

Infusebox

HAI Security Module v1.9

IMPORTANT - The following are SIMPL+ sub modules within the HAI Processor:

1. **Infusebox HAI Initial Parse v 2**
2. **Infusebox HAI Data Parser**
3. **HAI Check Bypass Status**
4. **HAI Serial Names**
5. **HAI Console**
6. **HAI Keypad**
7. **HAI Event Log Output**

On processor startup these modules will output the version of the HAI Processor module they are intended to be used in. This is to prevent old sub modules from being with newer versions of the HAI Processor. This information can be viewed during startup through Viewport. The current version is 1.9.

Information	
Simple Windows Name	HAI Security Module (IBOX) v1.01
Category	Security
Summary	This module is designed to handle HAI Omni Pro 2 Security. Supports up to 176 Zones and 8 Areas (Partitions).
Supported Processors	2-Series Crestron Processors
Communication	RS232 Baud Rate: 9600 Data Bits: 8 Stop Bits: 1 Parity: N Handshaking: HW – None SW - None
SIMPL+ Modules Used	<ol style="list-style-type: none"> 1. Infusebox HAI Initial Parse v 2 2. Infusebox HAI data Parser 3. HAI Serial Names

	4. HAI Event Log Output
SIMPL Modules Used	1. HAI LOGIN
STARTUP PROCEDURE	After the initial delay of startup defined by the programmer the module will allocate 45s for names to be downloaded. During this time all command (including polling) will be ignored.

Input: Digital	
Poll_Zone_Status	Polls zone status information while signal is held high. Resulting outputs are Analog signals Zone_Status[1-176]
Poll_Area_Status	Polls area status information while signal is held high. Resulting outputs are Analog signals Area_Status[1-8]
Poll_Thermostat_Information	Polls thermostat information while signal is held high. Resulting outputs are Serial signals To_Thermostat[1-8]
Poll_Temperature_Sensors	Polls Temperature Sensor information while signal is held high. Resulting outputs are Serial signals To_Temp_Sensor [1-4]
Enable_Zone_Status_Text	Displays text of zones in a Not Ready stat and Bypassed (optional) state.
Disarm	Disarms Security Controller when the signal goes high (Requires password from user)
Day_Mode	Arms the Controller for Day Mode when the signal goes high(Password Optional)
Night_Mode	Arms the Contoller for Night Mode when the signal goes high (Password Optional)
Away_Mode	Arms the Controller for Away Mode when the signal goes high (Password Optional)
Vacation_Mode	Arms the controller for Vacation Mode when the signal goes high (Password Optional)
Keypad_1	Used for user password numerical value 1 when signal goes high
Keypad_2	Used for user password numerical value 2 when signal goes high
Keypad_3	Used for user password numerical value 3 when signal goes high

Keypad_4	Used for user password numerical value 4 when signal goes high
Keypad_5	Used for user password numerical value 5 when signal goes high
Keypad_6	Used for user password numerical value 6 when signal goes high
Keypad_7	Used for user password numerical value 7 when signal goes high
Keypad_8	Used for user password numerical value 8 when signal goes high
Keypad_9	Used for user password numerical value 9 when signal goes high
Keypad_0	Used for user password numerical value 0 when signal goes high
Keypad_Clr	Clears all characters entered into password when signal goes high
Keypad_BS	Clears a single character from the right of the entered password string when signal goes high.
Area_All_Select	Control over all areas while signal is held high.
Area_Select_[1-8]	Control over individual selected area while signal is held high.
NOTE Only one Area_Select or All_Area_Select should be high at any one time. Suggest using an interlock.	
Download_All_Names	Downloads the names for all zones and thermostats. *Warning* No other command will be received while names are downloaded (Approx. 15 Seconds) Zone and thermostat names are set within the Security Controller. Default Names will not be received from the HAI Security Controller. They MUST be defined.
Download_All_Events	Downloads the past 250 events from the controller. *Warning* No other command will be received while names are downloaded (Approx. 20 Seconds)
Events_Scroll_Up	String output of each shown event will display the previous event in order.
Events_Scroll_Down	String output of each shown event will display the next event
Restore_All_Zones	Restores all bypassed zones in all areas when signal goes high

Zone_Bypass_Restore_Toggle_[1-176]	Toggles zones state of bypassed and restored when signal goes high
Start_Button_Macro	Send command to controller to run button macro associated with the analog signal Macro_Button_Number
Unit_On	Turns Unit defined by Unit_Number to an On State when signal goes high.
Unit_Off	Turns Unit defined by Unit_Number to an Off State when signal goes high.

