Tips and Tricks for using the CasaTunes RTI driver

Contents

Using CasaTunes Multi-mode Servers 2

Automatic Switching between UI pages for CasaTunes "Player" sources and External sources in System or System Controller Modes 2

Room and Source selection 3

- Method 1: List 3
- Method 2: Progressive Toggle UP or DOWN 3
- Method 3: Individual Buttons 3
- System wide Room and Source selection 3

List visibility variables 4

- Standard List Visibility variables 4
- Tabbed List Visibility variables 4

Play Queue Item and Remove Queue Item Visibility Variables 5

Reset Browse List Level parameter 5

- "Level" parameter in several functions 5

Keyboard for Search, Station Naming (Pandora) and CasaTunes Playlist Creation 5

- Creating the Keyboard 5
  - Creating the Keyboard Image 5
  - Populating the Keyboard with buttons 6

System Events 6

- "Source Selected for Current Zone Events" 6
- "Current Source Changed" 6
- "Zone Power Events" 6
- "Switch to Now Playing Screen" 6

Using CasaTunes Multi-mode Servers

All CasaTunes products can run any of three modes, **Multi-Stream Player Mode, System Mode and System Controller Mode.**

- **Multi-Stream Player Mode:** This is the pure streaming mode that most home control specialists are familiar with. When a CasaTunes Server is put in Multi-Stream Player Mode, it simply supplies multiple, independent streams of pre-amp or digital audio, with no room control. When run in this mode, the CasaTunes driver must be set up as **Streamer** in the **Type of CasaTunes Product** section.
- **System Mode:** Every CasaTunes server has a built in software matrix. When used in System Mode, the software matrix is used to output pre-amp level outputs for each room, with all of the switching, room volume and power controlled by CasaTunes and the CasaTunes driver. The driver must be set up as **System** in the **Type of CasaTunes Product** section. This mode is not recommended when you need to switch audio through CasaTunes that is in sync with video, since there is a delay going through the software matrix.
- **System Controller Mode**; CasaTunes servers can control third party audio distribution systems from RTI, Leviton, Knoll, Audio Authority, Channel Vision, SpeakerCraft, NuVo and Russound, including the AD-4, AD-8, AD-4X and AD-8X. In this mode, CasaTunes uses IP or serial to control up to 8 AD-8X audio distribution systems for up to 64 rooms. Set the driver to **System** in the **Type of CasaTunes Product** section. CasaTunes can switch any input (including tuners, CD players, etc.) to any output of the RTI AD switches, can do room grouping, muting, bass and treble control and will mute the outputs when the doorbell input is supplied to the AD switch, **whether or not** the AD switch and CasaTunes are connected to an XP system controller.

Automatic Switching between UI pages for CasaTunes "Player" sources and External sources in System or System Controller Modes

In our examples we show a few ways to display the playing Queue and metadata, plus transport controls for what is playing when the customer selects a CasaTunes Player (streaming source). The dealer is responsible for creating UI pages for controlling Tuners, CD Players and other devices connected as sources to a CasaTunes Server in System or System Controller Mode. The driver gives you some tools so that the UI pages are automatically changed when using CasaTunes System Events.

For this example, assume you are using a CasaTunes CT-3S in System Controller Mode feeding and controlling an RTI AD-4 and the combination is controlled by a 2-way RTI controller, such as an XP-3. Assume that the first 3 inputs to the AD-4 are streaming players from the CT-3S and there is a tuner on input 4 of the AD-4.

For sake of simplicity, let's say that the interface you are working on is a Virtual Panel, named "VP" and you have named the input sources "Player 1", "Player 2", "Player 3" and "External Source 1" in the CasaTunes Control Driver settings in Integration Designer (ID).

Let's say that the Now Playing screen, which controls Players 1 - 3 is on the VP's page 1 and the UI that you created for the Tuner is on the VP's page 5.

After installing the Driver into the Control System go to the Control System's "System Macros" tab. Click on "Add System Macro". Click on the button in the new macro and in the Macro Editor, change the "Command Type:" to "Page Link". In the Device pull down, select VP. In "Change to page:" select "1. Now Playing" (your name for this

page could be different). Now drag the macro into the editor and click on OK. Do the same thing to add a second macro that changes to Page 5 of the VP. Give the two macros a description that will help you later, such as “Switch to Now Playing” and “Switch to Tuner”.

