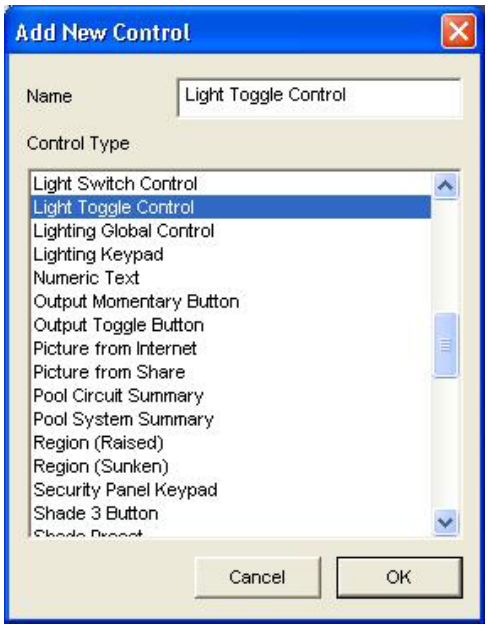
Note: See Exercise 3, *Add a Custom Keypad* for instructions on resizing and moving custom controls.



5. Add buttons for the Garage, Porch, and Outside Lights to the interface to turn these lights on and off.

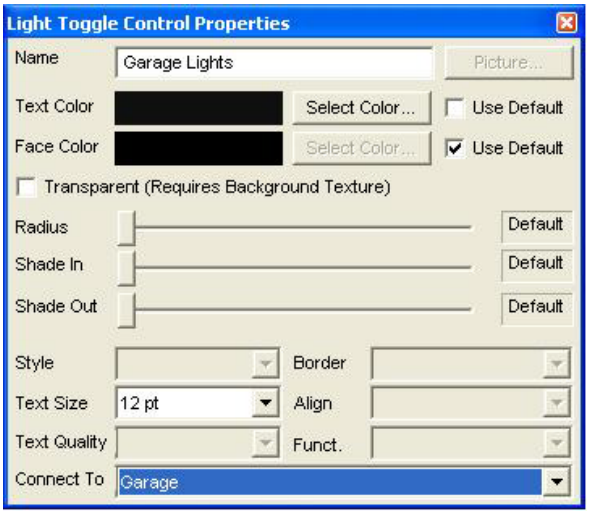
   a. Right-click in the open area to the right of the keypad control you just created, and select **Add New Control**.

   b. Select **Light Toggle Control**, and then click **OK**.



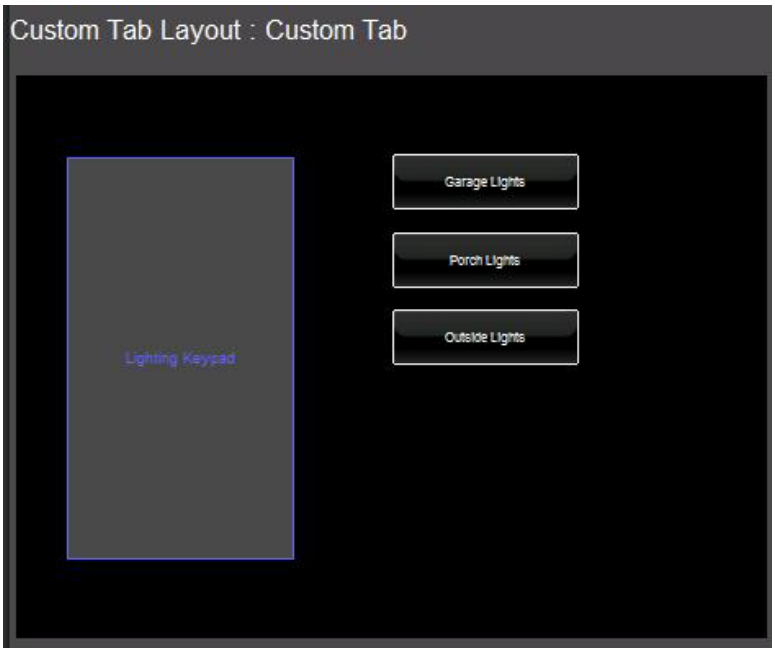
c. Select the Light Toggle Control so that it is highlighted in yellow, and do the following:

- Move the control to the right of the Keypad, and move it up to align with the top of the keypad.
- Name the control “Garage Lights”.
- Select **Garage** in the **Connect To** drop-down list.



d. Add two more Light Toggle Controls underneath the Garage Lights button- one for Porch Lights and one for Outside Lights. Connect each to the appropriate load.

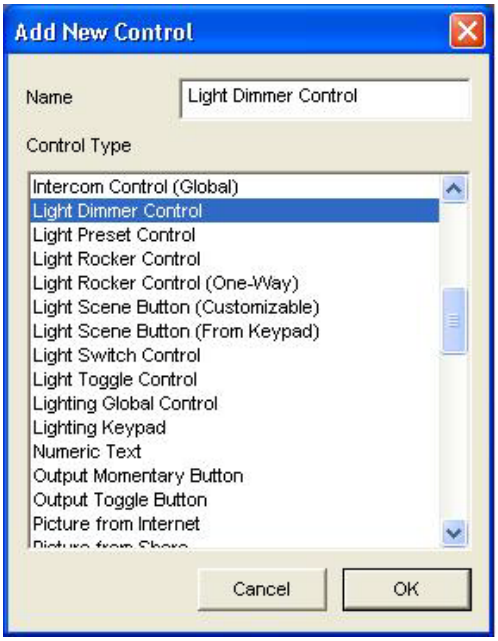
e. Use right-click options to align the left edge of the buttons and space them evenly on the Y-axis. *At this point, the Custom interface should look something like the example below.*



6. Add three Light Dimmer Controls to the Custom interface to control the rope lights, sconces and overhead lights.

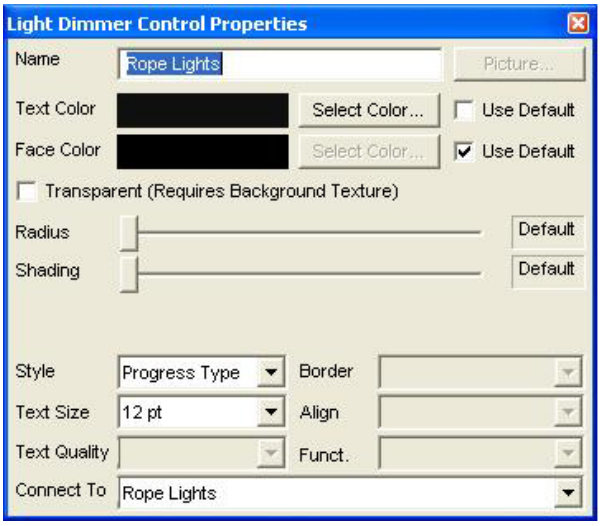
    a. Right-click in the open area below the toggle controls and select **Add New Control**. *The Add New Control window opens*.

    b. Select **Light Dimmer Control** from the list, and then click **OK**.



    c. Select the Light Dimmer Control that is highlighted in yellow and in the Light Dimmer Properties window:

- Name the control “Rope Lights”
- Select **Rope Lights** from the **Connect To** drop-down list.



d. Add two more dimmer controls below the Rope Lights dimmer- one connected to the **Sconces**, and connected to the **Overhead Lights**.

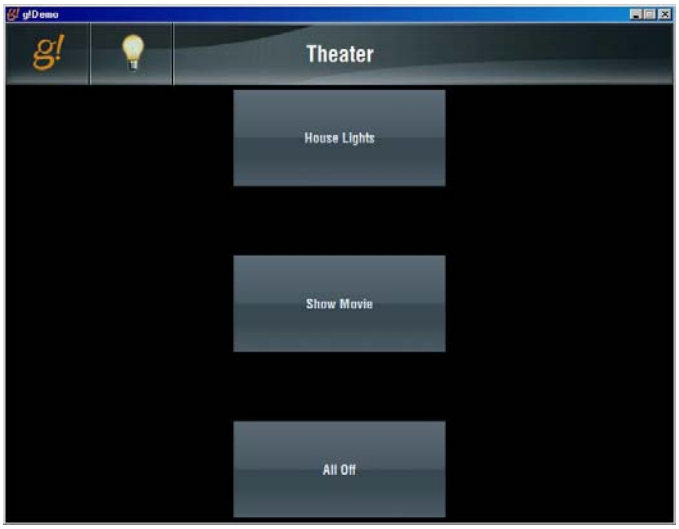
e. Use the right-click menu to resize and align all the three dimmer controls along the left edge and space them evenly on the Y-axis. At this point, the Custom interface should look something like the example below.

Check the Viewer Interface

When you've finished creating the custom interface, check your work in the Viewer.

1. Start the Viewer, from the homepage click the g! icon to access the main menu then click the lighting icon to access the available lighting interfaces. There should be 3 interfaces shown.

2. Click the **Theater** icon. You should see the three button keypad in the center.



3. Click the light bulb to return to the available lighting interfaces then click the **Custom Tab**. You should see the Theater Keypad on the left, the toggle controls on the upper right, and the dimmer controls on the lower right.

Exercise 6: Copy the Custom Tab to a Different Resolution

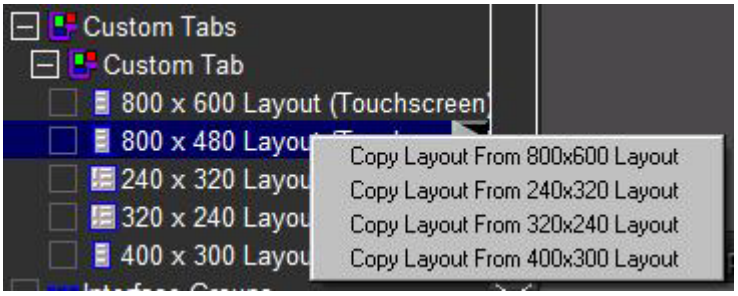
Overview

Before beginning this exercise, be sure that you have completed Exercise 5, *Create a Custom Tab*. In this exercise, you will copy that interface to a new resolution for use on a different type of interface device, an iPhone for example.

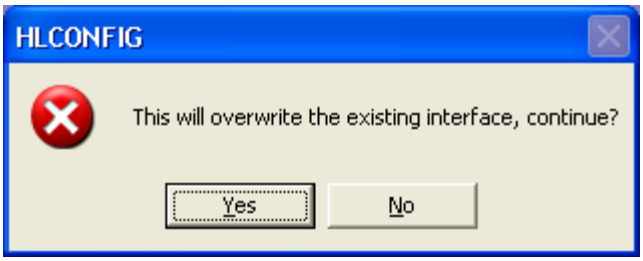
When creating custom user interfaces for a homeowner, it is important to note that you need to create a layout for each interface that the homeowner will be using to access their system, such as an in-wall touch screen and an iPhone.

How-To

1. From the Configurator, Lighting tab, select the Custom Tab created in the previous exercise. Expand the resolution options for this tab if not already expanded.
2. Click the **240 X 320** (iPhone/iPod Touch Layout Portrait).
3. Click the arrow at the end of the 240 X320 Layout line and select **Copy Layout from 800 X 600 Layout**.

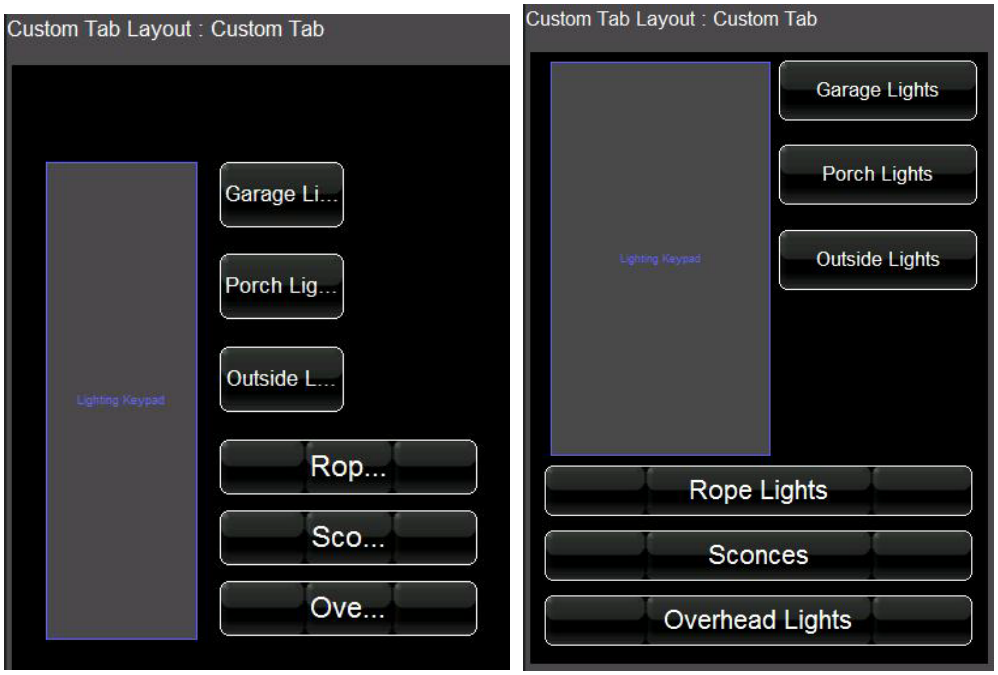


4. Select Yes in the warning message that displays. *There currently is no existing interface for the 240X320 layout, so it's OK to overwrite it.*



5. The custom tab displays in the 240 X 320 resolution.

Note: The custom keypad, buttons, and dimmers are all present, and are already configured as they were for the 800 X 600 resolution but since this interface is smaller some adjustments may be required.



6. Use any of the methods described in the previous exercises to rearrange the interface to be more usable for the homeowner.

   For example:

   - Shorten button names
   - Resize the buttons
   - Move the buttons and/or keypad

Exercise 7: Set up a Schedule in the Viewer

Overview

Lighting scheduling is set up in two parts. First, you create a framework or foundation for the lighting schedules in the Configurator. Then the actual scheduling is set in the Viewer, based on the framework created in the Configurator.

Note: You may choose to hide or show the Lighting Schedule interface from certain touch screens using the Touch Screen Options on the Interface tab in the Configurator. See steps below for details.

Lighting schedule framework is based on House Modes, such as Home or Away. You may choose to create a schedule for each mode individually; create one schedule for all modes; create a specific number of schedules where more than one House Modes will share certain settings, or disable scheduling entirely.

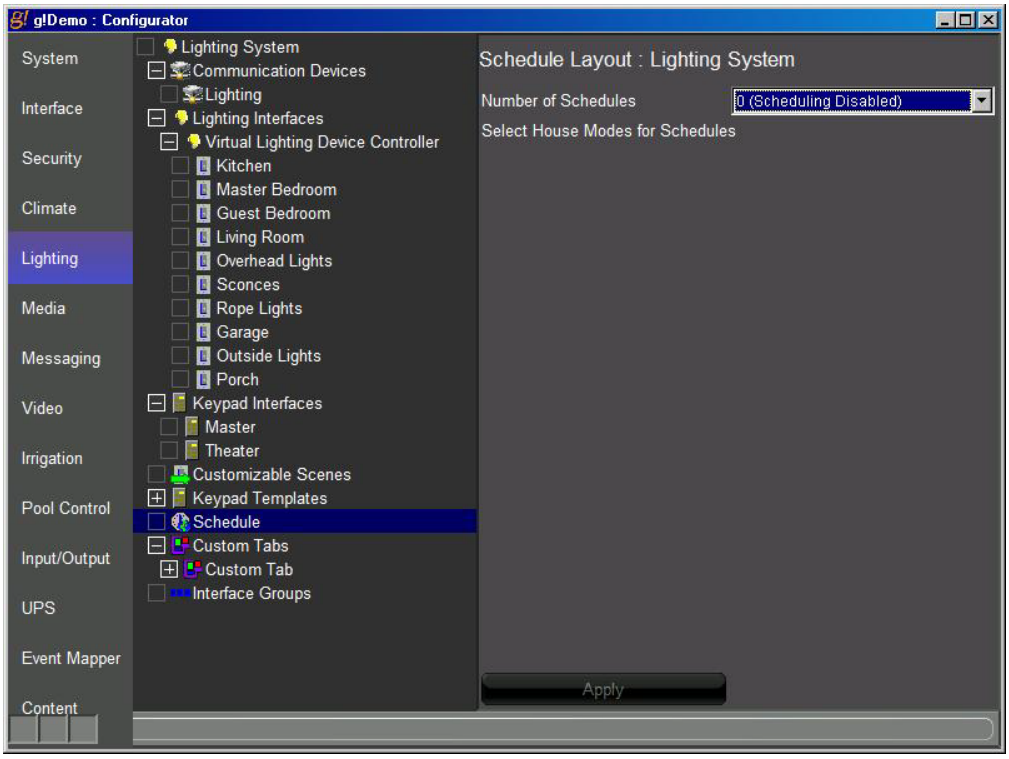
Lighting Periods are then defined by name in the Configurator to provide different times of the day that Lighting schedule changes are executed. Finally, in the Viewer you will define the time of day for each Lighting Period and add lighting commands to be issued at that time.

In the following example we will setup the system to use two different schedules, one for when the system is in Home mode and the second for when it is in Away mode. For each schedule we will configure three lighting periods.

How-To

To configure the number of Schedules to build your framework around:

1. Navigate to the Lighting tab in the Configurator and select Schedule in the System Tree.



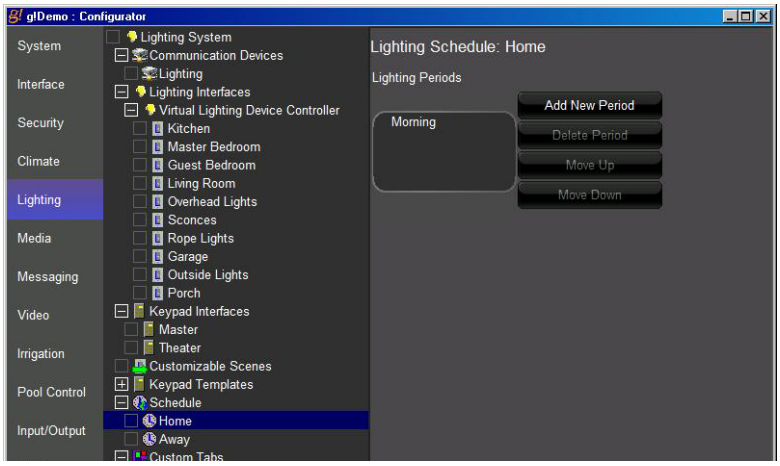
2. To edit the number of schedules, click the **Number of Schedules** field. Select **2 Schedules**.

- If some schedules will be shared by more than 1 House Mode, select the appropriate number of schedules.
  If you want to set a unique schedule for each House Mode, select the same number of schedules as you have House Modes.
  (In the above example, we would choose 2 Schedules)
- To use one Schedule for all House Modes, select 1 Schedule.
- To disable Scheduling on the Lighting tab, select 0 schedules.

3. Select Home for schedule 1 and Away for schedule 2 then click **Apply**.

- In this example, the Home mode will use Schedule 1, and the Away mode will use Schedule 2.

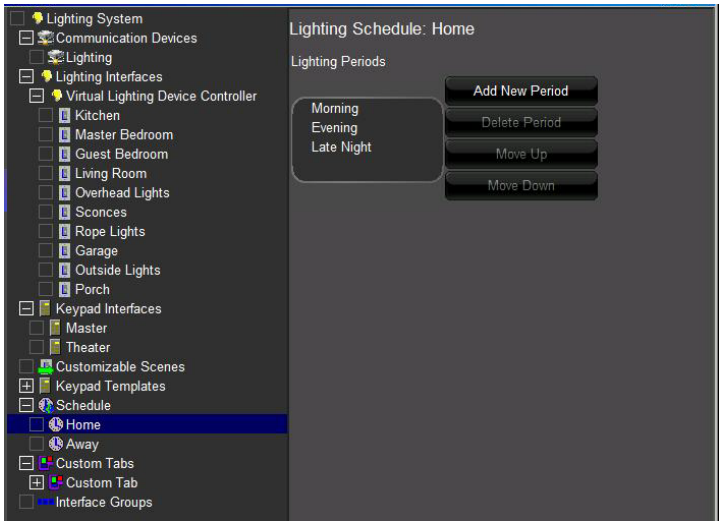
4. Click on **Home** under Schedule in the system tree to add two more periods to the schedule.



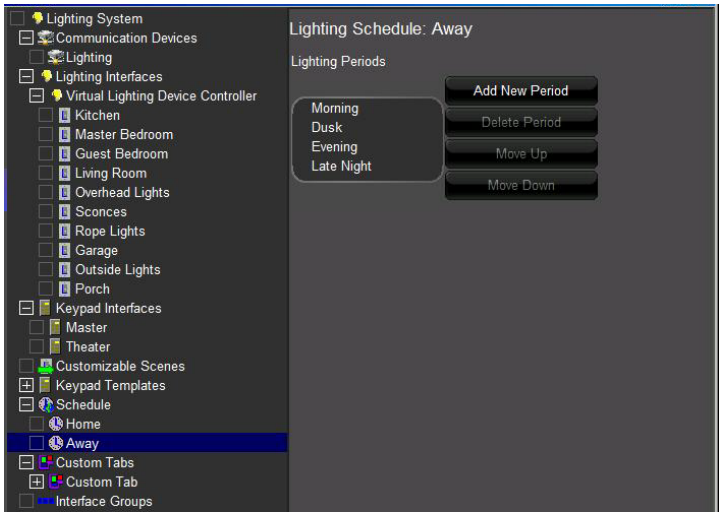
- By default, a Morning period is auto-populated. You may Add New Periods, Delete Periods, and re-order periods using the Move Up/Down buttons. Note that this only creates the framework/naming for schedule periods. The setup for time of day etc. will occur in the Viewer.

5. Click **Add New Period** and enter the name Evening in the window then click **OK**.

6. Repeat the step above to add another period and name it Late Night. Your screen should look as below.

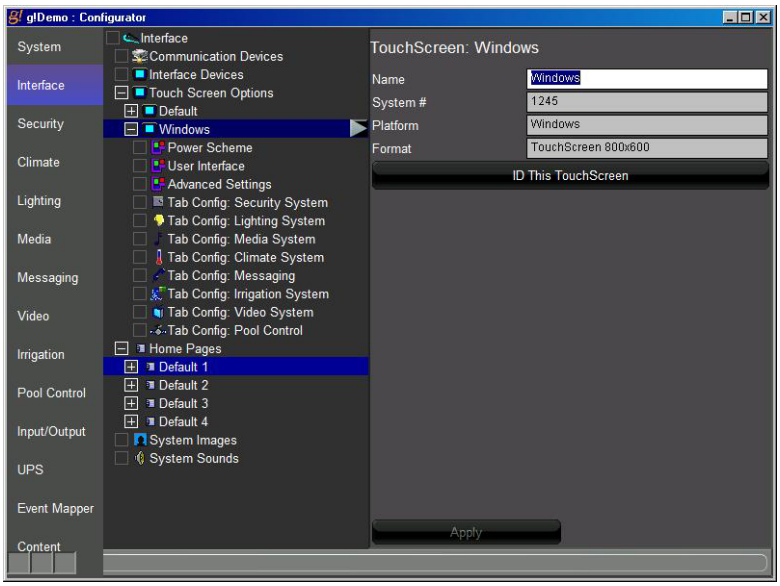


7. Repeat the steps above to add three periods to the Away schedule, Dusk, Evening, and Late Night for a total of four periods as below.



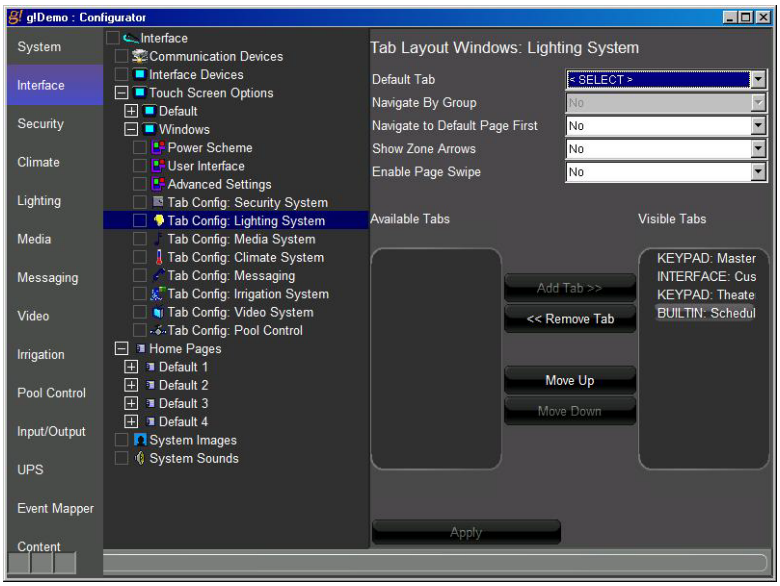
Now that the framework for the Lighting Scheduler is complete you will configure which screens will have access to edit and view the lighting schedule user interface.

8. Click the Interface tab to access the touch screen options then click the + next to the Windows touch screen in the list.



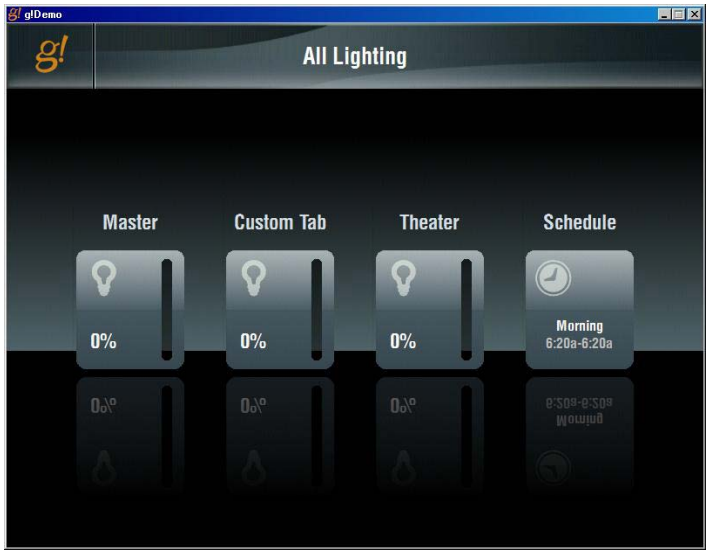
9. Click on the **Tab Config Lighting System** in the system tree to configure the visible lighting devices for your PC.

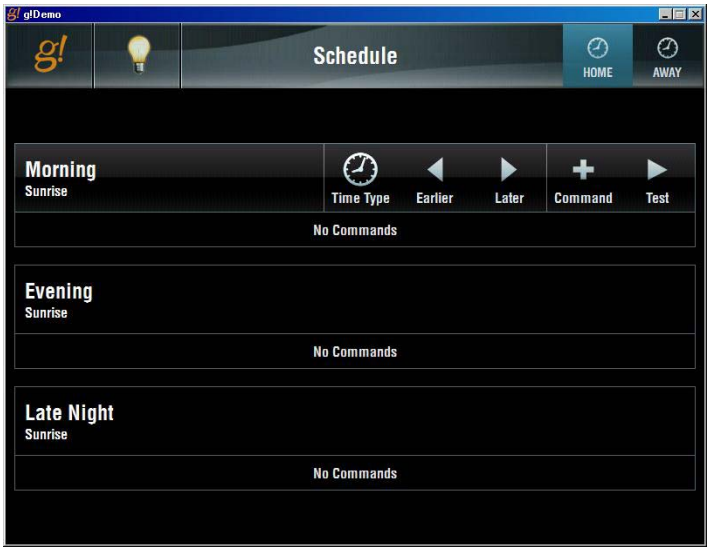
10. Select the **Builtin: Schedule** item listed in the Available Tabs section then click **Add Tab** and click **Apply** to activate the schedule user interface.



In the next steps you will use the Viewer Lighting Scheduler user interface to configure the lighting commands and the times they will be executed.

11. Start the Viewer, click the **g!** icon to access the main menu then click the lighting icon to access the available lighting zones.
12. Click the **Schedule** icon to access the Lighting Schedule page.



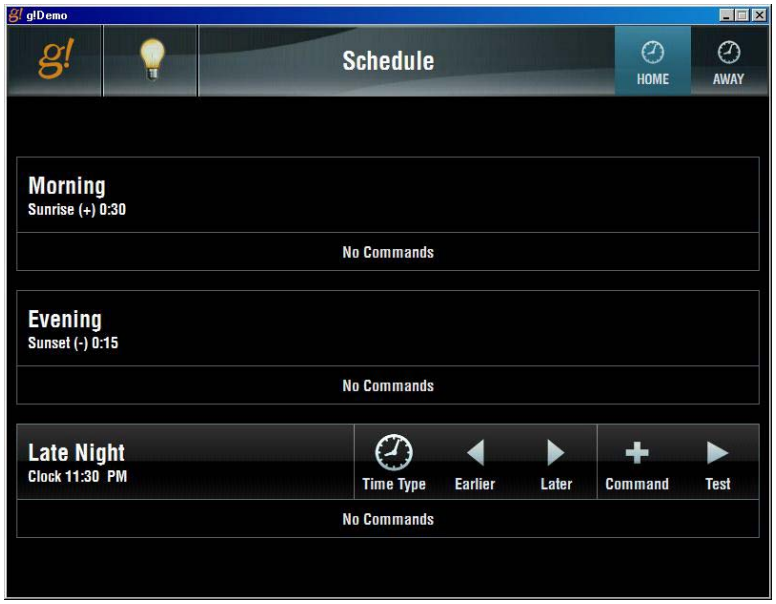


- Notice at the top right you can select to view or edit either configured schedule, with the name depicting the House Modes using that schedule.
- In the main window below that is an area for each scheduled period showing its name and the time it is set to run. By default, all schedules are set to **Sunrise**.
- For each Period there are controls to adjust the time type, time, add commands to the period, and test the schedule.

13. Configure the start times for each period for the Home Mode. Set the Morning period to be 30 minutes after sunrise, the Evening to be 15 minutes before sunset, and the Late Night to be at 11:30pm.

    a. Click the **Time Type** button on the Morning period to cycle through the choices until Sunrise is selected. Then click the right arrow (later) twice to set the morning period 30 minutes after sunrise.

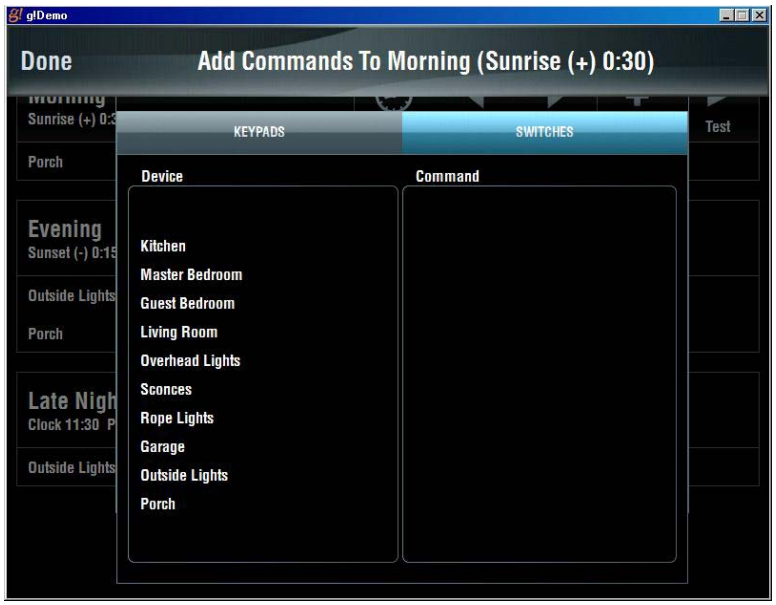
    b. Repeat the step above to set the Evening period to be 15 minutes before sunset and the Late Night to use the clock at 11:30pm. Your screen should now look like the one below.



14. Click on the Morning period then click the **+ Command** button to open the **Add Commands** page.

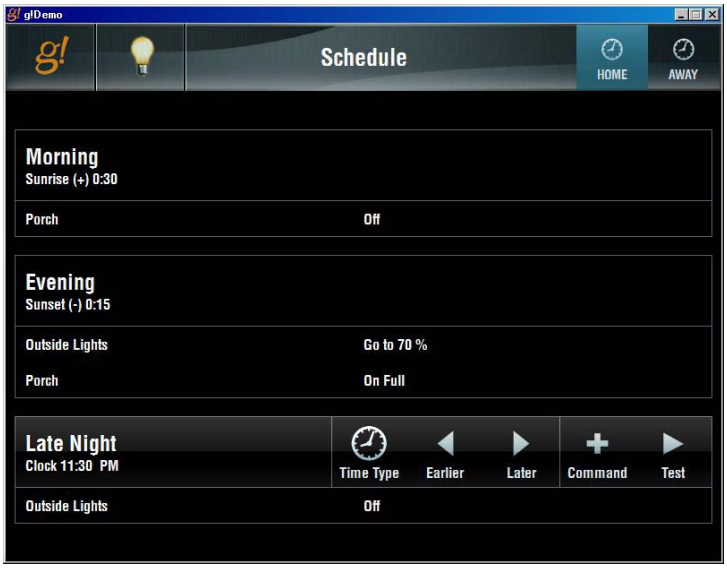
15. Click the **Switches** tab, select **Porch** light then **Off** and click **+ Add** to configure the porch light to turn off in the morning period.

16. Click **Done** in top left to exit the Add Commands page.



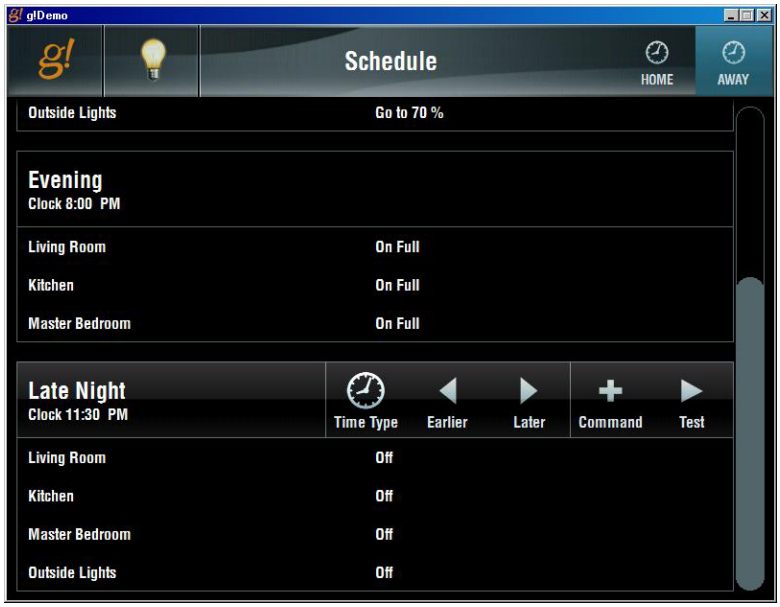
17. Repeat the above steps to add the **Porch Lights-On Full** and the **Outside Lights-Go to 70%** to the **Evening** period.

18. Repeat the steps above to add the **Outside Lights – Turn Off** to the **Late Night** period. Your Home Schedule should now look like the screen below.



19. Repeat the steps above to add the **Away** schedule as follows.

    - Morning: Sunrise +30 min: Porch - Off
    - Dusk: Sunset -15 min: Porch – On Full, Outside Lights – Go to 70%
    - Evening: 8pm: Living Room, Kitchen, Master Bedroom – all On Full
    - Late Night: 11:30pm: Living Room, Kitchen, Master Bedroom, Outside Lights – Turn Off



Notes:

Lesson 6
IR Control

Overview

You will:

- Learn how to configure a Global Cache for IR Control.
- Learn how to use the GC-IRL to learn IR codes directly into the g! software.
- Learn how to check, test and optimize an IR device.
- Understand Universal Functions and how they apply to IR devices and Interfaces.
- Import an ELAN IRF from the Common Resource Library.
- Import HomeLogic HIR file.
- Learn how to configure the built-in TV Channel Favorites interface.
- Add IR Controlled Sources.
- Add IR Controlled Displays.
- Learn how to export and import IR settings.

Requirements

- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

Overview

Overview

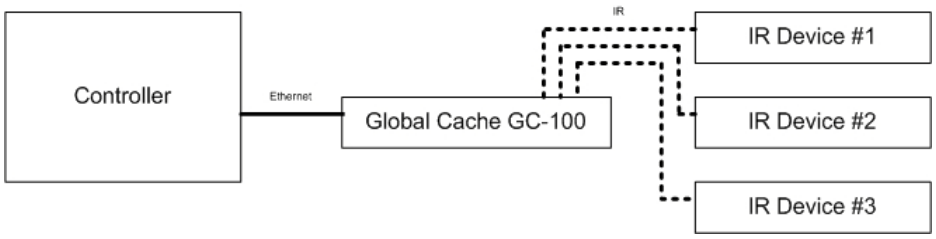
In this lesson you will add IR controlled devices to the Configurator. An IR Device is set up on the Input/Output tab of the Configurator and includes all of the IR codes that are required for control of the device. The IR code set that is added in the Input/Output tab is used as a code database by the rest of the system.

IR controlled sources in the g! software require an IR Device and a customizable interface. IR controlled displays in the g! software require an IR Device and a customizable Generic Display.

IR Devices may also be used for control of unsupported zone controllers or non-AV equipment, though it is strongly recommended to use supported 2-way zone controllers.

In the following Exercises, you will add IR controlled sources and displays to Configurator.

The following diagram shows how the g! software communicates with IR Controlled source equipment schematically. The diagram includes the components that are important to the ELAN controller:



Terms

The following terms are used in the Configurator:

- **IR Device**: The IR device contains all pertinent information for a device being controlled by IR. This includes settings such as toggle bits and all IR codes.
- **IR Code**: The container for the specific hex (CCF) code that is sent to issue a command via IR. IR Codes also contain settings for the number of repeats and Universal Function, and information on the carrier frequency of the code.
- **Default Code Set**: The “template” of code blanks to use as a starting point when learning IR codes. Default code sets contain a list of codes with appropriate Universal Functions for you to learn codes into.
- **IR Sender**: The port an IR emitter is connected to, and codes should be sent out of by default. IR devices typically have a **Default Sender** selected.
- **Interface:** The customizable button layout that makes up the user interface in the Viewer to issue IR commands to the IR controlled devices.
- **Control:** A control is an object such as a button or group of buttons that can be added or removed to the user interface.
- **Universal Function:** A pointer used to map controls on an interface to their associated commands in the IR device.

How-to

To integrate an IR Device:

- Add the Global Cache device to send IR
- Add the IR Device
- Learn or import the IR codes for the device
  - IR Codes can be learned directly into the g! software using the Global Cache GC-IRL tool
  - IR Codes may be imported from:
    - The Common Resource Library
    - ELAN IRF format files
    - HomeLogic HIR files
- Optimize and test IR Codes
- Backup the IR Device (if desired)
- For sources:
  - Add the Interface
  - Customize the Interface (as needed)
  - Configure the Zone Controller for the sources and interfaces (See the lessons on Distributed AV and Home Theater for details)
- For Displays:
  - Add a Generic Video Display
  - Map IR commands to display
  - Add the Display to a zone on the Zone Controller (See the lessons on Distributed AV and Home Theater for details)

Exercise 1: Configure a Global Cache for IR Control

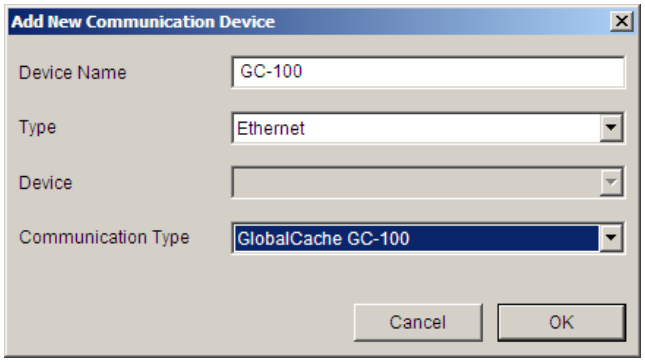
Overview

The Global Cache is an important part of many AV systems. It is an Ethernet device that allows the g! software to send IR commands to various system components. Adding the Global Cache to the Configurator is covered in the following steps.

Note: This exercise can be followed if you are running g!Demo or if you have an actual Global Cache powered up and on your network. See the *Global Cache Integration Note* for additional information.

How-to

1. In the Configurator, navigate to the **Input/Output** tab.
2. Right-click **Communication Device** and select **Add New Communication Device** from the menu. *The Add New Communication Device dialog box is displayed.*
   a. Name the new Communication Device "**GC-100**".
   b. From the **Type** drop-down list, select **Ethernet**.
   c. From the **Communication Type** drop-down list, select **Global Cache GC-100**.
   d. Click **OK**.

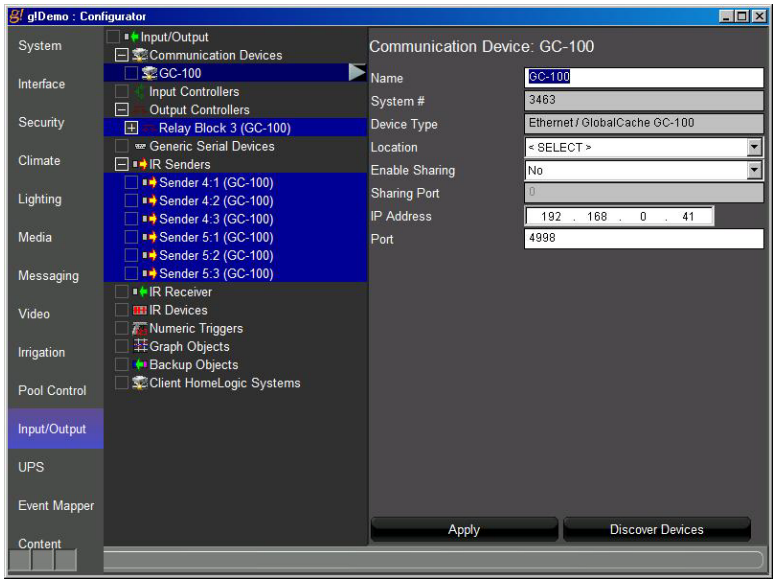


Quick Reference: Add New Communication Device	
Device Name	Enter a name for the external device. This can be any name, but should be descriptive so that you can identify this specific device in the Configurator. DO NOT leave this field set to "New Device".
Type	The type of connection you are using, such as serial port or Ethernet.
Device	This field will populate only if needed, depending on the selected Type.
Communication Type	This is the protocol of the communication. See the *Integration Note* for the specific device for more information.

3. In the properties window, enter the actual **IP Address** for your Global Cache, and then click **Apply**. If you purchased your Global Cache from ELAN then the static IP address will be listed on a sticker on the device.

Demo Note: If you are running g!Demo, do not enter an IP address and skip to the next step. In an actual install, you will need the correct IP address.

4. Click the **Discover Devices** button at the bottom of the properties window. *After a moment, the IR Senders and Output relays will populate in the Configurator:*



Note: This example shows a Global Cache GC-100-12 or 18.

A GC-100-6 has three IR senders and one COM port.

GC-100-12 and GC-100-18R have six IR senders, two COM ports and three relays.

See the Global Cache Integration Note for additional information.

Exercise 2: Add an IR Device and Learn Codes Using the GC-IRL

Overview

The Global Cache IR Learner tool, or GC-IRL, is used to learn IR codes into the g! software directly from an OEM or universal IR remote control. It connects to a serial port, which is typically located on the programmers' PC, but can be on the HomeBrick or the Global Cache itself.

In this exercise, you will add a new IR device for a Satellite Box and use the built-in g! IR learning functionality to assign IR codes for each function.

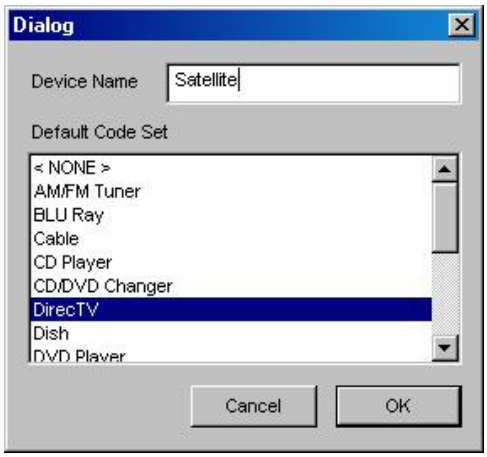
If you are running g!Demo or if you do not have a GC IRL and a remote, you will not be able to perform all the steps in this exercise. However, it will still be helpful to read through these steps and understand the process. All steps, minus the actual code learning, are possible without this equipment.

How-to

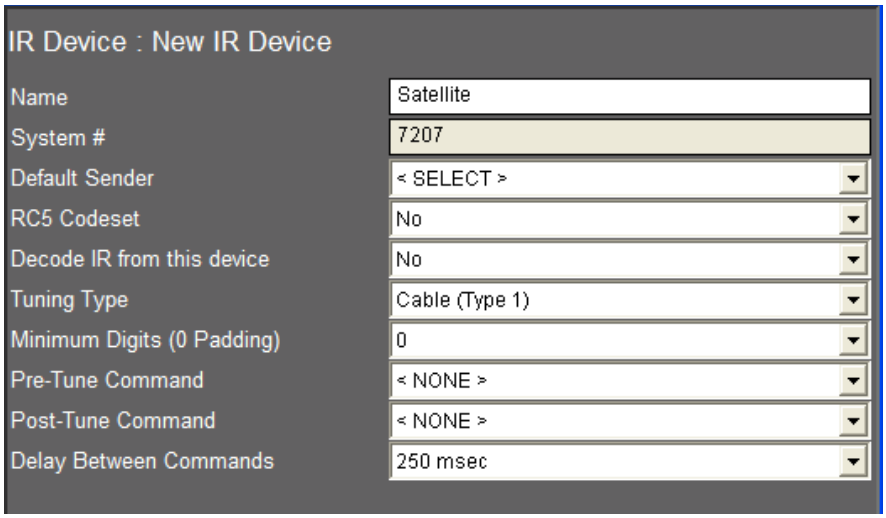
Step 1: Add an IR Device.

The IR Device will include all the pertinent details for the device being controlled, including settings such as the emitter port on a Global Cache, repeat counts, toggle bits (if needed), and the IR Codes themselves.

1. In the Configurator, go to the **Input/Output** tab.
2. Right-click the **IR Devices** heading in the system tree and select **Add New IR Device…** *The Add New IR Device Window will open.*
   a. Select **DirecTV** from the list of **Default Code Sets**. The Default Code Set will pre-populate a list of code blanks to learn the actual IR into.
   b. Change the **Device Name** to "**Satellite**":



   c. Click **OK**. *A new IR Device named "Satellite" is added.*



IR Device Quick Reference:	
Name	Sets the name of the device. The name can be changed to reflect the devices location or for enumeration, for example “Satellite 1” or “Master Bedroom Cable Box”
System #	Unique, read-only number assigned by the g! software for internal use.
Default Sender	Drop-down field used to assign the physical IR flasher attached to the device.
RC5 Codeset	Field used to turn IR Toggle bits on or off. Default value is **No**.
Decode IR from this Device	Set this to “Yes” if there is an IR Receiver in a zone and the system should watch for incoming codes from this device for triggering event maps or universal functions. Default is **No.**
Tuning Type	For use with TV Channel Favorites. Drop-down field used to differentiate between devices with different channel assignments. Available options are Antenna, Cable (Type 1), Cable (Type 2), Satellite (Type 1) and Satellite (Type 2). Note that these type names are arbitrary assignments, and the names are provided for reference only. A Satellite box will still perform as expected if the Tuning Type is set to Antenna. Default is Cable (Type 1).
Minimum Digits (0 Padding)	For use with TV Channel Favorites. Drop-down to select the minimum number of digits the device will accept as a channel number. If this is set to “3” and a single digit is entered for the TV Channel Favorite, the system will “Pad” the command by adding two “0” characters at the beginning of the IR stream. Default is “0”

Pre-Tune Command	For use with TV Channel Favorites. Use this drop-down to select a command to send before Direct Tuning. Default is **< NONE >**
Post-Tune Command	For use with TV Channel Favorites. Use this drop-down to select a command to send after Direct Tuning. Default is **< NONE >**
Delay Between Commands	For use with TV Channel Favorites. Set this value to the desired interval between Direct Tuning commands. Default is **250 msec**.

3. In the properties window of the Satellite IR device, select **Sender 4:1 (GC-100)** as the **Default Sender** for this IR Device.
4. Click **Apply**. This tells the controller that the emitter for the satellite is connected to Port 1 on the Global Cache device.
5. Click the "**+**" sign to the left of the device to expand the list of IR Commands. *The Placeholders for commands for a typical IR controlled Satellite box are shown:*

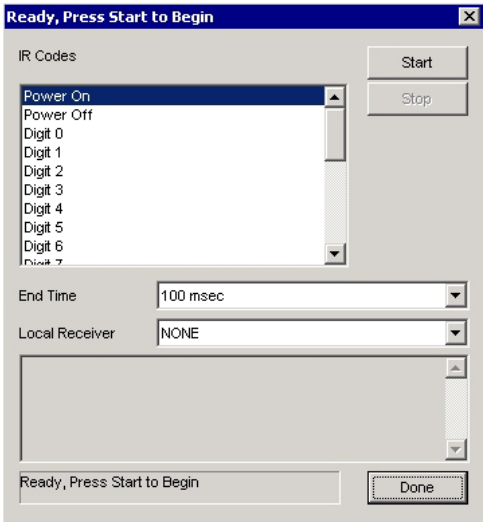
Note: In a real installation, this would be a good time to look through the codes listed in the Default Code Set and compare them to the functions on the remote. If you wish to add commands that aren't already populated, it will be easier to add them now and learn them in all at once, rather than learn the additional commands individually later.

For details on adding commands, see **Step 3** below.

Step 2: Learn IR Codes.

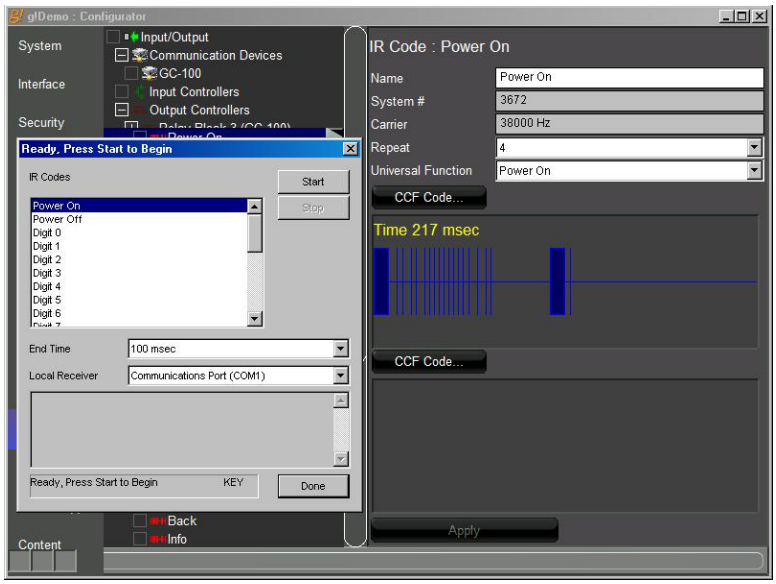
The next step in creating an IR Device is to learn the actual IR codes into the code blanks using the GC-IRL. If you do not have an IRL and remote, then follow these steps for reference only.

1. Attach the GC-IRL to a COM port on your PC. Make sure that the light on the learner is off. If the light is on, the COM port is already in use by another piece of software on your PC, and you will not be able to learn IR Codes.
2. Right-click the **Satellite** IR device and select **Learn IR Codes** from the menu. *The IR Learning window is displayed, with the words "Ready, Press Start to Begin" at the top:*



Note: By default, the **End Time** is set to **100 msec**. This value can be reduced to help capture codes from remotes with shorter pauses between repeated commands.

3. From the **Local Receiver** drop-down, select the COM port to which the GC-IRL is connected on your PC.
4. Click **Start**. *The light on the GC-IRL should turn on, and the window heading will change to reflect the IR code that is being learned.*
5. Holding the remote 6" from the IRL, point the remote control at the GC-IRL and press and release the button that corresponds to the key referenced at the bottom. *The waveform will flash in the background as the code is learned.*



6. When the code is received, the learning utility will capture and process the code, then automatically advance to the next code in the list. Continue until all codes are learned, then click **Done**.

Note: If you make a mistake and learn a code into the wrong spot, you can go back and re-learn the individual codes one at a time. To do this, first complete learning the remaining codes in the list and click **Done**. Then, right-click the individual code in the system tree and select **Learn this Code**.

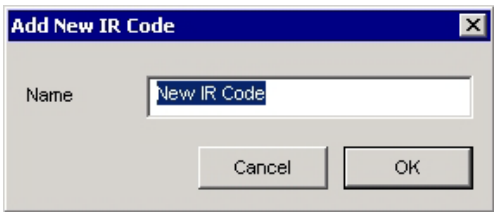
Step 3: Add additional IR Codes.

During the process of learning all the codes contained in the Default Code Set for DirecTV, you may notice that some buttons on the remote were never asked for, and aren't included in the Default Code Set. If there are codes you wish to use in the g! software that did not exist in the Default Code Set, you can add these codes manually as follows.

In the following steps, you will add a new IR command and learn the code.

1. If the list of commands for the Satellite IR device is not already visible, click the "**+**" sign next to the IR device to expand it.

2. Right-click any existing command in the list and select **Add New IR Code…** from the pop-up menu. *The Add New IR Code dialog box will be displayed:*



3. Enter a descriptive name for the new code and click **OK**. *The new command is added at the bottom of the list and its properties are displayed on the right.*

Quick Reference: IR Code Options	
Name	Sets the name of the IR Code.
System #	Unique, read-only number assigned by the g! software for internal use.
Carrier	Read-Only field which displays the frequency of the IR Code
Repeat	Drop-down selecting the number of times the code is repeated for a single button press. In many cases, this should be changed to 1. All of the Repeat Counts for a device can be changed by right-clicking the IR device and selecting Set Repeat Count for All Codes…. Default value is **4**.
Universal Function	Used for mapping the IR code to controls in an interface.

4. Right-click the **New IR Code** and select **Learn this Code…**
5. From the **Local Receiver** drop-down, select the COM port to which the GC-IRL is connected.
6. Click **Start**. *The light on the GC-IRL should turn on, and the window heading will change to reflect the IR code that is being learned.*
7. Point the remote control at the GC-IRL (at a 6-inch distance) and press and release the appropriate button.
8. After the code is received, click **Done**.

Exercise 3: Check and Optimize Codes

Overview

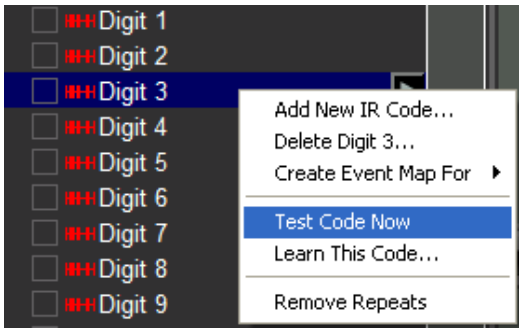
The following steps explain how to verify all settings and IR codes. These steps also include reference examples for troubleshooting bad IR codes.

How-to

1. **IR Testing.**
   Testing an IR Code can be done directly from the Configurator. It is important to test your codes after learning them to ensure proper operation.

   a. Right-click the code you wish to send, and select **Test Code Now**. *The IR Code will be sent using the Default Sender.*

   b. Verify that the device responds to the code properly and does not repeat.

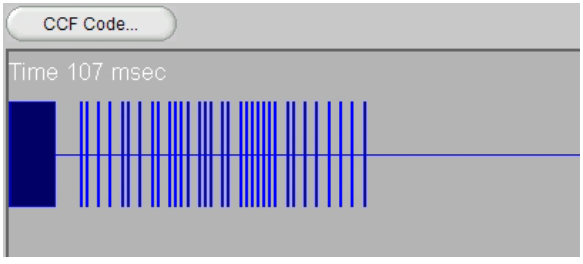


Note: It is good policy to test all IR codes learned into the system. Since g!Demo install is simulating equipment, we cannot know the effectiveness of our command. In a real install, you should check for proper reactions. See the steps below for details on spotting when the code itself is the problem.

2. **Spotting and Fixing Bad IR Codes.**
   The following steps show you how to spot good and bad IR Codes, and how to fix bad codes.

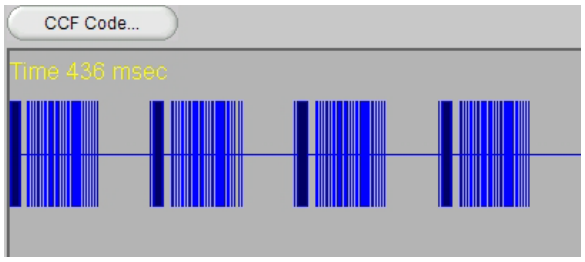
   Example 1: Good IR Code

   The following image is an example of the waveform view of a good IR code. Note that the time is *less than* 200 msec:



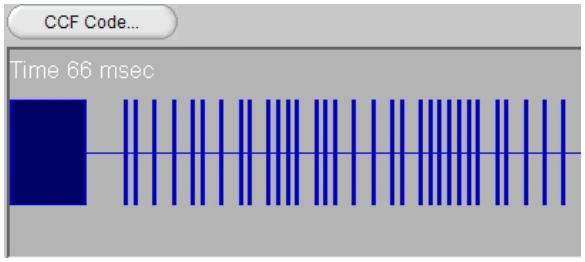
Example 2: Bad IR Code- Code repeated several times

How to spot: The following image is an example of a **bad** IR code. Note that the time is well *over* 200 msec, and the font color of the displayed time has turned yellow. In the image, the code itself is repeated multiple times.



Why it happens: Codes like this can occur due to holding down the button too long when learning, or having the End Time on the Learn IR Codes window set too high.

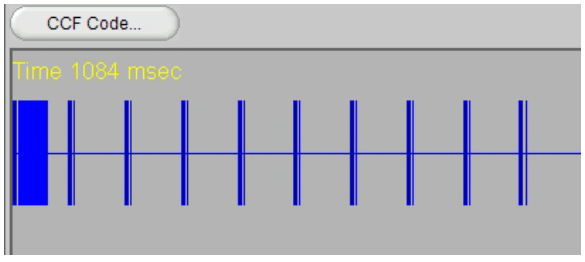
How to fix: The Configurator provides a built-in tool to fix codes such as this. Right-click the IR Code in the System Tree and select the option to **Remove Repeats**. The Resulting code will look like this:



Example 3: Bad IR Code- Extra vertical lines

How to spot: The following image is another example of a bad IR code. Note that the time is well over 200 msec, and the font color of the displayed time is yellow.

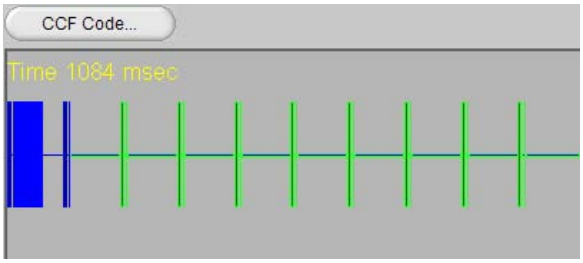
The large block at the beginning of the line is the actual code. The vertical line groupings after the first block are repeated termination strings sent by the remote.



How to fix: To fix a code that looks like this, perform the following steps:

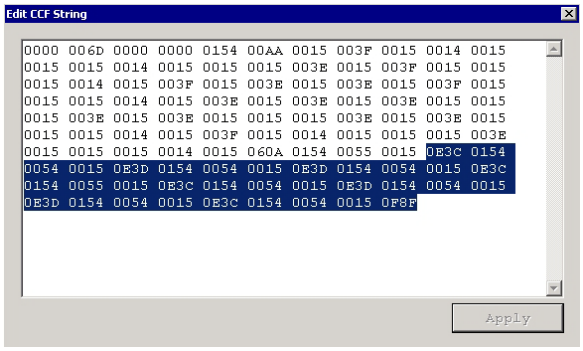
a. Using your mouse, click on the horizontal center line at the **far right** of the waveform.

b. Continue to hold down the mouse button, and drag the mouse to the right. *The waveform will begin to highlight green:*



c. Continue to highlight the waveform, **leaving the last termination string unselected** as in the image above.

