Fusion Research OMS V1.5
Module Application Guide

Description

These modules allow any Ethernet-equipped Crestron 3-series processor to control Fusion Research Ovation Music Streamers.
The current version allows for control of up to five streamers associated with one Ovation Server.

Supported Processors

This module is supported on any 3-series processor with Ethernet.

Ethernet Configuration Information

These modules utilize SIMPL+ direct sockets to communicate with the OMS. Direct configuration is not needed, other than providing the server module the IP address of the server and the MAC address(es) of the player(s) being controlled

Compatibility			Processor Requirements	
3 COMPATIBLE	NOT COMPATIBLE SERIES	System Glider NOT COMPATIBLE	Ethernet REQUIRED	Compact Flash NOT NEEDED

Fusion Research OMS v1.5   ControlWorks Consulting, LLC
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Module Application

This module was designed to run against any 3 series processor and was not tested against a 2 series control system. We have utilized the 3 series architecture to deliver the best user experience possible. There is substantial memory and processing overhead needed for the Ovation Music Server and string lengths may exceed 255 characters. Thus we have decided to only support 3 series control systems and limiting the total number of players to 5 to accommodate this. Running this in a 2 series control system or expanding the module to more than 5 players could result in unexpected operation. Each system is different, please take your situation and these recommendations into consideration when running these modules.

This module is built to use two modules to work together, the player module and server module. The server acts as the traffic cop directing traffic to each player module. Each player that is connected to the server has a unique MAC address. The MAC address is entered into a parameter on the server module and then traffic for that players mac address is routed out the corresponding serial outputs.

MAC Addresses and Players

For older OMS hardware the players are identified and controlled by MAC address. To locate these browse to the server configurator at http://fusionmusic:4742/ and select Player(s). Once on the players page you can see the players and MAC addresses that are physically on that server. Remote players are accessed by browsing to remote players.

For newer PlayFi hardware download and install the Ovation Configuration Utility. Select Manage -> Players, then double click the players MAC address. Copy the MAC out of the player configuration and paste into the Server parameter.
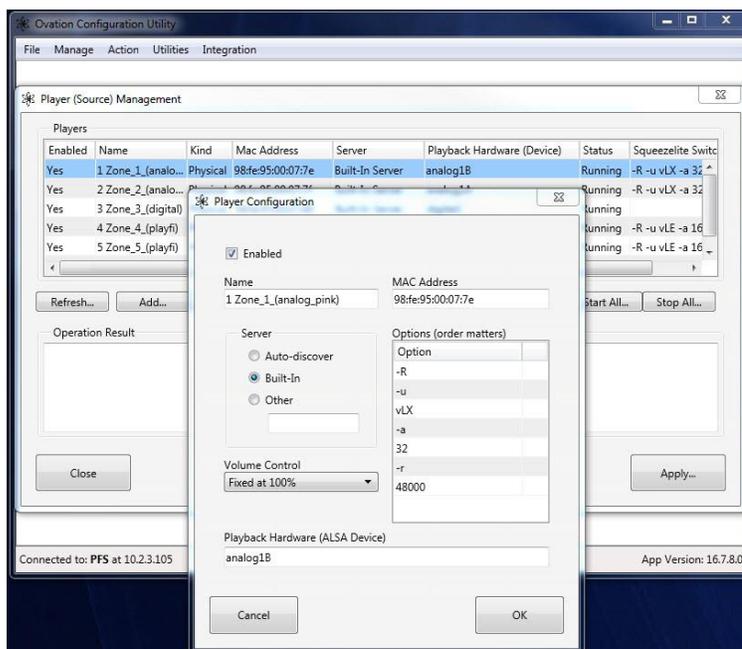
As an example, let's say you want to control the player named Zone1. The MAC address for that zone in the above image is 98:fe:94:00:04:e3. Enter the MAC address EXACTLY how it is in the web interface into the player_1_mac_address parameter of the server module. This MAC address is now associated with player1 in the server module. The server module

