

## 1.0 Introduction

Congratulations! You are on your way to extreme simplification of your home automation. EZSrv makes possible the control and monitoring of your home automation network through a browser-based interface, based on Adobe Flash technology. This means that one can monitor and control devices from any computer, under any of the modern operating systems, running a standard web browser such as MS Explorer, Safari or Mozilla. The EZSrv controller utilizing the Harmony<sup>™</sup> software lets you configure and manage the Simplehomenet devices to their full potential in addition to acting as a full-fledged home automation package with sophisticated personalized programming. EZSrv supports INSTEON and X10 devices.

The EZSrv application uses a simple model of the home automation environment consisting of the following:

- **Devices:** Automation elements that either control or monitor and usually reside in a single physical module. Examples of devices include switches, lamp adapters, controllers and sensors. A device may contain multiple items (Groups or Units) as in the case of a multi-button controller like the KeypadLinc or a multi-relay module like the EZIO8SA. EZSrv recognizes both INSTEON and X10 devices. Before devices are usable, however, they must be “added” to the EZSrv network. There are two types of devices: those that control other devices (controllers,) and those that respond to commands for the controllers and perform a certain action (responders.)
- **Areas:** Physical or logical places where devices reside such as a living room, a back yard, a kitchen, etc. The EZSrv application allows for the naming of an area, and the addition/deletion of available devices to/from an area. The fact that an area does not have to be a physical grouping means that the user can simply define a grouping for the convenience of having devices in a logical location.
- **Scenes:** Logical groupings of responder devices that enable their simultaneous control by one or several controllers. Once set up, a scene enables a single action to set, for example, a group of lights at different brightness levels (scene) such as for viewing a movie or reading. A single command could also turn off all devices in the scene grouping.
- **Actions:** Conditions for a given device to perform a certain action such as turning on or off, in response to another device performing an action such as the motion detected by a motion sensor to turn lights on, or the water level in a pool reaching a certain point to send an alert, etc. The condition triggering the action can also be time-bound, thus providing scheduling flexibility.

## 2.0 Start-Up and Initial Settings

The initial setup of EZSrv requires only a basic knowledge of home computer networks. This set up involves attaching EZSrv to the home network and configuring the geographical location, time zone, and the time (if not connected to the Internet). By default, EZSrv gets an IP address from the router or server to which it is connected. This address can be found by examining the DHCP addresses in the router or by executing Simplehomenet’s “EZSrv Discovery and Upgrade” Java utility.

This software does not require installation as it is a Java applet. Please ensure your machine has the Java Virtual Machine (JVM) installed. The JVM can be downloaded freely from Sun Microsystems at [www.java.com/en/download](http://www.java.com/en/download). The Discovery utility can be found at [www.simplehomenet.com/Downloads/Discovery.jar](http://www.simplehomenet.com/Downloads/Discovery.jar). Download this file to a directory of your choice on your PC. Then run the utility by double-clicking the file previously downloaded.

The utility automatically locates any EZSrv units on the network and displays their MAC and IP addresses as well as their firmware versions. Right click on a line to bring up the submenu. From here you can connect to the EZSrv via the browser application, reboot it, or upgrade its firmware. New firmware versions can be found at [Simplehomenet.com](http://Simplehomenet.com). The user may select from the available

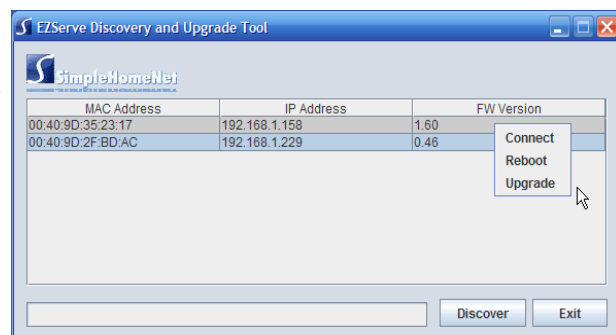


Figure 1. Simplehomenet EZSrv Discovery and Upgrade Tool

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versions, including previous releases. You can also connect to the EZSrve application by double clicking on the line. You will be taken to <http://EZSrve IP Address>. EZSrve will then respond with a login window. The defaults are “EZServe” for the User Name and “Simplehomenet” for the password. Once logged-in, you will be taken to the “Home” EZSrve screen. It will be the main “Command and Control” section of your EZSrve.

