

SIMPLWINDOWS NAME: Aprilaire 8870 Menu Level v1.1

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 Control module, allows the Crestron to send menu items to the Aprilaire. The menus can then be used to control things in the Crestron.

NOTE: 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.

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.

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 8870 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 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 fornt of the text to indicate it is selected.

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

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
Enable_This_Menu	D	Pulse to enable this menu and send out Menu Item 1 Name.
Disable_This_Menu	D	Pulse to dissbale this menu.

- Scroll_Up D Route from Aprilaire 8870 Menu Control module. Will display the previous menu item. When at item 1, will display the exit menu item.
- Scroll_Down D Route from Aprilaire 8870 Menu Control module. Will display the next menu item. When at exit menu item, will display item 1.
- Enter D Route from Aprilaire 8870 Menu Control module. Will select the current menu item. The Select_Menu_Item_* output will pulse when the Item_*_enable_new_menu is high and will be high as long as the enter button is pressed if the Item_*_enable_new_menu is low.
- Menu_Item_*_Selected D This will allow feedback at the thermostat. Setting the appropriate item number high will add an asterisk to the menu item name IF the Item_*_enable_new_menu is low.
- Item_*_enable_new_menu D Set high if the menu item will enable a new menu. This would be the case if there were nested menus. If this is high when the enter button is pressed it will disable this menu and pulse the Select_Menu_Item_* output. If this is low when the enter button is pressed, the Select_Menu_Item_* output will be high as long as the enter button is pressed.
- Address Tens(In Hex) 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(In Hex) 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.
- Number of Menu Items(10 Max)==10 P This setting is to allow the Aprilaire 8870 Menu Level module to be used when less than ten menu items are desired. It should be set to the number of menu items to be used.
- Menu Item * Name(30 Characters Max) P There are two lines on the Aprilaire thermostat. The first 16 characters will be displayed on the first line and the last 14 characters will be displayed on the second line. If the feedback is to be displayed on the thermostat, an asterisk will be added at the beginning of the Item Name. You may still have 30 characters. For any unused menu items, the name entered does not matter. The names entered will be ignored for any item beyond the number of menu items.

OUTPUT DESCRIPTIONS:

- | Name | Type | Description |
|--------------------|------|---|
| This_Menu_Enabled | D | Indicates that the menu is enabled. |
| Select_Menu_Item_* | D | Will pulse high when entered is pressed and Item_*_enable_new_menu is high. Will go high and stay high as long as the enter button is pressed if Item_*_enable_new_menu is low. |
| Exit_This_Menu | D | Will pulse high when enter is pressed for the exit menu item. This may just enable the previous menu or it may be routed to the Menu_Off input on the Aprilaire 8870 Menu Control module. |

To_Command_Queue\$ S Serial data string to be routed to the Aprilaire 8870 Command Queue module

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.