

SIMPLWINDOWS NAME: Aprilaire 8870 Menu Control

MANUFACTURER: Aprilaire

MODEL: 8870

CATEGORY: HVAC

VERSION: 1.1

SUMMARY: Provides control for using menus on the Aprilaire to control the Crestron.

GENERAL NOTES: This module allows use of the Aprilaire as an additional control point for the Crestron. Using this module in conjunction with the Aprilaire 8870 Menu Level module, allows the Crestron to send menu items to the Aprilaire. The menus can then be used to control things in the Crestron. Use of this module requires use of the Aprilaire Parser module and the Aprilaire 8870 Command Queue module. Use one Aprilaire 8870 Menu Control module per thermostat that you will be using menus on. Multiple Aprilaire 8870 Menu Level modules may be used for each thermostat.

Pulsing the Menu_On input on the Aprilaire 8870 Menu Control module will initialize the thermostat for menu control. When the initialization has completed, the Enable_Menu output will pulse. This output should be routed to the Enable_This_Menu input on the first Aprilaire Menu Level module. That module will take care of sending the first menu item text to the thermostat. The Scroll_Up, Scroll_Down and Enter outputs should be routed to all Aprilaire 8870 Menu Level modules for that thermostat. There are a maximum of ten menu items available per Aprilaire Menu Level module. One more menu item --the exit menu item-- is there by default.

The Scroll_Up and Scroll_Down inputs on the Aprilaire 8870 Menu Level will move from one menu item to the next on the enabled Aprilaire 8870 Menu Level module. The text for each menu item will be sent to the thermostat. The text will have an asterisk added to the front of the text if the Menu_Item_*_Selected input is high. When you are at the first menu item and the Scroll_Up is pressed, it will wrap around to the exit menu item. When you are at the exit menu item and the Scroll_Down is pressed, it will wrap around to the first menu item.

The Enter input will select the current menu item. If the Item_*_enable_new_nenu is high, the Select_Menu_Item_* output will pulse and the current Aprilaire 8870 Menu Level module will be disabled. This signal should be routed to

the Enable_This_Menu input on the next Aprilaire 8870 Menu Level module. If the Item_*_enable_new_menu is low, the Select_Menu_Item_* output will be high as long as the enter button on the thermostat is pressed. The text for that menu item will be resent to the thermostat with an asterisk in front of the text to indicate it is selected.

For an example of using the Aprilaire thermostat for menu control, see the demo program.

NOTE: When the thermostat is in Network Override(Hold On) changes made from the Crestron will be ignored by the thermostat. Also, when the menus are on, the Hold_On/Off will not operate.

CRESTRON HARDWARE REQUIRED: CNCOMH-2, ST-COM, CNXCOM

SETUP OF CRESTRON HARDWARE:

RS-422
Baud Rate - 9600
Parity - None
Data Bits - 8
Stop Bits - 1

VENDOR FIRMWARE: P0.7 - RPC 2001

VENDOR SETUP: There is a setting in the Aprilaire menus for the maximum number of thermostats on the system. All thermostats on the Aprilaire system should be addressed sequentially. The setting for the maximum number of thermostats should be set to the highest thermostat number. This will allow better response times. If the maximum number is set to 64, it could take up to 17 seconds to get an update.

CABLE NUMBER:

Crestron	Aprilaire
DB9F	Bare Wire
Pin 1	B-
Pin 4	A+
Pin 5	REF
Pin 6	B+
Pin 9	A-

INPUT DESCRIPTIONS:

Name	Type	Description
Menu_On	D	Pulse to turn the menu on for the specified zone.
Menu_Off	D	Pulse to turn the menu off for the specified zone.
From_Parser\$	S	Serial data string to be routed from Aprilaire 8870 Menu Parser.
Address Tens	P	Parameter to specify the address tens digit of the thermostat that this menu will be used on. Should

be entered in hex. i.e. for an address of 01 this should be set to 30h.

Address Units P Parameter to specify the address units digit of the thermostat that this menu will be used on. Should be entered in hex. i.e. for an address of 01 this should be set to 31h.

OUTPUT DESCRIPTIONS:

Name	Type	Description
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Menu_On_Fb	D	Indicates that the menu is on.
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Menu_Off_Fb	D	Indicates that the menu is off.
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Scroll_Up	D	Digital signal to be routed to all Aprilaire 8870 Menu Level modules for this set of menus. It is feedback from the Aprilaire. It will cause the previous menu item to be displayed.
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Scroll_Down	D	Digital signal to be routed to all Aprilaire 8870 Menu Level modules for this set of menus. It is feedback from the Aprilaire. It will cause the next menu item to be displayed.
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Enter	D	Digital signal to be routed to all Aprilaire 8870 Menu Level modules for this set of menus. It is feedback from the Aprilaire. It will cause the currently displayed menu item to be selected.
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Enable_Menu	D	Digital signal to be routed to the first Aprilaire 8870 Menu Level module. This will send the first menu item to the Aprilaire.
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To_Command_Queue\$	S	Serial data string to be routed to the Aprilaire 8870 Command Queue module
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X-Gen OPS USED FOR TESTING: 5.12.26x

2 Series OPS USED FOR TESTING: 1.014

COMPILER USED FOR TESTING: SimplWindows 4.03.20

SAMPLE PROGRAM: Aprilaire 8870 v1.1 Demo PRO3

REVISION HISTORY:

version 1.1: Incorporated 3-series best practices to all Simpl+ modules.