HAL Quick Start Guide

Abstract

This document is intended to provide you with basic details in order to get your HAL system up and running quickly. For a more comprehensive resource, please consult the HAL Help file.

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◆ INTRODUCTION

This Quick Start Guide will get you started using HAL, but only a thorough reading of the HAL Help Guide will give you a true understanding of the power and possibilities of HAL. To open the Help Guide, start HAL, then right-click on the ear icon and select HAL HELP, or click on the Windows Start ⊞ then All Programs… HAL… HAL Help.

For information on the technical support options available for this product, go to the Support section of the Help Guide or go to the HAL website (http://www.automatedliving.com/Support.aspx).

Basic Overview

HAL is the Operating System for the Home. With HAL running on your computer, you can control all the systems of your home, including lights, devices, appliances, home theatre (audio/video), security, climate, telephone, and the Internet - from anywhere in the world - by voice!

Control Lights, Devices, and Appliances

HAL delivers complete power line control using protocols such as X10, UPB, Insteon, C-Bus, ZigBee or ZWave. There's no need to tear your house apart to rewire your home - simply use the home's existing wiring. Using economically priced automated wall switches, lamp modules, or power outlets, you can control every light in your house with HAL. HAL can track your energy usage by device and provide comprehensive reports. You can also schedule your lights to go on and off according to your lifestyle. HAL tracks sunrise and sunset where you live by matching the latitude and longitude with the position of the sun, so you can tell HAL to turn your front porch lights on at sunset every night and then turn them off at 11:30pm. Use easy-to-set-up modes to establish lighting scenes. For instance, you can program HAL to dim the lights in the family room to 30% when it hears the phrase "It's time for a movie."

HAL will operate appliances, too, like coffee makers, fans and popcorn poppers, so you can tell HAL to brew the coffee every morning at 7am. Even more impressive is HAL's power to link numerous actions together. In addition to dimming the family room lights when you say, "It's time for a movie," you could also have HAL begin popping the popcorn.

Voice Control

The key to effective home control is simplicity - how easy the system is to use. There's no easier way to control your home than with normal, conversational speech. Once HAL is installed in your home, you can begin controlling an unlimited number of devices with your voice. Simply tell HAL, "Turn on the front door lights," or establish schedules by telling HAL, "Every night at 6pm turn on the front porch lights for five hours." Talk to your home just as you talk to the people inside.

Climate/Thermostat Control

HAL gives you the power to control the climate in your house from anywhere in the home - or anywhere in the world - by voice. Once you install a HAL-compatible communicating thermostat, you can call your home and ask HAL, "What is the temperature in the house?" Many people have programmable thermostats, but most programmable thermostats can only be programmed when you're at home. With HAL, if you decide to extend your vacation by a couple of days, you can simply call your house and tell HAL to set the thermostat accordingly. Then call from the airport on the way home and tell HAL to warm or cool the house to the temperature you desire.

Home Theatre - Audio/Video Control

Home theatres are better than ever before, but they're also more complicated to operate. HAL makes it easy! HAL sends the same signals that come from the remote control devices that manufacturers

send with their audio/video equipment. Simply install a HAL-compatible infrared device and HAL becomes a universal remote control that you can operate with your voice. Just tell HAL to "Turn on the TV."

But the real power of HAL's home theatre control is the ability to make many things happen with a single voice command. We all know how difficult it can be to coordinate all the pieces of the home theatre for the different ways you want to use it. Sometimes, you just want to watch the television. Other times, you just want to listen to music. On other occasions, you want to watch a movie. The movie requires the television to be tuned to the correct source, the stereo tuner to be turned on and in the right mode to play the DVD's surround sound, and the DVD player powered up and ordered to play.

With HAL, you can create a single voice command - one of your own choosing - like, "Prepare the family room for a video." Then program HAL to carry out a series of actions when it hears that phrase. For instance, you could have it dim the lights in the room, turn the television on and turn it to the correct source, turn the stereo on and to the right setting, and then turn on the DVD player. Your only responsibility is to put the DVD in the machine.

