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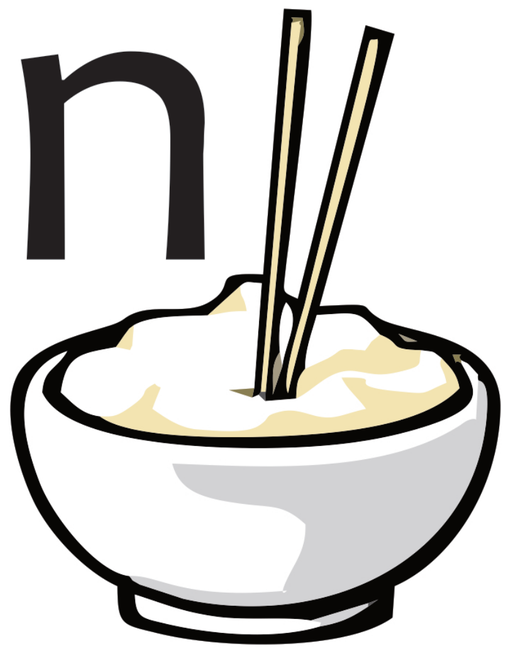

Klipsch C-Series Subwoofer Crestron Module

Installation and Usage Guide

Klipsch®

KEEPERS OF THE SOUND™

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Contents

Overview

The Klipsch C-Series subwoofer module allows for complete control of the Klipsch C-Series subwoofers.

The module provides power, source selection, volume and mute control, EQ settings . It also provides the ability to flash the LED’s on the front of the unit to help locate the device.

The module allows for control over the master volume with both up/down digital joins and directly setting the volume with an analog join. It also offer indepedant control over each of the inputs volume for RCA, XLR, Hi Level and Wireless controls.

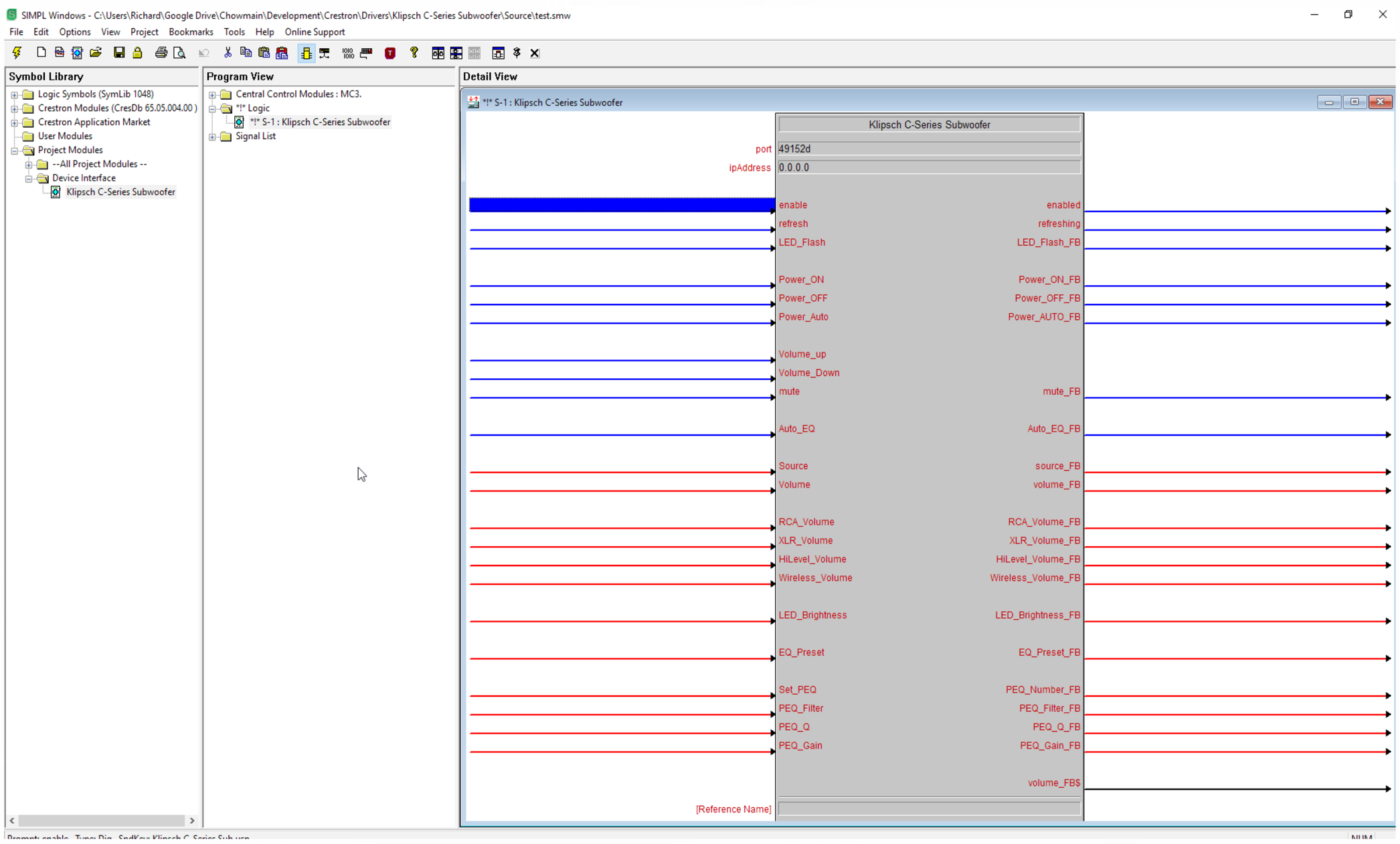
The module provides analog feedback for the source, analog and a string join for the volume and digital feedback for the mute status. It also provides feedback from the current EQ modes and the current power status. The frequency to refresh the status can be set by the integrator to suit the project.

