

# Chapter 3

## Your Home

You've already read the introduction to the Home Control Assistant and learned about HCA Properties. Now you're ready to create your own home design in HCA. This chapter tells you how to create a design, and save it in a file. This chapter also discusses simple modifications to your home properties, and security options for your design.

This chapter includes topics on:

- Planning your home design
- The HCA Designer
- Starting with an empty file
- Modifying your home file
- Light and Dark settings
- Security settings

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### Planning your home design

There are two ways to begin a new home using HCA:

- The HCA designer is a quick way to get started by adding rooms and the devices in those rooms. It supports Insteon, UPB, and X10. Once the devices are added the most common configuration can be done.
- Starting with a blank or empty file.

Regardless of which of these methods is used to create a new design, there are two important pieces of information you'll have to configure.

#### **Design name**

You must supply a name for your design. This name appears in the HCA title bar when this design is loaded, but this need not be the file name that the design is stored in. If you like, you can create several designs, each with a unique name, and in a different file (you may want to do this if you're trying different approaches with your programs and schedules).

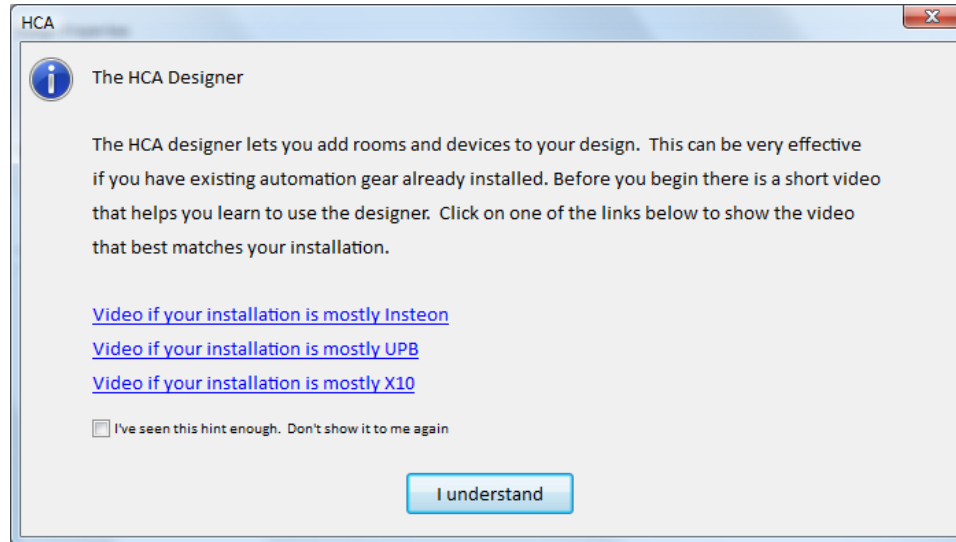
#### **Location**

You must also supply the location of your home. HCA provides a list of zip codes for United States locations. For outside of that area you can configure by entering in your location information.

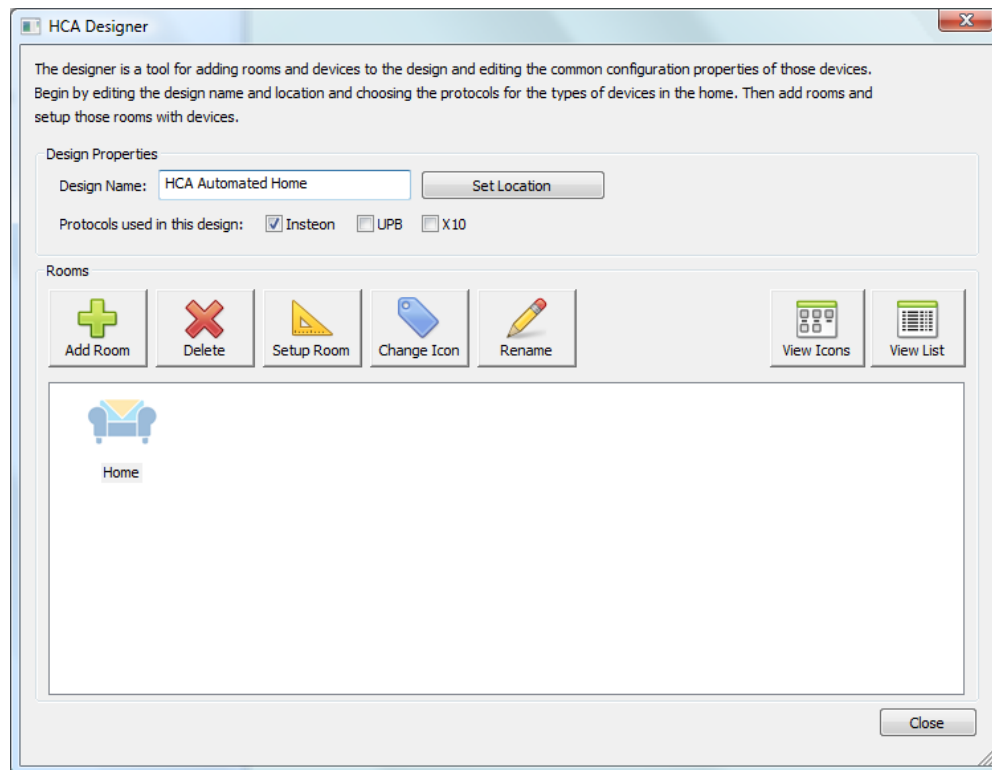
HCA uses your location to compute the sunrise and sunset times for your schedules. HCA also relies on the time zone you have selected in the Windows control panel Date/Time settings tool. If you select a location in HCA that is in a different time zone from the one you have set in the control panel, the sunrise and sunset times may appear to be off. So, remember to check your control panel time zone selection.

## The HCA Designer

The best way to begin working with HCA is by using the *HCA designer*. When it first starts, you are offered a link to a video that shows how it works depending upon the automation protocol you have. We urge you to watch the video.



The first steps in using the designer is to enter a name for your design, determine the location and select which automation protocols you are using.



Type in a name for your design, tick the appropriate boxes for which automation protocols you are using then select your location after you press the "Set Location" button.