Security Control

HAL gives you greater control of your home security system. With a HAL-compatible security panel, you can arm and disarm your system by voice. If your system is violated, you can have HAL call you. If your system detects smoke or fire in your house during evening hours, you can tell HAL to turn on all the lights in the house and to play loud music in order to wake up sleeping residents. This is all possible because HAL integrates all the systems in the house on the computer -- when the security system is triggered, other systems can be told to respond. With HAL, you are limited only by your imagination.

Telephone Control

HAL will make your phone smart. HAL can be your phone message center - it will answer the phone after whatever number of rings you specify and will deliver a greeting or play one that you recorded. You may configure up to ten (10) voice mailboxes and each one can have its own greeting. You can retrieve voice mail messages by phone from anywhere - in the home or out. HAL will announce Caller ID information so there's no need to read a small Caller ID display and you can leave custom messages for certain callers. In addition, HAL can use Caller ID information to intercept calls from telemarketers or to pass an incoming caller into a specific mailbox. You can even have a custom greeting for each caller in your directory.
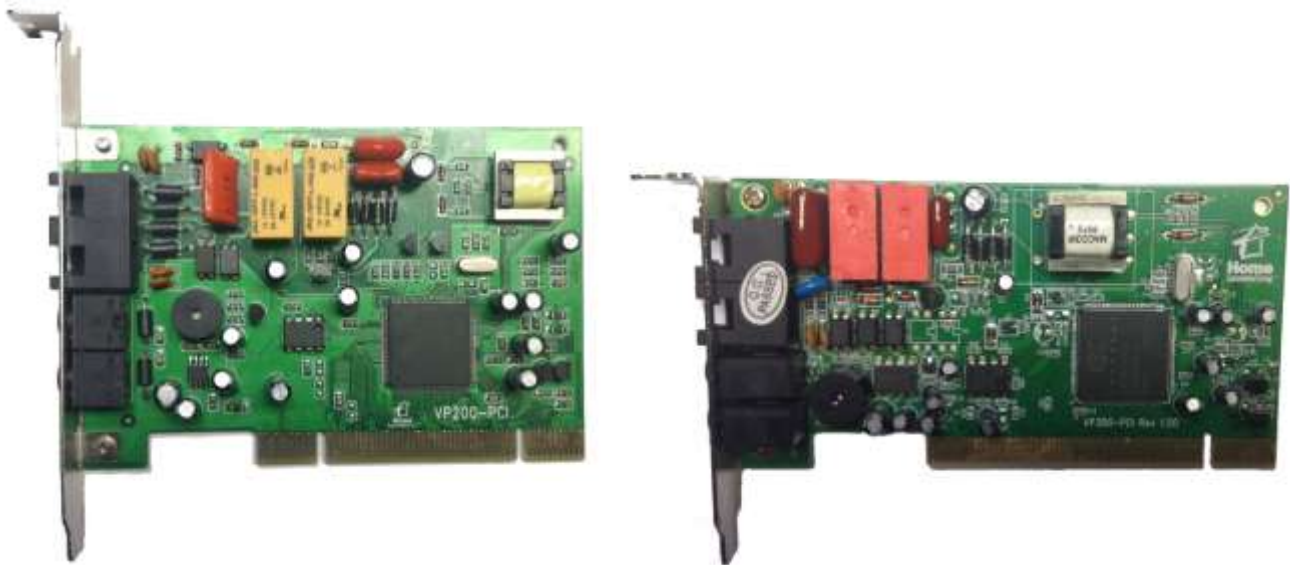
Internet Information Automation

HAL makes it easy for you to get the information you want - when you want it! HAL will go out to the Internet automatically as often as you want, and will bring back weather reports for your area, the stock quotes you ask for, and a copy of your E-mail messages. The information is stored on the PC, just waiting for you to ask HAL, "What's the weather forecast for Thursday?" or "What is Microsoft at?" or "Are there any new E-mail messages?" HAL delivers the information you want - when you want it! In addition to E-mail, weather, and stocks, HAL retrieves sports scores, news headlines and TV listings. So when you come home, HAL can begin greeting you by telling you how many new calls you have, your stock portfolio closing prices and the score of your favorite games completed or underway.