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will route traffic associated with 98:fe:94:00:04:e3 out the [player1_responce$] to get parsed by a player module.
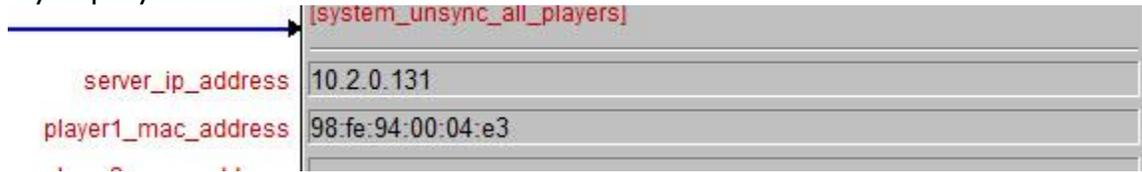
Next, you will need to insert the player module into your program. This module will control the player at 98:fe:94:00:04:e3. Tie the [player1_response$], [player1_command$], server_ip_address$, and [player1_mac$] to the player module.
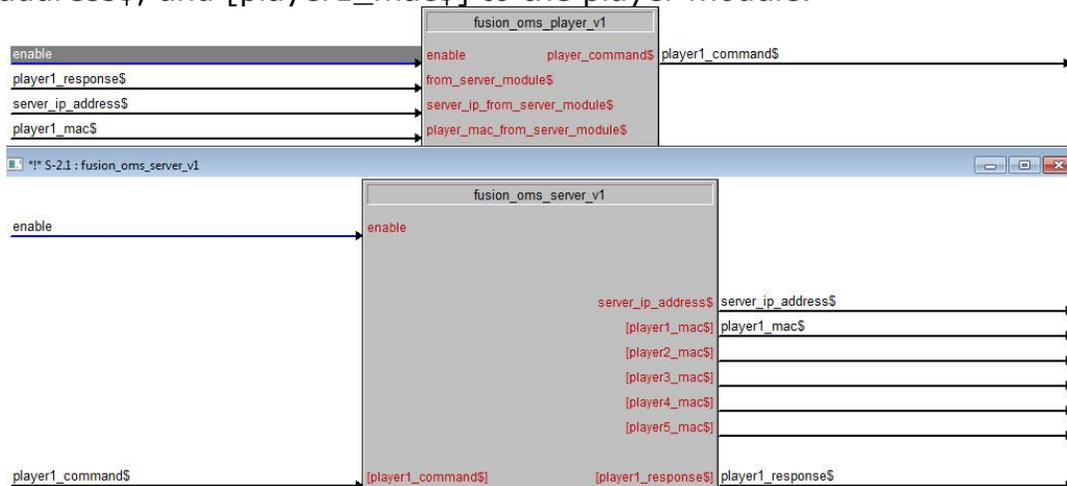
MAC Addresses and Players – NEW PlayFi Hardware

Downlaod and install the Ovation Configuration Utility and connect to the

Browse Paths and Shortcuts

The player module allows you to retrieve the current browse path and directly recall a path or in some cases directly play a station with no need to use the browse context. For example, if you wanted to play a Pandora station without having the user drill down using the browse menu you can simply send a serial sting to the direct path input. A good use case for this is when the only user interface is a CNX-B12 and you want to play a Pandora station. To do this, from SIMPL Debugger or from another UI with the browse menu available, browse to Pandora. Select a station until the browse menu indicates the selected station is playing. Now pulse the [get_shortcuts_path] input and a path will output on the [shortcuts_path$]. For the first Pandora station the result will be "/app/pandora=0.1.0". Take the [shortcuts_path$] result, in this case "/app/pandora=0.1.0", and put this into an SIO. Tie a press from the B12 to the SIO, and the output of the SIO gets tied to the [browse_direct_path$] input. When the B12 button is pressed the SIO will tell the player to play the first Pandora station.

Everything is based on the browse menu. Some items like songs in the library cannot be directly accessed without pressing play now. In this case you are only able to provide a shortcut to the item. The user will still have to press play now on the item they wish to listen to.

