HomeSeer Plug-In for BC4

Users Guide

Contents

Introduction

This Plug-In allows HomeSeer users to access the BitWise Controls BC4 and its associated BCX-series expansion modules. Please note that not all BCX modules have the same IO connectors, therefore not all sections of this document will apply to all BCX modules.

Capabilities

Infrared

If you are using a BCX module which supports IR, this plug-in will allow the creation of IR devices using the massive built-in IR library, which has support for thousands of manufactures and models of popular consumer electronics devices. Also supported is the BCX module's on-board IR learner. Note that the Bitwise Controls IR Engine allows you to send both library and learned IR codes as either a single pulse, or as a continuous "press and hold" string, until either canceled or timed out. Because of this expanded IR functionality, IR devices and codes will not be configured with HomeSeer's native IR setup pages, but rather from this plug-in.

GPIO

If you are using a BCX module which supports configurable GPIO, this plug-in will allow you to access and configure all necessary settings. Also provided are HomeSeer Triggers, Conditions, and Actions for any used GPIOs, for use in Events.

Relays

If you are using a BCX module which supports Relay outputs, this plug-in will allow you to configure all necessary settings. Also provided are HomeSeer Triggers, Conditions, and Actions for any used Relays, for use in Events.

Temperature Sensor

Each BC4 includes a built-in temperature, which can be used in Homeseer Event Triggers and Conditions.

Serial

If you are using a BCX module which supports serial ports, this plug-in will allow you to access One-Way serial control of devices via the BC4 Command String Action, and Two-Way serial control of devices via the scripting interface.

Configuration

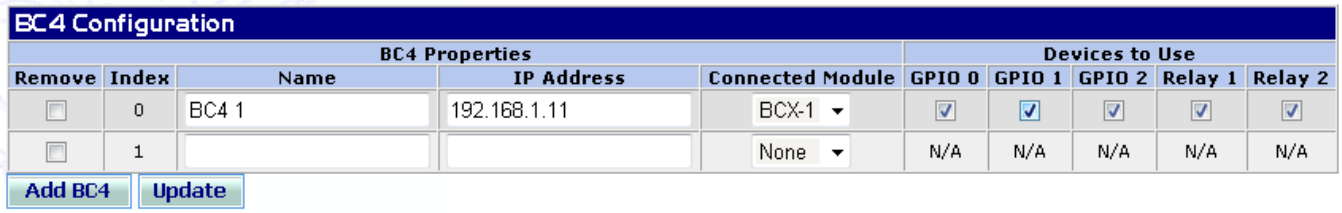
Overview

In order to make use of this plug-in, one or more BC4s must be added via the BC4 configuration page, which will be enabled via the 'Interfaces' tab of the HomeSeer 'Setup' area.

In order to make use of IR devices, the IR configuration page must be enabled via the 'Interfaces' tab of the HomeSeer 'Setup' area. Note that the IR configuration page requires that one or more BC4s have been added to the BC4 configuration page. It is therefore necessary that BOTH configuration pages be enabled, whether you intend to make use of the many IO connectors present on your BCX module or not.

BC4 Configuration Page

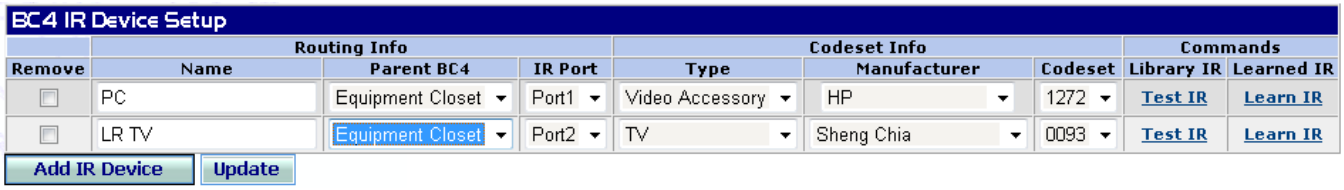
The BC4 configuration page is where BC4s and their associated BCX modules and available devices will be added and removed.