◆ STEP 1: CONNECTING THE HARDWARE

1.1 Voice Modem

If your HAL software was shipped with a HAL-compatible modem, then install the modem as explained in the *HAL Modem Quick Installation Guide*. This document comes printed with the modem and is also available online from the support page.

To use the telephones in your home to speak to HAL you will need to use either one of the HAL internal PCI modems or the Way2Call USB modem.

1.2 Automation Interfaces

How your automation hardware will get set up depends on what automation interfaces you using that are compatible with HAL. If you have none then you can skip this section; however there will be numerous features of the HAL software you will not be able to utilize until you obtain HAL compatible interfaces and hardware.

Most of the HAL compatible interfaces connect to the PC via a USB Port, Serial Port or over IP. Through one of these means HAL communicates to the interface which then communicates to devices around your home for control.

Some of the common protocols HAL supports are X10, UPB, Insteon, C-Bus, ZigBee and Zwave. These are typically used for lighting and on/off appliance control. The HALultra and HAL software also supports other interfaces for communication to thermostats, infra-red devices, security systems, whole-house audio system, and custom lighting systems such as CentraLite, Vantage and others. HAL supports a wide range of interfaces and is constantly adding new interfaces. You can check the HAL website for a more comprehensive interface list.

If you have HAL compatible interfaces you will want to set them up following the interfaces instructions. If those interfaces came with their own software, you will most likely not need it.

The rest of this section explains in generic terms how to connect a USB and Serial Interface lighting control interface to your PC. These instructions should not override any instruction that came with the hardware itself.

1.3 USB UPB Interface

The USB Interface typically has a two/three-prong outlet connection on the back, a USB connection on the bottom, and a USB cable, for connecting the USB Interface to the HAL PC.

1.3.1 Plug the USB Interface into a standard wall outlet.
> NOTE: The USB Interface requires constant power to function properly. DO NOT plug the USB Interface into an outlet or power strip that will be turned off.

1.3.2 Plug the square end of the USB Cable into the bottom of the USB Interface.

1.3.3 Plug the flat end of the USB Cable into a USB port on the computer.
> NOTE: Once the USB Interface is connected to your PC typically a device driver is automatically loaded.

1.4 Serial UPB Interface

The Serial Interface typically has a two/three-prong outlet connection on the back, a Serial connection on the bottom, and a Serial cable for connecting the Serial Interface to the HAL PC.

1.4.1 Plug the Serial Interface into a standard wall outlet.
> NOTE: The Serial Interface requires constant power to function properly. DO NOT plug the Serial Interface into an outlet or power strip that will be turned off.

1.4.2 Plug the one end of the Serial Cable into the bottom of the Serial Interface.

1.4.3 Plug the other end of the Serial Cable into a Serial port on the computer.
> NOTE: Many PC's no longer have Serial Ports. Serial Ports can be added to a PC using a an internal Serial card or a USB to Serial interface.

1.5 UPB Lamp Module

If you have a lighting control device then this will allow HAL to communicate through the interface that was just installed with control device. This type of control device typically comes in the form of a plug in Lamp or Appliance module that supports your lighting control protocol. For lights controlled by a switch you will need to buy a controllable switch that supports the same protocol as the interface that is being used and wire it in following the manufacturer's instructions.

Lamp modules are usually small devices that have a two or three-prong outlet connection on the back and contain a two or three prong outlet jack on the front or bottom. Then there are typically dials or buttons that will allow you to program the Lamp module so HAL can control it (see the HAL Help and your hardware instructions for more details on programming).