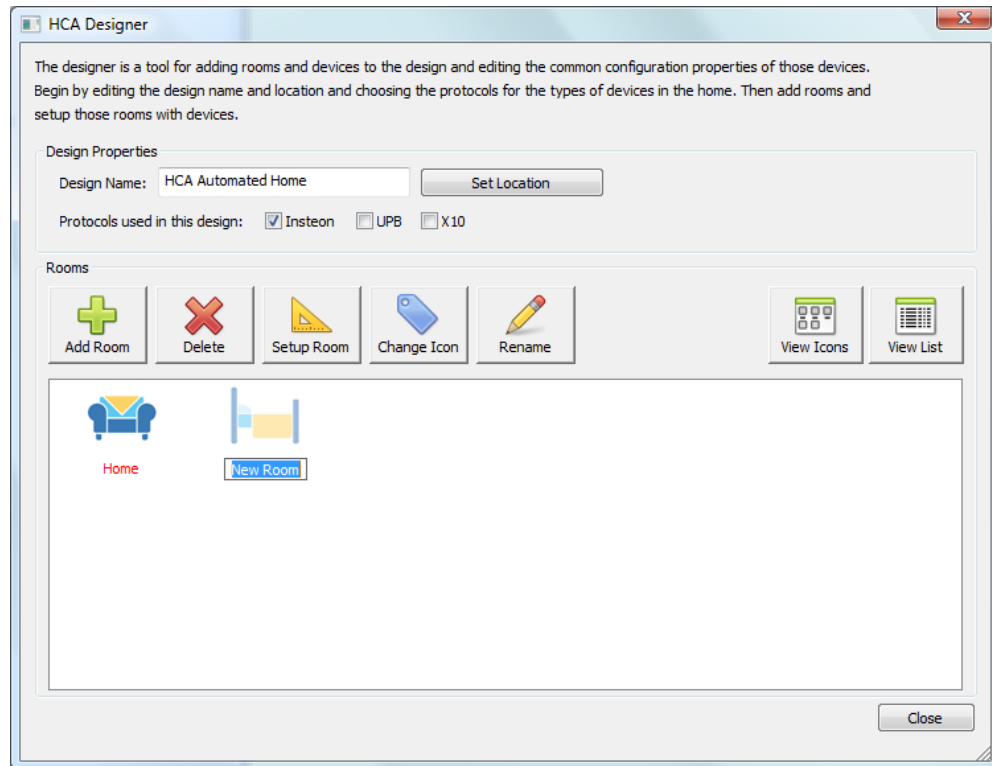
If you are in the United States, selecting the location is done by zip code. Outside of the United States the location must be entered manually.

For manual setup, you need to know your location in Decimal Degrees. Most GPS devices can be configured to show this. Also you can get your location – perhaps with a smaller precision – from online mapping programs. For manual configuration, specify your time zone by the number of minutes from UTC and the rules for when Daylight Saving Time (Summer Time) starts and stops.

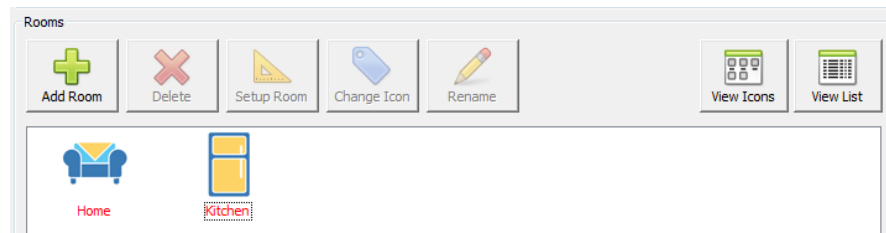
Regardless of how you enter your location, specify your local sunrise and sunset time as the number of minutes before or after the computed sunrise and sunset. This is useful if your home is on a hill – sunrise is earlier than computed and sunrise is later, or blocked by a building in the east – sunrise is later and sunset is as normal.

## Adding Rooms

Once the location is set, the next set is to add rooms. Each time the "Add Room" button is pressed a new room icon is added to the display:



Once the room icons appears, it is all set for you to type in the name you want for the room. When you complete entering the room name and have pressed the enter key, then HCA guesses as to an appropriate icon.



In this example, "Kitchen" was entered as the room name and an icon representing a refrigerator (Kitchens have refrigerators so that's the icon) was chosen.

If at any time you want to change the icon of a room, just select it and press the "Change Icon" button. To change the room name, select it and press the "Rename" button. And to delete the room, select it and press the "Delete" button.

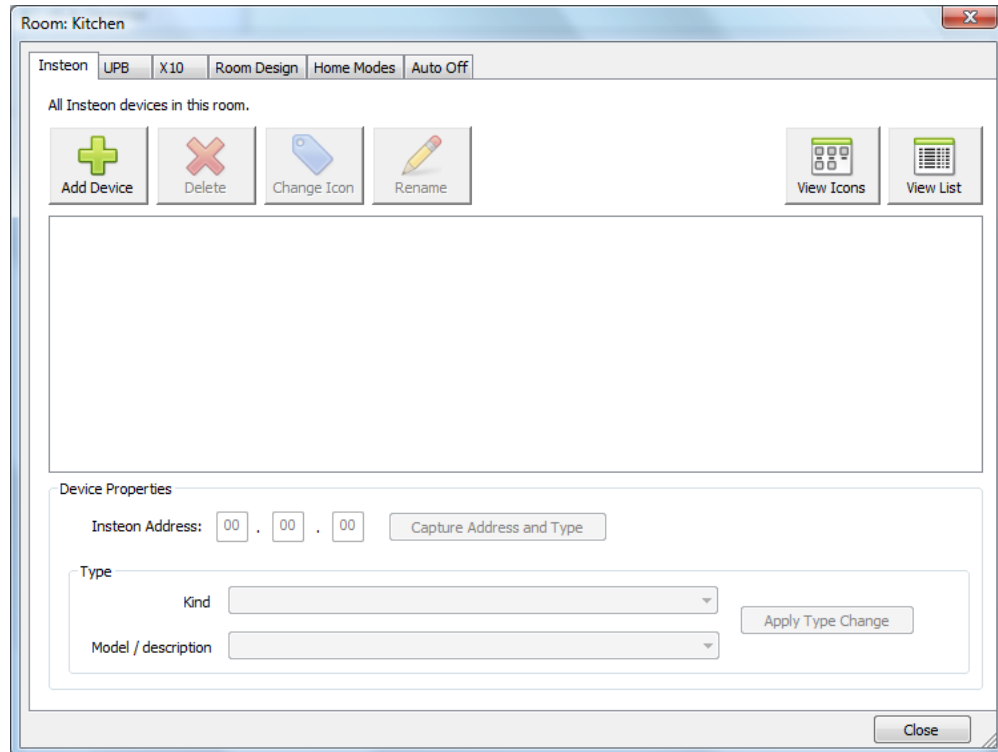
The text below the icon gives the room name. It displays in red if there are no devices yet in the room.

**Tip:** You can also right-click on the room icon and the popup menu contains these actions as well.

The design also lets you show the rooms by icon or by a list. The buttons at the right control this. Some users like to see things by icons and others prefer a table. It's up to you.