The module includes a sample SIMPL project and an Xpanel layout.

Installation

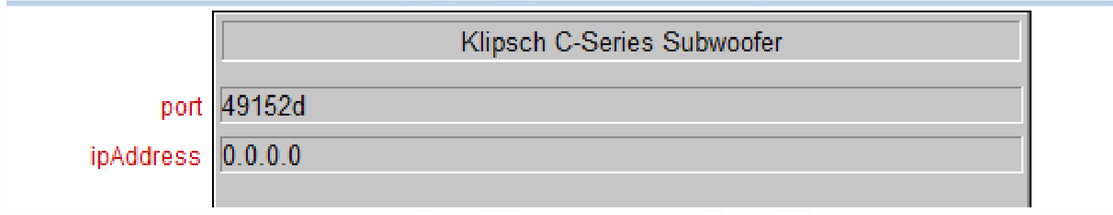
Copy the files to your project

Copy the Klipsch C-Series Subwoofer.usp and Klipsch C-Series Subwoofer.ush files to your project folder. Once the files are in place re-sync your project and the module should appear under the Project Modules section in the Symbol Library.



Module Configuration

The Klipsch C-Series Subwoofer module requires two parameters to be set for it to be able to communicate. The parameters are the IP Address of the Klipsch unit and the port number (which can be left at the default 49152).

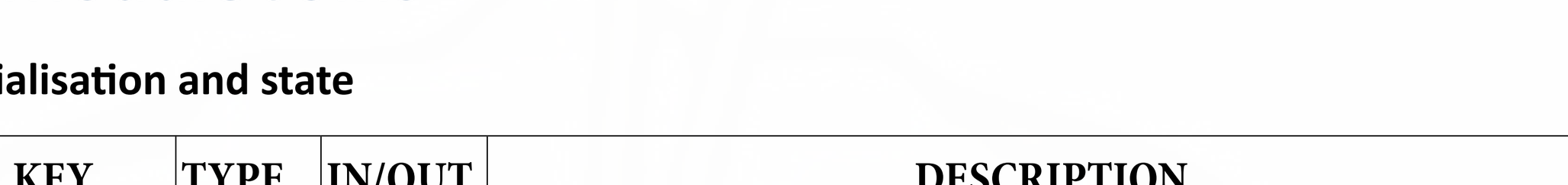


KEY	PARAMETER
ipAddress	The ip address of the Klipsch KDA
Port	The port number of the Klipsch KDA (default 449152)