Next, click on the Events tab and click on “Add Event”. In the “Driver Event Details” window that pops up, go to “CasaTunes Control |Source Selected for Current Zone Events |Player 1 Selected”. Assign the first Macro you created, so that whenever Player 1 is selected for the currently controlled room in the VP, it goes to Now Playing page (Page 1). Create two more Events for Player 2 and Player 3.

Now, create an event where the event is “CasaTunes Control | Source Selected for Current Zone Events | External Source 1 Selected” and use the second macro, so that when the External Source is selected the VP switches to Page 5 where you have created the Tuner UI.

Room and Source selection

In System and System Controller Modes CasaTunes can play multiple streams of music (more easily thought of as separate “Players”) along with external sources of music, such as tuners or CD players. In the following, players and external sources are all called sources. Also, in the following, a room is the same thing as a zone.

There are several ways to select rooms or sources:

Method 1: List

You can set up a list of rooms and a list of sources for your customer. When the room list is displayed, the user simply selects the room they want to control. Similarly, when the source list is displayed, the user can select the source (player) that the music is playing from in the currently selected room.

Method 2: Progressive Toggle UP or DOWN

You can set up a Room button and a Source button. By assigning the commands “Change Room” and “Change Source” to these buttons and assigning the Text of the buttons to “Room Name” or “Source Name”, when a button is pressed, CasaTunes moves to the next item. So, if a customer wants to control the Living Room, the customer hits the Room button until Living Room is displayed on the button.

This method is very convenient in small systems with just 3 or 4 rooms and sources.

Method 3: Individual Buttons

Using the “Select Zone as Current Zone” command in “Direct Select Now Playing Zone”, you can set up buttons to select particular Zones as the currently selected “Now Playing” room. Use the parameters in this command to pick the zone that the customer will switch to when selecting a button. Buttons can even be set up to pick AirPlay rooms or room groups.

Using the “Select Source for Current Zone” command in “Direct Select Current Source”, you can set up buttons to select particular sources as the currently playing source for a zone. Use the parameters in this command to pick the source that the customer will switch to when selecting a button.

System wide Room and Source selection

Included in the CasaTunes driver are a number of other zone and source control commands. You can set up buttons to pause any CasaTunes Player source, turn on and off power in any zone, even when they are not the

currently selected zone, assign any source to any zone, control volume on other zones besides the currently selected zone, etc.

List visibility variables

There are two different sets of variables for making the various lists in the CasaTunes driver appear and hide. If you are leaving a list open all of the time, or using Flags to show and hide the lists, you don't need to worry about this section. In any case, the lists are the same; it is just the way they are made visible that is different.

Standard List Visibility variables

These variables (Show Room List, Show Source List and Show Queue List in "Standard List Visibility") and commands (Display Source List and Display Room List in "Room and Source Selection") control the visibility of each of the lists independently.

For the Room and Source Lists, when a selection is made in the list, the list automatically hides, just put the "Show Room List" or "Show Source List" in the appropriate Visible field. This can be good for pull-downs, where the top of the list is a button that displays the list when clicked. It is a good idea to include a down arrow, so the user knows to click the button to show the list of names. If you do not want the list to automatically hide when a selection is made, do not use this variable in the "Visible" field. Instead, create a Flag and control the visibility with the Flag.

The Select Music (browse) List does not have a standard visibility variable. Instead, if you want to hide it, you should use a flag to show and hide it. (Neat idea: create a large transparent button that covers the entire screen except the list and put the Clear Flag macro in it to Hide the list and the button; see the Nexus 7 example in "CasaTunes App Look.rti").

The Queue List is designed to hide when not used by the driver. You should always assign the "Show Queue List" variable or the Tabbed visibility variable (next section) to the Queue List.

Tabbed List Visibility variables

These variables are used in a special configuration, as shown in the examples in the "CasaTunes App Look.rti" file. With these variables, you can overlay all of the lists (Room, Source, Browse and Queue) in one page.

When any of the "Select Tabbed …. List" functions in the "Tabbed List Selections" section of Driver Commands are selected, the other lists are hidden and only the selected list is displayed.

To use this, you will need to overlay all of the lists and if you want a tab look, use buttons that are overlapped by the lists (send all of these buttons to the back) to make them look like tabs (see iPad example). Make sure you assign the "Show Tabbed … List" variable to all objects in the appropriate list so they all hide when appropriate. See our UI as an example or use it as is. Since the examples are similar to our CasaTunes iOS app and Android app using them will make it easier for the end user to transition back and forth between the native CasaTunes apps and the CasaTunes UI running in RTI.