Remove	Checking this box and clicking the "Update" button will remove the BC4 and ***all of its associated devices*** from HomeSeer.
Index	Each BC4 added to the configuration will have a unique "Index" property which will be used internally, and also may be referenced in certain scripting functions.
Name	This is nothing more than a friendly name for a BC4, such as "Equipment Closet", in order to help you remember how/where a BC4 is installed
IP Address	Enter the IP address which you have assigned the respective BC4 via its internal web pages or other means. While the BC4 defaults to use DHCP to find an IP address, you should assign it to a suitable static IP address to ensure that it is always accessible to the plug-in. Note also that while the BC4 has a configurable TCP port setting, it should be left at the factory default of "5000" in order to be used with this plug-in.
Connected Module	This is where you will select which model of BCX module is installed in your BC4. As more modules are released by BitWise Controls, this plug-in will be updated to provide the necessary functionality. After selecting the appropriate BCX module from the list, click the "Update" button to enable the device check boxes for that BC4.
Devices to Use	The "Devices to Use" Column contains any available IO connectors on the selected BCX module. Checking or Un-Checking any of these boxes will add or remove a corresponding Homeseer Device to the project. While removing/ deleting a plug-in owned Homeseer Device via the 'Status' page, or that device's individual properties page will result in the corresponding check box being un-checked, it is recommended that all plug-in devices be removed via the BC4 configuration page and these check boxes.
Add BC4 Button	Used to add a new, empty BC4 to the project.
Update Button	Will apply any changes, such as devices checked, Name, IP address, etc.

BC4 IR Setup Page

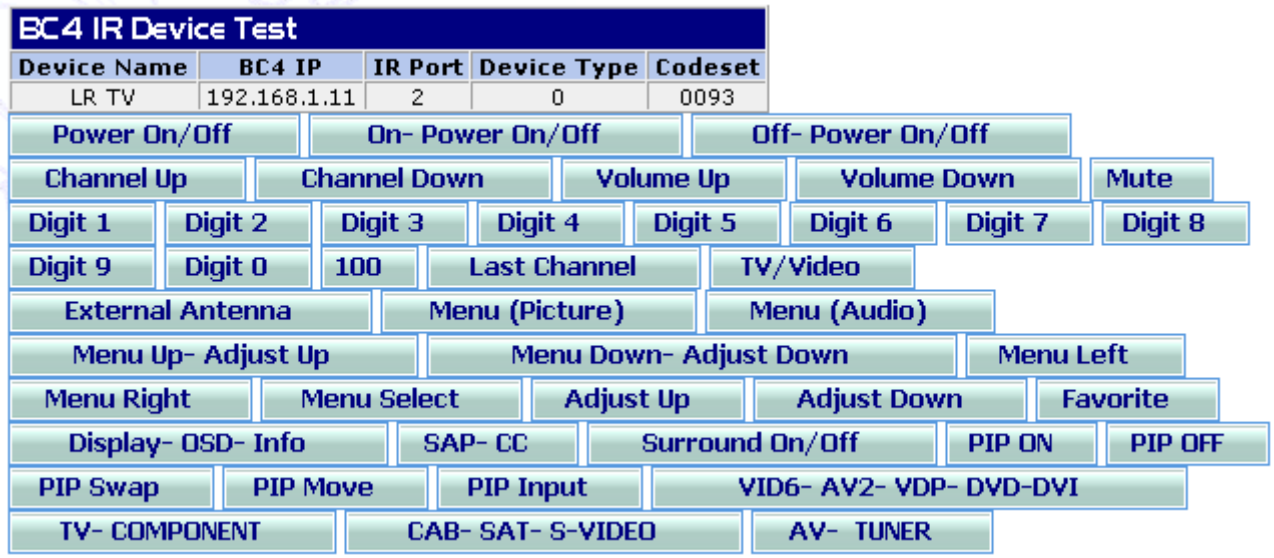
This page is where all IR device creation/deletion, routing, and codes will be configured. Note that in order to use IR devices, one or more BC4s must be created via the BC4 Configuration page.