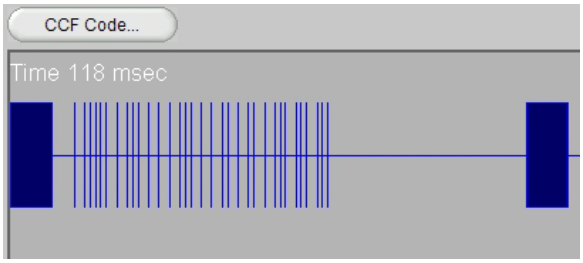
d. Click the **CCF Code** button above the image. *The CCF Code Window will open:*



The highlighted text in the CCF code string corresponds to the highlighted portion of the waveform view.

e. Press the **Delete** key on your keyboard, then click **Apply**.

f. Close the window and observe that section of the CCF Code was removed and the waveform is changed:

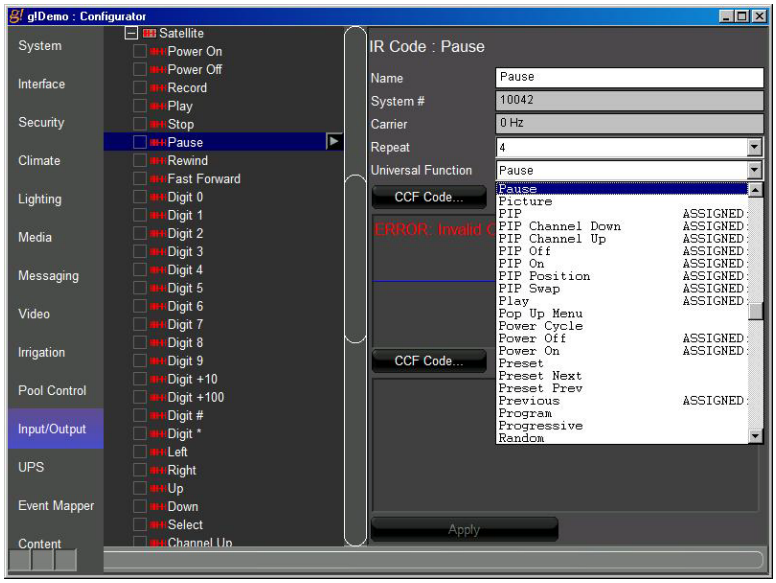


Note: If you cannot get codes to work after editing out suspected bad sections using the steps above, try re-learning the code.

3. **Setting Universal Functions**.
The g! software uses a concept called **Universal Functions** to assist in mapping interface buttons to their respective commands. In the following steps you will verify that all the Universal Functions are set correctly.

   a. Select the first command in the list. *The properties window for the IR Code is displayed on the right:*

   b. In the IR Code: properties window, select the appropriate from the **Universal Function** drop-down, then click **Apply**. If there is not a match for the code you are using you can either set it to <None> or you can assign it to one of the User functions.

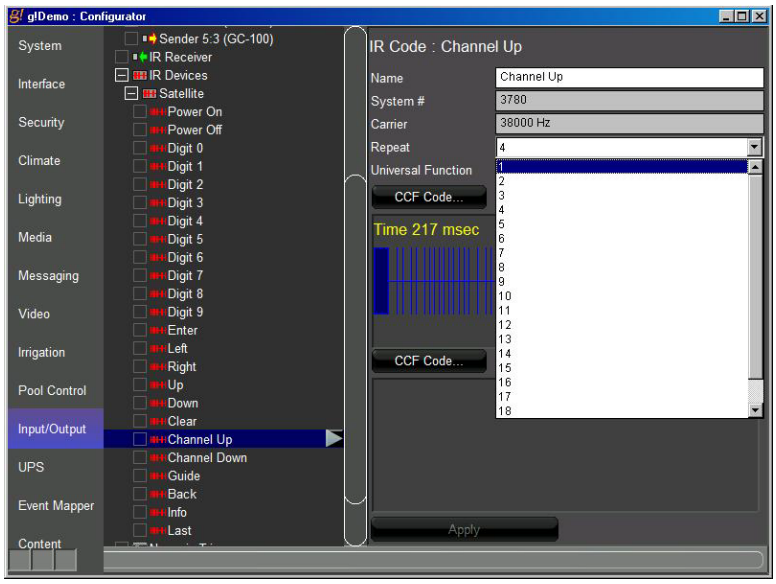


   c. Confirm that the Universal Function for the other codes are all set correctly to ensure proper mapping. Note that codes added as part of a Default Code Set should all have proper mapping already. Note the drop down list will indicate which functions have already been mapped within the IR Device to help avoid and duplicate functions.

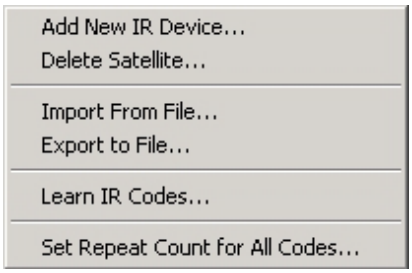
4. **Set proper Repeat Counts**.
By default, all IR commands have their Repeat Count set to **4**, meaning the IR Code is sent four times every time it is issued. In many cases, this may be desirable to ensure that the IR Command is issued successfully. However, if a repeating code causes undesired behavior when the IR code is sent- for example, sending the Channel Up command results in the channel incrementing by four, you may need to change the Repeat Counts for the code.

   a. Select the code in the Configurator.

   b. In the properties window for the selected code, change the selected number in the **Repeat** drop-down as needed and click **Apply**.



Note: All of the Repeat Counts for a IR device may be changed at the same time by right-clicking the device itself and selecting Set Repeat Count for All Codes.



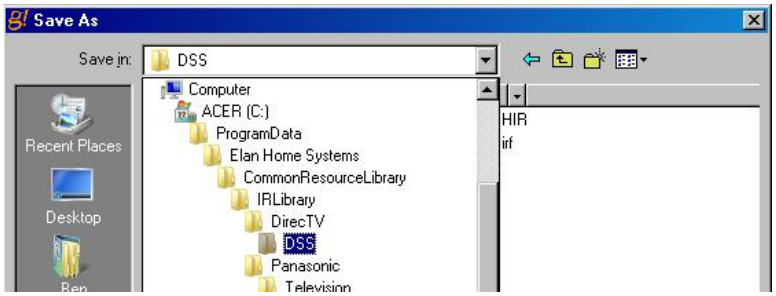
Exercise 4: Export IR File

Overview

Now that the IR Device has had all codes tested and optimized, and all proper mapping completed, it is a good idea to export a copy. The exported file can be imported again to this system, if you were controlling multiple identical devices, or imported to another system at a later date if you will reuse this device in a future job. It is recommended that you import your files to an appropriate folder in the **ELAN Common Resources Library** so that they will be easy to find when you need them.

How-to

1. In the Configurator, go to the **Input/Output** tab.
2. Right-click the **Satellite** IR device and select **Export to File** from the menu. *The Windows Save As Dialog box opens:*



3. Navigate to the appropriate folder on your PC where you would like to save the file. For this exercise, select the DirecTV folder in the ELAN Common Resources Library as shown above.

Note: The ELAN Common Resources Library installs the data files into a hidden directory. You may need to select “show hidden files and folders” from your explorer folder options dialog box to be able to browse directly to it. Alternatively you can create a shortcut on your desktop to the directory to access the folders.

4. In the File **Name** field, type “**Satellite**”, then click **Save**.

Note: Saved file names should be as descriptive as possible and include manufacturer, model number and device type so that they will be easy to find when you have many saved devices.

Exercise 5: Create and Customize an Interface for an IR Source

Overview

Now that you have created an IR Device with all proper settings and codes for your source device (Satellite Box), you must create an Interface to control the device using these IR codes. You will create the interface on the Media tab, and add it as a source to a zone controller in a later lesson. This will enable source selection on the zone controller, and display the interface in the Viewer to allow control of the IR source device.

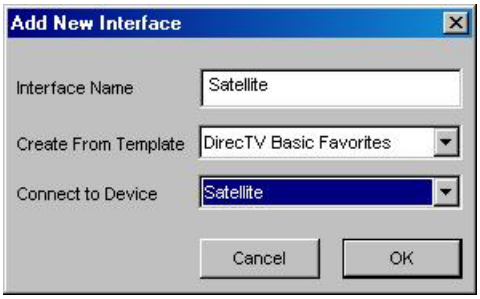
The g! software provides multiple templates to use as starting points for controlling your IR devices. While these templates will cover the most common controls, you may want to customize the interface in order to provide additional functionality. This is accomplished by adding controls to the default interface and then arranging the layout appropriately.

Note: To preview what controls exist on the built-in templates, navigate to Interface Templates on the Media tab in Configurator.

In this exercise, you will add an interface for a Satellite box using a predefined template, and then customize it by adding a new button.

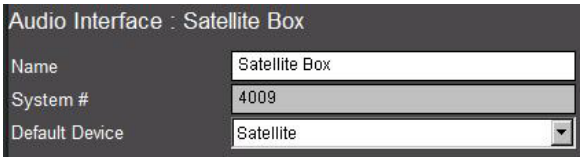
How-to

1. Navigate to the **Media** tab in the Configurator.
2. Right-click **Keypads and Interfaces** and select **Add New Interface** from the menu.
    a. Name the new interface "**Satellite Box**".
    b. From the **Create From Template** drop-down list, select **DirecTV Basic Favorites**
    c. In the **Connect to Device** list select **Satellite.**
    d. Click **OK**.



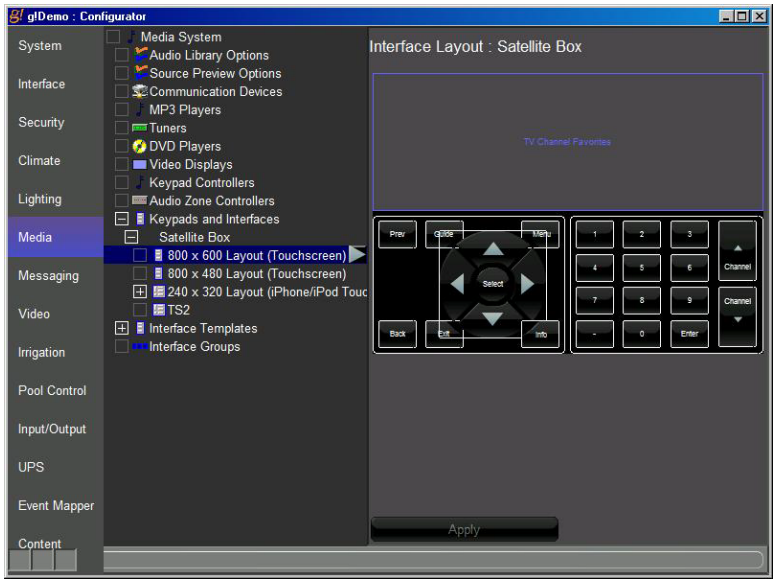
Note: Selecting the Satellite IR device that was created previously will set it as the Default Device for this interface. Any button that is pressed and has a Universal Function associated with it will issue the associated IR code from the Satellite IR device.

3. Select the Satellite interface and verify the default device Satellite is selected. *The default device drop down list allows selection of any configured IR device, serial device, or built-in driver. The selected device's commands will be mapped to the buttons on the interface via the Universal Function assignments.*



4. Expand the entry for your new Satellite Box interface by clicking the "**+**" sign immediately to its left.

5. Click the **800x600 Layout** to select it. *The **Interface Layout** for the Satellite Box displays on the right:*



Note: 800 x 600 is the resolution typically used for a PC viewer. Some "netbooks" will run the Viewer in 800 x 480 mode.

6. Add an additional button for the **PIP** command.

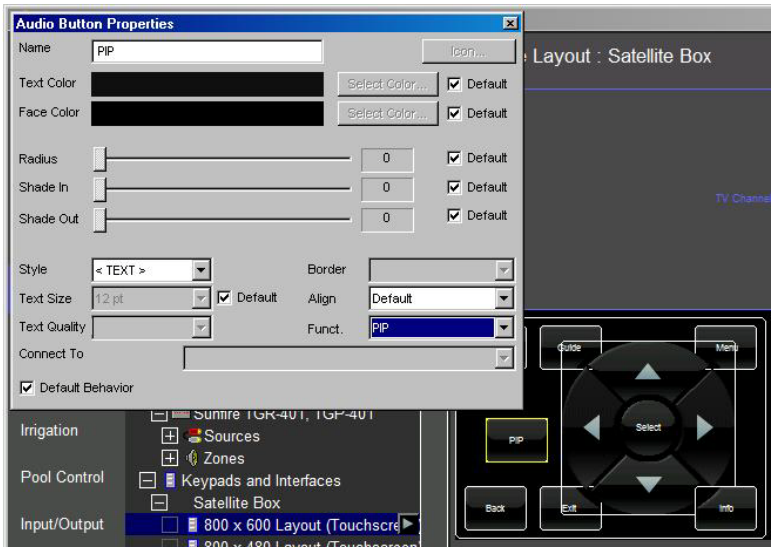
   a. In the Interface Layout, right-click the space between the Prev, Back buttons and select **Add New Control**. *The Add New Control dialog box opens.*

   b. Select **Audio Button** from the list of available controls. *The Audio Button is a special type of button which allows you add commands to the button directly in the interface. This button is only available on the Media Tab.*

   c. Change the name of the button to "**PIP**"

d. Click **OK**. *A new button labeled "PIP" is added to the Interface Layout.*

7. Click the new button in the Interface Layout to select it. *The Audio Button Properties window opens*.



8. In the Audio Button Properties window, select **PIP** from the Funct: drop-down list. Click **Apply**.

Note: Setting the Funct. (short for Universal Function) is an important step, as it will allow this button to automatically map commands to the PIP IR code for the Satellite box.

Alternatively, de-selecting the "Default Behavior" check box in the button properties window will allow you to manually assign button commands to that button.

9. Drag the button to place it roughly into position below the **Prev** button in the interface.

10. Align and size the button more precisely as follows:

    a. Click the **PIP** button to highlight it.

    b. While holding down the Control key on your keyboard (Ctrl), click the **Prev** button. *Each of the buttons will be highlighted in yellow,*

and the group will be highlighted in green.

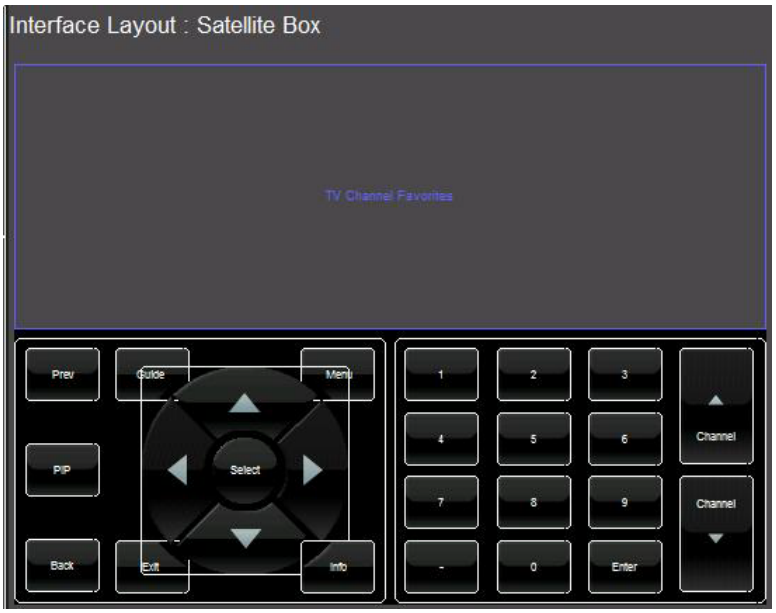
c. Right-click either of the buttons and select **Make Same Height.**

d. Right-click again and select **Make Same Width**. *Both buttons will now be the same size.*

e. Right-click one of the selected buttons and select **Align Right Edges**. *The right edge of the Menu button will line up with the right side of the Back button.*

f. Click **Apply** to save your changes.

Your interface should now look similar to the one shown below:



Exercise 6: TV Channel Favorites

Overview The g! software provides a pre-made interface for one-touch selection of favorite TV channels. The interface will display icons for favorite channels separated into groups like News or Sports. By clicking the TV icon in the Viewer, the g! software will automatically translate this button press to the correct channel number and send the digits to the cable/satellite box. Multiple "Tuning Types" are supported in order to allow multiple channel numbers to be entered for each channel, in the instance that the install may have more than one type of television source (such as HD and SD, Cable or Satellite service in different rooms).

This exercise details how to add the TV Channel Favorites Control to a source interface, and to configure TV Channel Favorites for proper function.

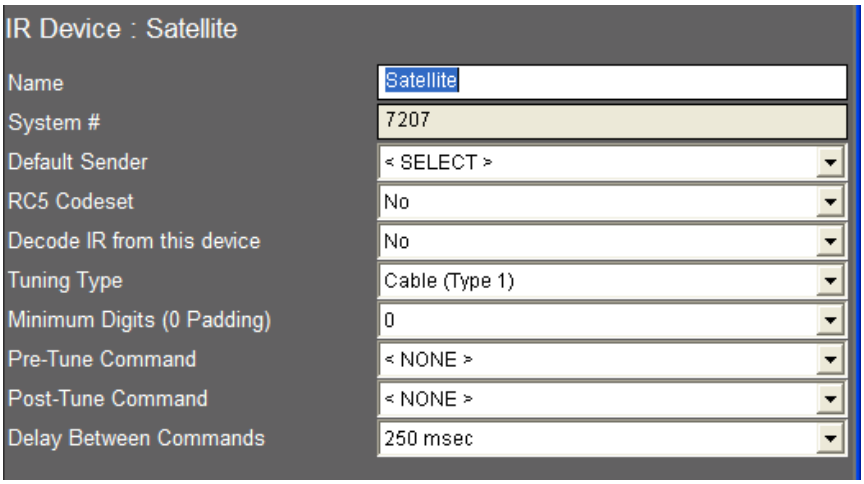
Before beginning this exercise, be sure you have completed Exercises 2 through 5 in this lesson.

The basic steps of adding TV Channel favorites are:

1. Configure the IR Device by selecting the appropriate tuning type, minimum digits, and pre- and post-tune commands as necessary. .
2. Configure the TV Channel favorites on the Content tab by entering the channel numbers for the appropriate tuning type.
3. Add a TV Channel Favorites control to a custom interface and connect it to the appropriate IR Device.

How-to

1. Navigate to the **Input/Output** tab in the Configurator.
2. Select the **Satellite** IR device added in Exercise 2. *The IR Device Properties will be shown on the right:*

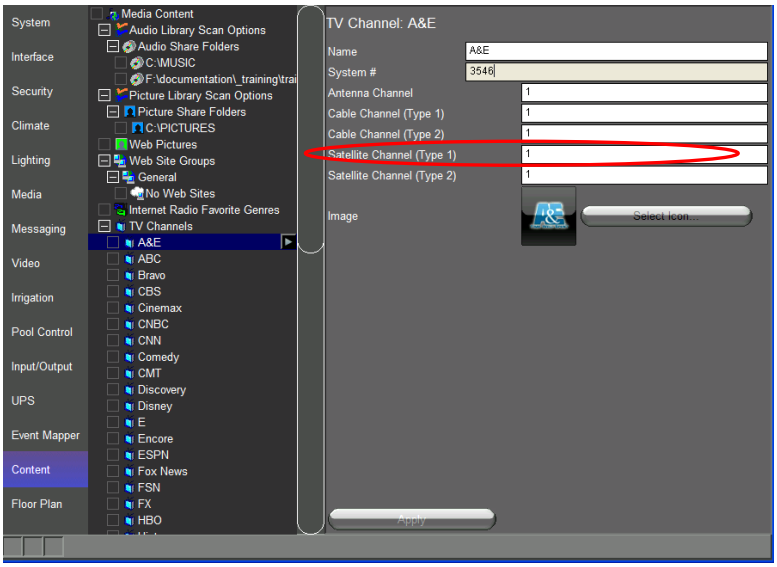


Note: The Tuning Type is used by the TV Channel Favorites control to send the correct channel number to this device. In later steps, you will see the ability to add multiple channel numbers for each TV Channel saved in favorites. There are five Tuning Types available, so that up to five different channel numbers can be selected for each channel. The Tuning Type selected here will control which number is sent when the interface for this device is used.

There are other settings below Tuning Type that affect TV Channel Favorites controls. For this exercise, we will assume the defaults are correct.

Quick Reference: IR Device Properties	
Tuning Type	For use with TV Channel Favorites. Drop-down field used to differentiate between devices with different channel assignments. Available options are Antenna, Cable (Type 1), Cable (Type 2), Satellite (Type 1) and Satellite (Type 2). Note that these type names are arbitrary assignments, and the names are provided for reference only. A Satellite box will still perform as expected if the Tuning Type is set to Antenna. Default is **Cable (Type 1)**.
Minimum Digits (0 Padding)	For use with TV Channel Favorites. Drop-down to select the minimum number of digits the device will accept as a channel number. If this is set to "3" and a single digit is entered for the TV Channel Favorite, the system will "Pad" the command by adding two "0" characters at the beginning of the IR stream. Default is "**0**"
Pre-Tune Command	For use with TV Channel Favorites. Use this drop-down to select a command to send before Direct Tuning. Default is **< NONE >**
Post-Tune Command	For use with TV Channel Favorites. Use this drop-down to select a command to send after Direct Tuning. Default is **< NONE >**
Delay Between Commands	For use with TV Channel Favorites. Set this value to the desired interval between Direct Tuning commands. Default is **250 msec**.

3. Select **Satellite (Type 1)** from the **Tuning Type** drop-down list and click **Apply**.
4. Click on the **Content** tab in the Configurator.
   a. In the System Tree, navigate to **TV Channels**, and then select the first entry in the list, **A&E**. *The properties for TV Channel: A&E are shown on the right:*



b. In the **Satellite Channel (Type 1)** field, type the channel number for A&E from the Satellite provider. For this lesson, type in channel number 675, and click **Apply**.

In a real install, these are the digits that will be sent to the satellite box when A&E is selected from the interface connected to the Satellite Box IR Device, since Satellite (Type 1) is its tuning type.

Note: There are two Cable channel types, two Satellite channel types, and an Antenna channel type, allowing you to use the same TV Favorites interface for five different kinds of devices.

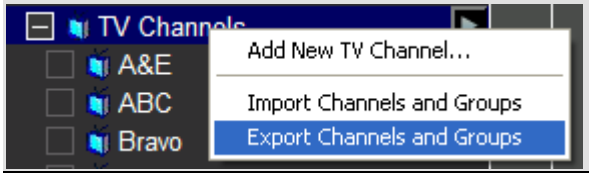
The names are not important as long as the type selected for the IR device matches the channel number typed into the Content tab. Each IR device's Tuning Type field controls which channel number from these settings will be sent when activated from the Interface for that device.

In an actual install, you would now go through and enter the correct channel numbers for each TV Channel Favorite. This is also the time where you would add additional channels, upload new icons from your files or the **ELAN Common Resources Library** and edit/customize the channel groups.

Note: In a real install, ELAN strongly recommends that you create a backup of your settings after fully editing TV Channels and Groups,

This will allow you to import your TV Channels to the Content tab and not spend time entering channel numbers at each job. When you create your master file, it's a good idea to enter channel numbers under different tuning for each type of service you will use, such as DirecTV, Comcast, etc., so that you only ever have to spend time on this file once.

To export/import your files, right-click on either the TV Channels or TV Channel Groups heading and select Export/Import TV Channels and Groups.



Note: You will not be able to see this interface in the Viewer until it is added to a Zone Controller. See the *Distributed AV* and *Home Theater* lessons for details.

The following screen shows how this interface will look in the Viewer.

Exercise 7: Add an IR Device and Import an ELAN IRF file from the Common Resource Library

Overview

The **ELAN Common Resource Library** includes an IR database that can be imported directly into the g!Software. (ELAN .IRF files saved from other projects may also be imported). Importing files from the **Common Resource Library** is an alternative to learning codes manually.

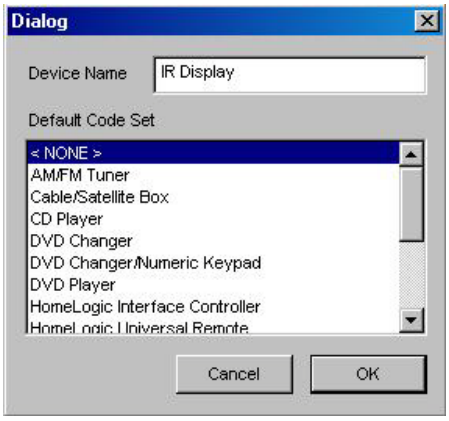
When using .IRF files, it is important to pay close attention to the Universal Functions in the commands. The g! software will try to chose the Universal Function based on code names.

This exercise also explains how to copy in raw CCF (hex) for IR codes that might be missing from the imported file. Sources for such CCF codes include manufacturer documentation, online resources like remotecentral.com, or third party universal remote programming software (ex. RTI or Phillips Pronto software).

In this exercise, you will create a new IR device for a Video Display, import the codes from an .IRF file, and then check the codes.

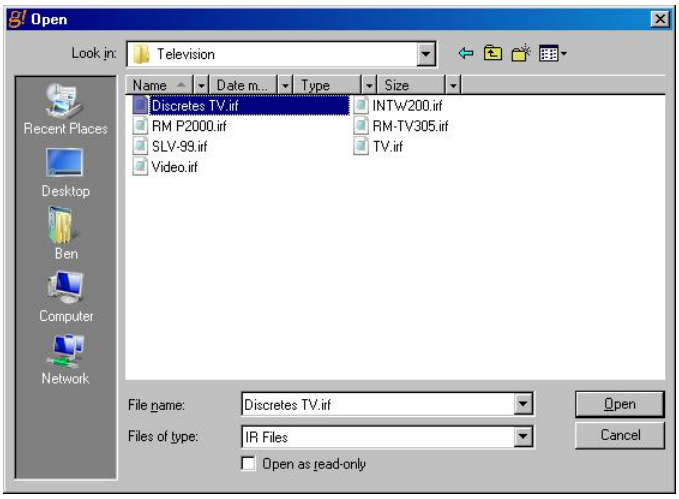
How-to

1. Navigate to the **Input/Output** tab in the Configurator.
2. Right-click **IR Devices** in the System Tree and select **Add New IR Device.**
3. Change the name to **IR Display**, leave **Default Code Set** set to **< NONE >**, and click **Apply.**
   A new IR Device named IR Display will be added to the tree. Since we are importing codes, we do not want any code blanks to populate, as imported IR code files will create their own codes.



4. Right-click **IR Display** and select **Import From File…** *The Windows File Open window opens into the **Common Resource Library** IR Folder.*

5. Navigate to **Sony\Television** and select **Discretes TV.IRF**:

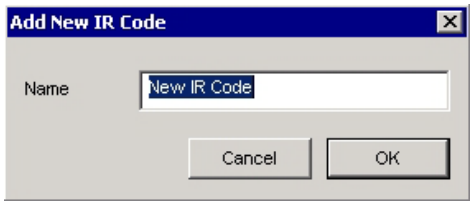


6. Select the file, and then click the **Open** button. *After a moment, the Configurator will refresh, and the imported codes will appear under IR Display:*

7. On the **Input/Output** tab in the Configurator, if necessary expand the commands list in the System tree for the IR Device **IR Display** by clicking on the "**+**" sign next to the device.

8. Notice the list of imported IR Codes does not include any discrete Component Input Commands, only a video input commands. In the following steps you will use CCF data to add in discrete Component 1 & 2 input commands.

   a. To add a new command, right-click any of the existing commands and select **Add New IR Code…** *The Add New IR Code window opens.*

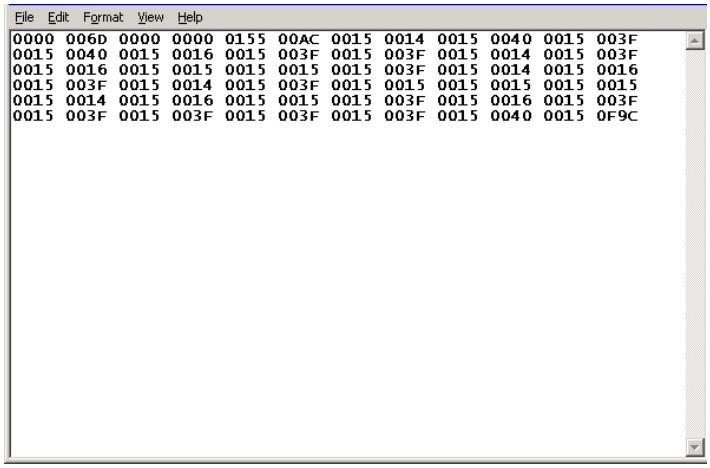


   b. Name the new IR Code "**Component 1**", and click **OK**.

c. Set the **Universal Function** for the new command to **Source Component 1** and click **Apply.**

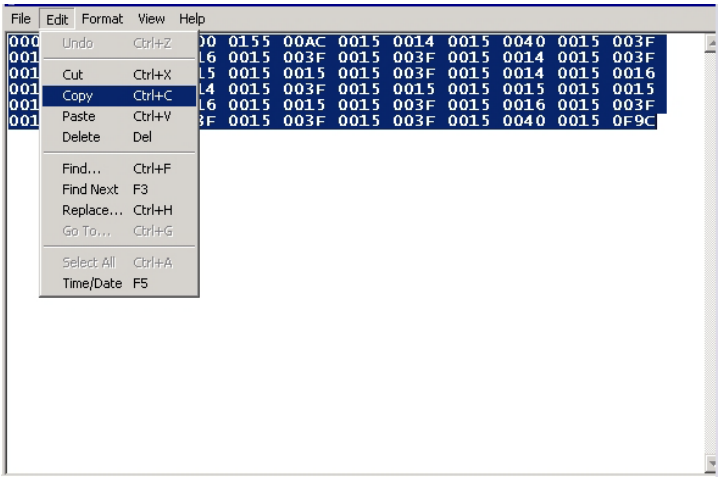
d. Repeat steps **a**, **b** and **c** to add a '**Component 2**" Command.

e. Using Windows Explorer, navigate to C:\HomeLogic\Training Files and open the **Component 1.txt** file in Notepad.



f. Go to **Edit>Select All**, *All of the text in the document will be highlighted.*

g. Select **Edit>Copy** to copy the selected text to the Windows Clipboard:

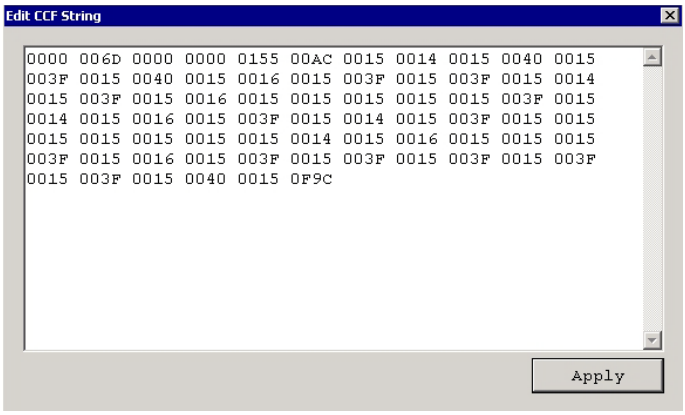


h. Close Notepad.

i. Return to the Configurator and select the **Component 1** command from the **IR Display Device**.

j. Click the **CCF Code** button. *The Edit CCF String window will open.*

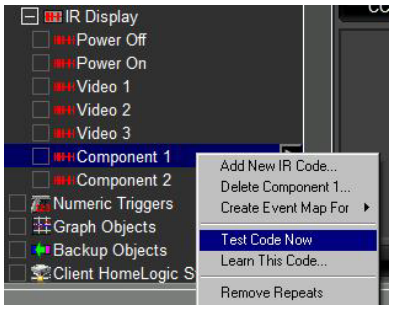
k. Right-click inside the Edit CCF String box and select **Paste**. *The text from the Windows Clipboard will be pasted into the box:*



l. Click **Apply**. *The Waveform View will be generated from the CCF Code.*

m. Repeat steps above to copy and paste the CCF for the **Component 2** command.

9. Once all the codes have been added, test them using the Test Code Now option. From the Input/Output tab, right-click the code and select **Test Code Now**.

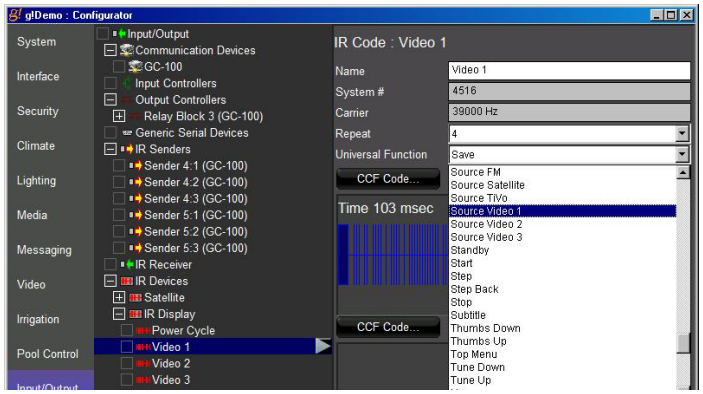


Note: Since we do not have actual equipment installed for this lesson, we cannot know the effectiveness of our command and will assume it is valid. On a real install, testing codes can be very helpful, and is an important part of the driver creation process.

10. Once you have verified the imported codes work, it is a good idea to prepare them for use in an interface by checking Universal Functions. Since these files were imported from the ELAN database, they do not natively save Universal Function information.

    The g! software attempts to match up Universal Functions for you automatically, but if the names of the codes do not match a Universal Function, they will not auto map. It is important therefore to verify all imported codes have Universal Functions set correctly after performing an import from Elan.

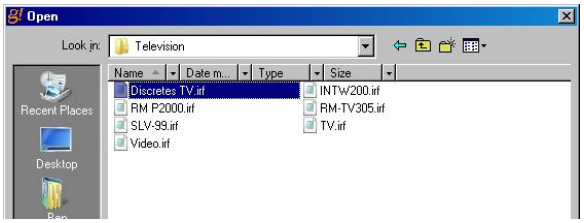
a. Click on the **Video 1** command. Since the g! software's equivalent Universal Function is labeled **Source Video 1**, this code does not align with any Universal Functions. Set the correct Universal Function now by clicking on the Universal Function drop down, scrolling down and selecting Source Video 1, and click **Apply**.



b. Repeat for all the codes selecting the Universal Function as necessary.

11. Now that the IR Device has had all codes tested and optimized, and all proper mapping completed, it is a good idea to export a copy. The exported file can be imported again to this system, if you were controlling multiple identical devices, or imported to another system at a later date if you will reuse this device in a future job.

a. Right-click the **IR Display** IR device and select **Export to File** from the menu. *The Windows Save As Dialog box opens:*



5. Navigate to the appropriate folder on your PC where you would like to save the file. For this exercise, select the Sony\Television folder in the **ELAN Common Resources Library** as shown above.

Note: The **ELAN Common Resources Library** installs the data files into a hidden directory. You may need to select "show hidden files and folders" from your explorer folder options dialog box to be able to browse directly to it. Alternatively you can create a shortcut on your desktop to the directory to access the folders.

b. In the **File Name** field, type "**IR Display**", then click **Save**.

Note: Saved file names should be as descriptive as possible and include manufacturer, model number and device type so that they will be easy to find the next time you need them.

Exercise 8: Add an IR Controlled Display

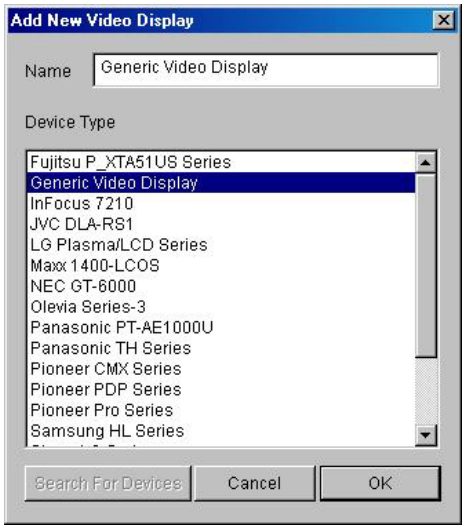
Overview

Now that you have added in the IR Codes for an IR Controlled Display, you will add in the Display itself on the Media tab.

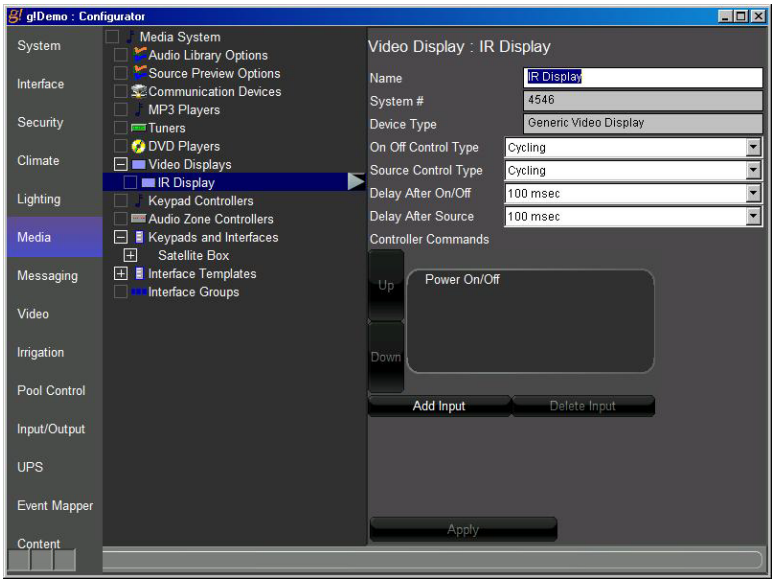
In this exercise, you will add an IR Controlled Display and assign IR commands to the various functions.

How-to

1. Navigate to the **Media** tab in the Configurator, right-click **Video Displays** and select **Add New Video Display…**. *The Add New Video Display Dialog box is shown:*

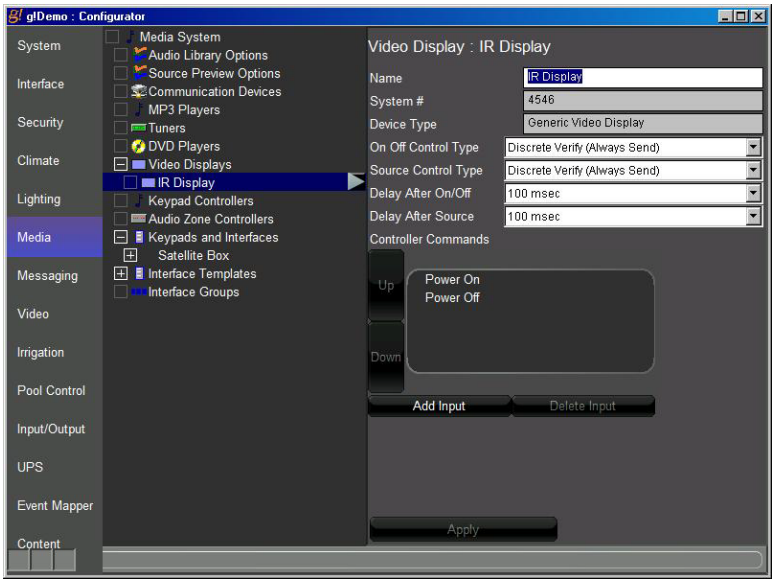


2. Select **Generic Video Display** from the list, name the device "**IR Display**", and click **OK**. *A New Video Display will be added:*



3. Check the **Settings** on the Display.

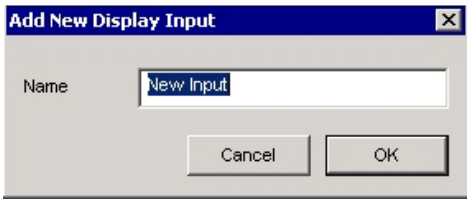
   a. Set **On Off Control Type** to **Discrete Verify (Always Send)**. *The Power Command in the Controller Commands Window will change from Power Cycle to separate commands for Power On and Power Off:*



Quick Reference: Video Display	
Name	Name of Generic Display
On Off Control Type	Select Cycling for units with a power toggle. Select Discrete for units with discrete on/off commands. Select Discrete Verify to enable resend of discrete commands even when in a perceived correct state.
Source Control Type	Select Cycling, Discrete, or Discrete Verify control types for source/input selection.
Delay After On/Off	Use to set a delay before next command on units that have a warm-up time during which they will not accept commands.
Delay After Source	Use to set a delay before next command on units that have a period after source change where they will not accept commands.

   b. Set **Source Control Type** to **Discrete Verify (Always Send)** then click Apply.

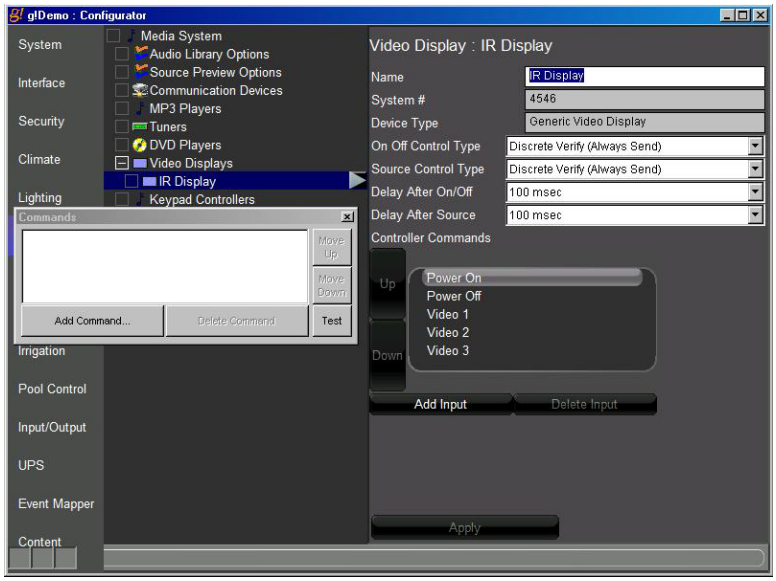
   c. Click the **Add Input** button below the Controller Commands Window. *The Add New Display Input window opens.*



d. **Name** the New Input "**Video Input 1**". *Video Input 1 is added to the Controller Commands Box.*

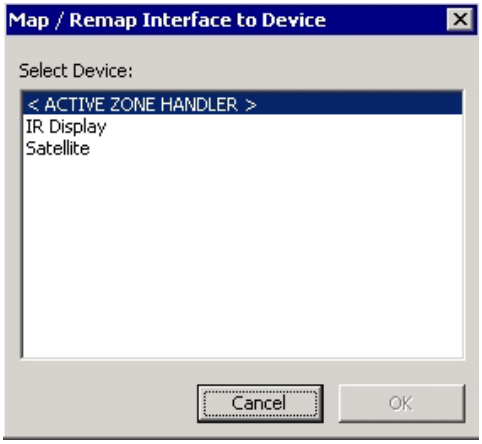
e. **Repeat** steps above to add **Video Input 2** and **Video Input 3**.

f. Click the **Power On** controller Command. *The Commands Window is displayed.* Note that there is no command present for Power On.



4. Map the **Controller Commands** to the IR Commands.

a. Right-click the IR Display and select **Map/Remap Display to Device…** *An HLCONFIG Warning box will be displayed, click "Yes" to continue, the Map/Remap Interface to Device window will be open:*



b. Select **IR Display** from the list of devices and click **OK**.

c. Click the **Power On** Controller Command. *The Commands Window is displayed.* Note that now the Window is populated with the IR Command that matches the Power On Universal Function:

Note: If the commands window does not have a command populated, it is most likely due to the command name not matching the Universal Function of the command. Commands can be added manually by clicking the **Add Command** button.

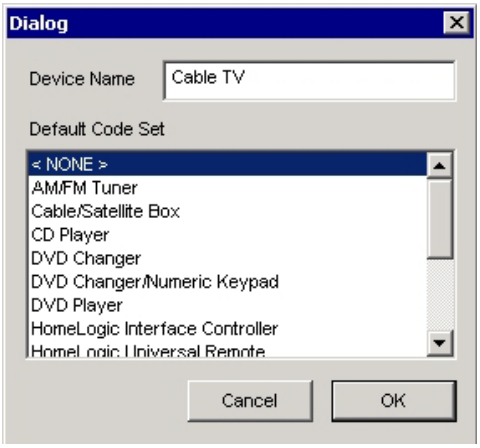
Exercise 9: Add an IR Device and Import Codes from a g! HIR file

Overview

In this exercise you will add an IR controlled Cable TV box by importing a g! HIR file. An HIR file is created when a complete IR Device is exported from the Configurator. You will use one of the templates that are included in the Configurator to control the cable box.

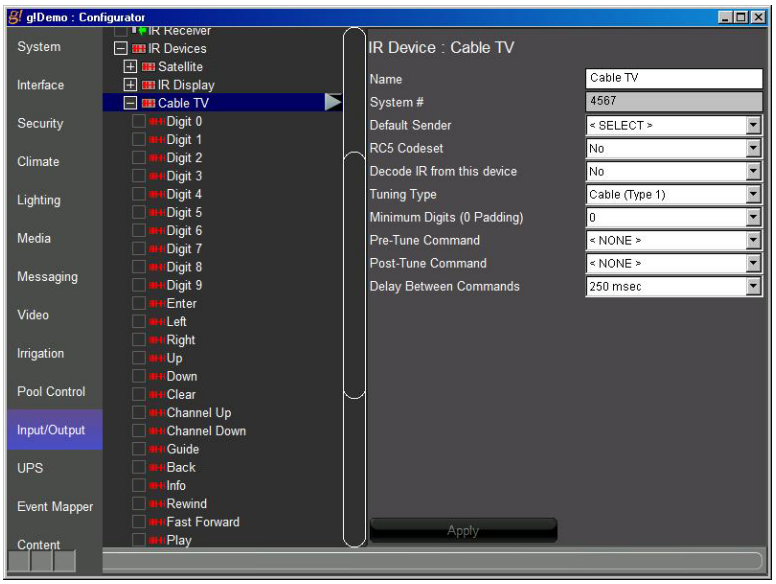
How-to

1. Add the IR Device.
   a. On the Configurator **Input/Output** tab, right-click **IR Devices** in the System Tree and select **Add New IR Device**. *The IR Device window opens.*
   b. Change the **Name** to Cable TV and leave the **Default Code Set** as **<NONE>**.



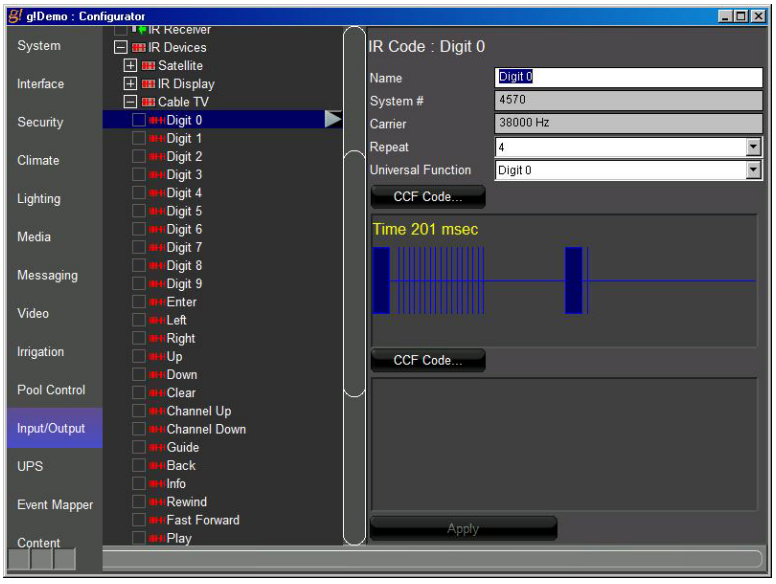
   c. Click **OK** to add the IR Device. *Cable TV is added to the System Tree, and the IR Device properties display to the right.*
2. Import the IR code data set saved from another system.
   a. Right-click the **Cable TV** IR Device in the System Tree and select **Import From File**.
   b. Browse to C:\HomeLogic\Training Files and select the **CableTV.HIR** file and click **Open**.

3. Check the IR Device. If necessary click the plus sign "**+**" next to **Cable TV** to expand the IR Device. The code set should look like the screen shown below.



4. Check one of the IR Codes.

   a. Click on the first code in the list. Verify the IR wave form appears as shown below.



   b. Verify that the Universal Function selected is appropriate for the code. *This is the pointer to auto-associate this code to the proper button on the interface.*

   c. Check the repeat count for the IR codes as necessary.

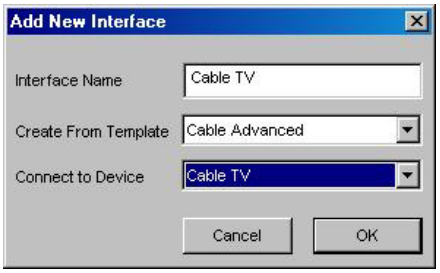
5. Add the interface.

   a. On the Configurator **Media** tab, right-click **Keypads and Interfaces** in the System Tree, then select **Add New Interface**. *The Add New Interface window opens.*

   b. Type **Cable TV** in the **Interface Name** field.

   c. Select **Cable Advanced** from the **Create From Template** drop-down menu.

   d. Select **Cable TV** from the **Connect To Device** drop-down list.



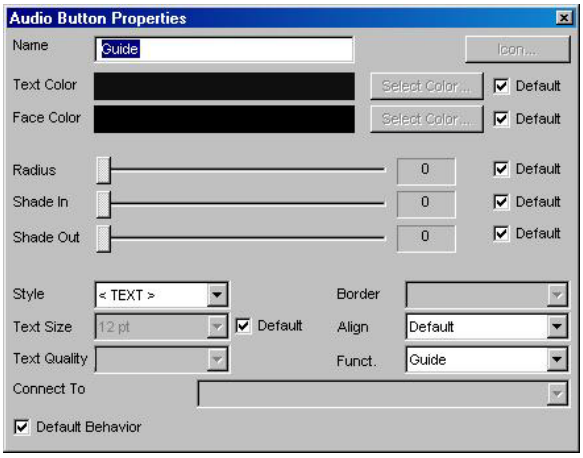
   e. Click **OK** to add the new interface.

6. Check the interface.

   a. Click the plus sign (+) next to the **Cable TV** interface in the System Tree to expand it and show the available resolutions.

   b. Select the 800 x 600 resolution main page to view its button layout.

   c. Click the **Guide** button to display the Audio Button Properties and Button Commands windows for this button.



   d. Verify that the button Universal Functions are mapped properly. *The **Funct.** drop-down refers to the Universal Function that is assigned to the button.*

At this point sources have been configured but cannot be viewed in the Viewer. In the Home Theater and Distributed AV lessons, you will add them to an Audio Zone Controller and then be able to select and view them from the Viewer.

Notes:

Notes:

Lesson 7

One-way RS-232 Control

Overview

This lesson shows you how to use the Generic Serial Device driver to add support for any RS-232 device that you can control with basic RS-232 commands.

You will:

- Learn how to add serial commands for one-way control of serial devices.
- Understand Universal Functions and how they apply to Generic Serial Devices and Interfaces.
- Learn how to use Generic Serial Device commands to control devices from the g! software.
- Learn how to export and import Generic Serial Devices.

Requirements

- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

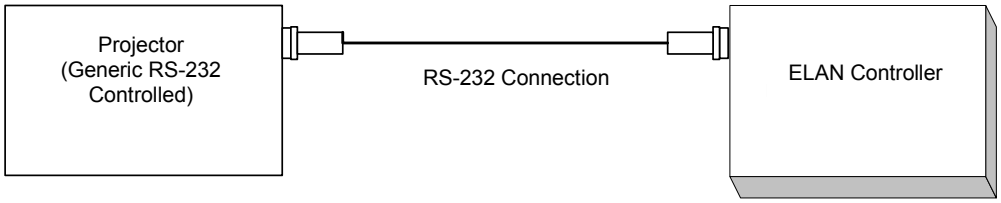
Overview

Overview

The Generic Serial Device driver is used for sending one-way commands to a serial controllable device that either does not benefit from a full 2-way driver in the g! software, or for which a 2-way driver is not available. The Generic Serial Device driver is not intended to support full two-way communication, and is primarily used for devices that do not provide feedback.

Examples of devices that are well suited as Generic Serial Devices are audio and video sources (such as DVD players) and video displays (televisions or projectors).The Generic Serial Device driver is not intended for devices like tuners and receivers, where the two-way feedback (the current station on a tuner or the active source on the receiver) is important.

The following diagram shows the basic equipment in a system schematically. The diagram includes the components that are important to the ELAN controller.



Terms

The following terms are used in the Configurator:

- **Communication Device:** The serial port or other communication method used to communicate with the device.
- **Generic Serial Device**: The device group containing serial commands and other information related to the device on the Input/Output Tab.
- **Universal Function**: A tool used to map controls in the interface to their associated commands in the Generic Serial Device.
- **Hex or Hexadecimal**: Code language commonly used in serial commands. Hex code strings use numbers and certain letters to represent the numbers 0-15. 0-9 equates 0-9, with A-F equating 10-15. Hex codes are often denoted by the presence of a small ‘’h” at the end of a letter sequence. Sample: `02h`
- **ASCII**: Code language commonly used in serial commands. ASCII strings are typically human readable text, such as `ABCDEFG0123` etc.
- **Binary**: Code type consisting of `1`’s and `0`’s, representing ON and OFF respectively. Binary concepts are used frequently in serial codes, with the same command with a `1` or `0` on the end indicating whether to activate or deactivate that function.
- **Generic Display**: A Generic display driver that allows custom mapping of commands such as source and power. This display may be connected to a zone in zone settings for automatic switching based on source selection.
- **Interface:** The customizable button layout that makes up the user interface in the Viewer.

How-to

To integrate a generic serial controlled device:

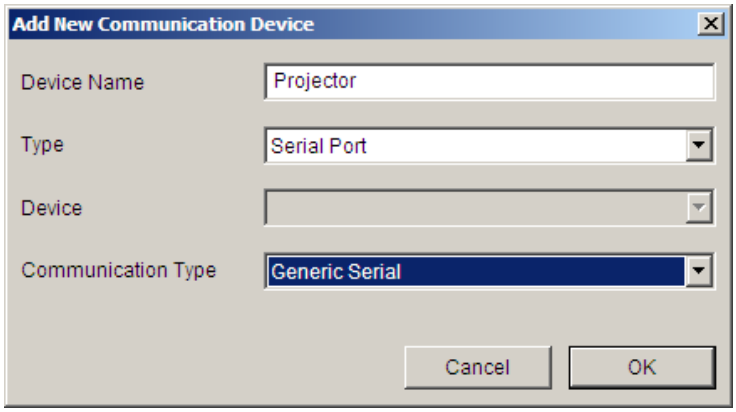
- Add the Communication Device.
- Add the Generic Serial Device, including adding commands.
- For displays: add a Generic Video Display, map the commands appropriately and configure this display in a zone.
- For sources: add the Interface, map commands and configure the Zone Controller for the source interface.
- For other items: Configure appropriate Event Mapping.

Exercise 1: Add Generic Serial Devices from a Protocol Document

Overview In this exercise, you will add a Generic Serial Driver for a projector. A projector is a good candidate for one-way serial control as they typically do not provide much feedback, and there are a limited number of commands required to program.

How-to

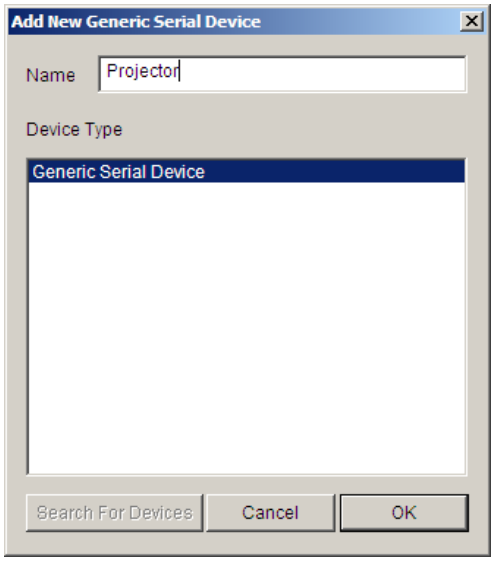
1. In the Configurator, click on the **Input/Output** tab. Right-click **Communication Devices** and click **Add New Communication Device**. *The Add New Communication Device window opens.*
    a. Enter "**Projector**" as the **Device Name.**
    b. Leave the **Type** set to **Serial Port.**
    c. Set **Communication Type** to **Generic Serial**.
    d. Click **OK**.



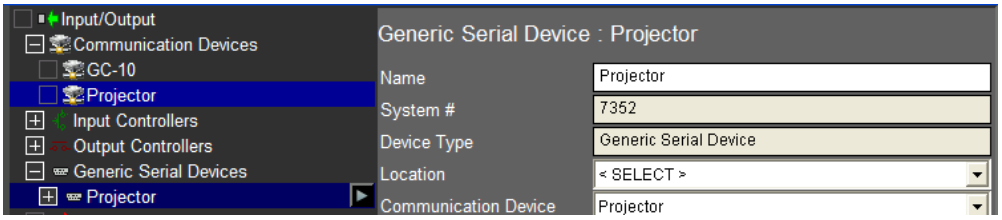
Note: The communication type will appear as Standard Connection when added, but will automatically change to Generic Serial and allow editing when linked to a Generic Serial device.

2. Right-click on **Generic Serial Devices** and **Add New Generic Serial Device**. *The Add New Generic Serial Device window opens.*

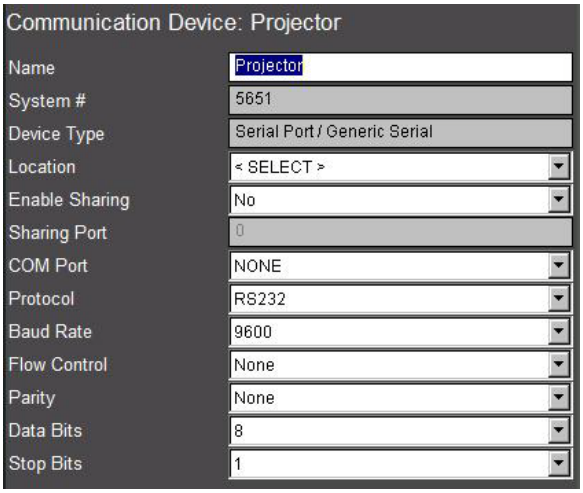
3. Select Generic Serial Device, type "**Projector**" in the **Name** field, and then click **OK**.



Notice the Generic Serial Device has auto-linked to the Communication Device added in Step 1.



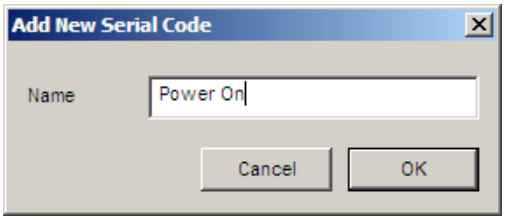
4. Click **Projector** under **Communication Devices** in the System Tree to verify the baud rate and other serial settings are configured correctly for this device.



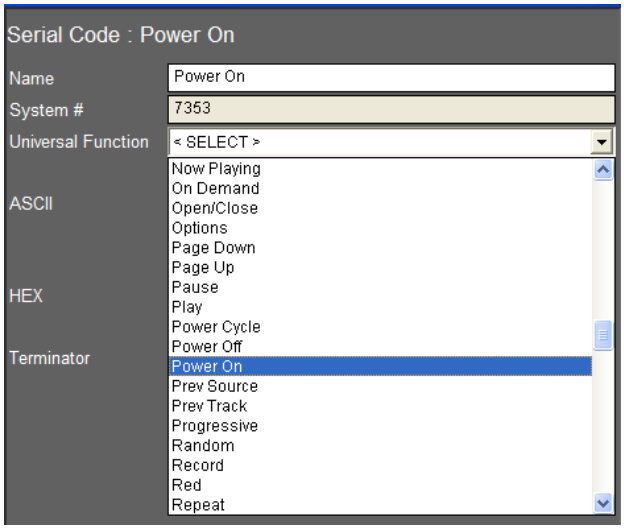
Note: For this exercise we will assume the default settings are correct, but in a real install all the serial settings must **exactly** match those indicated in the serial protocol for the device for communication to be effective.

5. Navigate to the Generic Serial Devices Projector in the System Tree, and right-click on **No Serial Codes.** Select **Add New Serial Code.** *The Add New Serial Code window opens.*

6. Name the code **Power On** and click **OK**. *The code is added below the Generic Serial Device named Projector and should be automatically highlighted, and the properties display on the right.*



7. In the Power On properties, select **Power On** from the **Universal Function** drop-down list. *Before entering the code, it is important to select the Universal Function so that the g! software can properly associate the command with the control.*



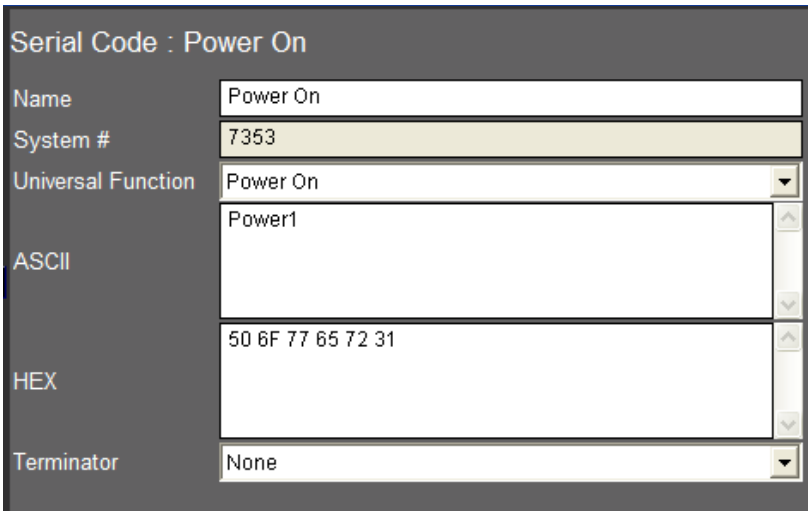
8. Now that the Universal Function is entered, enter the serial code for the projector. For this exercise, assume the power command is the ASCII string "`Power1<cr>`".

Note: Codes like `<cr>` are common in serial commands, and refer to "carriage return" or "enter".

