
Step-By-Step Guide: How to integrate CasaTunes with RTI ID 11 when configured in System Mode

Revision 1.0

Overview

This step-by-step guide shows you how best to integrate a CasaTunes system when configured in “System Mode” with RTI Integration Designer 11 using APEX and either the Coral UI Music Player template or the RTI Music template.

What is “System Mode” vs “Streamer Mode”?

You can configure your CasaTunes music server to operate in one of two modes:

System Mode - In this mode, your CasaTunes music server provides one or more CasaTunes Media Player streams **AND** controls a CasaTunes supported audio matrix.

CasaTunes supports more than 60 different CasaTunes and third party matrices, including the RTI-AD-4/8/4x/8x and the new RTI AD DSP matrices (AD-46-100, AD-810-100, and AD-1616).

The primary advantage of System Mode is you get the best of both worlds, using the CasaTunesX App alongside your RTI panels, keypads, and remotes. As a purpose-built audio app, CasaTunesX delivers far more capability than RTI alone, unlocking the system’s full potential.

Streamer Mode: When in Streamer Mode, the CasaTunes music server provides one or more CasaTunes Media Player streams only. Control of the audio matrix is provided by RTI using an RTI or third party audio matrix driver.

This step-by-step guide assumes your music server is configured in “System Mode” and your CasaTunes music server is controlling the audio matrix. A separate [guide](#) is available when integrating a CasaTunes music server in “Streamer Mode”.

RTI templates for music

RTI provides several “canned” music templates you can use with the Coral UI. CasaTunes works with both the **Music Player** template and the **RTI Music** template.

The Music Player template is the simplest of the music templates. It offers the following features:

- **Now Playing** information, which displays information about the currently playing song. This includes cover art, song progress, song meta-data, thumbs up/down rating, and control over repeat and shuffle.
- **Transport Controls**, including moving to the previous/next song, and pausing, playing or stopping play back of a song
- **Browsing** and selecting music
- Selecting **favorites** (CasaTunes playlists)

This Music Player template is the easiest to integrate, requires less programming, and is a good template to use if you are new to RTI, or your customers will be primarily using the CasaTunesX App to control their music.

The RTI Music template provides a super set of the functionality provided by the Music Player template.

Additional features include:

- Queue Functionality (if the music service supports it). This includes viewing the current queue, selecting an item from the queue to play, clearing the queue, and saving the queue as a (CasaTunes) playlist
- Option to integrate searching for music

Prerequisites

Set up and test your CasaTunes System stand alone, prior to the integration. The CasaTunes Driver for RTI loads your CasaTunes music server configuration to automatically configure the driver properties in Integration Designer, eliminating tedious and configuration errors.

Make sure your CasaTunes system is powered on and connected to the same network segment as your RTI controller

Make sure you are using the latest version of the CasaTunes RTI APEX driver for RTI.

- Visit the CasaTunes web site downloads page: <https://casatunes.com/support/downloads>
- Scroll down to the **CasaTunes Driver for RTI** section
- Download the latest version of the **CasaTunes APEX driver package for RTI**, and save the driver in your Integration Designer control driver folder

Step-by-step instructions

Initialize your System Workspace

In Integration Designer, select “Add Workspace Item”, and select your RTI processor. Select Rooms and add a room. Call it Temp. We will delete this room later.

Install the CasaTunes Driver first

Now, let's add the CasaTunes Driver, and let it discover your music server configuration.

To install the CasaTunes Driver, select the Drivers tab, change the library option to USER, and add the CasaTunes Driver (Make sure the driver version is 5.00 or later).

- Under “CasaTunes Driver”, expand Zone and assign Zone 1 to the Temp room (you just created).
- Close the “Add workspace item” window
- Select the CasaTunes Driver from the System Workspace
- Select the **Discover and Sync CasaTunes** menu item for the driver
 - a. The driver will automatically discover all the CasaTunes music servers on the network, and configure the driver properties based on your music server configuration
 - b. By default, driver discovery will setup the driver properties for the **Selected Music Server**, or for the music server called CASASERVER, if this is a new project
 - c. If you have more than one music server, you can select the music server to use from the drop down in **Selected Music Server**
- Jot down the list of wired rooms, airplay speakers, room groups and sources. The wired rooms and sources are listed in the order they are connected to the matrix (including any hidden rooms and sources). Use this list when adding rooms and players to your System Workspace.
- Now delete the Temp room you created

Complete setting up your System Workspace

Select “Add Workspace Item” again, and select the Rooms tab. Add your rooms. We recommend you add your rooms in the same order as listed in the CasaTunes Driver (which you jotted down, right?).

Next, select the Controllers tab, and add one or more RTI controllers to the Global area and/or specific rooms

Assign Zone, Zone AirPlay and Zone Group to your rooms

Select the **Drivers** tab. Under the CasaTunes Driver, expand **Zone**. Select the room you want to configure (from the left hand panel), and assign the CasaTunes Zone, Zone AirPlay, or Zone Group. Make sure “**Set as room audio source**” is checked. Repeat for each room. We recommend you append the room name to the zone when assigning the zone. For example, set “Zone 1” to “Zone 1 - Master BR”.

Assign the Players

Select the **Drivers** tab. Now under the CasaTunes Driver, expand **Player**. Add each player to the **Global** area. Adding a player to the Global space, ensures the player is available in any room. If you prefer to restrict a player to a specific room (for example, a kids room), then assign the player to the specific room.

When you add a Player, we recommend you rename the player to match the CasaTunes source name for the player. For example, set “Player 1” to “David’s Music”.

The total number of players available matches the number of CasaTunes Media Players configured. If you want to verify which sources are configured as CasaTunes Media Players, open CasaTunesX, go to MENU >

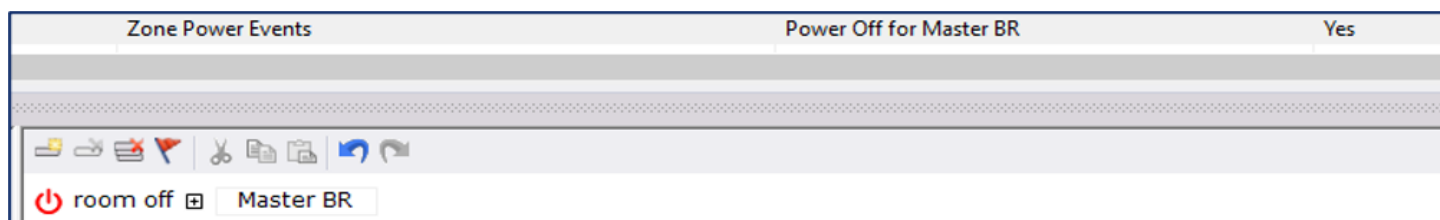
Settings > System Setup > Sources and find all sources whose **Source Type** is set to “**CasaTunes Media Player**”.

Close the System Workspace.

Program Driver Events

If your customers are also going to be using the CasaTunesX App to control their music, then you need to make sure that the RTI System Manager is notified when changes are made “externally” to the RTI system. In particular, if you power off a room, we need to inform the System Manager that the power for the room has changed. We do this using the System “room off” macro.

In the System Workspace, expand **Drivers**, select **CasaTunes Driver** and then **Driver Events**. For all the “Power Off for <room name>” events, add the System “room off” macro and select the associated room name.



Program Room Events

For each room, we are going to program the **Room Audio** Events, **Activity Ready** Events, and **Room Selection** Events.