## 3.0 “Home” Screen and Navigation Icons

After logging into the EZSrve browser interface, you will be brought to the “home” screen. There are a few key portions of the screen you need to be aware of in order to make the most of your EZSrve browser interface. In the top left corner of the screen you will find all Areas and their corresponding icons you have created as well as the “All Devices” icon. In the middle of the screen you will find the icons of all devices you have added to the EZSrve network. In the bottom left corner you will find the trash bin, where you can drag and drop unwanted devices or areas. In the bottom right corner are the four navigation icons:

1. **Click to Display Areas** - brings you back to the main page where you can add devices or create and manipulate Areas.
2. **Click to Display Scenes**- allows you to create and manipulate scenes.
3. **Click to Display Actions**- allows you to set an change automation schedules and events.
4. **Click to Change Style**– allows you to change the aesthetic design of the EZSrve browser interface to your liking.

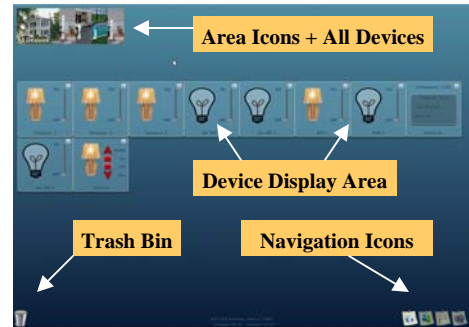


Fig. 2 Main Screen

## 4.0 Server Administration Section

**Time and Calendar settings:** Access the Timer and Calendar Settings box by double clicking the area at the bottom of the browser interface that displays the current date and time. From here you can set the time zone, time of day, and select and daylight savings correction. Normally, EZSrve uses a time server (if connected to the Internet) and sets itself automatically on each power up and daily at midnight. Select the time zone and “NTP” to enable this option. Note that EZSrve defaults to searching the Internet for a valid time server to retrieve the time of day. If no server is found, the time and date fields can be edited by the user. If EZSrve does not find a time server, select the “Manual” option and enter the time and date in the appropriate fields. Be sure to press the “Save” button to save any changes.

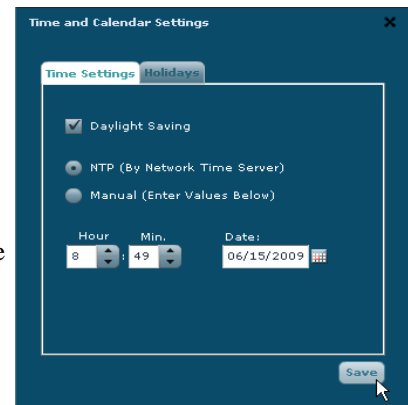


Figure 3. Time and Calendar Settings

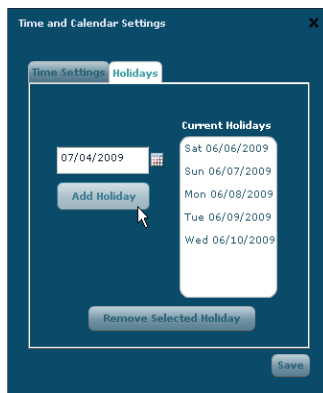


Fig. 4: Adding Holidays

**Holidays:** Holidays can be accessed by double clicking the area at the bottom of the browser interface that displays the current date and time. This opens the time and calendar settings box. Select the “Holidays” tab at the top. Use the calendar icon next to the “Add a Holiday Box” to enter the desired holiday. Clicking “Add a Holiday” should make that date appear in the Current Holidays Box to the right. After you have added all the holidays you desire, select Save in the lower right to save those dates to the EZSrve. To remove a holiday, select it in the Current Holidays box and click “Remove Selected Holiday”.