1.5.1 Plug a lamp into the outlet jack on the Lamp Module.
> NOTE: Lamp Modules are typically for incandescent lights *only*. To control an appliance (such as a coffeemaker) you will need to use an Appliance Module. The steps for installing an Appliance Module are nearly identical to installing a Lamp Module.

1.5.2 Plug the Lamp Module into a standard wall outlet.
> NOTE: The Lamp Module must be plugged into an outlet that is always on. DO NOT plug the Lamp Module into an outlet or power strip that will be turned off.

1.5.3 Make sure the lamp was in an ON position prior to plugging it into the Lamp Module.

◆ STEP 2: INSTALL THE HAL SOFTWARE

2.1 Install HAL from a CD

Load the HAL Program CD into the CD-ROM drive.

2.1.1　If the drive is configured to auto-run CDs, then the HAL Installer will run and you will see a menu a shown below.

2.1.2　If the drive is not configured to auto-run CDs, then:

- Go to Start… All Programs… Windows Explorer, or Start to My Computer. Navigate to the CD-ROM drive and double-click on AUTORUN.EXE. The HAL Installer will start. When it's finished, the *Installation Menu* will appear. Click on the Install HAL option.

- Or go to Start… Run. Type "D:\autorun.exe" (where "D" is the letter corresponding to the CD-ROM drive). Click "OK". The HAL Installer will start and the *Installer Menu* will appear as shown below.
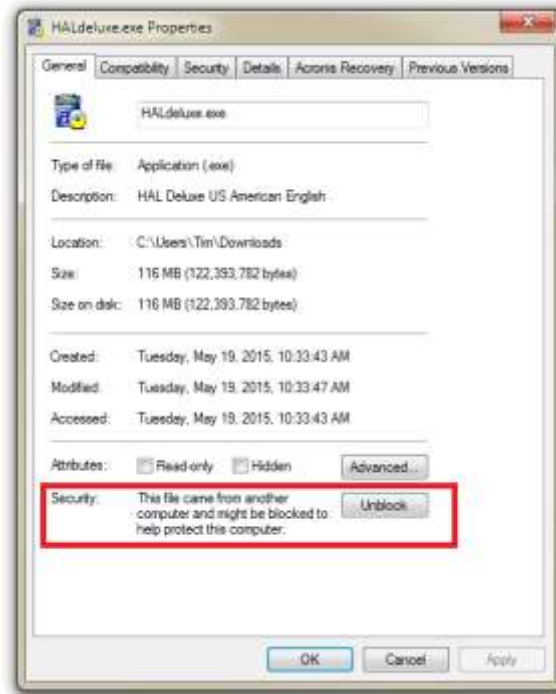
2.1.3　Next click on the Install HAL option.

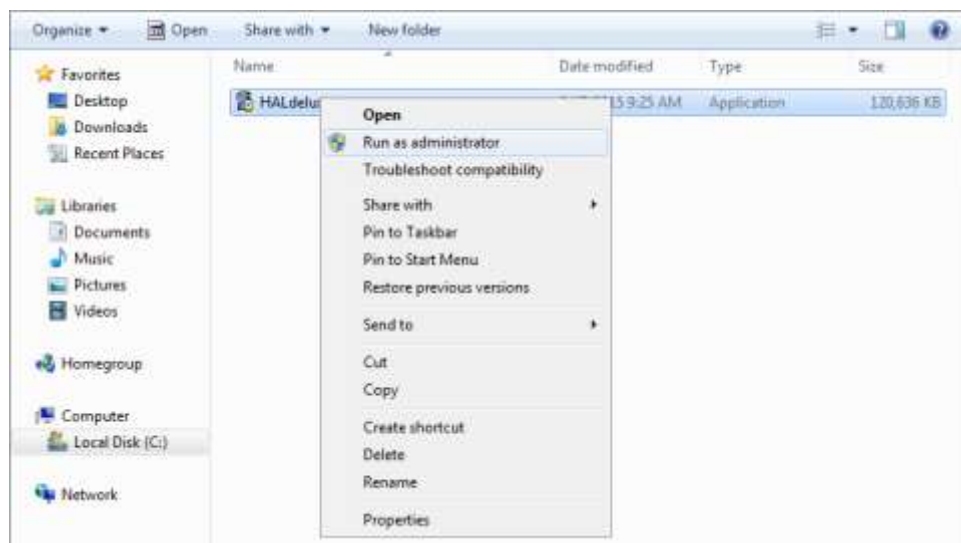2.1.4　Go to step 2.3 Installation Wizard.