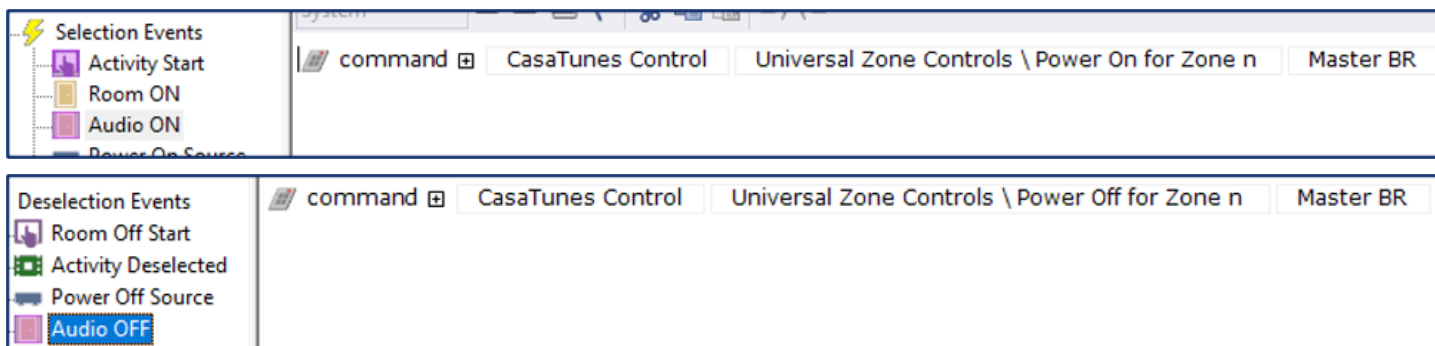
Configure and rename your Activities

Now is a good time to configure which Activities to make available for a room, as well as rename your activities to be more meaningful for the end user.

For each room in the System Workspace, select the room, then select Activities. Determine which activities to enable and the order the activities will be listed in the controller, and if necessary, customize the Activity Name (you only need to rename your Activities once).

Room Audio Events

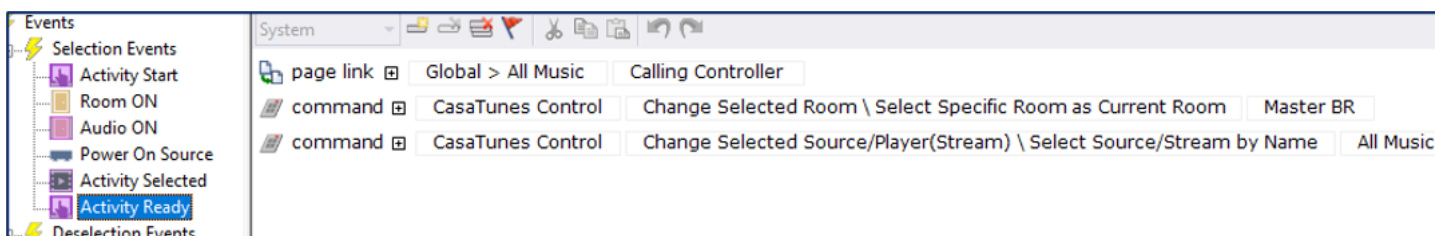
For each room in the System Workspace, select the room, and then select Activities. Select the **Audio ON** selection event and add the CasaTunes driver **Universal Zone Controls\Power On for Zone n** macro and set the room parameter to match the current room. Similarly, select the **Audio OFF** deselection event and add the CasaTunes driver **Universal Zone Controls \ Power Off for Zone n** macro, and set the room parameter to the selected room.



Activity Ready Event

For each (CasaTunes) Audio Activity, select the Activity Ready selection event and add the following two marcos:

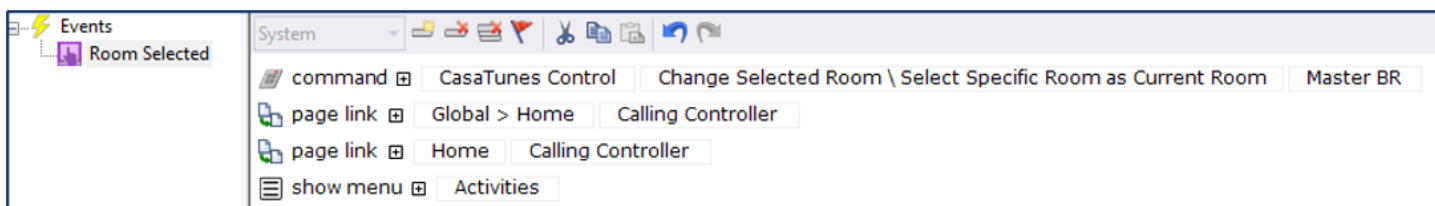
- **Change Selected Room \ Select Specific Room as Current Room.** Make sure to set the room parameter to match the current room
- **Change Selected Source/Player(Stream) \ Select Source/Stream by Name.** Set the player parameter to match the source name for the player used in the activity



Room Selected Event

This event can be used to set the currently selected room. This is necessary when the controller is displaying the Home page, so we can display the proper Now Playing information for the currently selected room.

For each room in the System Workspace, select Room Events. Select the **Room Selected** event and add the CasaTunes driver macro **Change Selected Room \ Select Specific Room as Current Room**. Set the room parameter to the currently selected room



Replacing the Music Player template with the RTI Music template

If you want to use the RTI Music template, instead of the (default) Music Player template, follow these steps:

- In the System Workspace, select Global, and expand Sources

- For each (CasaTunes) player listed
 - Select Page Wizard, and select each controller to add the RTI Music template
 - In the Page Wizard dialog, select RTI Music from the Available Pages, and select **insert** to add the RTI Music page(s) to the selected controller, then select **close**. This adds the RTI Music page(s) to the selected controller.
 - Now you need to remove the Music Player page(s) from the selected controller. Select a Music Player page from the list of pages for the controller, right click the page name and select Delete Page. Repeat this for each Music Player page (if there is more than one page)

Programming the Home page for each controller

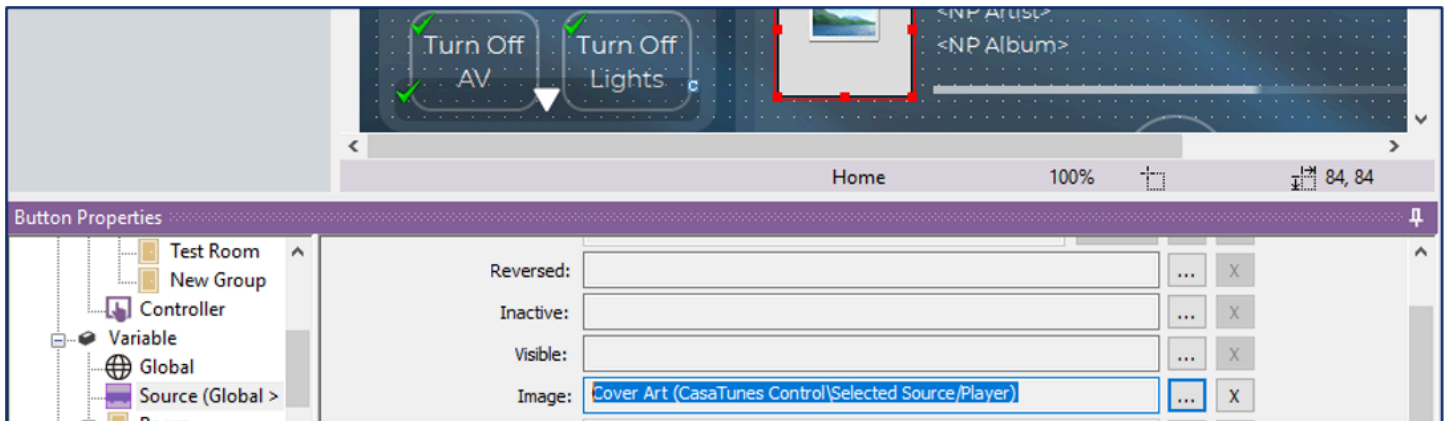
The next step is to program the Home page for each controller that includes a Home page with a Now Playing panel.