**Data Files:** EZSrve keeps its settings and device data in files stored in non-volatile memory. These files can be saved on an external computer by pressing the “List Files” to open a window with a listing of the files. To save a specific file, right-click

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on the file name and then select “Save target as..” from the pop-up menu.

To restore the information from a previously saved file, select the file by pressing “Browse” or enter the file name. Then press the “Upload File” button. EZSrve will upload the file after a confirmation message. The “**Synch Devices**” button is used to upload the devices data file (devices.xml) to the devices. This allows a complete re-write of all the links in all the devices described in this file. Depending on the size of the network, this function may take up to several hours (about 10 seconds per device link.) The function first erases the device database, then proceeds to write the links described in the XML file. **USE WITH EXTREME CARE AS THE CHANGES ARE IRREVERSIBLE!**

The two other buttons in this sub-section require special care as their function is also **IRREVERSIBLE**. The “**Reset**” button clears all the internal information (data files), restores EZSrve to its factory settings and performs a hardware reset (re-boot) of the EZSrve. The “**Restart**” button forces a re-boot without changing any data.

**Location Configuration:** EZSrve uses its geographic location to compute the sunrise and sunset times on a daily basis. This allows scheduled and/ or conditional events to use sunrise and sunset as their parameters. Before this can happen, however, the EZSrve must be configured to its location:

1. While on the “home” page, click on the white button in the top right corner of the EZSrve inset box. This opens the location configuration box
2. Enter *at least* the zip code in the appropriate fields
3. Click the “Locate Address” button below. The EZSrve will then use the internet to obtain the latitude and longitude for your location. This will appear in the box above.
4. Click “Save Settings” to save the latitude and longitude values into the EZSrve database.



Fig. 5: Location Configuration Box

Any values of latitude and longitude previously saved will be displayed upon first entering this screen. This allows scheduled and/or conditional events to use sunrise and sunset in their scheduling.

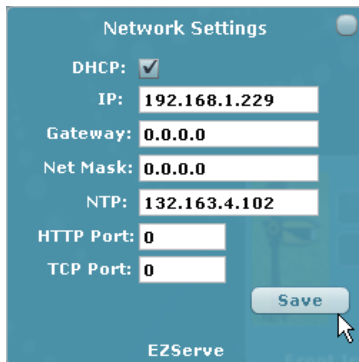


Fig. 6: Network Configuration Box

**Network Configuration:** By default, the EZSrve obtains its IP address from a DHCP server in the network. Most residential network routers are frequently set up out-of-the-box as DHCP servers making this step a plug-and-play operation. These network settings can be accessed by twice clicking the white button in the top right corner of the EZSrve inset box. However, should you need to change from DHCP to static addressing, uncheck the “DHCP” checkbox and enter the new network parameters in the appropriate boxes. Please do this with **extreme caution** as setting an incorrect address and not having the means to locate it later may make the EZSrve totally invisible in your network (and thus unusable). The “**Save**” button is used to save the changes and give the EZSrve its the new network parameters. The changes will not be in effect until the EZSrve is reset.

**Accessing EZSrve from the Internet:** Given the large number of routers available from several manufacturers, it is impossible to give step-by-step instructions on configuring each one to enable access of EZSrve from an outside network. However, the router set up will generally have to meet the following criteria:

- a. the IP given to the EZSrve should be “reserved” by the router, that is, made pseudo-static so that the EZSrve always has the same IP;
- b. any firewall set up in the router has to be open to expose the EZSrve to an external network such as the Internet;
- c. incoming connections for the socket (port 8002) in EZSrve must be properly forwarded to the IP of the EZSrve on the internally accessed network.