2.2 Install HAL from a Download Link

Using the download link save the HAL installer program to your computer.

2.2.1 If you are using Windows 7 or 8, right click on the downloaded installer exe file and select "Properties". On the bottom of the General tab, check to make sure the file is Un-Blocked. If the downloaded installer file is Blocked, Un-Block the file as shown below.

2.2.2 Next run the downloaded installer exe by right clicking on the file and selecting "Run as Administrator" from the popup dialog.

2.3 Installation Wizard

Once the Installer program has been started the HAL Installation Wizard will appear. Follow the on-screen instructions for installing the software advancing through each screen by selecting "Next".

Upon reaching the last page of the HAL Installation Wizard, click "Finish" to complete the installation process. You may be prompted to restart your computer so that the installation of some files can be completed.

◆ **STEP 3**: **RUN THE HAL SETUP WIZARD**

The HAL Setup Wizard will start automatically after the software has finished installing. If the HAL Setup Wizard didn't start automatically, you can go to Windows Start… All Programs… HAL… HAL Setup Wizard.

Once the Setup Wizard is open click "Next" and you will be prompt to do a Quick Setup or Custom Setup.

3.1 Quick Setup

Will allow you to set up:

- The HAL compatible modem, if available automatically enabling the most common feature.
- The Control Protocols of X10, Insteon, UPB, C-Bus, Z-Wave and others.

3.2 Custom Setup

Will allow you to set up among other things: *If you choose this option please make sure you select the option for the type of interface you will be using such as Insteon or UPB.
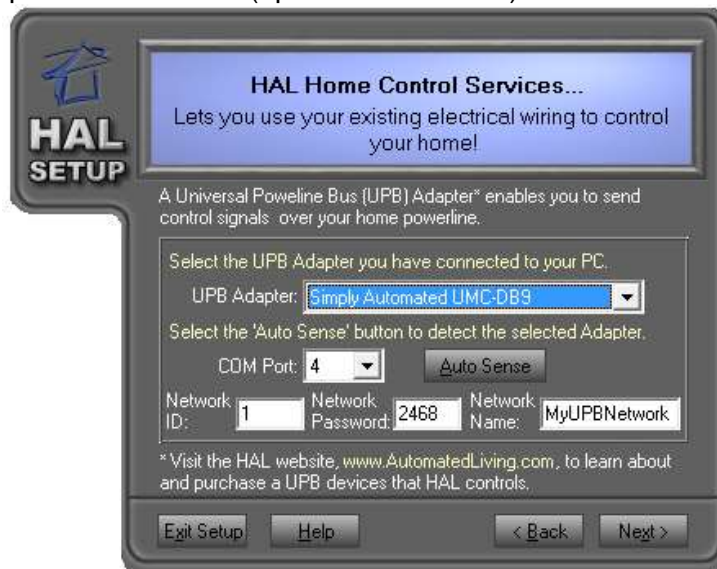
- Same things as the Quick Setup
- Sound Card settings
- Internet download features
- Other controlling hardware depending on the capabilities of your HAL software

3.3 Setting up UPB in the HAL Setup Wizard

When going through the Setup Wizard it will prompt for setting up the UPB Powerline Interface Module (PIM.) This will allow you to control lights and appliances connected to those devices through HAL. Once those devices are entered in the software, you can control them by HAL.