The next step is to add devices to the room and how that happens depends upon the protocol of those devices but they all start in the same way. Select the room icon and press the "Setup Room" button.

**Tip:** You can also double-click on the room icon to have the same action occur.

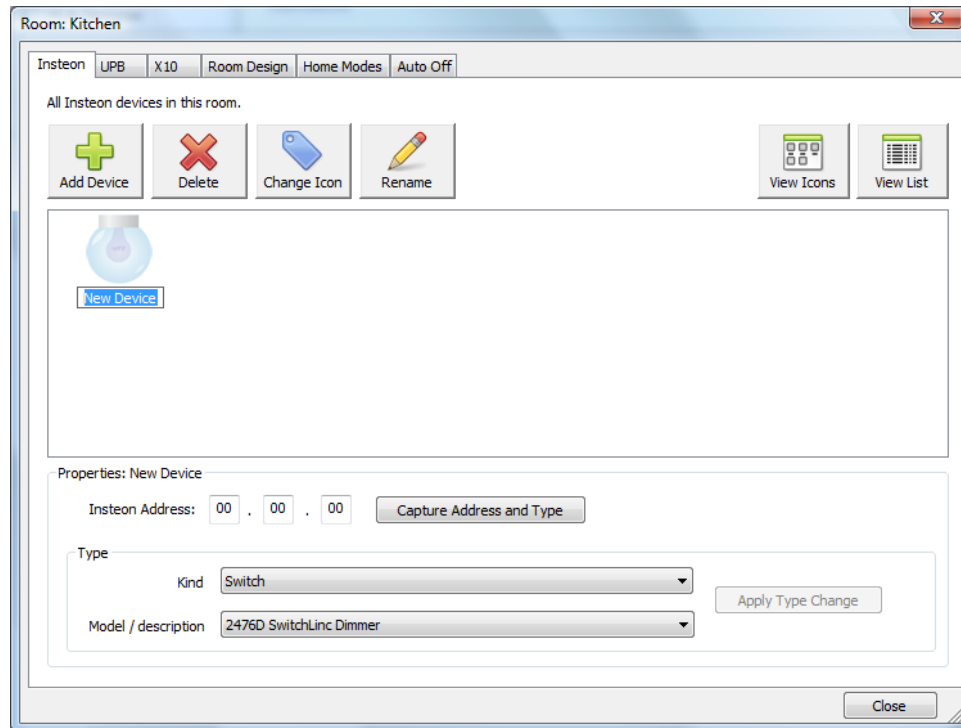


Note that the top of this dialog there are six tabs. These are:

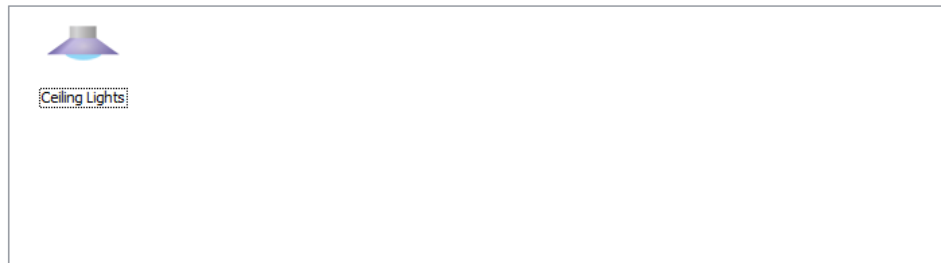
- Insteon: For adding an Insteon device
- UPB: For adding a UPB (Universal Powerline Bus) device
- X10: For adding an X10 device
- Room Design: How devices interact with the room they are in
- Home Modes: How devices act depending upon the mode the home is currently in
- Auto Off: If the device automatically goes off a specified number of minutes after it is turned on

Depending upon the checkboxes on the main Designer dialog, the three protocol tabs may not all appear.

Once the room is open, to add a new device select the tab for the protocol of the new device and then press the "Add Device" button. It works in the same manner as adding a room. An icon for the room is added and you can enter the name for it. Once the name is entered, HCA guesses at the appropriate icon for it.



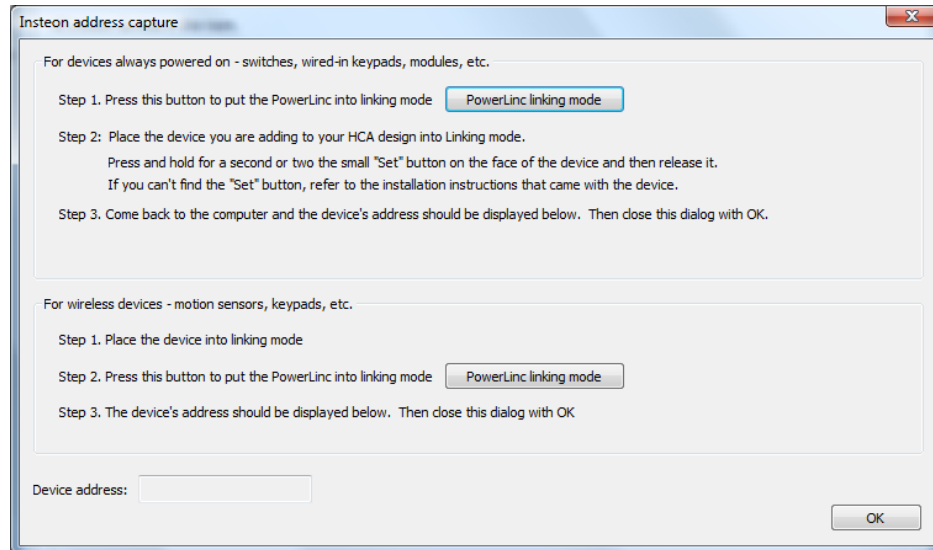
In this example, the device name was changed from "New Device" to "Ceiling Lights" and the icon changed to reflect that:



Similar to working with rooms, you can delete a device, change the icon for it, or rename it by selecting and pressing the button for the action you want to perform.

