roon

Crestron Device Module

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1. Introduction

The Roon Device Module provides the following:

- Browsing of Roon's Library and Music Services from Crestron
    - Library
    - TIDAL
    - Search
    - Playlists
    - Genre Browsing
- Control of Roon's zones from Crestron
    - Transport controls
    - Now Playing information
    - Volume/Mute controls
    - Standby

There are two modules: the Roon Device Module which talks to an individual output device, and the Roon System Module which manages the connection to the Roon system.

Roon's module includes a Crestron MediaPlayer implementation, as well as transport and now playing informations exposed via Joins to facilitate custom interfaces.

These drivers are compatible with Roon 1.4 (build 306) and above.

2. General Information:

SIMPLWINDOWS NAME:	RoonDeviceModule
CATEGORY:	Media Resource
VERSION:	V. 1.0 (Build 8)
SUMMARY:	This module is used to control an audio player through Roon
GENERAL NOTES:	
CRESTRON HARDWARE REQUIRED:	3-Series processor

3. Getting Started with the Demo Program

This package includes a demo program, which shows you how to hook up the Media Player to the Roon modules.

1. Download the control system and virtual panel programs:
   a. Download the archive here:
       https://download.roonlabs.com/crestron/Roon_Example_Compiled.zip
       OR
       https://download.roonlabs.com/crestron/Roon_Example_Archived.zip
       Note: If unfamiliar with Crestron archives, please use the Compiled Version
   b. Unzip the archive.

2. Start the Crestron Toolbox, and connect to your 3-series control system. If it is not in your address book already, do this:

   a. Open the "Device Discovery Tool", the binoculars icon on the top toolbar
   b. Wait for it to discover your control system
   c. Right click on the control system in the list at the left of the screen, and select "Add Hostname to Current Address Book"

3. Switch to the "Easy Config" tool, the "EC" icon on the top toolbar.

   ● Select the control system from the address book menu in the bottom left of the screen.
   ● Transfer the control system program, by clicking "Program", clicking "Browse" in the pop window, then navigating to the "Roon_Example_CP3.lpz" file from the archive, selecting it, and clicking "Send"

4. Enable the Crestron Extension in Roon settings

Settings ben-desktop

General

Storage

Services

Setup

Play Actions

Library

Audio

Backups

Extensions

Account

Dev

Help Translate Roon!

Language

English

Authorizations
View and/or remove previously authorized extensions.

✏ View

Discovered Roon Extensions

Crestron 1.0

Roon Labs LLC

Enable

5. Select an output to pair with the Crestron device by clicking "Settings" and picking an output in the dropdown menu.

Extension Settings

Crestron 1.0 (build 7)

|	
S-3.1: Zone 1	Headphones ⌄
S-3.2: Zone 2	Chord Hugo TT HD ⌄
S-3.3: Zone 3	DragonFly Red ⌄
S-3.4: Zone 4	System Output ⌄

Save   Cancel

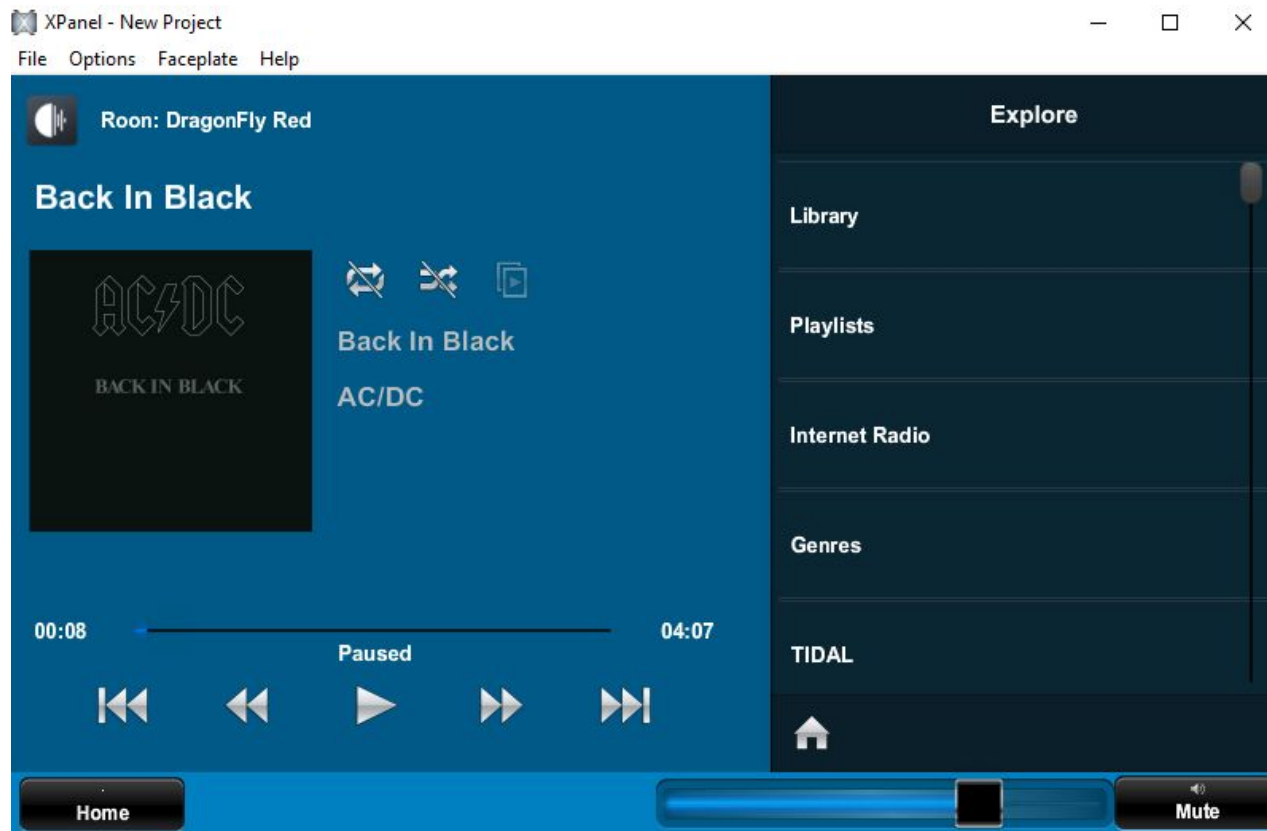**6. Run the "Roon Example TSW-750.vtz" program as a virtual panel:**

    a. Double click on the program in Windows Explorer
    b. Select Options -> Host Settings, enter the IP address of the Crestron Control system and set "IPID" to "03"
    c. Click "Connect"

7. Select the desired zone to view the demo screen.

    (1) Main screen
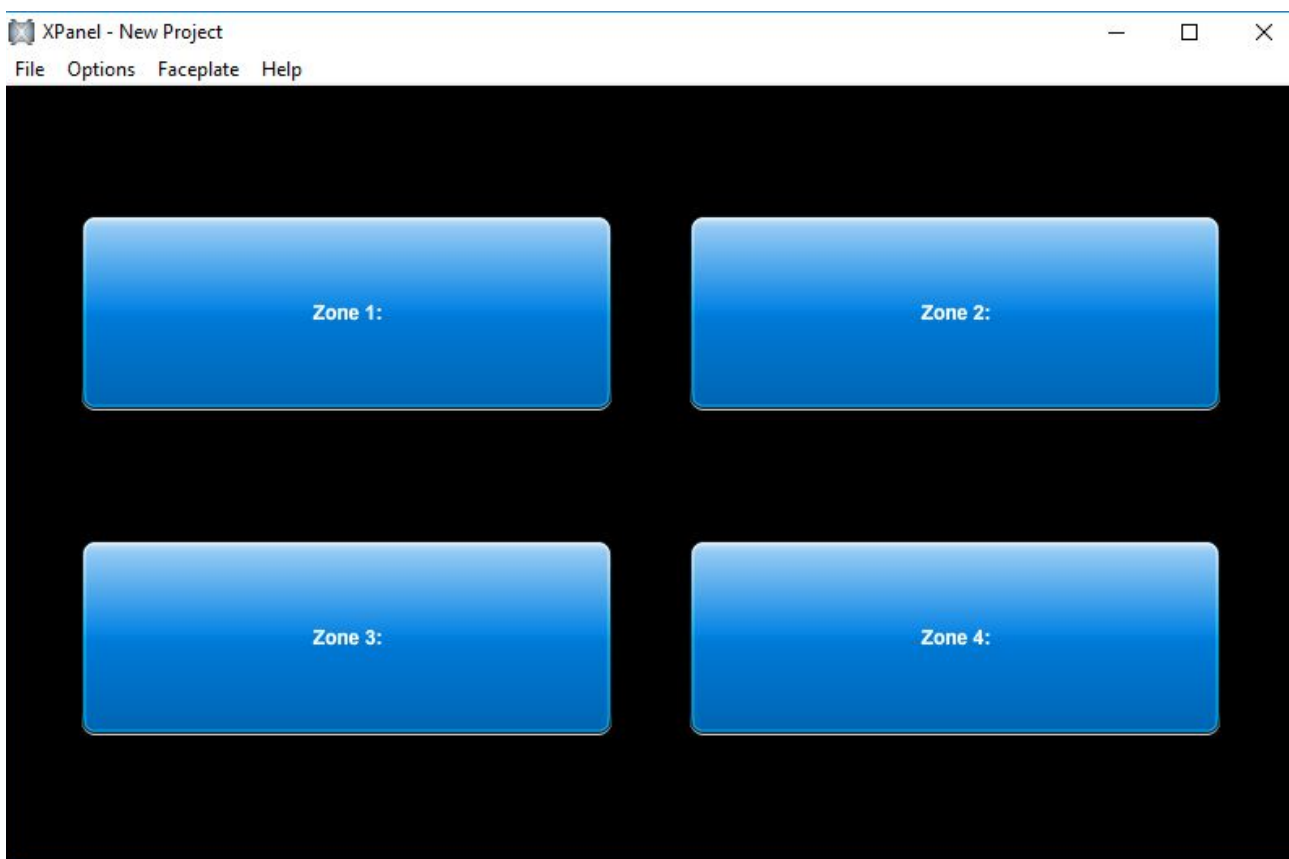
(2) Mediaplayer screen

8. If you are upgrading from a previous Roon Crestron build, please follow these instructions for proper communication:

a. Update Nucleus and Roon Remotes to the newest Roon version
b. Unauthorize any existing Crestron extension in Roon Settings -> Extensions -> View
c. Add the Nucleus' IP address in the Crestron module RoonSystemModule symbol
d. Compile and upload the module to the processor
e. Reboot the Nucleus from the WebUI or power button
f. Enable/Pair the new module in Roon Settings -> Extensions
g. Configure the new module in Roon Settings -> Extensions
h. Reboot the Nucleus again after the module is paired

4. Controls:

SystemModuleReady	D	Indicates that the system module is up and operating, the device module won't operate until this is set
StandBy	D	Pulse to put the audio hardware controlled by this module to standby mode
ConvenienceSwitch	D	Pulse to take the audio hardware controlled by this module out of standby mode and do anything required to get it ready to play
Play	D	Pulse to play music
Pause	D	Pulse to pause music
Play/Pause	D	Pulse to toggle between play and pause state
NextTrack	D	Pulse to switch to the next track
PreviousTrack	D	Pulse to switch to the previous track
Stop	D	Pulse to stop music
SetShuffleOn	D	Pulse to set shuffle mode to on
SetShuffleOff	D	Pulse to set shuffle mode to off
ToggleShuffle	D	Pulse to toggle shuffle mode between off and on
SetLoop	D	Pulse to set loop mode to loop the whole current queue
SetLoopOne	D	Pulse to set loop mode to loop the current track
SetLoopOff	D	Pulse to set loop mode to none
ToggleLoop	D	Pulse to toggle between loop modes, in this order: whole queue -> current track -> none
SetAutoRadioOn	D	Pulse to turn on auto radio, so that Roon will automatically enable radio mode when the current queue ends
SetAutoRadioOff	D	Pulse to turn off auto radio
ToggleAutoRadio	D	Pulse to toggle auto radio
VolumeUp	D	Pulse to increase volume slightly

VolumeDown	D	Pulse to decrease volume slightly
Volume	A	Set the volume in the device's native units
VolumeNormalized	A	Set the volume in a normalized scale between 0 and 65535
Mute	D	Pulse to mute the audio
Unmute	D	Pulse to unmute the audio
Mute/Unmute	D	Pulse to toggle mute on/off
Seek	A	Seek to a position in the track, in seconds units
SeekNormalized	A	Seek to a position in the track, in normalized scale between 0 and 65535
CRPC	S	To be connected to the Media Server Object Router module

5. Feedback:

IsAvailable_fb	D	Set to high when the device module is available and functioning correctly
SupportsStandby_fb	D	Set to high if the hardware connected to this device module supports a standby mode
SupportsConvenienceSwitch _fb	D	Set to high if the hardware connected to this device module supports convenience switching
Name_fb	S	The name of the audio zone in Roon
IsPlayAllowed_fb	D	Set to high if the play action is available
IsPauseAllowed_fb	D	Set to high if the pause action is available
IsNextAllowed_fb	D	Set to high if the next track action is available
IsPreviousAllowed_fb	D	Set to high if the previous action is available
Playing_fb	D	Set to high if music is playing
Paused_fb	D	Set to high if music is paused
Loading_fb	D	Set to high if a file is loading
Stopped_fb	D	Set to high if music is stopped
IsShuffle_fb	D	Set to high if shuffle mode is active
IsLoop_fb	D	Set to high if the loop mode is to loop the whole queue
IsLoopOne_fb	D	Set to high if the loop mode is to loop a single track
IsAutoRadio_fb	D	Set to high if auto radio mode is active, so that Roon will go to radio mode automatically when the queue ends
VolumeMin_fb	A	Minimum possible volume level, in the hardware's native units
VolumeMax_fb	A	Maximum possible volume level, in the hardware's native units
Volume_fb	A	Current volume, in the hardware's native units

VolumeNormalized_fb	A	Current volume, normalized to a range between 0 and 65535
VolumeType_fb	S	Volume type, as a string. Possible values are "number", "db", "incremental". If you get an unanticipated value, treat it as "number"
IsVolumeFixed_fb	D	Set to high if the hardware volume is fixed and cannot be controlled through Roon
IsMuted_fb	D	Set to high if muted
IsSeekAllowed_fb	D	Set to high if seeking is possible in the current track
PositionSeconds_fb	A	Position in the current track in seconds
PositionNormalized_fb	A	Position in the current track, normalized to a range between 0 and 65535
PositionSerial_fb	S	Position in the current track, as a string suitable for displaying to users. Formatted like 1:23:45 a position of 1 hour, 23 minutes and 45 seconds into a track
LengthSeconds_fb	A	Length of the current track, in seconds
LengthSerial_fb	S	Length the current track, as a string suitable for displaying to users. Formatted like 1:23:45 a position of 1 hour, 23 minutes and 45 seconds into a track
ShowSeekPosition_fb	D	Set to high if there is a meaningful seek position for the current track
ShowLength_fb	D	Set to high if there is a meaningful length for the current track
OneLine_fb	S	Now playing track information formatted for a single line display
TwoLine_Line1_fb	S	First line of the now playing track information formatted for a two line display
TwoLine_Line2_fb	S	Second line of the now playing track information formatted for a two line display
ThreeLine_Line1_fb	S	First line of the now playing track information formatted for a three line display
ThreeLine_Line2_fb	S	Second line of the now playing track information formatted for a three line display

ThreeLine_Line3_fb	S	Third line of the now playing track information formatted for a three line display
NowPlayingImageUrl_fb	S	URL for the artwork to be shown with the currently playing track
PlayBackError_fb	S	Error message for the currently playing track
CRPC_fb	S	To be connected to the Media Server Object Router module

6. Testing

This module was tested by Roon Labs with the following versions, and is known to work:

OPS used for testing	V. 1.502.0039.001
SIMPL Windows used for testing	V. 4.08.15
Crestron DB used for testing	V. 64.05.001.00
Device DB used for testing	V. 88.05.003.00
Sample program	Roon Media Player v1.0 (Build 10)
Revision history	V 1.0 (Build 10): • Rebuilt to work with Crestron Database version 200 and higher V 1.0 (Build 10): • You are now required to place the Nucleus IP address in the RoonSystemModule symbol and it is recommended that this IP does not change • Added support for processors with Control Subnets such as CP3N, PRO3 & AV3 • Improved TIDAL Search functionality • Added Qobuz functionality to module • Fixed issue with duplicate zones appearing in Roon -> Extension Settings • Fixed zone names sometimes failing to appear in interface's home screen • Fixed issue with Explore Menu sometimes not loading • Added ability to jump to iOS Roon App in iPhone/iPad interfaces (linked to press5 on both IPID 05 and IPID 06) • Updated Home/App icons V 1.0 (Build 7): • Performance Improvements • Added home button for easier navigation • Duplicate Zones appearing has been fixed • Added version numbers in project • Improved Volume Control logic for analog ramps

	V 1.0 (Build 6): • Performance Improvements • Added 4th Audio Zone • Zone names update automatically • MuteAll/PauseAll commands implemented • Module allowed to reside in other SIMPL subfolders • EnableDebugMode set by default to off V 1.0 (Build 5): • Added Multi-zone Support • Added Compiled and Archived Editions • Added iPhone/iPad VTPro Samples

7. FAQ

Q: The Controls for a Zone are not working, the module just seems to be loading but nothing is happening!

A: Please make sure that the device is powered on and that it shows up as an active audio zone in the Roon Settings

Q: I cannot control the Volume through the Crestron Module!

A: Please make sure that your Zone Output supports the ability to change the volume from within Roon and is not a "Fixed Volume" device

Q: How do I set the Zone Outputs for my devices?

A: Please open Roon -> Settings -> Extensions -> Crestron Settings and set your Zones there

Q: I don't the Crestron Module listed in Roon -> Settings -> Extensions!

A: Please make sure that you Nucleus is powered on and connected to the network when you performed the upload. You can also perform a "Recompile All" in SIMPL and then upload the Sample Project to your processor once more. If there is nothing listed under Roon Extensions, then the module is not communicating properly and a re-upload of the project is needed.

Q: What is the difference between the "Compiled" and "Archived" version of the Sample Project?

A: The compiled version is ready for upload, the archived version has to first be extracted, then the Compiled VTPro project files have to be linked from within SIMPL. If you are not sure which version to use, please download the Compiled edition.

8. Support

If you're having any trouble with this module, please get [get in touch with Roon Support](#) in our [Home Automation section of Community](#).