To set up UPB via the HAL Setup Wizard, make sure your PIM is connected correctly to the PC as explained in STEP 1. Once you get to the portion of the HAL Setup Wizard for setting up the PIM, the Wizard should have automatically found the PIM and have it selected in the UPB Adapter drop box. Once the proper PIM is selected you will need to enter the UPB Network Information:

3.3.1   Enter a 1-3 digit number (between 1 and 250) for the NETWORK ID
3.3.2   Enter a 1-4 digit number (between 1 and 9999) for the NETWORK PASSWORD
3.3.3   Enter an alphanumeric value (up to 16 characters) for the NETWORK NAME.

After entering the UPB information, click "Next" to continue.

Once the Setup Wizard is completed, ensure that the, "Run HAL now" option is selected and click "Finish" and HAL should start.
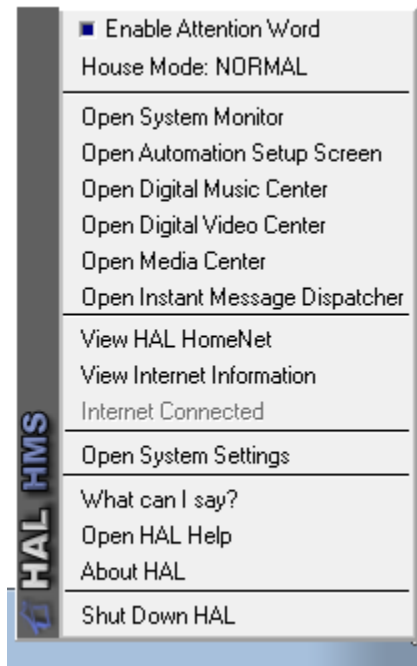
◆ **STEP 4**: **STARTING HAL**

If you didn't start HAL from the HAL Setup Wizard, then you can launch it by clicking the Windows Start… All Programs… HAL… HAL. If the option to create a desktop icon was selected during installation, then you can also start HAL by double-clicking on HAL's icon on the Windows desktop.

When the program starts, it will say, "*Welcome to HAL by Home Automated Living.*" An ear icon and a phone icon will appear in the system tray (generally the lower-right corner of the Windows® XP/2000/Vista/7/8/10 screen). If HAL WatchDog, HALids (Interactive Device Server), HALimd (Instant Message Dispatcher) or HALemc (Energy Management Console) are enabled, they too will appear in the system tray.

To see the HAL menu, right mouse click on the Ear icon in the system tray. A popup menu will appear revealing the various options available based on the installed version of HAL you are using.

◆ **STEP 5**: **ADDING DEVICES TO HAL**

In this example we will be adding a UPB device to HAL. Your UPB devices must be created while the HAL software is running, to do so, follow the instructions below:

5.1   Right click on the Ear icon in the system tray and select "Open Automation Setup Screen".

5.2   Under the Devices tab, Click on the "Add" button at the bottom of the screen.

5.3   If adding a light, then select "Lighting" as your Category; if an appliance, then select "Appliance", and click "Next".

5.4   If desired, give it a Location (Living Room, Basement, etc) and Device Type name (light, lamp, etc), and click "Next".

5.5   Name the device if you want this to be different from the Location name, and click "Next".

5.6   Select the manufacture of the lamp module from the list in the pull-down menu. This will now display a list of devices. Select the appropriate model number (or similar device type) for the device you're adding. Click "Next".

5.7   The UPB device is now ready to be addressed. To do so, complete the following actions:

5.8   Start by placing your UPB device into Programming mode. (Please refer to the instructions that came with the UPB device for complete details.) With module that comes with most HAL UPB kits this is a HAL-RLM01 or a Simply Automated UML-20, to program this module press the recessed program button (located above the LED on the side of the module) five (5) times in a row. *Other UPB devices may vary*. Use a non-metallic item, such as a toothpick, to accomplish this task. The LED begins to blink indicating the device is ready to be programmed, and will continue to blink for up to 5 minutes or until the device is programmed.

5.9   While in the program mode (LED blinking) press the FIND button on the HAL screen. After a few seconds it will display that it found a UPB address, and it will populate the Unit ID field with an available number.