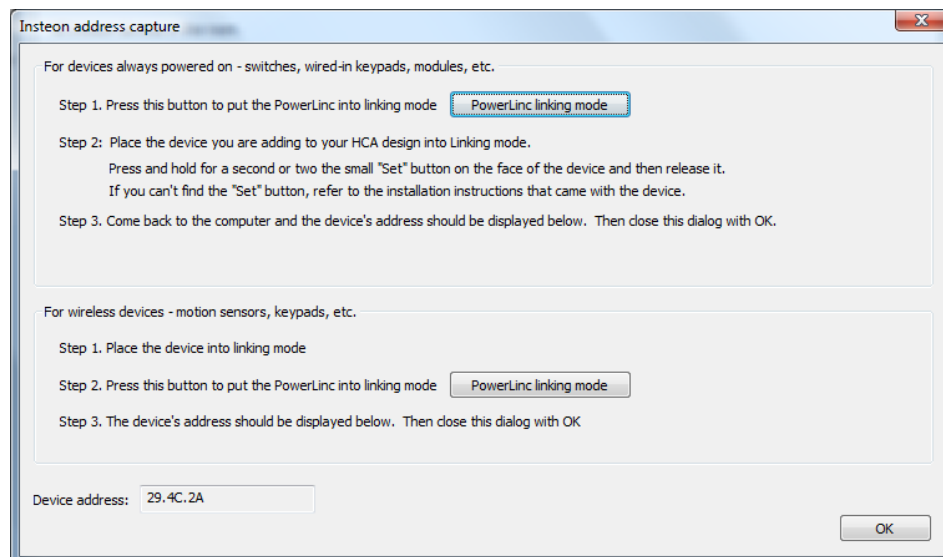
## Adding an Insteon device

For Insteon devices the next step after adding the device is to capture the address and type for it. Select the device and then press the "Capture Address and Type" button. This dialog opens.

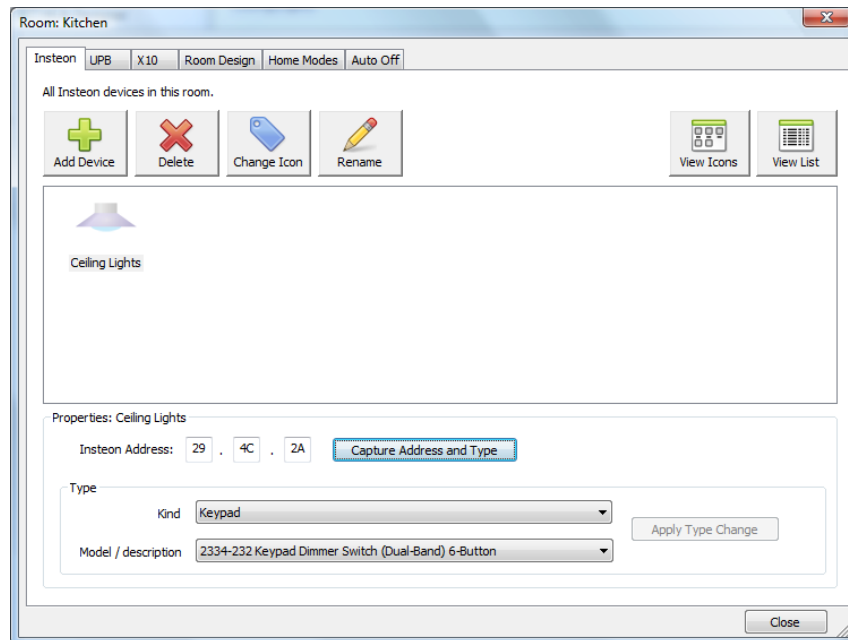


Follow the instructions in the dialog. For devices like switches and modules that are always powered on, press the top button in the dialog to place the PowerLinc into linking mode and then at the device, press its "Set" button to complete the link. For wireless devices like the open/close sensor, wireless thermostats, etc use the second section of the dialog. In this case you place the device into link mode first then press the dialog button to put the PowerLinc into link mode to complete the link.

When the link is complete the address of the device is shown at the bottom of the dialog.



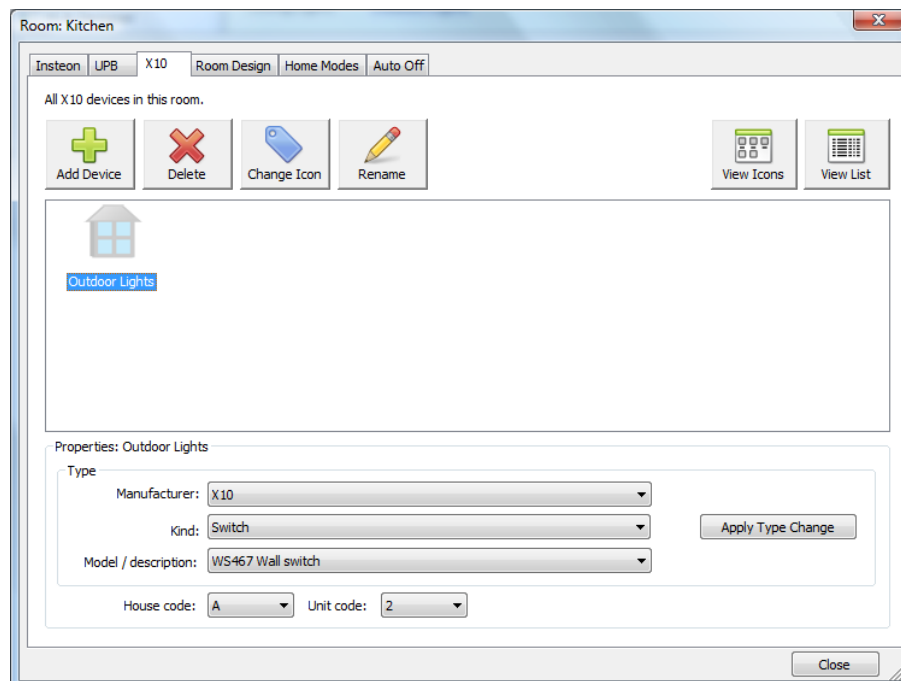
Close the dialog with OK and the address and model/description of the device shows in the room contents display.



In general, there should be no reason to override the type determined unless the device is very old or a very new type, but if you need to then select the new type with the "Kind" and "Model/description" dropdowns and then press the "Apply" button.

## Adding an X10 device

Adding an X10 device starts the same as adding an Insteon device: On the X10 tab, press the Add Device button, and enter the name of the device. Once added then select the type of the device and its X10 address in the lower part of the dialog.





