Source Selector Crestron Module Help

CONTACT SUPPORT:

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GENERAL INFORMATION

SIMPLWINDOWS NAME:	Source Selector V1.7
CATEGORY:	Miscellaneous
VERSION:	1.7
SUMMARY:	This module facilitates executing source selection on 3 levels of devices to route the selected source to the corresponding screen/display, these 3 levels are 1. AV Transmitter or smaller (sub) switch 2. Matrix switcher 3. Screen/Display For each source to be used in the module, the information indicating these 3-level switching should be stored in a data file to enable the module to select/route the correct input to the correct output, when this source is selected, the Parameter section is showing the details of each of these information.
CRESTRON HARDWARE REQUIRED:	3-series or higher processors
SETUP OF CRESTRON HARDWARE:	N/A
CABLE DIAGRAM:	N/A

NOTES:

General Notes:	The module is used to make it easy to have the ability to select/route source to the corresponding screen/display by automating this procedure based on the data stored in the data file pointed to by the **data_file_path** parameter. The data file should be saved in .csv format, to make it easy to manage the data in the file. The data file should be loaded to the controller's memory, the files should be loaded to the "NVRAM" folder or any sub-folder in it, and the complete path of the file should be passed to the **data_file_path** module parameter so the module would use this file to read the switching data from. With this module no need to create any logic for the source selection on the 3 levels mentioned above, since the module itself is handling both the control and the feedback logic based on the information listed in the data file. This module is processor licensed, meaning that the module will not work in full if it is not licensed to the target processor, in this case the module will indicate that on the **module_is_activated** signal and it will read only the first 3 source entries if it is not licensed properly, which means that only the first 3 sources will have full control and feedback functions, in order to license it you will need the License key and Activation key which can be acquired by visiting https://ultcontrol.com/modules/source-selector/ License and activation keys can be loaded to the program directly using the **license_key** and **activation_key** parameters, this will make the keys static in the program, if there will be a need to change the license and activation keys, programmer will have to enter the new ones and reload the program again.

It is possible to load the license and activation keys dynamically using the **license_file_path** parameter, this will be by passing the license and activation keys to the module through a license information file loaded to the path set in this parameter, this will be handy in case of typical rooms program, programmer can use the same program to load to all rooms, and load different license file to each processor, without the need to recompile each room program to pass the correct license and activation keys, it is important to load the license information file to the processor before loading the program, because this file is only read when program starts.

CONTROL:

read_data_from_file	D	Use to read the source selection information from data file, this action reads the data from the file set in the **data_file_path** parameter
source_*_select	D	Pulse to execute a source selection action, this will cause the module to select the corresponding input on the AV transmitter, input and output on the matrix receiver, and input on the screen/display, as saved in the data file, the module is capable to do source selection action to up to 200 sources
matrix_video_out_*_fb	A	Use to feed the module with the current video input routed to the corresponding video output on the matrix switcher, this signal should be fed from the matrix switcher, up to 64 feeds can be used in the module, this signal is used to process the feedback of the currently selected source
matrix_audio_out_*_fb	A	Use to feed the module with the current audio input routed to the corresponding audio output on the matrix switcher, this signal should be fed from the matrix switcher, up to 64 feeds can be used in the module
matrix_input_*_detect_fb	D	Use to feed the module with the current input detection, this signal should be fed from the matrix switcher, up to 64 feeds can be used in the module, this signal is used to process the feedback of the source detection which can be used to enable/disable source buttons for example to indicate source availability.
transmitter_*_out_fb	A	Use to feed the module with the current input routed on the AV transmitter, this signal should be fed from the AV transmitter to be used with the source selection, up to 64 feeds can be used in the module, this signal is used to process the feedback of the currently selected source
screen_*_input_*_is_selected	D	Use to feed the module with the current input selected on the screen/display, this signal should be fed from the screen/display to be used with the source selection, up to 10 feeds for 10 screens/displays can be used in the module, this signal is used to process the feedback of the currently selected source

FEEDBACK:

source_*_is_selected	D	Display the active/selected source as per the current routing on AV transmitters, Matrix switcher and screens/displays as per the corresponding data used in the data file, the source(s) matching the current routing on these 3 devices, will be shown as high, rest will be low.
source_*_is_detected	D	Display whether source is detected or not, these signals will be updated based on the source detection feedback signals from the matrix switcher linked to the **matrix_input_*_detect_fb** signals.
matrix_video_enter	D	Pulsed to trigger video input selection on the switching devices (if needed)
matrix_audio_enter	D	Pulsed to trigger audio input selection on the switching devices (if needed)
matrix_video_out_*	A	Display the video input number to be routed on the matrix switcher to the corresponding output as per the data associated to the source triggered by the **source_*_select** signals, these signals should be connected to the matrix switcher video output selection signals.
matrix_audio_out_*	A	Display the audio input number to be routed on the matrix switcher to the corresponding output as per the data associated to the source triggered by the **source_*_select** signals, these signals should be connected to the matrix switcher audio output selection signals.