API Version

The module requires the OMS Hardware to at least be running API Version 16.7.1.0. To check this version pulse the system_get_version digital input on the server module. The serial output is intended to give you the raw response from the server. If "Unknown function" is returned, please contact Fusion Research to determine the server's version.

Signal and Parameter Descriptions

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

Fusion Server Module

DIGITAL INPUTS

enable ....Hold high to enable the module. When held high, several direct sockets are opened. When this goes low, the sockets are disconnected

[system_power_off_all_players] ....Pulse to turn off all players/streamers connected to the server

[system_power_cycle_all_players] ....Pulse to reboot all players/streamers connected to the server

[system_rescan_library] ....Pulse to initiate a full library scan

[system_cancel_rescan_library].................................Pulse to cancel a currently running library scan

[sync_all_to_player1] ....Pulse to sync all connected players/streamers to player1

[sync_all_to_player2] ....Pulse to sync all connected players/streamers to player2

[sync_all_to_player3] ....Pulse to sync all connected players/streamers to player3

[sync_all_to_player4] ....Pulse to sync all connected players/streamers to player4

[sync_all_to_player5] ....Pulse to sync all connected players/streamers to player4

[system_unsync_all_players].....................................Pulse to unsync all connected players, returning them to individual operation

[system_get_version]...pulse to print the version out the [system_version$] output.

ANALOG INPUTS
This module does not utilize any analog inputs ....

SERIAL INPUTS
[playerx_command$]. ....Tie from player module player_command$

DIGITAL OUTPUTS
This module does not utilize any digital outputs ....Latched high as long as the programmer is happy.

ANALOG OUTPUTS
This module does not utilize any analog outputs.

SERIAL OUTPUTS
server_ip_address...route to all fusion player modules
[playerx_mac$] ....route to appropriate player module player mac$
[Player_response$] ....route to appropriate player module player response$
[system_version] ....output intended to display the raw server system
version response for debugging purposes. Not intended
for display on a touchpanel.

PARAMETERS
Server_ip_address ....set to the ip address of the Fusion music server
Playerx_mac_address ....set to MAC address of a player found in server web
interface

Signal and Parameter Descriptions

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

DIGITAL INPUTS

[browse_home] ....pulse to return the browse list to the main menu

[browse_set_page_slider_press] ....tie to button press of browse slider.

[browse_up_level]...pulse to go up the browse menu tree

[browse_page_next]...pulse to browse up one page.

[browse_page_previous]..pulse to browse down one page.

[browse_select_linex]...pulse to select a browse item.

[browse_play_now_linex]......................................pulse to play a particular line now. Only available if [browse_can_play_nowx] is high

[browse_play_add_linex] ....pulse to add that line to the end of the queue. Only available when [browse_can_play_addx] is high.

[browse_play_next_linex] ....pulse to play that line next in the queue. Only available when [browse_can_play_nextx] is high.

[queue_repeat_none] ....pulse to turn off repeat of the now playing queue

[queue_repeat_song] ....pulse to repeat only the now playing song.

[queue_repeat_playlist] ....pulse to repeat the playlist

[queue_shuffle_none]...pulse to turn off shuffle for the now playing queue.

[queue_shuffle_song] ....pulse to shuffle songs in the now playing queue.

[queue_shuffle_album] ....pulse to shuffle albums in the now playing queue.

[rate_thumbs_up]...pulse to thumbs up a song. Only available when [show_ratings_controls] is high.

[rate_thumbs_down]...pulse to thumbs down a song. Only available when [show_ratings_controls] is high.

[get_shortcuts_path]..pulse to get the shortcut path that you are currently browsing at out the [shortcut_path$]

ANALOG INPUTS

[browse_set_display_lines] ....initialize to the number of browse lines you wish to have on your touch panel

[set_page_slider_input] ....tie to browse slider touch feedback

[set_volume]...0d-100d analog that sets the volume output of the player. Do not ramp this, use an initialize.

SERIAL INPUTS

[browse_direct_path] ....use to send the player directly to an item. See demo program for examples.

DIGITAL OUTPUTS

[browse_show_slider_fb] ....tie to slider visibility. Only high when slider can be used.

