

UltraMon3 HSPI User's Guide

A HomeSeer HS3 plug-in to monitor network
connected devices

Copyright © 2016
ultrajones@hotmail.com
Revised 04/12/2016

This document contains proprietary and copyrighted information and may not be copied, reproduced, translated, or reduced to any electronic medium without prior consent, in writing, from ultrajones@hotmail.com.

Table of Contents

Introduction	3
Intended Audience.....	3
UltraMon3 HSPI Overview	3
How It Works	3
Features	3
Requirements.....	4
Default Options.....	4
UltraMon3 HSPI Installation	4
Downloading the HomeSeer Plug-in.....	4
UltraMon3 HSPI Configuration	4
Web Page Layout	4
UltraMon3 HSPI Options.....	5
Adding Monitored Devices	6
Modifying a Monitored Devices.....	8
Deleting a Monitored Device	9
UltraMon3 HSPI Triggers.....	9
Device Value Trigger	9
UltraMon3 HSPI Trigger Actions	9
UltraMon3 HSPI Trigger Conditions	9
UltraMon3 HSPI API Reference.....	9

Introduction

UltraMon3 is a HomeSeer HS3 plug-in that allows you to monitor the status of devices connected to your home network. You can use UltraMon3 to generate alerts when critical network attached devices are no longer reachable on your home network. You can also trigger HomeSeer events whenever a non-monitored device is detected on your home network.

UltraMon3 also supports the ability to send a Wake on LAN (WOL) packet to turn on PC's that support WOL and to shutdown a networked PC using PsShutdown or the UltraMon3 Shutdown Service installed on a Windows PC.

Intended Audience

This document is intended for the HomeSeer user that has chosen to install and configure the UltraMon3 HomeSeer Plug-in.

UltraMon3 HSPI Overview

How It Works

- When UltraMon3 HSPI starts, it discovers the IP subnet and network mask of the local network and begins to monitor all hosts on the network using ICMP ping.
- UltraMon3 HSPI uses the Domain Name System (DNS) and the Address Resolution Protocol (ARP) to determine host information.

Features

- Provides the ability to monitor the status of the devices on your network using ICMP ping.
- Discovers all network devices on all networks connected to your HomeSeer computer.
- An "IP Subnet" web page allowing you to easily create a HomeSeer device for hosts on your network.
- HomeSeer trigger for non-monitored hosts discovered on monitored subnets.
- Support alias (HomeSeer device name different than hostname or fully qualified domain name).
- All pre-defined device types have an associated image (e.g. camera, laptop, iPhone, router, Xbox, etc).
- Ability to wake up a computer by sending a Wake-on-LAN (WOL) magic packet.
- Ability to shutdown, reboot, log off, sleep, hibernate local networked computers using PsShutdown (by Windows Sysinternals) or using the UltraMon3 Shutdown windows service (both programs available via separate download).

- Multiple discovery protocols used to quickly detect when a host joins the network.
- Device fingerprinting to determine common host types discovered on the network.
- Multiple threading allows device monitoring to take place without disrupting the performance of HomeSeer.

Requirements

- Homeseer 3 or greater

Default Options

- Device monitoring is enabled.
- One minutes delay between checks intervals.
- Ping device 2 times before marking a device unreachable.
- Device monitoring begins 60 seconds after HomeSeer starts.
- Ping timeout of 1 second.
- Flag device failed after 5 consecutive failures.

UltraMon3 HSPI Installation

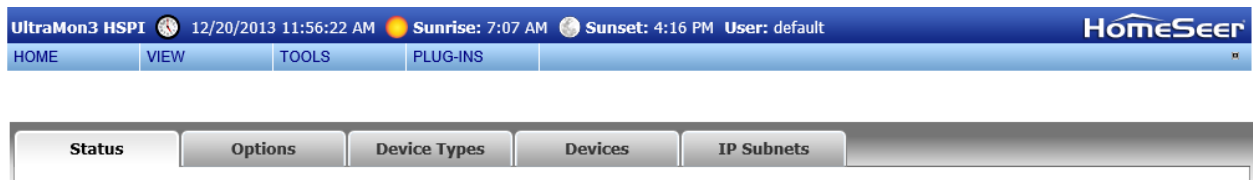
Downloading the HomeSeer Plug-in

1. From your HomeSeer web page, select PLUG-INS > Manage.
2. Click the + icon next to Additional Interfaces to expand the list of available HomSeer3 plug-ins.
3. Click the + icon next to the “**Internet or Network Related**” category, then click the checkbox next to the UltraMon3 (Network Monitor) package to mark the plug-in for installation.
4. Under “Pending Updates/Installs”, click the Download and Install button.
5. Once the installer finishes, find the UltraMon3 plug-in under Installed Plug-Ins, then enable it.

