EZSrve™ Operating Guide Version 2.0

1.0 Introduction

EZSrve makes possible the control and monitoring of a home automation network through a browser-based interface. This means that one can monitor and control devices, from any computer running a standard web browser such as MS Explorer or Mozilla. EZSrve lets you also configure and manage the Simplehomenet devices to their full potential in addition to acting as a full-fledged home automation package with sophisticated timers and actions.

The EZSrve 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. EZSrve presently recognizes both INSTEON and X10 devices. Before devices are usable, however, they must be "added" to the EZSrve through the "Device Management" screen. 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.) Some devices are able to perform both functions.
- **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.
- **Areas:** Physical or logical places where devices reside such as a living room, a back yard, a kitchen, etc. EZSrve allows for the naming of an area, and the addition/deletion of available devices to/from an area. The area does not have to be a physical one and the user can simply define a grouping for the convenience of having devices in a logical location.
- **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 EZSrve requires only a basic knowledge of home computer networks. This set up involves attaching EZSrve to the home network and configuring the geographical location, time zone, and the time (if not connected to the Internet) . By default, EZSrve 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 the "EZSrve Discovery and Upgrade" Java utility.

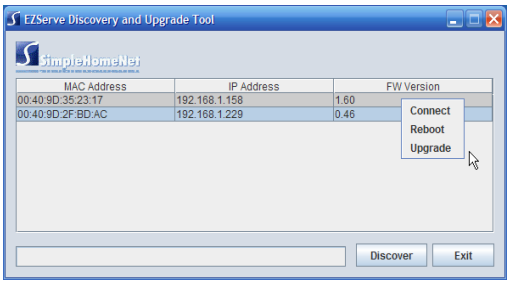

Fig. 1: EZSrve Discovery and Upgrade Tool

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. The Discovery utility can be found at 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 EZSrve 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 EZSrve via the browser application, reboot the EZSrve, or upgrade the EZSrve firmware. New firmware versions can be found at Simplehomenet.com. The user may select from the available versions, including previous releases. One can also connect to the EZSrve web server application by double-clicking on the line. When doing so, a browser window is opened to to http://*EZSrve IP Address* (the EZSrve IP displayed on the line.)

EZSrve then responds with a login window. The defaults are "EZServe" for the User Name and "Simplehomenet" for the password. Once logged-in, the main EZSrve screen "Device View/Control" will display. The screen will not be usable until the devices and areas are defined. It will then be the main "Command and Control" section for the EZSrve.

EZSrve™ Operating Guide

3.0 Main Navigation Icons

The main sections of the EZSrve allow different functions to be performed. When clicking on one of the icons, the corresponding section will in turn open up additional options. The main sections are:

1. **Device/View Control**: the "Home" screen where devices, and scenes are controlled and monitored using EZSrve as a controller.
2. **Timers & Actions**: here set and change automation schedules, conditions and events.
3. **Devices & Areas**: in this section add, modify, and delete devices, scenes and areas.
4. **Server Settings**: the server administrative area.

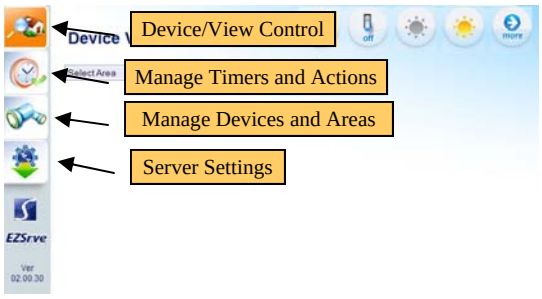

Fig. 2: Main Navigation Icons

4.0 Server Administration Section

Go first to this section. It consists of four screens selectable by the icons on the top right of the screen. Functionality of each screen is explained below in left to right order:

- **Server Configuration:** From this screen change the password, set the time zone and time of day, select daylight savings correction, and manage the server data (excluding device links). 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 whether daylight saving time is in effect. 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, enter the time and date in the appropriate fields. Be sure to press the "Set Timezone" button to save changes.
  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 (see Fig. 4). To save a specific file, right-click on the file name and then select "Save target as.." from the pop-up menu.