[browse_show_next_page_button]............................tie to next page button visibility. Only high when next page is available.

[browse_show_previous_page_button] ....tie to previous page button visibility. Only high when previous page is available.

[browse_can_play_nowx].......................................tie to play now visibility. High when that line can play and item now.

[browse_can_play_addx] ....tie to add to playlist visibility. High when that line can be added to the playlist.

[browse_can_play_nextx] ....tie to play next visibility. High when that line can be played next.

[browse_linex_has_art] ....tie to visibility for artwork. High when that line has artwork.

[keyboard_show] ....tie to open keyboard feedback for text entry object.

[queue_repeat_none_fb]......................................high when no item is being repeated

[queue_repeat_song_fb]......................................high when the queue is repeating the same song

[queue_repeat_playlist_fb]....................................high when the queue is being repeated.

[queue_shuffle_none_fb] ....high when no queue items are being shuffled.

[queue_shuffle_song_fb] ....high when the queue is shuffling songs

[queue_shuffle_album_fb] ....high when the queue is shuffling albums

[show_rating_controls] ....tie to visibility for rating controls. High when rating controls are available.

ANALOG OUTPUTS

[browse_total_lines]...displays the total lines in the browse list.

[browse_total_pages]...displays the total number of pages

[browse_current_page]..displays the current page number

[browse_current_page_slider] ....tie to slider feedback.

[queue_track_elapsed_time] ....displays the track elapsed time, use with time analog

[queue_track_total_time]......................................displays the track total time, use with time analog

[queue_track_progress_time]..................................tie to track time slider feedback.

[queue_index] ....displays the current postion of the queue

[queue_size] ....displays the current queue size.

[volume_fb] ....displays the current volume of the player.

SERIAL OUTPUTS

[player_command$] ....tie to fusion server module.

[browse_title$] ....displays the heading of the current browse list.

[browse_linex_text$]..displays the current text for the associated browse line.

[browse_linex_art_url$]..tie to associated lines dynamic graphic object.

[current_title$] ....displays the current channel title

[current_track$] ....displays the current track name

[current_album$]...displays the current album name

[current_artist$] ....displays the current artist name

[current_art_url$]..displays the current art url$. Tie to dynamic graphic for album art.

[shortcuts_path$] ....pulse to return the current browse path. Used to take the output sting and copy into an SIO to then use with the player1_browse_path$ input.

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:

fusion_oms_server_v1.5.umc ....Crestron User Module for OMS server communications
fusion_oms_player_v1.5.umc ....Crestron User Module for Player Control
fusion_oms_server_engine_v1.5.usp ....SIMPL+ file used within the server module
fusion_oms_server_engine_v1.5.ush ....SIMPL+ header file
fusion_oms_player_engine_v1.5.usp ....SIMPL+ file used within the player module
fusion_oms_player_engine_v1.5.ush ....SIMPL+ header file
fusion_oms_v1.5_xpanel_exe.vtp ....Demo Smart Graphics xpanel 1280x800
fusion_oms_demo_v1.5.smw......................................Demo program for AV3 processor
fusion_oms_help_v1.5.pdf ....This help file

Revision History

v1 gary@controlworks.com 2014.09.05
   -initial release
v1.1 gary@controlworks.com 2014.09.18
   -Browse page bug fixes
   -Debug mode improvements
   -Fixed issue where volume could get set to 0 at program start
V1.4 caleb@controlworks.com
   -Update for API version 16.7.8.0
V1.5 caleb@controlworks.com

   Fixed issue when players other than player 1 would start playing content, they wouldn't update the now playing information.

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.

Fusion Hardware	Software Version
API Version	16.7.15.2
Crestron Hardware	Firmware Version
Crestron AV3	v1.009.0050
Software	Software Version
Crestron SIMPL Windows	4.02.49
Crestron Vision Tools Pro-e	5.5.11.01
Crestron Core 3 UI Controls	2.02.11.01

ControlWorks Consulting, LLC Module License Agreement

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Provision of Support
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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