UltraMon3 HSPI Configuration

Web Page Layout

The UltraMon3 plug-in has five web pages that provide access the available features of the plug-in.



The available web pages are as follows:

1. **Status** – Displays the plug-in status and monitored device statistics.
2. **Options** – Displays and allows you to change the options associated with the plug-in.
3. **Device Types** – Allows you to create custom UltraMon3 device types.
4. **Devices** – Displays an at-a-glance status of all UltraMon3 devices created by either the Add Device button or selecting discovered devices from the Discovered web page.
5. **IP Subnets** – Displays all discovered devices on your network. The monitored subnets are created the first time you start the plug-in and can be changed or disabled from the Options web page. A change to the list of subnets requires a restart of the plug-in.

UltraMon3 HSPI Options

All options are set from the Options web page. The following options are supported:

1. **Delay Between Checks** – The number of minutes to pause between checks.
2. **Attempts** – The number of times to try sending an ICMP ping to a device.
3. **Marked Failed After** – The number of consecutive failures before flagging the device offline.
4. **Ping Timeout** – The number of seconds to wait for a ping response.
5. **Update Device String** – Updates the HomeSeer device string with the results.
6. **Gateway IP Address** – The IP address of your Internet gateway.
7. **Internet Hosts** – The list of IP addresses you want to monitor to determine if your public Internet connection is active. All hosts will be tested and the results are averaged together.
8. **Monitored Subnets** – A list of IP subnets to monitor. This list is automatically populated based on networks attached to your HomeSeer system.
9. **Send Email** – Send an email when non-monitored hosts are discovered on the network.
10. **Email To** – Email address used to send the email notification to.
11. **Email From** – Email sender address used to send the email notifications. This email address must be valid.
12. **Email Subject** – Default email subject for the non-monitored IP address on network notifications.
13. **Email Body** - Default email template for the non-monitored IP address on network notifications.
14. **WOL UDP Port** – UDP Port used to send the WOL packet to.
15. **Shutdown Program** – Select either UltraMon3Shutdown or PsShutdown, and then click the Save Options button. If you select UltraMon3Shutdown, then a download link will be provided so you can install the Windows Service on your Windows computers.
16. **PsShutdown Path** – Specifies the location of the PsShutdown application used to shutdown computers on your network.
17. **Shutdown Username** – The username used to authenticate to a remote system.
18. **Shutdown Password** – The password used to authenticate to a remote system. The password is stored encrypted within the hspi_UltraMon3.ini file.
19. **Shutdown Message** – The message displayed to logged-on users when a shutdown countdown commences.
20. **Display Message For** – Display shutdown message for the specified number of seconds before the shutdown. Selecting 0 disables the message dialog.

21. **Connection Timeout** – Specifies the number of seconds to wait for the Shutdown program to return a result before giving up.
22. **Countdown Display** – Specifies the countdown in seconds until the shutdown.
23. **Allow Shutdown Abort**– Allow the shutdown to be aborted by the interactive user.
24. **Force Exit**– Forces all running applications to exit during the shutdown instead of giving them a chance to gracefully save their data.
25. **Authorized User Roles** – The HomeSeer users authorized to access the web page. This option does not override the default HomeSeer web server settings.
26. **Register Link** – If set to Yes, the UltraMon3 button will be displayed on all web pages.
27. **Logging Level** – Select logging level.

Adding Monitored Devices

You can manually add a new monitored device from the UltraMon3 – IP Subnet web page. Simply click edit, select the device type, and then click the Update button. You can further customize the devices after they are created.

1. Access the list of discovered devices from the UltraMon3 – IP Subnets web page, then select the monitored subnet that host is connected to.



2. Click the “HomeSeer Device” checkbox, then select the device type, then click the Update button.

The screenshot displays the HomeSeer UltraMon3 web interface. At the top, the status bar shows the date and time (4/12/2016 8:29:08 PM), sunrise and sunset times, and the user name (ultrajones). The navigation menu includes HOME, VIEW, TOOLS, and PLUG-INS. The main content area is titled 'UltraMon3 Discovered Devices' and shows a table of IP addresses. A modal dialog box titled 'Create monitored device' is open, allowing the user to configure a new device. The dialog box contains the following fields:

- HomeSeer Device:** (highlighted with a red box)
- Host IP Address:** 192.168.2.1 (highlighted with a red box)
- Host Name:** pfSense (highlighted with a red box)
- Host Type:** Network Router (highlighted with a red box)
- MAC Address:** 80-EE-73-97-79-2C (highlighted with a red box)

The 'Update' button at the bottom right of the dialog box is also highlighted with a red box. The background table shows a list of IP addresses from 192.168.2.1 to 192.168.2.10, with an 'Action' column containing 'Edit' links for each entry.

- Once the web page refreshes, the checkbox will be checked which indicates the device was created successfully.