5.10   Once the device is found, click the "Program" button on the HAL screen to program the module with the found Unit ID Number or adjust the Unit ID to a number which you know is not being used elsewhere. Once the configuration process has been completed, HAL shows the word "Done" on the screen. Click "Next" when ready to advance to the next screen of options.

5.11   If the screen reports Error: REG_WR:00 there was most likely a communication problem with the UPB device. Try to program again. If you continue to get the error please re-confirm everything is set up correctly, if so contact HAL Support.

5.12   You're now ready to test the device to make sure you can control it. HAL has already selected the appropriate options for the device based on the model number you selected previously. Click the "On" or "Off" button on the screen to test communication with the device. Click "Next" when ready.

5.13   This is the final screen. The default is to allow voice access to this device and to have HAL confirm the action after it has happened. This way you will receive verbal confirmation that the action has been completed. Click "Finish" when ready.

◆ STEP 6: ISSUING COMMANDS TO HAL

Now that you have your device(s) created there are already a few things you can ask HAL. Additional commands and queries become available as you configure HAL and add devices (see *Automating Your Home* in the HAL Online Help Guide or the Operating Manual for more information).

Left-click on the ear icon in the system tray to get HAL's attention. HAL will say "Yes?" and moving sound waves will appear next to the ear icon. Talk into a microphone connected to the computer and ask HAL these questions:

> "What time is it?"
>
> "What is today's date?"
>
> "When is Sunrise?"
>
> "When is Sunset?"

If you created a device in the HAL Setup Wizard called living room light, then you can control it by voice. For example, you could say:

> "**Turn on** the *living room light*." or "**Turn** the *living room light* **on**."
>
> "**Turn off** the *living room light*." or "**Turn** the *living room light* **off**."
>
> "**Shut off** the *living room light*." or "**Shut** the *living room light* **off**."
>
> "**Switch off** the *living room light*." or "**Switch** the *living room light* **off**."
>
> "**Dim** the *living room light* **40%**." or "**Dim** the *living room light* **to 40%**."

If you enabled Internet services in the HAL Setup Wizard (STEP 3), then you can ask for information downloaded from the Internet. (HAL will need to connect to the Internet and download information at least once before you can ask it Internet-related questions. HAL will automatically connect to the Internet about three minutes after it's started.) You must specify a location for weather and symbols for stock data. For example, for weather data you could ask HAL:

> "What is the weather forecast for today?" or "What is the weather forecast?"
>
> "What is the weather forecast for tomorrow?" or "What is tomorrow's weather forecast?"

For Stock related data you could ask HAL:

> "Open Portfolio" HAL will respond with Portfolio is open. Now you can ask for data.
>
> "What is Microsoft at?" or "What is Intel at?"
>
> To exit the Portfolio simply say "Close Portfolio" and you will be at the root of HAL.

Left-click on the ear icon to take HAL out of listening mode, or say "Thank you," "That's all", or "Goodbye." Be sure to go to the HAL Online Help Guide or the Operating Manual for more information on controlling HAL by voice.
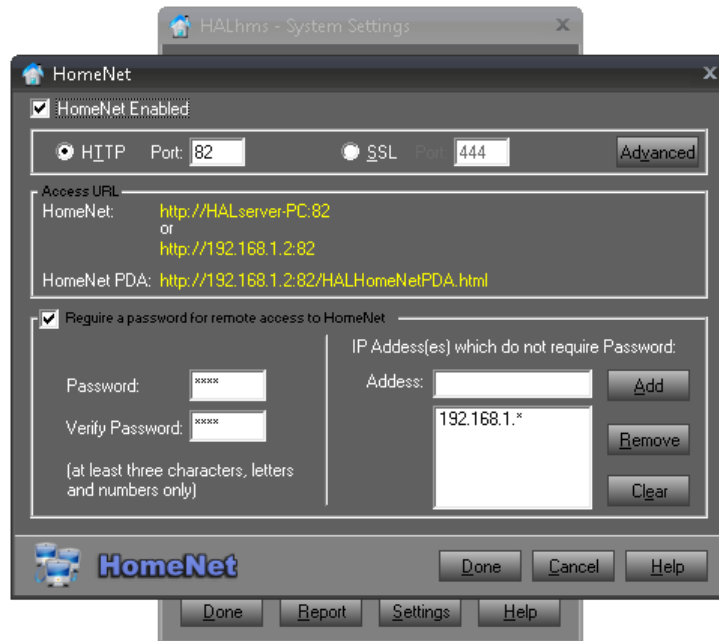
◆ **STEP 7**: **USING THE WEB INTERFACE HAL HOMENET**