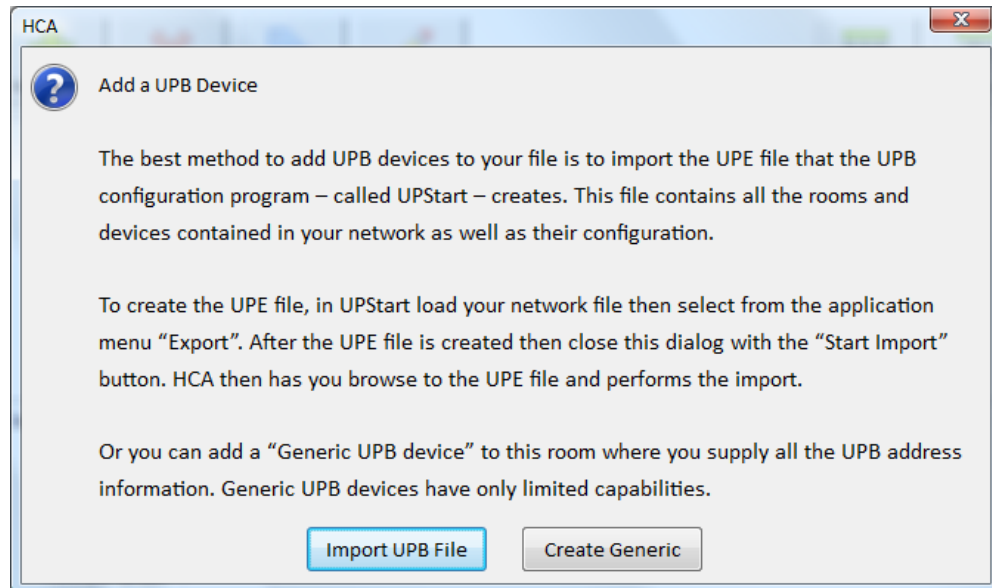
After selecting the Manufacturer, Kind, and Model, choose the X10 address and then press the "Apply Type Change" button to capture the information.

If at any time you want to change the type or address, just select the device, make the changes, and press the "Apply" button again.

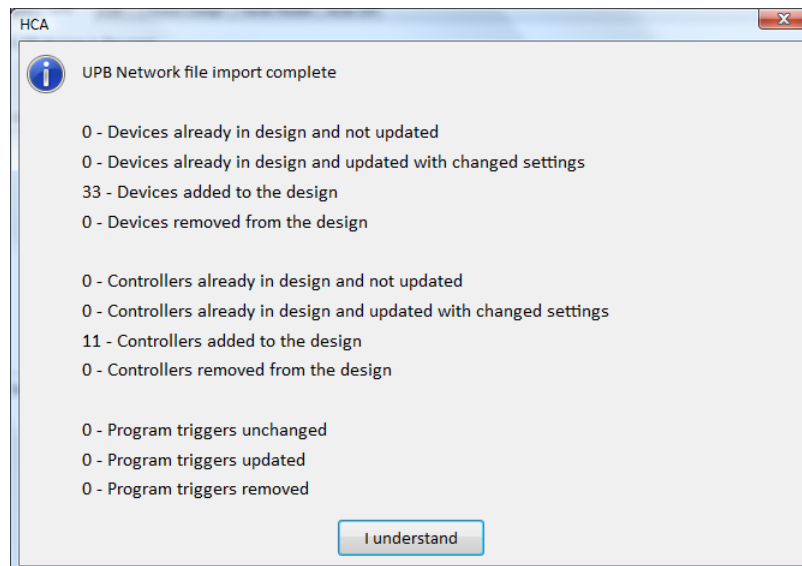
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## Adding UPB devices

To add UPB devices to your design proceeds differently than X10 or Insteon as all the devices in the UPB network are added at one time. When the "Add Device" button is pressed on the "UPB" tab this popup explains:



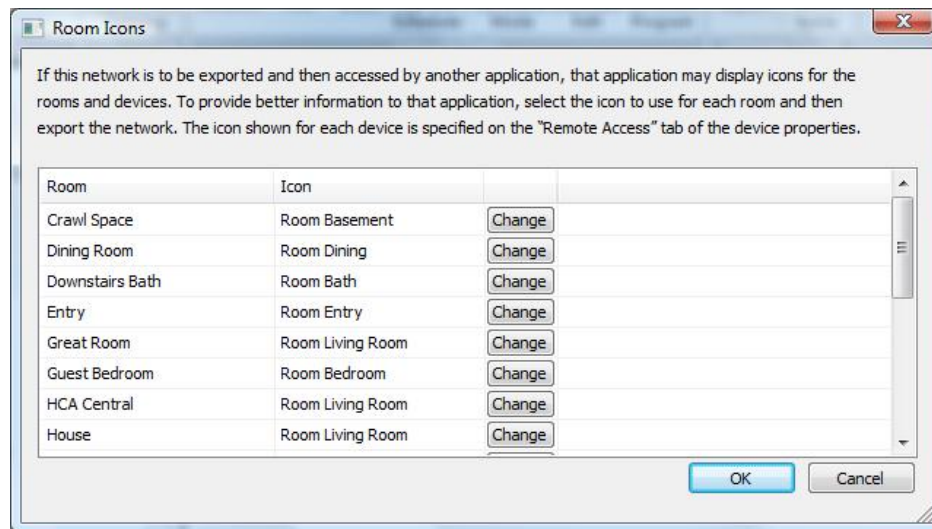
If you press the "Import UPB File" button a File-Open dialog lets you select the UPStart Export File (UPE) and then the devices in that file are added to you design. When complete a popup shows you what has been imported:



## Using UPStart

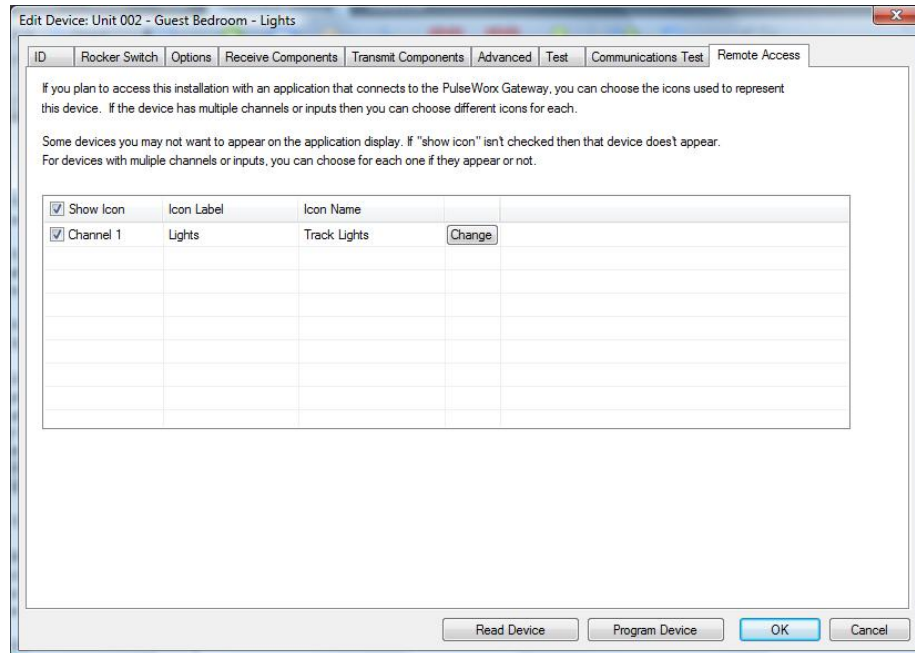
UPB devices are configured by a separate program called UPStart. Before creating the UPE file from UPStart, you should take a few minutes to configure how icons appear in HCA for rooms and devices.