Remove	Checking this box and clicking the "Update" button will remove the IR device and ***all of its associated IR Library and Learned Codes*** from HomeSeer.
Name	This is nothing more than a friendly name used to describe the IR device. This name will also be used when referencing this device when setting up Event Actions.
Parent BC4	This list will contain all BC4s which were added to the BC4 Configuration page. This is used to specify which BC4 the IR device is physically connected to.
IR Port	This list will contain any available IR ports on the Parent BC4's BCX module, and specifies which IR port the IR device is physically connected to.
Type	This list contains the various device types available in the Bitwise Controls IR library.
Manufacturer	This list will be populated with all available manufacturers of the device type you selected.
Codeset	This list will contain any available IR codeset numbers corresponding to your chosen device type and manufacturer.
Test IR	This will take you to the "IR Test" page, which will contain test buttons for all available library IR "keys" from the codeset you have selected.
Learn IR	This will take you to the "IR Learn" page, which will allow you to add, delete, and learn and test IR codes for the selected IR Device.
Add IR Device Button	Adds a new IR device to your configuration.
Update Button	Applies all settings

IR Test Page

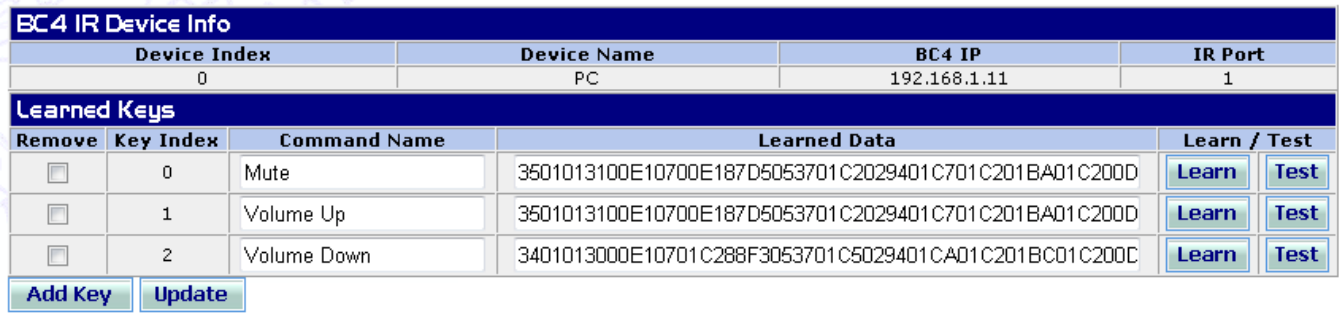
Assuming you have properly configured an IR device on the BC4 IR Device Setup page, this page will contain test buttons for all of the available IR library keys from that IR device. Clicking these buttons will result in the IR data being emitted from the configured Parent BC4 and IR Port.



Device Name	The name of the IR Device which these keys belong to.
BC4 IP	The IP address of the IR Device's Parent BC4
IR Port	The IR Port these keys will be emitted from
Device Type	The device type number associated with this IR device. Ex. TV = 0. This is used internally.
Codeset	The codeset of the device we are testing
IR Key Buttons	Click to test the associated IR command

Learn IR Page

This page is used to add/remove and test learned IR keys to a configured IR device, in the event that the IR library does not provide the necessary commands to control your device.



Remove	Check this box and click the "Update" button
Key Index	Each Learned IR key will have a unique Index number
Command Name	A friendly name to give the learned key, such as "Mute"
Learned Data	The actual learned IR data. You can either populate this by clicking the

	"Learn" button and learning the IR key, or by copying/pasting from another application, such as BitWise Controls ControlCenter
Learn Button	Click this button to learn the associated IR key. After clicking, point your original remote at the BCX module's built-in IR learner (about 1-2 " away) and press/release the desired key. The Learned Data text box will either become populated with the learned data, or any applicable error messages.
Test Button	Test the learned IR key, via the configured Parent BC4 and IR Port
Add Key Button	Add a new Learned IR key to the device
Update Button	Apply all names, data etc

Device Properties

Each device created via the "Devices to Use" check boxes on the "BC4 Configuration" page will have a "properties" page available from the HomeSeer "Status" page. These properties pages can be used to apply all applicable setting to the device, and which settings are available will be determined by the device type.
Please refer to your BCX module's User Guide (available from www.bitwisecontrols.com) for more information regarding these settings.