Please consult your specific router manual to configure it to satisfy these conditions.

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## 5.0 Devices, Scenes and Areas Section

Now it's time to add devices, establish areas and put together scenes. This section consists of three screens selectable by the icons at the bottom right of the screen. Each screen's functionality is explained below, followed by a picture annotated with additional details. One thing to note is to be sure to give a unique identifier/name to each Device, each Area, and each Scene. The screens are:

### DEVICES

**Device Addition:** Adding devices makes them known on the EZSrv network. Adding devices so they are known to the EZSrv server is necessary *prior* to including devices in Areas, Scenes and Actions. To add a device, click on the "All Devices" tab in the upper left corner. From the drop down menu, select "Add a Device". The Add a Device popup will appear offering several different addition options. We will go through each of these below.

#### ADD- Unknown ID, pushbutton discovery:

This method is used when the device is physically accessible, powered, and the user does not know the device ID. Only the desired name for the device needs to be entered. After selecting this method from the list:

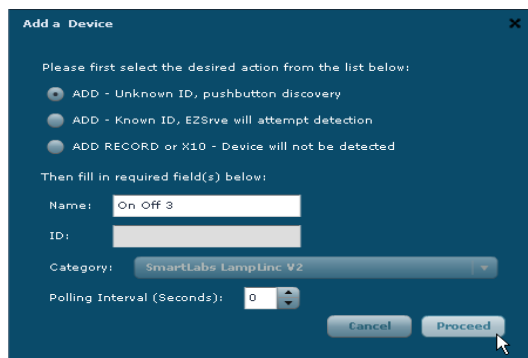


Fig. 7. Adding a Device with the Pushbutton Method

1. Enter the desired name for the device in the "Name" field and press "Done"
2. Wait until the link with the device is established. A popup should prompt you to hold a pushbutton on the device to be added. This means the link has been established and the device can be added.
3. Hold down the pushbutton located physically on the device, until addition is indicated by a flash of any light or apparatus connected to the device. A "Device has been successfully added" message should pop up.
4. The EZSrv returns to the "Home" page. The newly added device should now appear with its own insert box and icon.

#### ADD- Known ID, EZSrv will attempt discovery

This is the most convenient method as physical access to the device is not required. The device, however, must be electrically connected in the INSTEON network, and its INSTEON ID known. The EZSrv first "discovers" the device and proceeds to enroll it if the device is of a known type. To add the device with this method:

1. Enter the desired device and the device's INSTEON ID in the "Name" and "ID" fields and press "Done". The EZSrv queries the Device via its ID and proceeds to electronically establish the required links in both the device being added and itself.
2. After the EZSrv has discovered and added the device, a "Device Added Successfully" popup should appear.



Fig. 8: Device addition with known ID

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3. The EZSrve returns to the “Home” page. The newly added device should appear with its own insert box and icon.

## ADD RECORD or X10– Device will not be detected

Please note that X10 devices cannot be a part of scenes. After selecting this method:

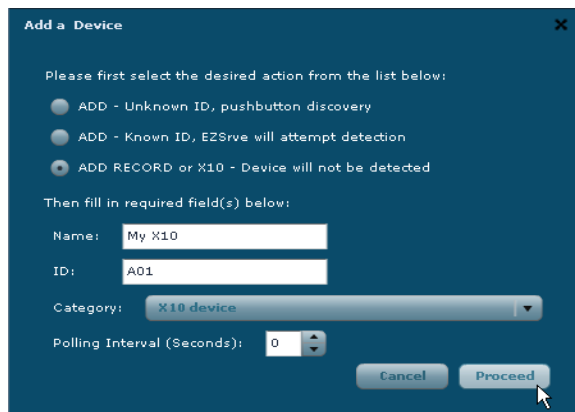


Fig. 9: Adding an X10 Device

1. Enter the name for the device in the “Name” field and the X10 House/ Unit address in the “ID” field.
2. Select “X10 Device” from the Category dropdown menu
3. Press the “Proceed” button. The EZSrve creates a new record for this device making it available to be added to Areas and Actions. A “Device Added Successfully” popup should appear.
4. The EZSrve returns to the “Home” page. The newly added device should appear with its own insert box and icon.