9. You will add the code in two steps:

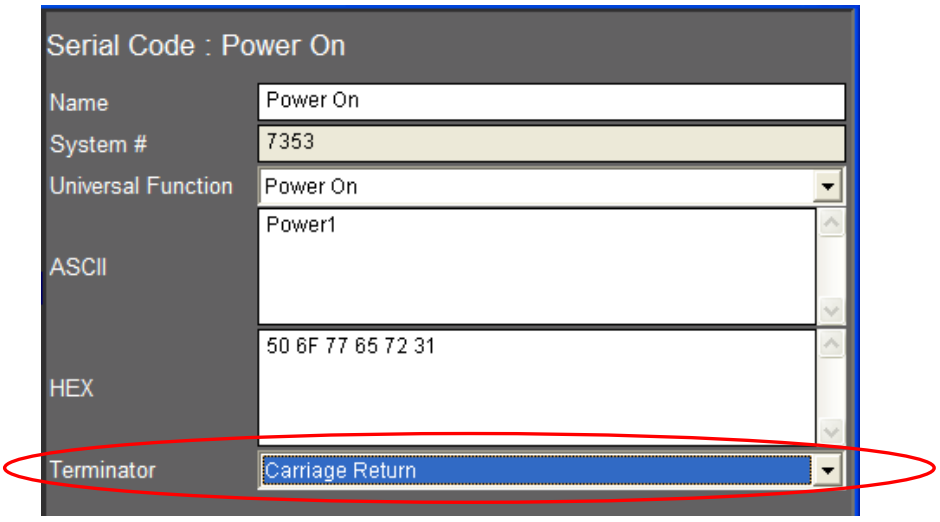
    a. Enter the ASCII string the box labeled ASCII. The ASCII string is the text portion of the code prior to `<cr>`; "`Power1`". Notice that as you do so the hex-equivalent of your ASCII string is displayed in the HEX box.

Note: Some serial commands are case sensitive. Refer to the protocol document for details.



b. Enter the carriage return, which terminates the command and lets the projector know that this is the end of the command sequence. Since "carriage return" is not a character that can be displayed in ASCII, you will not enter anything into the ASCII field (pressing enter at the end of `Power1` will **not** add the carriage return for you). Instead, select **Carriage Return** from the **Terminator** drop-down list.

c. Click **Apply** to save.



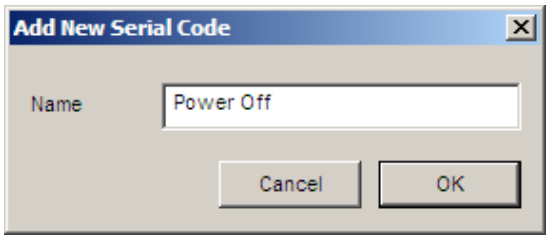
Note: The g! software allows you to automatically append common terminators like carriage return and linefeed to the end of serial commands through the drop-down. If your particular serial protocol requires a different terminator, you can enter the terminator's hex code into the hex field.

Typically, a small box will appear at the end of the ASCII string to indicate the presence of a non-display character (Vista users may not see this box). For example, a carriage return's ASCII code is `13`. Since entering `13` into the ASCII string will send `1…3`, you enter `0D` into the hex field to append the correct data.

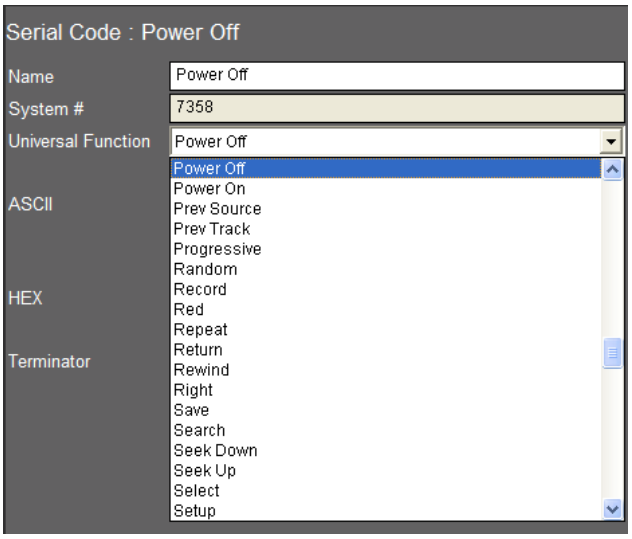
10. Add the rest of the codes. In total, you will add 3 more codes to this generic serial driver: **Power Off**, **Component Input**, and **HDMI Input**.

    a. To add the **Power Off** command, right-click on the Power On code and select **Add New Serial Code**. *The Add New Serial Code window opens.*

    b. Name the code "Power Off", and click **OK**.



    c. Select the Universal Function pointer for Power Off from the Universal Function drop-down list.

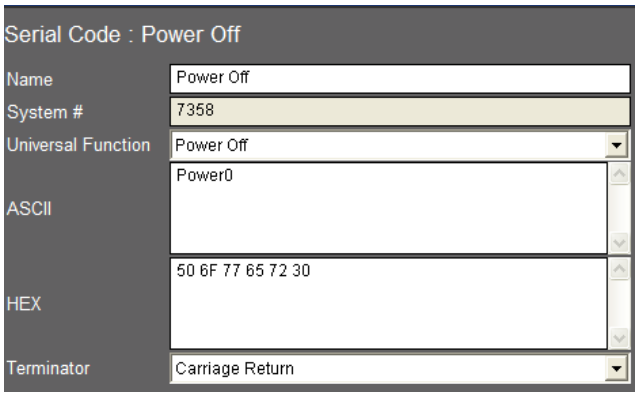


    d. The code string to turn the projector off is **`Power0<cr>`**. Refer to steps 10a and 10b to enter the command:

        i. Enter **`Power0`** in the **ASCII** box

        ii. Select the **Carriage Return** separately from the **Terminator** drop-down.

        iii. Click **Apply** when finished.



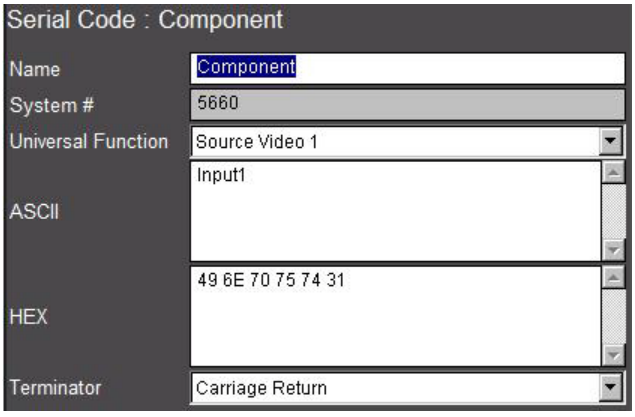
11. Refer to steps 10a and 10b to add the two input commands, being sure to set the Universal Function (inputs are listed as Source Video # etc.) as you go.
    The commands for the remaining inputs are:

    `Input1<cr>` for the **Component** input.

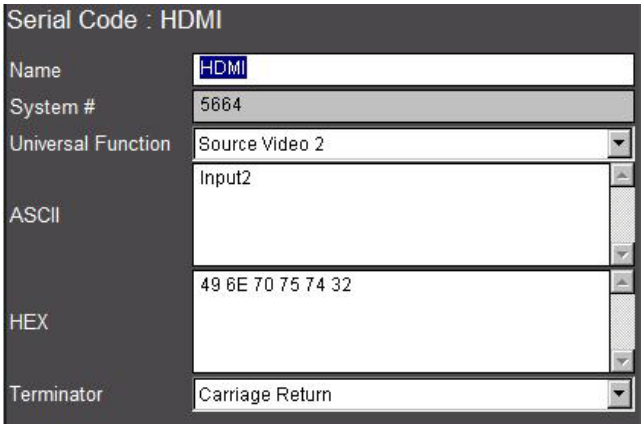
    `Input2<cr>` for the **HDMI** input.

12. The completed commands should look like the following:

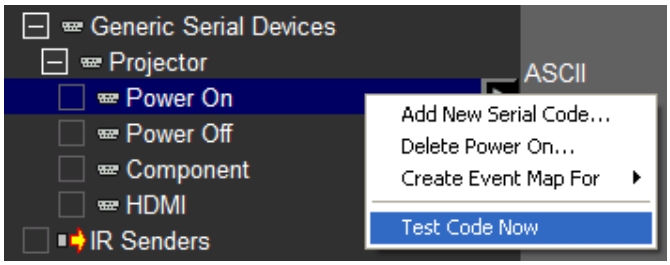
Component



HDMI



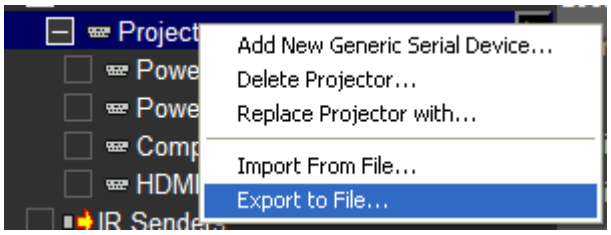
13. Once all the codes are added, it is a good idea to test them. To test codes at any time, navigate to the **Input/Output** tab, right-click on the code and select **Test Code Now**.



Note: Since actual equipment is not installed for this lesson, we cannot know the effectiveness of the command and will assume it is valid. On a real installation, testing codes can be very helpful when developing Generic Serial Drivers, and is an important part of the driver creation process.

14. Once you have fully tested the serial driver, cleaned up any codes, and added all Universal Functions, it is a good idea to **Export** the verified driver. This allows you to start to build a database of drivers you can control regularly.

    a. To export files, right-click on the name of the Generic Serial Driver and select **Export to File**.

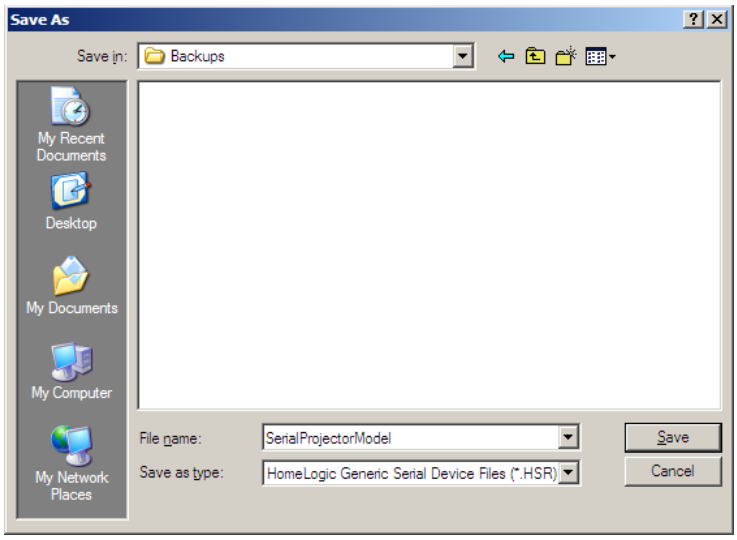


    b. A Windows file dialog box opens:

        i. Enter a descriptive name that includes the type and model of the device,

        ii. Navigate to an appropriate location in the Common Resource Library,

        iii. Click **Save** to save your file.



Note: This file can be imported to any g! system running the same or newer software version. This is useful if you have multiple units of the same type on one job, or will use this device again on another job. Even if you don't think you will use the device again, it is always a good idea to make a backup file.

Exercise 2: Create a Generic Display

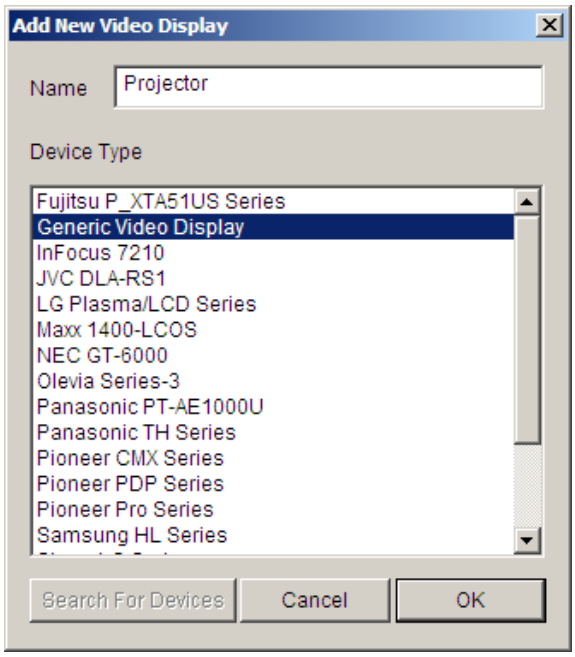
Overview

Once you have created a Generic Serial Device, you now have a database of codes you can use in the system. For a projector or other video display, the best way to use this database is to attach the codes to a Generic Video Display. Then you can assign that display to an A/V zone for automatic power and input switching based on source selection. (See the following lessons on *Configuring Distributed A/V* or *Configuring Home Theater Systems* for more information.)

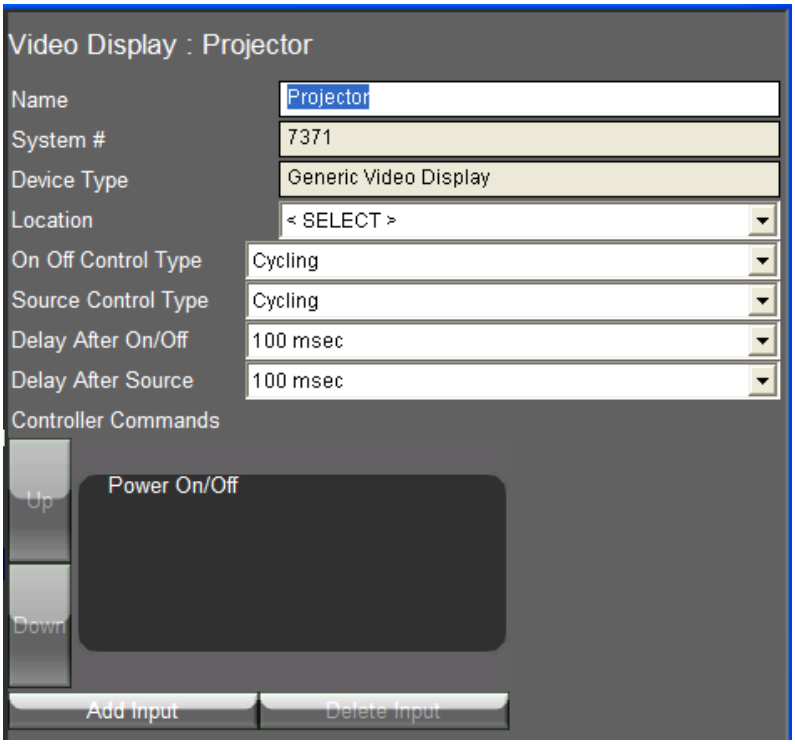
How-to

1. In Configurator, navigate to the **Media** tab, right-click on **Video Displays** in the System Tree and then select **Add New Video Display**. *The Add New Video Display window opens.*

2. Select **Generic Video Display** from the list. Name the display **"Projector"** and click **OK**.



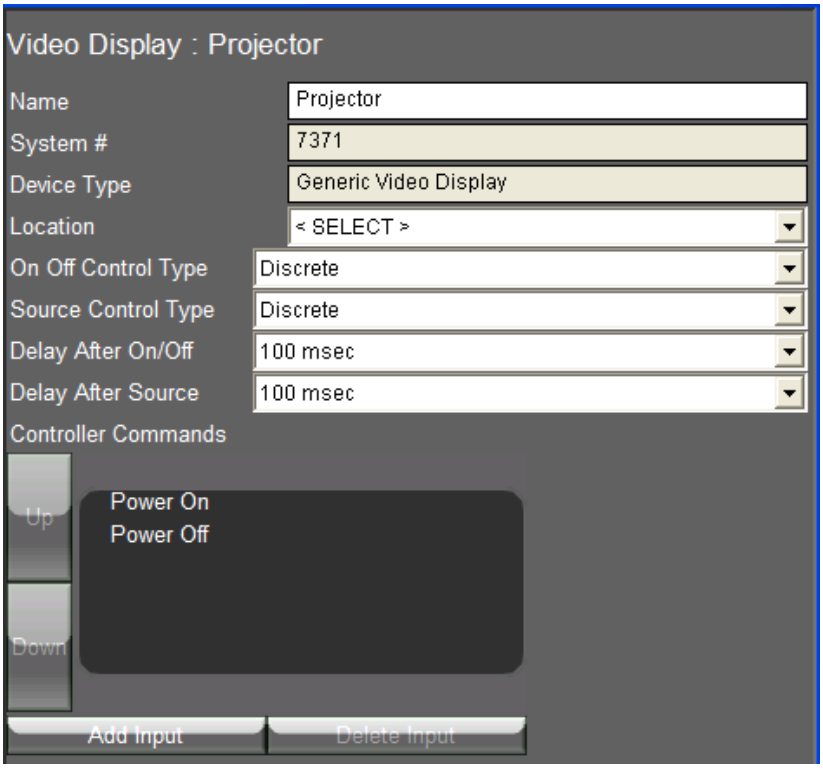
3. The Generic Video Display for Projector is added to the System Tree, and the configuration options appear in the properties window to the right.



Quick Reference: Video Display	
Name	Name of Generic Display
On Off Control Type	Select Cycling for units with a power toggle. Select Discrete for units with discrete on/off commands. Select Discrete Verify to enable resend of discrete commands even when in a perceived correct state.
Source Control Type	Select Cycling, Discrete, or Discrete Verify control types for source/input selection.
Delay After On/Off	Use to set a delay before next command on units that have a warm-up time during which they will not accept commands.
Delay After Source	Use to set a delay before next command on units that have a period after source change where they will not accept commands.

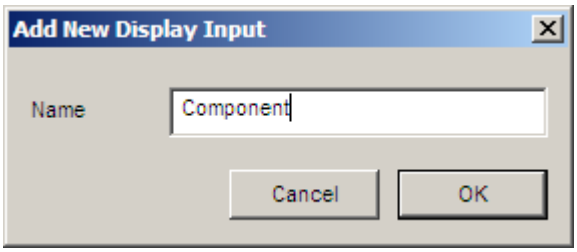
4. Below the drop-down fields, there is a shaded area which contains Controller Commands. This is where you will map the appropriate commands to various projector functions. Change the drop-downs to the following settings, and as you do so, notice that the controller commands box is affected by your selections:

Property	Setting
On Off Control Type	**Discrete** (because we have unique On and Off commands.)
Source Control Type	**Discrete** (because we have unique commands for each input)
Delay After On/Off	For this exercise, leave these **set to defaults**. In an actual install, setting these fields typically requires a little trial and error testing.
Delay After Source	

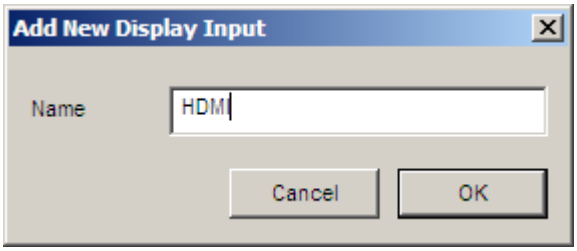


5. Before you add commands, you must manually add commands for inputs. To add an Input Command, click **Add Input** at the bottom of the Controller Commands list. *The Add New Display Input window opens.*

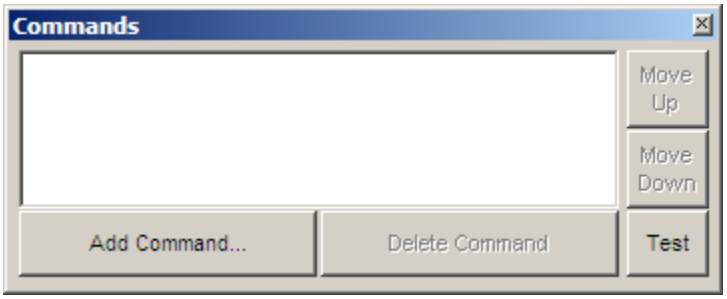
6. Name the input "**Component**" and click **OK**.



7. Repeat these steps and add a second input and name it **HDMI**.

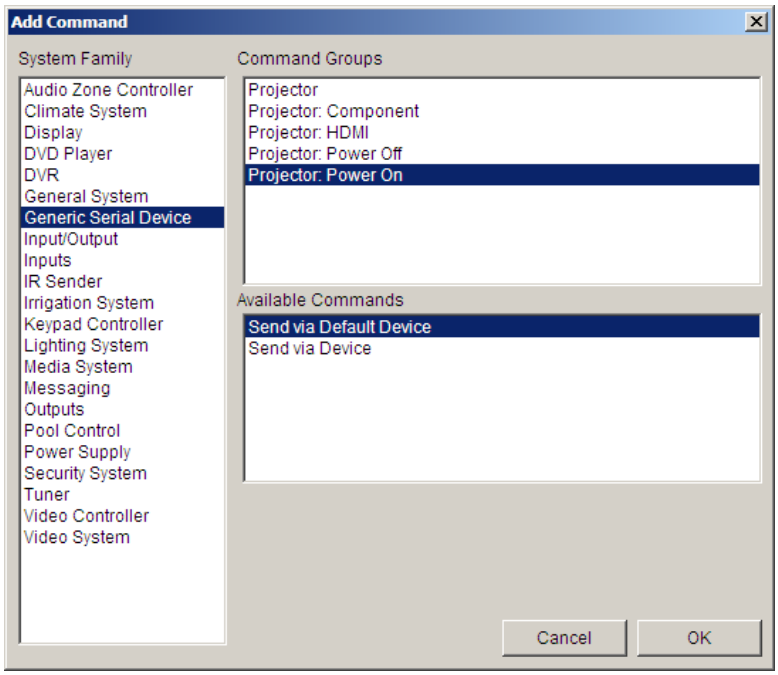


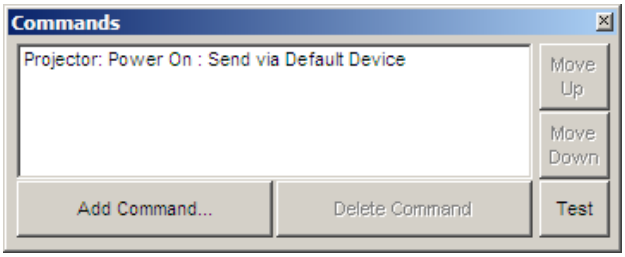
8. The next step is to tell the g! software what code to send when each command is issued. To add codes to the Controller Command for **Power On**, click on the name **Power On** in the **Controller Commands box**. *The Commands window opens.*



9. Click the **Add Command button…**. *The Add Commands window opens.* Generic Serial Commands occupy their own System Family in the list, and each code is listed by the name of the Generic Serial Device followed by a colon (**:**) and the name of the code.

10. Select the code for **Power On** to send via **Default Device** (the *Default Device* is the Communication Device we created and associated with the Generic Serial Device on the Input/Output tab) and click **OK**.
The command is added to the Commands window.





Note: All commands in the Command window will automatically be sent in sequence when this command function is called.

11. Close the Commands window since we do not need to add any further commands to power on the projector in this exercise.

12. Repeat steps 8-11 to add commands to **Power Off**, **Component**, and **HDMI**.

Once all commands are added, you are ready to configure the Generic Display as the display on an AV Zone just like you would with a display with built-in driver. See following lessons, *Configuring Distributed A/V* or *Configuring Home Theater Systems* for details.

Exercise 3: Import a Serial File from the Common Resource Library for a Generic Serial Source

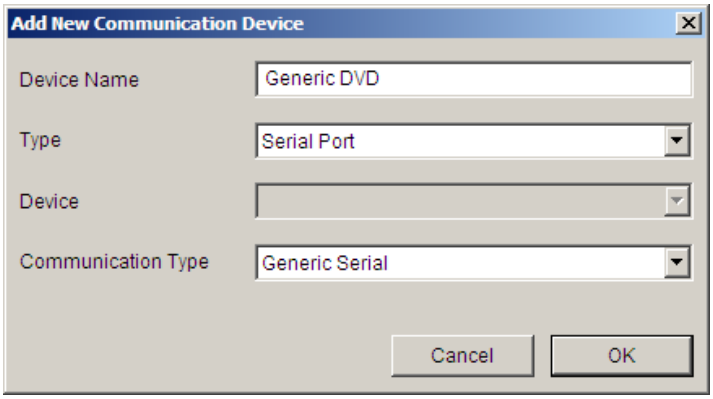
Overview

In this exercise, you will import a serial code file from the ELAN Common Resource Library to provide one-way serial control from the g! software. The steps outlined here will work much the same for importing Generic Serial Drivers created and exported from the g! software, except that g! files will include full Universal Function data.

In the following steps, you will add a Generic Serial Driver for a DVD Player. A DVD Player is a good candidate for one-way serial control as there is typically no feedback required.

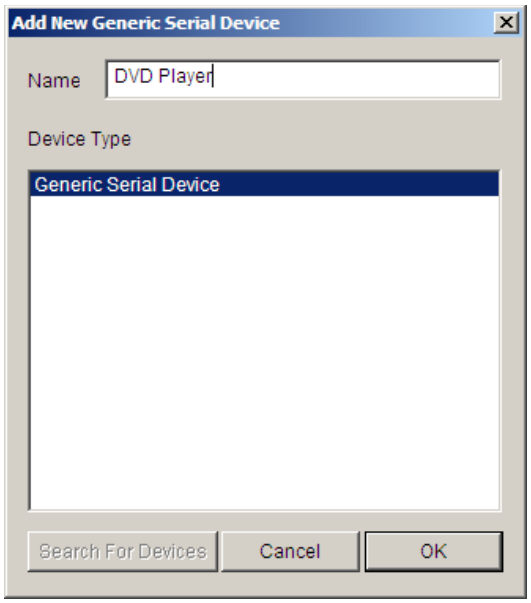
How-to

1. In Configurator, navigate to the **Input/Output** tab.
2. Right click **Communication Devices** and click **Add New Communication Device.** *The Add New Communication Device window opens.*
3. Name the device **Generic DVD** or similar, leave the **Type** set to **Serial Port**, and set the **Communication Type** to **Generic Serial** and click **OK**.

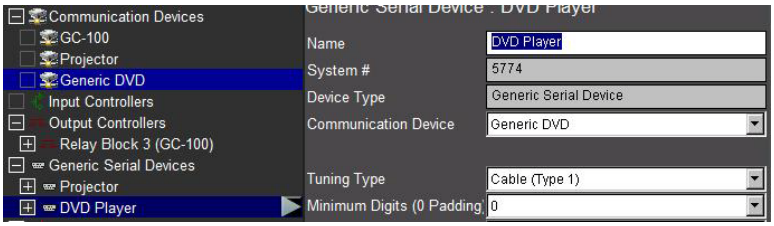


Note: The communication type will appear as Standard Connection when added but will change to Generic Serial and allow editing when linked to a Generic Serial driver.

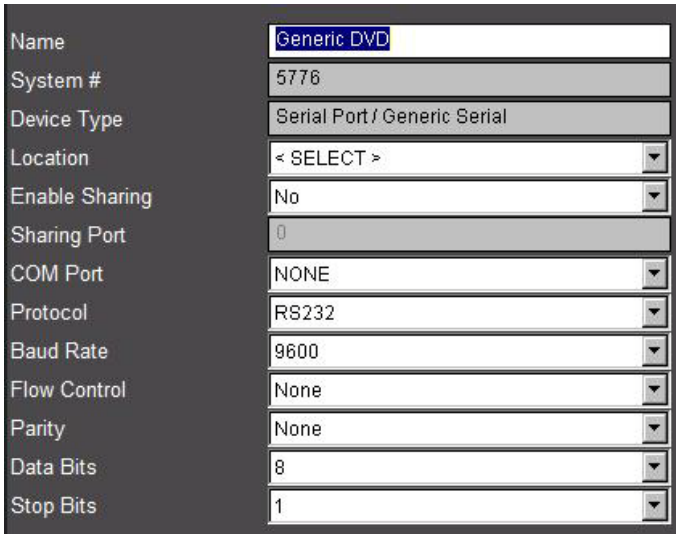
4. Right-click **Generic Serial Devices** and select **Add New Generic Serial Device.** *The Add New Generic Serial Device window opens.*
5. Select **Generic Serial Device** as the **Device Type**, enter "**DVD Player**" as the **Name**, and click **OK**.



6. Notice the Generic Serial Device has auto-linked to the Communication Device added in Step 1.



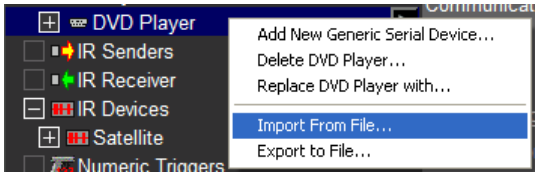
7. Click the **Generic DVD** under **Communication Devices** to verify the baud rate and other serial settings are configured correctly.



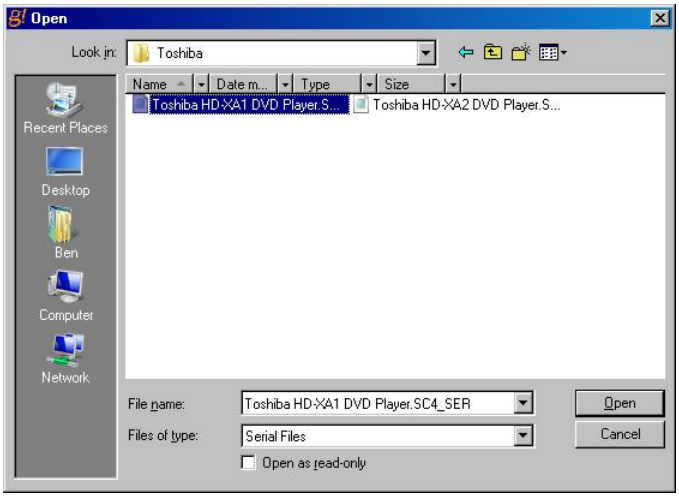
For this exercise we will assume the default settings are correct, but in a real install all the serial settings must **exactly** match those indicated in the serial protocol for the device for communication to be effective.

8. Next, you will import the serial codes. Note: The serial codes must be in **Elan SC4_SER** or **HomeLogic HSR** file format.

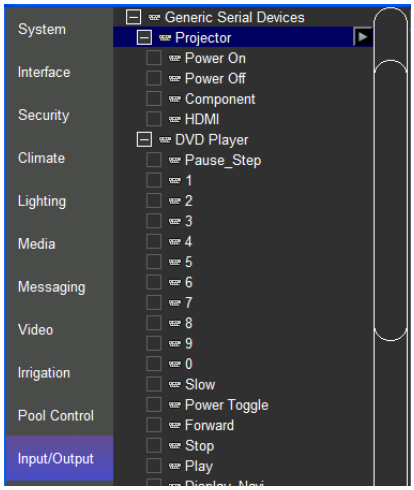
   a. To import a file, right-click on **DVD Player** under **Generic Serial Devices** in the System Tree and select **Import From File…**. *The Windows File Open dialog box will open up to the **ELAN Common Resource Library** Serial Library Folder.*



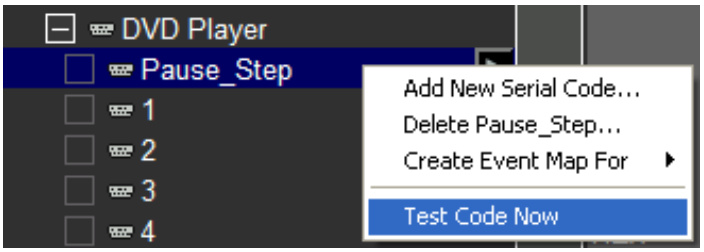
   b. Browse to the Toshiba folder and select the HD-XA1 file as shown below to import the Toshiba DVD Player file.



   c. For a few moments the g! software will read and interpret the settings saved in the file. Once finished, click the + symbol and you will see a list of codes displayed inside your Generic Serial Device: DVD Player in the System Tree.



9. Once all the codes have been added, test them using the Test Code Now option. Right-click the code on the **Input/Output** tab, and select **Test Code Now**.



Note: Since actual equipment Is not installed for this lesson, we cannot verify that the command is effective but will assume it is valid. On a real install, testing codes can be very helpful when developing Generic Serial Drivers, and is an important part of the driver creation process.

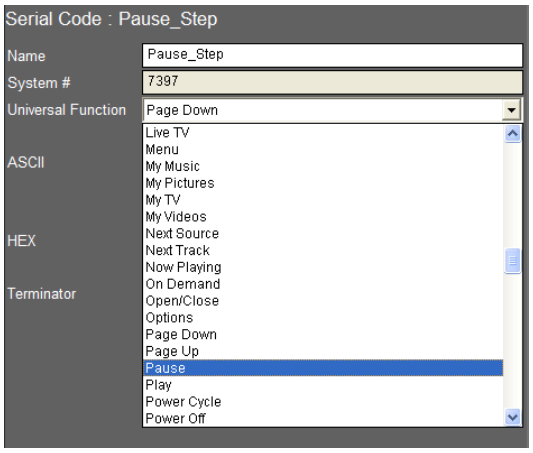
10. Once you have verified that the imported codes work, it is a good idea to prepare them for use in an interface by checking Universal Functions.

    Since these files were imported from the ELAN database, they do not natively save Universal Function information. The g! software attempts to match up Universal Functions for you automatically, but if the names of the codes in the imported serial files do not match a Universal Function, they will not auto-map.

    Therefore, it is important to verify that all imported codes have Universal Functions set correctly after performing an import from Elan.

    a. Click on the first code in the list, **`Pause_step`**. Since the g! software's Universal Function is labeled **Pause**, this code does not align with any Universal Functions.

    b. Set the correct Universal Function now by clicking on the **Universal Function** drop down, scrolling down and selecting **Pause**.



c. Go through all the codes repeating steps a and b as necessary.

Notes about codes that do not match a Universal Function:

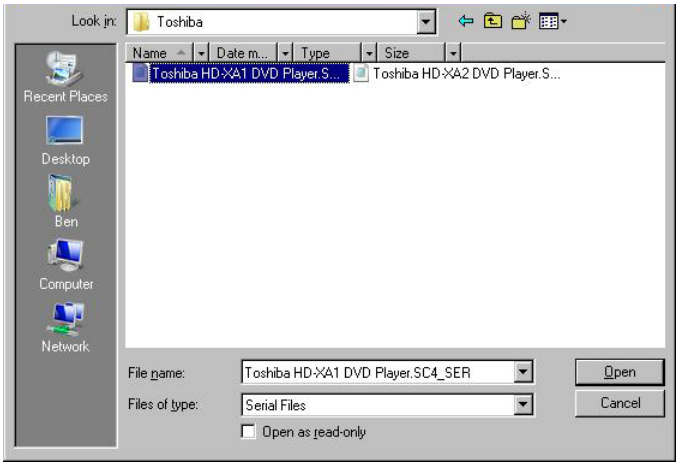
-Some codes, like **`I_P Selector`**, will not have a Universal Function in the g! software. You may leave these unmapped.

-Any commands you do not map Universal Functions to will **not** auto-map to an Interface.

-There are 20 “User” Universal Functions available for you to map any functions you wish to auto-map that are not in the g! software’s default listing.

11. Now that the Serial Device has had all codes tested and optimized, and all proper mapping completed, it is a good idea to export a copy. The exported file can be imported again to this system, if you were controlling multiple identical devices, or imported to another system at a later date if you will reuse this device in a future job.

    a. Right-click the **DVD Player** and select **Export to File** from the menu. *The Windows Save As Dialog box opens:*



    b. Navigate to the appropriate folder on your PC where you would like to save the file. For this exercise, select the Toshiba folder in the **ELAN Common Resources Library** as shown above.

Note: The **ELAN Common Resources Library** installs the data files into a hidden directory. You may need to select “show hidden files and folders” from your explorer folder options dialog box to be able to browse directly to it. Alternatively you can create a shortcut on your desktop to the directory to access the folders.

    c. In the **File Name** field, type “**DVD Player**”, then click **Save**.

Note: Saved file names should be as descriptive as possible and include manufacturer, model number and device type so that they will be easy to find the next time you need them.

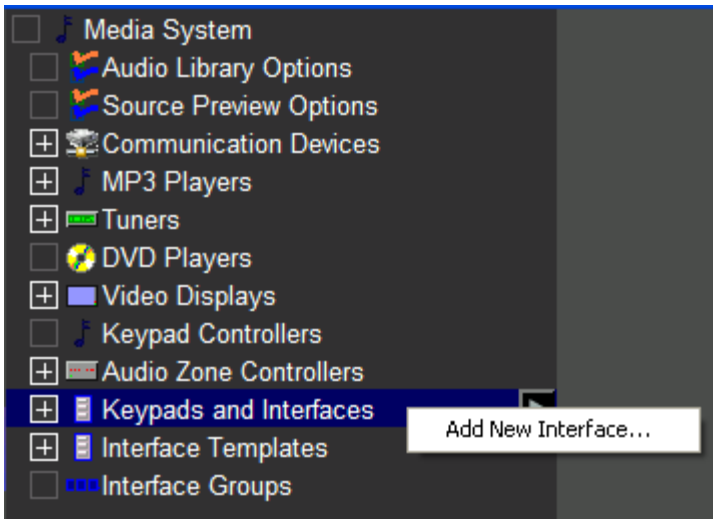
Exercise 4: Add an Interface for Generic Serial-controlled Source

Overview

Once you have added a Generic Serial Device on the Input/Output tab for an AV source, you must add an interface that will contain the graphical layout of buttons and other elements to control the device from a touch screen. Creating these Interfaces is much like those created for IR sources, and is done on the Media tab. Templates are available for common devices as a starting point, and may be customized based on your needs.

How-to

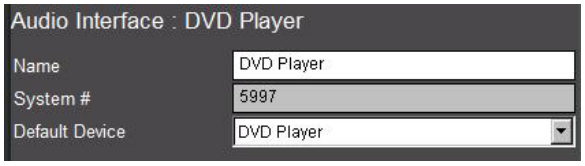
1. In Configurator, navigate to the **Media tab**, right-click on **Keypads and Interfaces** and select **Add New Interface**. *The Add New Interface window opens.*



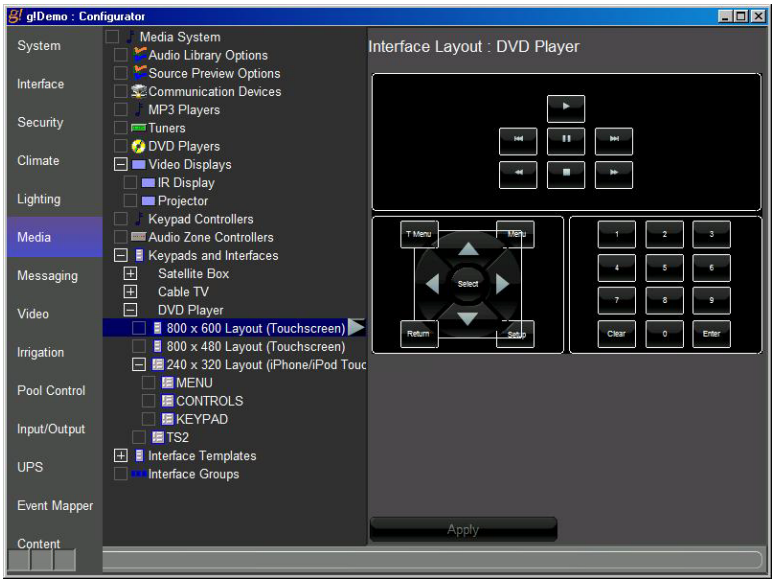
2. **Name** the interface "**DVD Player**" and select **DVD Single Disc** as the **Create From Template**. Finally, **Connect to Device** must be set to **DVD Player**—this will set the DVD Player as the default device for this interface and in turn use the Universal Functions to automatically map commands to the buttons and controls.

3. Click **OK** to add the new interface.

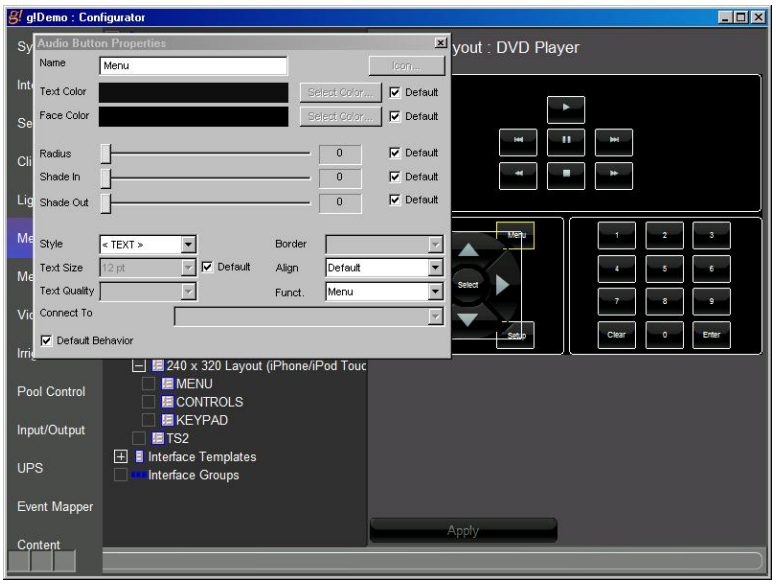
4. Verify that mapping was effective for the default device. Click on the **DVD Player** in the Interface list and verify the default device is set to DVD Player



5. Click the **+** next to **DVD Player** and select the **800x600** layout to preview the DVD Player interface.



6. Click on the **Menu** button in the interface to display the buttons properties. Verify the **Funct** (Universal Function) selection is set to **Menu**. *This means that when this button is pressed in the Viewer the Menu command for this interfaces default device will be issued.*

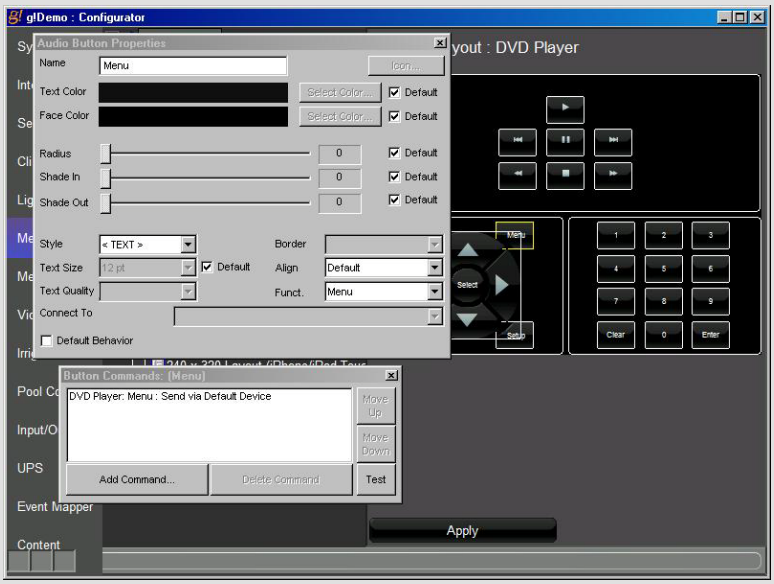


Notes:

The generic serial DVD player and interface is now complete. In the following lessons you will configure this device in a zone controller and be able to see it in the Viewer.

The interface for the DVD Player is customizable, you can add, move, resize, rename, or remove any controls.

Clicking on any button in the interface will show its properties dialog box. Clearing the **Default Behavior** check box uncouples the automatic Universal Function control and allows manual command selection via the **Button Command** dialog box.



Notes:

Notes:

Lesson 8
Built-in Sources

Overview

This lesson shows you how to set up a few basic A/V sources in the g! software.

You will:

- Learn how sources are organized in the Configurator.
- Use the Configurator to setup a few different source devices with built-in drivers.
- Learn about how the g! software controls various types of sources.
- Learn about built-in interfaces, customizable interfaces, and interface templates.

Sample House

Our sample house will have five source devices that will be used in various zones that are to be configured in later lessons.

- 1 MP3 Player (Internal Player – built in audio source)
- 2 AM/FM Tuners (ELAN DT22) controlled via RS-232
- 1 Integra DVD changer controlled via RS-232

Requirements

- A PC running g!Demo and g!Connect Pro.

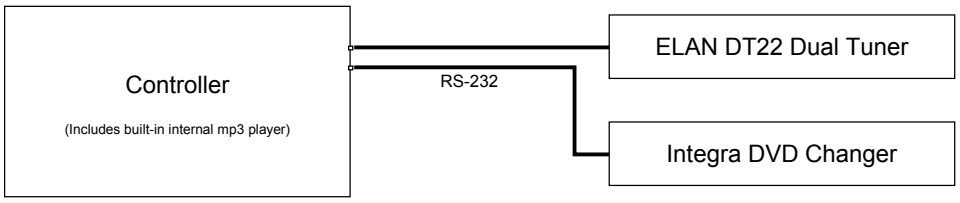
-or-

- ELAN Controller and g!Connect Pro.

Basic Source Overview

Overview

The following diagram shows the basic source equipment in a system schematically. The diagram includes the components that are important to the ELAN controller.



Terms

The following terms are used in the Configurator:

- **Communication Device:** The serial port, Ethernet port, or other method used to communicate with the source device.
- **Source:** Sources provide the A/V media that is to be controlled in the home. Examples include Tuners, MP3 Players, Cable and Satellite boxes, CD & DVD Players, Music and Movie Servers, etc.
- **Interface:** The button layout that makes up the user interface in the Viewer. Some sources have built-in interfaces, others are customizable.

How-to

To integrate a source device:

- Add the Communication Device, IR Device, etc. as required for the source control
- Add the Source
- For sources that do not have a built-in interface, add the interface

Note: Adding a source into the Configurator does not result in the source being added to the Viewer. The source must be assigned to a Zone Controller before it will be available for use. See the following Home Theater and Distributed A/V Lessons for details on adding a Zone Controller.

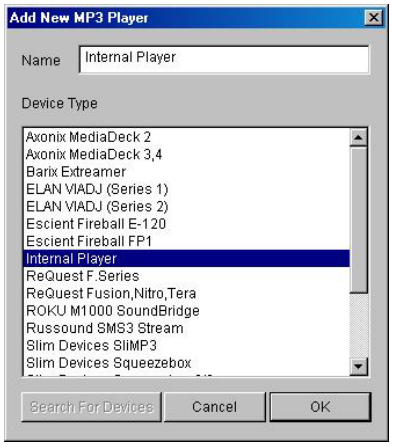
Exercise 1: Add the Internal Player

Overview In this exercise you will configure the Internal Player and add music files. This source is used to play digital music (MP3 or WAV files) through the ELAN Controller audio outputs as a source to an audio zone controller. This source includes a built-in two-way driver and built-in interface. Since this source is internal to the ELAN Controller we only need to add the source device. Both the COM device and interface are built-in.

How-to

1. Add the MP3 Player.

   a. On the **Media** tab in the Configurator, right-click **MP3 Players** and select **Add New MP3 Player**. *The Add New MP3 window opens.*

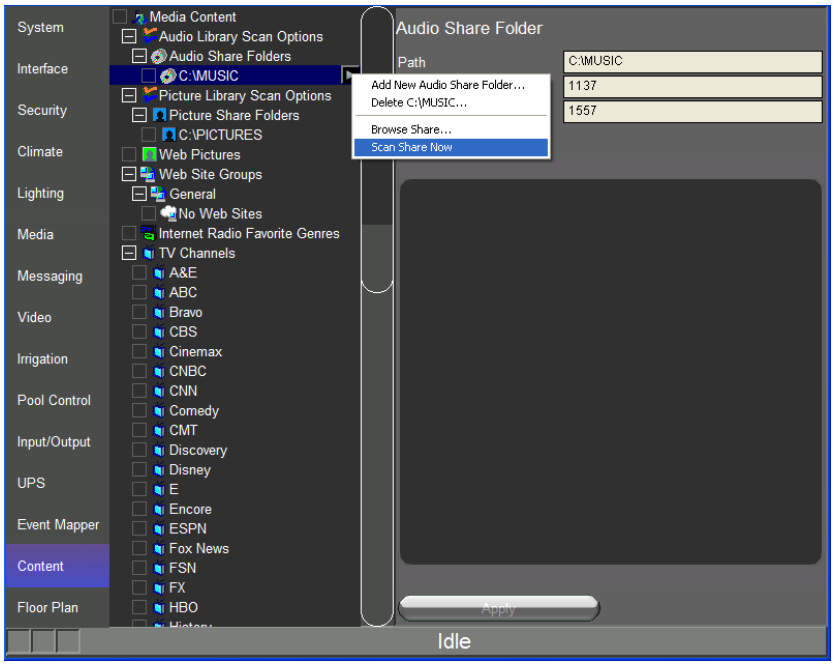


   b. Select **Internal Player** from the list and click **OK**. *The MP3 Player will appear in the System Tree as shown below.*

2. Scan library.

   a. Navigate to the **Content** tab in the Configurator. In the System Tree, locate **Audio Library Scan Options, Audio Share Folders**.

   b. Right-click on the **C:\Music** directory and select **Scan Share Now**. *The Configurator will scan the sample music in this directory to build a library for the Internal Player.*



Note: The g!Demo installer will add sample music to the C:\Music directory to provide a sample library for the Viewer during training class. If you are not running the g!Demo you may need to add music to have the system find it. Shared drives on the local network may also be used as music libraries.

3. Once the scan is complete, verify that there are 58 files in the audio share folder.

Exercise 2: Add a RS-232 Source with a Built-in Driver & Interface

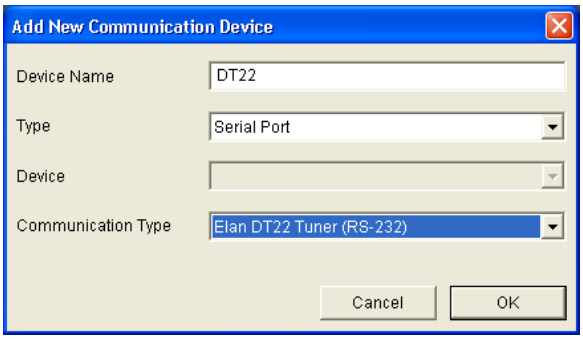
Overview

In this exercise you will configure an ELAN DT22 Dual Tuner. This source device is an example of a source with a built-in two-way driver and a built-in interface. This means that the g! software includes the necessary serial commands to control the tuner and has a built-in interface with all control and feedback automatically configured. Just add the device and you are done—there is no need to create an interface.

Note: For a complete listing of supported devices with built-in drivers, refer to the ELAN website for a listing for all supported devices and links to *Integration Notes* for each.

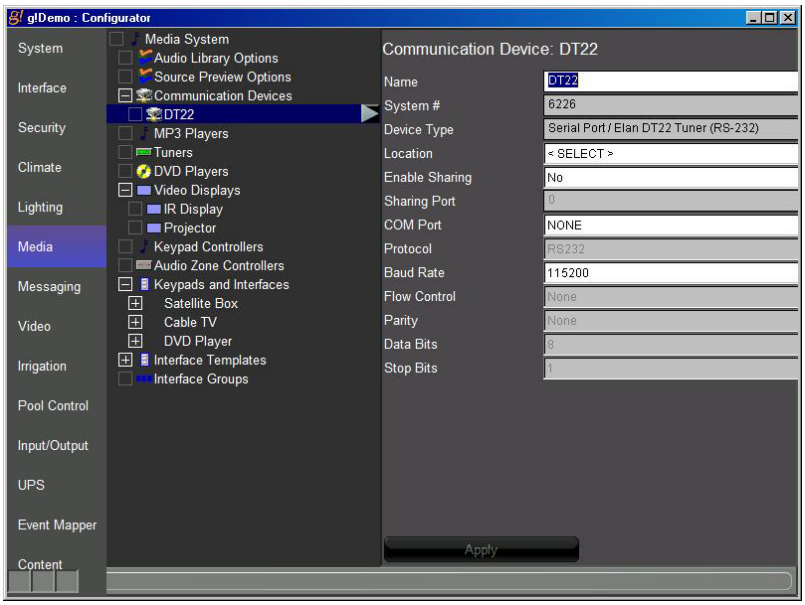
How-to

1. Add the communication device.
   a. Start the **Configurator**, click the **Media** tab, then right-click **Communication Devices**.
   b. Select **Add New Communication** Device. In the dialog box:
      - Select **Serial Port** in the **Type** drop-down box.
      - Select **ELAN DT22 Tuner (RS-232)** in the Communication Type drop-down box.
      - Enter “DT22” as the **Device Name**.
      - Click **OK**.



2. Set the COM port.

   a. Select the DT22 communication device on the System Tree. The properties for this device display to the right.

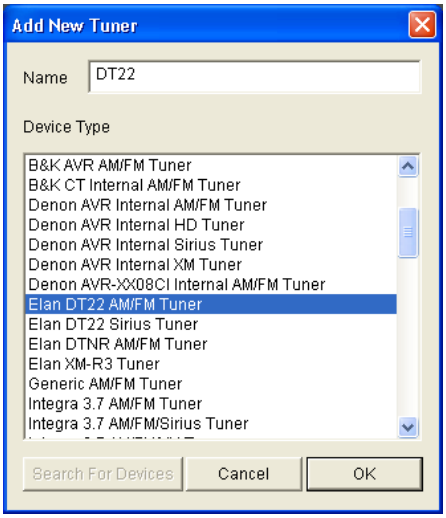


   b. Select the desired COM Port in the properties window.

Note: The drop-down menu only shows the ports that are available. If you are running g!Demo on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo**.

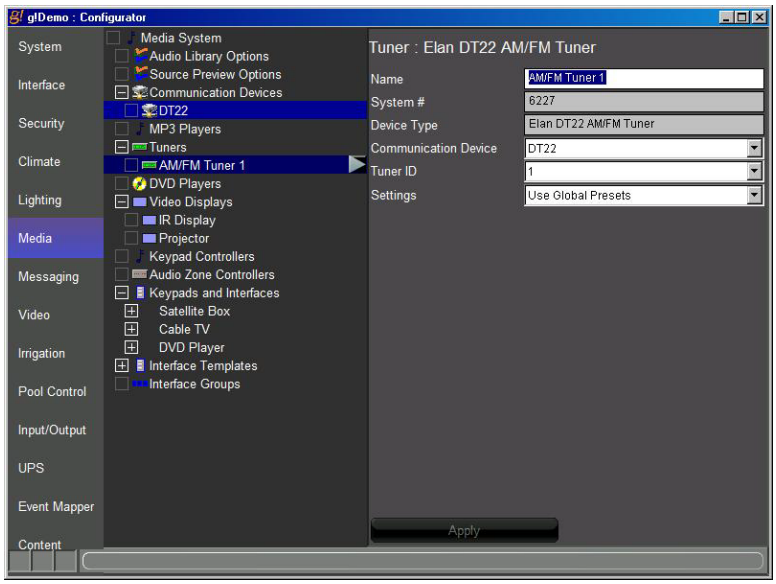
3. Add the ELAN DT22. Since there are two tuners in this device, we will add two tuners to our system configuration.

   a. On the System Tree, right-click **Tuners**. Select **Add New Tuner** from the menu. *The Add New Tuners window opens.*

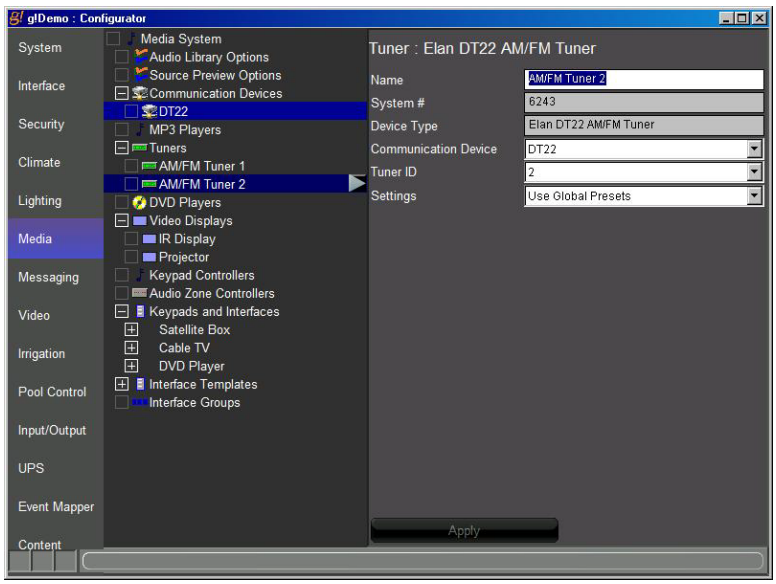


   b. Select **ELAN DT22 AM/FM Tuner**, and click **OK** to add the tuner. *The tuner is added to the System Tree and automatically connects to the COM Device.*

4. Select the **Tuner** in the System Tree. In the properties window:
    - Change the name to **AM/FM Tuner 1**
    - Set the **Tuner ID** to **1**
    - Click **Apply** to save.



5. Repeat the steps above to add the second tuner to the system. Name the Tuner **AM/FM Tuner 2**, and set the **Tuner ID** to **2**.



Note: The Dual Tuner configuration is now complete. Since this device has a built-in interface it can be directly configured as a source in a zone controller. In the following lessons you will add this device as a source to a zone controller and be able to see it in the Viewer.

Exercise 3: Add a RS-232 Source with a Built-in Driver & Customizable Interface

Overview

In this exercise you will configure an Integra DVD Changer. This source device is an example of a source with a built-in two-way driver and a customizable interface. This means that the g! software includes the necessary serial commands to control the changer and provides a set of interface templates that have the commands pre-mapped. Once a template is connected to the device, the control is automatically configured. The template also provides the ability to customize – add, remove, or change controls as needed. In this exercise you will add the DVD Changer and the interface, and verify that the mapping is correct.

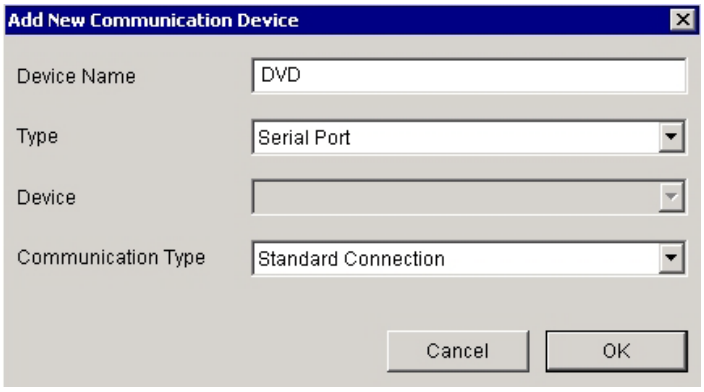
How-To

1. Add the communication device.

    a. Start the Configurator, click the **Media** tab, and then right-click **Communication Devices**.

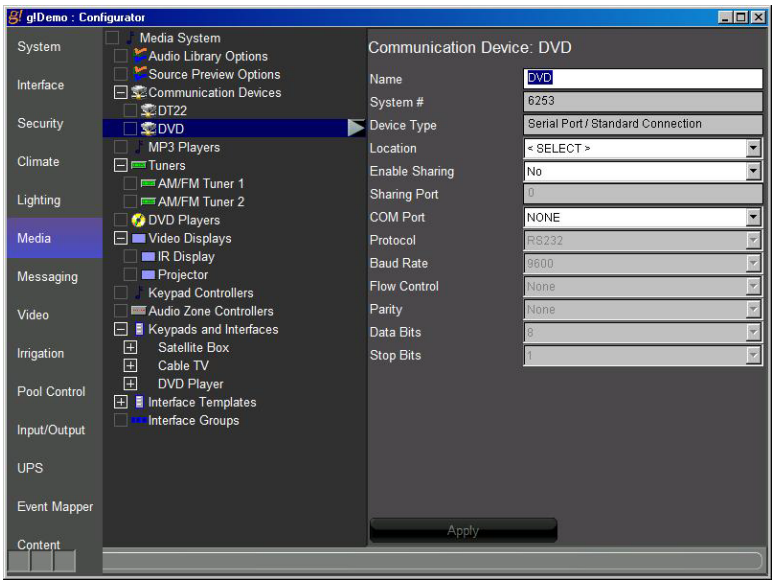
    b. Select **Add New Communication** Device. In the dialog box:

    - Select **Serial Port** in the **Type** drop-down box.
    - Select **Standard Connection** in the **Communication Type** drop-down box.
    - Type the name “DVD” as the Device Name.
    - Click **OK**.



2. Set the COM Port.

   a. Select the DVD communication device on the System Tree. The properties for this device display to the right.

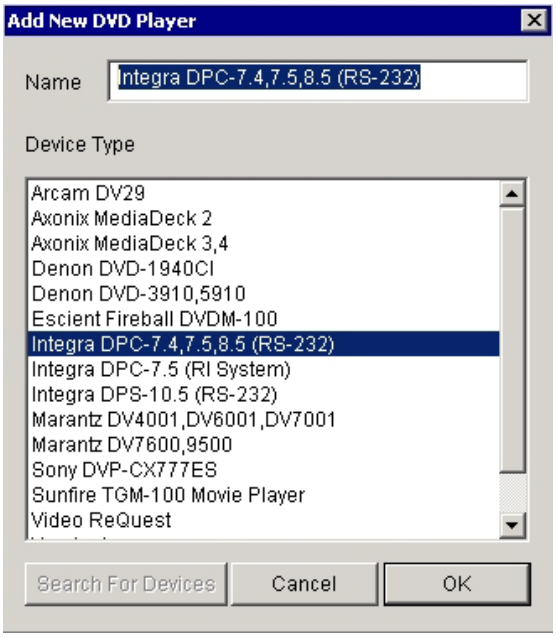


   b. Select the desired COM Port in the properties window.