Select the controller Home page and make sure to unlock the Now Playing layer (from the Layers window), so we can edit the Now Playing panel.

To integrate the Now Playing panel, we use CasaTunes Driver Variables to determine the content to display for an object, to control whether an object is visible, and we use CasaTunes Driver macros to invoke CasaTunes commands, for example, to play, pause, stop, and skip to the next or previous songs.

The following steps illustrate how to program the different Now Playing objects. A table summarizing the programming steps is provided below.

Cover Art



Song Title

The screenshot shows the CasaTunes Control interface with a 'Home' sidebar on the left. The main area contains three widgets: 'Whole House' with 'Turn Off AV' and 'Turn Off Lights' buttons, a music player widget with a landscape image, and a 'Song Title' widget. The 'Song Title' widget is highlighted with a red border and contains the text '<NP Artist>' and '<NP Album>'. Below the interface is the 'Properties' panel. The 'TEXT TAG: NP Title' is selected in the 'Variable' list. The 'Text' field is set to 'Metadata Line 0 (CasaTunes Control\Selected Source/Player)'. The 'Reversed' checkbox is unchecked.

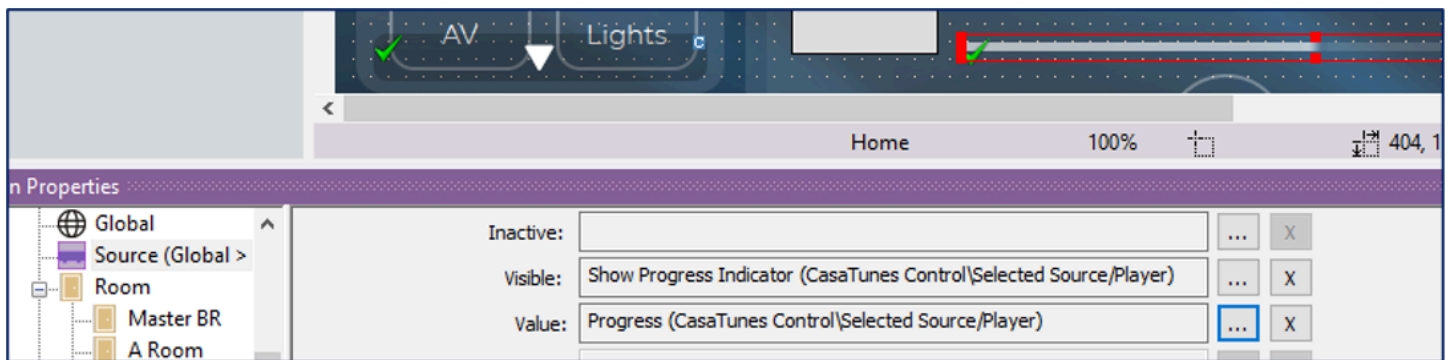
Artist

This screenshot is identical to the one above, showing the 'Song Title' widget configuration in the CasaTunes Control interface. The 'Song Title' widget is highlighted with a red border and contains the text '<NP Artist>' and '<NP Album>'. The 'Properties' panel shows the 'TEXT TAG: NP Title' selected, with the 'Text' field set to 'Metadata Line 0 (CasaTunes Control\Selected Source/Player)'.

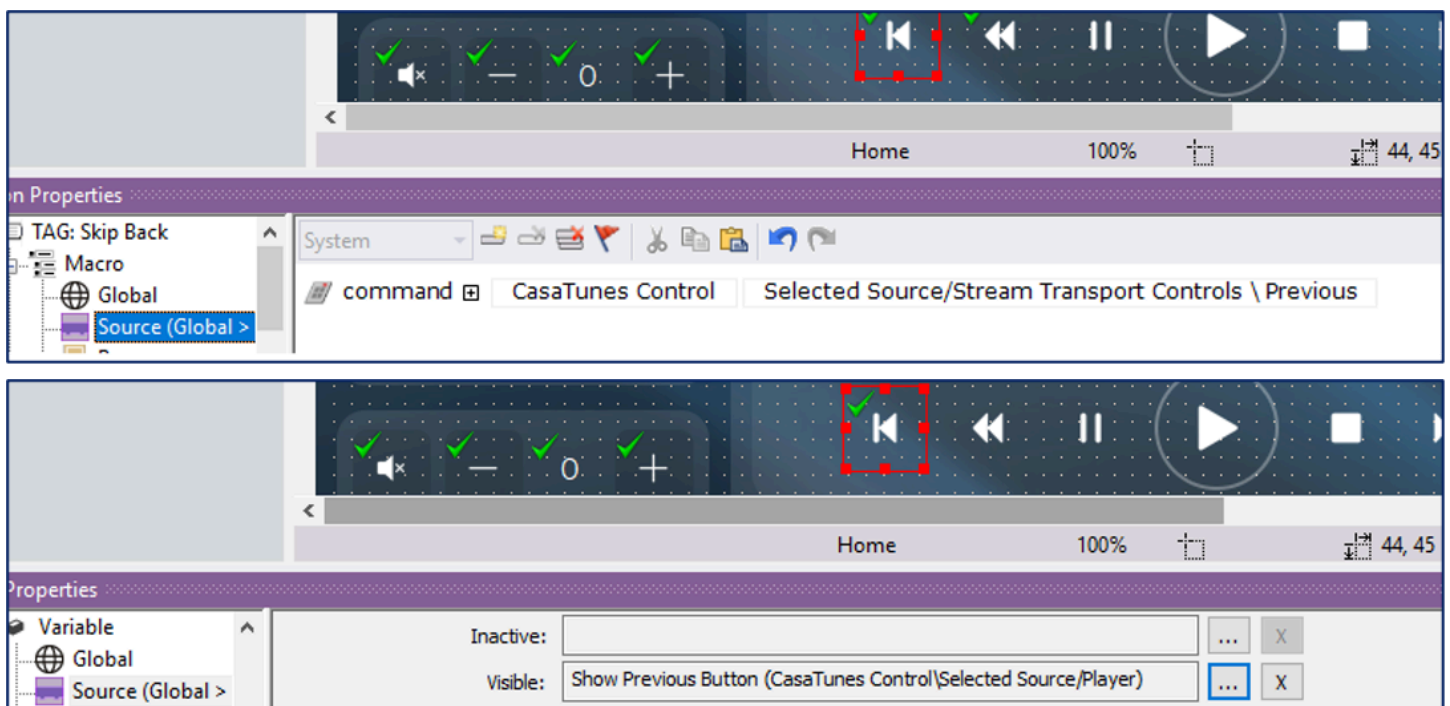
Album Name

The screenshot shows the CasaTunes Control interface with the 'Album Name' widget highlighted by a red border. The widget contains the text '<NP Artist>' and '<NP Album>'. The 'Properties' panel shows the 'TEXT TAG: NP Album' selected in the 'Variable' list. The 'Text' field is set to 'Metadata Line 2 (CasaTunes Control\Selected Source/Player)'. The 'Reversed' checkbox is unchecked.