When running UPStart with your UPB file loaded, in the “Gateway Export” ribbon category there is a button labeled “Room Icons”. Press that to open the room icon selection tool. It shows each room in your UPB network and what icon is used for that room. You can change the icon selected by pressing the “Change” button on the line for the room. This opens the icon selection tool. The currently selected icon is shown in the upper left. Just select the icon you want and then close the icon selection tool with OK.



For device icons you need to open the properties of the device. In the properties for a device is a tab labeled “Remote Access”. For simple devices like switches and one-channel modules there is only a single icon to select. The icon choice is displayed and changed in the same manner as room icons. From this tab you can also change the text that shows below the icon. Normally this is just the device name but you can change it if you want. In the icon selection tool, the icon label is shown at the top of the dialog for editing.

Additionally, if you don’t want this device to be imported into HCA – maybe it is something you never want to work with in HCA - you can disable the “Show Icon” option by “un-ticking” the checkbox.



For a two channel device like the PulseWorx Output Control Module you can select an icon and icon label for each channel. If you are only using a single channel of the device, you can un-tick the unused channel so it doesn't appear in your HCA design.

For an Input module (ICM, TCM, DBM) you can name each input and those appear on the application display to show the state of the input. Again, you can choose to show 1 input, both inputs, or no inputs.

<input type="checkbox"/> Show Icon	Icon Label	Icon Name	
<input checked="" type="checkbox"/> Input 1	Driveway Sensor	Appliance	<input type="button" value="Change"/>
<input type="checkbox"/> Input 2	Driveway Sensor	Appliance	<input type="button" value="Change"/>

Also, make sure that any keypads in your design have engraving info specified that gives the name for each button. This text is exported into the UPE file and HCA uses it in popup keypads where you can virtually “push” keypad buttons”. For this purpose, the button size and font choices don't matter.

Small Buttons

Font Style:

Font Size:

Text:

Large Buttons

Font Style:

Font Size:

Text:

ON

A

B

C

D

OFF

Once you have all the devices configured in UPStart, to create the UPE file select from the UPStart application menu, "Export" and then "Export to file".

## Configuring the Room Design

Once all the devices are added then next step is to decide how devices within a room interact. This is more fully described in the User Guide Rooms chapter, but here is the general idea.

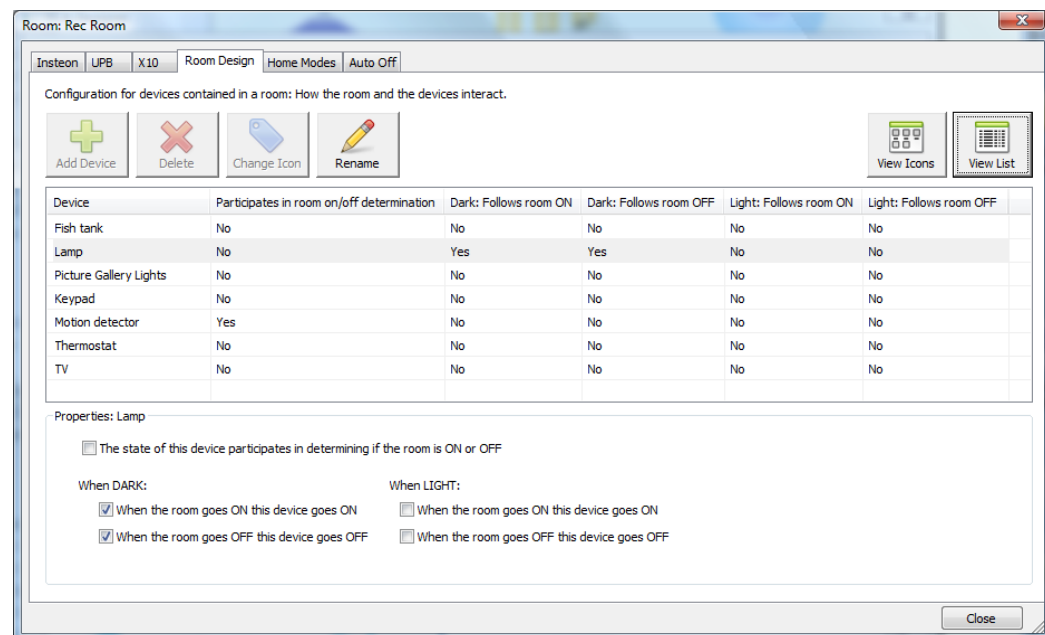
A room in HCA can either be ON or OFF. When a room is ON one or more of the devices in the room are ON. When a room is OFF then all of the devices in the room are OFF.

For each device in the room you specify how it and the room interact:

- When the room goes on does the device go on as well?
- When the room goes off does the device go off as well?
- Is the state of the device – on or off – help determine if the room itself is on?

While this may seem complex it can make implementing some basic "room logic" simple. Suppose that you have a motion sensor and some switches. The motion sensor can be marked as determining if the room is on or off and the switches configured so that when the room goes on they go on, and when the room goes off, they go off.

By just a few selections you can easily have the lights come on when the motion sensor sees motion. In the Rooms chapter you can read how this system can be additionally configured so that the motion sensor and switches work better together to make sure the lights don't go off if you just happen to stop moving.



In this example, note that the Motion Detector determines if the room is on or off and the Lamp follows the room..

Also note in this example, that there are two classes of settings – when light and when dark. HCA has extensive configuration for how the concept of "light" and "dark" is determined in your home. But the general idea is that you may want to do different actions depending upon if it is daytime or nighttime.

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## Configuring Home Mode Response

Home Modes are a very simple yet powerful system to control devices in your home as your home goes through its day.

Let's assume a normal day to see what you do and how your home can respond.

Midnight	Asleep
6am	You wake up
7:30 am	You leave home
6:30 pm	You return home
10:30 pm	You go to bed

OK, so that's the schedule now let's see how your devices should respond.

### TV

Most televisions these days are never really off. They are in a lower power mode when they appear off but still are using power. This makes it possible for remote controls to turn them on. When you are not at home or asleep the TV might as well be truly powered off. You can do this by plugging it into a controllable outlet.