Note: The drop-down menu only shows the ports that are available. If you are running g!Demo on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo**.

3. Add the Integra DVD Player.

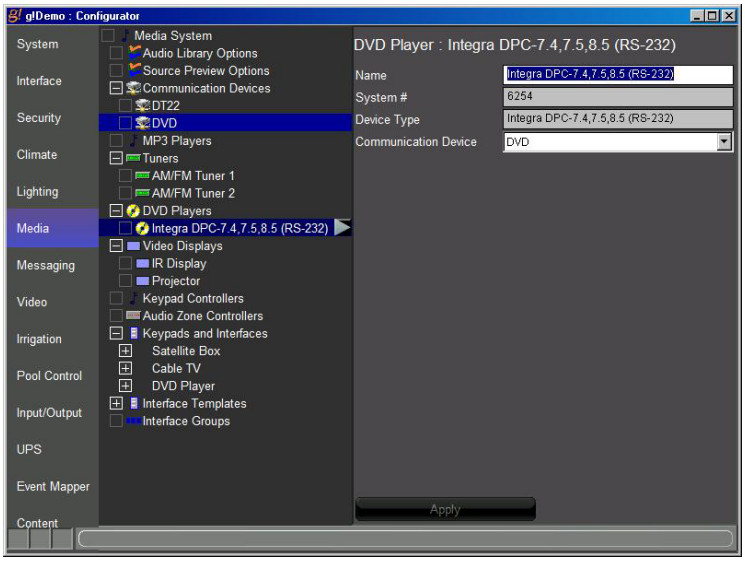
   a. On the System Tree, right-click **DVD Players**. Select **Add New DVD Player** from the menu. *The Add New DVD Player window opens.*



b. Select **Integra DPC-7.4,7.5,8.5 (RS-232)**, and click **OK** to add the DVD Player. *The DVD Player is added to the System Tree.*

c. Select the DVD Player in the System Tree. In the properties window:

- Select the Communication Device **DVD** from the drop-down list.
- Click **Apply**.



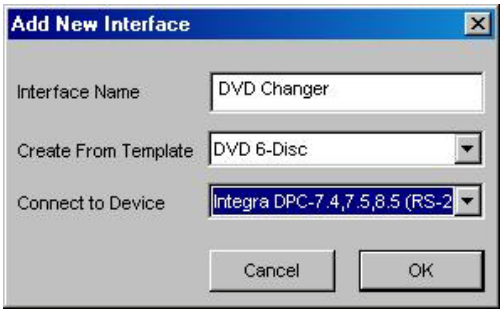
4. Add the Interface.

a. On the Configurator **Media** tab, right-click **Keypads and Interfaces** in the System Tree, then select **Add New Interface**. *The Add New Interface window opens.*

b. Type **DVD Changer** in the **Interface Name** field.

c. Select **DVD 6-Disc** from the **Create From Template** drop-down menu.

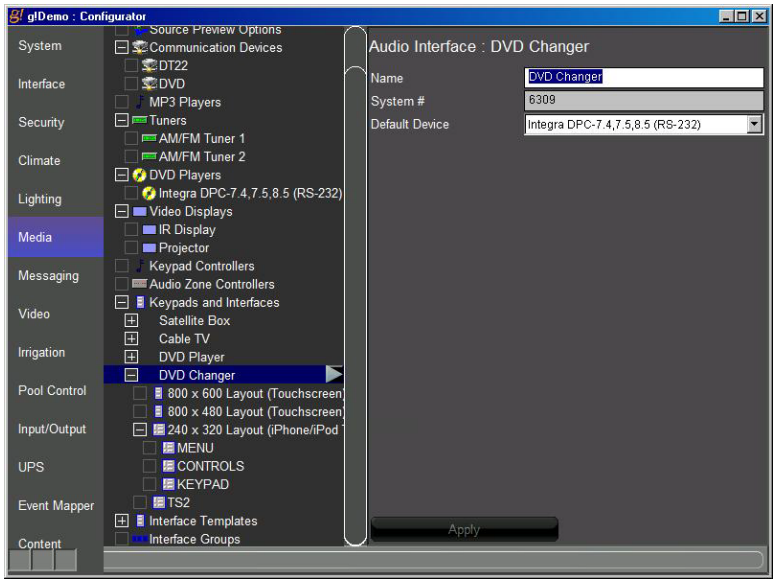
d. Select **Integra DPC-7.4,7.5,8.5 (RS-232)** from the **Connect To Device** drop-down list. *This step defines the Integra DVD as the default device for this interface and in turn assigns the buttons on the Viewer Interface to the proper commands on the DVD Changer.*



e. Click **OK** to add the new interface.

5. Check the interface.

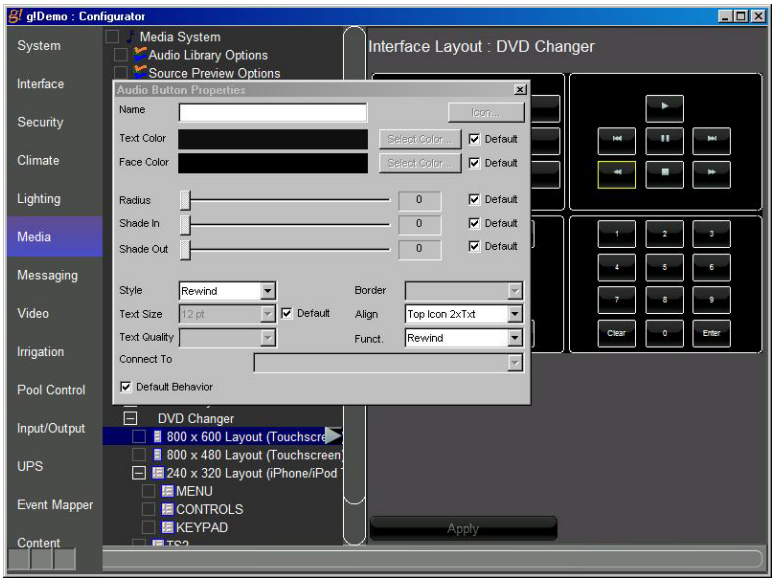
   a. Click the plus sign (+) next to the **DVD Changer** interface in the System Tree to expand it.



   b. Verify the Integra driver is selected as the **Default Device**.

   c. Select the 800 x 600 resolution to view its button layout.

   d. Click the **Rewind** button to display the **Audio Button Properties** dialogue box. Verify the Funct. (Universal Fuction) is set to Rewind. *This means that when this button is pressed in the Viewer the Rewind command will be issued to the default device assigned to this interface.*

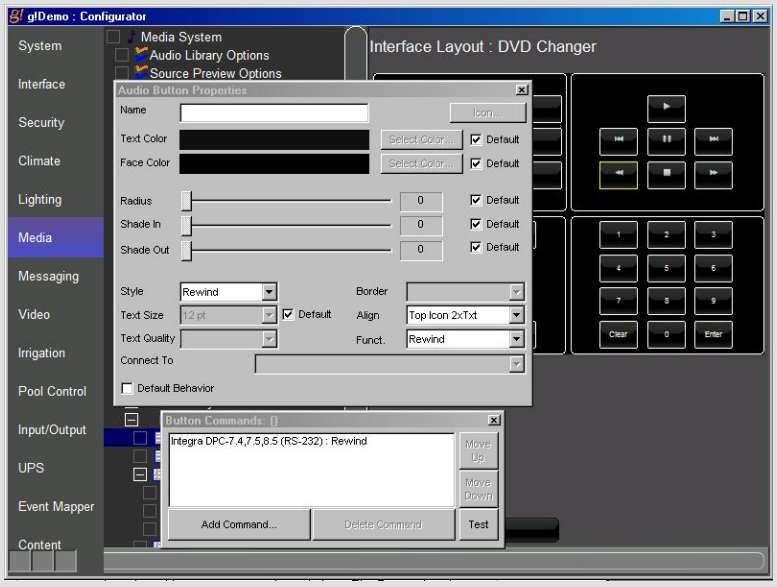


Notes:

At this time the DVD Changer configuration is complete. In the following lessons you will add this device as a source to a zone controller and be able to see it in the Viewer.

The interface for the DVD Changer is customizable. You can add, move, resize, rename, or remove any controls.

Clicking on any button in the preview of the interface will show its properties dialog box. Clearing the **Default Behavior** check box uncouples the automatic Universal Function control and allows manual command selection via the **Button Command** dialog box.



Notes:

Notes:

Lesson 9

Configuring Distributed A/V Systems

Overview

This lesson shows you how to set up a distributed A/V system with the music sources that were added in the previous lessons.

You will:

- Learn how a multi-zone audio system is organized in the Configurator.
- Configure a zone controller for two zones and five sources.
- Learn how a video distribution system is organized in the Configurator.
- Configure a video distribution system with two sources and two zones.
- Configure the video switch to follow the audio (Slaving).
- Add Video Displays to a zone and configure their power and input functions.
- Check the Viewer interface to confirm proper configuration.
- Understand the various features available in the Viewer.

Sample House

Our sample house will be configured with two distributed A/V zones:

- Living Room
- Bedroom

Requirements

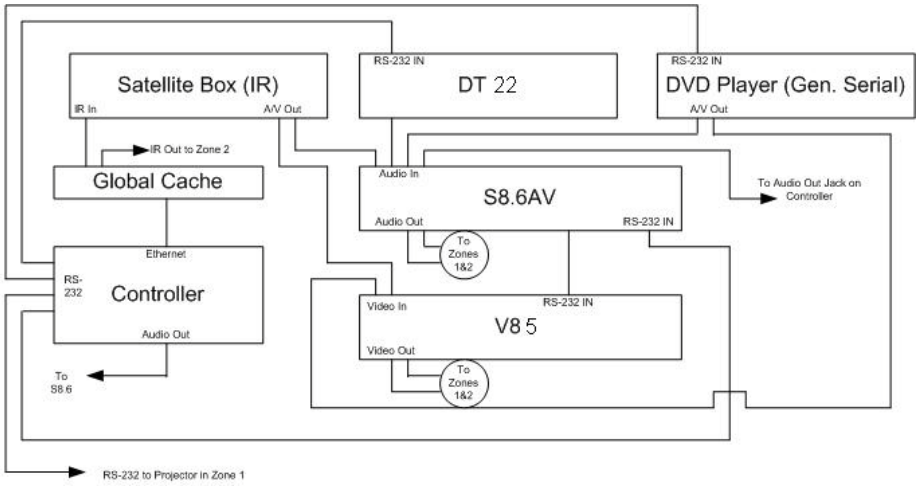
- A PC running g!Demo and g!Connect Pro.

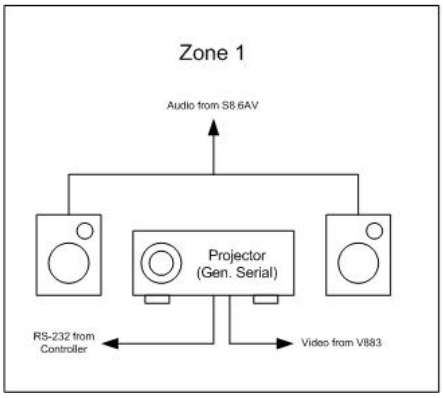
-or-

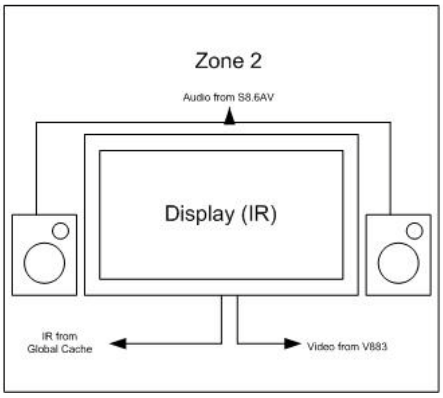
- ELAN Controller and g!Connect Pro.

Distributed A/V Integration Overview

Overview The following diagram shows the equipment in a five source / two zone distributed A/V system schematically, illustrating the components that are important to the ELAN controller.







Integrating a distributed A/V system with ELAN will provide the homeowner control of their audio system through the g! Viewer. For each A/V zone in their home, they will be able to:

- Turn the zone on and off
- Select and control a source for the zone
- Adjust the audio volume in the zone
- Change the zone settings, such as bass and treble

A note about Media Application licensing:

Included Media functionality: Supports unlimited ELAN Zone Controllers, unlimited Sunfire AVRs, and one AVR (any supported brand) or a single AVR zone 1-way controlled. Unlimited video displays and sources are also included.

Media Pro App: Supports unlimited multi-room zone controllers and unlimited AVRs (any brand with which ELAN integrates). Refer to ELAN's website for a full list of supported controllers.

Terms

The following terms are used in the Configurator to describe the equipment in an audio system:

- **Communication Device:** The method the g! software will use to communicate with an external device, including information about the connection type and protocol.
- **Audio Zone Controller:** The device used to distribute audio throughout the home.
- **Keypads and Interfaces:** A custom defined interface for controlling audio source components.

How-to

Integrating a distributed A/V system with ELAN consists of the following steps:

- Add the **Communication Device**
- Add the **Zone Controller** for the distributed audio
- Configure the **Audio Sources** and **Zones** in the audio zone controller.
- Add the **Zone Controller** for the distributed video
- Configure the **Video Sources** and **Zones** in the video zone controller.
- Assign **Displays** to the audio zones.
- **Slave** the video zones to the audio zones

Exercise 1: Add a Communication Device

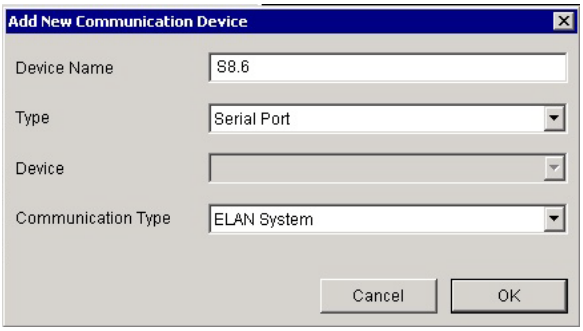
Overview

In the following steps you will add a Communication Device to communicate with the audio zone controller, in our example an ELAN S8.6. The Communication Device is the bridge between the g! software and the zone controller, and is where you will specify how the systems are physically connected and what communication protocol should be used.

Note: Actual system setup may be different depending upon which zone controller is installed on site. Refer to the *Integration Notes* for the particular zone controller for details.

How-to

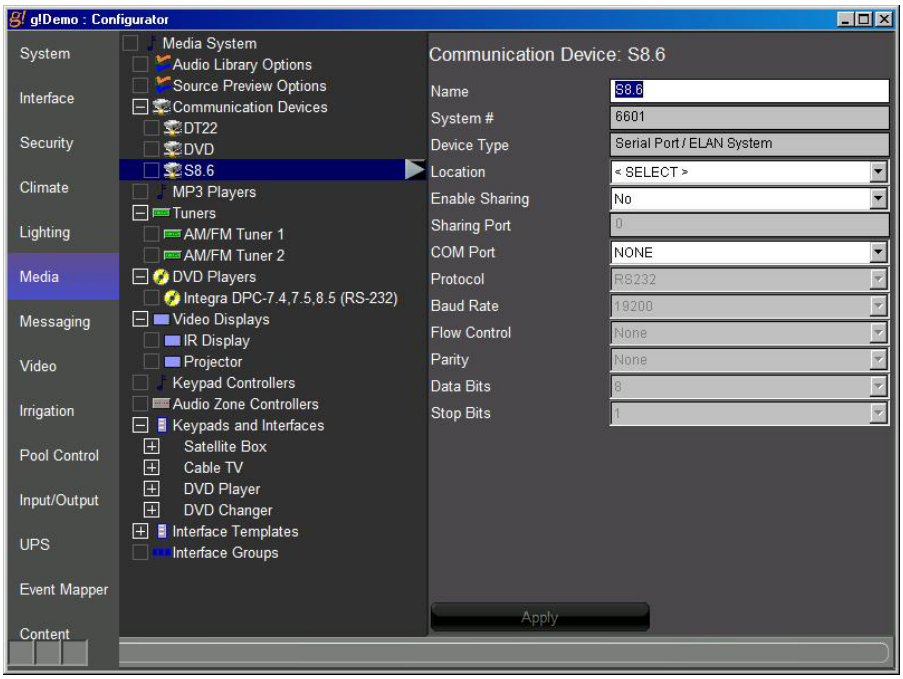
1. Start the Configurator, click the **Media** tab at left, then click **Communication Devices.**
2. Right-click **Communication Device** and select **Add New Communication Device**. *The Add New Communication Device window opens.*
    a. Select **Serial Port** in the Type drop-down box
    b. Select **ELAN System** in the Communication Type drop-down box.
    c. Enter “S8.6” as the **Device Name**.
    d. Click **OK**.



Quick Reference: Add New Communication Device	
Device Name	Enter a name for the external device. This can be any name, but should be descriptive so that you can identify this specific device in the Configurator. DO NOT leave this field set to “New Device”.
Type	The type of connection you are using, such as serial port or Ethernet.
Device	This field will populate only if needed, depending on the selected Type.
Communication Type	This is the protocol of the communication. See the Integration Note for the specific zone controller for more information.

3. Select the **S8.6** communication device in the System Tree as shown below.
4. In the properties window at right, select the COM Port to which this system is connected, then click **Apply**.

Note: The drop-down menu only shows the ports that are available. If you are running g!Demo on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo.**



Exercise 2: Add the Audio Zone Controller

Overview

Before beginning this exercise, be sure you have completed Exercise 1 of this lesson, *Add the Communication Device*. Now that the Communication Device is configured, you need to add in the Audio Zone Controller prior to adding the sources and configuring the zones.

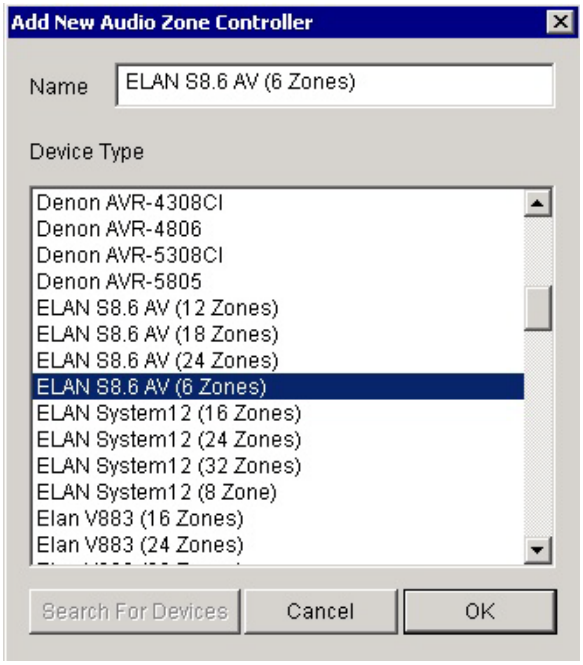
In a distributed A/V installation, the zone controller is the heart of the whole house audio system. **The main Media icon will not appear in the Viewer until a zone controller has been added in the Configurator**.

In the steps below, you will add an Elan S8.6 multi-room audio system to the Configurator.

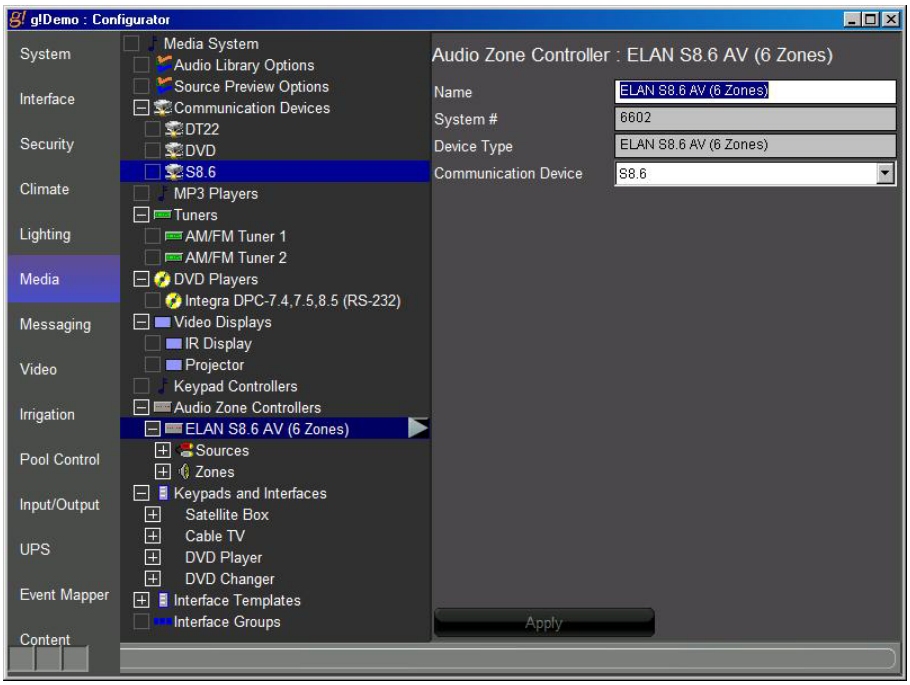
Note: Actual system setup may be different based on the audio equipment installed on site. Refer to the *Integration Notes* for the particular details for your system.

How-to

1. In the Configurator, right-click **Audio Zone Controllers**, then click **Add New Audio Zone Controller**. *The Add New Audio Zone Controller window opens.*
2. Select **ELAN S8.6 AV (6 Zones)** as shown, and then click **OK**.



3. Select the **Elan S8.6 AV** audio zone controller in the System Tree and verify the communication device in the properties window. *The Communication Device added in the previous exercise should automatically be selected for the Zone Controller.*



Exercise 3: S8.6 Source Settings

Overview

In the following steps, you will see how the Configurator can be used to set up the Source Volume and IR routing settings on an ELAN S8.6 AV.

Source Volume settings are used to equalize the sound levels for each selected source to prevent the user from needing to adjust the volume up or down for each source selected. The IR routing table defines how IR will pass thru the S8.6 chassis.

Note: The settings described in this exercise are only available for ELAN equipment.

How-to

1. Start the **Configurator** and click the **Media** tab at the left.
2. Select **Sources** under the **ELAN S8.6 AV (6 Zones)**. *The Source Setting Matrix is shown on the right.*
   - *Right click the values in the Audio Input column to change the volume level for the selected input.*
   - *Click in the IR routing table to change the IR routing in the chassis.*

Quick Reference: S8.6 AV Source Settings	
Source Name	The names of the sources. See the source exercise below for more details.
IR 1-8	IR routing matrix. This matrix allows configuration of IR routing through the S8.6 chassis. Note: These setting have no effect on IR outputs from Global Cache or the HC series controllers. Select the IR output jack for each source. An “X” indicates that IR received by the chassis zone input will be passed to that port when the selected source is active. In the screen above, for example, if IR is received to control source 2, AM/FM, the IR will be routed to IR output 2.
Audio Input	The source volume level. Use these adjustments (+ / –) on each source to maintain equivalent source volumes throughout the system.
Import Settings from Device	(Optional) If the chassis has already been configured, click this button to read in the existing settings from the device.

Exercise 4: Add Sources to the Zone Controller

Overview

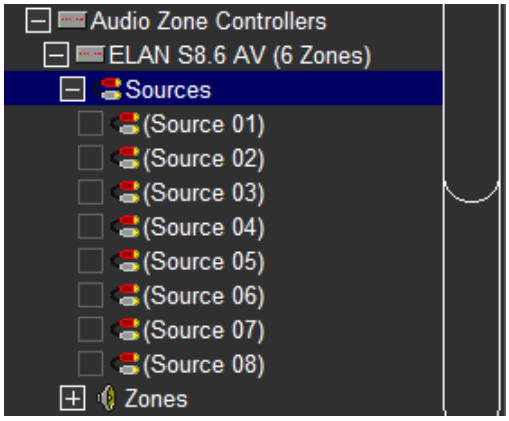
In a typical installation, sources are assigned to specific inputs on the zone controller. The g! software needs to know which sources are assigned to each input so that the correct signals can be sent to the zone controller based on user input in the Viewer interface. This procedure is the same for all supported Audio Zone Controllers.

For our Sample House, we will be configuring the three audio and two video sources added in Lessons 6, 7, and 8.

- Source 1 will be the Internal Player.
- Sources 2 and 3 will be the two audio feeds from the ELAN DT22.
- Source 4 will be the Generic Serial DVD player.
- Source 5 will be the Satellite box.

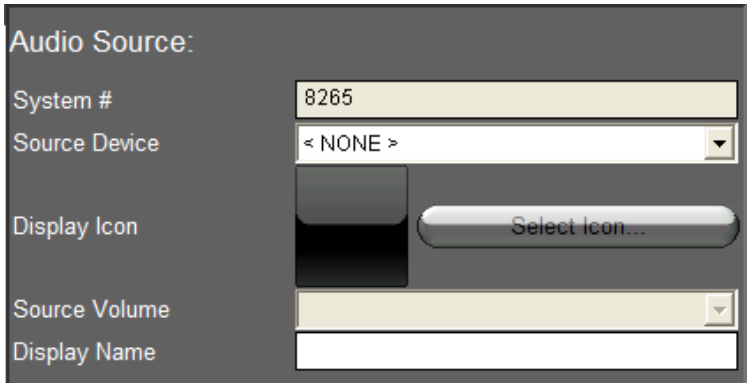
How-to

1. In the **Media** tab System Tree, click the plus (+) sign next to **Sources** to expand the Source List for the ELAN S8.6 zone controller added in Exercise 2.

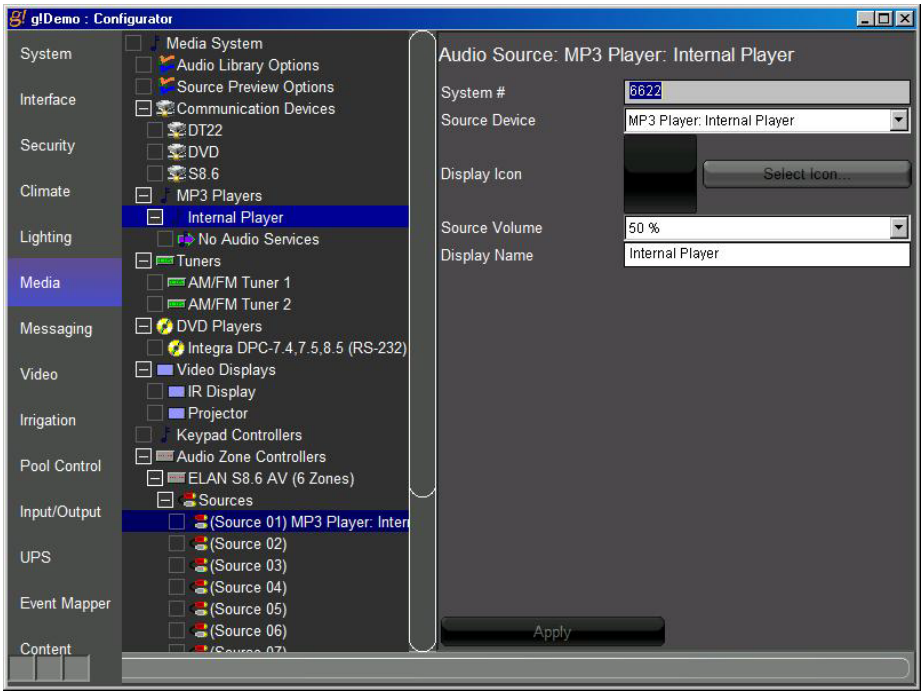


Note: The names shown for sources should match the input names printed on the back of the zone controller

2. Select **(Source 1)** from the list of available sources. *The properties for (Source 1) display in the window on the right.*



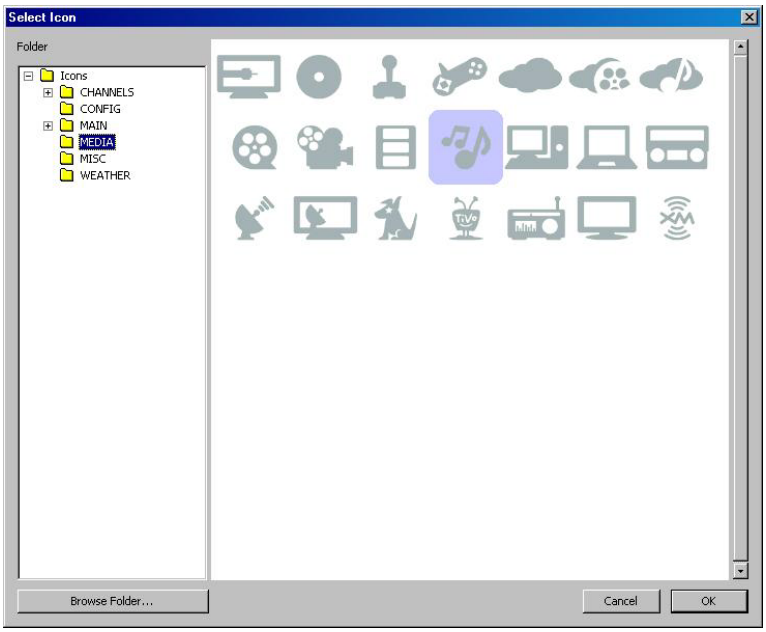
3. Select **MP3 Player: Internal Player** from the **Source Device** drop-down list as the source device for (Source 1), then click **Apply.** *The (Source 1) entry in the System Tree changes to show its association with the Internal Player, and the Player itself is highlighted to indicate that it is the device referenced by the source.*



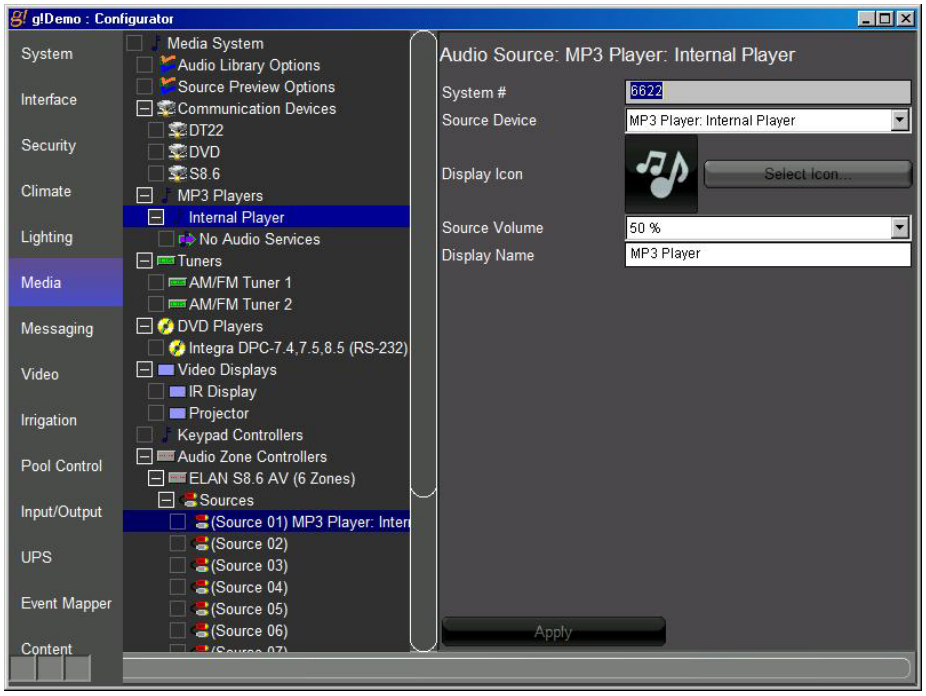
Note: To ensure proper control, the source devices must be connected to the same physical input that is specified in the Configurator.

4. In the properties window, click the **Select Icon** button. *The Select Icon window opens.*

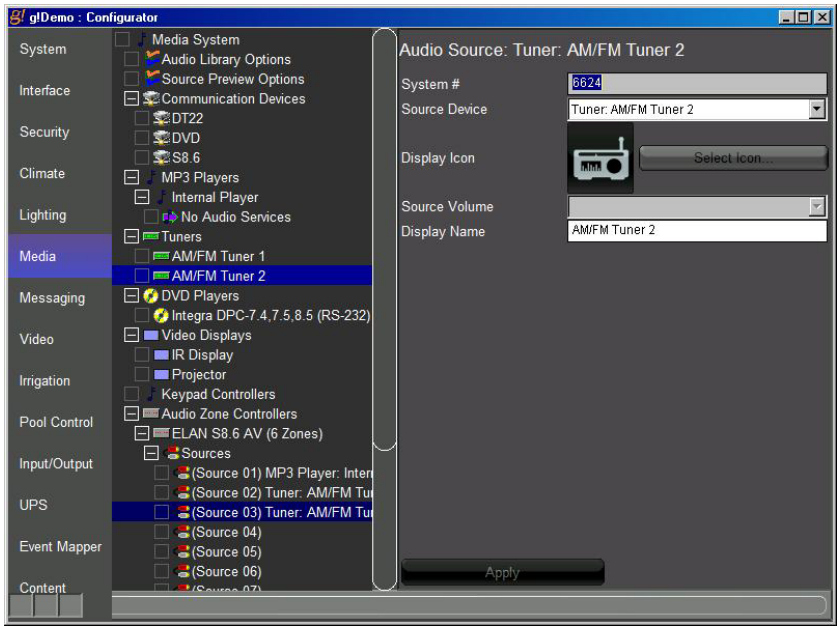
5. Click the plus (+) sign next to the Icons folder, then select the **Media** subfolder. The built-in icons display in the window. Select the icon you wish to use for the source and click **OK**.



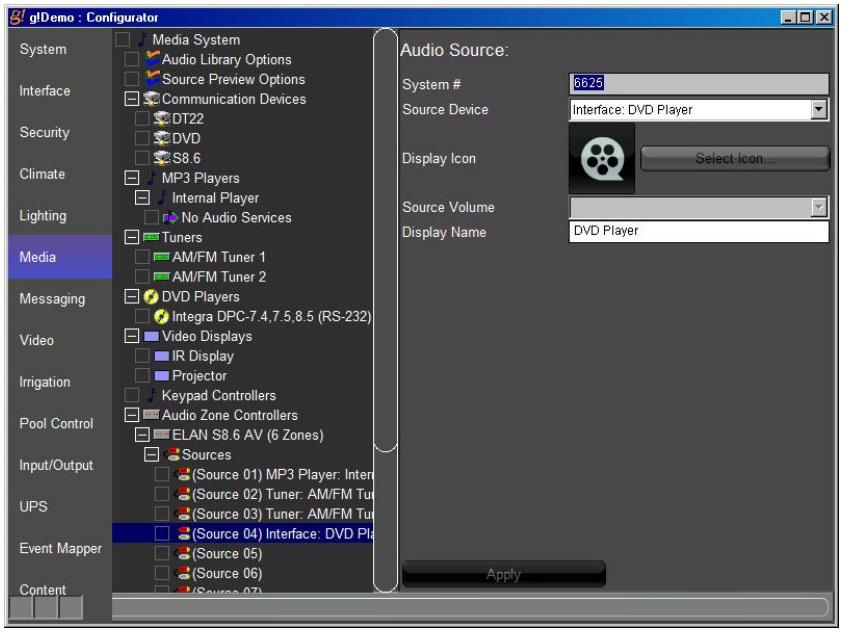
6. Change the **Display Name** entry to something more user-friendly, like “MP3 Player”. *The Display Name is what will appear in the Viewer.*



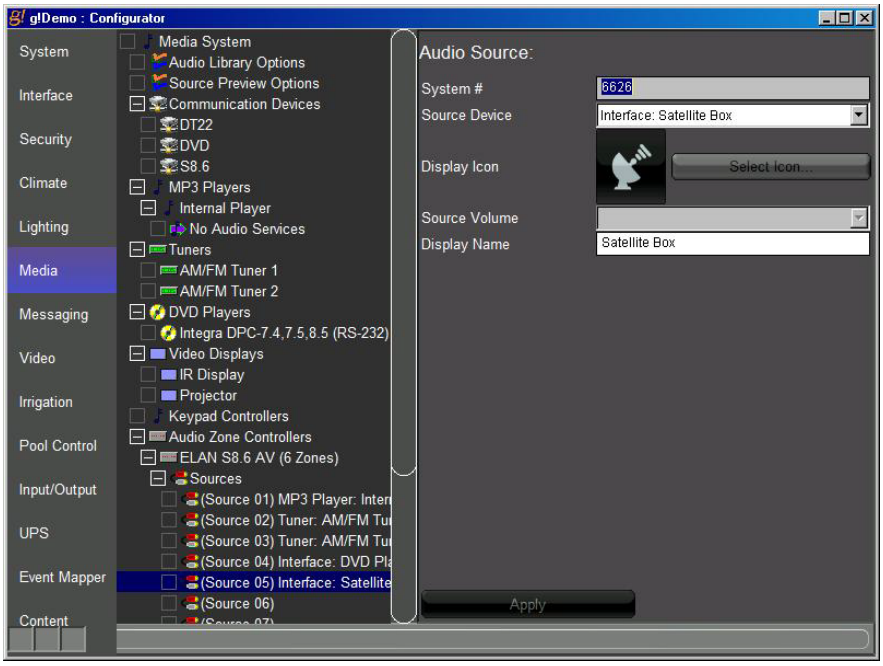
7. Repeat steps 2 through 6 to add the DT22 to Source 2 and Source 3.
   - Select the first **AM/FM Tuner 1** for (Source 2).
   - Select the second **AM/FM Tuner 2** for (Source 3).



8. Select Source 4 on the S8.6AV to add the DVD changer.
   a. From the Source Device drop-down, choose "**Interface: DVD Changer**"
   b. Assign the DVD Changer an appropriate icon
   c. Change the Display Name of the DVD Changer, if desired.
   d. Click **Apply**.



9. Repeat step 8 to add the Satellite Box interface as Source 5.



Exercise 5: Configure Zones

Overview

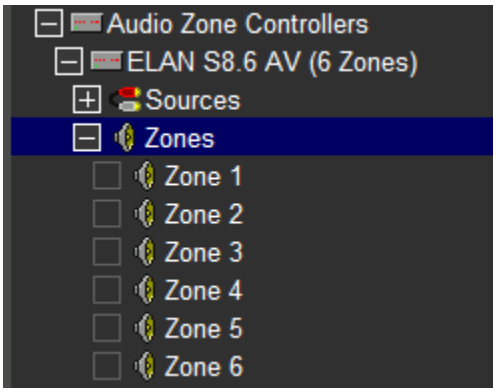
Before beginning this exercise, be sure you have completed *Exercise 2* of this lesson, *Add the Audio Zone Controller.* In this exercise, you will set up the Zone Names and Settings pages for the Audio Zone Controller, and remove unused zones from the Viewer interface.

Giving the zones user-friendly names, such as “Living Room” and “Bedroom” for our sample house, will provide the homeowner with an intuitive interface for controlling the audio in their home. Removing unused zones from the Viewer interface prevents confusion on the part of the homeowner, and also prevents them from turning on a zone to which no speakers are connected.

The optional settings interface gives the user access to less commonly used functions, such as bass, treble, Whole House Audio, Do Not Disturb, and loudness.

How-to

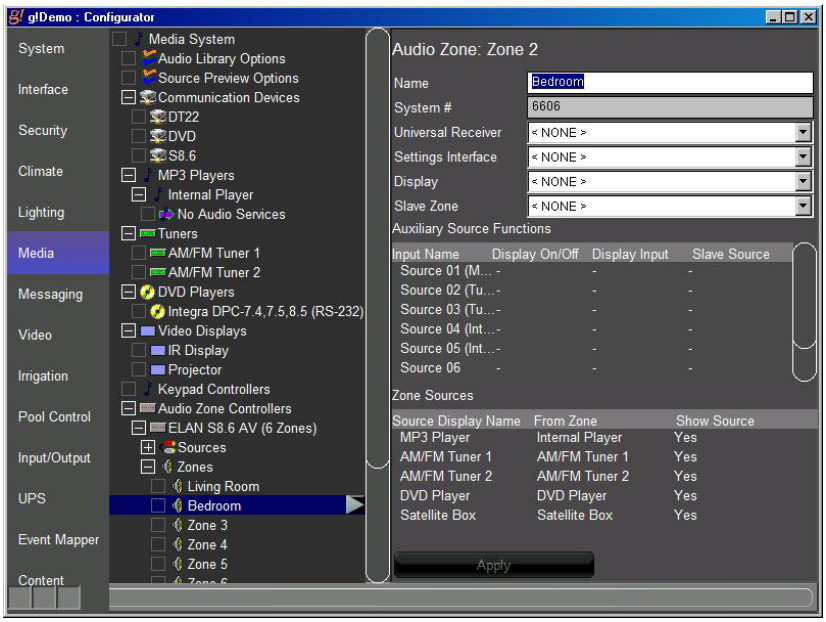
1. In the **Media** tab System Tree click the plus (+) sign next to **Zones** to expand the Zone List for the ELAN S8.6 zone controller added in Exercise 2.



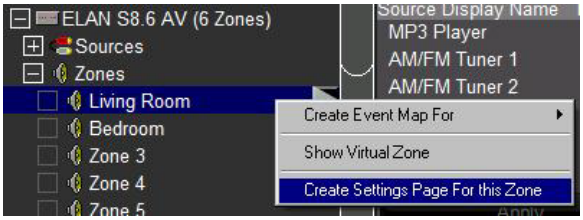
2. Click on **Zone 1** in the zone list. *The properties for Zone 1 will display on the right.*

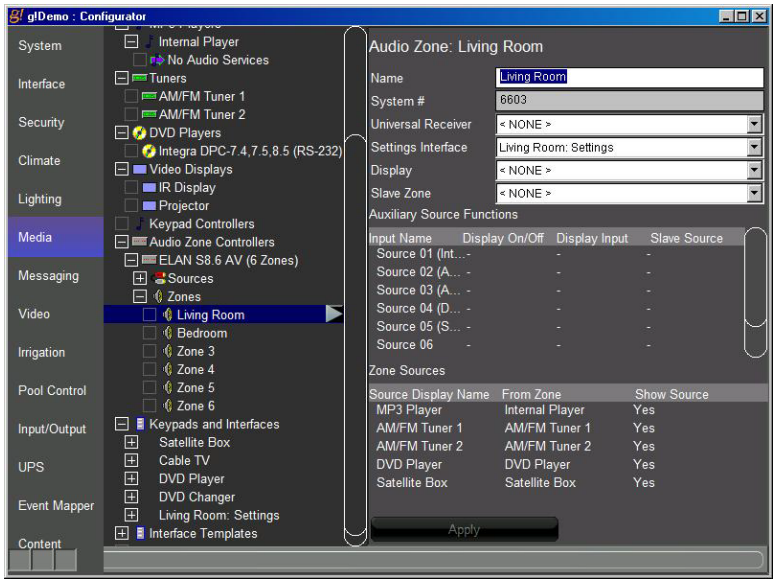
    a. In the **Name** field, type the name of the first zone in our Sample House, “Living Room”, and click **Apply**. *The label of the zone will change in the Zone List to reflect the new name.*

    b. Repeat Step 2 for Zone 2, to change the name to “Bedroom”, your screen should look as below.



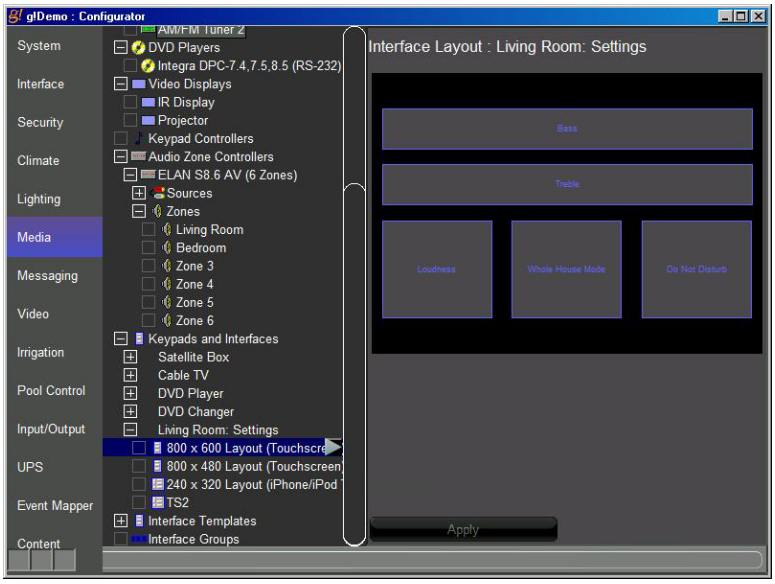
3. To add the optional Zone Settings page, right-click the Living Room zone and select **Create Settings Page for this Zone**.
   A new entry is added under Keypads and Interfaces in the System Tree called Living Room: Settings. Also, the Settings Interface field in the Zone properties window changes to show that the Living Room: Settings interface is assigned to this zone.





4. Under **Keypads and Interfaces**, click the plus (+) sign to the left of **Living Room: Settings** to expand the list.

    a. Select **800x600 Layout (Touchscreen)** to display a representation of the settings page for this zone.

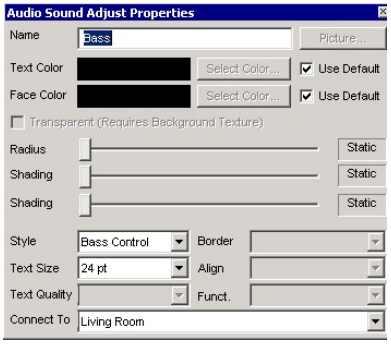


    b. Select **Bass** at the top of the Interface Layout. *The control is highlighted in yellow and the Audio Sound Adjust Properties window opens.*

Note: In the Viewer, this object appears as a Bass tone control slider that allows the homeowner to increase or decrease the bass in the zone.

    c. Note the following in the **Audio Sound Adjust Properties** window:

- The **Name** field is set to “Bass”. This corresponds to the label on the control.
- The **Style** drop-down is set to **Bass Control**.
- The **Connect To** drop-down is set to “Living Room”, indicating that this is the zone the slider controls:



Note: The Settings page is fully customizable and any of the objects on this page can be moved and resized so that controls can be added if needed.

Exercise 6: S8.6 Zone Settings

Overview

The following steps will guide you through setting up the default behavior for individual zone volumes and paging behavior on an Elan S8.6 AV.

There are four volume settings for each zone on the S8.6AV- **Max Volume**, **Min Vol Turn On**, **Max Vol Turn On**, and **Page Volume**.

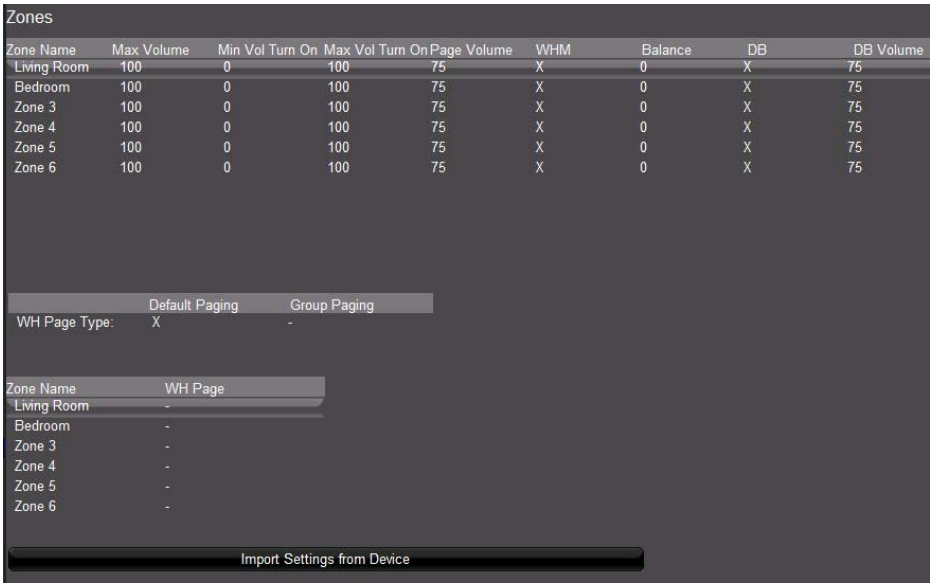
The ELAN S8.6 AV includes paging functionality which can be used in conjunction with a C2 (COM2) Communications Controller for doorbell and intercom Communication throughout the home.

Each of these settings will be explored in more depth below.

Note: The settings described in this exercise are only available for ELAN equipment.

How-to

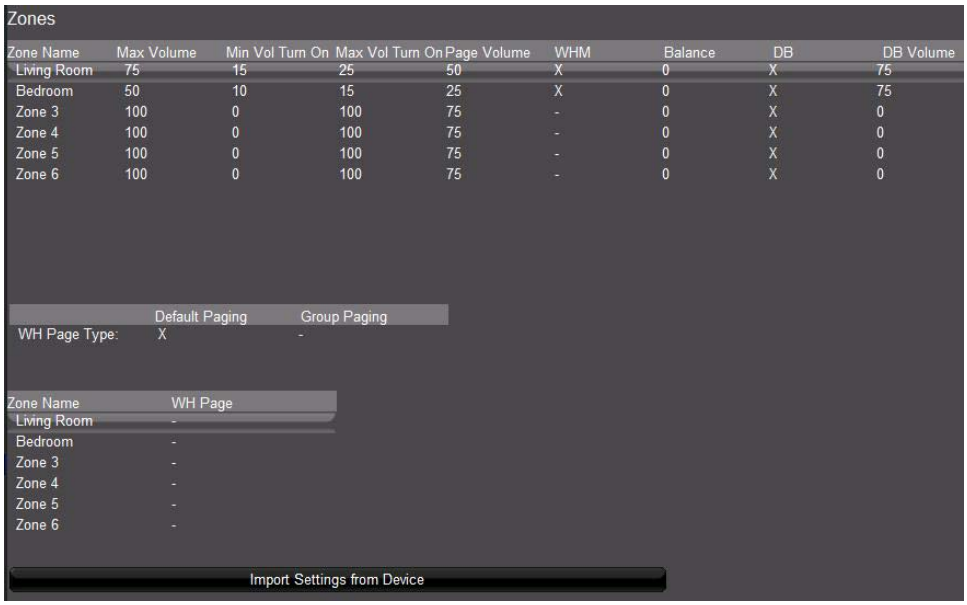
1. In the Configurator, go to the **Media** tab.
2. In the System Tree, locate the **Elan S8.6AV (6 Zones)** under Audio Zone Controllers and click on **Zones.** *The Zones volume and paging settings are displayed in the properties window on the right:*



Quick Reference: S8.6 AV Zone Volume Settings	
Volume Control	
Max Volume	The Maximum volume allowed for a zone. Use this setting to prevent unpleasant volume levels or speaker damage in a zone.
Min Vol Turn On	The minimum volume level for a zone when it is turned on. If the zone is turned off with the volume below this point, it will return to this level when reactivated.
Max Vol Turn On	The maximum volume level for a zone when it is turned on. If the zone is turned off with the volume above this point, it will return to this level when reactivated.
Page Volume	The default volume for paging. Can be set from 0% (Off) to 100%. Default is 75%.
WHM	An "X" in this column designates that the zone participates in the Whole House Music functionality of the controller.
Paging Preferences	
WH Page Type	**Default Paging**. When Default Paging is selected, all zones on the S8.6 AV will switch to paging mode when a page is received. Default is On (X). **Group Paging**. If Group Paging is selected, zones can be grouped to respond to pages differently. Default is Off (-).
WH Page	Select zones to participate in paging functionality. By default, all zones are selected for paging.
Pg Group 1 – Pg Group 8	These columns display when Group Paging is selected as the WH Page Type. Eight paging groups are provided for paging customization. Each zone can be set to be a member of a group. By default, zones are only members of the WH (whole house) group.

3. Right-click the **Living Room Max Volume** and set the value to 75. This will prevent the living room zone from exceeding 75% volume. Note that when this setting is changed, the Max Vol Turn On setting changes to reflect the new Max Volume settings.
4. Right-click the **Living Room Min Vol Turn On** and set the value to 15. This tells the S8.6 AV to set the volume to at least 15% when the zone is activated.
5. Right-click the **Living Room Max Vol Turn On** and set the value to 25. This will ensure that when the zone is activated, the volume will be between 15 and 25%.
6. Set the values to 50, 10, and 15 for **Max Volume**, **Min Vol Turn On**, and **Max Vol Turn On** respectively for the Bedroom zone.
7. Click the "X" in the WHM column for zones 3 through 6 (the X will turn to a -). This will prevent these unused zones from turning on when Whole House Music is selected.

8. Right-click the **Paging Volume** for the Living Room zone and set it to 50. This will set the paging volume to 50%.
9. Right-click the **Paging Volume** for the Bedroom zone and set it to 25.
10. Click the **Apply**. Since this lesson is not using an actual S8.6 click OK to close and ignore and warnings that may popup. When this is complete, your zone settings should look like the screen shown below.

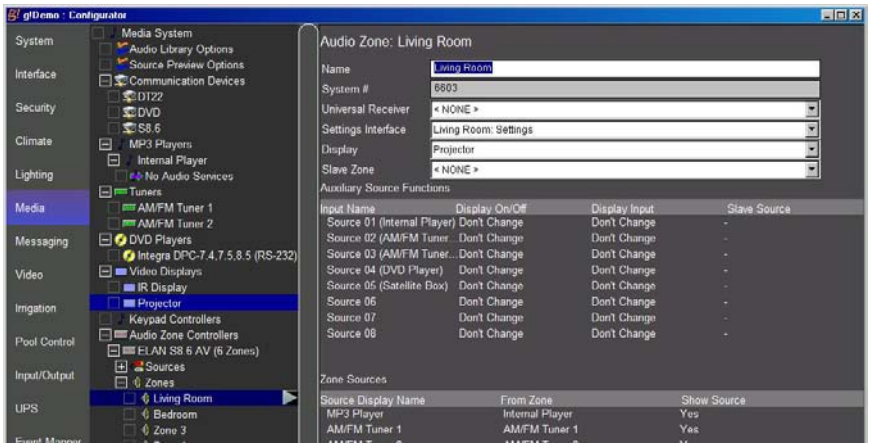


Exercise 7: Configure Displays for the Zones

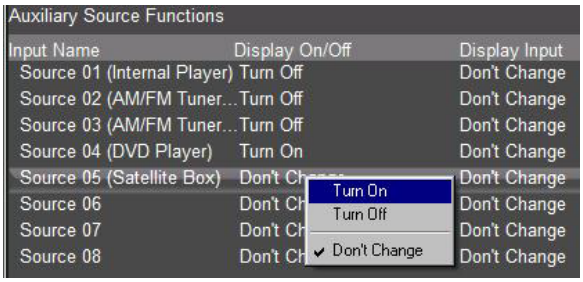
Overview In this exercise, you will use the Configurator to assign and configure the display behavior on a source-by-source basis.

How-to

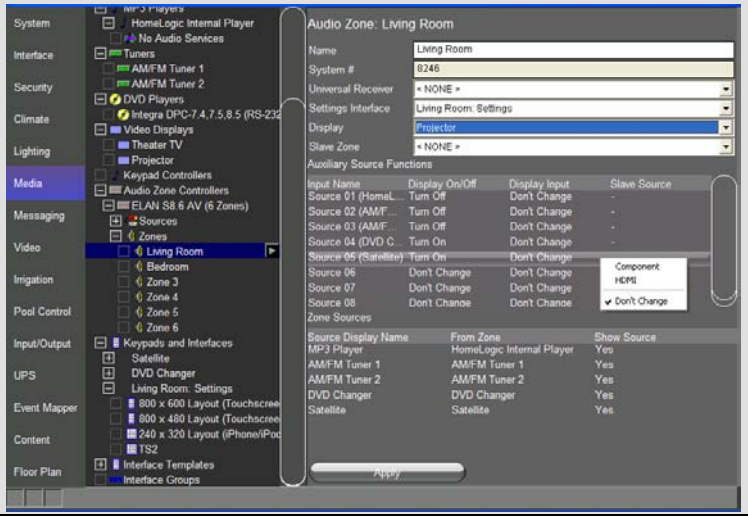
1. In the Configurator, go to the **Media** tab.
2. Expand the zone list on the **S8.6AV** and select the **Living Room** zone. *The Zone Properties will be displayed to the right.*
3. From the **Display** drop-down, select **Projector**. *The Projector will be added as the display for this zone, and the Display On/Off and Display Source columns will populate with the words "Don't Change":*



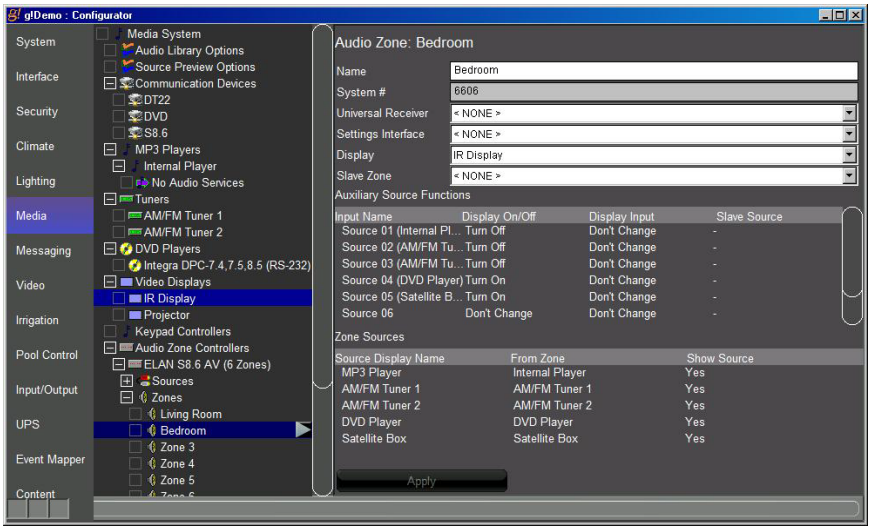
4. Configure the behavior of the display for each source listed in the **Input Name** column. Usually, the display is shut off for audio only sources, and turned on for sources with a video feed.
    a. The Internal Player is an audio only source. In the **Display On/Off** column under Auxiliary Source Functions, right-click **Don't Change** to pop up a menu with other options. Select **Turn Off** from the list.
    b. Repeat step 4a for the other two audio-only sources, the two feeds from the Elan Dual Tuner to set the display to turn off when they are selected.
    c. **Source 4 (DVD Changer)** and **Source 5 (Satellite)** are A/V sources, so set the Display On/Off value to **Turn On** for both.
    d. Click **Apply.**



Note: In later exercises, you will add a video switch to the Configurator, so we assume here that all video sources will use the same input on the projector. If there is no video switch in your actual setup, you can change the input of the display in the **Display Input** column. Right-click in the column and select a different input from the popup list.



5. Select the **Bedroom** zone on the **S8.6**. Select **IR Display** as the display for the bedroom, and then follow the steps above to assign the power states for each source:

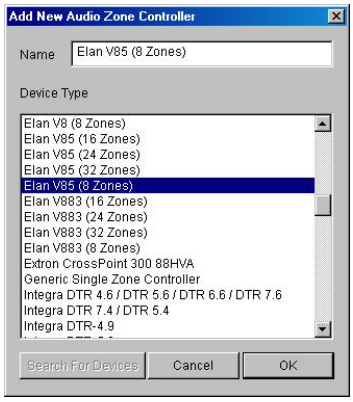


Exercise 8: Add the Video Switch and Configure Sources and Zones

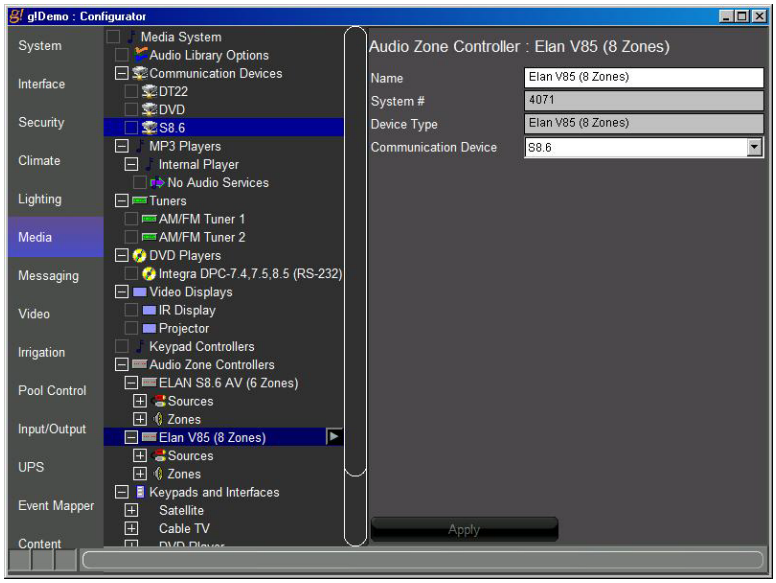
Overview In this exercise, you will use the Configurator to add an Elan V85 Component Video Switch to the system. The g! software considers any media switching device to be a Zone Controller, so the V85 will be added as such.

How-to

1. In the **Configurator**, go to the **Media** tab.
2. Right-click **Audio Zone Controllers** in the system tree and select **Add New Audio Zone Controller**. *The Add New Audio Zone Controller window opens.*



3. Select **Elan V85 (8 Zone)** as the Device Type, then click **OK**. *The V85 Video Switch is added to the Configurator.*



Note that the Elan V85 has the Communication Device from the S8.6 assigned automatically. This is because the serial connections on the two devices are typically daisy-chained together.