transmitter_*_out	A	Display the input number to be routed on the Av transmitter as per the data associated to the source triggered by the **source_*_select** signals, these signals should be connected to the AV transmitter input selection signal.
screen_*_input_*_select	D	Pulsed to trigger input selection on the corresponding screen/display as per the data associated to the source triggered by the **source_*_select** signals, these signals should be connected to the screen/display input selection signals.
module_is_activated	D	High to indicate that the module is activated successfully with the supplied license and activation keys

PARAMETERS:

license_key/license_file_path	S	String for the module License Key, this can contain one of the following: - License Key String, this will be the license key acquired from the link below, this will be static in the program and will not be possible to change dynamically - License Information File Path, this will be the path of the license information file acquired from the link below, this will be useful to change the license and activation keys dynamically without the need to reload the program with the new key Please visit https://ultcontrol.com/modules/source-selector/ to get your license key
activation_key	S	String for the module Activation key, please visit https://ultcontrol.com/modules/source-selector/ to get your activation key, you will need to have a valid license key and the serial number of the processor to be used with the module to get the activation key
data_file_path	S	String for the path of the data file, this data file is a .csv containing the input/output data for each source, these data will be used to select the corresponding input to the corresponding output when a source selection signal is activated. If any of the following fields are missing in the data file, the value of -1 will be assumed for the corresponding source, which means that the missing value will cause the corresponding action to be ignored. **Note:** It is important to keep the first line in the data file with the following keys, this is how the module knows which field to read to get the correct data, these keys are case sensitive. **"id"** indicate that this field will contain the source ID, usually use the corresponding source selection digital joint number to make it easier to understand the file when read by humans. **"matrix_vid_in"** or **"matrix_in"** indicate that this field will contain the video input number on the matrix switch to be used with the corresponding source when selected, use the corresponding video input number as used on the matrix switcher, or -1 to ignore video switching for the corresponding source. **"matrix_aud_in"** indicate that this field will contain the audio input number on the matrix switch to be used with the corresponding source when selected, use the corresponding audio input number as used on the matrix switcher, or -1 to ignore audio switching for the corresponding source. **"matrix_in_sync"** indicate that this field will contain the input sync number on the matrix switch or AV transmitter to be used with the corresponding source when input sync is detected, use the corresponding input sync number as used on the matrix switcher or AV transmitter, or -1 to use the input sync number the same as the video input number for the corresponding source. **"matrix_vid_out"** or **"matrix_out"** indicate that this field will contain the video output number on the matrix switch to be used with the corresponding source when selected, use the corresponding video output number as used on the matrix switcher, or -1 to ignore video switching for the corresponding source. **"matrix_aud_out"** indicate that this field will contain the audio output number on the matrix switch to be used with the corresponding source when selected, use the corresponding audio output number as used on the matrix switcher, or -1 to ignore audio switching for the corresponding source. **"trans_idx"** indicate that this field will contain the index of the transmitter to be used with the corresponding source when selected, use the corresponding AV transmitter index to be used within the module, or -1 to ignore AV transmitter switching for the corresponding source. **"trans_in"** indicate that this field will contain the input number on the AV transmitter to be used with the corresponding source when selected, use the

corresponding input number as used on the AV transmitter, or -1 to ignore AV transmitter switching for the corresponding source.
"screen_idx" or **"display_idx"** indicate that this field will contain the index of the screen/display to be used with the corresponding source when selected, use the corresponding screen/display index to be used within the module, or -1 to ignore screen/display input selection for the corresponding source.
"screen_in" or **"display_in"** indicate that this field will contain the input number on the screen/display to be used with the corresponding source when selected, this number is a reference number to the corresponding signals
screen_*_input_*_select, use the corresponding screen/display input number to be used within the module, or -1 to ignore screen/display input selection for the corresponding source.
"description" indicate that this field will contain the description of the corresponding source, this is not used by the program, but it is used to make it easier to understand the file when read by humans.

TESTING:

OPS USED FOR TESTING:	3-Series: 1.8000.4522.26360
SIMPL WINDOWS USED FOR TESTING:	4.14.31
DEVICE DB USED FOR TESTING:	200.40.004.00
CRES DB USED FOR TESTING:	202.05.002.00
SYMBOL LIBRARY USED FOR TESTING:	1128
SAMPLE PROGRAM:	Source Selector V1.7 Demo DIN-AP3

REVISION HISTORY:	V1.0: - Initial Release.
	
	V1.1: - Allowing selection for video and audio separately.
	
	V1.2: - Adding source detection feedback.
	
	V1.3: - Increasing number of sources to 200 sources.
	
	        - Increasing video matrix input and outputs to 64 inputs and outputs.
	
	V1.4: - Ability to detect position of parameters in the data file, meaning that order of data in the file is not fixed, only "id" field should be the first one in the file, the order of the rest can be any order.
	
	        - Allowing alternative field key.
	
	V1.5: - Ability to set input sync detection number to different value not matching the video input number, this is useful if input detection is fed from AV transmitters instead of the matrix itself.
	
	        - Logging errors and warning to the processor's error log.
	
	V1.6: - adding more screen/display to control, the module supports up to 10 screens/displays to control.
	
	V1.7: - Allowing to pass License and Activation Keys to the module through a license file loaded to the processor's file system.