## Deleting Devices:

Devices can be deleted from the EZSrve. Note that deleting a device from the EZSrve network means it will be removed from any Scenes, Areas, or Actions you have included it in. To delete a Device, first return to the “All Devices” page. Then simply drag and drop the device into the trash bin. Confirm the following dialog box and the device and any links it may contain will be erased from the EZSrve.

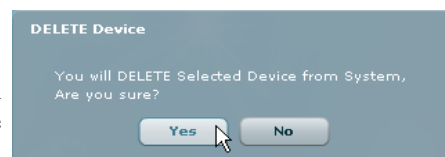


Figure 10. Delete Device Dialog Box

## AREAS

Areas are groupings of devices made according to the user’s convenience. They can be made according to logical groups or physical locations. Areas must first be created before devices can be added to them.

### Creating Areas:

1. Click the “All Devices” icon in the top left corner and select “Add an Area” from the pull down menu
2. From the popup box, select a suitable icon. Enter a name in the “Area Name” and select “Save Changes” to create the area

The area and its icon will now appear if you scroll over “All Devices” in the top left corner. Selecting a particular Area icon will display all the devices within that area.

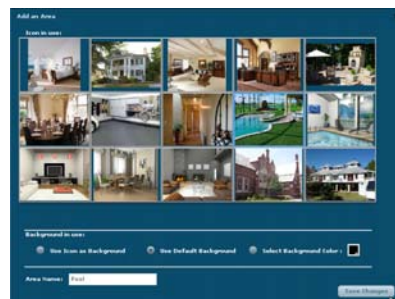


Fig. 11: Adding an Area

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Fig. 12: Area with its Devices

## Adding Devices to Areas

Before a device can be added to areas, the device must first be added to the EZSrve network as outlined in the “Adding Devices” section of this operating guide. To add a device to an area, first select the “All Devices” icon. Then simply drag and drop the desired device onto the area’s icon in the top left corner. If you click on that area’s icon, you will be able to see all devices that have been added to that area.

## Deleting a Device from an Area:

To delete a device from an area, select that area’s icon from the top left corner. Then select the desired device and drag and drop the device into the trash bin.

## SCENES

Scenes are groupings of responder devices made to respond simultaneously to one or several controllers. Each device in a scene can be programmed to go to a certain state (e.g. for lighting devices the ON level at a given rate) when the scene is activated by the controller. In the steps that follow, it is assumed that controller and responder devices have been added to the EZSrve. This can be

**Creating a scene:** To create a scene for the first time proceed as follows:

1. Select the “Create a Scene” from the “Scene Name:” drop down menu
2. Enter a name in the “Scene Name:” field. The screen will now display 2 boxes. The bottom box will show all devices that can be used as responders in the scene.
3. Drag and drop any desired devices into the upper Scene Members box to include them as responders.
4. Click the “Controllers” button in the top right corner. The lower box will now display any and all devices eligible to be responders in the scene
5. Drag and drop any desired devices into the upper Scene Controllers box to include them as responders.
6. When satisfied with the number of controllers and responders included in the scene select done. The top box will now display all the controllers in the scene while the bottom box will contain all the responders in the scene.
7. For each device, enter the desired settings that you would like the device to assume upon scene activation.
8. Select “Save” in the top right corner and select OK in the following dialog box. Wait for the scene to be saved to the EZSrve. Once the information is saved, a popup message will appear indicating completion



Fig. 13: Scene with all controllers and responders

## Modifying a Scene

To remove or add controllers and/or responders to an existing scene, proceed as follows:

1. Select the scene to be modified from the “Scene Name” dropdown menu.
2. Drag and drop any devices you want as responders into the upper Responders box.
3. Click the Controllers button in the top right corner

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4. Drag and drop any devices you want as controllers into the upper Controllers box
5. When the list of controllers and responders reflects the desired modified scene, press “Done”
6. For each new device, enter the desired settings you would like the device to assume upon scene activation
7. Select “Save” in the top right corner and select OK in the following dialog box. Wait for the scene to be saved to the EZSrv. Once the information is saved, a popup message will appear indicating completion.