4. Expand the list of sources on the V85.

    a. Select **(Source 1)** in the system tree, then select **Interface: DVD Changer** from the **Source Device** drop-down list in the properties window.

    b. Select **(Source 2)** in the system tree, then select **Interface: Satellite** as the **Source Device** in the properties window.

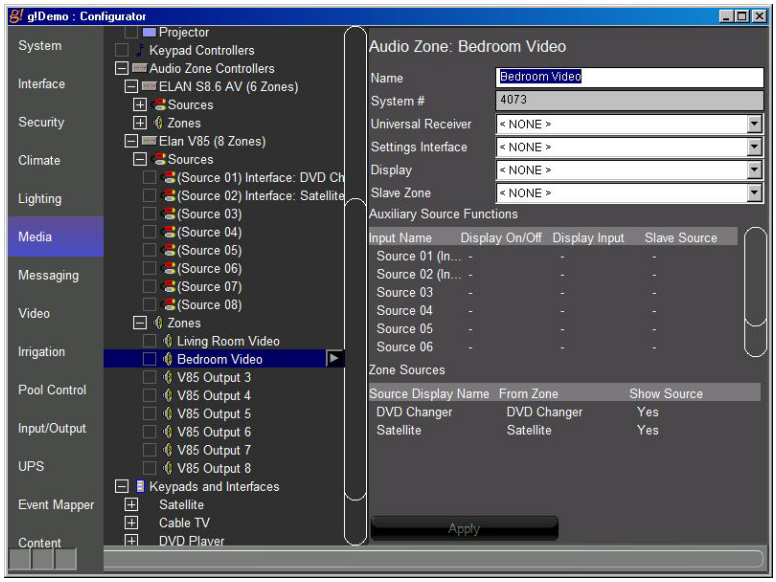
Note: You do not need to select an icon for the sources on a video switcher—the device will be hidden from the viewer and its switching will be automated based on the sources selected on the S8.6. See the following exercise on 'slaving' for details.

5. Expand the **Zones** list for the V85.

    a. Select **Output 1** and name it "**Living Room Video**", and click **Apply**.

    b. Select **Output 2** and name it "**Bedroom Video**", and click **Apply**.

Note: ELAN recommends that you rename all video zones with descriptive names to make them easier to identify.



Exercise 9: Configure the Video Switch to Follow Audio Zones (Slaving)

Overview

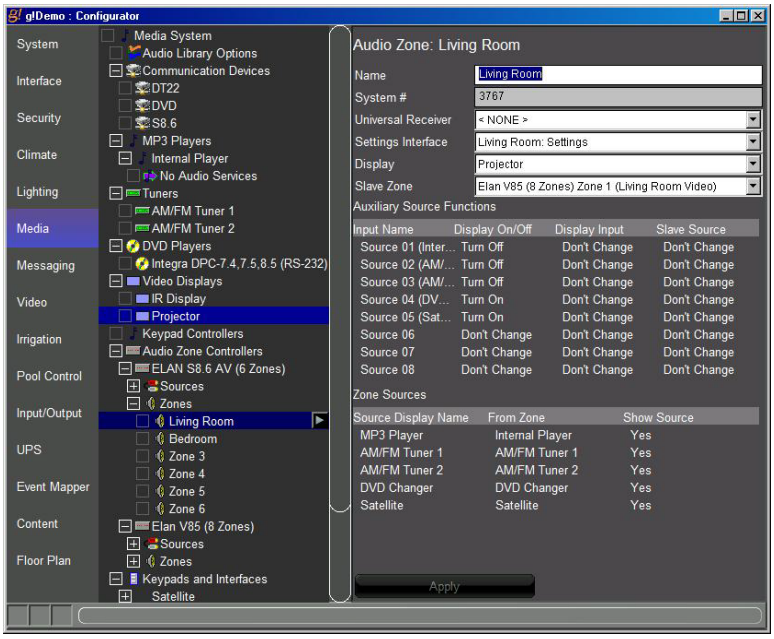
The g! software uses the concept of *Slave Zones* to allow the video signals from the switch to match up with the audio from the zone controller without needing to write complex macros.

A slave zone is assigned to an audio zone via a drop-down list in the master zone's properties. Then, you can specify to which source the slave zone should change when a particular audio source is selected. This allows you to hide the video switch's zone by removing it from the Viewer, yet still maintain full switching functionality.

Note: While it is possible to slave any zone in the system to any other, typical configurations will have the audio zone act as the master and the video zone as the slave. Controlling the audio zone will automatically select the appropriate video source and also provide volume control.

How-to

1. In the Configurator, go to the **Media** tab.
   a. From the **Zone** list on the **S8.6AV**, select the **Living Room** zone.
   b. Select **Elan V85 (8 Zone) Zone 1 (Living Room Video)** from the **Slave Zone** drop-down in the properties window. *The Slave Source column in Auxiliary Source Functions populates with the words "Don't Change" for each of the available sources:*



2. Next, configure the behavior of the V85 for each source listed in the **Input Name** column.

    a. The Internal Player is an audio only source. In the **Slave Source** column under Auxiliary Source Functions, leave the selection set to **Don't Change**.

    b. Do the same for the other two audio only sources, the two feeds from the Elan DT22 Tuner.

    c. **Source 4 (DVD Player)** and **Source 5 (Satellite)** are A/V sources, so for these right-click **Don't Change** in the **Slave Source** column to popup a list of sources. Select the desired source from the list.

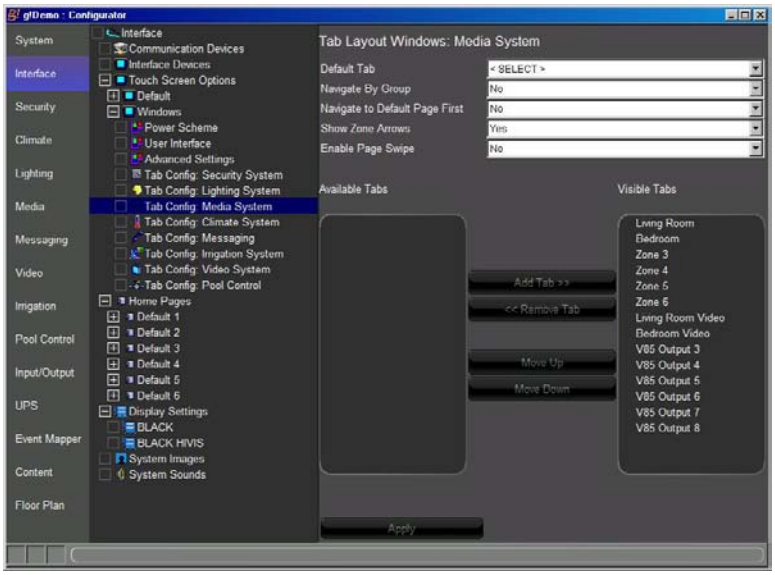
    d. Repeat step 2 for the **Bedroom** zone.

Exercise 10: Configure Zones in the Viewer

Overview At this point, you have added in two Zone Controllers with a total of 14 zones. However, only two of those zones will actually be used—the Living Room and the Bedroom. The next step is to remove the unused zones from the Viewer interface so that the homeowner sees an uncluttered and intuitive interface.

How-to To remove the unused zones from the Viewer interface:

1. Select the **Interface** tab in the Configurator.
2. Under **Touch Screen Options** near the top of the System Tree, click the plus (+) sign to the left of the **Windows** option to expand the list.
3. Select **Tab Config: Media System**. *The list of available/visible zones for the media system display in the properties window on the right.*

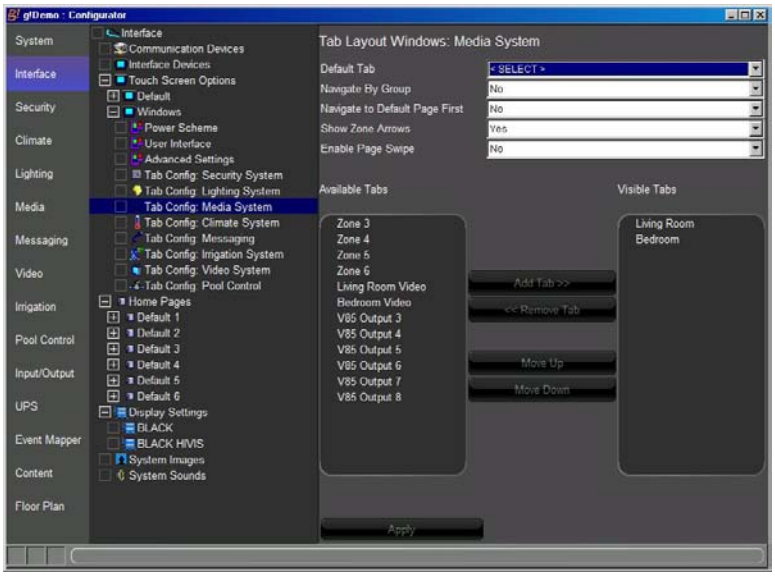


Visible Tabs= zones that appear in the Viewer for the homeowner to use.
Available Tabs= zones that are not currently displayed in the Viewer.

Since the Living Room and Bedroom zones are active in our Sample House, we need these zones to be in the **Visible Tabs** list. All of the remaining zones including the video outputs can be put in the Available tabs column hiding them from the viewer interface.

4. In the **Visible Tabs** list, select **Zone 3,** then press and hold your keyboard shift button for multi-select and click the **V85 Output 8** to select all zones to be removed.

5. Click the **<<Remove Tab** buttons then click **Apply**. Your screen should look as below.



Notes about adding and removing tabs:

1) Working with tabs on the Interface tab in the Configurator only adds/removes the zone from the Viewer on a per-screen basis. The zone is not deleted and can be added back into the Viewer at any time if the homeowner would like to expand their system.

2) Multiple zones can be added or removed at one time. Press and hold the **SHIFT** key on your keyboard and click to select the desired zones then click the add or remove button.

3) Each touch screen must be configured separately. In an actual system, each touch screen will have its own listing beneath the Default listing, and zones will need to be removed from each one individually. See the later lesson, *GUI and Interfaces* for more information.

Exercise 11: Check the Viewer

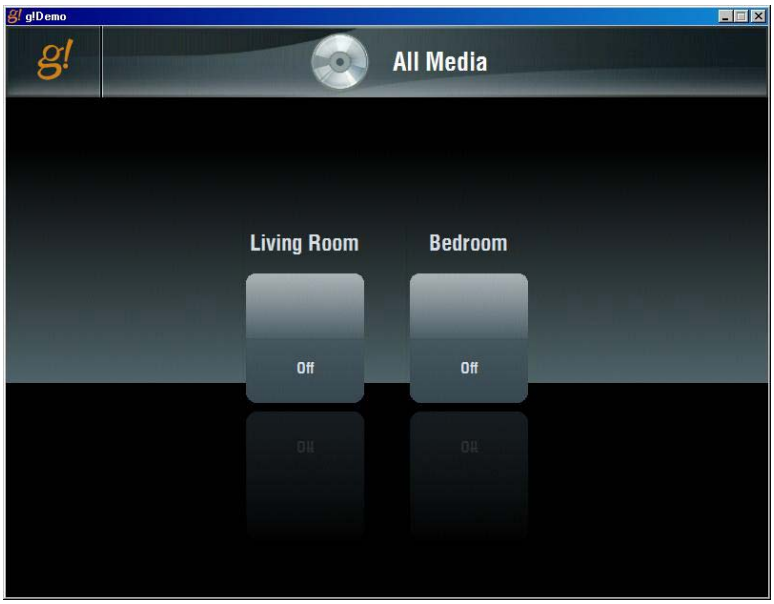
Overview

In the previous lessons and exercises you used the Configurator to set up the ELAN Media system and interfaces. In this exercise you will finally check your configuration in the Viewer.

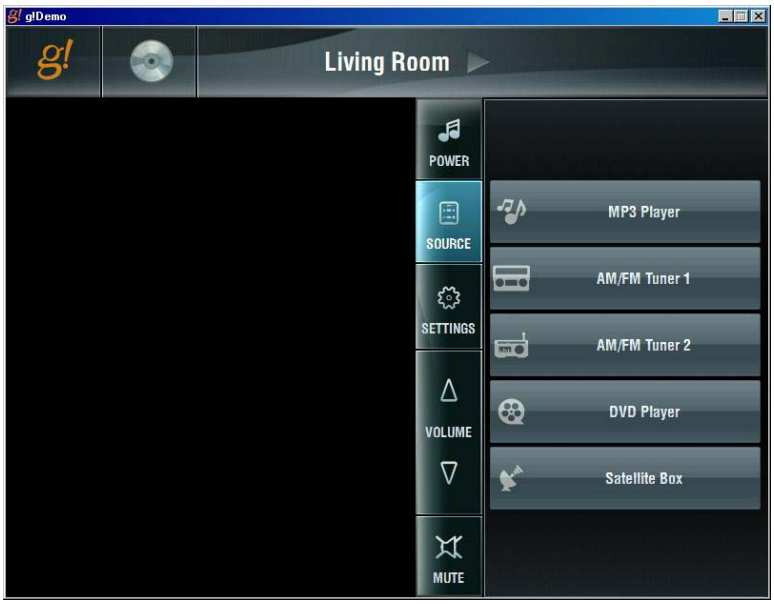
How-to

1. Click the Restore Down button in the upper-right corner of the Configurator window to exit Full Screen Mode.

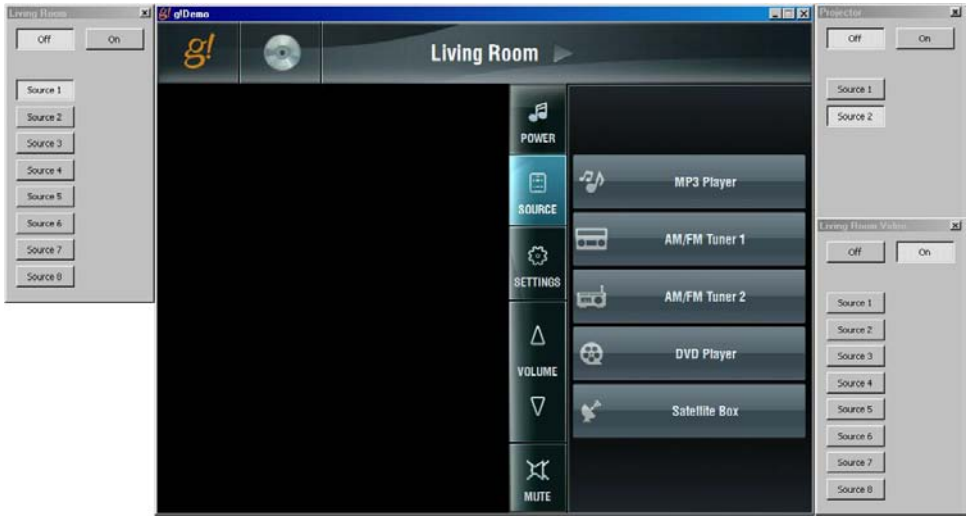
2. On the **Media** tab, right-click the **Living Room** zone on the **S8.6AV** and select **Show Virtual Zone**. *The Living Room Virtual Zone will be displayed.*
3. Right-click the **Living Room Video** zone on the **V85** and select **Show Virtual Zone**. *The Living Room Video Virtual Zone will be displayed.*
4. Right-click the **Projector** display and select **Show Virtual Display**. *The Projector Virtual Display will be shown.*
5. From the g!Connect Pro main screen, click **Start Viewer**. The Viewer interface displays the **Home** page.
6. Click the **g!** button in the upper right to access the main systems menu, then click **Media** to view the available media zones.



7. Click the **Living Room** icon to view the Living Room user interface.



8. Arrange the Viewer and the Virtual Displays on your desktop so that all are visible at the same time:



On this screen notice:

- The Sources are listed along the side of the Viewer.
- The Source Names and Icons match those selected in previous *Exercises.*
- The Living Room Virtual Zone shows that the zone is off
- The Projector Virtual Display shows that the display is off.

Note: The Living Room Video zone shows that it is On at this time. This is because the V85 does not have a standby mode. ELAN treats this device as On at all times.

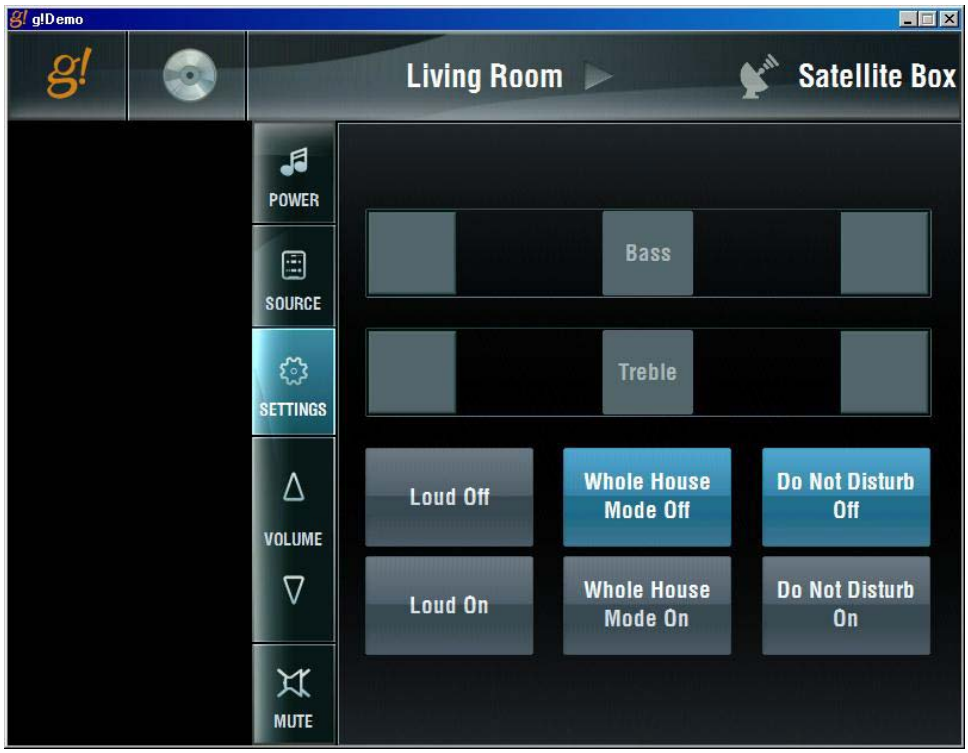
9. Click the **MP3 Player** source button. The built-in MP3 player interface displays.

   Notice that the icon selected for the source indicates that this source is selected in this zone. Also note that the Living Room Virtual Zone switches to "On", but since this is an audio only source, the Projector and Video zone do not change.

10. Click the **Source** button on the right and select the **DVD Changer** source. *The DVD Player interface displays, the Projector Virtual Display changes to "On", the Living Room Video zone selects Source 1, the Living Room Virtual Zone changes to "Source 4", and the source indicator (icon and name) to the right of the Living Room heading changes*.

11. Click the **Source** button on the right and select the **Satellite Box** source. *The Satellite Box Custom interface displays, the Projector Virtual Display remains "On", the Living Room Virtual Zone changes to "Source 5", the Living Room Video Virtual Zone changes to "Source 2", and the source indicator (icon and name) for the Living Room changes*.

12. Click the **Settings** button. *The settings interface opens, providing access to Bass, Treble, Loudness, Whole House Mode, and Do Not Disturb functionality.*



13. Click the **Settings** button again to return to the Living Room Theater page.

Notes:

Lesson 10

Configuring Home Theater Systems

Overview

This lesson shows you how to set up a basic Home Theater receiver with the sources that were added in the previous lessons.

You will:

- Learn how a home theater system is organized in the Configurator.
- Configure a receiver for the home theater.
- Add the internal tuner as a source.
- Configure sources for the home theater receiver.
- Add the Video Display to the home theater and configure its behavior.
- Check the Viewer interface to confirm proper configuration.
- Understand the various features available in the Viewer.

Sample House

Our sample house will be configured with one home theater zone.

Requirements

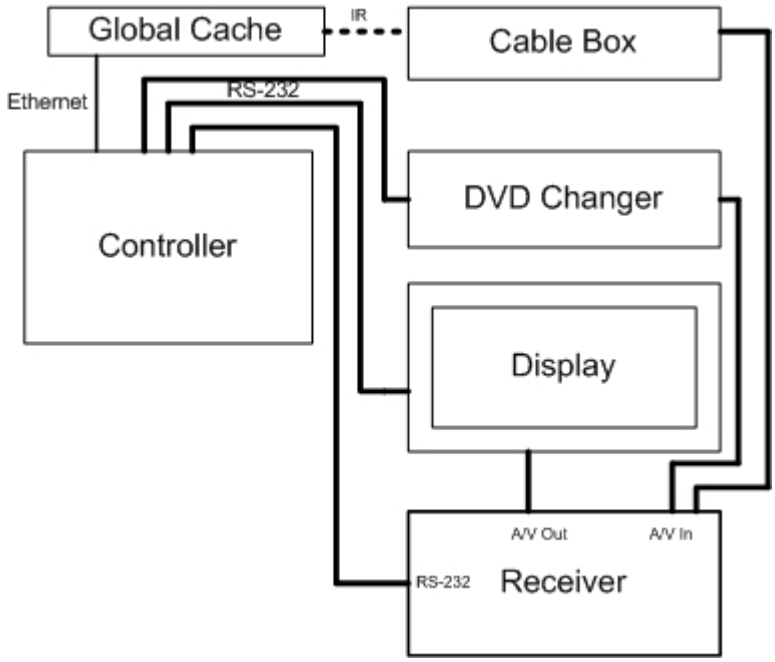
- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.
- Understanding of the topics covered in Lessons 6 through 9.

Home Theater Integration Overview

Overview The following diagram shows the equipment in a home theater system schematically, illustrating the components that are important to the ELAN controller.



Integrating a home theater system with the g! Software will provide the homeowner with control of their home theater system through the g! Viewer, enabling them to:

- Turn the zone on and off
- Select and control a source for the zone
- Adjust the audio volume in the zone
- Change the zone settings, such as bass and treble
- Change the listening modes on supported receivers

A note about Media Application licensing:

Included Media functionality: Supports unlimited ELAN Zone Controllers, unlimited Sunfire AVRs, and one AVR (any supported brand) or a single AVR zone 1-way controlled. Unlimited video displays and sources are also included.

Media Pro App: Supports unlimited multi-room zone controllers and unlimited AVRs (any brand with which ELAN integrates). Refer to ELAN's website for a full list of supported controllers.

Terms

The following terms are used in the **Configurator** to describe the equipment in a home theater system:

- **Communication Device:** The method the g! software will use to communicate with an external device, including information about the connection type and protocol.
- **Audio Zone Controller:** The surround sound receiver
- **Keypads and Interfaces:** A custom interface for controlling audio components.

How-to

This lesson consists of the following steps:

- Add the **Communication Device.**
- Add the **Zone Controller.**
- Add the video **Displays.**
- Configure the **Sources** and **Zones** in the Zone Controller.
- Check for proper operation in the g! Viewer.

Exercise 1: Add a Communication Device

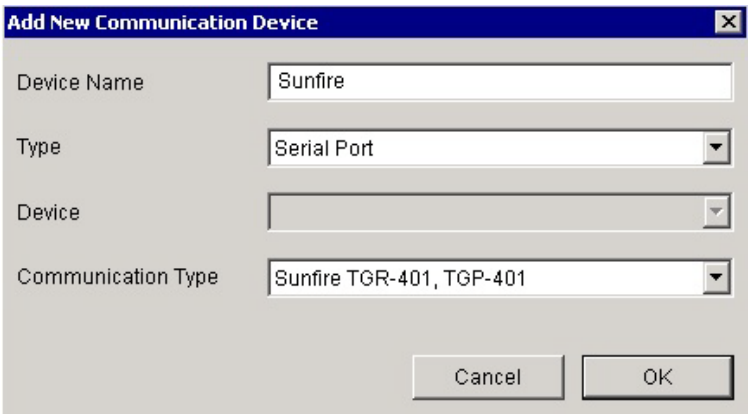
Overview

In the following steps you will add a **Communication Device** to communicate with the home theater system, a Sunfire TGR-401 in our example. The **Communication Device** is the bridge between the g! software and the receiver, and is where you will specify how the systems are physically connected and what communication protocol should be used.

Note: Actual system setup may be different depending upon which receiver is installed on site. Refer to the *Integration Notes* for the particular receiver for details.

How-to

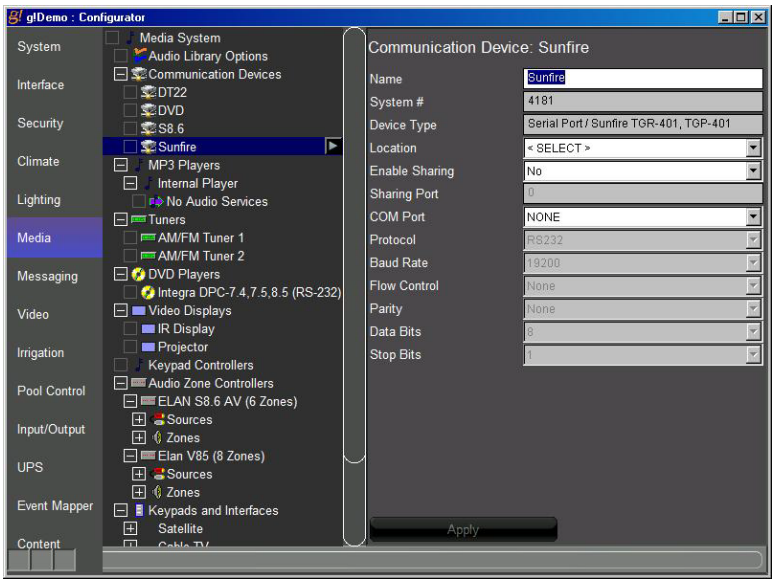
1. Start the **Configurator** and click the **Media** tab on the left.
2. Right-click **Communication Device** and select **Add New Communication Device**. In the dialog box:
    a. Enter “Sunfire” as the Device Name.
    b. Select **Serial Port** in the Type drop-down box
    c. Select **Sunfire TGR-401, TGP-401** in the Communication Type drop-down box.
    d. Click **OK**.



Quick Reference: Add New Communication Device	
Device Name	Enter a name for the external device. This can be any name, but should be descriptive so that you can identify this specific device in the Configurator. DO NOT leave this field set to “New Device”.
Type	The type of connection you are using, such as serial port or Ethernet.
Device	This field will populate only if needed, depending on the selected Type.
Communication Type	This is the protocol of the communication. See the *Integration Note* for the specific device for more information.

3. Select the Sunfire **Communication Device** in the System Tree.
4. In the properties window at right, select the port that the device is connected to, then click **Apply**.

Note: The drop-down menu only shows the ports that are available. If you are running g!Demo on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo.**



Exercise 2: Add the Receiver

Overview

Before beginning this exercise, be sure you have completed Exercise 1, *Add the Communication Device*. Now that the Communication Device is configured, you need to add in the receiver before adding the sources and configuring the zones.

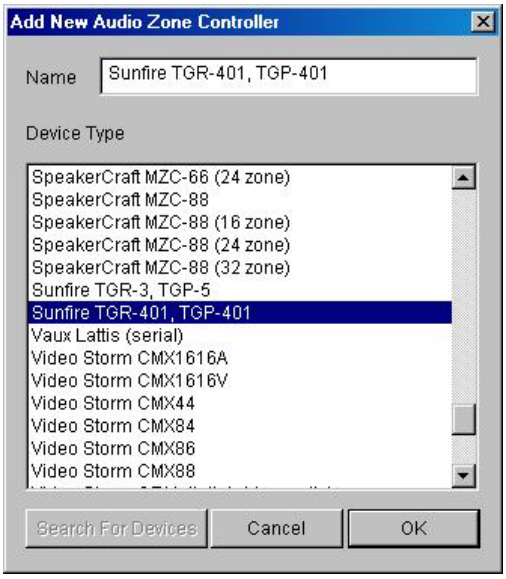
In a typical installation, the receiver is the heart of the home theater system. Note that the g! software considers the receiver to be an Audio Zone Controller, and so that is how you will add it to the Configurator. The Media tab will not appear in the Viewer until a zone controller is added into the Configurator.

Note: Actual system setup may be different based on the audio equipment installed on-site. Refer to the *Integration Notes* for your specific system for more in-depth information.

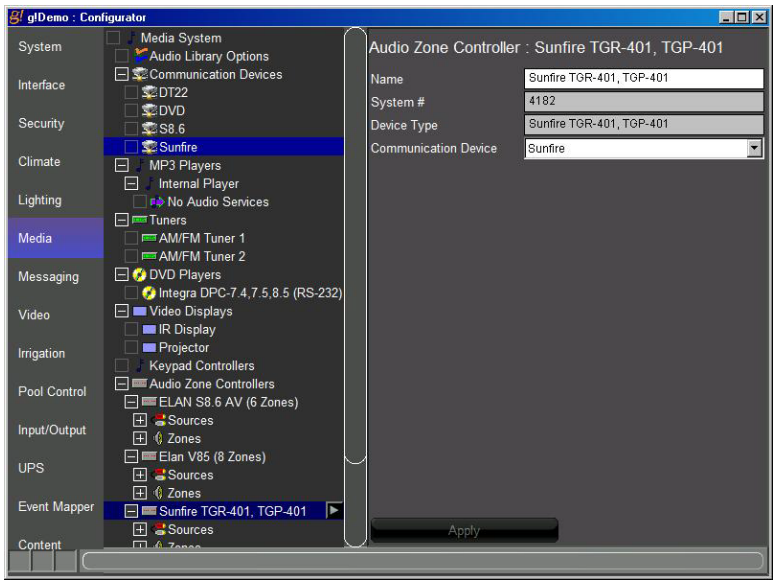
How-to

In the steps below, you will add a Sunfire TGR-401 to the Configurator.

1. In the **Configurator** on the Media tab, right-click **Audio Zone Controllers**, then click **Add New Audio Zone Controller**. *The Add New Audio Zone Controller dialog box opens.*
2. Select **Sunfire TGR-401, TGP-401** as shown below, and then click **OK**.



3. Check the properties window. The Communication Device added in the previous exercise should automatically be selected for the Zone Controller.



Exercise 3: Add the Internal Tuner Source

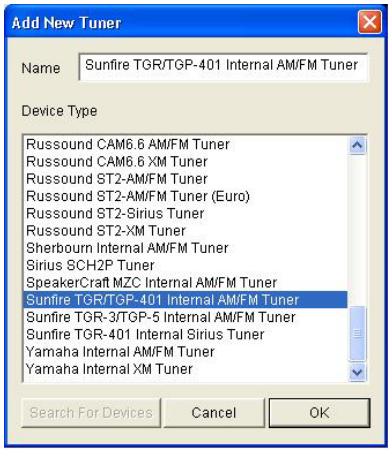
Overview

In the following exercise, you will add the Sunfire TGR-401, TGP-401 internal tuner to the Configurator.

Many surround sound receivers have AM/FM tuners built in. The g! software can control those tuners using our built-in AM/FM tuner interface; simply add the tuner and connect it as a source to the zone controller. Because the tuner is a part of the receiver, you do not need a separate communication device, it will share the Sunfire communication device added in *Exercise 1: Add the Communication Device.*

How-to

1. On the Media tab, right-click the entry for Tuners in the System Tree, and select **Add New Tuner**. *The Add New Tuner dialog box opens.*



2. Scroll through the list and select **Sunfire TGR/TGP-401 Internal AM/FM Tuner**, then click **OK**.
3. Check the settings for the tuner in the properties window. The Communication Device should be automatically set to Sunfire.

Note: The Sunfire Communication Device added in the last exercise is highlighted, indicating that the tuner was automatically associated with that Communication Device.

Exercise 4: Configure Sources

Overview

Before beginning this exercise, be sure that you have added sources, the Receiver and Internal Tuner. In this exercise you will associate the sources with the appropriate inputs on the receiver.

In a typical installation, sources are assigned to specific inputs on the receiver. The g! software needs to know which sources are assigned to each input so that the correct signals can be sent to the receiver based on user input in the Viewer interface. This procedure is the same for all supported receivers.

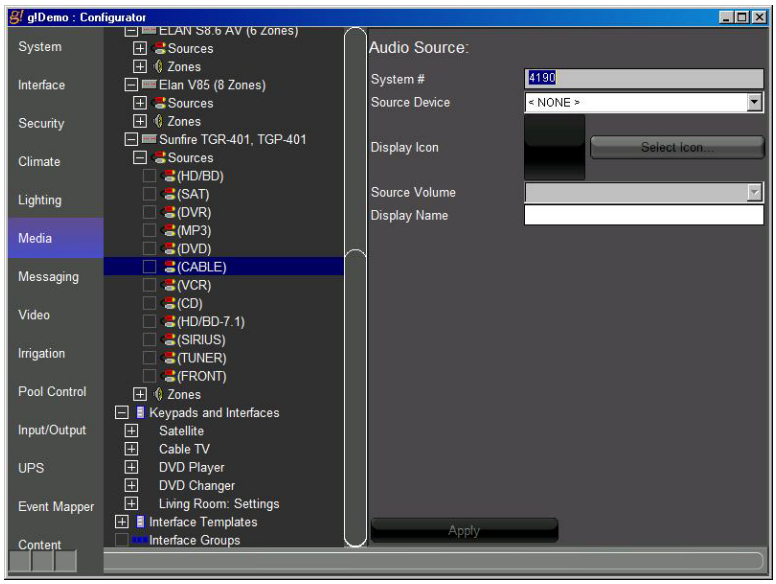
For our Sample House, you will configure the sources added in previous lessons, as well as the Internal Tuner.

How-to

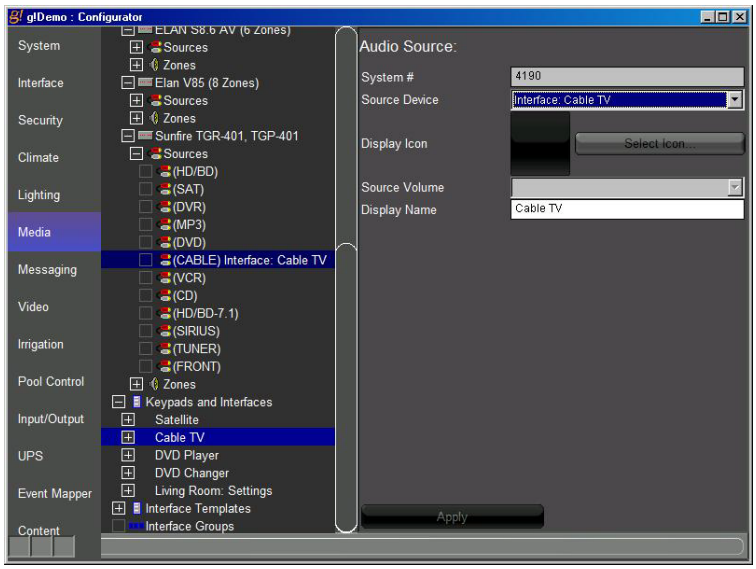
1. In the Configurator on the **Media** tab, click the plus sign (+) to expand the Source List for the **Sunfire TGR-401, TGP-401** receiver.

Note: The names shown for sources should match the input names printed on the back of the receiver.

2. Select **(CABLE)** from the list of available sources. The properties for (CABLE) will be displayed in the window on the right.



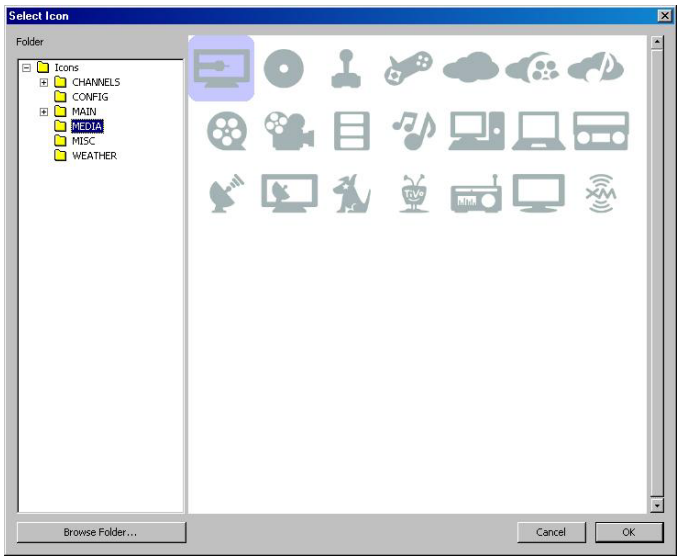
3. From the **Source Device** drop-down list, select **Interface: Cable TV** as the source device for (CABLE), then click **Apply.** *The (CABLE) entry in the System Tree changes to reflect its association with the Cable TV Interface. The interface itself is also highlighted to indicate that it is the device referenced by the source.*



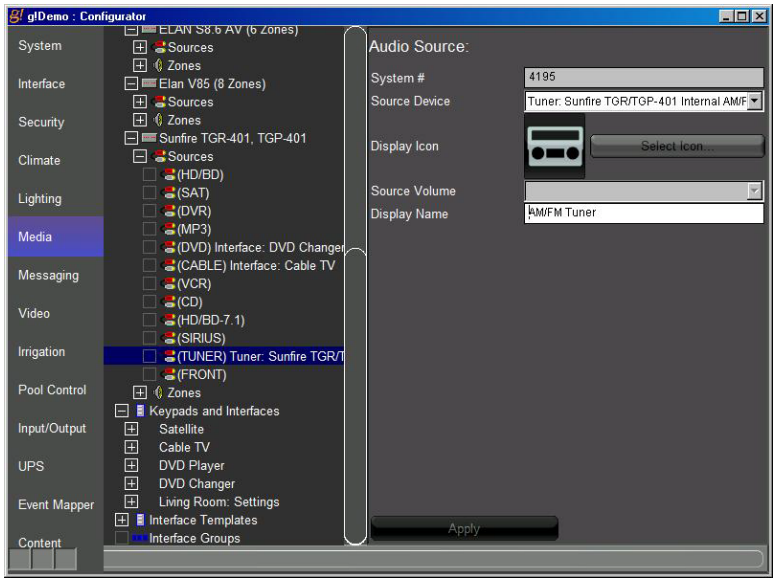
Note: To ensure proper control, the source devices must be connected to the same physical input as is specified in the Configurator.

4. In the properties window, click the **Select Icon** button. *The Select Icon window will open.*

   a. Click the plus (+) sign next to the Icons folder, then select the **Media** subfolder. The built-in icons are displayed in the window. Select the icon you wish to use for the source and click **OK**.



5. Check the **Display Name** entry. The name should be user friendly, like "Cable TV". *The Display Name is what will appear in the Viewer*.
6. Add the remaining sources, DVD Changer and Internal Tuner as follows
    a. Select the **(DVD)** source. From the Source Device drop-down list, select **Interface:DVD Changer**, select an icon and check the display name, then click **Apply**.
    b. Select the **(TUNER)** source. From the Source Device drop-down list, select **Tuner: Sunfire TGR/TGP-401 Internal AM/FM Tuner**, select an icon and check the display name, then click **Apply**.
    c. Your screen should now look like the one below.



Exercise 5: Configure the Zones

Overview

Before beginning this exercise, be sure you have completed the previous exercises of this lesson. In this exercise, you will set up the Zone Names and Settings pages for the Receiver, and remove unused zones from the Viewer interface.

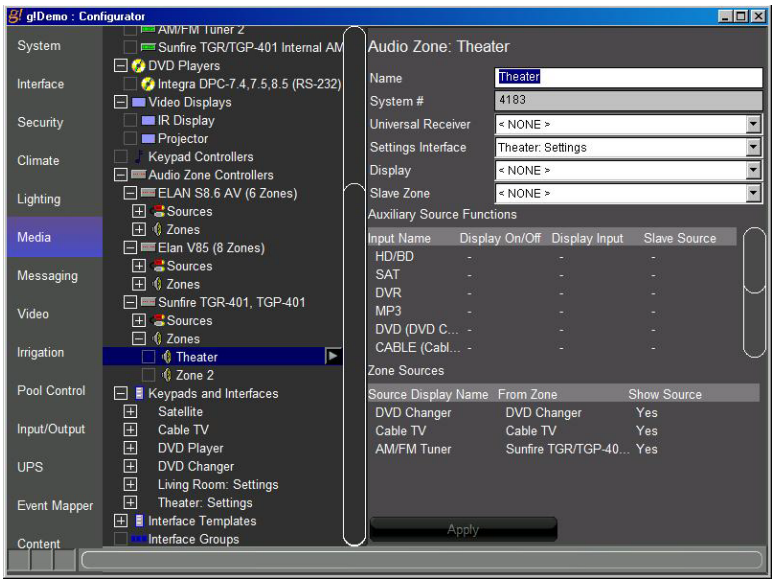
Giving the zones user-friendly names, such as “Theater” for our sample house, provides the user with an intuitive interface for controlling the audio in their home. Remove unused zone controls from the viewer interface to prevent confusion on the part of the homeowner, and to prevent them from turning on a zone to which no speakers are connected.

The optional settings interface gives the user access to less commonly used functions, such as bass, treble, and Listening Modes.

Note: On some surround sound receivers, the Settings interface will give the user access to various listening modes. See the *Integration Notes* for the specific receiver for details.

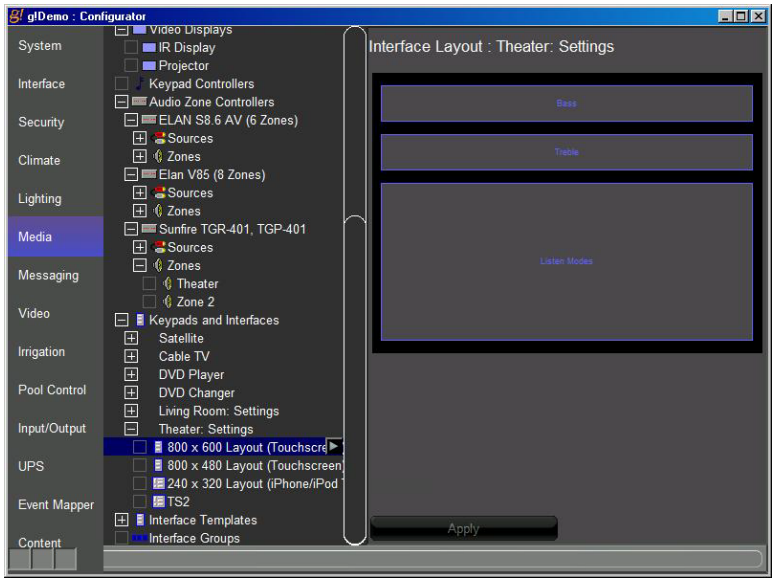
How-to

1. In the Configurator, Media tab, click the plus (+) sign to expand the **Zone List** for the **Sunfire TGR-401, TGP-401** receiver added in Exercise 2.
2. Click on **Main Zone** in the zone list. *The properties for Main Zone will display on the right.*
3. Change the name to **Theater** in the Name field, then click **Apply**.
   The label of the zone will change in the Zone List to reflect the new name.
4. Right-click the Theater zone in the system tree and select **Create Settings Page for this zone**. *A new entry will be added under **Keypads and Interfaces** called **Theater: Settings**, and the **Settings Interface** field in the Zone Properties window will change to show that the Theater: Settings interface is assigned to this zone. Your screen should now look like the image below.*



5. In the System Tree under **Keypads and Interfaces**, **Theater: Settings**, click on the plus (+) sign to the left of the name to expand the list.

   a. Select the **800x600 Layout (Touchscreen)** to display a representation of the settings page for this zone.



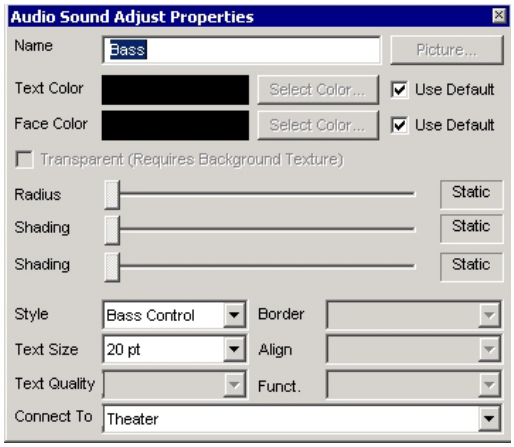
Note: The Settings page will auto-populate different controls depending on what commands are supported by the receiver.

   b. Select the top object in the Interface Layout, labeled “Bass”. *The control will be highlighted in yellow and the Audio Sound Adjust Properties window opens.*

Note: In the Viewer, this object appears as a Bass tone control slider, allowing the user to increase or decrease the bass in the zone.

c. Verify the following properties in the **Audio Sound Adjust** window:

- The Name field is “Bass”. This corresponds to the label on the control.
- The **Style** drop-down is set to **Bass Control**.
- The **Connect To** drop-down is set to **Theater**, indicating that this is the zone the slider controls.

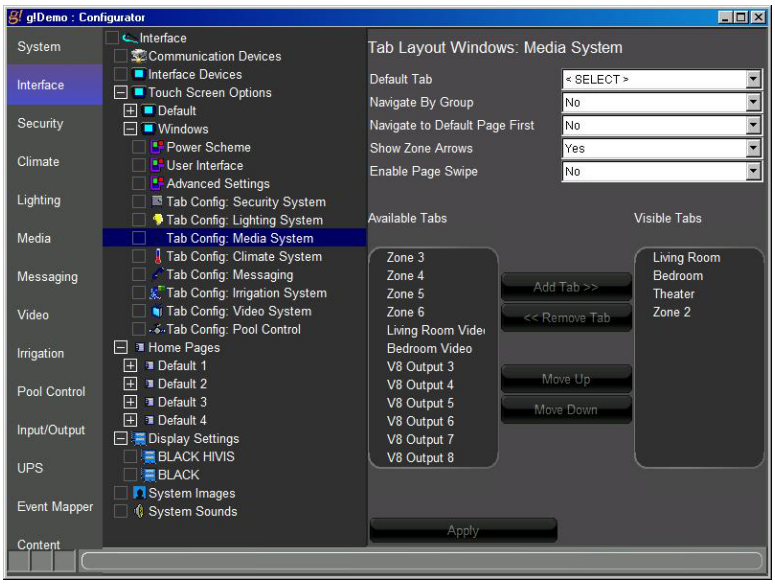


Note: The Settings page is fully customizable and any of the objects on this page can be moved and resized so that other controls can be added.

6. To remove the unused zones from the Viewer interface, go to the **Interface** tab in the Configurator.

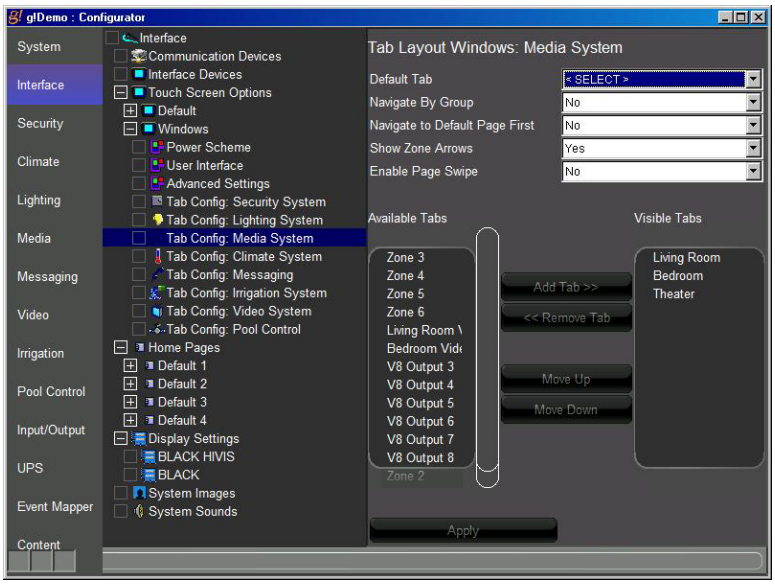
7. Under **Touch Screen Options** near the top of the System Tree, click the plus (+) sign to the left of the **Windows** option to expand the list:

   a. Under the heading **Tab Layouts**, select **Media System** to view the following screen:



b. The properties window is divided into two columns, **Available Tabs** and **Visible Tabs**. Items listed under Visible Tabs are available for interaction in the Viewer software. Because we are not using Zone 2 on the Sunfire receiver, we need to remove it from the Viewer.

c. In the **Visible Tabs** column, click on **Zone 2**, click the **Remove Tab** button in the center, and then click **Apply**. *Zone 2 will move from the Visible Tabs column to the Available Tabs column.*



Note: This step simply removes the zone from the Viewer software on a per-screen basis, it is not deleted and can be added back into the viewer at any time should the homeowner decide to expand their system. Each touch screen must be configured separately.

Exercise 6: Add the Display

Overview

In this exercise, you will add a Display with a two-way driver to the Configurator.

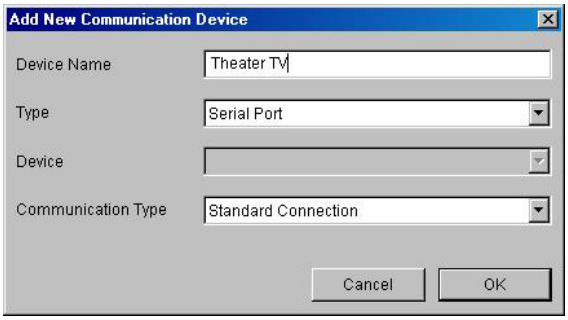
In the g! software displays are set up independently in the Configurator, and then assigned to a zone. For displays with two-way drivers, the g! software has pre-configured the commands.

How-To

1. In the Configurator, on the **Media** tab, right-click **Communication Devices** in the System Tree and select "**Add New Communication Device**". *The Add New Communication Device window opens.*

    a. Change the name of the device to **Theater TV**.

    b. Set the **Type** to **Serial Port** and the **Communication Type** to **Standard Connection**, then click **OK**.



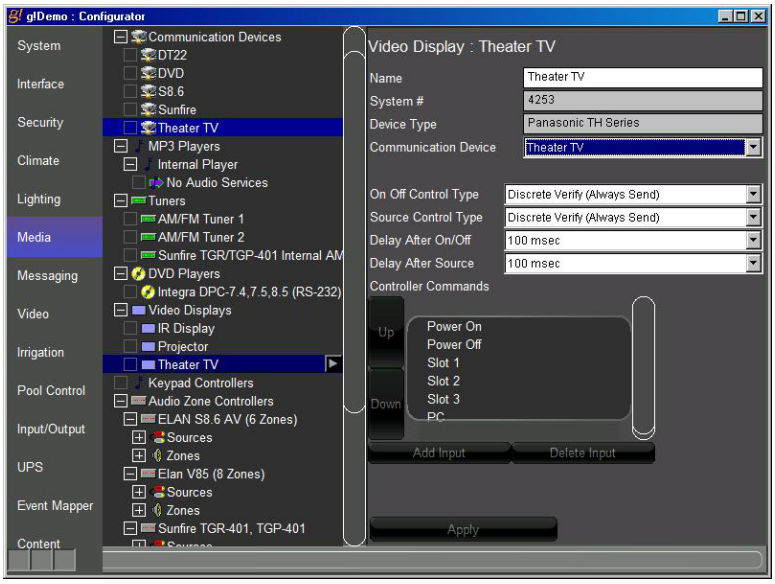
2. Right-click **Video Displays** in the System Tree, and select **Add New Video Display**. *The Add New Video Display window opens.*

3. Select **Panasonic TH Series** from the list of supported displays and click **OK**. *A Panasonic TH Series Video Display will be added to the System Tree, and the Properties window for the device will open.*

4. Change the **Name** field in the properties window to **Theater TV**.

5. Select **Theater TV** from the **Communication Device** drop-down list, then click **Apply**. *The name of the display will change in the System Tree.*

6. Your screen should now look like below.



Exercise 7: Assign a Display to a Zone

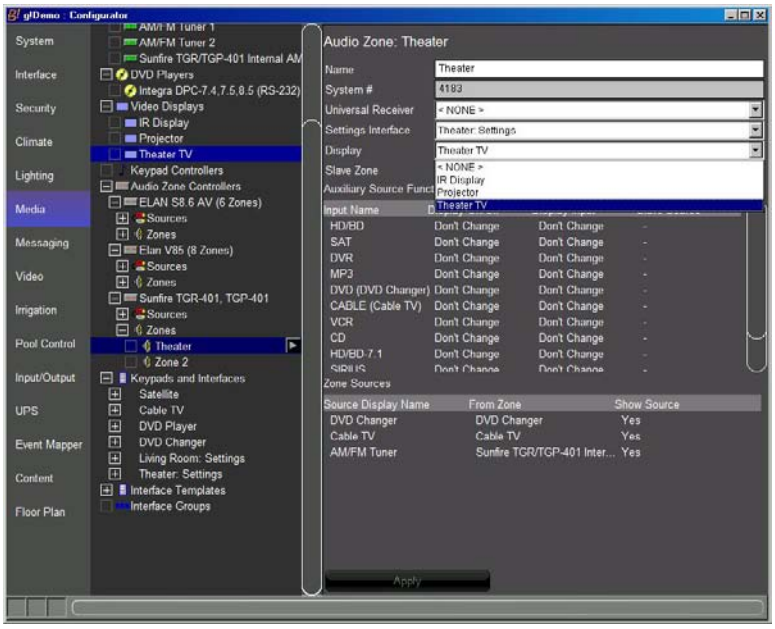
Overview

In this exercise, you will set up the Theater zone to use a display. Before beginning, be sure that you have completed the previous exercises from this lesson.

Assigning a display to a zone provides the ability to send power and input commands to the display based on which source is selected.

How-To

1. In the Configurator, on the Media tab System Tree, click the plus (+) sign to expand the zone list for the Sunfire TGR-401, TGP-401 receiver.
2. Click **Theater** in the Zones list. *The Theater zone properties display in the window to the right.*
3. From the **Display** drop-down list, select the **Theater TV** and click **Apply**. *The Auxiliary source functions box will change to reflect the available display commands for each source.*

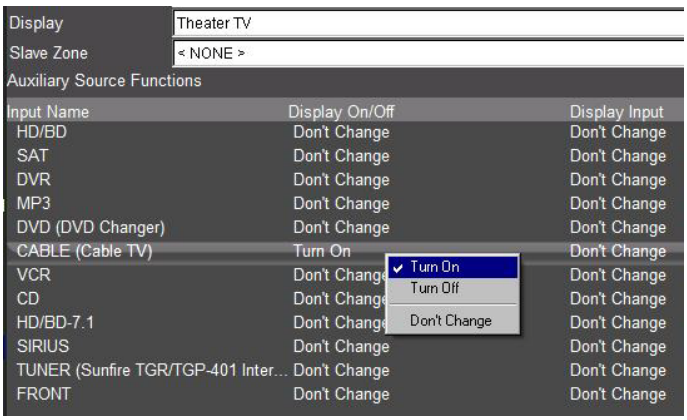


Quick Reference: Auxiliary Source Functions	
Input Name	The name of the Input on the receiver. This is followed with the assigned source in parentheses.
Display On/Off	Determines the state of the display for each source. Default setting is “Don’t Change”, indicating that the g! software will not send a command to the display and leave it in its current state. Setting this value to “Turn On” will send the “On” command to the display when the source is selected. Setting it to “Turn Off” will send the “Off” command.
Display Input	Determines which input the Display should be set to for each given source. Default setting is “Don’t Change”, indicating that the g! software will not send an input change command to the display. Other options in this field are based on the type of display used, and may include options such as “Input 1” or “Component”. Select the option that is most suited to your application.
Slave Source	Used in conjunction with a Slave Zone and defines the slave zone behavior based on the active source.

4. For this example, we will assume that the Receiver is acting as a video switcher and that there is a single video connection from the receiver to the connection “Slot 1” in the display. For each source, we need to specify the displays power state and which input the display should use.

   a. In the Auxiliary Source Functions box, configure the display settings for the input named **CABLE (Cable TV)**. As this source is for a Cable box, the display for the zone should be turned on when this source is selected.

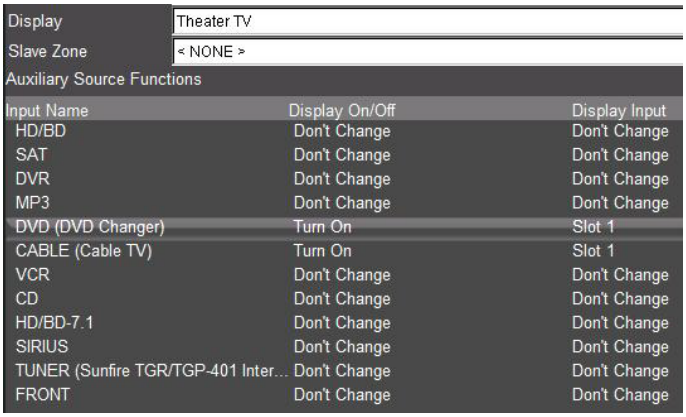
   b. Right-click **Don’t Change** in the **Display On/Off** column directly to the right of the Input Name, Cable TV. *A popup window will appear showing your options:*



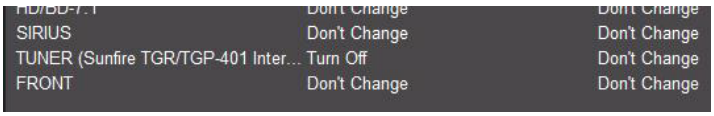
c. Select "**Turn On**" for this source. *The entry in the Display On/Off column will update to reflect your choice.*

d. Set the input by right-clicking in the Display Input column directly to the right of the Cable TV to display the choices. Select **Slot 1**.

e. Repeat the steps above to set the **DVD (DVD Changer)** to **Turn On** and select **Slot 1** input. Your screen should now look like below.



5. Scroll down the list of sources if necessary to locate **TUNER (Sunfire TGR/TGP-401)**. As this is an audio only source, we need to turn off the display when it is selected. Right click **Don't Change** in the **Display On/Off** column and select **Turn Off** from the popup menu.



Exercise 8: Check the Viewer Interface

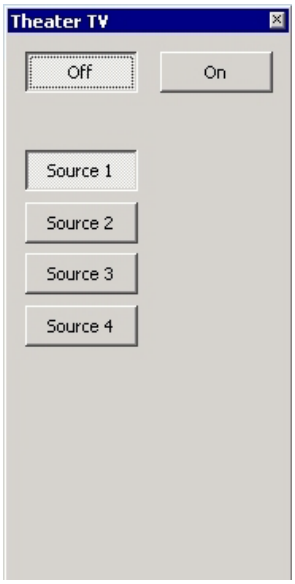
Overview

In this exercise, you will check your work in the Viewer. Before beginning, be sure you have completed all of the previous exercises in this lesson.

In addition to the Viewer, you will use the "Show Virtual Display" feature in the Configurator. This tool shows the expected power and source state for a display configured in the software.

How-To

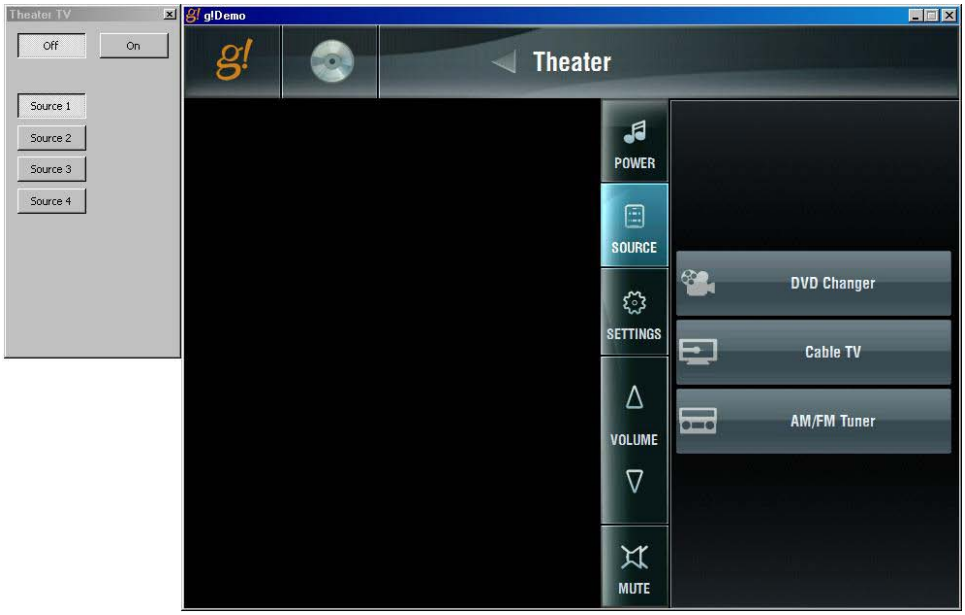
1. In the Configurator, select the Media tab. Right-click the **Theater TV Display** and select **Show Virtual Display**. *The Theater TV Virtual Display Window will open:*



2. In the upper right corner of the Configurator window, click the **Restore Down** button to take the Configurator out of full screen mode:

3. Launch a second instance of g!Connect Pro.
4. From the g!Connect Pro main screen, click **Start Viewer**. *The Viewer interface displays the Homepage.*
5. Click **g!** In the upper left to access the main system menu, then select the Media icon.
6. Click the **Theater** icon to access the Theater zone user interface.

7. Arrange the windows on your desktop so that you can see both the Viewer and the Virtual Display window as shown below.