Input: Serial

From_Controller\$	Input Received from controller via RS-232
Thermostat_In	Received from Module HAI Thermostat serial signal To_HAI_Processor . All instances of HAI Thermostat module feed into this signal in order to send commands to the HAI controller.

Input: Analog

Macro_Button_Number	The Macro Button Number that will be sent to controller when digital signal Start_Button_Macro goes high.
Unit_Number	Hex number associated with the Unit_Number that can be turn on or off by pulsing digital signals Unit_On and Unit_Off

Output: Digital

No digital output used.

Output: Serial

To_Controller\$	Commands sent to the HAI control via RS-232
To_Thermostat_[1-26]	Parsed information sent from HAI Processor to thermostats 1-26
To_Temp_Sensor_[1-4]	Information polled when digital signal Polled_Temperature_Sensor is held high. This serial signal should feed into module InfuseboX HAI Temperature Sensor Decoder to receive analog values.
Text_Zone_Status\$	Displays the status of zones that are currently bypassed or not ready. Digital signal input: Enable_Zone_Status_Text_Scroll must be high.
Text_Keypad_Display\$	Displays serial string output from user interaction with the keypad. Also displays whether or not the entered password was valid or invalid along with the zone exit delay.
Tstat_[1-26]	Output from HAI Processor to HAI Thermostat instance Sub Modules. Used to display for Thermostat Feedback. Signal Poll_Thermostat_Information must remain high to receive updated feedback.
Zone_Name[1-176]	Output of Zone names stored in HAI controller. Names are polled on startup or when digital signal Download_All_Names goes high and at system startup
Event_out_[1-30]	Outputs events 1 – 30 depending on number of events shown (defined in parameters at bottom of module)
Tstat_Name_1	Output of Thermostat names stored in HAI controller. Names are polled on startup or when digital signal Download_All_Names goes high and at system start up

Output: Analog

Area_Status_[1-8]	<p>Displays the current status of the Area_Status that has is selected.</p> <p>Values: 1 = Off 2 = Day Mode 3 = Night Mode 4 = Away Mode 5 = Vacation Mode</p>
Zone_Status_[1-176]	<p>Displays the individual status of each zone 1 – 176</p> <p>Values: 1 = Disarmed 2 = Armed 3 = Bypassed 4 = Secure 5 = Not Ready 6 = Troubled 8 = Tripped</p>

Parameters

PC Access Code	Access code required by HAI controller to be accessed by Crestron processor. This number is stored within the HAI controller.
Log In Frequency	Frequency of login with PC Access Code defined by seconds.
Time To Delay On Startup	Delayed polling on startup defined by number of seconds
Thermostat Poll Frequency	Thermostat information polling frequency defined by number of seconds
Area Status Poll Frequency	Area Status polling frequency defined by number of seconds
Temperature Sensor Poll Frequency	Temperature sensor polling frequency defined by number of seconds
Exit Delay	Exit delay defined as a decimal. 1d = 1 second
Number of Zones	Number of zones defined as a decimal value - 130d = 130 total zones
Starting Zone	Starting zone defined as a hexadecimal value

Ending Zone	Ending zone defined as a hexadecimal value
Day Mode User Code Required Away Mode User Code Required Night Mode User Code Required Vacation Mode User Code Required	Drop Down Menu: Yes(Value 0) = Password User Required No(Value 1) = No User Password Required
Number_of_TStats	Number of thermostats defined as a decimal value
Starting Temperature Sensor Group 1 – 4	Defined starting point for 4 temperature sensor groups as a hexadecimal value. 00h = not used. The group spans 20 values (i.e. value of 01h would define the first 20 temperature sensors)
Log Events Shows	The number of events serial signals that will be used (7d = first event_out_[1-7] will be used)
Zone Status Text Display Bypassed	Output of zone status text to display bypassed along with Not Ready status? 1 = NO 0 = YES

For support contact Support@infusebox.com

MODIFICATIONS:

9/10/2007: Updated processor startup process to refresh zones after names are done downloading from controller

10/11/2007: Added support for Macro Buttons

10/25/2007: Added support for HAI thermostat and Scheduling.

11/20/2007: Added support for Units(On and Off) and temperature sensors. Fixed multiple bugs possibly causing overflows and startup problems. Removed support

for zone groups (HAI processor efficiency to the point where zone groups is unneeded)

12/14/2007: Fixed a bug that prevented some pc access codes from being recognized. Sub modules now print the version of HAI Processor they are intended to be used with.

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Software Purpose and Authorized Use

The aim of this software is merely to improve convenience for the system user by allowing a Crestron automation system to remotely control an HAI security system’s arm and disarm and status-report functions. We are not involved in looking after a user’s or their guests’ safety.

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