Play Queue Item and Remove Queue Item Visibility Variables

For non-RTIPanel devices, you can highlight a queue item and then hit the Play or Remove button, so it is a good idea to always show those buttons. In RTIPanels use the "Show Play/Remove Popup" for those buttons and a grouping as shown in the iPad and Nexus 7 examples. Then, when the user clicks on an item in the queue, the popup will display allowing the user to play or remove the item or cancel the action.

Reset Browse List Level parameter

There are cases where the designer may not want the browse list to reset all of the way back to the top, Music Services level of the Browse List. From V2.00 of the driver we have added some features to help make this work properly.

"Level" parameter in several functions

This new function lets you reset the browse list to whichever level you choose. In the iPad RTIPanel example included in CasaTunes.rti, you will see a Home icon in the browse list. We set the level parameter to the default of 0 (first level – very top of list) for this example, so that the customer can browse all of the services and select the one (s)he wants.

In the Kindle Fire UI (untested, sorry, but it illustrates the Level Parameter). The designer created individual Music Service buttons in the Now Playing page, which may be easier for the customer to understand. When the customer wants to listen to their iTunes music, for example, they click on the iTunes Music button which runs a macro that first resets the browse list to the very top (list of music services), then picks an indexed item from the list (you will need to know the order of the music services on your customer's CasaTunes system when setting this up) and then changes to the Browse page. The browse list will have been changed to the music service selected by the button and will only display that particular service's choices, in this case, Albums, Artists, Genres and Playlists.

On the Fire's Browse page, the home icon in the browse list is set to only go back to level 1 (second level) of the browse lists. This keeps the customer from backing up to the very top and seeing the list of services, which would be confusing in this case. In the same way, the Backup function is limited to going to level 1.

Once the customer plays something, the "Switch to Now Playing Screen" event triggers, which runs the system macro that changes the page on the Kindle Fire to the Now Playing page. If you have the configuration variable, "Reset Browse List after Choosing Music" checked, the browse list will reset back to the level configured in "Browse List Home Level". Since the included UIs are all different, the example shows the level in the "Browse List Home Level" configuration variable set to 0. For the Kindle Fire to work properly, you would change this to 1.

Keyboard for Search, Station Naming (Pandora) and CasaTunes Playlist Creation

Creating the Keyboard

Creating the Keyboard Image

To add a keyboard to your design, you will need to create a large transparent button and then add a keyboard image to the button. The "button" will be your template and should be resized to be the same size as the keyboard

image. In the driver distribution package, we have included several different sized keyboard images that you can use. If you need to create a different sized keyboard template, simply resize one of the largest keyboard images (using a large image reduces distortion from resizing) in any imaging editing package.

Populating the Keyboard with buttons

The time consuming part of adding a keyboard to your design is populating all of the buttons. See the iPad RTIPanel in CasaTunes.rti for examples. You will need to create transparent buttons for each character, including numbers, and the backspace, enter, number/letter, and "close keyboard" functions and place them over the buttons in the keyboard template. Remember to set the visibility on at least the numbers and the top level of letters, so that the customer can choose to use numbers and letters when entering data. Unfortunately, you will need to move and resize everything when change orientation in the RTIPanels.

System Events

The CasaTunes RTI driver includes various System Events. These will help you design your project and interface with drivers for other products. **[After this document, there were a number of additional events and variables added]**

"Source Selected for Current Zone Events"

These events are raised whenever the driver sees that the source selection has changed for the zone that is being controlled by at least one of the control devices connected to the RTI controller. This can be useful when you design a user interface for an "external source", such as a tuner or CD player. You can add a macro to change the control device to the tuner or CD player UI when it sees the external source is selected. In this case, you would also create a macro that changes the controller to the CasaTunes Now Playing page, so that when a Select Source event results from the user picking one of the CasaTunes Streaming Players, the event will run the macro.

"Current Source Changed"

This event is raised any time any source for the current zone on any controller device is changed.

"Zone Power Events"

There are two types of Zone Power Events. One type is an event for each zone when it is powered on and the other is for each zone when it is powered off. Using these events, you can control mood lighting or turn off other music/sound devices automatically.

"Switch to Now Playing Screen"

This event is raised when the customer clicks on Play Now, Add and Play or, in the non-RTIPanels, clicks on playable single media items, such as single songs or radio stations. Basically, any time a new media item is played by the customer in the Browse page, the event is raised. This lets the designer automatically switch to the Now Playing page.