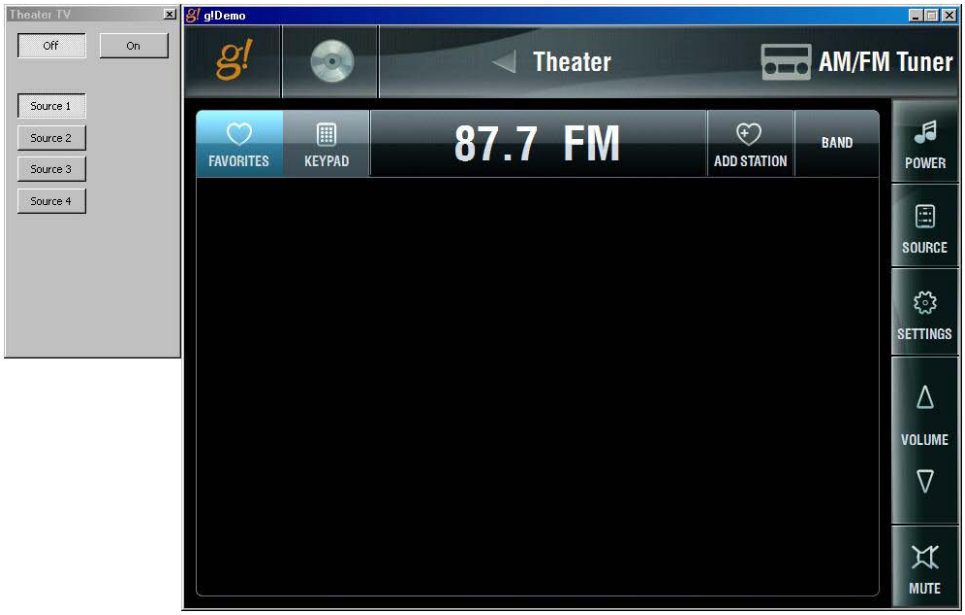
On this screen notice:

- The Sources are listed at the right
- The Source Name and Icon match the ones chosen in the previous exercises.
- The Theater zone is off and the Theater TV is off.

8. Select the **Cable TV** source. Notice the following:

   - The Virtual Display window indicates that the display has turned on and selected Slot 1.
   - The interface changes to provide the controls configured in previous lessons for the Cable TV.
   - The zone's active source icon and name in the upper right has changed to reflect the source selected in the zone.

9. Click the **Source** button and select the **Sunfire TGR/TGP-401 Internal Tuner** source. *The Virtual Display window indicates that the display has turned off, and the built in AM/FM tuner interface is shown.*



10. Click the **Settings** button in the lower right. *The settings interface will open, providing access to Bass, Treble, Listening Holography, and Dolby Headphone functionality.*

Notes:

Notes:

Lesson 11
Configuring Video

Overview

This lesson shows you how to configure IP video cameras and servers to provide live video to any connected Viewer.

You will:

- Learn how video cameras are organized in the Configurator.
- Use the Configurator to set up video cameras.
- Check the Viewer interface to confirm proper configuration.
- Understand the various features available in the Viewer.

Sample House

Our sample house will be configured with two video cameras:

- Backyard: Pan/Tilt IP camera
- Front Door: Analog camera connected to the g! software with an IP Video Server

Requirements

- A PC running g!Demo and g!Connect Pro.

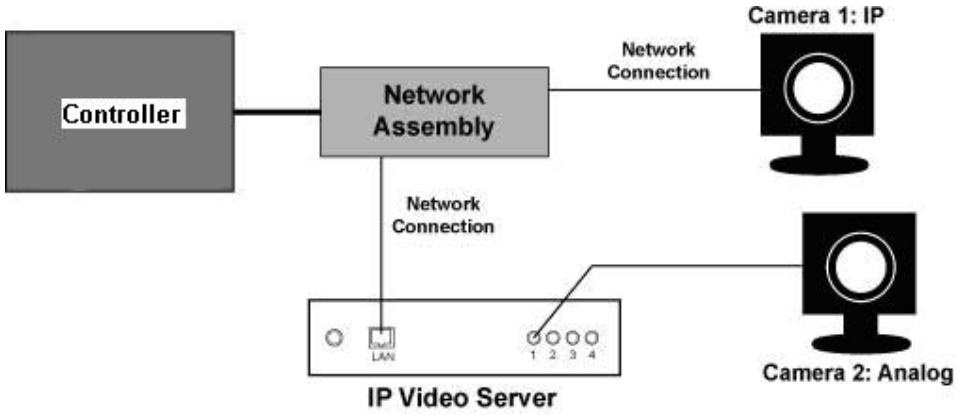
-or-

- ELAN Controller and g!Connect Pro.

Video Overview

Overview

The following diagram shows two video sources in a basic system schematically. The diagram includes the components that are important to the ELAN controller.



A note about Video Application Licensing:

Included Video Functionality: supports up to two IP Cameras or two video streams from an analog video server. Does not support DVR functionality.

Video PRO App: supports up to 16 IP Video cameras and up to 4 Video Servers and supports DVR functionality for video recording.

Terms

The following terms are used in the **Configurator**:

- **Communication Device**: Most video devices do not require a communication device, but in a few cases they will. Refer to the video devices integration note for details:
  - IP cameras do not require a communication device, the communication information is contained within the Video Camera setup in the Configurator.
  - Some video servers do require a communication device. In this case the network communication information is configured in the communication device. Check the video server integration note for details.
- **Video Camera/Source**: This is the camera/source itself. It can be an IP-based network camera or an input port on a video server.

How-to

To integrate video cameras:

- Add the **Communication Device** (if applicable)
- Add the **Video Cameras**

Exercise 1: Add a Single IP-Based Network Camera

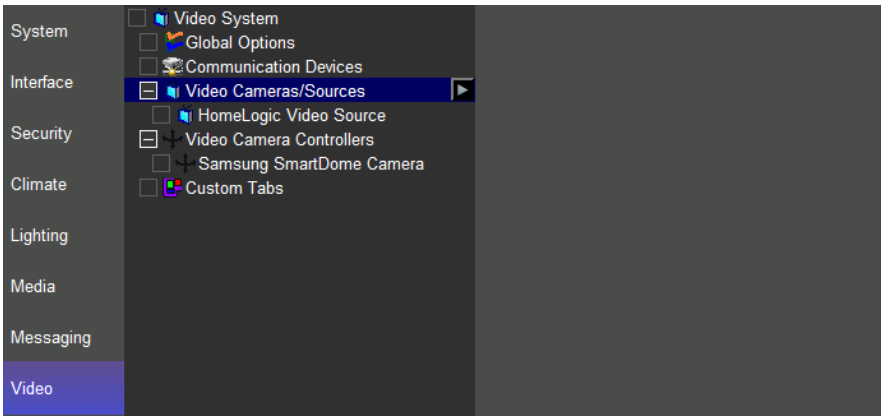
Overview

In the following steps you will add a Panasonic BL-C10A IP-based network camera. IP cameras do not require a communication device, you will only need to add the camera and enter the required information for communication over the network.

How-to

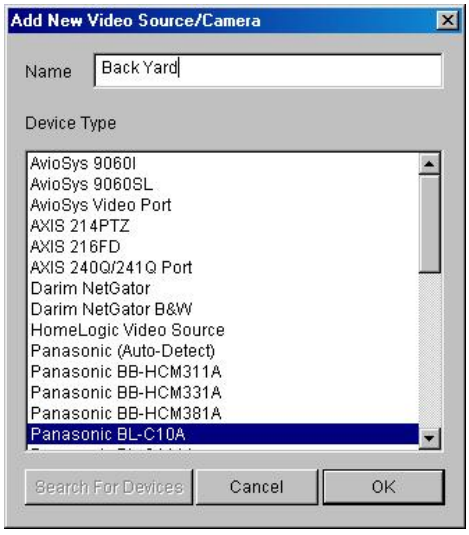
Note: All IP cameras must be configured properly prior to integrating with the g! software. Refer to the *Integration Note* for the specific camera used for required camera setup steps.

1. In the **Configurator**, click the **Video** tab, then right-click **Video Cameras/Sources** in the System Tree, as shown below.



2. Click **Add New Video Source/Camera…**. *The Add New Video Source/Camera window opens.*

3. Select **Panasonic BL-C10A** from the Device Type list. Name the camera “Back Yard”, then click **OK**.

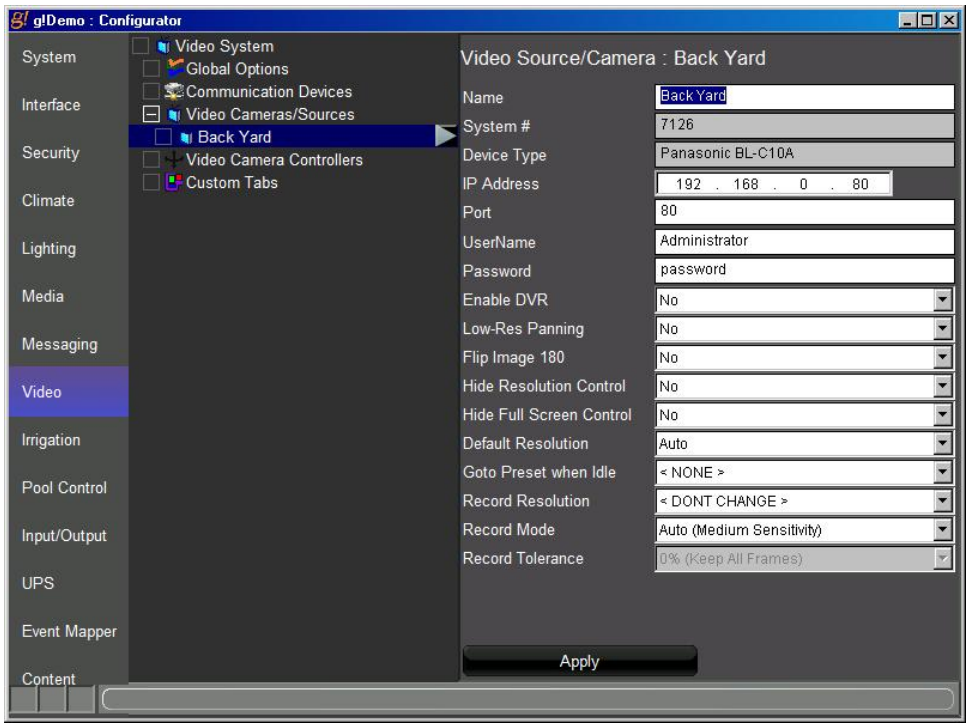


4. Select the Back Yard camera in the System Tree and enter the following required information for communication in the properties window:

    a. Enter the camera's **IP address**.

    b. Enter the camera **login username** and **password.** (if required)

Note: If you are using the g!Demo you can leave this information blank.



Exercise 2: Add an Analog Video Camera

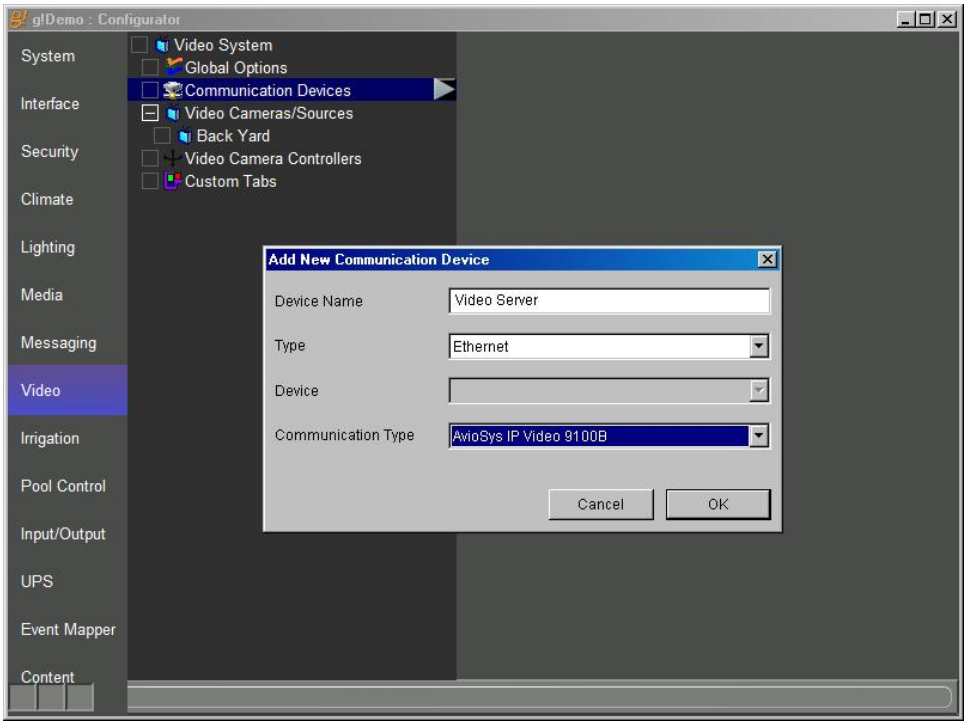
Overview

In the following steps you will configure an AvioSys IP Video Server. This video server has four analog video inputs to convert video from up to four analog video sources to be viewed on the Viewer interface. You will first add a communication device and then add one port (video input) on the video server that the g! software will use to display the video.

How-to

Note: All IP video servers must be configured properly prior to integrating with the g! software. Refer to the *Integration Note* for the specific video server used for required server setup steps.

1. Add the video server communication device.
    a. On the **Video** tab, select **Communication Devices**. Right-click and select **Add New Communication Device.** *The Add New Communication Device window opens.*
    b. Select **Ethernet** as the **Type**.
    c. Select **AvioSys IP Video 9100B** as the **Communication Type**.
    d. Name the device “Video Server” then click **OK**.

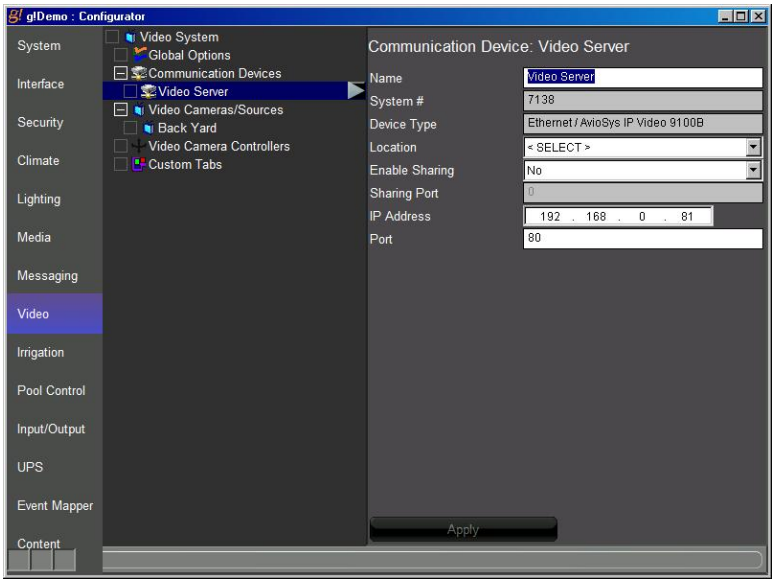


2. Enter the required information for communication. Click on the **Video Server** communication device in the system tree and enter the following information:

    a. Enter the video server's IP address.

    b. Enter the camera **login username** and **password.** (if required)

Note: If you are using the g! Demo you can leave this information blank.

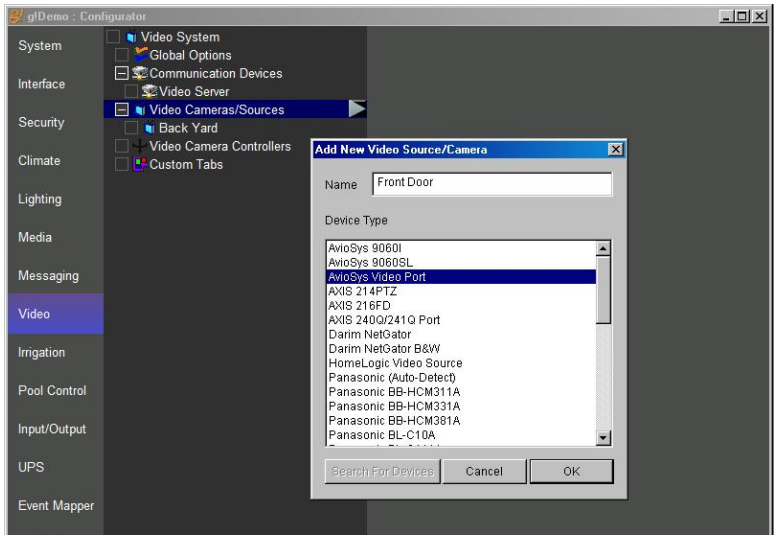


3. Add the video server port:

    a. On the **Video** tab right-click **Add New Video Cameras/Sources** on the system tree. *The Add New Video Source/Camera window opens.*

    b. Select **AvioSys Video Port** from the list

    c. Set the name to "Front Door" and click **OK**.



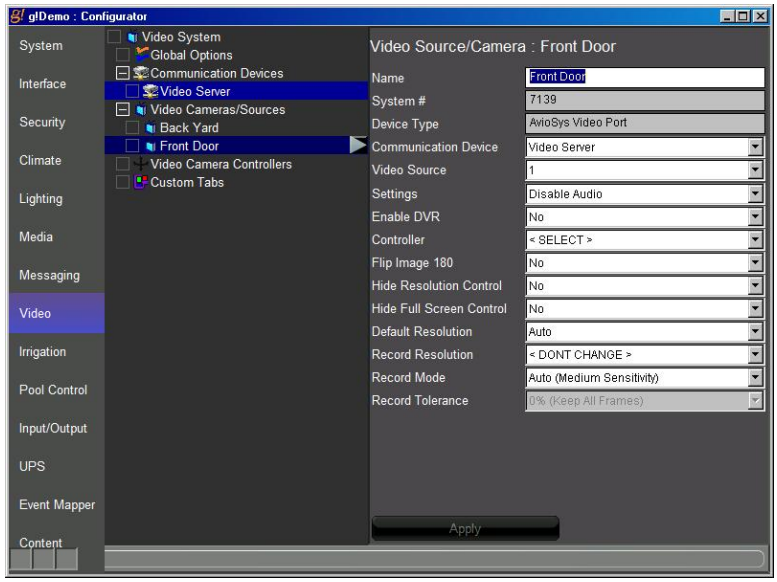
4. Edit the properties for the video source:

    a. Click on the Front Door camera in the system tree to view the camera properties window.

    b. Confirm the **Communication Device** is set to **Video Server**,

    c. Set the **Video Source** to **1**. *This defines the input port on the server to which the video is connected.*

    d. Click **Apply** at the bottom of the screen.

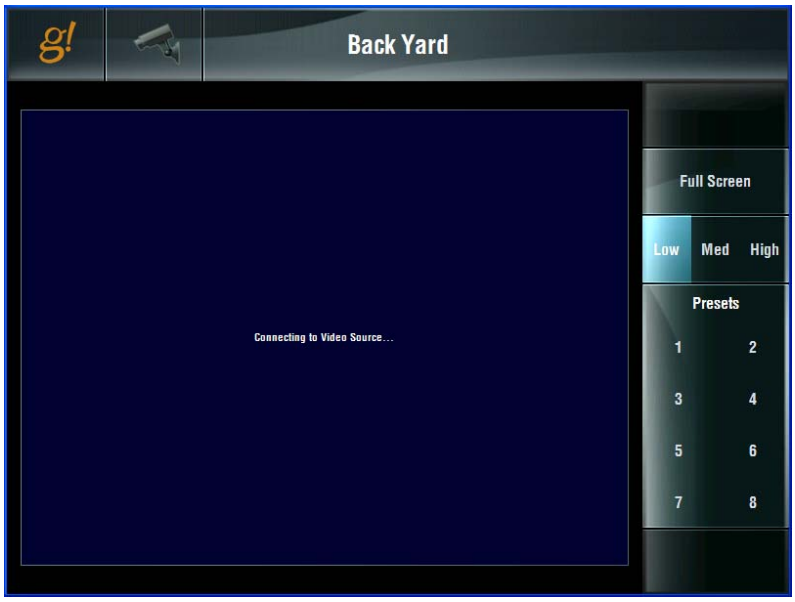


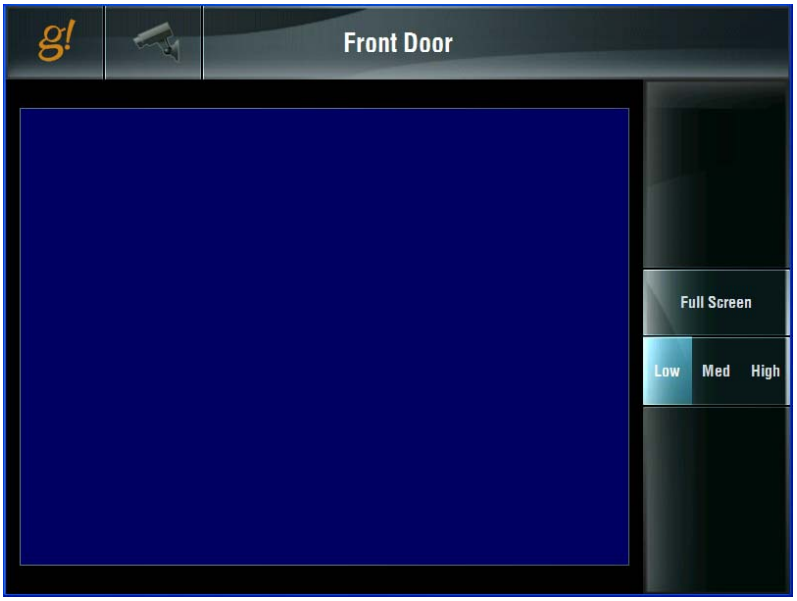
Exercise 3: Check the Viewer Interface

How-To

Once you have configured the two video cameras, check the Viewer to confirm your work.

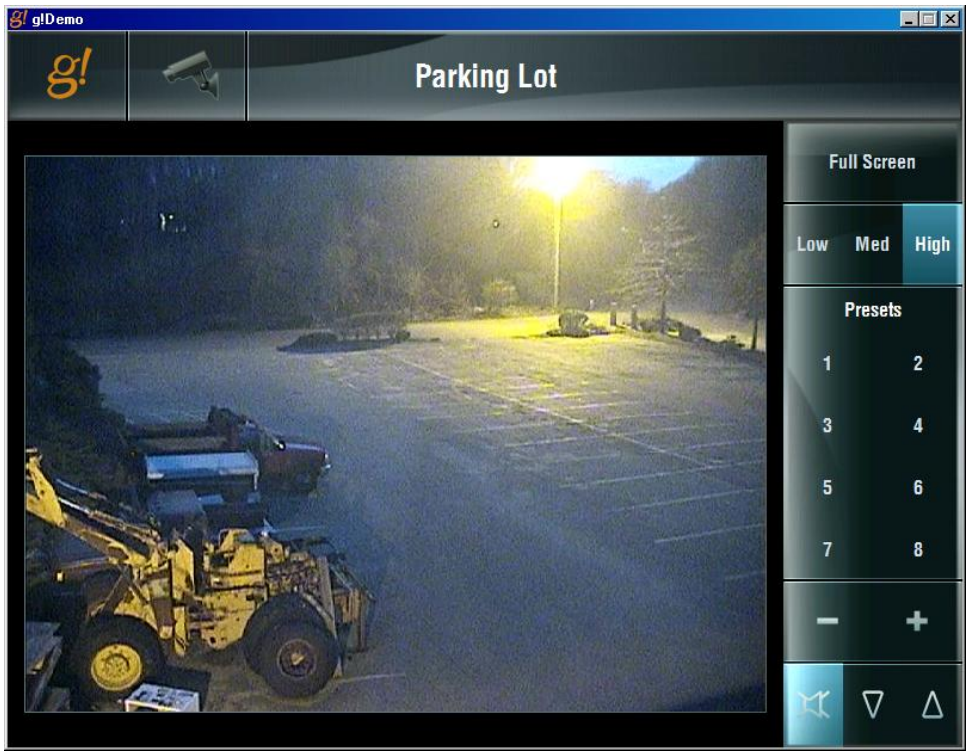
1. From the g! Connect main screen, click **Start Viewer**.
2. Click **g!** in the upper left to access the main system icons, then click the **Video** icon to access the available video streams. You will see two icons; one for each camera. Select each one and notice the differences.





- For cameras with Pan / Tilt capability, you can click anywhere in the video image to re-center the camera view on that spot.
- For cameras with zoom, +/- buttons display to allow you to zoom in or out.
- For cameras with audio, icons display at the bottom right for control of the audio volume level.
- For cameras that allow Presets, a series of numbered Preset buttons are displayed. To save a new preset move the camera to the desired new location, press and hold the preset # to save the new view.

Sample screenshot from an IP camera that supports Pan, Tilt, Zoom, Presets and Audio:



Notes:

Lesson 12
Event Mapper

Overview

The Event Mapper is the area of the Configurator where advanced custom programming is performed. It allows you to execute commands in response to events detected by the system.

For example, when the front door to a home is opened, the front-hallway light is turned on. In this example, the event is the front door opening, and the command mapped to that event is "turn on the light".

You will:

- Learn how custom events and macros are organized in the Configurator.
- Create Event Maps in response to sample system events.

Requirements

- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.
- Completion of Lesson 3, *Configuring Security Systems*.

Event Mapper Overview

Overview

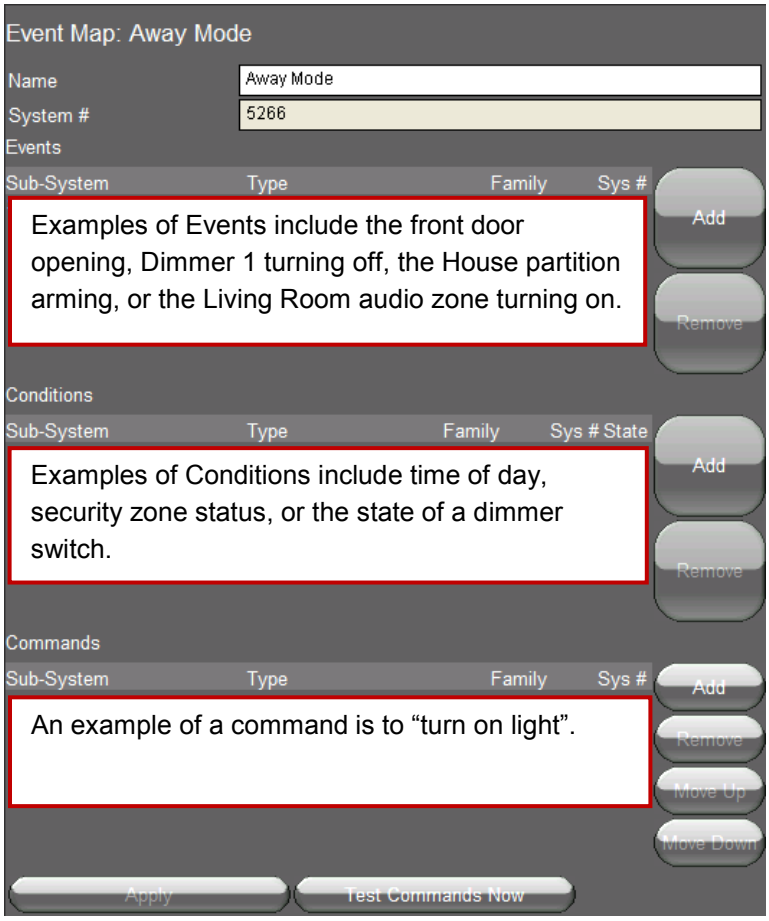
Event Maps contain three distinct categories:

Events. An Event is something that has happened in the system and could come from any configured sub-system. Events are used to trigger Event Maps. These can be equated to “IF” statements. Multiple Events in this window will trigger as “OR”.

Conditions. Conditions are tests that allow control over when an Event should cause something to happen. Conditions place limits on when an Event Map should execute; as the Event *plus* the Condition must be met. These can be equated to “AND” statements. Multiple Conditions must ALL be met to trigger the Event Map and execute the commands.

Commands. Commands are the steps that are taken in response to a particular Event. These can be equated to THEN statements. Multiple Commands will execute in sequence.

Examples of each are shown below.



How-to

Setting up an Event Map consists of the following steps:

1. Add the Event Map
2. Set the events that should trigger the Event Map
3. Add conditions to control if or when the Event Map runs (if needed)
4. Set the commands to execute when the Event Map runs

Event Maps can be generated by entering the Event Mapper tab in Configurator, adding a new Event Map and then selecting the appropriate event (triggers), conditions and commands. This is the method detailed in the following exercises.

Event Maps can also be created on sub-systems tabs by right-clicking on a sub-system component and using the *Create Event Map for…* option, which will create a new event map with the selected trigger event already populated.

Example:

A Note about this Lesson

The following exercises are intended to demonstrate the concepts of Event Mapper, and are not in any way comprehensive of the possibilities available within the Event Mapper function.

You should use these exercises and topics merely as a starting point for creating your own custom event maps.

Exercise 1: Arm the Security System on Away House Mode

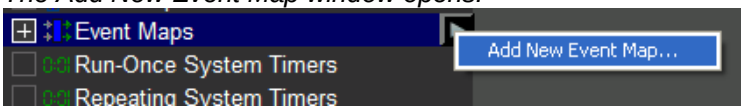
Overview

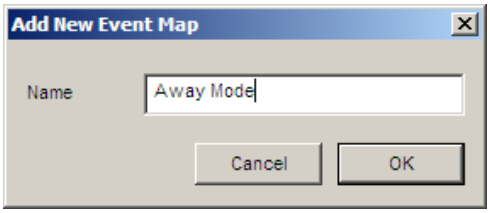
In this exercise, you will use Event Mapper to add additional functionality to a System Mode. System Modes will automatically tie into scheduling features on tabs such as Climate and Lighting, but through Event Maps additional functions can be added. Our sample function will be to automatically arm our Virtual Security System when the Away System Mode is selected.

Note: The alarm system cannot be automatically disarmed from a system mode or any other system command: the g! software does not support auto-disarm features as they could present a security risk.

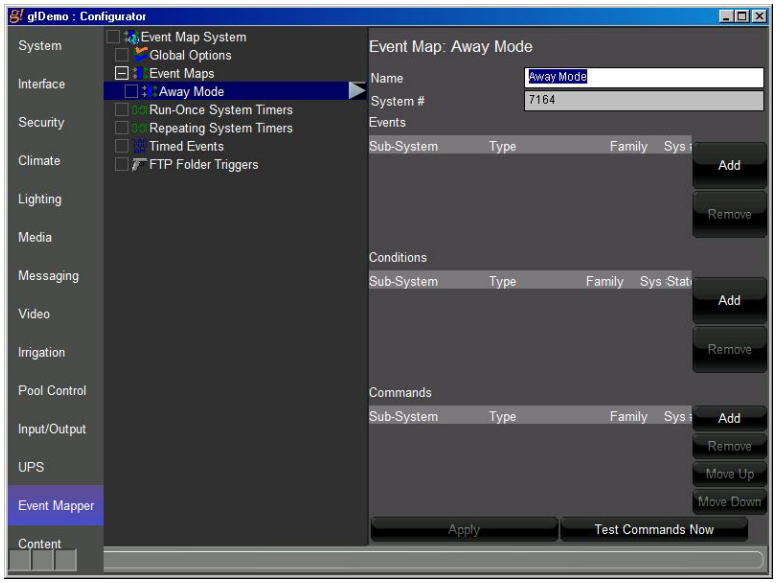
How-to

1. Click the **Event Mapper** tab in the Configurator, then right-click **Event Maps** and **Add New Event Map** in the System Tree.
   The Add New Event Map window opens.





2. Name the Event Map **Away Mode**, and then click **OK**. *The Away Mode properties window displays to the right*.

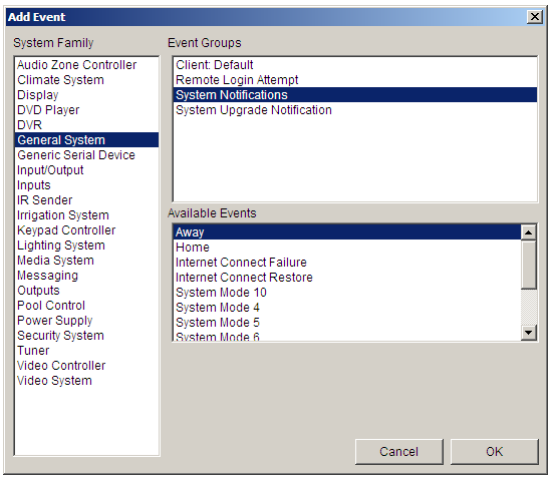


3. To the right of the **Events** section (top section), click the **Add** button. *The Add Event window opens.*

    a. Select **General System** in the **System Family** section.

    b. Select **System Notifications** in the **Event Groups** section.

    c. Select **Away** in the **Available Events** section.



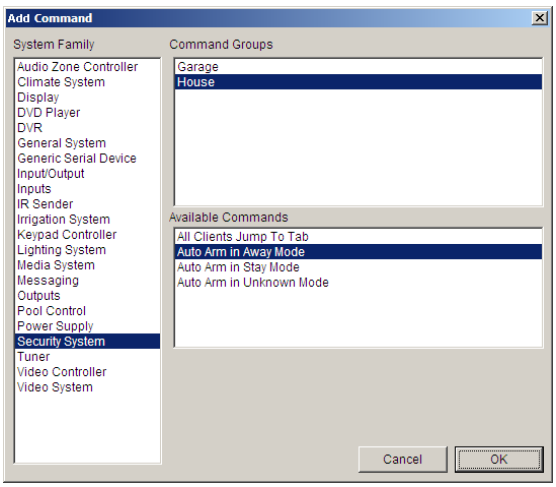
    d. Click **OK.** *The Add Event window closes and the event displays in the properties window.*

4. To the right of the **Commands** section (bottom section), click the **Add** button. *The Add Command window opens*.

    a. Select **Security System** in the **System Family** section.

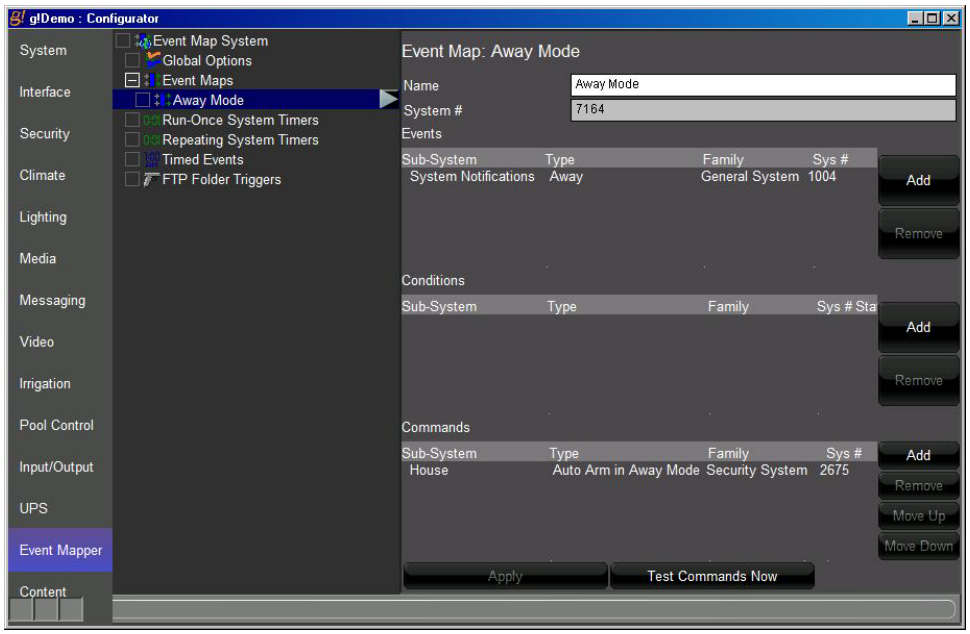
    b. Select **House** in the **Event Groups** section.

    c. Select **Auto Arm in Away Mode** in the **Available Events** section.



    d. Click **OK**. *The Add Command window closes and the command displays in the properties window*.

e. Your screen should now look like the one below.

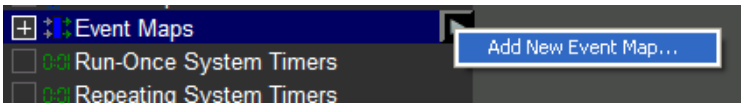


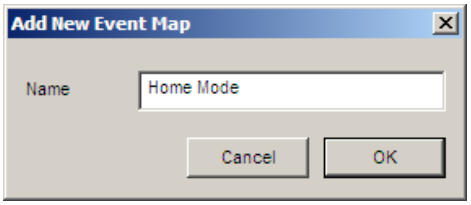
Exercise 2: Set Home Mode on Security Disarm

Overview In this exercise, you will set up an Event Map to have the system automatically set the g! software System Mode to Home when the security system is disarmed.

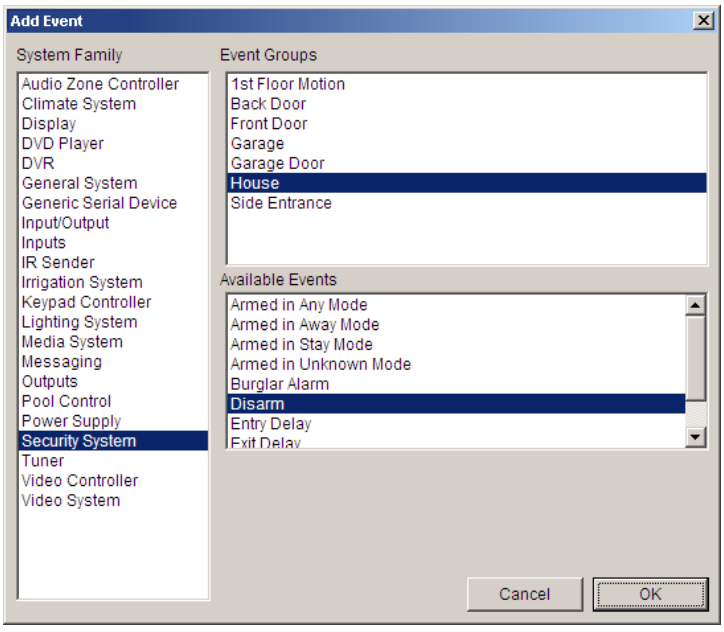
How-to

1. On the **Event Mapper** tab, right-click **Event Maps**, then **Add New Event Map**… *The Event Map window opens*.





2. Name the Event Map **Home Mode**, then click **OK**. *The Home Mode properties window displays to the right.*
3. To the right of the **Events** section (top), click the **Add** button. *The Add Event window opens.*
   a. Select **Security System** in the **System Family** section.
   b. Select **House** in the **Event Groups** section.
   c. Select **Disarm** in the **Available Events** section.



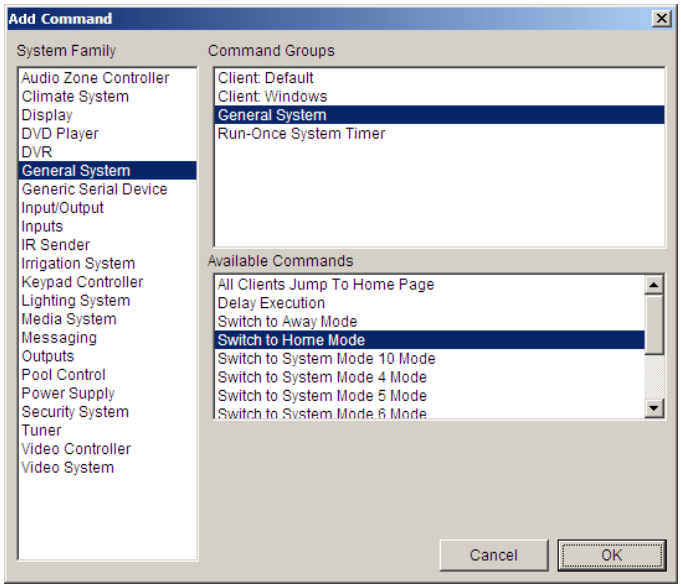
d. Click **OK.** *The Add Event window closes and the event displays in the properties window*.

4. To the right of the **Commands** section (bottom), click the **Add** button. *The Add Command window opens*.

   a. Select **General System** in the **System Family** section.

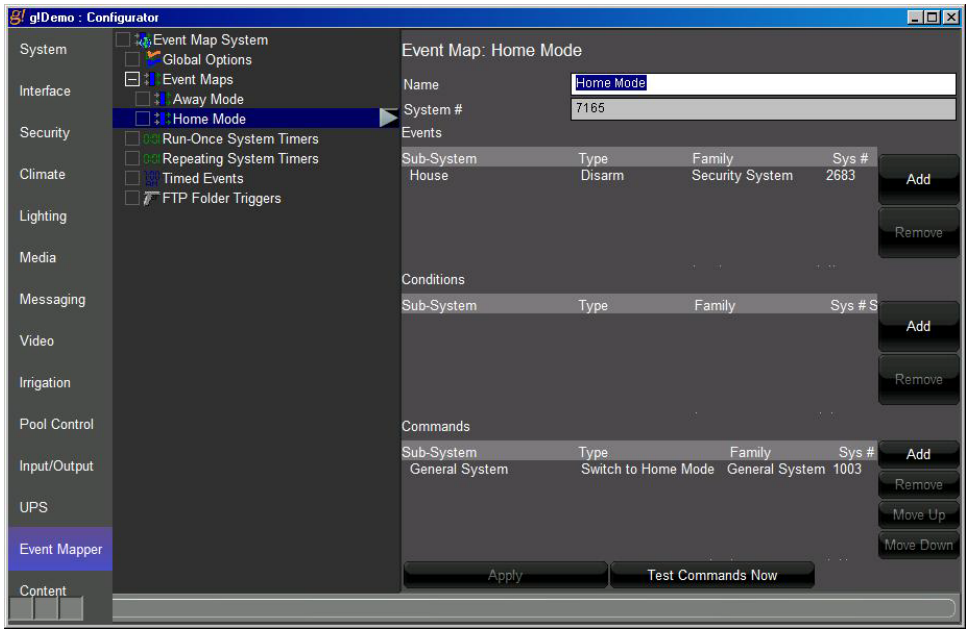
   b. Select **General System** in the **Event Groups** section.

   c. Select **Switch to Home Mode** in the **Available Events** section.



   d. Click **OK**. *The Add Command window closes and the command displays in the properties window.*

   e. Your screen should now look like below.



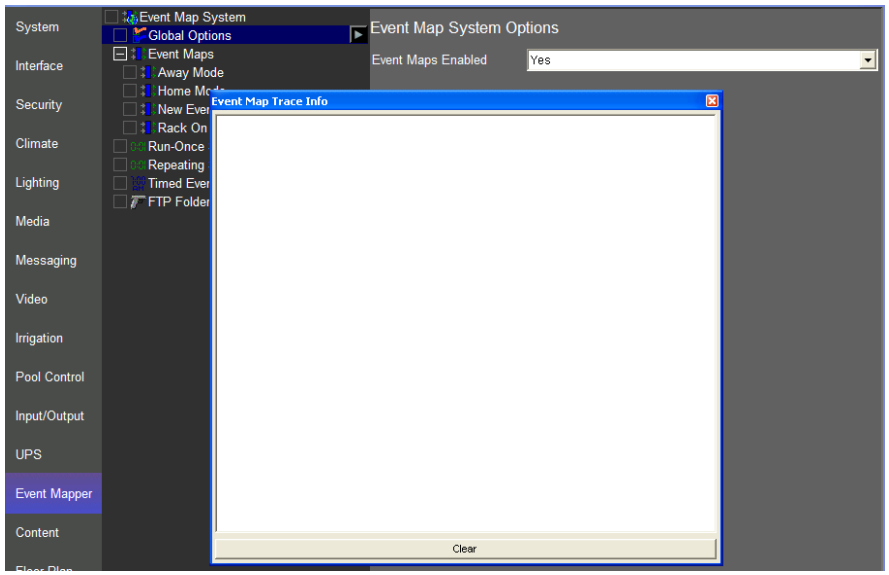
Exercise 3: Check the Commands

Overview

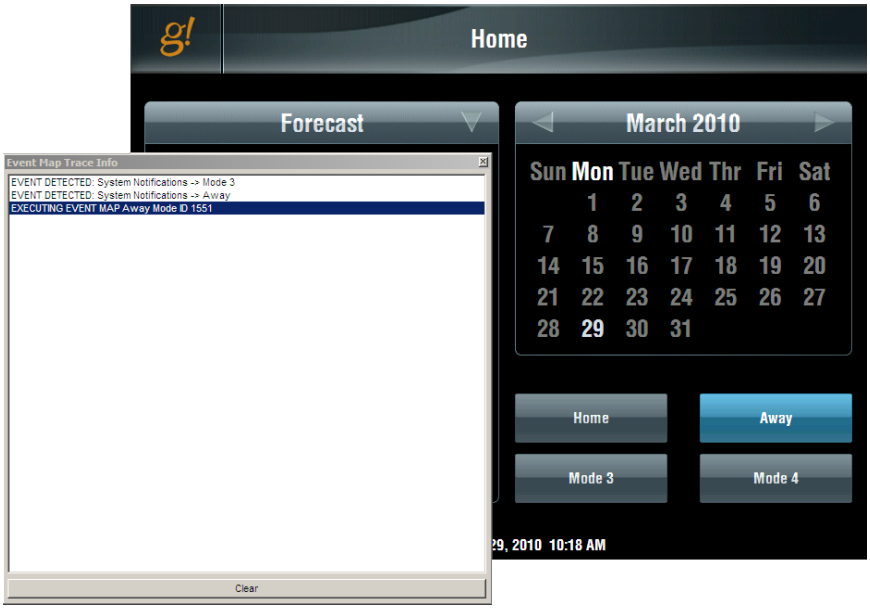
In the following steps you will use the **Event Map Trace Info** window to see your Event Maps in action. Event Map Trace can be useful when creating and testing Event Maps to see events happening in real-time and observe when they may be triggering an Event Map.

How-to

1. On the **Event Mapper** tab, right click **Global Options** near the top in the System Tree, and click **Show Event Map Trace Info**.



2. Switch over to the **Viewer**, and arrange the windows so that you can see both the Trace window and the Viewer on your screen at the same time.



3. In the Viewer on the Home page, click the **Mode 3** button, then click **Away**.

   *In the **Event Map Trace Info** window you will now see several lines of text, each representing an event in the system, or an Event Map executing.*

Note: An EVENT DETECTED message does not explicitly mean that it is going to trigger an Event Map; it is merely a notification of an event in the system which could ***potentially*** trigger an Event Map.

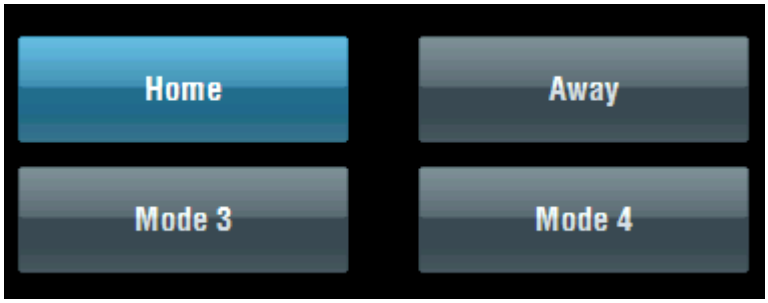
In the example above, we get an Event for Mode 3, which does not trip any Event Maps; and an event for the system mode changed to Away (System Notifications -> Away), which does trigger the Event Map “Away Mode”.

Depending on what other configuration you have done in the system you may see several other events being detected during this test.

4. Click **g!** to access the main system icons then click the **Security** icon. *Notice the results of the Event Map "Away Mode": The House Partition of our Security Panel is now "Armed in Away Mode".*

5. Test the Home Mode Event Map.
   a. Tap the **Disarm** button, then enter **1…2…3…4…Enter** on the security keypad.
   b. Notice that the Event Map trace displays **Event Detected House -> Disarm**, and this in turn causes the "Home Mode" Event Map to trigger.

6. Return to the Home page of the Viewer, and observe the results of the "Home Mode" Event Map. When you disarmed the House Partition, the System Mode was set to Home.



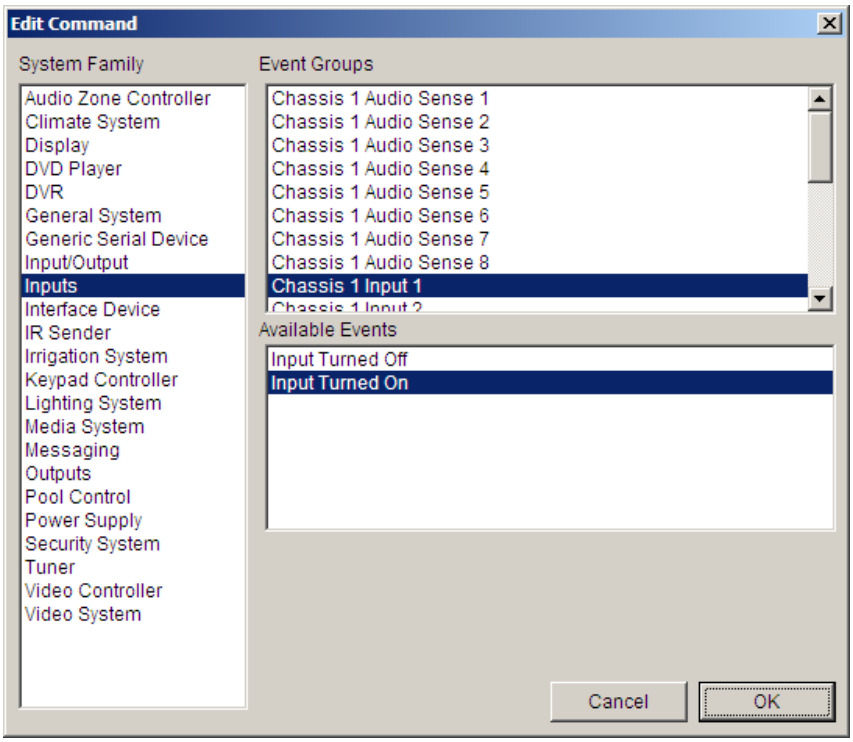
Exercise 4: Doorbell Triggers Jump to Video Tab

Overview

In this exercise, you will use the chassis input on an ELAN System (such as the S8.6) to create a reaction to someone pressing the door bell, in this example, flipping all touch screens to a video feed. This example assumes that you have wired the door bell or a third party door station unit appropriately to the ELAN System Chassis Input and have already configured the ELAN System and a Video camera in the system.

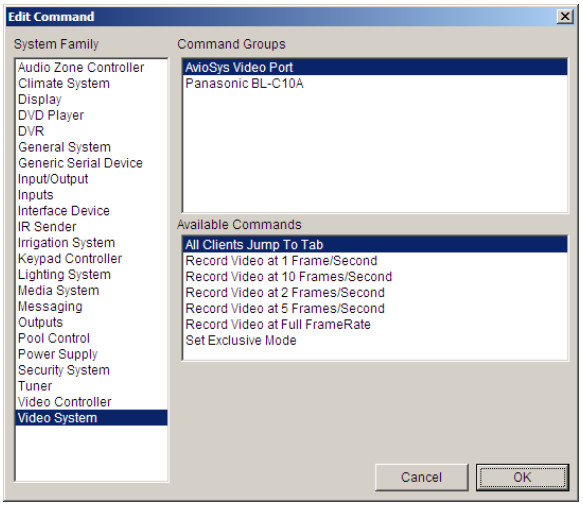
How-to

1. Add a new Event Map and name it “Door Bell – Video Flip” or similar.
2. Add an EVENT for the Chassis Input Shorted:
   - System Family: Inputs
   - Event Group: Chassis 1 Input 1
   - Event: Input Turned ON

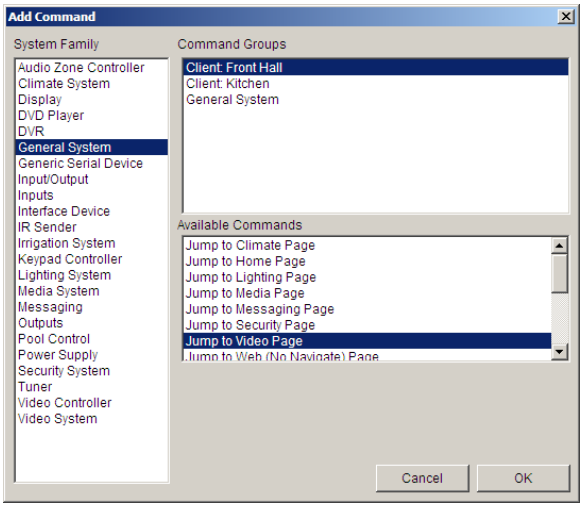


3. Add a command to flip touch screens to the video feed. Note that you may either flip all touch screens to the video feed(a), or select only specific screens (b).

    a. **Flip all touch screens to the video feed:** Add a Command for the touch screens to flip to a certain video feed, by choosing Add Command and selecting System Family: Video System, Command Group: *(desired camera feed)*, and Command: All Clients Jump to Tab. In the example below, an Aviosys Video Port will be displayed on all touch screens when the Input is turned on:



    b. **Flip only a specific touch screen to the video feed**: Add a Command for the touch screens to flip to a certain video feed, by choosing Add Command and selecting System Family: General System, Command Group: Client: (desired touch screen), and Command: Jump to Video Tab. In the example below, the front hall touch screen will jump to the Video Tab:



AV Macro Examples

Overview

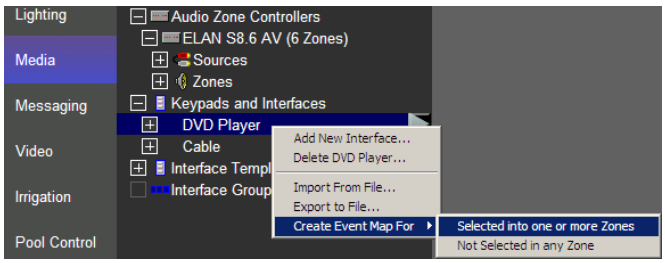
You can use the Event Mapper to create macros to automate a variety of A/V functions. This section presents examples of some common macro functions.

Note: Use this section for examples and ideas, but bear in mind it is not a comprehensive list of possible functions.

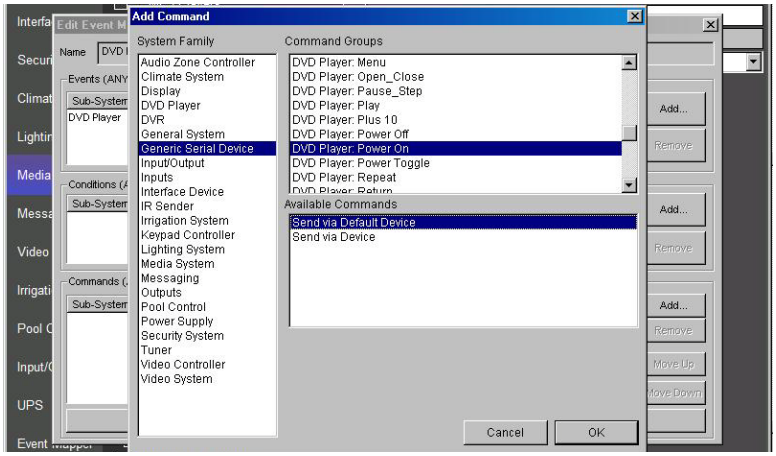
Powering On a Source

The following text uses the example of turning on a DVD Player, but the steps below can be used with any Source Interface. Event Maps may also be used to turn off IR, Generic Serial, or sources with built-in drivers.

1. In Configurator on the **Media** tab, right-click the **DVD Player** interface under **Keypads and Interfaces** and select **Create Event Map For > Selected in One or More Zones**.



2. Add a command to send the Power On Serial Code to the DVD Player. Click **Add** next to the Commands box, then select **System Family: Generic Serial Device**. Scroll to the correct Serial Code and select Send Via Default Device.



3. Whenever the DVD Player interface is selected, the g! software will automatically send an IR command to the DVD Player to Power ON.

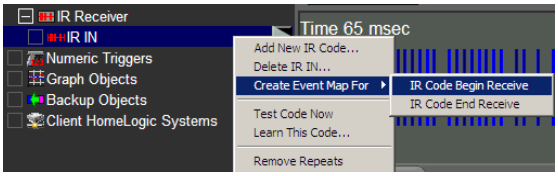
Note: You may wish to also program a second Event Map to perform the inverse. Use the steps above to create an Event Map to Power Off the DVD Player when it is “not selected in any zones”.

React to IR input for Event Map Triggering:

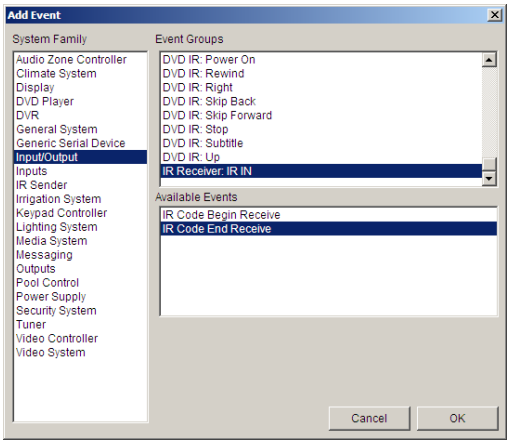
By using an IR receiver such as the Global Cache IRE, the g! software can trigger events off the reception of specific IR codes.

1. Add your IR Receiver as per its Integration Note.
2. Add an IR Device and learn the IR code(s) you wish to use to trigger the event. If possible, learn the IR through the same method IR will come in to trigger the event.
3. Edit the IR Device properties and set **Decode IR from this device** to **Yes**.

4. Either right-click on the desired IR code and Add an Event Map for IR Code Begin Receive or go to the Event Mapper tab and add a new event with the trigger: System Family: Input/Output, the IR Device: IR Code, and IR Code Begin Receive.



-or-



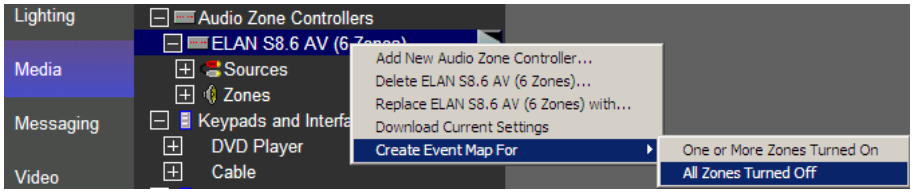
5. Add commands to the event as desired.

Note: The above example theorizes a single IR code input to trigger a single event in the g! software, so it doesn't really matter whether you choose IR Code Begin Receive or IR Code End Receive. However, if you were to be inputting IR continuously, such as with a volume control or a light dimmer, Begin Receive allows you to set a Event Map when the button is *pressed*, and End Receive allows you to set a different event map for when the button is *released*.

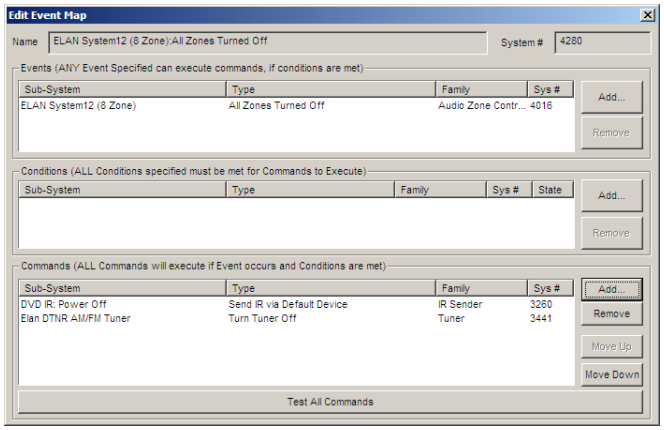
All Off:

This exercise demonstrates how to use an event map to turn off multiple devices. In this example, you will turn off all audio sources whenever no zones are active on the zone controller.

1. In Configurator, on the **Media** Tab, right-click on the name of the zone controller. Select **Create an Event Map For > All Zones Turned Off**.



2. Add commands to turn off the various sources.



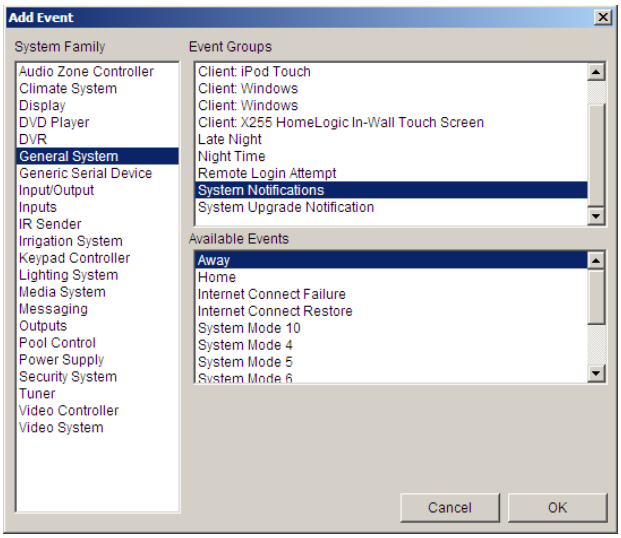
Away Mode All Off

In this example, you will use the Away System Mode to automatically turn off all A/V equipment.

1. Create a new Event Map and name it **Away Mode: A/V OFF** or something similar.

Note: If you have an existing Away Mode event map, you may wish to simply add commands to it rather than create a new event map.