**Deleting a Scene:** Simply select the scene to be deleted from the “Scene Name” dropdown menu and press “Delete” in the upper right corner. After the confirmation dialog box, EZSrv proceeds to physically remove the link records from the controllers and responders associated with this scene. Depending on the number of devices this will take from a few seconds to several minutes during which a progress bar will appear. When done, a message will indicate completion of the scene deletion process.

## 6.0 Actions Section

This section allows for the management of automation on devices; that is, the setting of events to occur at preset times of the week, or in response to other conditions occurring. This section is accessed from the “Click to display Actions” navigation icon in the bottom right. This one screen can then be used to set up both timers and conditional events. Before we begin to discuss how to set up timers or events, we need to explain some options you will find on the Actions main page, specifically under the “When” pull down menu:

**Absolute-** When you want a timer/ condition to become active at a set, specific time. Simply input hour, minute and second values in the “Time”

**Interval-** This is used for when you want a timer or condition to be activated repeatedly every so many hours/ minutes/seconds. For this, input an hour, minute, and second values in the start time. Then select the interval length you would like in the “Interval” fields. For example, if you want a timer to activate at 5:30 AM and occur every 20 minutes after that, you would have 5/30/0 in the “Start Time” fields and 0/20/0 in the “Interval” fields.

**Window:** This is selected when you want a condition or timer to occur within a certain window of time. For this, enter hour minute and second values in the Start time fields. Enter values into the Offset fields to determine how long the window will last. Please note that the offset is not a specific time itself but the duration of the window. So if you want a window from 5:30 AM until 8 AM, you would enter 5/30/0 into the Start Time fields and 2/30/0 in the Offset fields.

**Sunset:** Automatically inputs sunset as an absolute time.

**Sunset +:** Used when you want a timer or condition to occur a certain amount of time *after* sunset. Sunset is automatically inputted as the start time. You then indicate the offset value in the Offset fields. For example, if you want a condition to occur 3 hours and 45 minutes *after* sunset, simply select this option and input 3/45/0 into the “Offset” field.

**Sunset -:** Used when you want a timer or condition to occur a certain amount of time *before* sunset. Sunset is automatically inputted as the start time. You then indicate the offset value in the Offset fields. For example, if you want a condition to occur 3 hours and 45 minutes *after* sunset, simply select this option and input 3/45/0 into the “Offset” field.

**Sunrise:** Automatically inputs sunrise as an absolute time.

**Sunrise +:** Used when you want a timer or condition to occur a certain amount of time *after* sunrise. Sunrise is automatically inputted as the start time. You then indicate the offset value in the Offset fields. For example, if you want a condition to occur 3 hours and 45 minutes *after* sunrise, simply select this option and input 3/45/0 into the “Offset” field.

**Sunrise -:** Used when you want a timer or condition to occur a certain amount of time *before* sunrise. Sunrise is automatically inputted as the start time. You then indicate the offset value in the Offset fields. For example, if you want a condition to occur 3 hours and 45 minutes *before* sunrise, simply select this option and input 3/45/0 into the “Offset” field.

**SunsetToSunrise and SunireToSunset:** These are two predetermined windows we have included as options.

## TIMERS

A timer has a unique name and consists of a recurring or one-time schedule, a device to be acted upon, and a command to be given to the device. The time of the timer can be absolute (in a 24 hour period) or based on the daily calculated sunrise and sunset times.