The HAL HomeNet allows you to control HAL through a browser on any computer that's connected to the HAL computer via a network. So if the HAL computer is in the basement and you're in your home office, you can use the computer in the home office to play music over the home audio system, hear voice messages, or run Grouped Tasks without walking downstairs.
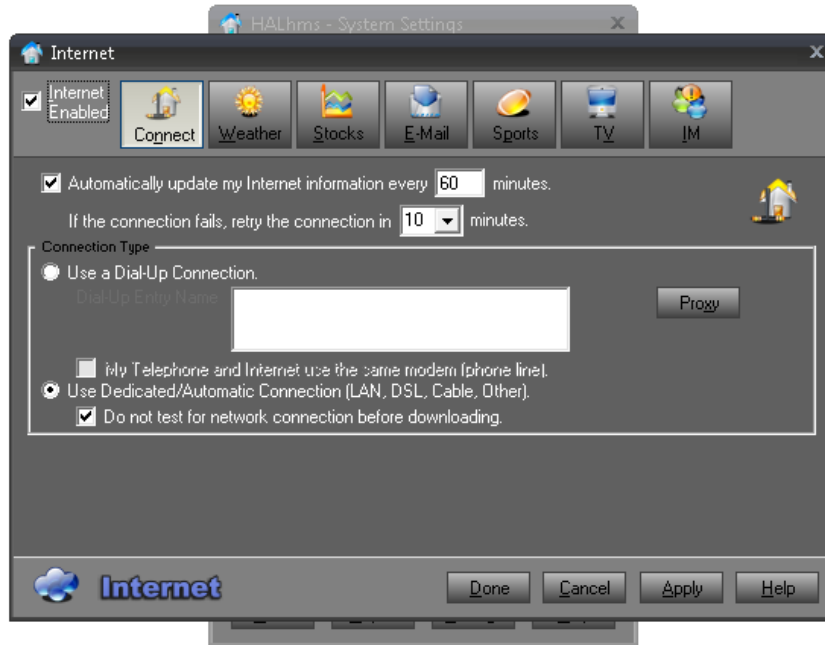
7.1 HomeNet Configuration

Before you can use the HAL HomeNet, you must:

- Connect the computers in the home to the HAL computer using a home network (see Windows® help for assistance). Any computer connected to this home network can be used to access the HAL HomeNet.

- HAL must be running (ear and phone icons visible in the Windows status tray).*

- HAL HomeNet must be enabled in the System Settings – HomeNet screen.

- You should configure a password for access to HAL HomeNet to insure your automation can not be manipulated without proper permission.

- To access HAL HomeNet outside of your home, your router must be configured to port forward the port designated in the HomeNet configuration screen above. You can then use your home's WAN IP Address and the port which you have designated to connect to HAL HomeNet from outside of your home.

- To use HAL HomeNet, HAL's Internet services must also be enabled from within the System Settings – Internet configuration screen.

7.2 HomeNet Usage

To launch HAL HomeNet you can right click on the Ear in the system tray and select "View HAL HomeNet" or you can enter the IP address and port of the HAL computer in the URL area of your browser such as http://192.168.1.130:82/ You should then see a summary screen as shown in section 7.3.

7.3 HomeNet Screens