Actions

Depending on what devices you have added to HomeSeer via the BC4 plug-in's various configuration pages, BC4-specific actions will appear in the "Add Action" list when setting up a HomeSeer Event. For example, if you have added a Relay device, then a "BC4 Relay Action" can be added to an Event.

Triggers

Depending on what devices you have added to HomeSeer via the BC4 plug-in's various configuration pages, BC4-specific triggers will appear in the "Current Trigger type" list when setting up a HomeSeer Event. For example, if you have added a GPIO device, and configured it as a Digital Input, then a "BC4 Digital Input State Change" trigger can be added to an Event.

Conditions

Depending on what devices you have added to HomeSeer via the BC4 plug-in's various configuration pages, BC4-specific conditions will appear in the "conditions" list when setting up a HomeSeer Event. For example, if you have added a GPIO device, and configured it as an Analog Input, then a "BC4 Analog Input Condition" can be added to an Event.

Scripting Interface

Procedures

CreateBC4SerialPort

Used to access a BCX module serial port.

CreateBC4SerialPort(ByVal bc4Index As Integer, ByVal spIndex As Integer, ByVal baud As Integer, ByVal handler As String, ByVal func As String) As Integer

bc4Index	The Index of the BC4 which contains the desired serial port. You can find the Index number on the BC4 Configuration screen
spIndex	The serial port number on the BCX module. See the appropriate BCX module User's Guide for more information
baud	The baud rate you wish to use. 1 = 300, 2= 1200, 3 = 2400, 4 = 4800, 5 = 9600, 6 = 19200, 7 = 38400, 8 = 57600, 9 = 115200
handler	The name of the script file (located in the "HomeSeer/Scripts/" folder) which contains the function you wish to have incoming serial data passed to.
func	The name of the function which will be passed the incoming serial data (as a string)
return	An integer, which can be used as an identifier for this serial port, when sending data, or removing the serial port.

RemoveBC4SerialPort

Used to remove/close a specific BCX module serial port, which was created with CreateBC4SerialPort

RemoveBC4SerialPort(ByVal spIndex As Integer) As Boolean

spIndex	The index of the serial port you wish to remove, which is the value returned upon creating the serial port
Return	A boolean value, True = success, False = failure

RemoveALLBC4SerialPorts

Used to remove/close all BCX module serial port sockets which currently are open.

RemoveALLBC4SerialPorts() As Boolean

return	A Boolean value, True = Success, False = failure

SendSerialData

Used to send a string out of a a specific BCX module serial port, which was created with CreateBC4SerialPort

SendSerialData(ByVal spIndex As Integer, ByVal data As String) As Boolean

spIndex	The index of the serial port you wish to send the data to, which is the value returned upon creating the serial port
Data	The data string you wish to send
Return	A boolean value, True = success, False = failure

SendBC4IR

Used to send IR commands to BC4 IR devices which were created via the “BC4 IR Setup” page.

SendBC4IR(ByVal mode As Integer, ByVal idx As Integer, ByVal key As Integer) As Integer

mode	The IR transmission mode to use. 1 = pulsed factory code, 2 = continuous factory code, 3 = pulsed learned code, 4 = continuous learned code
idx	The index of the BC4 IR device, as found on the “BC4 IR setup” page
key	The key number of the desired code. For factory codes, the key number will be in parentheses before the key name on the Test IR page, such as “(24)Play”. If the key you want to send is a learned code, it will be the index of the learned code, as found on the “Learn IR” page for that BC4 IR device.
return	An integer, 0 = success, -1 = error

CancelBC4IR

Used to stop a continuous IR transmission.

CancelBC4IR(ByVal idx As Integer) As Integer

idx	The index of the BC4 IR device, as found on the “BC4 IR setup” page
return	An integer, 0 = success, -1 = error

GetAD

Used to get a specific value from a BC4 GPIO which has been configured as an analog input.

GetAD(ByVal device As String, ByVal parm As String, ByVal refresh As Boolean = False) As Integer

Device	The HomeSeer device code of the BC4 GPIO device, such as “[4”
parm	The value you wish to retrieve, such as “VAL”,”MIN”, or “MAX”
Refresh	Set to “True” if you wish to poll the hardware before returning. Set to “False” to return immediately whatever the currently stored value is.
return	An integer relating to the digital representation of the analog signal

GetRelay

Used to get the current state of a BC4 Relay.