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**Creating a Timer:** To create a timer using the Action page, proceed as follows:

1. Select “Create an Action” from the “Action Name” pull down menu. You will then be directed screen with two boxes. The bottom box show all devices available to be responders to the timer.
2. Drag any devices you want to be included in the timer into the top box.
3. Enter a name for the timer in the “Action Name” field
4. Once you are satisfied with the number of devices included, press “Done” in the upper right corner. You will be brought back to the Actions main page.
5. From the “When” dropdown menu, select a parameter for when your timer is activated.
6. If applicable select offset and/ or random values
7. Select the days you would like the timer to be active. If you would like it to be activated on even or odd calendar dates, you can select those options. You can also select the timer to be activated every X days up to 5 under the “Every” label.
8. In the lower box, specify the settings you would like the responder devices to assume once the timer is activated
9. Once you have all the conditions for the timer in place, check the “enabled” box to the right and press “Save”. That condition will now be saved.
10. Once you have all the conditions you want, select the “This Action is enabled” box in the top right and press “Save”

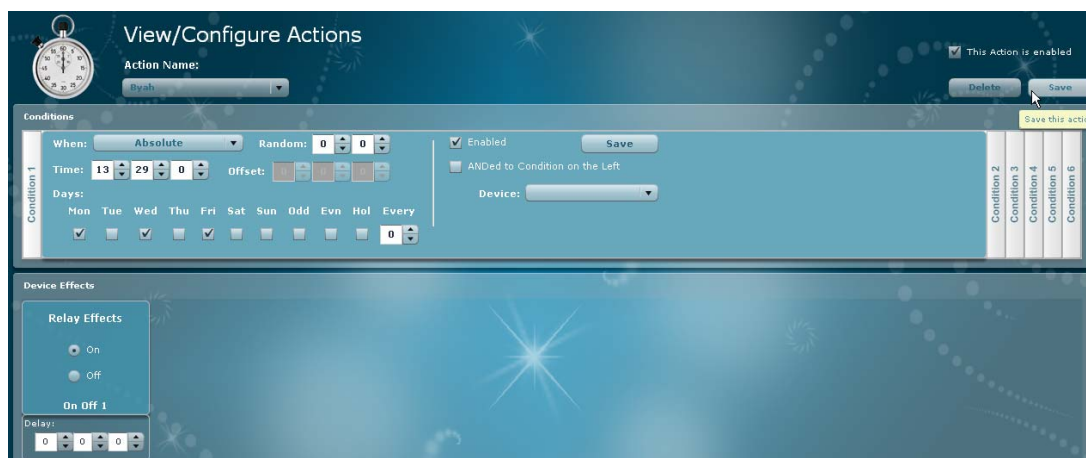


Fig. 14: Absolute Timer Setup

A timer that has been previously created can also be modified by simply selecting it from the timers list, modifying the information, then saving it with the “Save” button. The timer can also be overridden for a holiday in the holiday list if the “Holiday” checkbox is enabled.

## CONDITIONAL EVENTS

Conditional events are similar in logic to a conditional clause in that they have a condition and effect in an “if/then” relationship. The effect (i.e. what comes after “then”) will happen when the conditions (What comes after “if”) are satisfied. A simple example would be: “If I win the lottery, then I will get a large sum of money”. In the EZSrve world, the conditions can be a certain device or scene state. The effect can then be the activation of a device or devices. This is similar to the controller/ responder relationship of Scenes except the condition has a time element in addition to the device state. Thus when you put it all together, if a certain monitored condition occurs (e.g. an X10 message from a motion sensor) at or during a certain time, then an action is performed on another or the same device, either immediately or after a certain delay.