### Battery chargers

Anything with a "power brick" uses power even if nothing is attached to it. When you are not at home it should be off. When you are home – even when you are asleep – it should remain powered on so things can charge. Again, a controllable outlet can be used here.

### Interior lighting

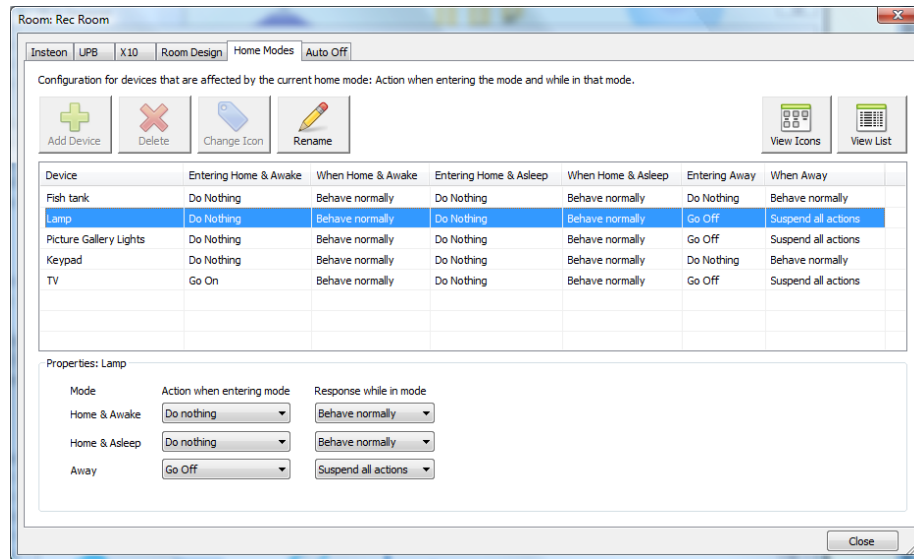
Interior lighting should be off when you are not at home and should go off when you leave or when you go to bed. While you are home, nothing should be automated.

### Circulation Pump

There is no point in having hot water distributed though your home when you are away but should come on when you get up and when you return home.

These are just some of the devices in your home that can be controlled based upon what *Mode* your home is in. The intent here is to have off what should be off when it should be off. This results in energy savings and reduced electricity use.

Some very simple options in the properties for your devices can make all this happen and the Designer can configure these. Select the "Home Modes" tab.



In this example, you can see the configuration for each device: What action to take when the house is going into a mode and when it is leaving a mode. Let's focus on the Lamp device for this example.

Properties: Lamp

Mode	Action when entering mode	Response while in mode
Home & Awake	Do nothing	Behave normally
Home & Asleep	Do nothing	Behave normally
Away	Go Off	Suspend all actions

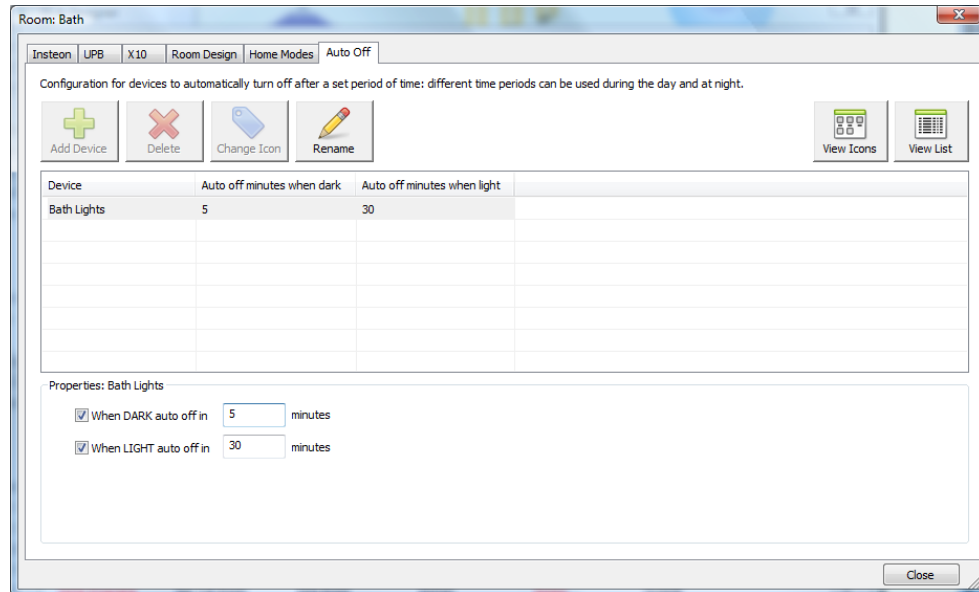
When going away the lamp is turned off. But even more importantly when you are away even if the lamp is scheduled to go on or off at some time, none of those scheduled actions happen. Why would you want to do that?

You may want to schedule the lamp to go on every day at sunset so that the "Rec Room" isn't dark. But you don't want to do that when you are away. Using home modes you can just schedule the light to come on every day and then the home mode concept suppresses that when you are away.

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## Configuring Auto Off

Auto off for a device is exactly what it says: After some length of time after the device is turned on, it is automatically turned off. This is configured on the "Auto Off" tab for a room.



In this example, the bath lights automatically go off after 5 minutes at night and 20 minutes during the day.

One important point about this: This auto off only works if HCA controlled the device ON – from a schedule or program- or HCA receives a message that the device was locally controlled – you walked up to the switch and tapped the paddle on. Most modern devices can send messages when locally controlled but how that is done depends upon the protocol and device type.

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## Designer Final Thoughts

The Designer is a simple way to make changes to your rooms and devices. All of what the Designer does can be done using other tools in HCA. The idea behind the designer is to bring all these tools together into one place.

You can use the designer to create a new design file but you can also use it subsequent to that to modify an existing file.

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## Starting with a Blank or Empty file

In addition to the HCA Designer you can also start with an empty file – one that has nothing added to it.

To start like this just start HCA. If you don't load a file then the design is empty and you can start adding devices and programs.

There is one important action you should also take when starting a HCA design in this manner and that is to set the location so HCA can correctly determine sunrise and sunset.

Select from the ribbon "Design" category, "Home Configuration" panel, the "Properties" button. On the location tab you can set the location either by zip code for US locations or manual location for non-US locations in the same manner as described above when using the Designer.

## Modifying your home file

If you want to change the details of your home file you can open the properties dialog. Press the *Properties* button in the ribbon *Design* category.

From this multi-tabbed dialog you can easily change:

- The Home design name
- Location
- Light and Dark determination
- Security settings
- Customer, Installer and Notes. These are for reference only and can be used in any manner you want.