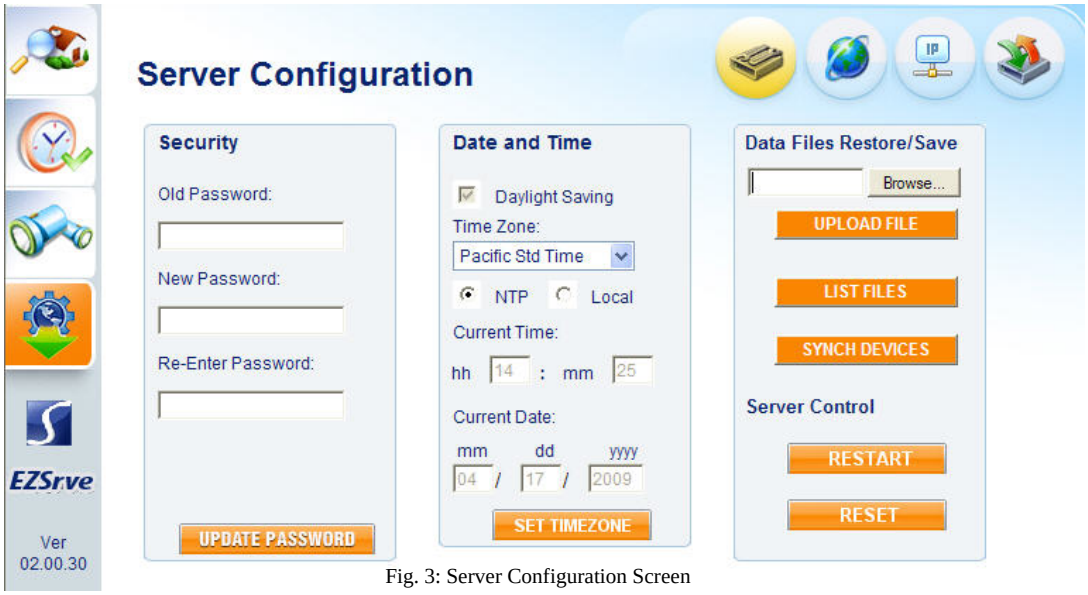

Fig. 3: Server Configuration Screen

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 net-

work, 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 functions are 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.

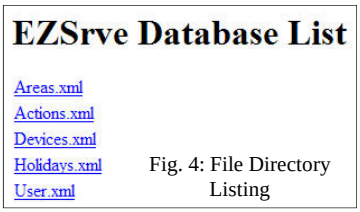

Fig. 4: File Directory Listing

- **Location Configuration:** The geographical location can be determined once the time zone has been set from the previous screen . EZSrve uses this location to compute the sunrise and sunset times on a daily basis. The unit uses the Internet to get the latitude and longitude with the user providing minimally the location postal zip code and then pressing the "Find Location" button. If known, the coordinates can also be entered manually. The "Save" button saves the values for latitude and longitude into the EZSrve database.
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. 5: Location Configuration Screen

- **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. However, should you need to change from DHCP to static addressing, uncheck the "DHCP Enabled" 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

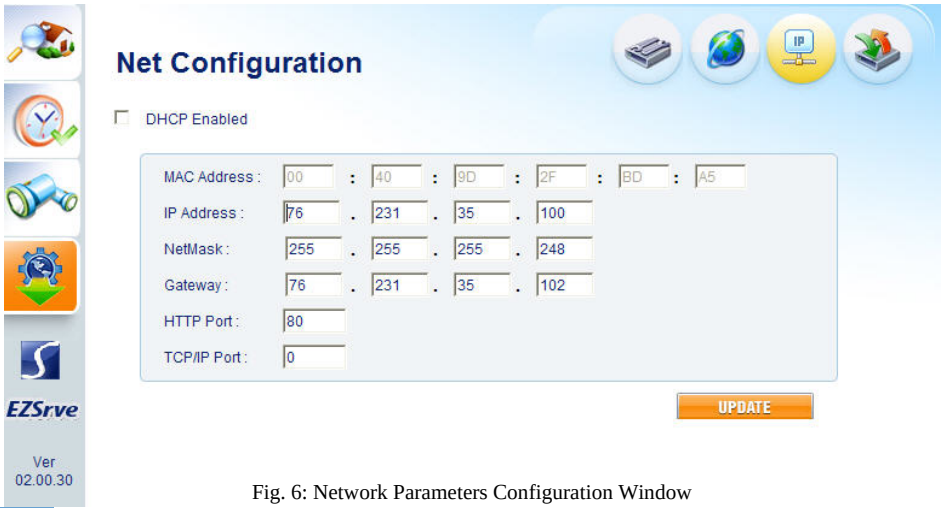

Fig. 6: Network Parameters Configuration Window

EZSrve totally invisible in your network (and thus unusable). The "**Update**" button is used to save the changes and give EZSrve 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 web browser (port 80) and 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.

- **Firmware Updates:** Updates for your EZSrve are available periodically from the Simplehomenet.com website. The Java applet mentioned in section 2.0 is the preferred method for upgrading as it interacts directly with Simplehomenet.com. However, if a live Internet connection is not available when upgrading, first download the file from the Simplehomenet.com website into a local file directory. Then, from the "Server Update" screen of the EZSrve, open the downloaded file by using the "Browse" button.

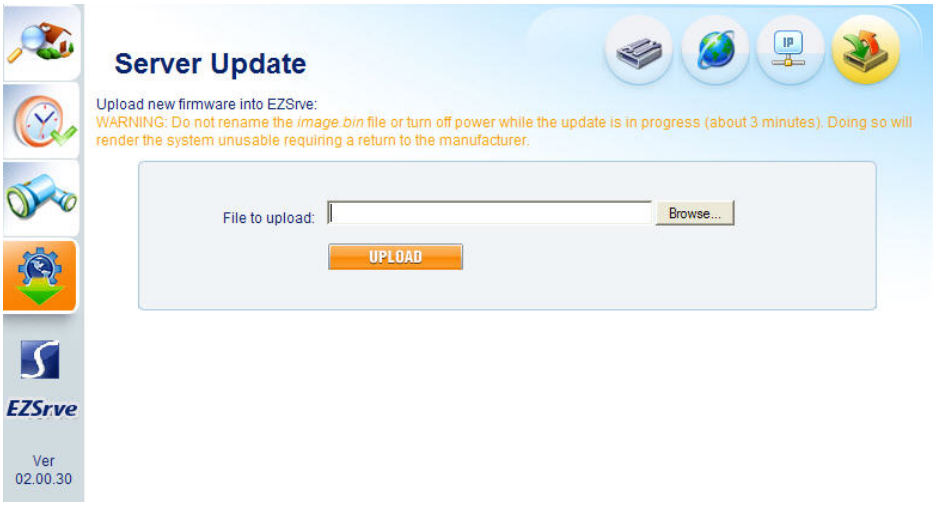

Fig. 7: Server Firmware Update Screen

IMPORTANT: Do NOT change the file name as the upload process expects the name "image.bin". Changing the name or uploading some other file will render the system unusable and the unit will have to be repaired at the factory. Once the file is selected, press the "Update" button. IMPORTANT: EZSrve uploads the file, decompresses it and self-installs it. The unit then does a power-up sequence. It is critical during this process that power Not be disrupted or the reset button Not be pushed on the EZSrve or permanent damage will occur requiring a return to the factory for repair. This process may take up to 2 minutes. Once completed, the login dialog will appear again, allowing operation to be resumed normally. Should the login dialog not appear automatically after 4 minutes, simply refresh the screen in the browser to login again.

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 top right of the screen. One thing to note is to give a unique identifier/name to each Device, each Area, and each Scene. The screens are:

- **Device Management:** This screen allows for the addition, modification, configuration and deletion of devices.

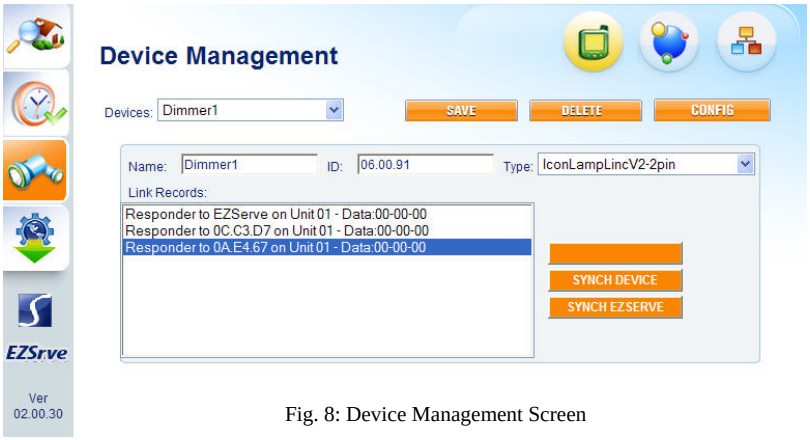

Fig. 8: Device Management Screen

Adding devices here to make them known to the EZSrve is an important first step. Once added, Devices can be placed in areas, used in actions, and linked together through the "Scenes Management" screen in groups of multiple devices in a controller/responder relationship. Do keep in mind, that "dirty" devices, that is, devices with corrupted databases, my give erratic results when added. It is best to "factory reset" a device before adding it to the EZSrve, unless it a known clean device that is working satisfactorily with other devices. Several methods for device addition exist based upon the device protocol, device capabilities and/or user preferences. If adding an INSTEON device, it will be helpful to first take a few moments to familiarize yourself with these various methods as outlined below:

- **Adding an INSTEON device with the push-button method:** 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. To add the device, ensure the "Devices" menu shows the "Add New Device" entry. Then:

Fig. 9: Adding an INSTEON Device

  1. Enter a name in the "Name" field and press "Save"
  2. Press "OK" on the next confirmation box or "Cancel" to end the process at this point (see Fig. 10). This step will direct you to press the pushbutton on the device to be linked. Once the addition process starts, a wait indicator will appear until the link is established with the device to be added. EZSrve will also blink its LED at about once per second.
  3. Press the push-button on the device to be added (linked) for about 3-4 seconds then let go and wait for the link to occur. Refer to the instructions given with the device as some devices, such as the KeypadLinc and SwitchLinc, will require pressing the pushbutton up to 10 seconds. *It is important to note here that the number of seconds to press the pushbutton is important as it signals the device to take a certain action. Pressing too long or too short can cause the device to not give the desired response.* The addition/linking is indicated by the device with a momentary flash of any light or apparatus connected to it. EZSrve also indicates that the device was added successfully with a message on the device details area.

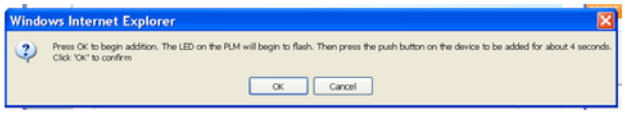

Fig. 10: Confirming Device Addition

  4. Click the "OK" button and EZSrve returns to the Devices screen.

  The new device will appear in the device drop-down menu and is also available under the selected group/scene, ready for addition to an area or for direct, timers or action control. Any links physically present in the device are also displayed.

- **Adding an INSTEON device with the Device ID (NOTE THAT NOT ALL DEVICES WILL ADD BY THIS METHOD):** 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 EZSrve 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 only the desired device name in the "Name" field and the device ID in the "ID" field. Then press the "Save" button (DO NOT select "Type" of device as this will appear once addition is complete).
  2. Press "OK" on the next confirmation box or press "Cancel" to stop the process. EZSrve proceeds to display the "Device Addition/Deletion in Progress" message (see Fig. 11).

  EZSrve queries the INSTEON device via its ID and proceeds to electronically establish the required links on

itself and in the device being added. Once this process is completed, a confirmation message appears indicating whether the device was added successfully or not. Any links physically present in the device are also displayed.

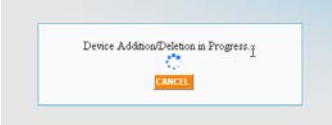

Fig. 11: Linking Progress Window

- **Adding an INSTEON device with the ID method without creating an INSTEON link with the EZSrve:** This method is similar to the one above differing only in that physical presence of the device is not confirmed. This can be used as a "quick and dirty" way of adding devices for direct control with timers and actions.

- **Adding/Modifying and Deleting X10 Devices:** Please note that X10 devices can NOT be part of scenes.
  Adding an X10 Device:
  1. Ensure the "Devices " menu shows "Add New Device"
  2. Enter a name for the device in the "Name" field
  3. Select "X10" from the "Device Type" menu drop-down list and enter the X10 House/Unit address in the "ID" field. The other fields are not relevant to X10 devices
  4. Press the "Save" button. EZSrve creates a new record for this device making it available to be added to areas and for direct, timers and action control.

  Modifying an X10 Device: Once added, the X10 device name can be changed, but not the device address (ID). Simply select the device, change the name field, then press "Save".
  Deleting an X10 Device: The X10 device can be deleted as long as it is not in use in an Area or scheduled Condition or Event. In this case, it is necessary to first delete the condition or event using the device, or to remove the device from the containing area.

Fig. 12: Adding an X10 Device

- **Managing Links:** It is also possible from this screen to delete specific link records, and to add the entire set of link records either from the device to EZSrve, or from the EZSrve to the device. Please use extreme care here as the changes are irreversible. To perform one of these operations, it is first necessary to display the device, either by selecting it from the devices list, or upon completion of device addition.
  1. To delete a given link, highlight the desired record, then press the "Delete Link" button
  2. To write all the records that exist in the device to the EZSrve database, press the "Synch EZSrve" button.
  3. To write all the records that exist in the EZSrve to the device, press the "Synch Device" button.

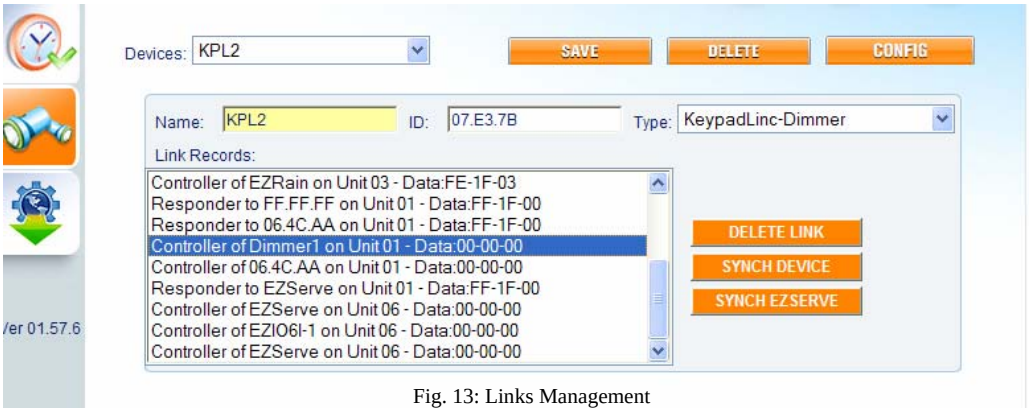

Fig. 13: Links Management

- **Scenes Management:** This screen, selected by pressing the top middle icon on the device management page, allows for the addition and deletion of scenes and the addition/deletion of devices to/from those 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 in the "Devices" section. If so, they appear in the corre-

sponding "Available Controllers" and Available Responders" drop-down menus.

- **Creating a Scene:** To create a scene for the first time proceed as follows:
  1. Select "Create new scene" from the Scene list menu, then enter a name for the scene in the Scene name box.
  2. Select a controller from the available controllers list and enter a Unit (group) number to be used by this controller. Then press "Add" under the controllers box. The controller will be added to the list of controllers for this scene. Add additional controllers as desired. PLEASE NOTE that Unit 1 of the EZSrve is the default scene where ALL responders are placed automatically when first added. PLEASE NOTE: group/unit 1 of the EZServe is reserved to associate control of all devices added. For different scenes where the EZSrve is to be the controller use unit numbers 2-250.
  3. Select a responder from the available responders list. Then select the on level (LD1) and ramp rate

Fig. 14: Scenes Management Screen

(LD2) for this responder to set itself to when the scene is activated. LD3 is device specific, e.g. the unit number for a responder such as the KeypadLinc (buttons 1-8.) Press "Add" under the responders box. The responder and its desired state will be added to the list of responders for this scene. Add additional responders as desired. NOTE: For certain non-lighting responder devices such as the EZI-Oxx, it is possible to enter custom values for the LD1, LD2 and LD3 fields to effect behavior specific to that device when the scene is activated. To enter custom values for LD1 and LD2, first select the first entry in the menu ("Select Value"), then press the delete key. At this point, two hexadecimal numbers can be entered for each field. For LD3, simply enter the 2 hexadecimal numbers. This is a powerful mechanism to associate devices; however, the values entered will be specific to the device type and the specific command being executed. Therefore, consult the advanced details for the device in question or the appendices at the end of this document before entering these custom values.

  4. Press "Save" and confirm the operation in the subsequent confirmation dialog box. EZSrve will proceed to physically add link records to the controllers and responders associated with this scene. Depending on the number of devices this process will take from a few seconds to several minutes during which a progress bar will appear. When done, a dialog box will indicate completion of the scene addition process.

- **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 list menu, then enter a name for the scene in the Scene name box.
  2. Select a controller to be added from the available controllers list and enter a unit number to be used by this controller. Then press "Add" under the controllers box. The controller and selected unit will be added to the list of controllers for this scene. If removing a controller, select it from the list of controllers and then press "Remove."
  3. Select a responder to be added from the available responders list. Then select the on level (LD1) and

ramp rate (LD2) that this responder will assume when the scene is activated. An additional parameter, LD3, is available for multi-unit responders such as a KeypadLinc. Press "Add" under the responders box. The responder and its desired state will be added to the list of responders for this scene. If removing a responder, select it from the list of responders and press "Remove".

4. Once the lists of controllers and responders reflect the desired modified scene, press "Save". EZSrve will proceed to modify links in the devices to match the new scene. Depending on the number of devices involved this will take from a few seconds to several minutes during which a wait indicator will appear. When done, a message will indicate completion of the scene modification process.

- **Deleting a Scene:** Simply select the scene to be deleted from the scene list and press "Delete". After the confirmation dialog box, EZSrve 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.

- **Area Management:** This screen, selected by pressing the far right icon, allows for the addition, modification, and deletion of areas and for the addition/deletion of devices to/from those areas. Once defined, the areas become available to view, control and monitor from the main screen. The grouping of devices into areas is purely a convenience and the user can group by logical groups or by physical locations.
  - **Creating an Area:** Enter a name in the "Area Name" box, then press "Save". PLEASE NOTE that the

Fig. 15: Areas Screen

area must be created first (named and saved), before devices can be added to it.

  - **Adding a Device to an Area:** Select the area from the "Areas" pull-down menu, then double-click on a device from the "Available Devices" list and that device will appear in the "Devices in Area" list. The change will not be permanent until the "Save" button is pressed.
  - **Deleting a Device from an Area:** Select the area from the "Areas" pull-down menu, double-click on the device you wish to remove from that area shown on the "Devices in Area" list. Again, the change will not take effect until the "Save" button is pressed.
  - **Deleting an Area:** Select the Area you wish to delete and press the "Delete" button. This removes that area definition from the system.

6.0 Actions - Timers, Conditions and/or Effects and Holidays Section

From an automation control viewpoint, this is the most powerful section. It allows for the setting of automation on devices, from simple timers to complex if/then scenarios. Actions can occur at preset times of the week or in response to conditions (events) occurring on any device. An action 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 to create a desired effect. For example, IF a certain monitored condition occurs (e.g. an X10 message from a motion sensor) at or during a certain time, THEN an effect is to happen on another or the same device (a light goes on or a chime sounds), either

immediately or after a certain delay.

EZSrve offers unsurpassed flexibility allowing effects on up to five devices based upon up to five conditions with "And/Or" logic. The functions of this section are selectable by the icons at the top right of the screen and the triangle "Condition" icons as explained below. But first, a simple summary of the basic process will be helpful to know the order in which Actions are built:

1. Select "Add New Action" to appear in the "Actions" dropdown list.
2. Give a name to the action by typing in the "Action Name" slot (do not press "Save" yet).
3. Select a Condition (1-5) by pressing on the corresponding triangle. At least one condition must be established first before the Effect.
4. Provide input into the various fields in the Condition screen and press "Save". Note at this point on the Condition screen, the "Action Name" will still read "Add New Action".
5. Once the condition is saved, press the "Back" button and note the "Action Name" shows the name it was given, but also note the Action is not yet saved.
6. Next, set-up the desired Effects to happen once the Condition occurs.
7. Check mark the conditions to be enabled and check mark "Action is Enabled" and press "Save" which saves the entire action just created.
8. Checking and unchecking the different conditions to occur and "Save" modifies the Action, and checking/unchecking the "Action is Enabled" box and "Save" enables or disables the entire action.

- **Actions Screen:** The Actions screen appears first giving the user an overview of what is going on for each Action; whether conditions are enabled, whether they are "ANDded", and what the effects are on which devices at what settings. Once the conditions are defined and the effects are set, then the Action is enabled or disabled by selecting or deselecting the box next to "Action is Enabled".
  - **Creating an Action:** First ensure the "Actions" list displays "Add New Action", then type a name for that action into the "Action Name" field. Do NOT press save at this point, as the next step is to establish at least one Condition.

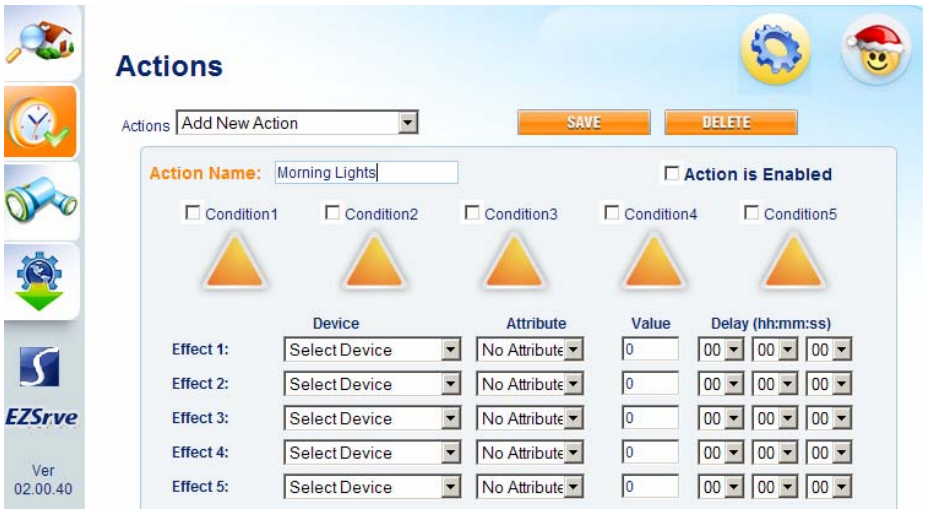

Fig. 16: Action Management Screen

  - **Creating Conditions:** Once an action name has been entered, the next step is to establish the condition (s) that will cause the action to take place. Selecting a triangle under "ConditionX" (where X is 1-5) takes the user to the "Condition" screen (see Fig. 17). Please note that a condition can be based on a "Device" element only, a "Time" element only, or both. If we need to make the action respond to a given device attribute meeting a certain value, we select the device, the attribute to be monitored and the attribute value that we want to match. This could, for example, be the ON level of a given dimmer or switch, or the input pattern on an I/O device. Refer to Appendix B for the attribute values to enter.
  - For a time-based condition parameters are entered into the various fields: 'At Time,' 'Start Time', 'Offset Time'. EZSrve offers the user maximum control with the flexibility of the time conditions that can be put

Fig. 17: Conditions Management Screen

on the monitored event. These include fixed time, interval time, random time with offsets, time window, sunrise/sunset with offsets, and windows based on sunset and sunrise. The timer can also be overridden for a holiday which is any date entered into the holiday list if the "Holiday" checkbox is enabled. If "Every" day is selected by checking the box to the left, the user then enters a numerical value in the box to the right giving maximum flexibility. The logic of the Condition (AND or OR) is selected to indicate whether this condition is to be considered stand-alone and in conjunction (ANDed) with the condition to the left of it on the Actions panel. Once the parameters are filled in, press "Save" (the Action Name will still show as "Add New Action"). The condition is now created. Press the "Back" button on the top right of the screen to set up more conditions or, the next step, to create effects.

- **Creating Effects:** An effect occurs as the result of the condition(s) having been met. After the conditions are established the desired effects on selected devices are set. EZSrve's superb flexibility offers the user multiple effects on the devices selectable from the "Device" drop-down list. Select the device, select the attribute, enter the attribute value as a hexadecimal number (refer to Appendix B), and an optional delay period. Once the effects have been established, select the condition boxes desired, select "Action is Enabled" and press "Save". This saves the Action to the system and the name will now appear in the "Actions" drop-down list as shown in Fig. 18.

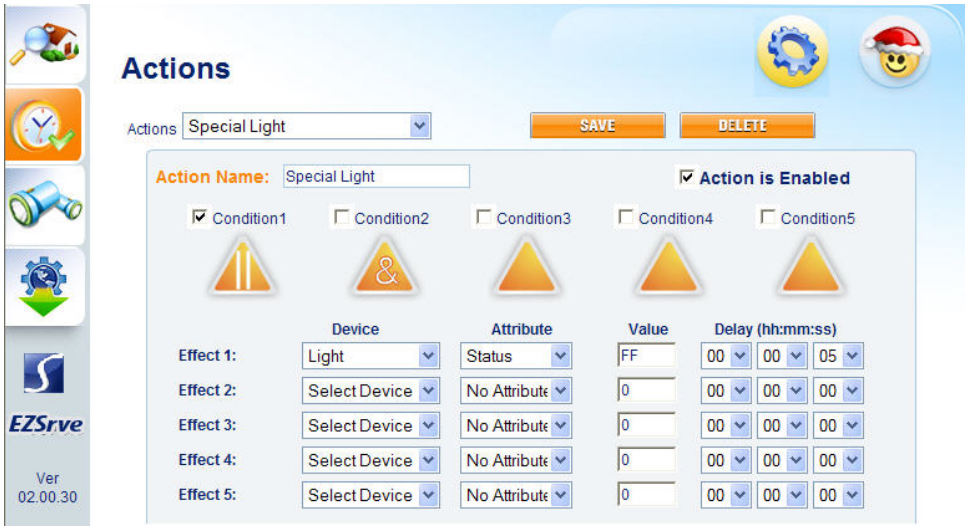

Fig. 18: Effects Management Screen

- **Modifying Actions, Conditions and Effects:** To make modifications simply select the Action from the "Action Name" drop down menu. To change a Condition, select that condition triangle icon, make the changes, press "Save" and then "Back". Now make any desired Effect changes on devices, select one or

more of the condition boxes and the "Action is Enabled" box and then press "Save". Selecting or deselecting the "Action is Enabled" box and then saving modifies the entire action to that status.

- **Attribute Values:** The "Value" fields in this section are device specific and listed in Appendix B. They consist of either 2 or 4 hexadecimal numbers. Use the backspace key to correct mistakes.

Holidays: The user is taken to this screen by selecting the top right icon, the happy Santa. It is used to enter holidays or any dates where the user wants to modify the days when a timer runs. Press "Add" after entering a date in the "Select date" fields to include it in the holiday list. Selecting the box "Hol" on the conditions screen is like add-

Fig. 19: Holidays Management Screen

ing another day of the week that takes priority over the other timers that are set. This allows the user to configure an "away from house" configuration with different timers than if they were home. All dates added will then be viewable in the drop-down list of holidays. To remove a holiday, select the date from the "Holidays" list and press "Delete".

7.0 EZFlora™ Configuration and Operation

Fig. 20: EZFlora Config

EZSrve makes possible the control and monitoring of automatic irrigation systems based on the EZFlora™ 8-zone irrigation controller. Use of this device consists of a) adding it as a device to the EZSrve, b) configuring its valve timers and other features, c) setting up actions based on desired schedules and conditions for operation, and c) monitoring and controlling the irrigation valves and preset programs. All of this is possible through screens specific to this device and first accessed selecting the "Device Addition, Change and Removal" icon as shown above.

- **EZFlora™ Configuration:** After EZFlora™ has been added, select "Confg" at the middle right of the "Device Management" screen (see Fig. 20) to go to the screen where the four programs and valve timers can be established. The specific bank of timers for operation of the valves can be selected from a drop-down menu that lists Program 1, Program 2, Program 3, Program 4 and Manual. Once selected, use the "Get Data" button to read the valve run duration timers from the EZFlora™. New values (1-255 minutes) can be entered for each valve, and written to the EZFlora™ with the "Write" button.
  To enable the Valve 8 (Output 8) to activate anytime any of the other valves is activated, click on the check field next to "Check to Enable a Pump on Valve 8". This makes possible the use of an auxiliary pump on your irrigation system.
  To disable the EZFlora™ uncheck the "Check to Enable Sprinkler Operation". This may be desirable to turn off the unit for an extended time period without losing all its settings and programs. Changes to the master configuration will not take effect until the "Write" button is pressed. To restore the EZFlora™ to its factory

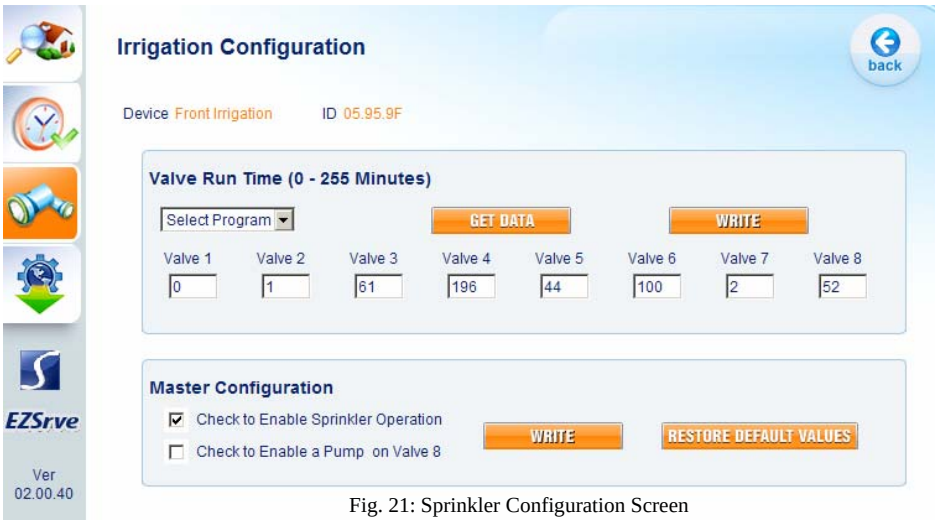

Fig. 21: Sprinkler Configuration Screen

configuration, press the "Restore Default Values" button.

- **EZFlora™ Operation:** Assuming the EZFlora™ was added as a device to the EZSrve, assigned to an area, and its programs and timers have been set, its operation screen shown below can be accessed from the Areas screen by selecting the EZFlora device and then the "More" button. The current Program in effect will display as well as the status of each valve. To turn valves on and off manually, click on the "Manual" button, then select the specific valve by placing the cursor over it and clicking. You can now use the valve on and off buttons to activate valves. Only one valve will turn on at a time.

Fig. 22: Accessing EZFlora Control Screen

A specific program can be activated by clicking the corresponding radio button for Programs 1 through 4. Pressing the Valve on and valve off buttons will start or stop the program sequence at that particular valve. Once a program is running, each valve will run for the pre-programmed time duration. A valve will be skipped (not turned on) if its duration time is zero. The "Skip Forward" and "Skip Backward" buttons can be used to move from one valve to the next so it is not necessary to wait for its duration timer to stop.

Fig. 23: Irrigation Control Screen

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Appendix A: Scenes LD1, LD2 and LD3 Values

These fields determine the behavior of a device when responding to a scene activation. The values can be obtained from the pull-down menus, or directly entered into each field.

Device Type	Use	LD1	LD2	LD3
INSTEON Dimmers	"Go to" State	On Level (select from menu)	Ramp Rate (select from menu)	Button number 1-8 (Keypadlinc only)
INSTEON Relays	"Go to" State	On (select 100% or 0%)	Not used	Not used
Venstar Thermostat Adapter	"Go to" Setpoint	Mode. Values are: 01—Heat 02—Cool 03—Auto 04—Fan 05—Program	Setpoint in hexadecimal (example: 4E is 78 degrees)	
EZFlora	Control		00	00-07 (valve 1—8 On) 08—Program 1 On 09—Program 2 On 0A—Program 3 On 0B—Program 4 On 0C—Inhibit EZFlora 0D—Skip valve 0F—Enable pump
	"Go to" State		80	Specific state including valve, program and auxiliary pump control. Bit pattern below expressed in hexadecimal 00-ff.
EZIOxx	Individual relay control	Not used	00	0-7 to indicate the relay number to turn on. Notice a 0 (zero) indicates relay 1.
	Simulate an input being activated.	Not used	01	0-6 to indicate the input number to activate. Notice a 0 (zero) indicates input 1.
	"Go to Relay State"	Not used	80	Relay pattern in binary, represented as a hexadecimal number. For example, FF would be all relays on, and 00 would be all relays off.

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Appendix B: Conditions and Effects Attribute Values

Conditions: If used, the value of a device attribute is monitored as part of a condition. The attribute being monitored is normally the status of a device. The value range is hexadecimal "00" for full Off to "FF" for full On except for X10 devices where the value is found in the Code column of the X10 table in appendix C. It is possible to monitor a "Group" command from an INSTEON device such as a Keypadlinc to determine which button sent the command. In this case, 4 hexadecimal digits are entered as follows:

- **On commands** (group/scene activation) - "1101" through "11FF" where the last 2 digits represent the group number (example: "1103" would catch when button 3 (button C) is activated.
- **Off commands** (group/scene deactivation) - "1300" through "13FF" where the last 2 digits represent the group number (example: "1303" would catch when button 3 (button C) is deactivated.

Effects: The attribute being controlled/effected is normally the status of a device. For lighting devices such as the INSTEON switches, dimmers and KPLs, the value range is hexadecimal "00" for full Off to "FF" for full On. For X10 devices the values can be found in the code column of the X10 table in appendix C. The following table lists values for the Simplehomenet devices:

Device	Command	Attribute Name	Attribute Value
EZFlora	Valve 1 ON	Status	80
	Valve 2 ON	Status	81
	Valve 3 ON	Status	82
	Valve 4 ON	Status	83
	Valve 5 ON	Status	84
	Valve 6 ON	Status	85
	Valve 7 ON	Status	86
	Valve 8 ON	Status	87
	Program 1 ON	Status	20
	Program 2 ON	Status	28
	Program 3 ON	Status	30
	Program 4 ON	Status	38
	Program/Valve OFF	Status	00
EZIOxx	Relay n ON	RelayOnControl	00 for relay 1, to 07 for relay 8
	Relay n OFF	RelayOffControl	00 for relay 1, to 07 for relay 8
	Relay pattern	RelayStatus	Bit pattern with 00 for all OFF to FF for all ON.

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Appendix C: X10 Values

X10 values consist of a “House” code represented by the first hexadecimal digit, and a “Unit” number represented by the second or least significant hexadecimal digit. This values are listed in the following table:

X10 Translation Table			
	Most Significant Digits	Least Significant digits	
Code	X10 House	X10 Unit	X10 Command
6	A	1	All Lights Off
E	B	2	Status = Off
2	C	3	On
A	D	4	Preset Dim
1	E	5	All Lights On
9	F	6	Hail Acknowledge
5	G	7	Bright
D	H	8	Status = On
7	I	9	Extended Code
F	J	10	Status Request
3	K	11	Off
B	L	12	Preset Dim
0	M	13	All Units Off
8	N	14	Hail Request
4	O	15	Dim
C	P	16	Extended Data (Analog)