2. Add an Event for system mode away. Select System Family: **General System**, Event Group: **System Notifications**, and Event: **Away Mode**.

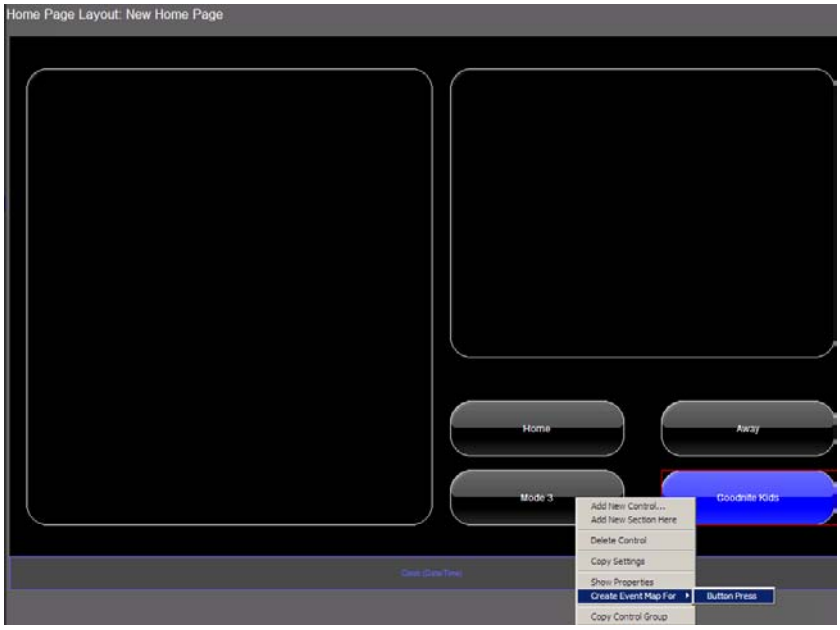


3. Add commands to turn off appropriate A/V gear. For example, turn off the zone controller and the theater receiver. Also, power off individual sources and send a Stop command to the HL Internal Player. Note that we do not set separate commands for disabling displays, as this should be done automatically in your zone settings.

Goodnite Kids:

In this example you will set up dim lighting and a soothing playlist to help young children fall asleep, and set up a timer to turn the lights and the music off after a certain amount of time.

1. Create a playlist in the **Viewer** for a compatible music source like the HL Internal Player.
2. Create a Run-Once System Timer on the **Event Map** tab in Configurator. Set the base time to an appropriate time interval.
3. Place a button control on a custom tab, settings page or home page to trigger the Event Map. (Optionally, you could also set this a System Mode)
4. Right-click the button and create an event map for button pressed.



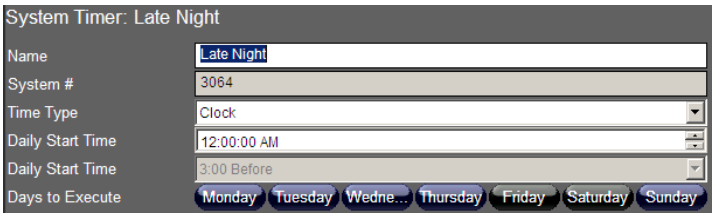
5. Add commands to load the playlist, activate the correct source, set the volume, set the good nite scene, and start the Run-Once system timer.

6. On the **Event Mapper** tab in Configurator, add a new Event Map. Set the Event as the expiration of the run-once system timer, and then set commands to stop the playlist, dim the lights and turn off the audio zone after the desired amount of time.

No TV after bedtime:

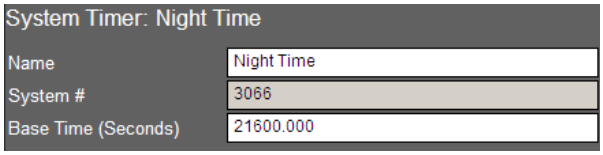
In this example you will set up a time-based event map with conditions to thwart teenagers who sneak up late to watch TV.

1. In the Event Mapper tab of Configurator, create a **Timed Event** and configure the time you wish to begin disabling the TV. Name it “Late Night” or something similar.



2. In the Event Mapper tab of Configurator, create a **Run-Once System Timer**. Set name as “Night Time” or something similar, and the base time as 21600 seconds (6 hours).

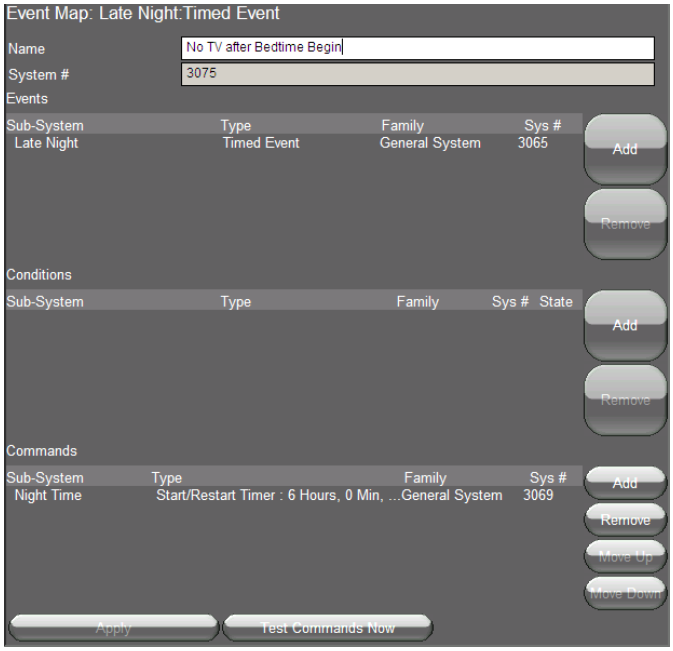
Note: Adjust time as needed.



3. Add a New Event Map and name it “No TV after bedtime: Begin” or something similar.

    a. Add an Event from System Family: General System, and find the Timed Event you named “Late Night” or similar.

b. Add a Command from System Family: General System, and find the Run-Once System Timer you named “Night Time” or similar, and Start Timer at 6 hours.



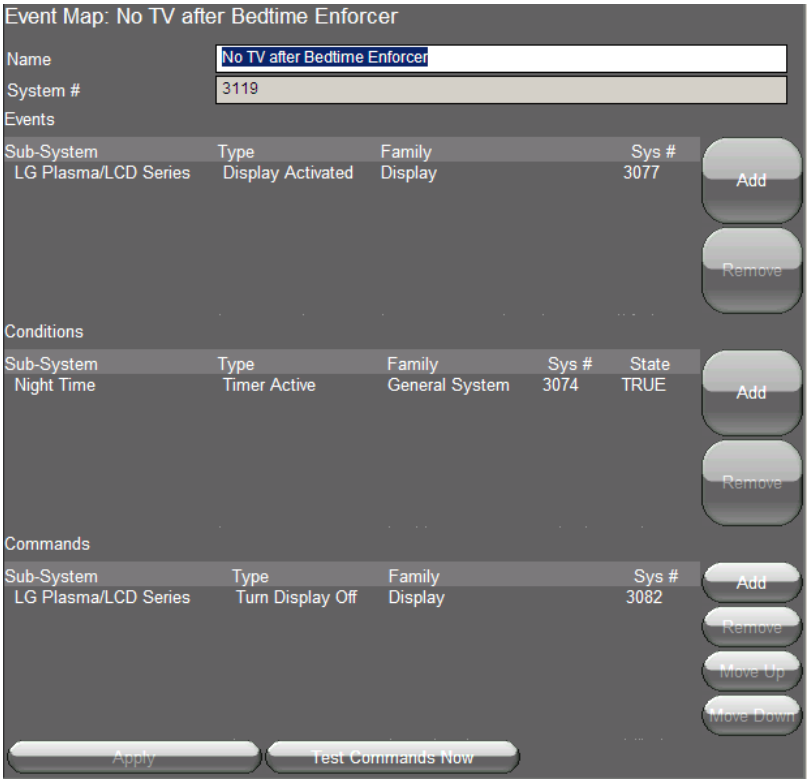
4. Add a New Event Map and name it “No TV after bedtime: Enforcer” or something similar.

    a. Add an Event from System Family: Display and choose your integrated display, and the event Display Activated (turned on).

Note: Optionally you can use the activation of an audio zone on an integrated receiver/zone controller instead.

    b. Add a Condition from System Family: General System and find your Night Time (run-once) Timer and choose the condition: *Timer Active*. This will cause the event to only trigger at night time when the 6 hour timer is running.

    c. Add a Command to turn the display off.

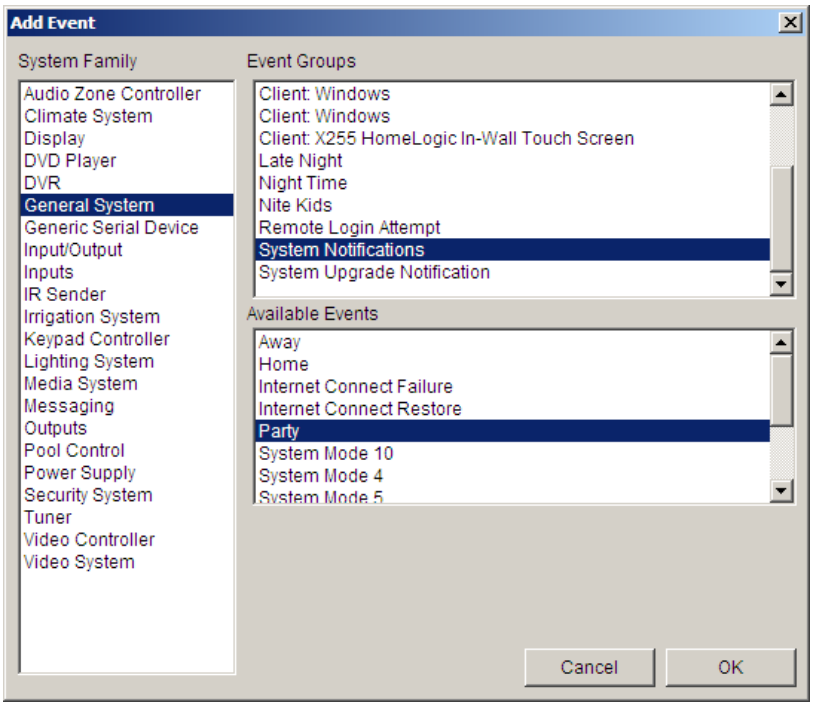


The Event Maps above will set the system to automatically turn off the display if it is activated between the hours of 12am and 6am. The first event map starts a 6 hour run-once timer, which will count down from 6 hours to 0. The second event map watches for the TV in a certain zone to turn on, and then checks to see if the timer is currently running. If the timer IS running, it will send a command to turn off the TV. Once the timer expires at 6am, the TV will return to normal operation.

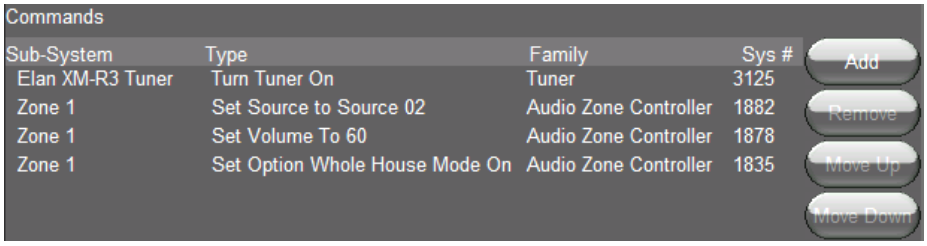
Party Mode:

In this example, you will configure an additional System Mode to be used to set the house for a party. In this event map, you will use the Whole House Music function built into the Elan S-12 Zone Controller, but it is possible to also configure a similar function by editing individual zones.

1. Add a New System Mode named Party Mode, and place a System Mode button on a Custom Tab or Home Page to activate the Event Map. Please see Lesson 13, *Interfaces: GUI and TS2* for details.
2. Configure Lighting and Climate scheduling information as desired.
3. Add a New Event Map and name it Party Mode or similar.
4. Add an Event from System Family: **General System**, Event Groups: **System Notifications**, and choose the **System Mode Party Mode**.



5. Add Commands as desired. For example, turn on the XM radio, select the XM Radio source, set volume on a particular zone, and then enable Whole House Music Mode for the S-12.



Notes:

Notes:

Lesson 13
Interfaces: GUI and TS2

Overview

This lesson discusses the main options available in the Configurator to customize colors and tab arrangements for in-wall touch screens, wireless tablets and other user interfaces in the system.

You will:

- Learn how to identify Interfaces in a system.
- Change basic settings for each interface and set which Tabs and Zones to show on which interfaces.
- Use built-in Display Settings.
- Use built-in Home Pages.
- Customize Home Pages.
- Add a Web Picture (such as weather radar).

Requirements

- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

Overview

Overview

This lesson explores many features available to customize the appearance of the Viewer on various interfaces.

In an ELAN system, interfaces include:

- In-Wall Touch Screens
- Wireless Tablets
- Computers in the home (on the local network)
- Computers connecting remotely (over the Internet)
- iPhone and iTouch

Terms

Touch Screen Options: Settings container on the Interface tab which includes options for each interface that has connected to the ELAN Controller locally. Touch Screen Options include settings such as what systems are visible on the interface, display options, and power settings.

Display Settings: Display Settings contain options for the colors, textures, and sizes of items in a touch screen layout. These are also referred to as themes or skins. The g! default is BLACK with an optional BLACK HIVIS (High Visibility) for dimmer screens.

Home Page: Home Pages contain options much like a Custom Tab, with the ability to add a variety of controls such as system mode buttons and display information such as time, calendar, and weather. Included are 6 defaults home pages with various layout schemes.

Exercise 1: Identify and Name Individual Interfaces

Overview

Each touch screen, computer, or other interface that logs on to an ELAN controller will automatically populate a Touch Screen Options entry on the Interface tab. Each Touch Screen Option entry contains settings pertinent to that specific Interface such as power settings and display options.

The first step to being able to manage the settings for a touch screen interface is to be able to manage the settings for the *correct* touch screen. In this lesson you will learn how to **identify** a touch screen and then **name** it so that it can be edited quickly and easily later on.

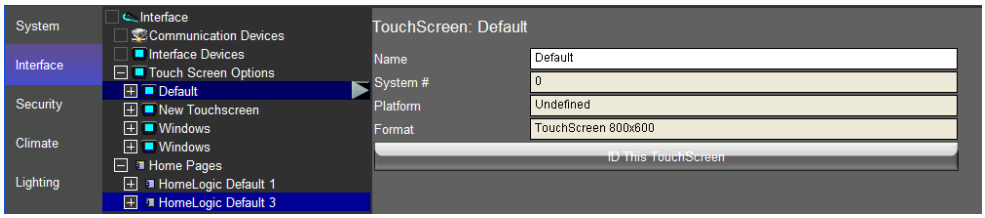
Touch Screen Option entries are added automatically for interfaces when those devices (touch screens, tablets, etc.) connect to the system for the first time. In other words, you don't have to add interfaces manually in the Configurator. Instead, connect the device to the system and power it up. Once it has connected to the ELAN Controller, a new heading will automatically appear in the Touch Screen Options list.

The g! software provides a default interface with the system. When a new device (touch screen, tablet, etc.) connects for the first time, the new Interface is created with settings *copied* from the **Default Interface**. For this reason, Default cannot be deleted. ELAN recommends that you DO NOT rename this item.

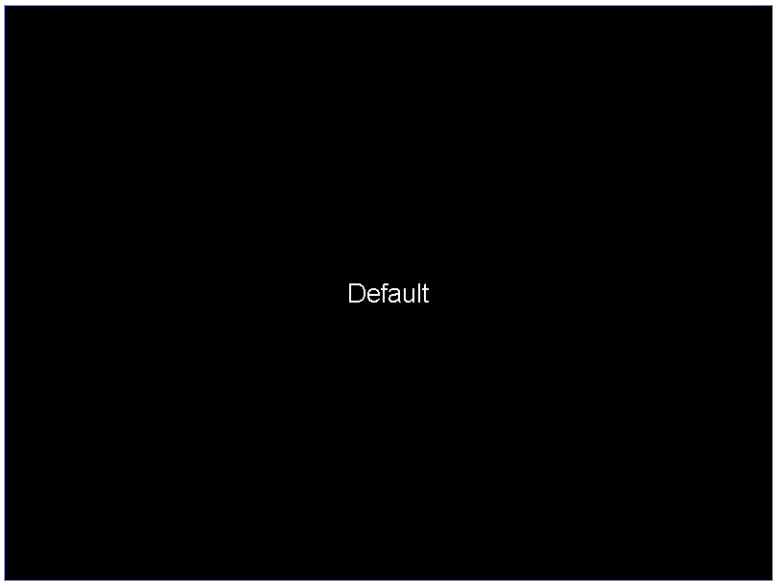
How-to

In the following steps you will identify and name an interface.

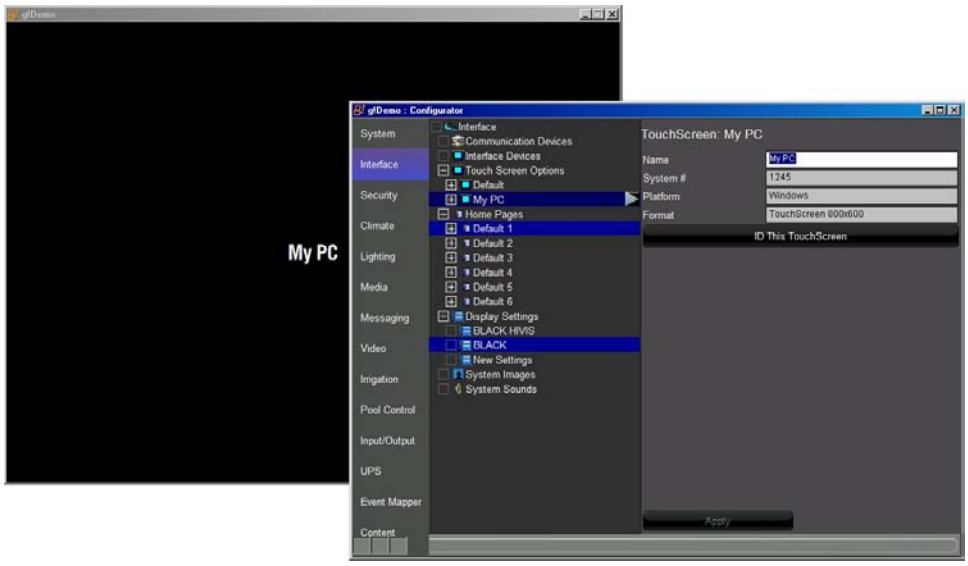
1. Start the **Configurator**, and the **Viewer**. Arrange the windows on your monitor so you can see at least a part of the Viewer behind Configurator.
2. In the Configurator, go to the **Interface** tab. In the System Tree, under **Touch Screen Options**, select the **Default** interface.



3. Note the large **ID This Touch Screen** button in the properties window. Clicking this button will force the associated client Viewer to black out and display the text in the Name field as shown in the screen below.



4. Click through each entry clicking the **ID This Touchscreen** button until your view blacks out and displays the name. Once you have found the entry that is your PC, rename it to **MY PC**.



Exercise 2: Explore Interface Settings

Overview

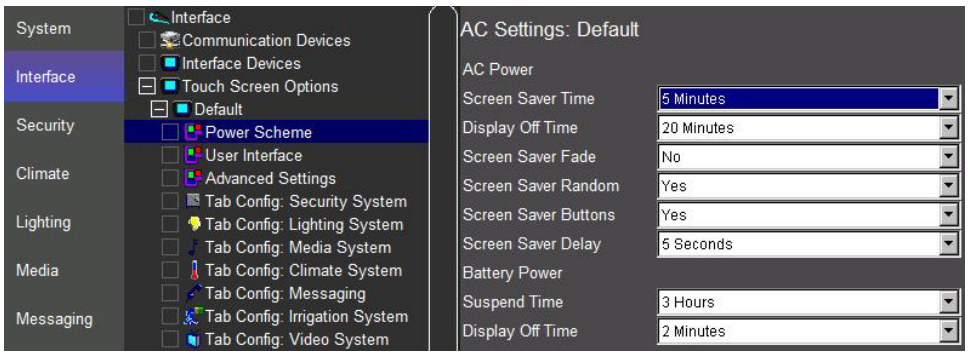
Each set of Touch Screen Options contains multiple headings that allow you to customize everything from what zones and interfaces appear on that particular touch screen, to altering screen saver, power management, and display settings.

Inside each set of Touch Screen Options:

- **Power Scheme-** Battery/AC Settings such as display off and screen saver timing.
- **User Interface-** Choose current Home Page, Display Settings, and whether schedules for climate are available on this interface.
- **Advanced Settings**- Toggle Browser tab, enroll in security announcements (if enabled in Security settings) and set volume. Also includes settings related to hardware graphics (typically should be left to defaults).
- **Tab Layouts-** Arrange what zones and interfaces should appear on this interface, and arrange the order of them (broken up by sub-system).

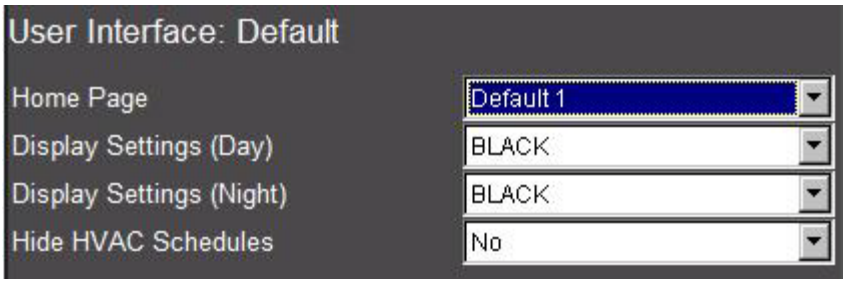
How-to

1. Navigate to the **Interface** tab and expand the **Default** interface.
2. Click on **Power Scheme (AC)**. *These settings control interfaces that are plugged in, such as In-Wall Touch Screens, and tablets that are in the charging cradle.*



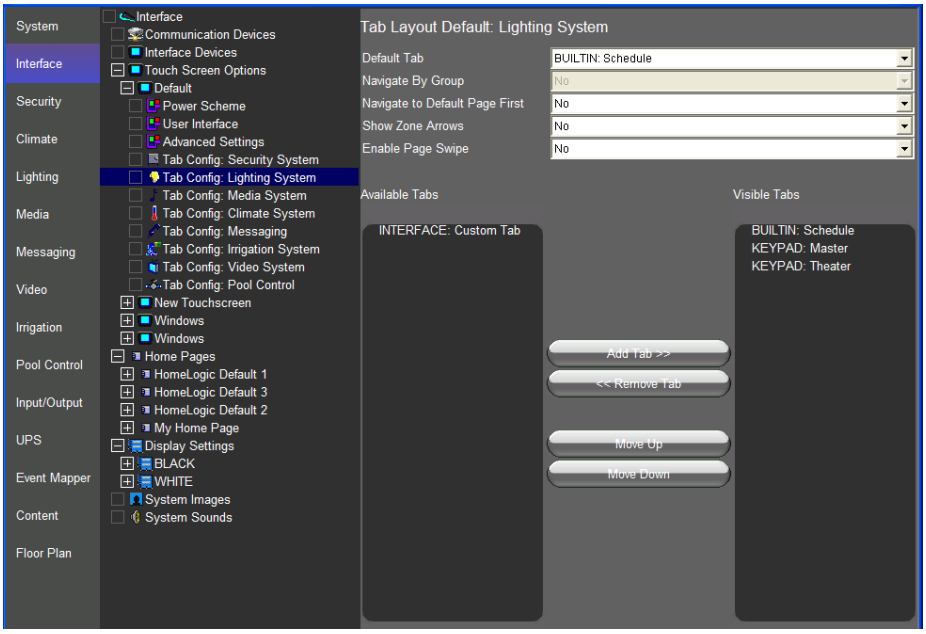
Quick Reference: Power Scheme Fields	
Screen Saver Time	Time before the display starts showing pictures.
Display Off Time	Time before the backlight is turned off when on AC Power (tap screen to wake).
Screen Saver Fade	Fade between pictures if on (hard transition if off).
Screen Saver Random	Show pictures in random order.
Screen Saver Buttons	Show the Next, Previous, Pause buttons on the picture screen saver.
Screen Saver Delay	Time between pictures.
Battery Power Suspend Time	Time before the display goes to sleep (requires touch of power button to wake).
Battery Power Display Off Time	Time before the backlight is turned off when using Battery Power. (Tap screen to wake)

3. Click **User Interface**.



Quick Reference: User Interface fields	
Home Page	Select which home page to show.
Display Settings (Day and Night)	Select which color settings to use for daytime and which for Night time.
Hide HVAC Schedules	Don't show the climate scheduling page on this interface.

4. Use the **Tab Layouts:Tab Config** to configure which tabs are shown on each interface. For example, click on **Tab Config: Lighting System**. Notice that **Master** and **Theater** are set to be displayed on the **Default** interface, and the Custom Tab is not shown.



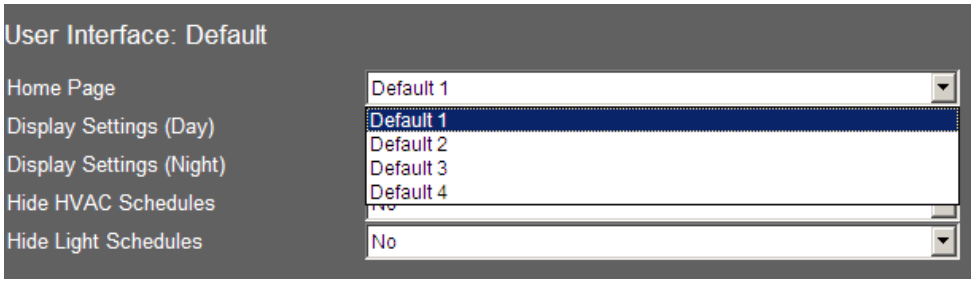
Exercise 3: Home Page Setting

Overview

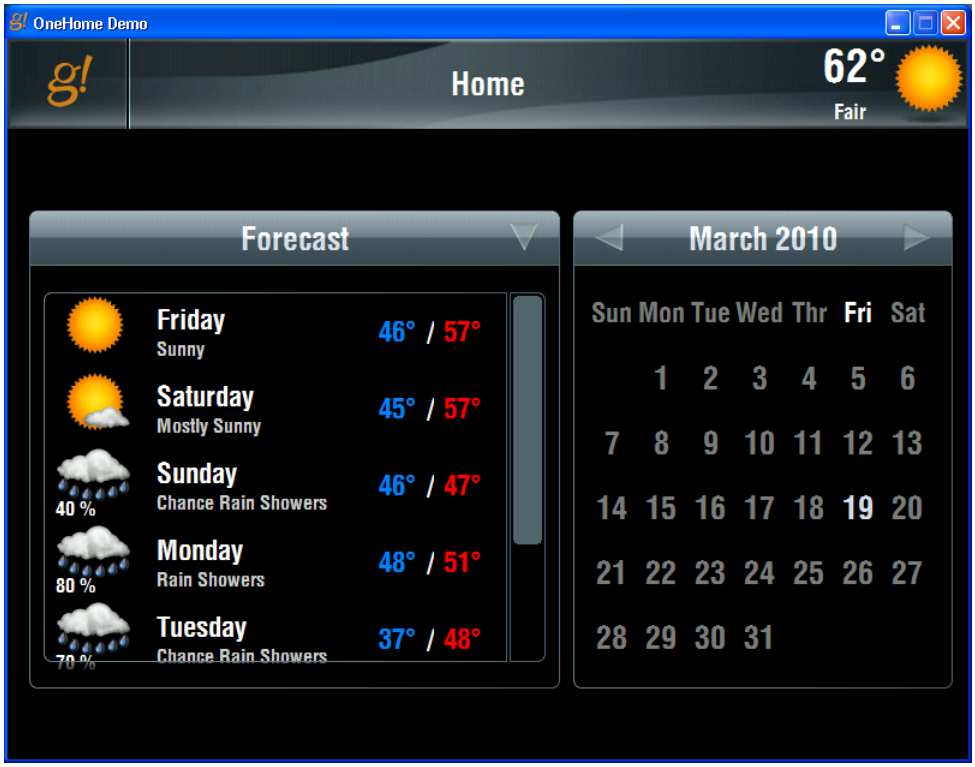
The system comes pre-configured with several built-in Home Page layouts. In the following steps you will select from among the different built-in Home Pages to see the differences.

How-to

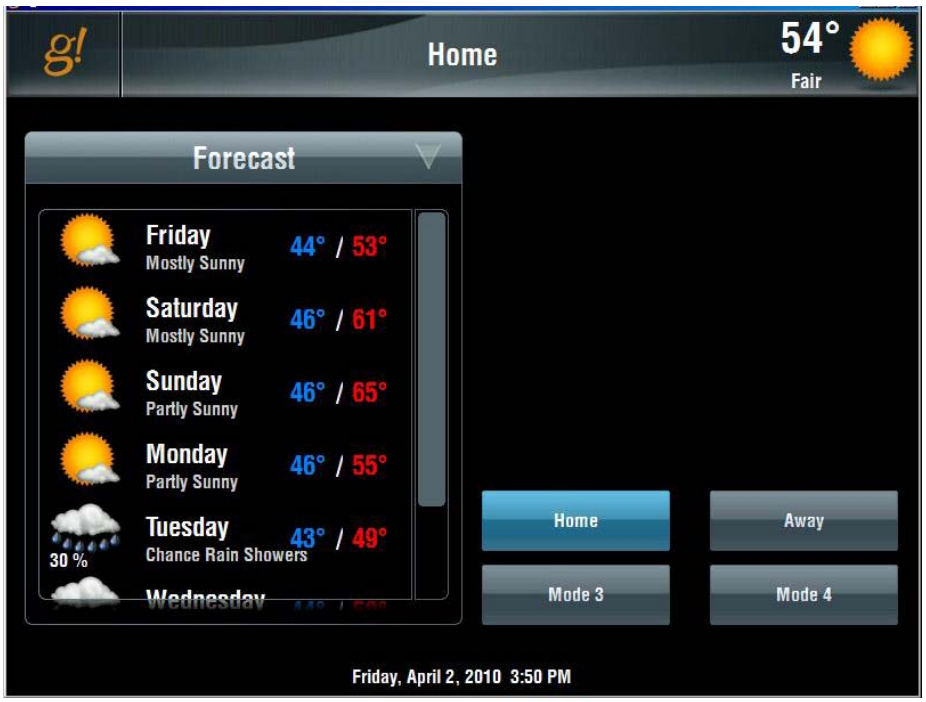
1. Navigate to the **Interface** tab, expand the **Windows** interface, and select **User Interface**.
2. In the properties window at right, select **Default 2** from the **Home Page** drop-down list, then click **Apply** at the bottom of the screen.



3. Go to the **Viewer**, to see how the new **Home Page** appears.



4. Change **Home Page** to **Default 3** and view the change.



Exercise 4: Creating a Custom Home Page

Overview In the following steps you will create a customized Home Page. As with color settings, the built-in Home Pages are not meant to be changed. Instead, we will create a new Home Page using Default 1 as our starting point and add a web image to it.

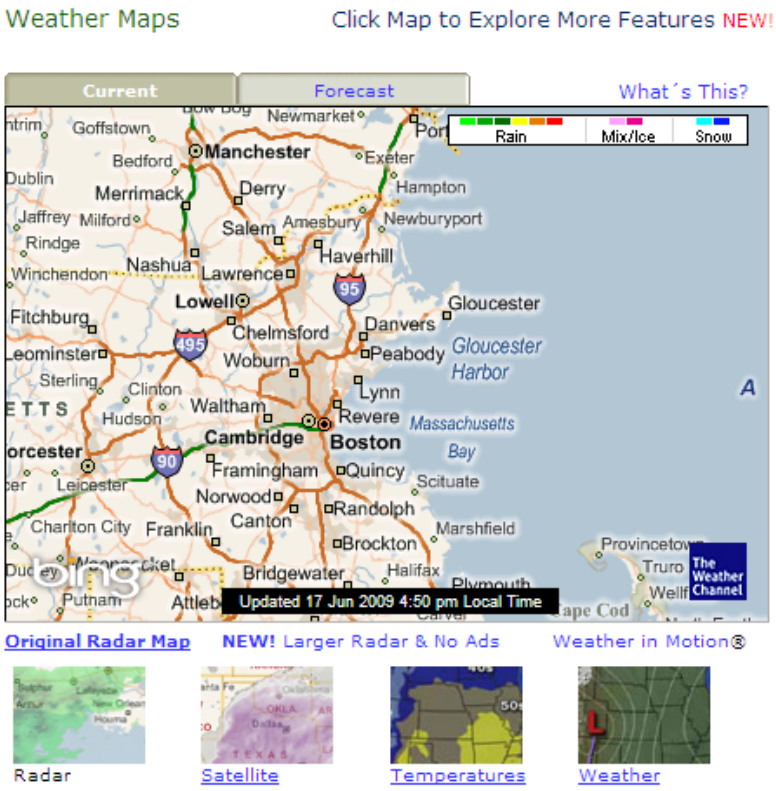
How-to

1. First, add a static, refreshing jpg image to populate on the Home Page. This image originates from the Internet, and requires a link on the Web to the desired image. *If you don't have Internet access, skip the following steps.*

   a. Open a web browser and navigate to a weather site such as www.weather.com.

   b. Browse for local weather, and then find an image map that shows current weather conditions for your area.

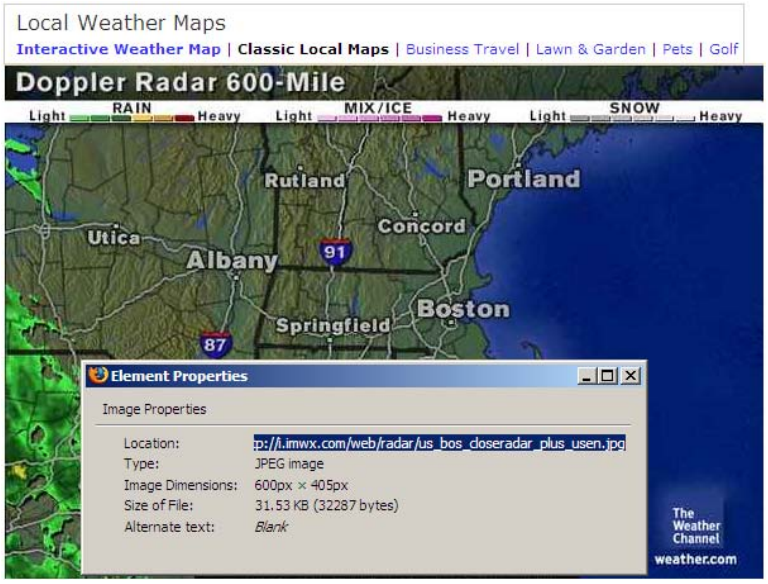
      For example, go to www.weather.com and type in your zip code. Scroll down to the Weather Map area, which displays an interactive map. Click on the **Original Radar Map** link to get a standard JPG file instead of the interactive map.



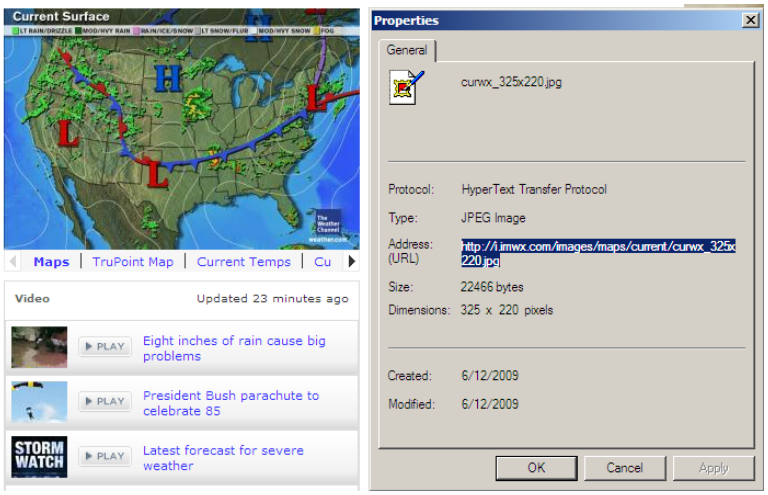
Note: You must use a static image file: html pages, Flash, and javacript will not load.

c. Right-click inside the image, and select **Properties**.

d. In the **Properties** dialog box, use your mouse to highlight the **URL**, and then press ***CTRL+C*** to copy the text. (The URL starts ***http://...)***
In Firefox:



In IE:

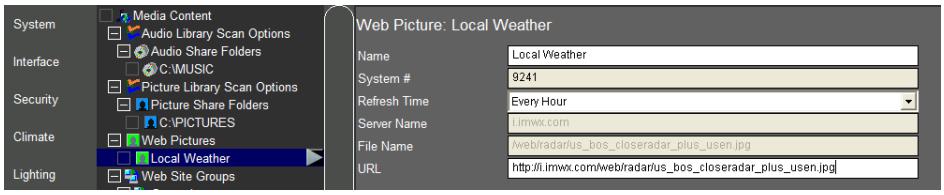


e. In **Configurator** click on to the **Content** tab. Right-click **Web Pictures**, then **Add New Web Picture**.

f. Set the **Name** to "***Local Weather***" and click **OK**.

g. In the properties window for the new **Web Picture**, place the cursor in the URL edit box, and then press ***CTRL+V*** to paste the url text for the weather image that you copied earlier.

h. Click **Apply** at the bottom of the screen.

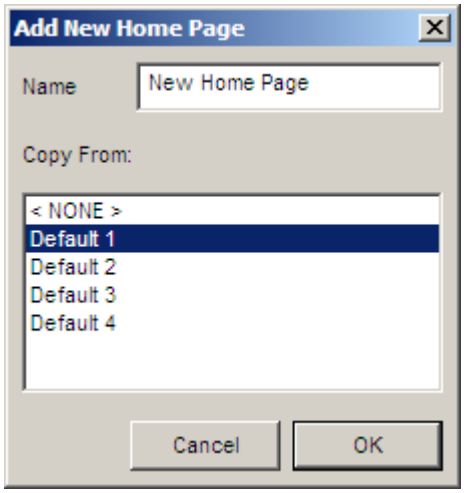


2. Add a new Home Page on the **Interface** tab. Right-click **Home Pages**, and then click **Add New Touch Screen Home Page**.

   a. Set the **Name** to “My Home Page”,

   b. Select **Default 2** from the **Copy From** list.

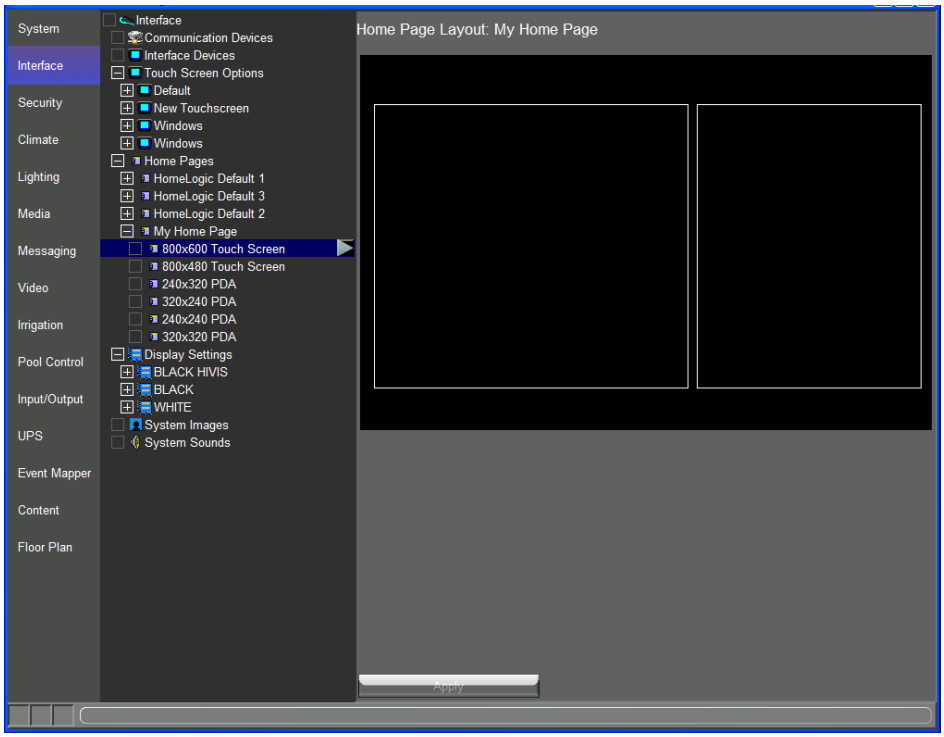
   c. Click **OK**. *This creates a new Home Page and starts it off with the same layout as the built-in HomeLogic Default 2*.



3. Delete the Calendar Control.

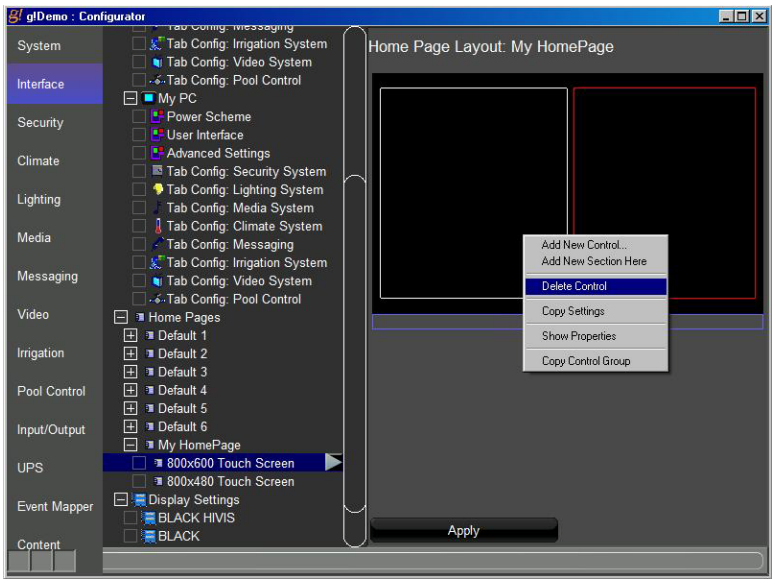
   a. Expand **My Home Page**.

   b. Select **800x600 Touch Screen** from the list of Viewer resolutions.



Quick Reference: Screen Resolutions	
800 x 600	resolution for viewer running on g!Connect, ELAN 8.4” in-wall, and 8.4” wireless tablets.
800 x 480	resolution for viewer running on a TS7 or Profile 700 in-wall touchscreen

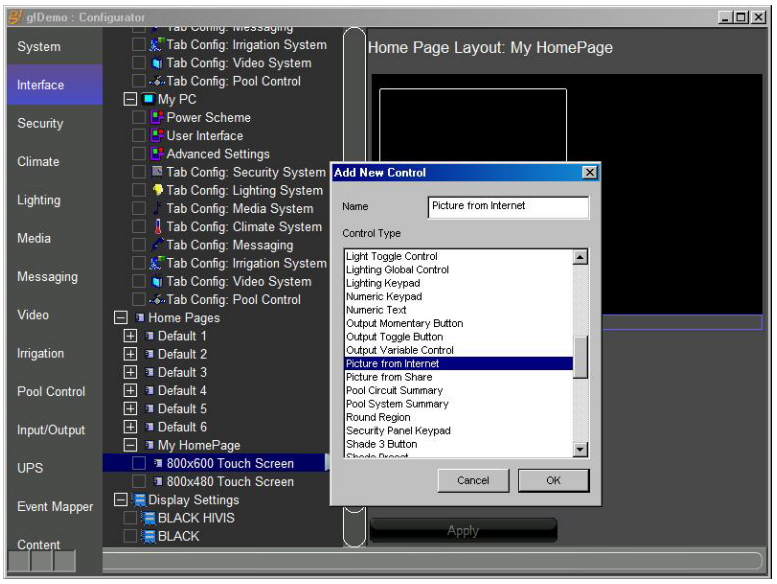
   c. Select the smaller block on the right– this is a **Calendar Control**. Right-click the control, then select **Delete Control** to remove the calendar.



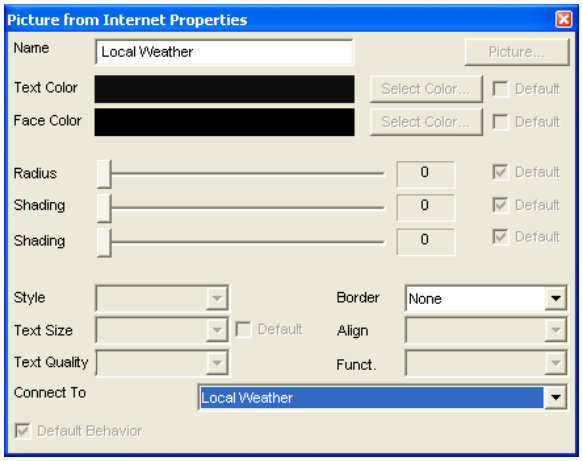
4. Add a new control to display a web image in its place:

   a. Right-click in the open area, then click **Add New Control**.

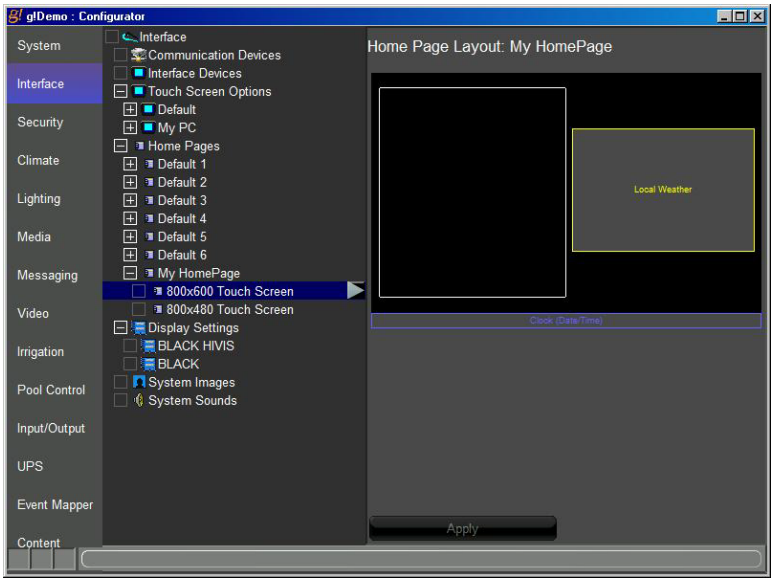
   b. Select the **Picture From Internet** control, set the name to “Local Weather” and click **OK**.



c. Use the drop-down in the **Picture from Internet Properties** window to link it to the Web Picture added previously.



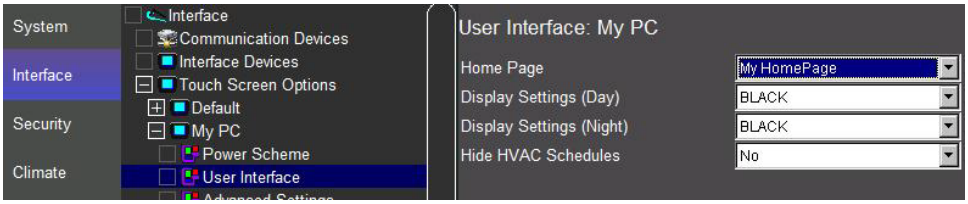
d. Resize the control to make it roughly the size of the calendar deleted in step 3c. *Notice the box automatically snaps to the correct aspect ratio for your web pic. (This will only happen if you have an internet connection and you pasted a valid picture link).*



5. Set the interface to use the new Home Page.

    a. On the **Interface** tab, expand the **My PC** interface, and select **User Interface**.

    b. In the properties window at right, set the **Home Page** to **My HomePage**. *This Interface will now use the custom Home Page instead of the built-in*.



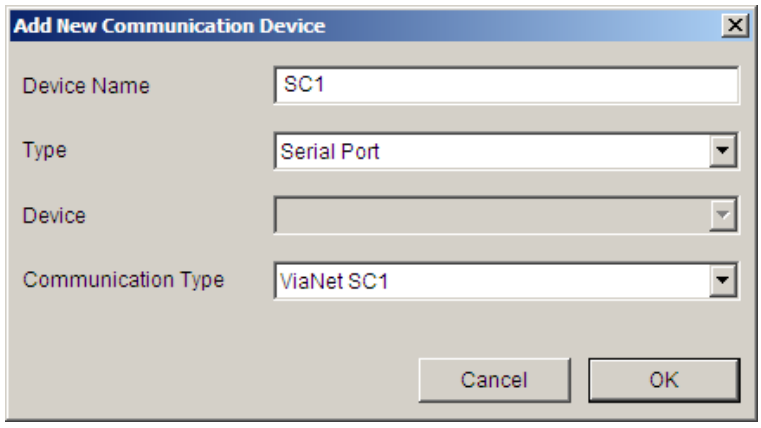
6. Check your Viewer:

Exercise 5: Adding and Configuring a TS2

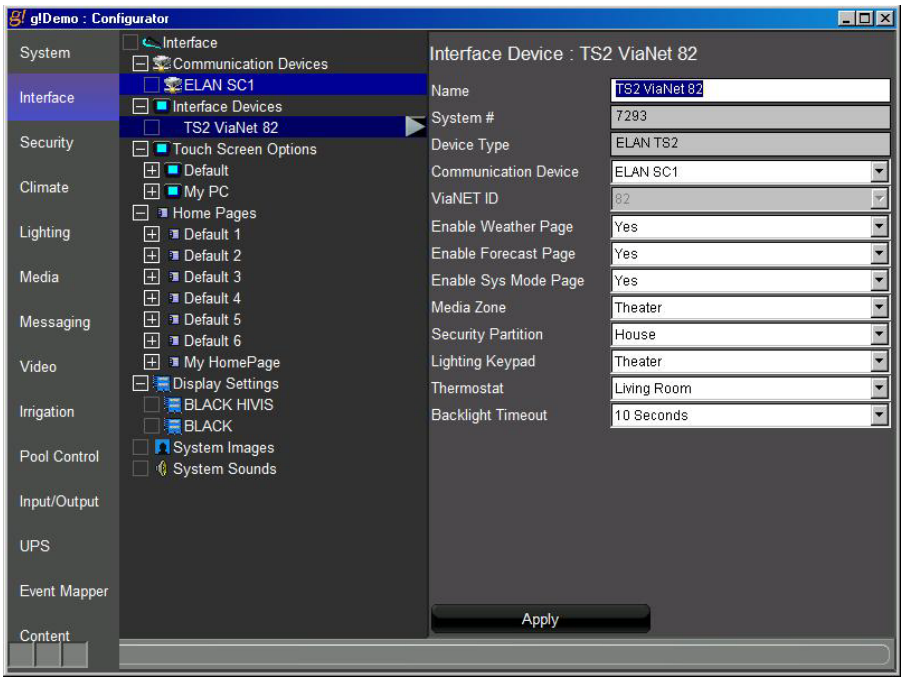
Overview The TS2 is a small, in-wall keypad style interface that can provide basic control of security, climate, lighting, and media for a specific area or zone rather than the entire system. To configure this interface, first connect and add the keypad to the system then specify the specific partition, thermostat, lighting keypad, and zone that it will control.

How-to To Add a TS2 interface from the Configurator Interface tab:

1. Add a Communication Device.
   - Right-click **Communication Devices** in the System Tree and select **Add New Device…**
   - Name the Device SC1
   - Type= Serial Port
   - Communication Type = ViaNet SC1
   - Click **OK**



Note: The g!Demo software will automatically add one TS2 to the system. In an actual system the keypads will be automatically discovered as they are added. See the *TS2 Integration Note* and *TS2 Installation Manual* for details and specific steps required.



2. Configure options for the TS2 interface as described in the following table.

Field	Description
Name	Editable field to name the device
System #	System-assigned number. Cannot be changed.
Device Type	Pre-filled with device type selected when adding this device. Cannot be changed.
Communication Device	Select the communication device for this interface.
ViaNET ID	System-provided ID. Cannot be changed.
Enable Weather Page	Select Yes or No whether to display the weather info on the home page
Enable Forecast Page	Select Yes or No whether to display a weather forecast on the TS2 device.
Enable Sys Mode Page	Select Yes or No whether to display the page that allows House Mode selection.
Media Zone	Select the Media Zone for this TS2 device.
Security Partition	Select the Security Partition for this TS2 device.
Lighting Keypad	Select the Lighting Keypad for this TS2 device.
Thermostat	Select the Thermostat for this TS2 device.
Backlight Timeout	Select the period of time that this device will remain illuminated without interaction.

Notes:

Lesson 14
Messaging

Overview

The g! software Messaging feature is used to provide phone answering service, including voice mail boxes where users can receive voice messages from incoming phone calls, or leave messages to each other from touch screens within the home.

The phone answering service also allows remote access of messages, as well as status and control of the home system over a standard phone line. In addition, Messaging features are used for transmitting alerts via phone (TTS), e-mail or text message based on system events.

You will:

- Learn how to setup your compatible ELAN Controller for phone features.
- Learn how to use and configure voice mail features.
- Learn how to send alerts based on system events.

Requirements

- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

Messaging Overview

Overview

The Messaging tab can be used to provide a number of communication features to the Home Owner by using a modem to integrate with the phone line; providing both answering service and remote telephone based access to home control features. Voice mail messages and call logs can be accessed through the g! Viewer. The messaging tab also can be used to send alerts via phone, e-mail or text messages to multiple contacts based on system events.

A note about Application licensing:

Included Messaging functionality: Supports one voicemail box for internal messaging. Also supports email.

Messaging Pro App: Supports up to 8 voice mailboxes for internal or phone messaging, outbound phone alerts, and remote phone house control. (Not available on MultiBrick controllers)

Terms

- **TTS Engine**- Internal engine for translating text into speech (audio); used for phone based messaging functions and sending phone alerts.
- **Telephone Controller**- The software component to use the modem for interfacing with the phone line
- **Voice Mail Boxes**- The individual mail boxes where voice mail can be recorded either from the phone or at a touch screen.
- **E-Mail Messages (Outbound)** - Customizable e-mail messages that can be sent to system contacts based on system events.
- **Text/Speech Messages**- Customizable TTS messages that can be sent to system contacts or announced on touch screens based on system events.
- **Greeting**- Message played to incoming callers prior to voice mail recording.

How-to

To integrate messaging features:

- Add the **Telephone Controller** so the g! software will interact with the phone line
- Configure **Telephone Controller** options such as default voice settings and login pin for remote access via telephone
- Configure a **Voice Mail box** for each anticipated user
- Setup **Greeting** options in the Viewer

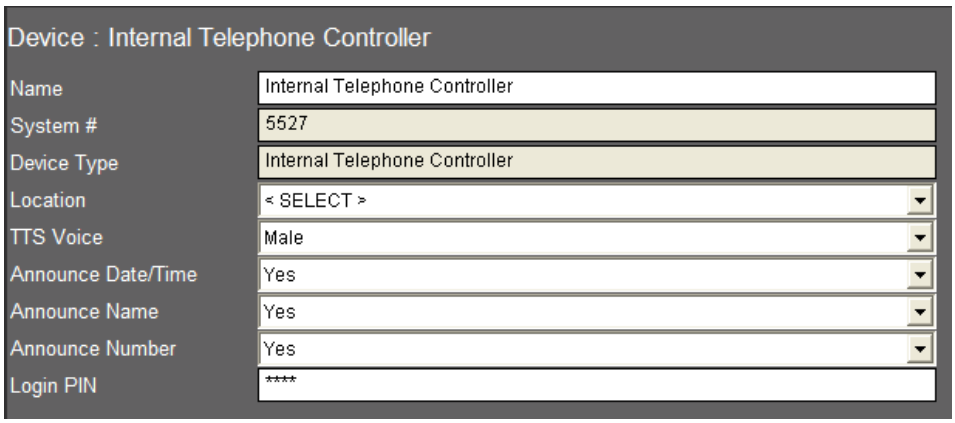
Exercise 1: Configure Messaging

Overview

In this exercise we will setup phone and voice mail features. This exercise will involve creating a framework in the Configurator so that features may be used and customized in the Viewer.

How-to

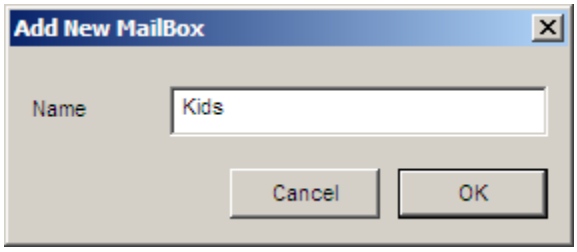
1. Open **Configurator** and Click on the **Messaging** tab.
2. Right-Click **Telephone Systems** and choose **Add New Device…**, then add an **Internal Telephone Controller**.
3. Configure Internal Telephone Controller options as desired:



Quick Reference	
TTS Voice	Choose the gender of computer generated Text-To-Speech voice.
*Announce Date/Time	Choose Yes or No. Controls announcing of Date/Time of voice messages by TTS Engine.
*Announce Name	Choose Yes or No. Controls announcing of Caller ID name by TTS Engine.
*Announce Number	Choose Yes or No. Controls announcing of Caller ID incoming number by TTS Engine.
Login PIN	Set a numerical pin which can be used to login to the system and access messages and Home Control features over the telephone.

*Used when checking messages through dial-in.

4. There is an existing ‘House’ Voice Mail Box, and this will be used as the default “catch-all” for the system. Add another Voice Mail Box:
    a. Right-click **Voice Mailboxes** in the System Tree, and select A**dd New Mailbox…**.
    b. Type a name for the new mailbox. (Example: Kids)



Note: Up to 8 voice mail boxes may be configured with the Messaging Pro App.

Exercise 2: Configure Messaging Alerts (Phone)

Overview

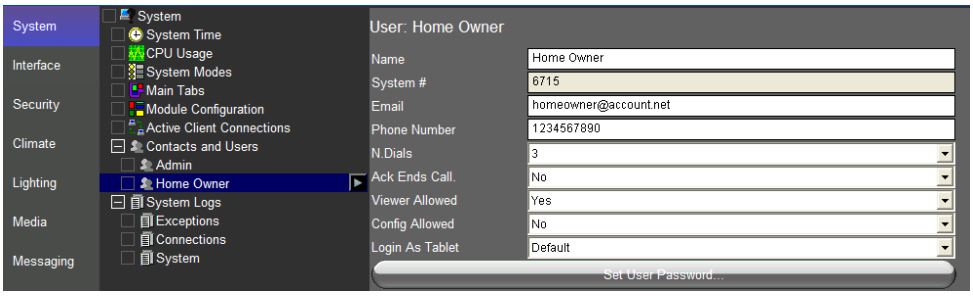
Alerts can be sent out by the system to specific contacts based on certain system events, such as a security alarm, a temperature reading, or even a certain A/V zone being activated after a certain time. These alerts can be sent as text via e-mail or text messaging or via voice over a telephone. The alert messages themselves can be customized and support the use of “tokens” to include specific system details. In the following exercise, phone alerts will be used to contact the home owner in the event of a burglar alarm.

Note*:* Phone Alerts are not available on controllers that do not have a modem, such as the MultiBrick.

How-to

1. **Set up Contacts with phone numbers on the System Tab under Contacts and Users.** *If you already entered a phone number for a contact as part of Lesson 2: Configurator Overview, you may skip this step.*

   Add or edit an existing contact and enter the phone number as it should be dialed, including any prefix or area code information. Do not use punctuation such as dashes or parentheses. For example:

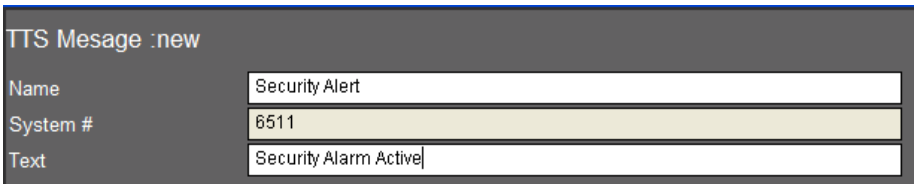


2. **Configure a TTS message on the Messaging Tab.** This will be read by the HomeBrick using its Text-to-Speech engine, and will be read as typed.

   a. To add a new Text/Speech message, right-click Text/Speech Messages and select **Add New Text/Speech Message**.

   b. Enter a name for the message. ELAN recommends that you name the message something descriptive. For example, name a security panel related message “Security Alert”.

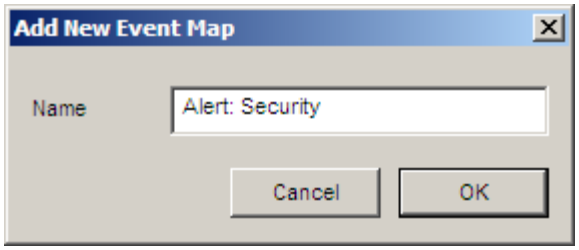
   c. Type in text to be read by the HomeBrick to your contact when triggered. In the example below, the message text is *Security Alarm Active*.