UltraMon3 4/12/2016 8:29:08 PM Sunrise: 6:06 AM Sunset: 7:23 PM User: ultrajones

HOME VIEW TOOLS PLUG-INS

Status Options Device Types Devices IP Subnets

Monitored: Subnet: 192.168.2.0

Show 10 entries Search:

UltraMon3 Discovered Devices

IP Address	Host Name	Host Type	MAC Address	Status	Enabled	Action
192.168.2.1	pfSense	Network-Router		Online	<input checked="" type="checkbox"/>	Edit
192.168.2.2	gss116e-basement-1	Network-Switch		Online	<input type="checkbox"/>	Edit
192.168.2.3	gss116e-basement-2	Network-Switch		Online	<input type="checkbox"/>	Edit
192.168.2.4	elkm1xep	Elk-M1XEP		Online	<input type="checkbox"/>	Edit
192.168.2.5	gs108t-familyroom-1	Network-Switch		Online	<input type="checkbox"/>	Edit
192.168.2.6	gs108t-familyroom-2	Network-Switch		Online	<input type="checkbox"/>	Edit
192.168.2.7	gs108t-basement	Network-Switch		Online	<input type="checkbox"/>	Edit
192.168.2.8	isy99-home-auto	ISY		Online	<input type="checkbox"/>	Edit
192.168.2.9	owsrver2-eth	EDS-OWServer		Online	<input type="checkbox"/>	Edit
192.168.2.10	wirelesscontroller-enet	EDS-OWServer		Online	<input type="checkbox"/>	Edit

Showing 1 to 10 of 254 entries

Previous 1 2 3 4 5 ... 26 Next

Home | Device Status | Device Management | Events | Log | Setup | Global Elements | Control Panel | Manage Plug-ins | About

Modifying a Monitored Devices

You can modify an UltraMon3 monitored device the same way you modify any other HomeSeer device. Simply click on the device name from the HomeSeer device page, and then change the device properties as needed. UltraMon3 takes advantage of a new feature of HomeSeer 2 that allows the plug-in to display the device properties along with the typical HomeSeer device properties.

Modify Device Apple-Mac-mini UltraMon3... 12/20/2013 11:36:16 AM Sunrise: 7:07 AM Sunset: 4:16 PM User: default

HOME VIEW TOOLS PLUG-INS

Configuration Advanced Status Graphics UltraMon3

Host Properties

Host Name:	mac-mini-dev
Host FQDN:	mac-mini-dev.
Host IP Address:	192.168.2.51
Host Type:	Apple-Mac-mini
MAC Address:	20-C9-D0-
MAC Vendor:	Apple
First Screen:	12/19/2013 9:15:26 PM [00d,14h,20m]
Last Screen:	12/20/2013 11:35:11 AM [00d,00h,01m]
Last Checked:	12/20/2013 11:35:11 AM [00d,00h,01m]
Device Controls:	<input checked="" type="checkbox"/> Wakeup <input type="checkbox"/> Shutdown <input type="checkbox"/> Reboot <input type="checkbox"/> Suspend <input type="checkbox"/> Hibernate <input type="checkbox"/> Logoff <input type="checkbox"/> Lock

Save

Home | Device Status | Device Management | Events | Log | Setup | Global Elements | Control Panel | Manage Plug-ins | About

Deleting a Monitored Device

You can delete an UltraMon3 monitored device the same way you delete any other HomeSeer device. From the HomeSeer device web page, click the device name, then from the HomeSeer modify device web page, click the Delete button.

UltraMon3 HSPI Triggers

You can create HomeSeer events using device value triggers. In addition, you can create an event which triggers when the plug-in detects a new host on your network (e.g. UltraMon3 Host Discovery).

Device Value Trigger

UltraMon3 HSPI uses the HomeSeer device value to keep track of the state of the monitored device. The device status displayed depends on the current value of the Device Value.

The following device values are valid:

- **Online** - Device value of 2 (2 or more consecutive ping successes)
- **Recovered** - Device value of 1 (1 consecutive ping successes)
- **Unknown** - Device value of 0 (newly created device or device values reset)
- **Troubled** - Device value of -1 (1 consecutive failure)
- **Troubled** - Device value of -2 (2 consecutive failures)
- **Troubled** - Device value of -3 (3 consecutive failures)
- **Troubled** - Device value of -4 (4 consecutive failures)
- **Troubled** - Device value of -5 (5 consecutive failures)
- **Offline** - Device value of -6 (6 or more consecutive failures)

UltraMon3 HSPI Trigger Actions

This plug-in does not have any HomeSeer trigger actions defined. Simply use a HomeSeer event device action to control a monitored host.

UltraMon3 HSPI Trigger Conditions

This plug-in does not have any HomeSeer trigger conditions defined.

UltraMon3 HSPI API Reference

To be determined