GetRelay(ByVal device As String, ByVal refresh As Boolean = False) As Integer

Device	The HomeSeer device code of the BC4 Relay, such as “[4”
Refresh	Set to “True” if you wish to poll the hardware before returning. Set to “False” to return immediately whatever the currently stored value is.
return	An integer, 1 = activated, 0 = deactivated

ActivateRelay

Used to activate a BC4 relay.

ActivateRelay(ByVal device As String,) As Integer

Device	The HomeSeer device code of the BC4 Relay, such as “[4”
Return	An integer. 0 = success, -1 = failure

DeactivateRelay

Used to deactivate a BC4 relay.

DeactivateRelay(ByVal device As String,) As Integer

Device	The HomeSeer device code of the BC4 Relay, such as “[4”
Return	An integer. 0 = success, -1 = failure

GetOutput

Used to get the current state of a BC4 GPIO which has been configured as a digital output.

GetOutput(ByVal device As String, ByVal refresh As Boolean = False) As Integer

Device	The HomeSeer device code of the BC4 GPIO, such as "[4"
Refresh	Set to "True" if you wish to poll the hardware before returning. Set to "False" to return immediately whatever the currently stored value is.
return	An integer, 1 = activated, 0 = deactivated

ActivateOutput

Used to activate a BC4 GPIO which has been configured as a digital output.

ActivateOutput(ByVal device As String,) As Integer

Device	The HomeSeer device code of the BC4 GPIO, such as "[4"
Return	An integer. 0 = success, -1 = failure

DeactivateOutput

Used to deactivate a BC4 GPIO which has been configured as a digital output.

DeactivateOutput(ByVal device As String,) As Integer

Device	The HomeSeer device code of the BC4 GPIO, such as "[4"
Return	An integer. 0 = success, -1 = failure

GetInput

Used to get the current state of a BC4 GPIO which has been configured as a digital input.

GetInput(ByVal device As String, ByVal refresh As Boolean = False) As Integer

Device	The HomeSeer device code of the BC4 GPIO, such as "[4"
Refresh	Set to "True" if you wish to poll the hardware before returning. Set to "False" to return immediately whatever the currently stored value is.
return	An integer, 1 = activated, 0 = deactivated

GetTemp

Used to get the current temperature of a BC4 Temperature sensor.
GetTemp(ByVal device As String, ByVal refresh As Boolean = False) As Integer

Device	The HomeSeer device code of the BC4 Temp Sensor, such as "[4"
Refresh	Set to "True" if you wish to poll the hardware before returning. Set to "False" to return immediately whatever the currently stored value is.
return	An integer, representing the current temperature in degrees.

GetCount

Used to get the current state of a BC4 GPIO which has been configured as a counter.

GetCount (ByVal device As String, ByVal refresh As Boolean = False) As Integer

Device	The HomeSeer device code of the BC4 GPIO, such as "[4"
Refresh	Set to "True" if you wish to poll the hardware before returning. Set to "False" to return immediately whatever the currently stored value is.
return	An integer, representing the current count

ResetCount

Used to reset a BC4 GPIO which has been configured as a counter.

ResetCount(ByVal device As String,) As Integer

Device	The HomeSeer device code of the BC4 GPIO, such as "[4"
Return	An integer. 0 = success, -1 = failure

GetFrequency

Used to get the current state of a BC4 GPIO which has been configured as a counter.

GetFrequency (ByVal device As String, ByVal refresh As Boolean = False) As Integer

Device	The HomeSeer device code of the BC4 GPIO, such as "[4"
Refresh	Set to "True" if you wish to poll the hardware before returning. Set to "False" to return immediately whatever the currently stored value is.
return	An integer, representing the frequency

Resources

There are many support resources available in our support section at www.bitwisecontrols.com
Be sure to check in there for product news, software downloads and updates, and much more.

Contact Information

We want to hear any questions and comments you may have about our company and products.

Please feel free to contact us.

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