Progress Bar

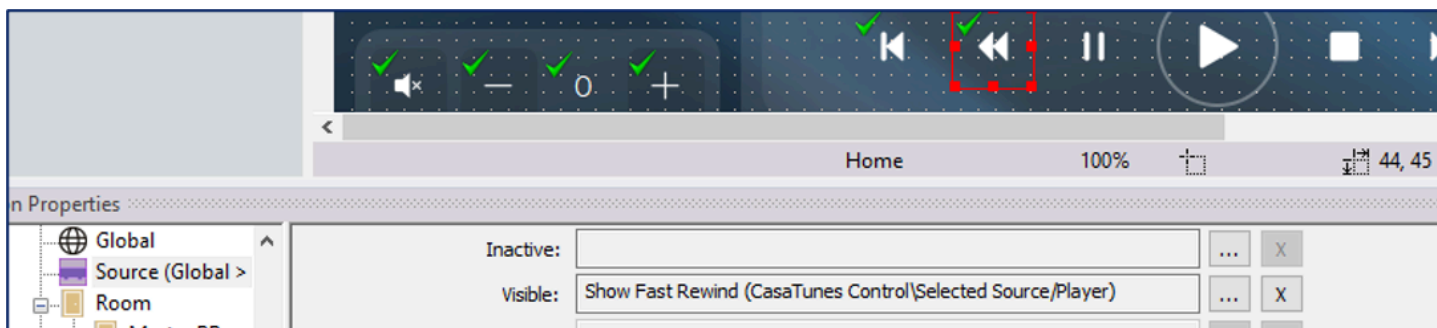


Previous Track

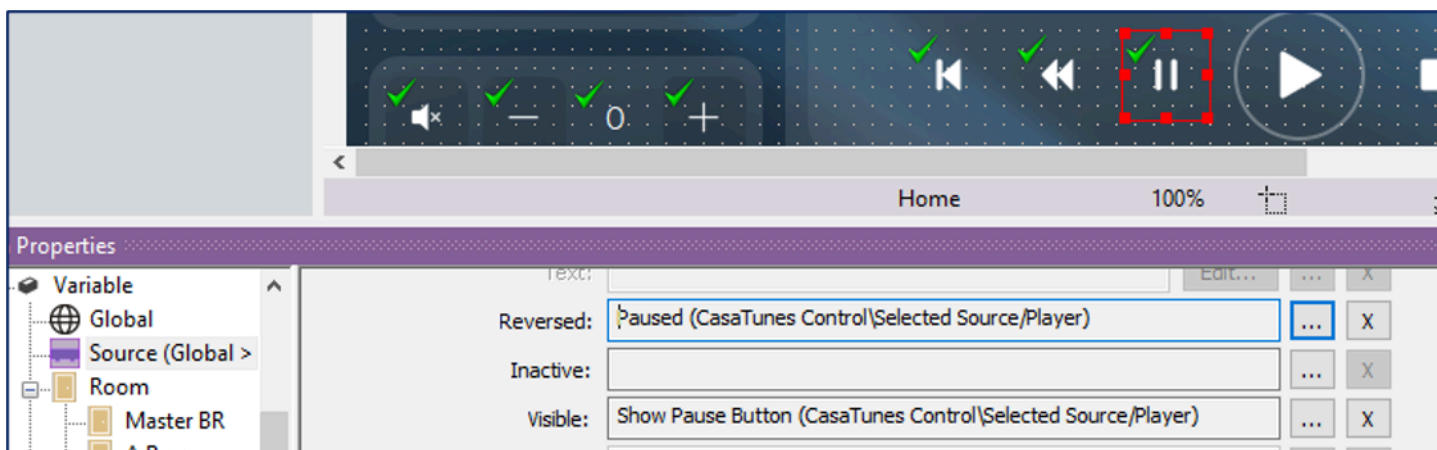
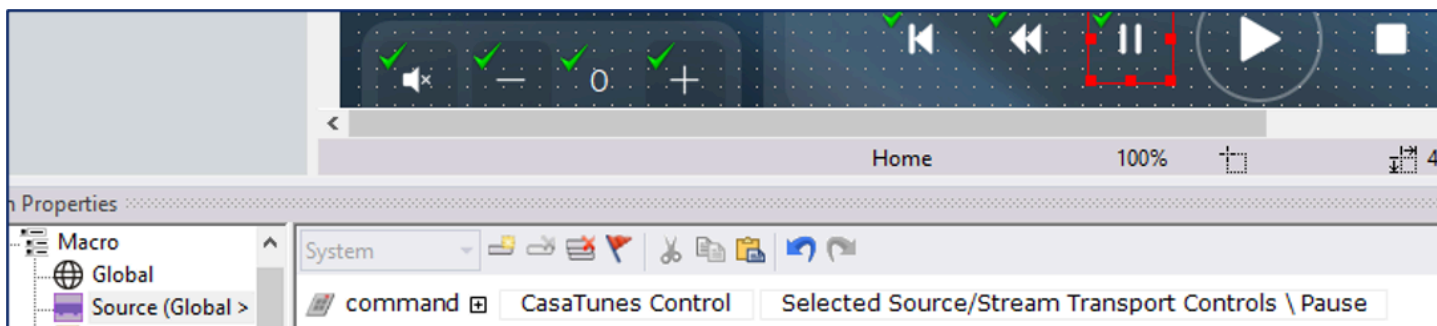


Fast Rewind

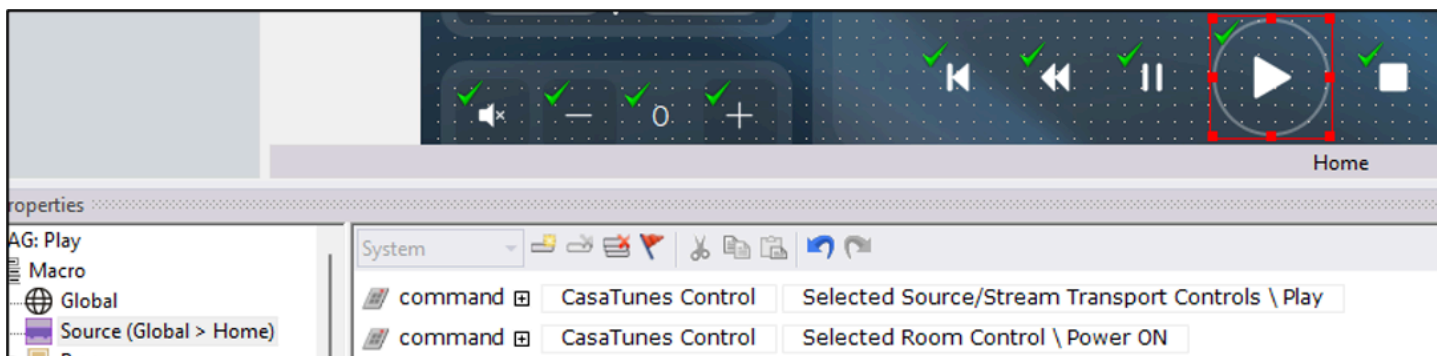
CasaTunes does not support Fast Rewind (or Fast Forward). The **Show Fast Rewind** variable always returns false. If you want to customize the UI and remove the Fast Rewind and Fast Forward, the easiest way is to program the Fast Rewind button as the Previous Track button, and the Fast Forward button as the Next Track button. This avoids any edits to the templates.