Module Joins

Initialisation and state

KEY	TYPE	IN/OUT	DESCRIPTION
enable	Digital	Input	This will enable the module and open the connection to the Subwoofer
refresh	Digital	Input	This join will cause an refresh of the all state for the Subwoofer
LED_Flash	Digital	Input	This will cause the LED's on the front panel of the Subwoofer to flash
enabled	Digital	Output	This signal will stay high while the Subwoofer has an active connection
refreshing	Digital	Output	This signal will stay high while the state refresh is taking place
LED_Flash_FB	Digital	Output	The signal will stay high when the LED flash discovery is active



Module Joins

enable and enabled feedback

To communicate to the Klipsch Subwoofer the enable signal must be held high. This is typically done with a toggle symbol. Lowering the signal will cause the communication channel to close and for the module to ignore incoming commands.

The enabled digital output will remain high while the communication channel is open.

refresh and refreshing feedback

The Klipsch Subwoofer does not provide feedback when the state changes outside of the module. For this reason it is good practice to poll the unit periodically to get the correct state. The polling interval can be set externally to the module using an oscillator. Depending on your requirements a typical poll cycle would be 60 seconds. If you are only communicating with the unit via this module you could ignore the polling. The correct state is recovered each time you make a change to the mute, volume or source inputs.

LED_Flash and LED_Flash_FB feedback

The Klipsch Subwoofer uses the front panel LED's as a way of discovering the units once they have been installed. Rasing the LED_Flash input will start the LED's on the front panel flashing. Lowering this signal will stop the flashing.

While the LED's are flashing the LED_Flash_FB signal will remain high.

Module Joins

Power Joins

KEY	TYPE	IN/OUT	DESCRIPTION
Power_ON	Digital	Input	The unit will power on on the rising edge of this signal
Power_OFF	Digital	Input	The unit will power off on the rising edge of this signal
Power_Auto	Digital	Input	The unit will enter auto mode on the rising edge of this signal
Power_ON_FB	Digital	Output	This signal will go high when the unit is powered on
Power_OFF_FB	Digital	Output	This signal will go high when the unit is powered off
Power_Auto_FB	Digital	Output	This signal will go high when the unit is set to auto

Power ON, OFF and Auto

The power commands activate on the rising edge of the attached signal.

Power ON turns the unit on, Power OFF turns the unit off. The Auto command sets the unit so that it will power on automatically when it senses a signal on one of the inputs and turn the power off when there are no signals on any input.

The Power_ON_FB, Power_OFF_FB and Power_Auto_FB signals will go high when the matching state is set. When one of the signals is set the others will be sent low. These signals are break before make.

Module Joins

Volume Joins

KEY	TYPE	IN/OUT	DESCRIPTION
Volume_Up	Digital	Input	On the rising edge this will raise the volume by 1dB.
Volume_Down	Digital	Input	On the rising edge this will lower the volume by 1dB.
Mute	Digital	Input	The output will drop to 0dB while the signal is held high.
Mute _FB	Digital	Output	This signal will be high while the unit is in mute mode.
Volume	Analog	Input	This will set the master volume level as a %
Volume_FB	Analog	Output	This will show the current master volume level as a %

Volume_Up, Volume_Down, Volume and Mute

The master volume can be set in two ways.

It can be set directly using the volume analog join. This is a 0% - 100% analog value that will be translated into the appropriate volume level for the subwoofer.

The volume can also be set using the Volume up and down digital joins. These iwll raise and lower the volume by 1dB on each rising edge.

The volume can be muted (sent to 0dB) using the mute join. The subwoofer will be sent to 0dB on the rising edge of the mute join. The subwoofer will record the current volume before going in to mute and on the trailing edge it will return to the previously saved volume. Mute_FB will show the current state of the mute function.

The current volume is available as an analog value on the Volume_FB join and also as a string in dB on the Volume_FB$ serial join.