**Creating a Conditional Event:** Creating a conditional event is very similar to creating a timer. To do so proceed as follows:

1. Select “Create an Action” from the “Action Name” pull down menu. You will then be directed screen

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- with two boxes. The lower box show all devices available to be included as recipients of events.
2. Enter a name for the Event in the “Action Name” field
  3. Drag any devices you want to be included in the conditional as an affected device into the top box.
  4. Once you are satisfied with the number of devices included, press “Done” in the upper right corner. You will be brought back to the Actions main page.
  5. From the “When” dropdown menu, select a parameter for when your condition is applicable
  6. If needed, select offset and/ or random values
  7. Select the days you would like the condition to be active. If you would like it to be activated on even or odd calendar dates, you can select those options. You can also select the condition to be activated every X days up to 5 under the “Every” label.
  8. Select a device from the dropdown menu on the right and select a state that device must reach for the condition to be satisfied. The condition is now comprised of that particular device reaching the state you have specified under the time conditions you have entered.
  9. By selecting subsequent condition tabs, you can create up to 6 conditions. Repeat steps 1-8 above for each condition. For any conditions after the first though, you will have the opportunity to select “ANDed to the Condition on the left”. This means that both conditions will have to be met for the effect to take place. Thus if you were to create 5 conditions, all with this option enabled, options 1-5 would *all* have to be enabled for the conditional event to be fulfilled.
  10. In the lower box, specify the settings you would like the responder devices to assume once the condition is met
  11. Once you have all the conditions and effects you want, select the “This Action is enabled” box in the top right and press “Save”

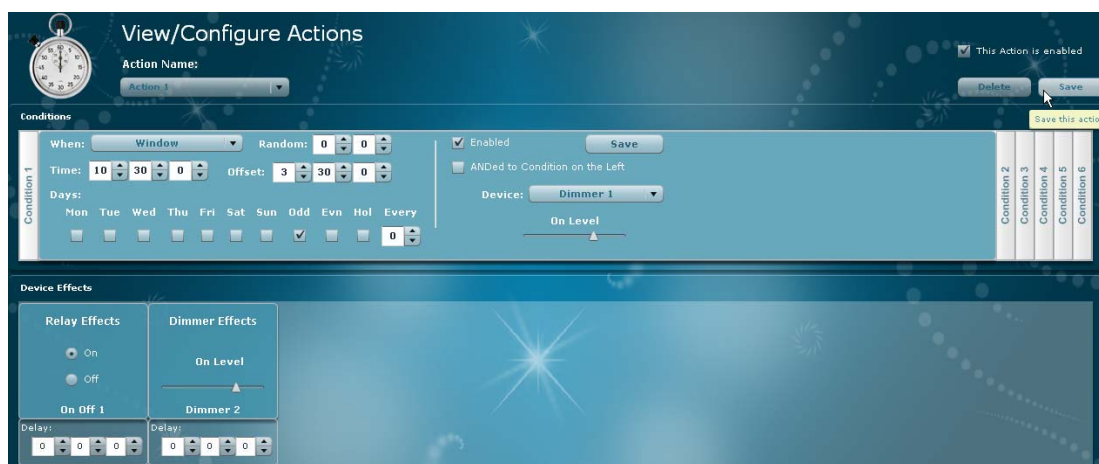


Fig. 15: Conditional Event Setup

## 7.0 Style Section

The new EZSrve Flash interface has a default “skin” design but you are by no means limited to that particular design. You can change the skin layout by selecting the “Click to Change Style” icon in the bottom right. The “Manage Style” inset will pop up where you can then select from different design palettes. Select a suitable palette and click “Done” in the bottom right corner. Then wait as the application refreshes with the new design layout.

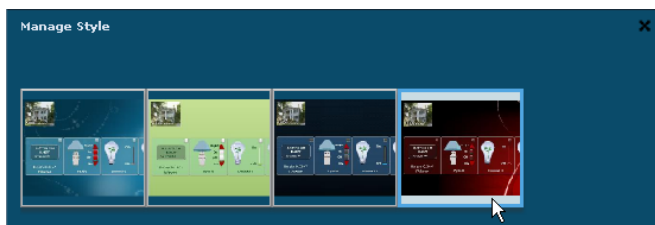


Figure 16: Manage Style Pop Up Box