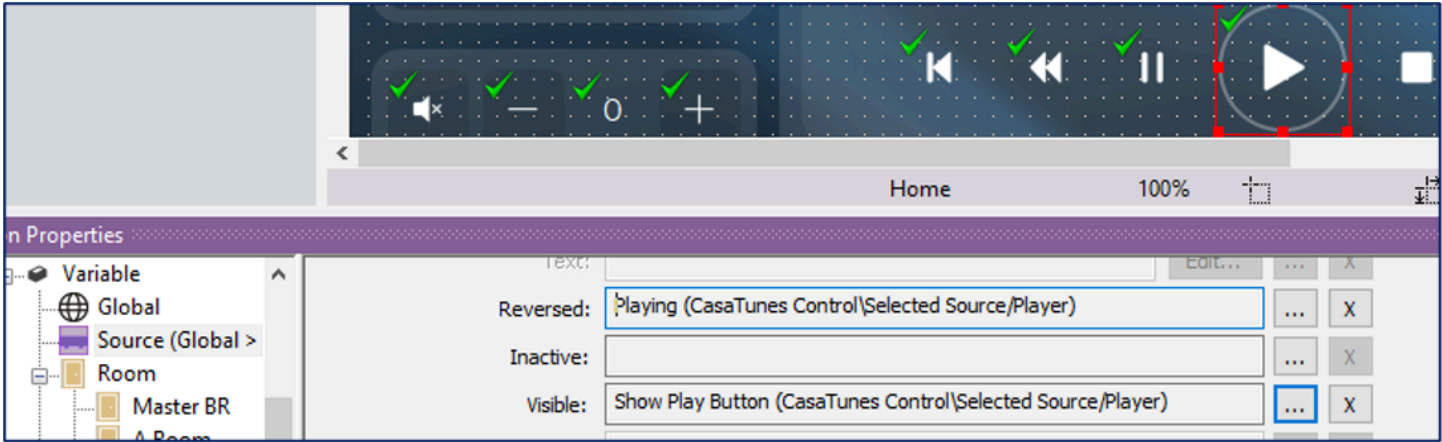


Pause

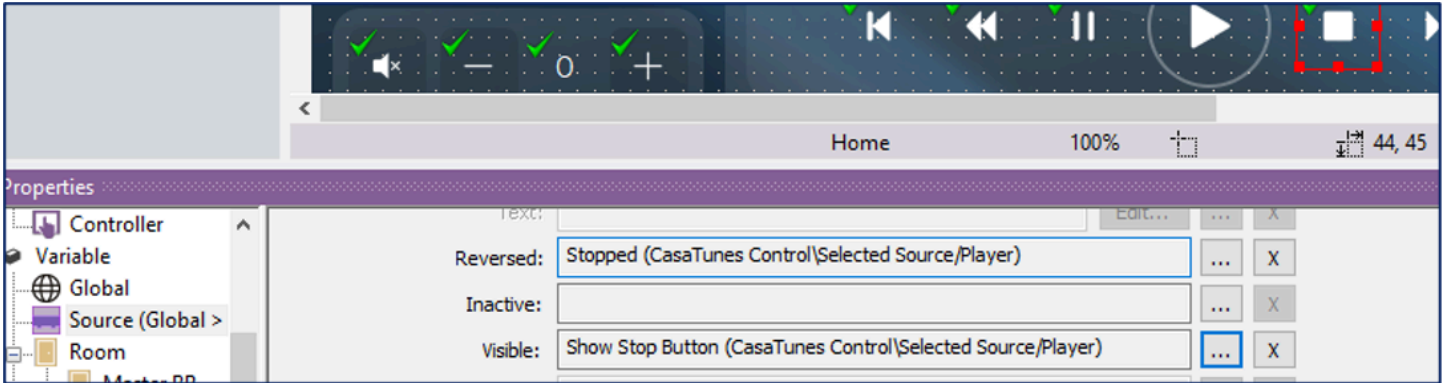
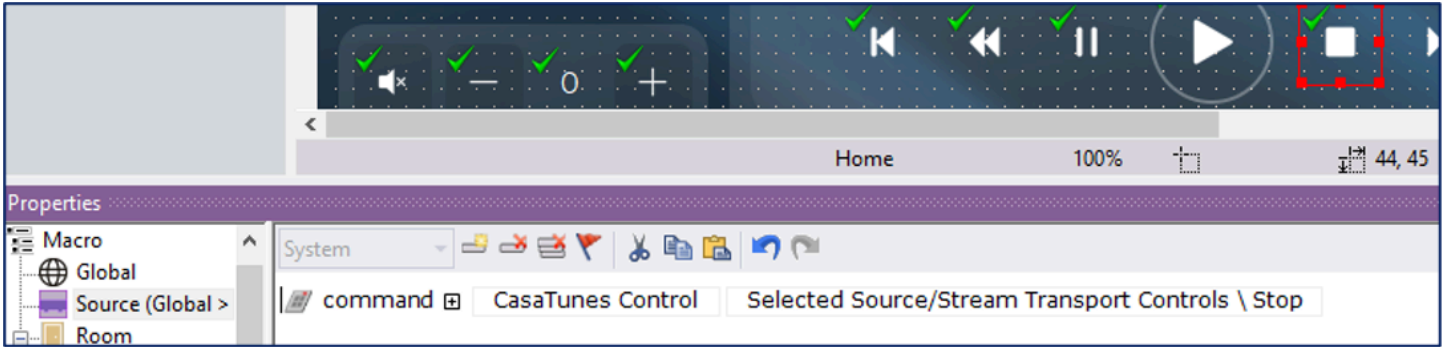


Play

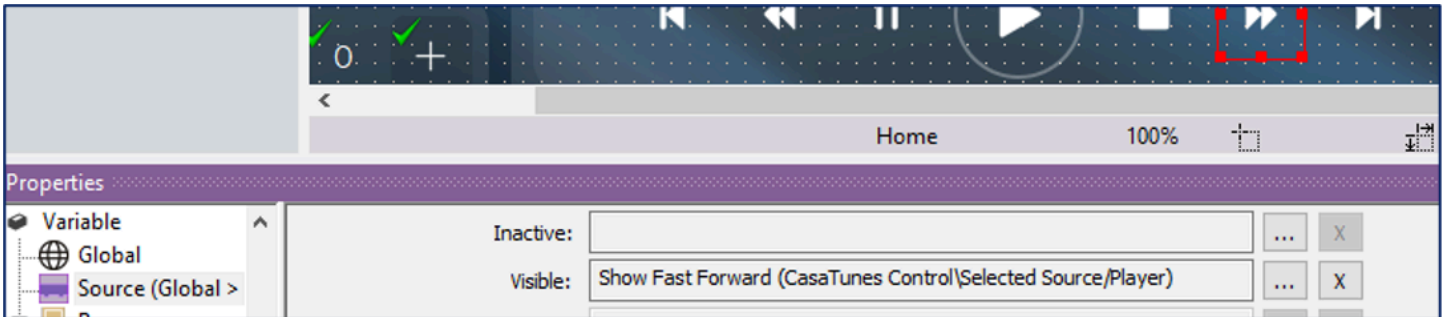




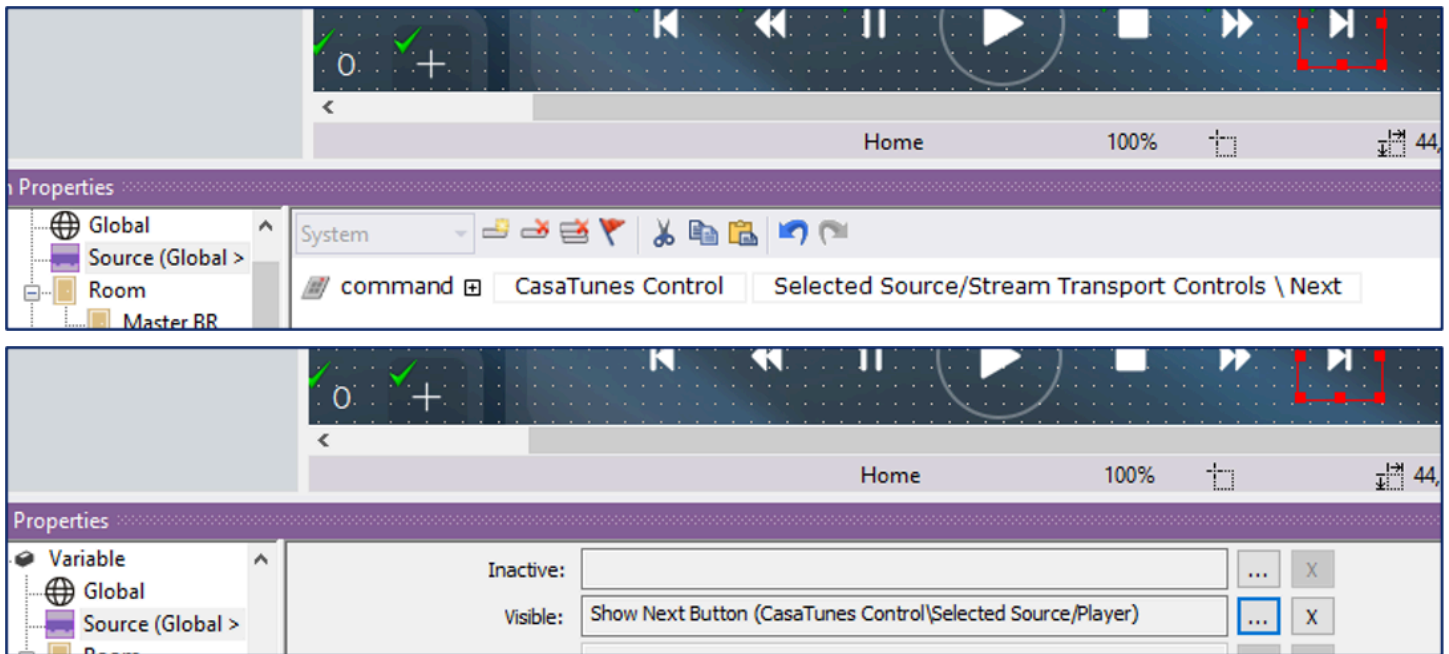
Stop



Fast Forward

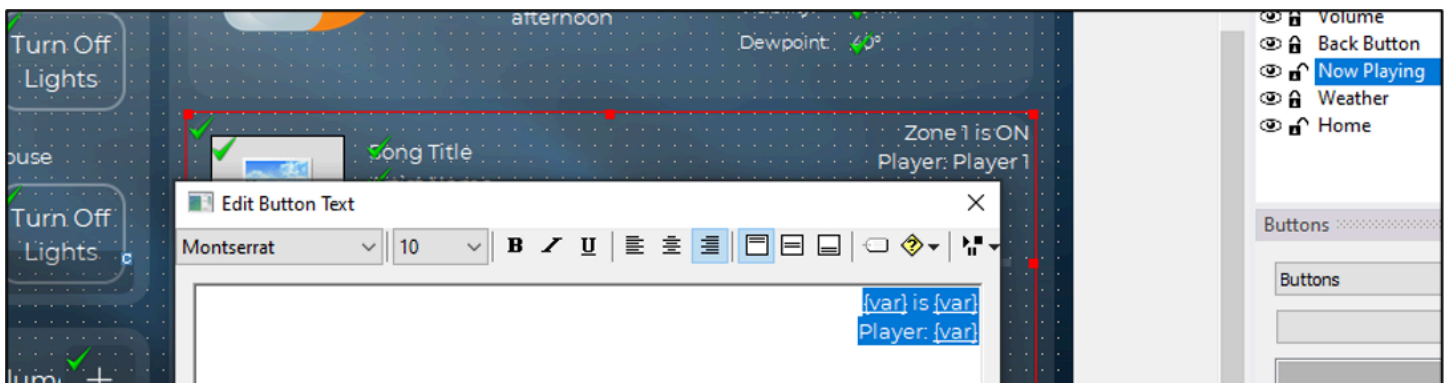


Next Track



Display whether the room is powered and the player in use

You can add whether the room is powered and the selected source for the room. This helps inform the customer whether the room audio is already on (or off) and which player is being used in the room. You can add this by selecting the Now Playing background layer and assigning text.



The first variable is set to **CasaTunes Control | Selected Zone/Stream Info Room Text Name**

The second variable is set to **CasaTunes Control | Selected Zone/Stream Info Power On**, with true set to ON and false set to OFF

The third variable is set to **CasaTunes Control | Selected Source/Player Source/Player Text Name**

If you are using the Music Player template, then congratulations, you have successfully completed integrating the template. If you are using the RTI Music template, jump to the next section, Completing the RTI Music template page programming

Table Summary

The table below provides a summary of the Now Playing objects that need to be programmed and the programming required.

Object	Variable or Macro	Property Name	Variables: (CasaTunes Control\Selected Source/Player) Name Macros: Selected Source/Stream Transport Controls
Cover Art	V	Visible	Cover Art
Song Title	V	Text	MetaData Line 0
NP Artist	V	Text	MetaData Line 1
NP Album	V	Text	MetaData Line 2
Progress Bar	V	Visible	Show Progress Indicator
	V	Value	Progress
	M		Song Position (0 to 1) ¹
Skip Back	V	Visible	Show Previous Button
	M		Previous
Fast Rewind ²	V	Visible	Show Fast Rewind
Pause	V	Visible	Show Pause
	V	Reversed	Paused
	M		Pause
Play	V	Visible	Show Play
	V	Reversed	Playing
	M		Power On (Selected Room)
	M		Play

¹ The template progress bar functionality does not include support for repositioning within a song. You can add this macro, in case the template is changed to add this functionality in the future.

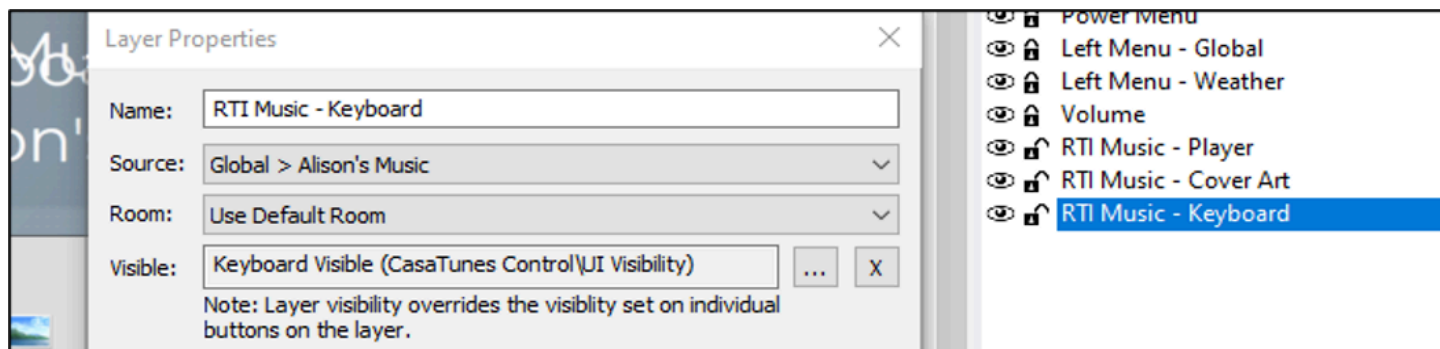
² CasaTunes does not support Fast Forward or Fast Rewind. The Show Fast Rewind and Show Fast Forward variables are always set to FALSE.

Stop	V	Visible	Show Stop
	V	Reversed	Stopped
	M		Stop
Skip Forward	V	Visible	Show Next Button
	M		Next
Fast Forward	V	Visible	Show Fast Forward

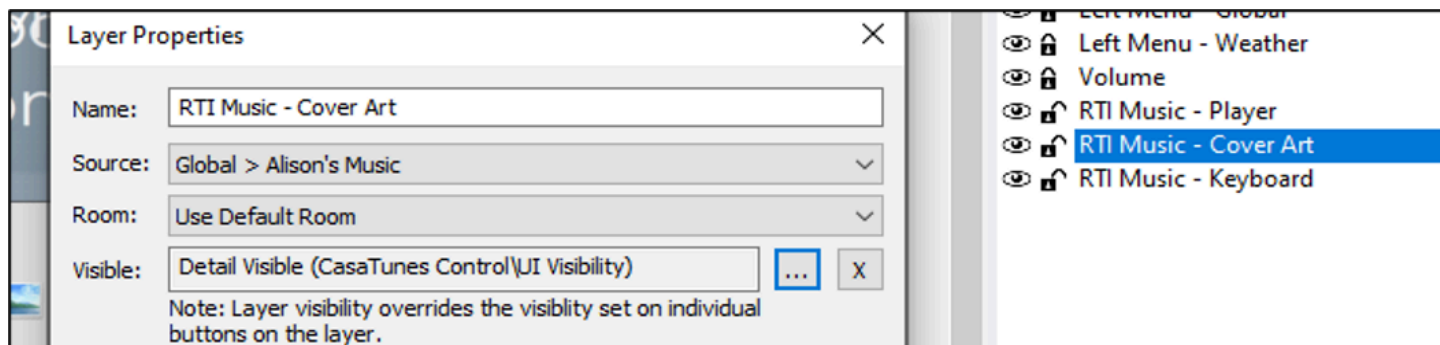
Completing the RTI Music template programming

If you are using the RTI Music template you need to edit the Layer Properties for each player's Keyboard, Detailed Now Playing, and Main Now Playing layers, to assign their Visibility property

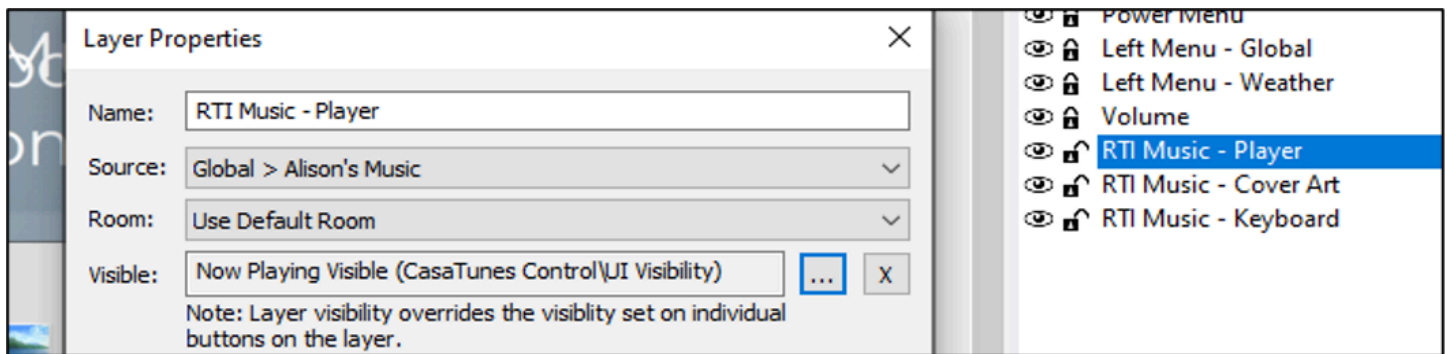
RTI Music - Keyboard Layer



RTI Music - Cover Art



RTI Music - Player



Fixing an issue with the comma key in the template

The comma key in the Keyboard may not be programmed. If this is the case, then select the **CasaTunes Control | Keyboard Characters** function and change the “Typed Character” parameter to “Comma”. You will need to repeat this for all the player pages that are using the RTI Music template.

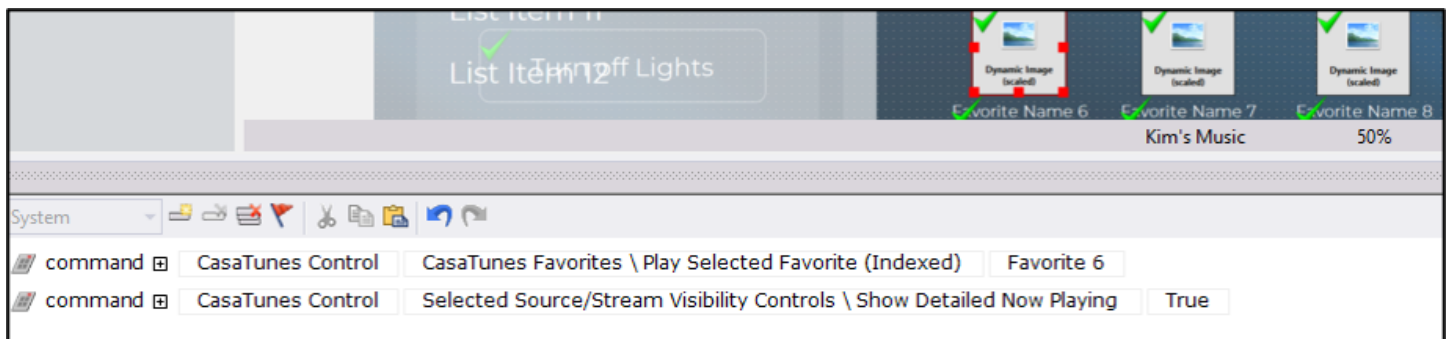
Shuffle and Repeat text are reversed

The text boxes above the Repeat and Shuffle buttons are reversed. If this is the case, then swap the Text boxes for the Repeat and Shuffle text above the buttons in each player (or simply remove the Text boxes).

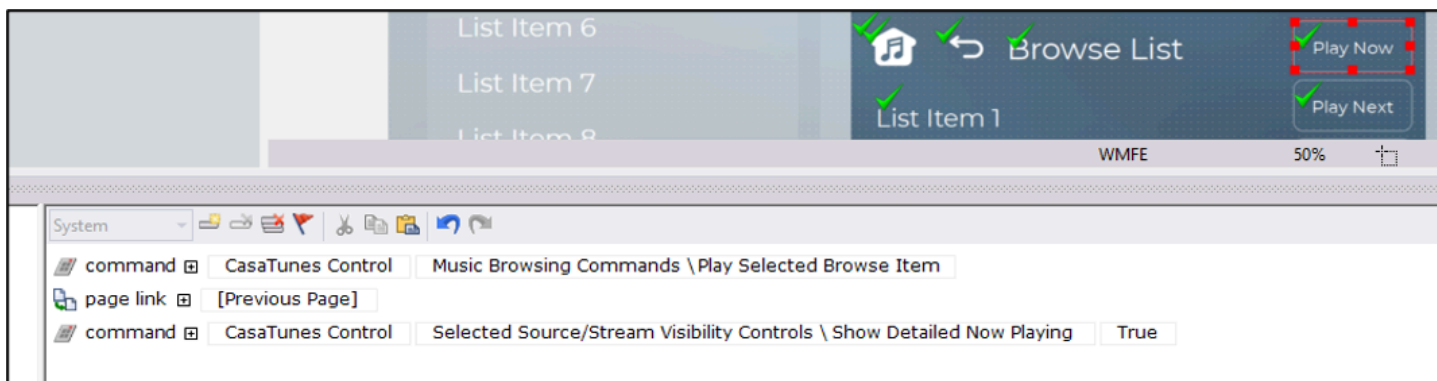
Automatically jumping back to the Now Playing view

If you prefer to jump back to the Main Now Playing view when you select a favorite, or click on the Play Now and/or Play Next buttons when browsing music, or selecting an item from the queue, then follow these steps.

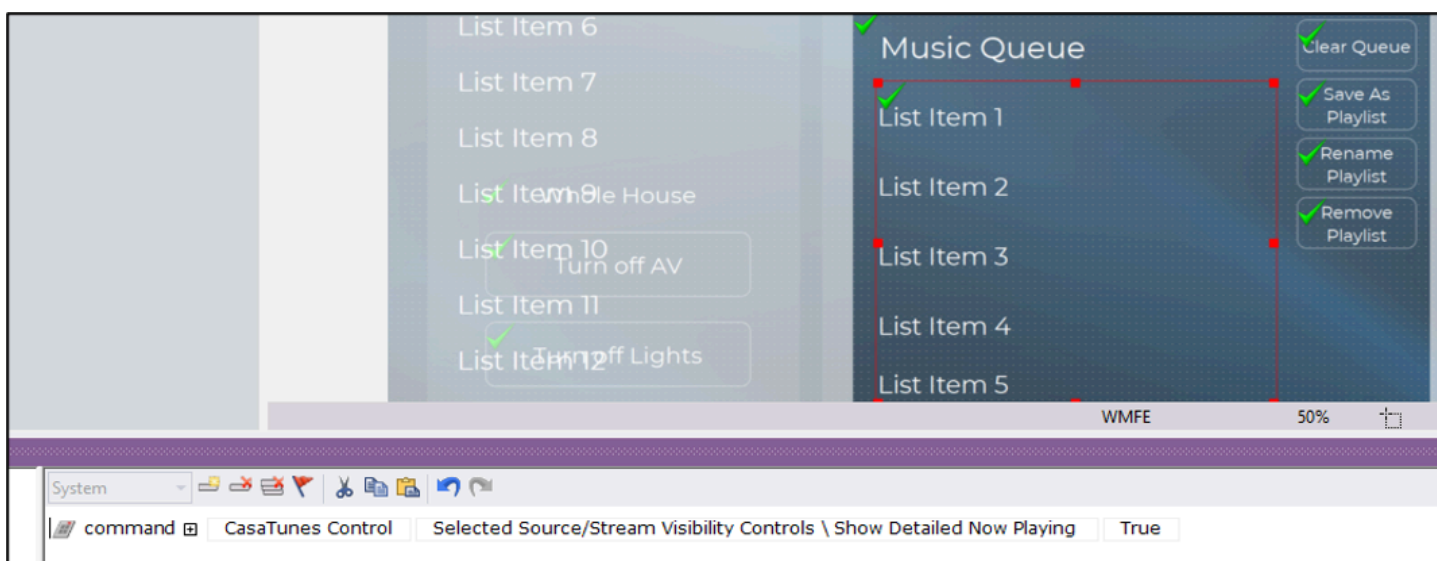
In the “My Favorites” viewport, selecting a favorite immediately plays the selected favorite. For each favorite add the Show Detailed Now Playing macro, with the parameter set to True, or set the page link to Go To Next Page in group (assuming the next page is the Playing page).



In the “Browsing List” viewport, add the Show Detailed Now Playing macro and set the parameter to True to the Play Now and Play Next buttons. This will switch back to the Now Playing view when either button is pressed.

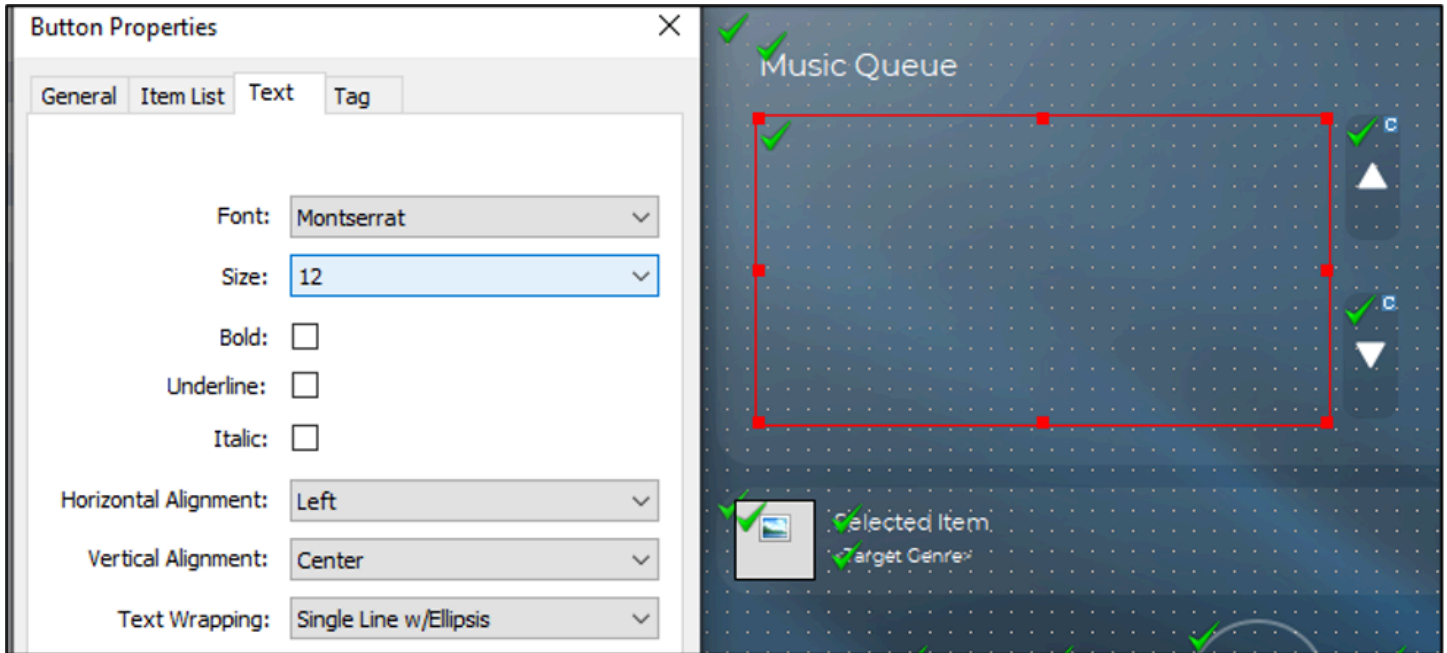


In the Music Queue viewport, add the Show Detailed Now Playing function and set the parameter to True for the Queue page in the list select button. This will switch back to the Now Playing view when an item is selected.



Text wrapping

Some controllers, like the Virtual Panel, default to wrapping text for list items. On these controllers, we recommend you right click the list, select Edit Properties, select the Text tab and change “Text Wrapping” to “Single Line w/Ellipsis”, like this:



Replacing the RTI Music - {tag}

Optionally, you may wish to change all text box headings from “RTI Music – {tag}” to “CasaTunes – {tag}”, or simply {tag}.

Add Search

If you want to enable searching for music in the Browse viewport, add a button with the Text variable CasaTunes Control | Music Browsing List -> Search/Browse Button State. Add the macro CasaTunes Control | Keyboard -> Search/Browse for Music.

When the button is displayed the first time it will display the text Search and when the button is pressed, it will bring up the keyboard. When you have finished entering the search text, press the Enter button, and you will be returned to the browse page with the search results, and the button text will now be set to “Browse”. Press the Browse button to return to normal browsing.

Congratulations, you have successfully completed integrating the RTI Music template!