EtherRain Sprinkler Control Interface
For
HomeSeer 3

The EtherRain Sprinkler Control Interface for HomeSeer3 provides both a HomeSeer3 compatible web-page interface and event functions offering easy systematic setup and control of sprinkler irrigation using HomeSeer3 and EtherRain sprinkler valve controllers.

Downloadable Scripts or Plug-in

The EtherRain HomeSeer interface is available via a downloadable script set or as a plug-in. Both the script set and the plug-in offer the same functionality. The script set works only on Windows systems. The plug-in works on Windows, Linux, Raspbian, and possibly Zee (you need to test to see if the plug-in will install on Zee due to possible HomeSeer limits). The plug-in is the recommended installation method as of 2019.

Both the script interface and the plug-in support for HomeSeer's flexible events allowing complete irrigation cycles to be run by defining only a single event.

This document provides instructions for installing the EtherRain sprinkler control interface script set into HomeSeer3 environments along with operating instructions and information on how to set up EtherRain events within HomeSeer3.

If you are using the plug-in you should also fully review this document, but please use the document entitled: Installing EtherRain Plug-in (.pdf) for instructions on how to install the plug-in. If you install the plug-in then do not install the scripts (and vice versa).

The EtherRain web page interface is easy to use and install, no script writing is required. The interface provides the following functions:

1. **Virtual controller definition**
2. **Cycle definition**
3. **Setback profile creation (for monthly cycle control)**
4. **Two click manual irrigation (QuickCycle)**
4. **Daily device monitoring event (log or email)**
5. **Global suspend with automatic resume**
6. **Global disable with immediate stop**

Reliable and Easy to Use Irrigation Control with HomeSeer3

EtherRain is a reliable sprinkler valve controller that attaches to your network via an Ethernet network connection. The controller is set up so that it is accessed by name, so you never have to worry about how to locate your controllers, or remembering complex networking addresses. EtherRain is reliable. It's commands contain all timing so only a single command needs to be sent to the EtherRain to execute a full cycle. No "off" commands are needed. This reduces complexity and ensures that your irrigation will run as desired even if HomeSeer goes off-line after irrigation has started.

Controller Configuration

An EtherRain controller is configured by giving it a unique name. Configuration is performed using the EtherRain Admin program provided by QuickSmart.

When naming your controller it is recommended that you do not include the "." (period) character in the name. Better to use a dash character or Camel case when naming your controller.

Using the provided scripts or plug-in, HomeSeer3 can communicate with multiple EtherRain controllers by defining corresponding virtual controllers. Once the virtual controllers are defined HomeSeer3 will interface to the EtherRain sprinkler controllers using familiar HomeSeer3 Events as well as through the provided web pages. EtherRain controllers must reside on the same network as the HomeSeer 3 server and each EtherRain controller must be configured with a unique name.

Installing the EtherRain Interface

Please skip this section and refer to the document titled "Installing the EtherRain Plug-in" if you are using the plug-in.

Download the EtherRain HS3 Interface file set from the QuickSmart Development site (www.quicksmart.com). Extract the contents from the zip folder. Within the extracted folder, you will find:

1. A folder named "EtherRainAsp"
2. A file named "EtherRain.vb"
3. A file named "EtherRain Interface Users Guide.pdf" (this guide)
4. A file named "EtherRain Interface Function Reference HS3.pdf"

The folder contains all of the interface web pages. To install the interface into your HomeSeer 3 server perform the following steps:

1. Locate the HomeSeer install directory, usually under Program Files in "My Computer" drive C.
2. Open the folder "HomeSeer HS3"
3. Open the folder "html"
4. Copy the complete folder "EtherRainASP" into the "html" folder.
5. Close the "html" folder and return to the "HomeSeer HS3" folder.
6. Open the folder "Scripts"
7. Copy the file "EtherRain.vb" into the scripts folder.

Next, within HomeSeer 3, make a custom web page button to access the EtherRain scripts from the HomeSeer control screen. To do this, from the HomeSeer 3 Home Page, click the Setup tab, then click the Custom tab. Custom web page settings will be displayed. Create a custom page by entering the following:

Field: Custom Web Page 1 Title   Enter: EtherRain Home
Field: Custom Web Page 1 URL   Enter: EtherRainAsp/er_home.aspx

Installation is now complete. The "EtherRain Home" list item will now be displayed when the "View" button is clicked. Click the "EtherRain Home" list item to go to the EtherRain Home page. From this page you can build, maintain, and control devices and cycles.