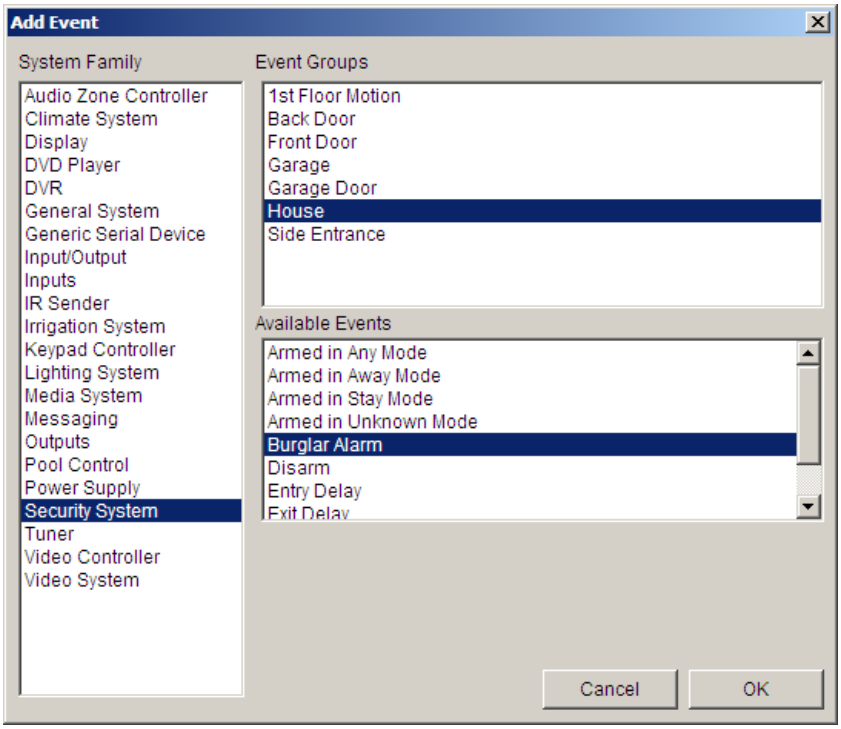
3. Create an Event Map to set the HomeBrick to send the message when a specified system event occurs.

    a. Navigate to the Event Mapper tab, right-click Event Maps and Add New Event Map.

Note: ELAN recommends naming all your messaging alert event maps with the prefix *Alert:* to keep them organized.



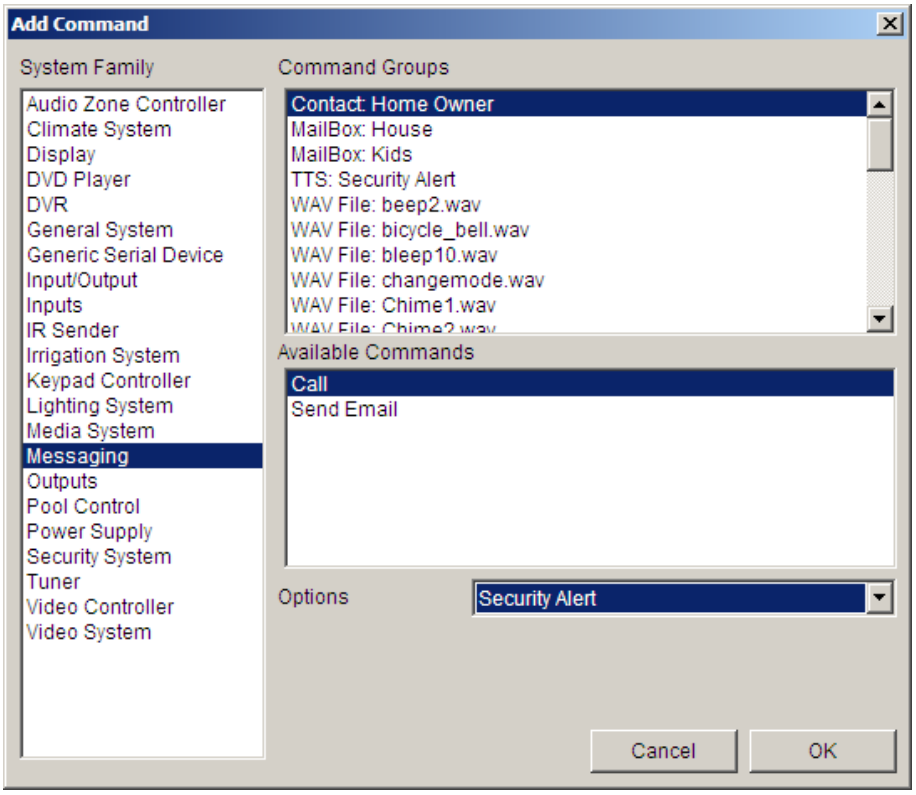
    b. Add an Event to trigger sending the message in the **Events** box.



For this example, send a message when the Burglar Alarm is active in the House Partition. Select:

- **System Family** = Security System
- **Event Group** = House (for the House Partition)
- **Available Events** = Burglar Alarm

c. Add a Command to select the action of sending the message in the **Command** box.



In this example, we are sending our Security Alert Text/Speech message to Contact Home Owner. Select:

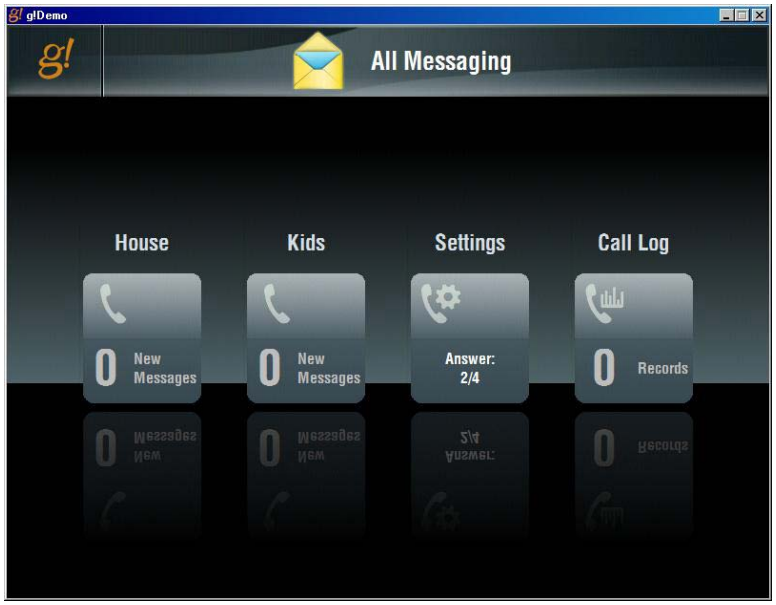
- **System Family** = Messaging
- **Command Group** = Contact: Home Owner
- **Available Commands** = Call
- **Options** = Security Alert (the specific message you wish to send)

Exercise 3: Check the Viewer

Overview In Exercise 1 we set up the framework for voice messaging in Configurator. In this exercise, we will explore voice messaging features.

How-to

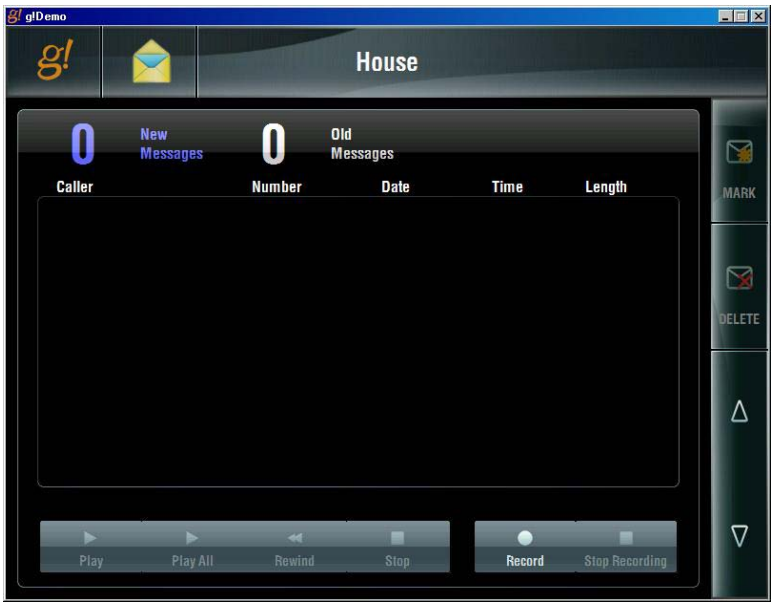
1. Open g!Connect Pro and start the Viewer to access the g! home page. Click the **g!** icon to access the main system icons then click messaging to access the messaging icons.



The screen displays available messaging options:

- The House Voicemail box
- The Kids Voicemail box
- A page to access the messaging settings
- A page to view the recent call log

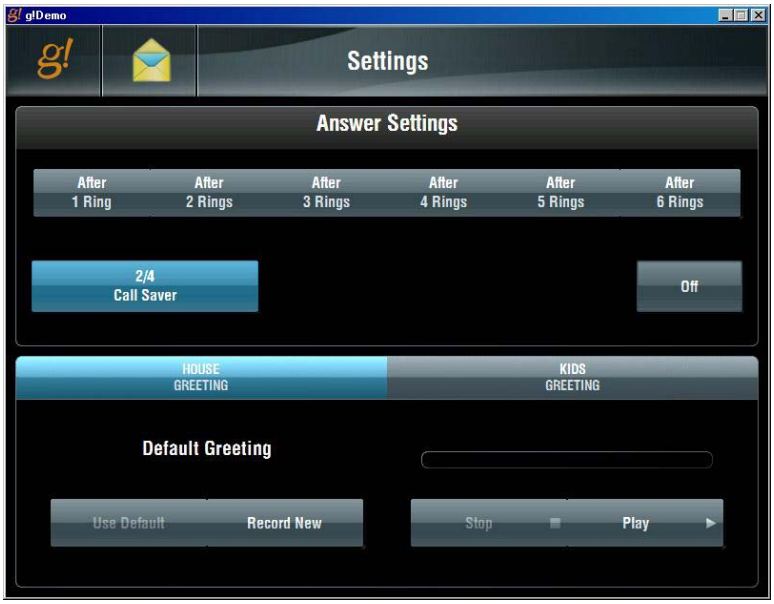
2. Click the House icon to access the House voicemail box.



Notice on this page:

- There are no messages in the g!Demo, an actual system would show messages here.
- Options to playback and delete messages
- Options to adjust playback volume.

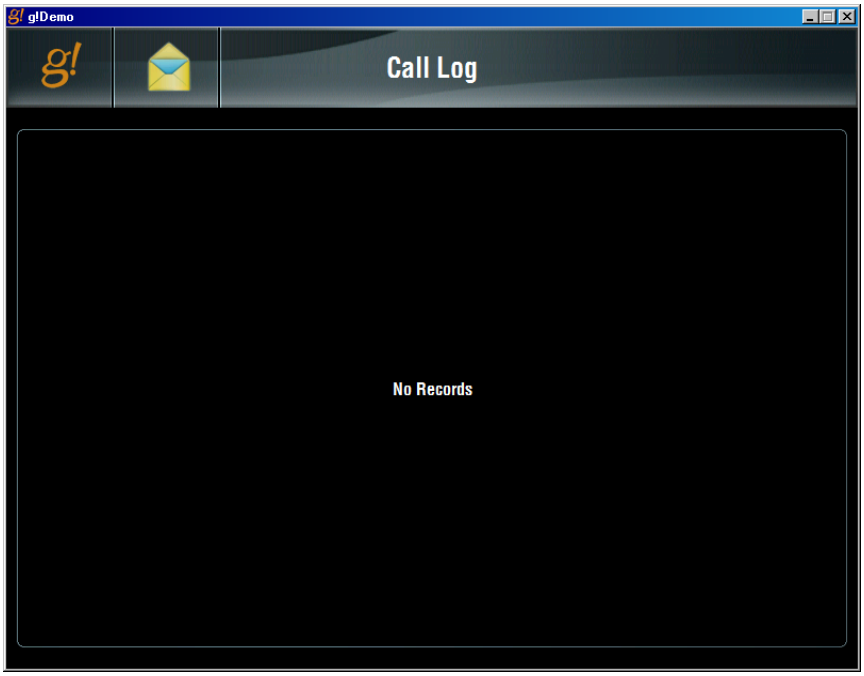
3. Click the Messaging icon next to the **g!** at the top to access the other messaging screens then click Settings.



Notice on this screen there are options to configure the greeting and answering system pickup time.

4. Click the Messaging icon next to the **g!** at the top then click Call Log.
   The **Call Log** displays a list of recent calls.

Note: There will not be any calls listed in g!Demo.



Notes:

Notes:

Lesson 15

Configuring Irrigation Systems

Overview

This lesson shows you how to configure an irrigation system.

You will:

- Learn how irrigation systems are organized in the Configurator.
- Use the Configurator to set up communication for the irrigation controller and add the controller
- Configure irrigation groups.
- Add irrigation zones and assign them to irrigation groups.
- Learn how to configure watering schedules
- Check the Viewer to confirm proper configuration.
- Understand the various features available in the Viewer.

Sample House

Our sample house will be configured as follows:

- Two irrigation groups: Lawns and Flower Beds.
- Four zones: One rotor zone and one spray zone for the lawns and two drip zone valves

Requirements

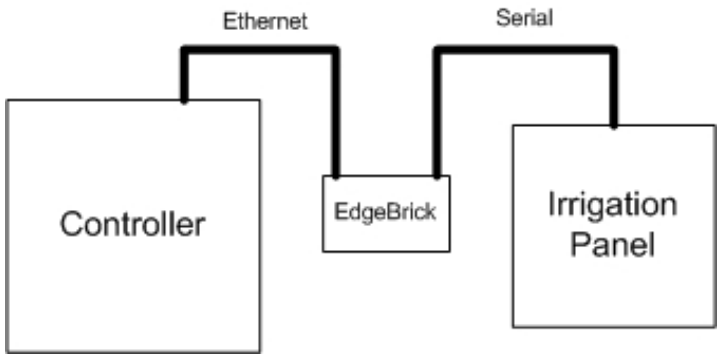
- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

Irrigation Integration Overview

Overview The following diagram shows the sample house irrigation system schematically, illustrating the components that are important to the ELAN controller.



Integrating the irrigation panel with the g! software will provide the homeowner access to their irrigation system through the Viewer. For the irrigation system in their home, they will be able to:

- View system status
- Manually activate individual zones
- Manage watering schedules and seasonal adjustments
- Review watering history.

A note about Application licensing:

Included Irrigation functionality: The ELAN g! software does not have any included irrigation functionality. All irrigation integration will require the Irrigation Pro Application. The virtual irrigation system may be used for training and demo with out the Pro license.

Irrigation PRO App: Supports all irrigation controllers with which the g! software integrates. This version allows control of up to 16 irrigation groups and up to 256 zones. This version keeps a history of zone watering.

Terms

The following terms are used in the Configurator:

- **Communication Device:** The method the g! software will use to communicate with an external device, including information about the connection type and protocol.
- **Irrigation Controller:** The actual irrigation controller (manufacturer/ model) that is integrated.
- **Irrigation Group:** A group of similar plant-type irrigation zones. Typical irrigation groups include **Lawns** and **Flower Beds.** Irrigation zones are grouped to provide appropriate watering scheduling for the zone types. For example, the flower beds may need to be watered on a daily basis but the lawns only watered every few days. Each Irrigation Group will display in the Viewer as a separate tab to allow individual group scheduling.
- **Irrigation Zone:** An individual water valve in the system, such as **Lawn Rotors** or **Flower Drips**. These are the valves that the controller will activate to start watering. Note that there is often more that one spraying head per zone but only one zone can be active at a time.
- **Global Irrigation Periods:** A time of the day for which you will schedule a watering.

How-to

To integrate an irrigation system

- Add the **Communication Device**
- Add the **Irrigation Controller**
- Add the **Irrigation Groups**
- Add the **Zones** and assign them to a **Irrigation Group**
- Check the **Viewer** interface

Note: Refer to the irrigation controller integration notes for details.

Exercise 1: Add the Communication Device

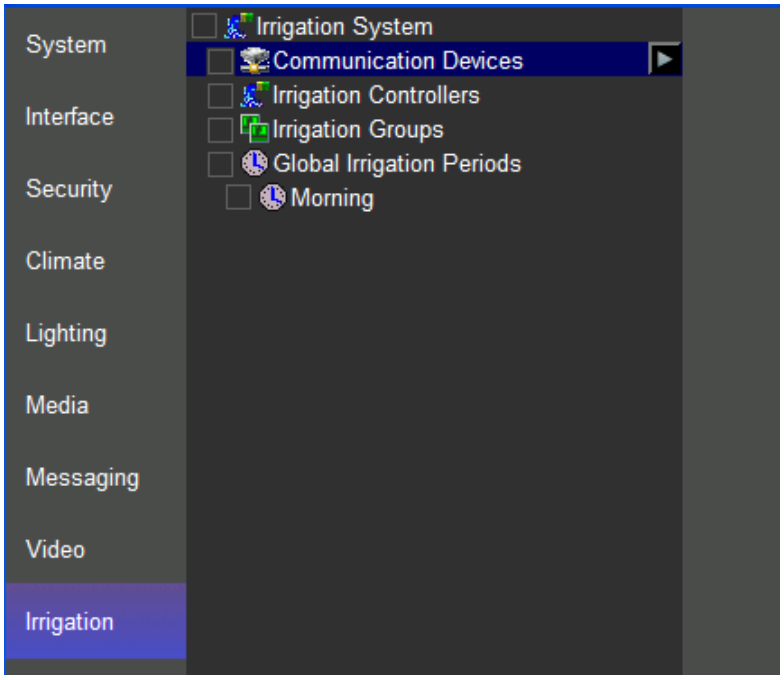
Overview

In the following steps you will add a **Communication Device**. The Communication Device is the bridge between the g! software and the irrigation controller, and is where you will specify how the systems are physically connected and what communication protocol should be used.

Note: Actual system setup may be different depending upon which irrigation controller is installed on site. Refer to the *Integration Notes* for the particular controller for details.

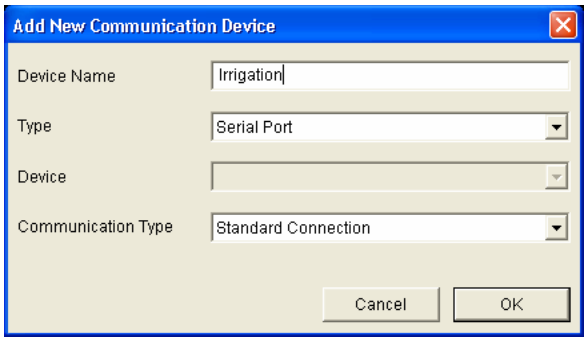
How-to

1. Start the Configurator, click the **Irrigation** tab at left, then click **Communication Devices**, as shown below:



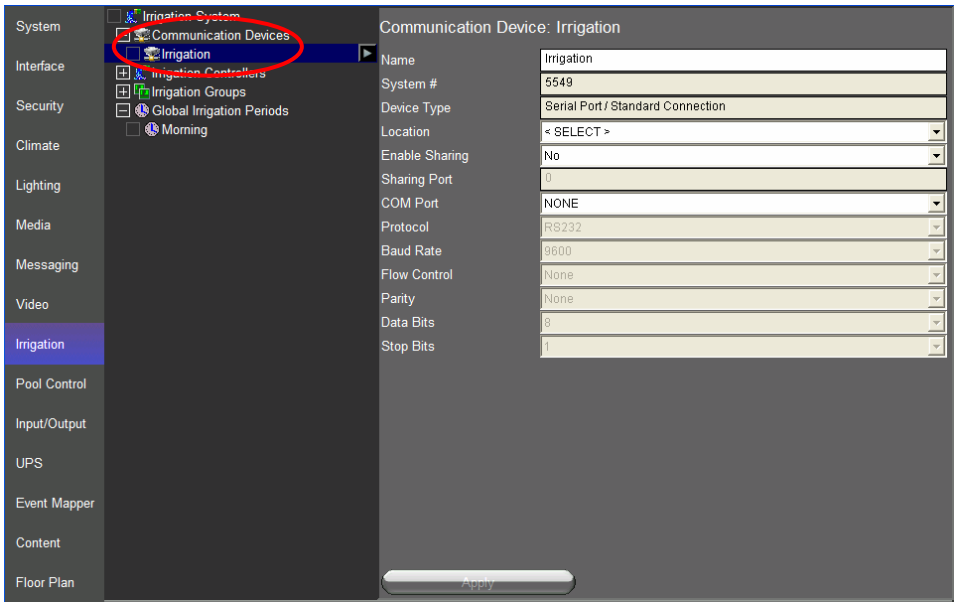
2. Right-click **Communication Device** and select **Add New Communication Device**. *The Add New Communication Device window opens.*

3. Configure the settings as shown below for a standard serial port, and click **OK**.



Quick Reference: Add New Communication Device	
Device Name	Enter a name for the external device. This can be any name, but should be descriptive so that you can identify this specific device in the Configurator. DO NOT leave this field set to “New Device”.
Type	The type of connection you are using, such as serial port or Ethernet.
Device	This field will populate only if needed, depending on the selected Type.
Communication Type	This is the protocol of the communication. See the *Integration Note* for the specific irrigation controller for more information.

4. Select the **Irrigation** device in the System Tree as shown below.



5. In the properties window at right, select the desired COM port.

Note: The drop-down menu only shows the ports that are available. If you are running **g!Demo** on your laptop you will only see available ports on the laptop. Leave the selection set to **NONE** if you are using **g!Demo.**

Exercise 2: Add the Irrigation Controller

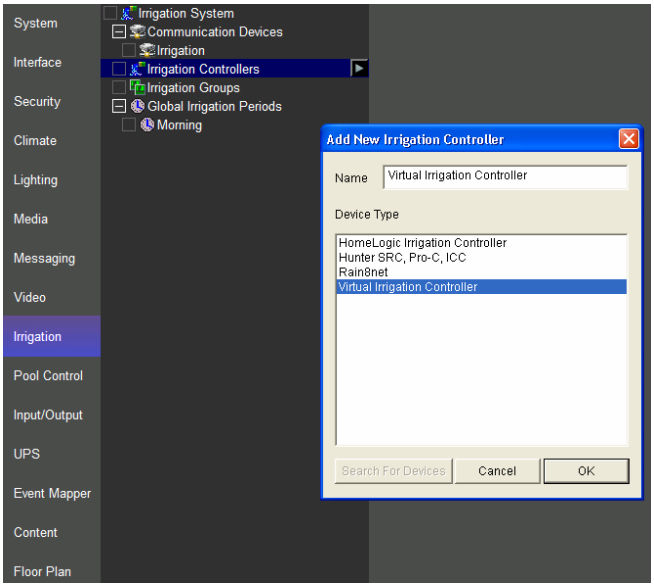
Overview

At this point the Communication Device is configured, and the irrigation controller can be added.

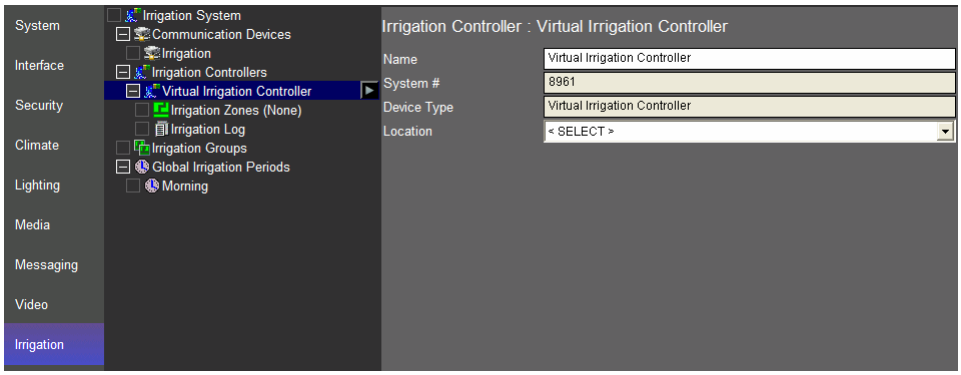
Note: Actual system setup may be different depending upon which irrigation controller is installed on site. Refer to the *Integration Notes* for the particular controller for details.

How-to

1. In the Configurator, right-click **Irrigation Controllers**, then click **Add New Device**.
2. In the **Add New Device** dialog box, select **Virtual Irrigation Controller**, and then click **OK**. *This adds a new irrigation controller.*



3. Select the new irrigation controller in the Configurator tree.
   The properties for that controller display on the right.



Exercise 3: Add Irrigation Groups and Irrigation Zones

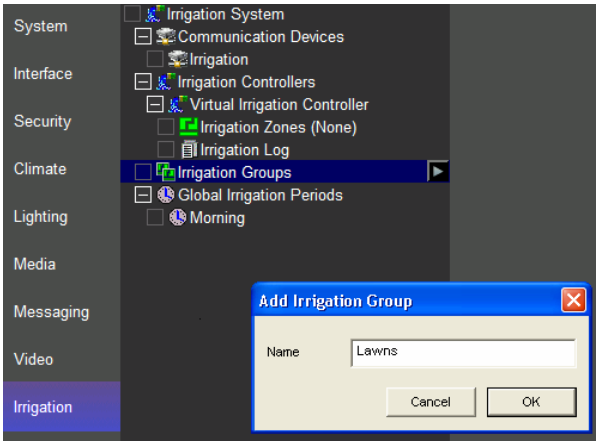
Overview At this point the irrigation controller has been added and set to communicate with the ELAN controller. You will now add Irrigation Groups and Irrigation Zones, and then associate the zones with Irrigation Groups. Each Irrigation Group will populate in the Viewer as a separate tab in the scheduler view. Assigning zones to the Irrigation Groups will allow you to schedule watering for the zones separately in the Viewer.

How-to

1. Add two Irrigation Groups.

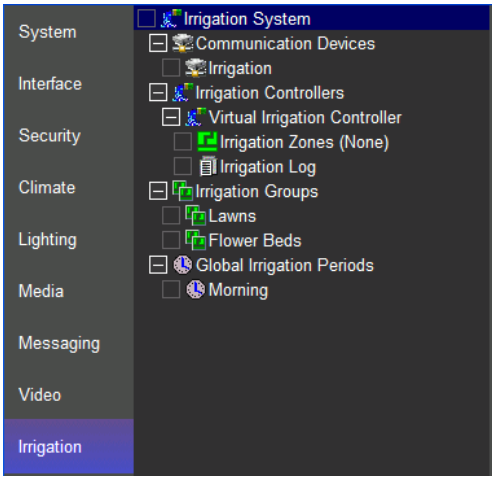
   a. Right-click on Irrigation Group and click **Add New Irrigation Group**. *The add Irrigation Group box opens.*

   b. Enter the name of the group as **Lawns** and click **OK**.



   c. Repeat the two steps above to add another Irrigation Group named **Flower Beds**.

   d. Your configuration should now look similar to the screen below.

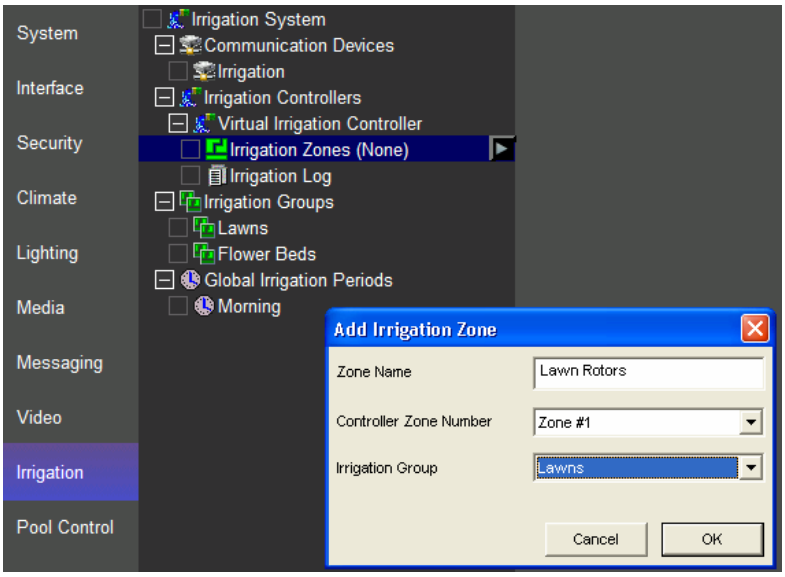


2. Add four irrigation zones and assign them to zone groups.

    a. Right-click **Irrigation Zones** in the System Tree and select **Add New Irrigation Zone**. *The Add Irrigation Zone box opens.*

    b. Set the **Zone Name** of the first zone to **Lawn Rotors**. *This is the zone name as it will be displayed in the Viewer.*

    c. Set the **Irrigation Group** to **Lawns**. *This step assigns the zone to an Irrigation Group*



    d. Click **OK** to add the new zone

Note: The Controller Zone Number is the zone output on the actual irrigation controller. By default this will start at Zone #1 and increase incrementally.

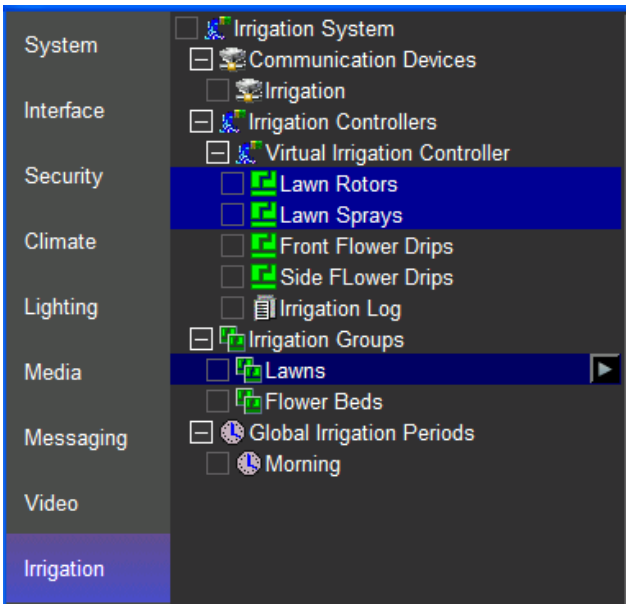
3. If you are adding zones out of order, select the proper Controller Zone Number following these steps:

    a. Repeat step 2a-d to add a second zone named **Lawn Sprays** and assigned to the **Lawn** irrigation group.

    b. Add a third zone named **Front Flower Drips** and assign it to the **Flower Beds** Irrigation Group

    c. Add a fourth zone named **Side Flower Drips** and assign it to the **Flower Bed** Irrigation Group.

4. Your configuration should look similar to the example below.



Note: Clicking on Irrigation Groups in the tree will highlight all zones assigned to that group.

Exercise 4: Add Global Irrigation Periods

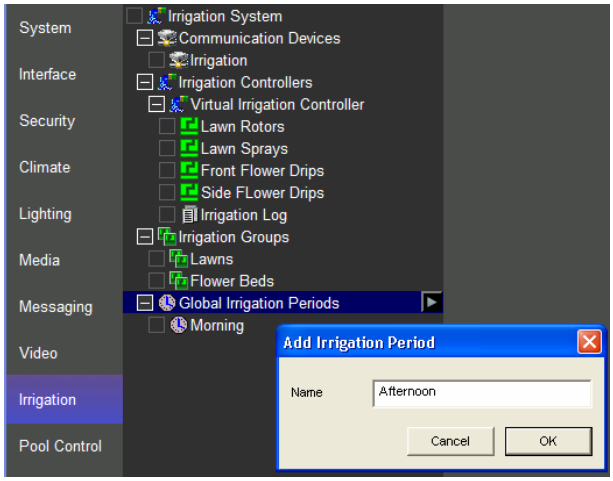
Overview

At this point the irrigation system has been configured and you now need to set up the irrigation scheduling framework in the Configurator. You will add one Global Irrigation Period for each time of day that you will be watering.

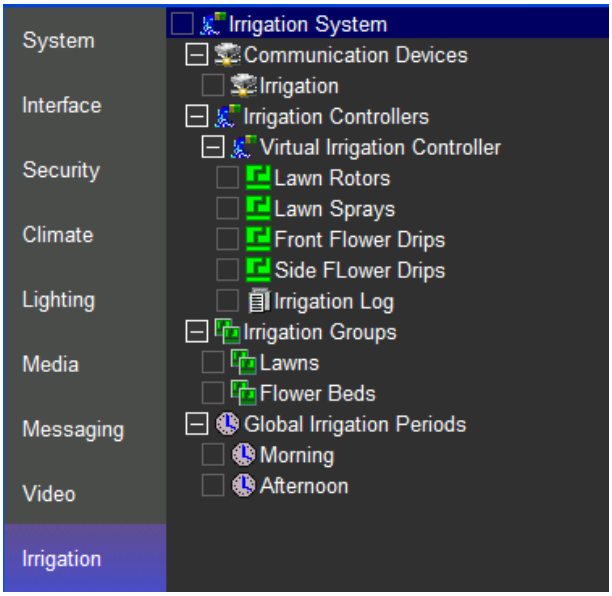
By default, the irrigation scheduler includes one Global Irrigation Period named Morning. In this exercise you will add a second period for afternoon. Each Global Irrigation Period will add a place holder in the Viewer for setting the actual time of day to begin the watering.

How-to

1. Right-click **Global Irrigation Periods** in the System Tree and select **Add New Irrigation Period**.



2. Enter **Afternoon** as the name, then click **OK.** *Your configuration should now look similar to the example below.*

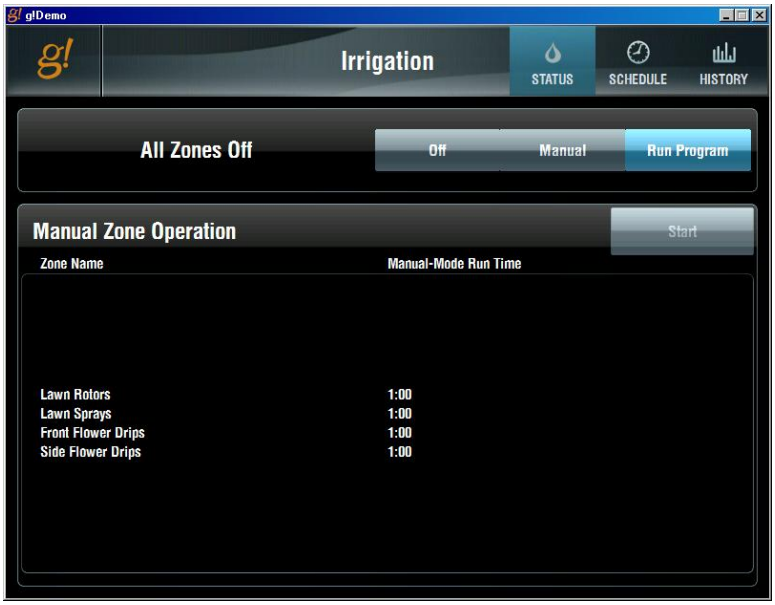


Exercise 5: Check the Viewer

Overview In this exercise you will use the Viewer to check the irrigation system configuration and learn about the features and controls related to the irrigation system.

How-to

1. Open the Viewer to access the g! home page. Click the **g!** icon to access the main system icons then click the irrigation icon navigate to the **Irrigation** screen.



In the example above you can see:

a. There are icons at the top of the screen to view system status, schedule, and history.
b. The current system status is **All Zones Off**. This means that there are no zones currently watering. When the system is running a scheduled watering the current active zone will display in the status window.
c. The system is currently in **Run Program** mode. This means that it will run any scheduled watering events.
d. The entire zone list is shown and controls are available to execute manual zone activation when the system is set to manual mode.

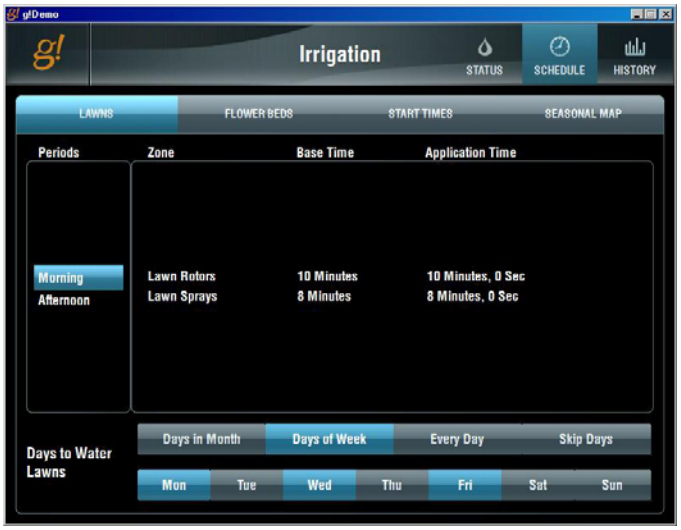
2. Configure the schedule for the Lawn Irrigation Group as follows. Set the schedule for the Lawn Rotors to run for 10 minutes and the Lawn sprays to run 8 minutes every Monday, Wednesday, and Friday starting 20 minutes after sunrise. Also confirm that the Lawn zones will not water during the afternoon schedule.

   To do this:

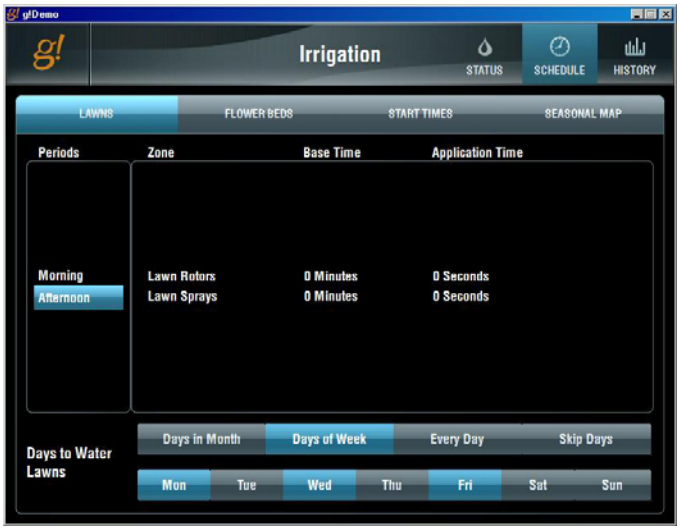
   a. Click on the **Lawn Rotors** zone then click the **More Time** button until the **Base Time** is set to 10 minutes.

   b. Click on **Lawn Sprays** and adjust the Base Time to 8 minutes.

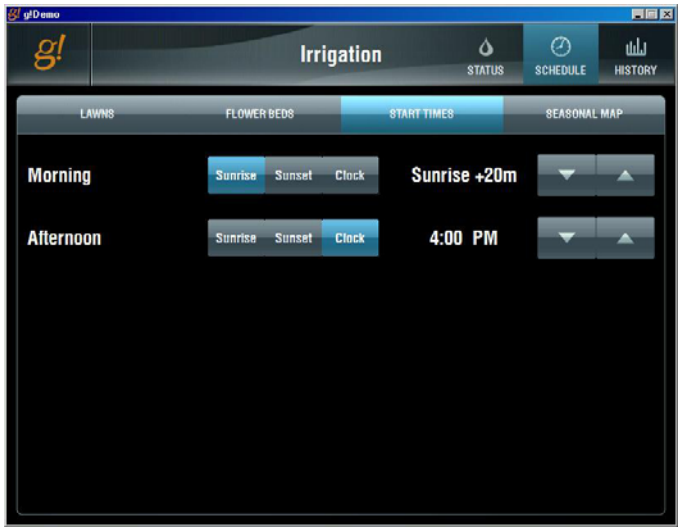
   c. Click the **Days of the Week** button to highlight it then click **Mon**, **Wed**, and **Fri** to highlight them and set them as the days to water.



   d. Click on the **Afternoon Schedule** tab to verify that watering times for the Lawn zones are set to zero minutes. *This will keep the lawn from watering at the afternoon period.*

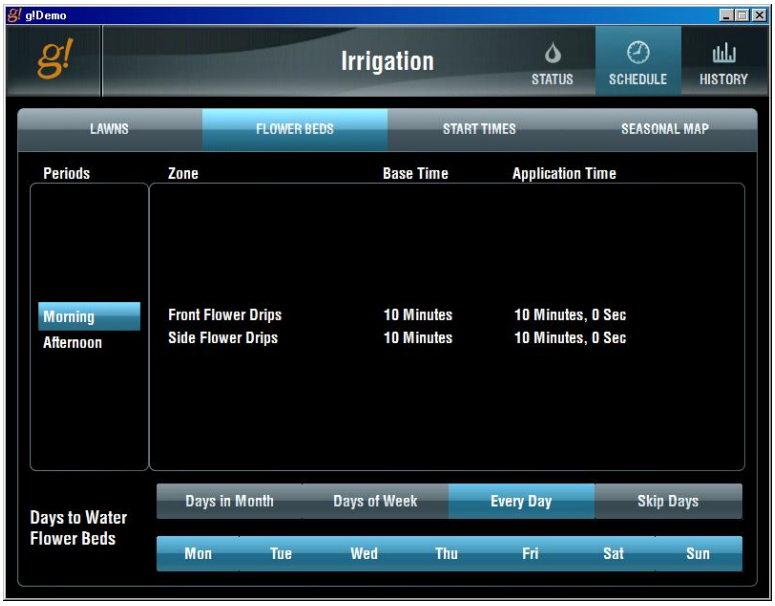


3. Click the **Start Times** tab to set the times for both the Morning and Afternoon periods. Click **Sunrise** for Morning then use the arrow buttons to increment to + 20 minutes. Set afternoon for clock then use the arrows to set the desired start time.



Note: Any time a schedule adjustment is made the System Mode will default to Off. Once you have finished making schedule changes click on Run Program to start the system running the new schedule.

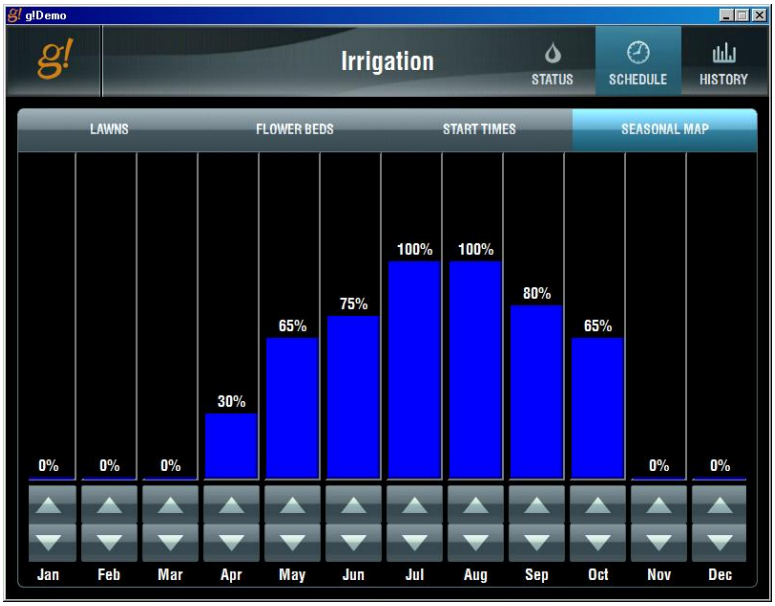
4. Repeat the steps above to configure the schedule for the Flower Beds Irrigation Group so that each Flower Bed Drip zone waters for 10 minutes in the morning and again at 4pm in the afternoon every day of the week. Your Flower Bed schedules should look like the examples below.



With this schedule set up, the system will water the Lawn zones followed by the Flower Bed zones in the morning starting at 20 minutes after sunrise. Since irrigation controllers will only water one zone at a time, the system will begin watering with the first zone in the list, in this case the Lawn Rotors.

Once that zone has run for its scheduled time, it will shut off and the Lawn Sprays will start. Next, the Front Flower Drips will run, followed by the Side Flower Drips. Then, at 4pm only the Flower Bed zones will water in order from top to bottom.

5. Click on the **Seasonal Map** tab. This tab allows you to adjust the percentage of application time on a month by month basis. This is useful as an adjustment during spring and fall when the temperatures are not as high and watering requirements are less. A typical system may be adjusted as shown in the screen below.

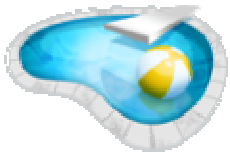


Notes:

Notes:

Lesson 16

Configuring Pool Systems



Overview

This lesson will show you how to configure a pool controller in the g! software.

You will:

- Learn how to add a pool controller.
- Learn how to control and schedule pool functions in the Viewer.

Requirements

- A PC running g!Demo and g!Connect Pro.

-or-

- ELAN Controller and g!Connect Pro.

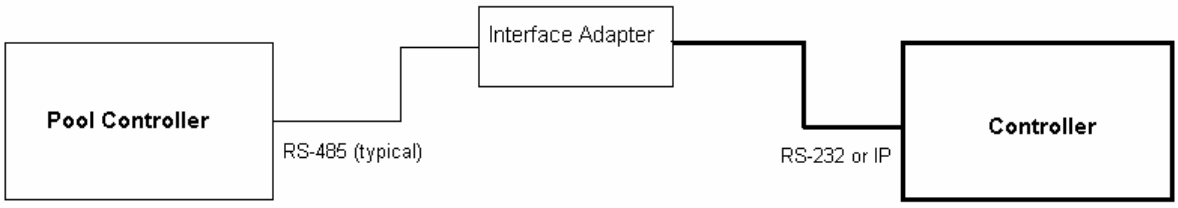
Overview

Overview

Integrating a Pool System with the g! software provides the home owner with access to control pool features in the present, schedule pool functions for the future, and check the history of pool pumps and circuits. Pool Integration can control, schedule, and report history for many pool devices, including: Filter Pumps, Water Features, Heaters, Chlorinators, Pool Lights, Spa Jets and more.

Note: Specific features available in the g! software will vary depending on the Pool System installed. Please review the Integration Notes for the specific system for more information.

Typically, the pool controller is installed by a pool system professional, and is a fully functional independent system prior to integration with the g! software. In most instances, the Pool & Spa are controlled by a single control board, and an interface adapter is used to connect the ELAN controller electrically with this controller.



A note about Application licensing:

Included Pool functionality: The ELAN g! software does not have any included Pool integration functionality. All Pool integration will require the Pool Pro Application. The virtual Pool system may be used for training and demo with out the Pro license.

Pool & Spa Pro App: The Pool & Spa Pro Application supports all Pool Controllers with which the g! software integrates. This version allows for control of up to two bodies of water, on a single controller. Please see the ELAN website for a full list of supported Pool controllers.

Terms

The following terms are used in the **Configurator** to describe the equipment in a pool system:

- **Communication Device:** The method the g! software will use to communicate with an external device, including information about the connection type and protocol.
- **Pool Controller:** The Pool Controller interfaces with and controls pool devices like filter pumps, heaters, and pool circuits such as fountains or lights.

How-to

To integrate Pool & Spa:

- Add the **Communication Device**
- Add the **Pool Controller**
- **Configure Circuits**
- **Check the Viewer**

Exercise 1: Add the Pool Controller

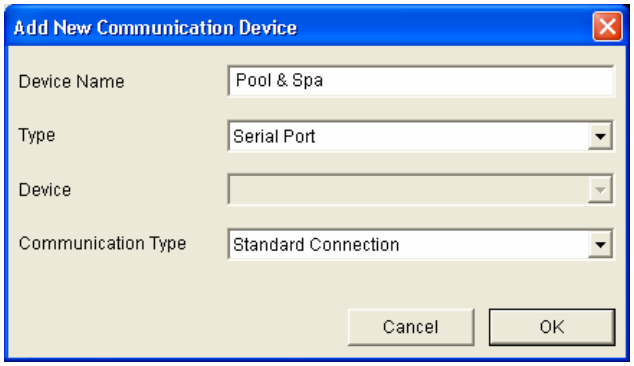
Overview

The Virtual Pool Controller added in the following steps simulates control, feedback and temperatures as in a real pool system. It closely resembles a fully featured Pool Controller such as a Pentair IntelliTouch.

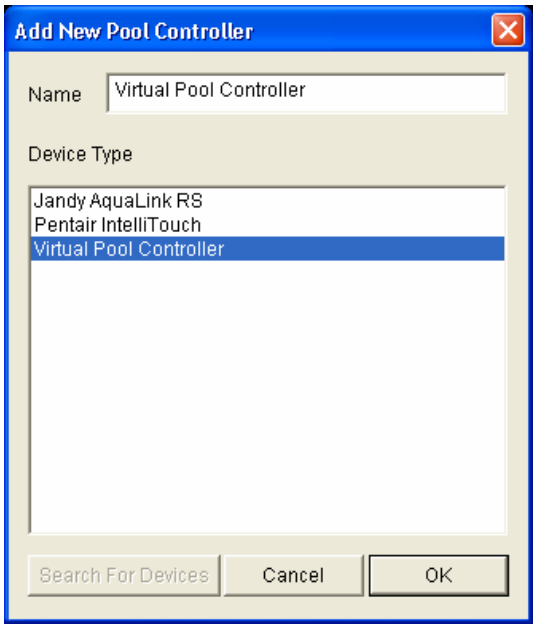
Note: Actual system setup may be different depending upon which pool controller is installed on site. Refer to the *Integration Notes* for the particular pool controller for details.

How-to

1. Add a **Communication Device**.
    a. From the **Pool Control** tab in the Configurator, right-click **Communication Devices** and select **Add New Communication Device**. *The Add New Communication Device window opens.*



    b. Name the Communication Device “**Pool & Spa**”.
    c. Set the communication type to **Standard Connection**.
2. Add a **Pool Controller**.
    a. Right-click **Pool Controllers,** and select **Add New Pool Controller**. The Add New Pool Controller window opens.



b. Select **Virtual Pool Controller**, and click **OK**.

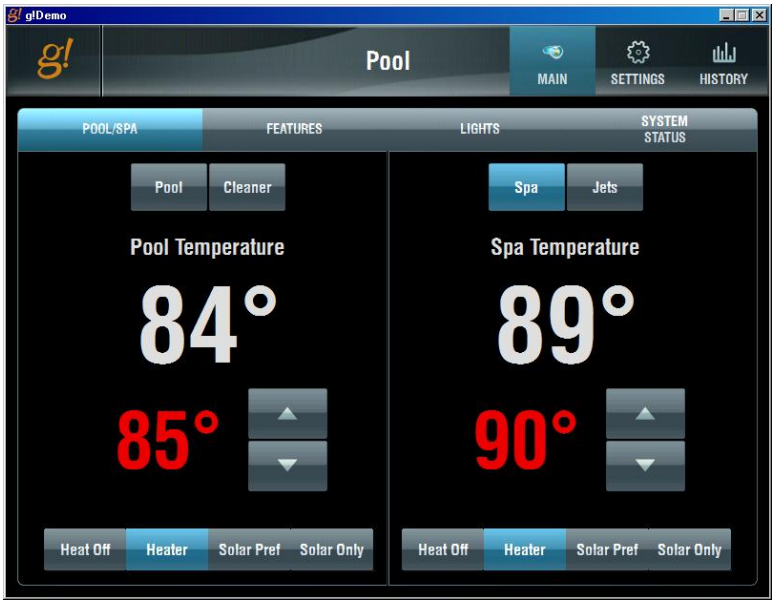
Note: In a live system, the next step would typically involve configuring circuits to ensure controls are named correctly and appear in the correct area of the Viewer. However, the Virtual Pool Controller used for this training is hard-coded, and the circuits are not editable.

Exercise 2: Check the Viewer

Overview Now that we have added our pool controller, we will go into the Viewer to see the pool temperature, control pool features, set up a schedule and explore the available options.

How-to

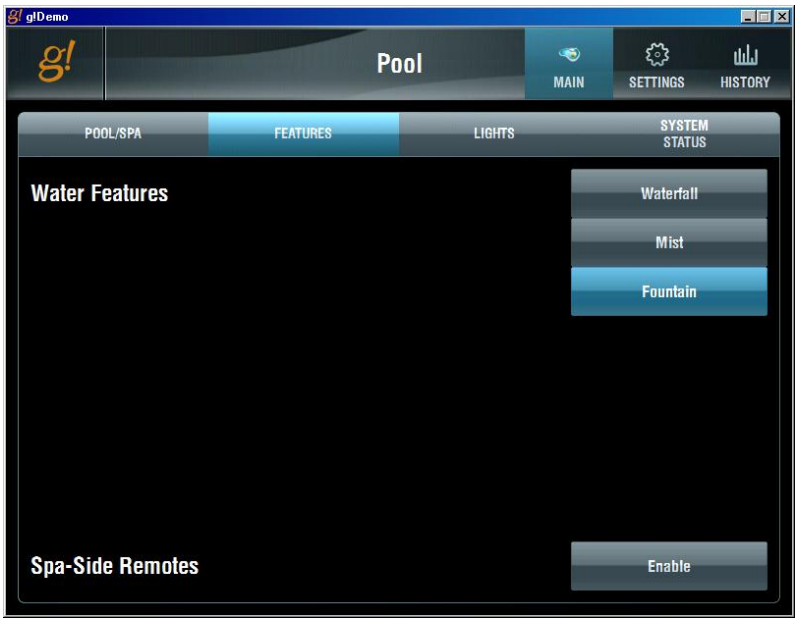
1. Open the **Viewer** and navigate to the default **Pool** screen.
2. The screen typically contains the controls for the filter pump, cleaners, spa jets, and heat settings.



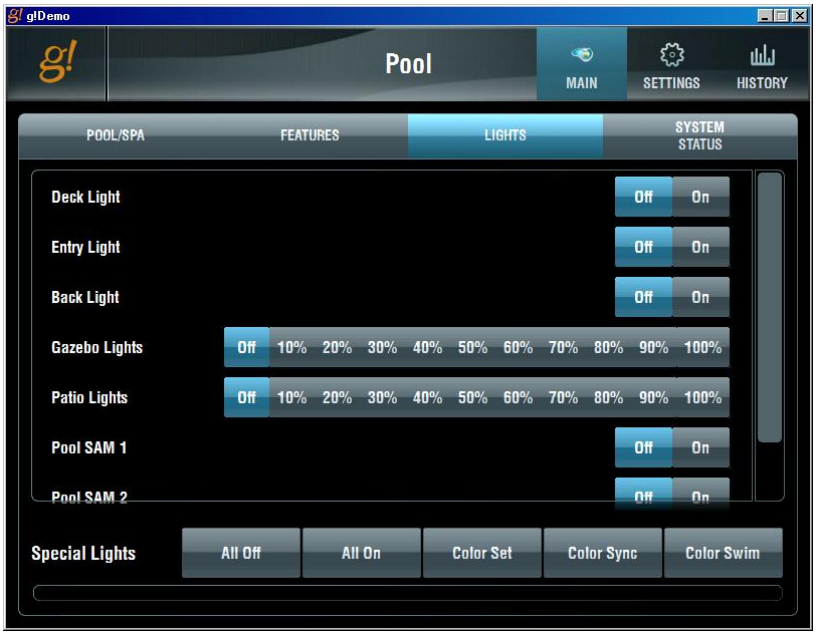
The Main screen is divided into two sections:

- **Pool:** 2-Way toggle buttons for the Pool Filter Pump (“Pool”), Cleaner, and Heating Options. Up and Down arrows alter the heater set point.
- **Spa:** 2-Way toggle buttons for the Spa Filter Pump (“Spa”), Spa Jets, and Heating Options. Up and Down arrows alter the heater set point.

3. Click on the **Features** tab to access the **Water Features** controls. Use this page to control other pool circuits with 2-way toggle buttons.
   - Typically used for major water features such as Fountains and Waterfalls.
   - Click the **Fountain** button to turn the fountain on.

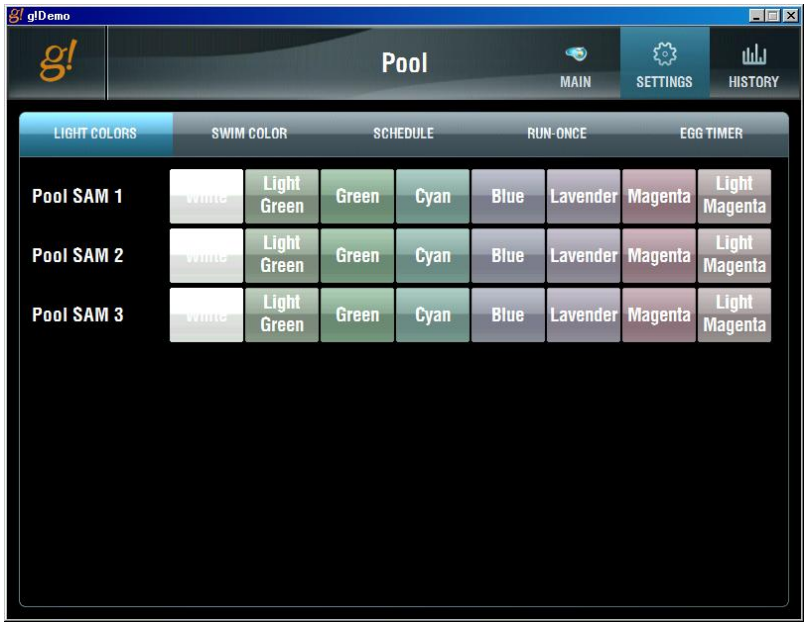


4. Click the **Lights** tab to access the lighting control screen. This screen gives you basic on/off and level control (if applicable) of lights controlled by the Pool Controller.

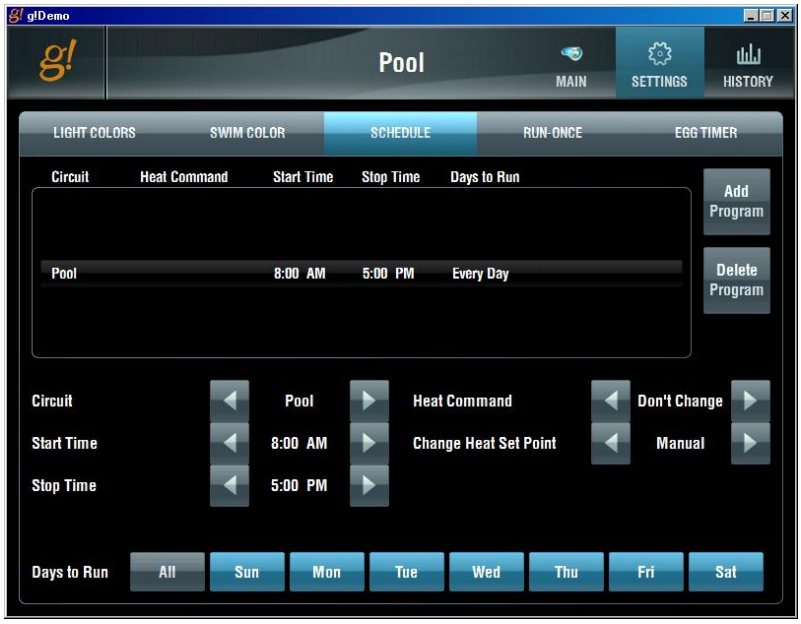


5. Click on the **Settings** tab. This tab provides access to various setting in the pool system.

    a. The lighting tabs allow you to adjust the lighting colors on pool systems that have this feature.

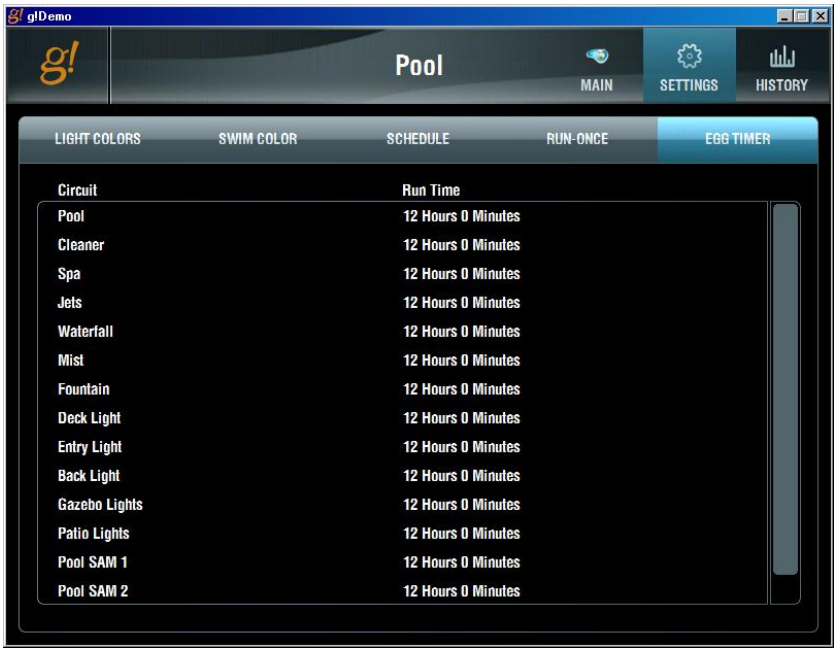


    b. The **Schedule** tab allows you to add scheduled “programs” for pool pumps, water feature circuits, and lighting. These programs will activate the desired filter or circuit for the time period entered, and may be customized to run only certain days and times.



c. The **Run-Once** tab allows similar features as the Schedule tab, but items set on this page will only run once, rather than repeat the cycle every week. This is useful in instances when there may be some special event, like a party, and you would like to schedule the filter to run on what is usually an off day to ensure the pool is clean for your guests.

d. The **Egg Timer** tab sets the default interval for pool feature activations. Typically, when items are activated manually or scheduled on the Run-Once tab they will use this “Egg Timer” to control how long the circuit will stay active. This is useful so that features like Waterfalls or Lights will not stay running all day and waste energy, and allows the home owner to not worry about remembering to shut them off.



6. The **History** tab displays the temperature readings for the Pool, Spa, and outside temperature in a line graph, with colored blocks along the bottom indicating when certain circuits are active. This enables the home owner to track the usage and run times of circuits like filters and heaters alongside temperature readings, and may also be useful as a diagnostic tool.

Notes: