Nexus Audio C6 Multi-Room Modules v1
Module Application Guide

Description

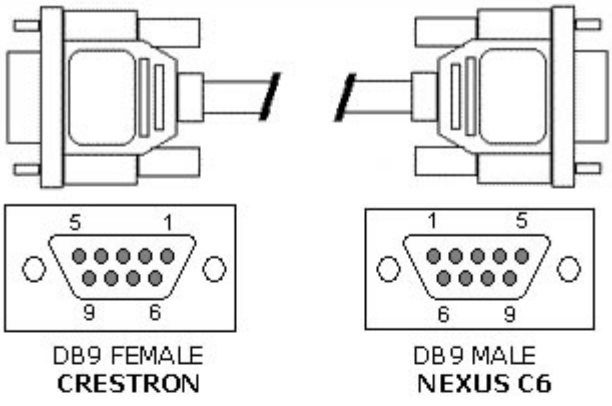
This suite of modules provide control of a Nexus Audio C6 controller via RS-232. There are four modules included in the package. The first is a zone module which emulates control from a zone keypad such as a K-8 or K-22. The second module allows you to control the tuner section of the C6. The third module allows control of the Group functions for the system and the fourth synchronizes the group and zone modules.

These modules provide a wide variety of functionality for control of the C6 from a Crestron processor, including:

- Zone Power, volume and muting control
- Zone source selection
- Direct Am and FM frequency control and feedback
- Control of the 14 functions such as play, fast forward, rewind, etc.
- Numeric control of 0 through +10
- Control of the 25 reserved IR commands
- Control of setting up groups including source, volume and zones

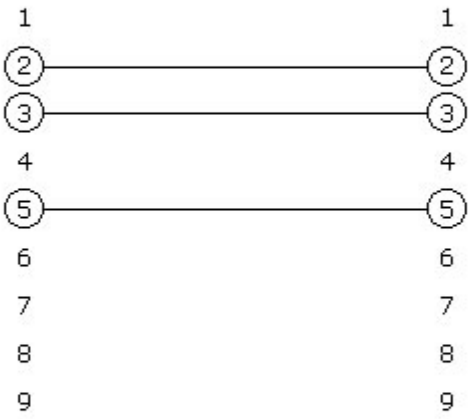
Compatibility			Processor Requirements	
2-Series Compatible	NOT CNMSX Compatible	NOT System Builder Compatible	Ethernet NOT NEEDED	Compact Flash NOT NEEDED

Serial Cable Pinout



DB9 FEMALE
CRESTRON

DB9 MALE
NEXUS C6



SERIAL SETTINGS	
COMM STD	RS232
BAUD RATE	9600
DATA BITS	8
STOP BITS	1
PARITY	NONE
HW HANDSHAKING	NONE
SW HANDSHAKING	NONE

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Module Application

It is strongly suggested that you load the supplied demonstration program and touchpanel to gain an understanding of the application of the module before you attempt to implement the module in your own program.

Known Issues

The Nexus C6 does not have a buffer on its com port. Consequently it is possible to overrun the port with too many commands at once resulting in commands being lost or sluggish performance. This is particularly true if you are using more Crestron UI based zones than Nexus keypad based zones. We have accounted for this slow performance in the module.

Bracketed signals such as "[signal_name]" are optional signals

Nexus C6 Zone Module v1 Signal & Parameter Descriptions

DIGITAL INPUTS

zone_power_on..... pulse to power on the zone
zone_power_off..... pulse to power off the zone
[all_zones_off] ..... pulse to power off all zones in the system
volume+ and - ..... press or press an hold high to ramp volume
mute_toggle ..... pulse to toggle mute on and off
[mute_on] ..... pulse to force muting on
[mute_off]..... pulse to force muting off
source_tuner..... pulse to select the tuner
source_input1-5 ..... pulse to select the desired source
[play] through [info] ..... pulse to emulate the function on the keypad or remote
[numeric_0] through +10] ..... pulse to emulate the function on the keypad or remote
[ir command1] through 25]..... pulse to execute a reserved IR command

DIGITAL OUTPUTS

power_on_fb..... held high by the module when the zone is powered on
power_off_fb ..... held high by the module when the zone is powered off
[all_zones_off_sync] ..... connect to zonex_all_off output of Sync Module
mute_fb ..... high when muting is engaged
sourceX_fb ..... held high to indicate the current source

ANALOG OUTPUTS

volume..... current zone volume

SERIAL INPUTS

c6_rx$ ..... route from Crestron com port
zone_snyc$ ..... connect to zonex_sync$ output of Sync Module

SERIAL OUTPUTS

c6_tx$ ..... route to Crestron com port

PARAMETERS

Zone Tens Hex ..... double clicking on this field will allow you to drop down and select the zone number you wish to control. This should be the same number as the parameter below.

Zone Ones Hex.....double clicking on this field will allow you to drop down and select the zone number you wish to control. This should be the same number as the parameter above.

Volume Osc .....double clicking on this field will allow you to drop down and the speed at which the user can ramp the volume

Nexus C6 Tuner Module v1 Signal & Parameter Descriptions

DIGITAL INPUTS

enter_am_freq ..... pulse to enable the entry of an AM frequency
enter_fm_freq..... pulse to enable the entry of an FM frequency
numeric_n0 to n9 ..... pulse to enter the digits of the frequency
numeric_clear ..... pulse to clear the keypad
numeric_enter..... pulse to tune to the numeric entry
mono_mode..... pulse to put the tuner into mono mode
stereo_mode..... pulse to put the tuner into stereo mode
preset_1 to preset_10 ..... recalls stored tuner presets

DIGITAL OUTPUTS

enter_am_freq_fb..... held high to indicate that an AM station can be entered
enter_fm_freq_fb ..... held high to indicate that an FM station can be entered
tuner_am_fb..... high when AM is the current frequency
tuner_fm_fb..... high when FM is the current frequency

ANALOG OUTPUTS

keypad_display ..... used to feedback the current numeric entry

SERIAL INPUTS

c6_rx$ ..... route from Crestron com port

SERIAL OUTPUTS

c6_tx$ ..... route to Crestron com port
tuner_frequency ..... displays the currently tuned frequency

Nexus C6 Group Module v1 Signal & Parameter Descriptions

DIGITAL INPUTS

setup_group ..... pulse to setup the group after you have set the group volume and the group source

[zoneX_group_enable] ..... pulsing this input adds and removes the zone from the group.

enable_all_zones ..... pulse to add all zones to the group

disable_all_zones..... pulse to remove all zones from the group

group_source_tuner through source_input5..... pulse to select the source you want the group to use

group_volume+ and - ..... pulse or press and hold to ramp the group volume up and down

zonex_group_add ..... pulse to add this zone to the active group. The zone will turn on at the group volume and will select the group source

zonex_group_del ..... pulse to remove the zone from the active group. NOTE: The zone will not turn off, only be removed from the group.

[group_poll]..... pulsing will poll the group mode for what zones are active and on which source. NOTE: This command will be sent automatically after you setup a group.

DIGITAL OUTPUTS

setup_group_busy ..... held high when the group function is being written to the C6

[zoneX_group_enabled]..... held high when the zone is part of the group

group_source_X_fb..... high when to indicate what source the group is to use

ANALOG OUTPUTS

[zone1_sync] ..... connect to the [zonex_global_sync] input of the Sync Module.

SERIAL INPUTS

c6_rx$ ..... route from Crestron com port

SERIAL OUTPUTS

c6_tx$ ..... route to Crestron com port

group_volume$ ..... displays the current group volume that will be sent with the “setup_group” input. The display is in dB

Nexus C6 Sync Module v1 Signal & Parameter Descriptions

DIGITAL INPUTS

[zonex_all_off_sync] ..... connect to the [all_zones_off_sync] ouput of the Zone Module.

ANALOG Inputs

[zonex_global_sync] ..... connect to the [zonex_sync] output of the Global Module.

SERIAL OUTPUTS

[zonex_sync$] ..... connect to zone_sync$ input of the Zone Module

Support

This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email support@controlworks.com or call us at 440-449-1100. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have loaded and tested operation using the included demonstration program and touchpanel(s) to ensure that you understand the correct operation of the module. It may be difficult for ControlWorks to provide support until the demonstration program is loaded.

Updates, when available, are automatically distributed via Email notification to the address entered when the module was purchased. In addition, updates may be obtained using your username and password at http://www.thecontrolworks.com/customerlogin.aspx.

Distribution Package Contents

The distribution package for this module should include:

Nexus_C6_Controller_Help_v1.pdf ..... this help file
Nexus_C6_Zone_Module_v1.umc..... the zone control module
Nexus_C6_Tuner_Module_v1.umc..... the tuner control module
Nexus_C6_Group_Module_v1.umc ..... the group control module
Nexus_C6_Demo_TPS-4500_v1.vtp ..... example touchpanel (TPS-4500)
Nexus_C6_Test_Program_v1.smw ..... example program (PRO2)

Revision History

V1 jim@controlworks.com 2006.04.27
- Public release

Internal V2 jim@controlworks.com 2006.04.16
-Changed how zone parameter gets passed into zone module
-Fixed zone power feedback
-Added zone add and delete for group functions
-Built Sync module to sync the zones with the all off function as well as the group functions

Internal V1 jim@controlworks.com 2006.03.28
-Initial build of three modules
-Added undocumented preset recall commands

Development Environment

This module version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

Hardware

Crestron PRO2 Processor v3.137
Crestron TPS-4500 Touchpanel v2.002
Nexus C6 Controller .....Version: IR1.92 Main 0.16

Software

Crestron SIMPL Windows ..... Version 2.06.20
Crestron Database ..... Version 17.7.0
Crestron Symbol Library .....Version 371
Crestron Device Library .....Version 371
Crestron Vision Tools Pro-E ..... Version 3.4.2.9 Build 20051123:1

ControlWorks Consulting, LLC Module License Agreement

Definitions:
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We provide limited levels of technical support only for the most recent version of the Module as determined by Us. We do not provide support for previous version of the module, modifications to the module not made by Us, to persons who have not purchased the module from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a module from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a module.

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