The remaining pages apply to both the script set installation and the plug-in installation.

Creating an Irrigation Schedule

The EtherRain Interface provides all of the foundation functions needed to control irrigation using EtherRain. However you create your irrigation schedule by creating standard HomeSeer 3 Events. Because EtherRain is a "cycle-based" device, you only need to build one event to manage a complete cycle, or for multiple controllers, one event for multiple sequential cycles.

An irrigation schedule typically consists of multiple re-occurring events and you can add as many or as few as needed for your installation. The procedure for creating an irrigation event for EtherRain is covered below.

Creating a Virtual EtherRain Controller

To conveniently communicate with a physical EtherRain controller from HomeSeer3 you must define a virtual EtherRain controller for each physical EtherRain controller in your system. This is done by clicking the "Add Controller" button from the EtherRain Home Page. To create a virtual controller you simply need to enter the name and password of your physical EtherRain controller in the fields provided. In addition you must also enter zone names for the zones you will be actively using.

Once your controller is created, you can click the "Status" button, which will now be displayed on the EtherRain Home page. Clicking this button will send a status command to the physical controller allowing you to test that you have entered the correct controller name and password.

Creating Cycles

Cycles can be created by clicking the button labeled "CycleBuilder" on the EtherRain Home Page. Creating a cycle consists of entering a cycle name and then entering the "on-time" minutes for each zone in the cycle. A cycle is not attached to a controller, so your controller zone names will not show up. Because a cycle is not attached to a controller, you can use any defined cycle with different controllers.

To attach the setback profile to any cycle, simply check the box in the "Set Back" column.

By creating a cycle, you can easily change the zone times in the cycle, without having to change Events that use the cycle.

Creating a Setback Profile for Optimizing Water Usage

A setback profile allows you to create cycles that automatically vary the amount of irrigation based on the month of the year. This is a water conservation feature and is optional, though usage is recommended.

To create or edit the Setback Profile, click the "Edit Setback" button located in the Setback Profile area of the EtherRain Home Page. The setback profile consists of a listing of the months of the year and an input field for each month. The input value range is 1 to 100 representing a percentage of the total amount of time that you wish to have the cycle irrigate in the given month.

To use the profile, set the zone minutes in the CycleBuilder to the maximum amount of time that you wish to have your cycle run, and check the "Set Back" box. In the setback profile, enter 100 for the warmest months of the year. Enter lower values for cooler months. Months that have a 100 scale factor will receive irrigation at the set zone irrigation time. Months with values less than 100 will be scaled back proportionally. Enter 0 if you want to turn the irrigation for that event off during a certain month. More information about setbacks is available on the EtherRain Help page.

Setting Up an EtherRain Irrigation Event in HomeSeer 3

A typical re-occurring irrigation event is created within HomeSeer 3 as follows:

1. From the HS3 Events screen, make an event group for irrigation events. For example name the event group "Irrigation Events"
2. Once the group is created, open the group to display the events (click the round yellow arrow icon)
3. Add an event (click the green + icon)
4. Enter an event name, for example: "Main Irrigation Cycle"
5. Set the type to "irrigation."
6. Create a "trigger." A basic trigger, for example: "if the time is" from the dropdown list select "if the time is this" – a time entry box will be displayed – select a time from the selector window
7. Fill in an action. You will see a box labeled "then." To the right of this box, is another drop down box labeled "Choose an Action" - click this box and select: "Run a script or script command "
8. After you choose "Run a Script or Script command" a new set of controls will appear. Leave the checkboxes unchecked.
9. Choose the script to run by clicking the "Edit" button. Choose the script "EtherRain.vb."
10. After you choose the script, the controls disappear. Click the yellow arrow icon to open them again.
11. The script will be displayed. Do not edit the script.
12. In the field labeled "Sub or Function" enter: runNamedCycle OR runCycle
13. In the field labeled "Parameters" enter the parameters. See the function guide for parameter information for the command you are using.
14. Your event has been set up. Click the yellow arrow icon, which is pointing down; it will change to point to the left and your entries will be saved.

15. You can test the event by clicking the blue right pointing arrow icon. Check the HomeSeer log to make sure the command was sent to the controller without errors.

This is the easiest and the recommended way to create an irrigation schedule for EtherRain. Events created this way are globally controllable from the EtherRain Home page by the temporary Suspend function and the Disable function. You can suspend or disable all of your irrigation events with one button click.

In addition, if you have defined a monthly setback profile, and you have attached the setback to your cycle, your irrigation can be automatically varied based on month of the year, so you may not need separate events for each season.

Depending on your level of sophistication you can attach various conditions to the event trigger, just like any other HomeSeer event. All irrigation results are sent to that main HomeSeer log.

Refer to the EtherRain Interface Function Guide for a list of all functions that are accessible from HomeSeer3 events.

Using Multiple Controllers

Multiple EtherRain controllers can be used within a HomeSeer installation. Each controller must be given a unique name using the EtherRain Admin configuration software (example: EtherRain-1; EtherRain-2 etc).

It is possible easily schedule multiple controllers from one event so that the controllers will execute their cycles sequentially without a large gap time between the cycles by using the runSeqCycles (run sequential cycles) function.   This function takes any applied seasonal setbacks into account and sets up the required event times effectively taking multiple 8 zone controllers and turning them into a single 16, 24, 32 or up to 64 zone controller.

Minimizing Runoff

In order to minimize runoff in applications where the ground soak is slow or on sloped terrain, it is often desirable to run several short cycles in place of one long cycle. By issuing multiple short cycles in place of one long cycle, each zone is given more time to absorb the irrigation water. This type of irrigation is sometimes referred to as "cycle and soak."

This type of cycle can easily be set up with a single event by using the runSeqCycles (run sequential cycles) function.   This function is described in the paragraph above. For cycle and soak applications, just specify the same controller and same cycle multiple times on the list. Seasonal

setbacks will be taken into account if applied to the named cycle. Make sure to create a named cycle that divides total desired zone time by the number of cycles that will be run.

Setting Up a Monitoring Event

You can enable a daily monitoring event to automatically notify you of the status of your EtherRain controller. From the EtherRain Home Page, click the "Edit Alerts" button.   On the Alert Setup Page, select an event run time, and whether you want notification sent to the HomeSeer log, your email address or both.

If you specify Email, an alert will be sent only if the EtherRain device did not respond to the monitoring event. Also, your HomeSeer server must be set up with email functionality for the email alert to work. If you select log then the log will receive notification whenever the Event runs, including results of the Event.

Temporary Suspend

You may temporarily suspend your complete irrigation schedule with the two button clicks and a number entry. To temporarily suspend irrigation, click the Suspend button. Enter the number of days to suspend irrigation, and click OK. Irrigation will resume automatically after the suspension date has passed. You can resume at any time by clicking the "Resume" button from the EtherRain Home Page.

During the suspension period any occurring events will be blocked and a message logged. The EtherRain QuickCycle function will continue to work during the suspension period.

Disable

You can completely disable irrigation by clicking the "Disable" button on the EtherRain Home Page. Irrigation will be immediately disabled; any cycle currently running through HomeSeer Events will be stopped. To re-enable irrigation, click the "Enable" button display on the EtherRain Home Page (this button is displayed only when irrigation has been disabled.

During the disable period any occurring events will be blocked and a message logged. The EtherRain QuickCycle function will continue to work while irrigation has been disabled.

Two-Click Manual Cycles

A manual cycle can be run for any controller defined on the EtherRain Home Page. Just click the run button, then either select a predefined cycle, or enter zone minutes and click "Run Cycle." A status message indicating status of the command will be displayed.

Instant Device Status

The status of a physical controller can be determined at any time by clicking the "Status" button in the controller definition box on the EtherRain Home page.   If the device is currently running, it can be stopped by clicking the button provided.

Troubleshooting

The EtherRain scripts are well documented and they make generous use of HomeSeer's log to communicate events and to provide error information.   If you are just beginning to use the script set and find that your commands are not working as planned, please view the HomeSeer log to see if there might be an error in your event set up.

The EtherRain scripts use the following log prefixes. These prefixes show up in the "Type/Error" column of the log. They help you identify the source of the log. EtherRain log entries provide general status as well as errors.

Log Prefixes:
       EthrRn: RunSeq   Run Sequential Cycles
       EthrRn: RunCy   Run Cycle
       EthrRn: RunNaCy   Run Named Cycle
       EthrRn:Alerts   General Alert

Summary

The EtherRain Interface for HomeSeer3 provides easy and systematic control for EtherRain controllers within a HomeSeer3 environment. The interface provides easy-to-use core functions that are accessible through web pages, and it provides functions that are accessible from HomeSeer3 events to provide flexible irrigation scheduling.

The web interface provides a Help page for your reference.

Rev 3, July 7, 2019
Rev 2, July 21, 2017