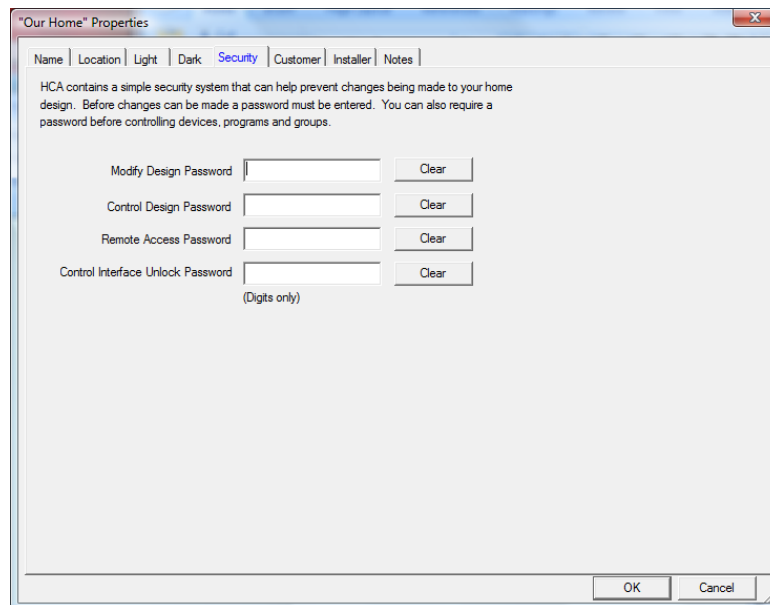
## Security settings

If you have HCA maximized on the display, with the display pane taking the entire HCA window, you have a pretty nice display. It may be nice enough so that you want to leave the HCA computer out, and not buried in the basement or in a closet. If you want to have the HCA computer “front and center” in your home, visitors or inquisitive children may feel compelled to play with it. The security system is for just this reason—to prevent unintended changes.

The options in this system can help you avoid making inadvertent changes to your design, and can guarantee that only people with the password can change programs, devices, and groups.

Remember that you need to leave the computer on all the time—it would be a shame if just anybody could walk up to the computer and start changing your design. This is when you use the home design properties to assign passwords to various actions and protect your design.

To create security settings click on the security tab.



You can use the options on this tab to set password security for four different actions: modify design, control the design, and remote access from clients or the HCA Web Component via a browser. Also you can specify the control user interface password which must be only digits.



Once set, when anyone attempts to make changes to that element of your home design, a message box appears, and the password must be provided before the properties dialog box displays.

As an example, let's say you entered a password for the design. The next time you want to make changes to the properties for this design, a password message box appears, and you need to type your password before you can change the properties.

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## Observations about the security system

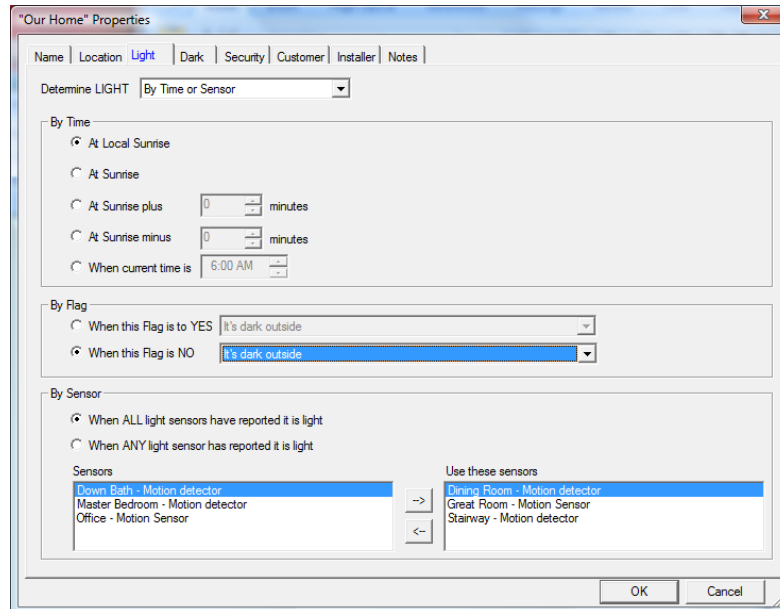
This section discusses a few points about the security system that may help you.

- The security system is only moderately secure. The file is not encrypted but the passwords are stored in the .HCA file in a hashed form. This means that once you enter a password you can't recover it if lost.
- Much of this isn't needed when using Client-Server. You can use one of the read-only clients and in that way no one can make changes to your design. In client-server the "Remote Access" password is the most important since it guards access to your home from anywhere if using the internet. Refer to the client-server user guide chapter.
- Regardless of the password settings you create, anyone can still turn off the HCA computer with the power switch, or stop the HCA task by using the Windows task manager.
- If you don't provide a password for *modify design*, anyone will be able to see the other passwords by using the Properties choice from the Home menu. Once you have set up a design password, no one can access the home design properties without first entering that password.
- If you have lost the password there is a way to load the file and remove all password protection. Follow this procedure:
  1. Select from the HCA application menu HCA – Options. On the startup tab make sure that all the options in the *When HCA Started* group are clear. That is, they are not checked.
  2. Shutdown HCA
  3. Restart HCA
  4. Select from the menu HCA – Properties. Select the Extra tab. Enter the code PSWD and close the dialog with OK
  5. Load the file that you lost the password for. During the load the password protection is removed. Also the extra feature PSWD code is removed.
  6. Save the file.

## Light and Dark

One of the important things HCA does is to control lighting. It is often useful to know if your home is light or dark to determine if lights should be turned on and at what level.

The question “Is it light or dark” can be answered by sunrise and sunset time but there are other options.



There is the same dialog for Dark and well as Light.

While this dialog has many options the general idea is that you determine light from three possible sources.

- By Time
- By the setting of a flag – determined by programs you have created
- By s selection of motion sensors which contain a light sensor

At the top of the dialog is a dropdown where you pick what sources determine light or dark and how those sources interact. In the above example, it will be considered Light at the local sunrise or when all of the selected motion sensors report that it is light.

In later chapters of this user guide you will see two places where you can make use of this information: In the auto off settings of rooms and devices and in programs where you can test the flag “\_Light” or “\_Dark”. HCA keeps those flags up to date during the day as it reevaluates the light and dark settings specified here.

**Hint:** Because there are separate criterion for Light and Dark it is possible for both to be true or both to be false. This can get confusing so there is a "Check" button at the top of the dialog that shows you the determination of light and/or dark and how HCA reaches its decision.