Module Joins

Volume Joins

KEY	TYPE	IN/OUT	DESCRIPTION
RCA_Volume	Analog	Input	Set the volume level of the RCA input
XLR_Volume	Analog	Input	Set the volume level of the XLR input
HiLevel_Volume	Analog	Input	Set the volume level of the High Level input
Wireless_Volume	Analog	Input	Set the volume level of the Wireless input
RCA_Volume_FB	Analog	Output	Get the volume level of the RCA input
XLR_Volume_FB	Analog	Output	Get the volume level of the XLR input
HiLevel_Volume_FB	Analog	Output	Get the volume level of the High Level input
Wireless_Volume_FB	Analog	Output	Get the volume level of the Wireless input

RCA, XLR, HiLevel and Wireless Inputs and Outputs

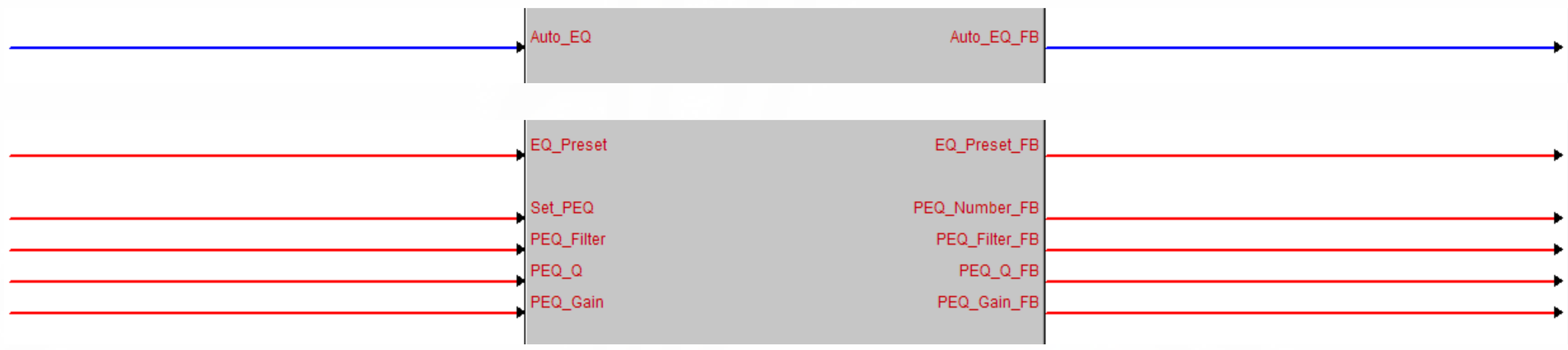
The volume can be set independently for the RCA, XLR, High Level and Wireless inputs with these joins. The joins expect a value between 0 - 100% and can be directly conncted to a slider.

The current volume level for each of these inputs is available on the matching feedback signal.

Module Joins

EQ Joins

KEY	TYPE	IN/OUT	DESCRIPTION
Auto_EQ	Digital	Input	Auto EQ will be active while this signal is held high
Auto_EQ_FB	Digital	Output	This signal will be high if Auto_EQ is active, low is its not active.
EQ_Recall	Analog	Input	Accepts a number between 0 and 5 for the EQ preset to recall
EQ_Recall_FB	Analog	Output	Outputs a number between 0 and 5 representing the current EQ preset



Auto_EQ and Auto_EQ_FB

The Auto EQ mode can be enabled by holding the Auto_EQ signal high. When the signal is brought low it will disable the Auto EQ function. The current state os the Auto EQ is show by the Auto_EQ_FB signal.

Module Joins

EQ_Preset and EQ_Preset_FB

There are 6 EQ presets available for selection through this analog join. The presets are as follows...

VALUE	PRESET NAME
0	Flat
1	Cinema
2	Music
3	User 1
4	User 2
5	Night

Setting the analog input EQ_Preset to one of the values listed to the left will change the subwoofer to that EQ type.

The currently selected EQ mode will be shown on the EQ_Preset_FB analog output.

Module Joins

LED Joins

KEY	TYPE	IN/OUT	DESCRIPTION
LED_Flash	Digital	Input	Hold this signal high to flash the front panel LED
LED_Flash_FB	Digital	Output	This indicated the the LED flash is currently active
LED_Brightness	Analog	Input	A value of between 0 and 2 is used to set the LED brightness
LED_Brightness_FB	Analog	Output	Feedback for the the current LED brightness, between 0 and 2

LED_Flash ansd LED_Flash_FB

The LED Flash signal control the front LED for the subwoofer. Holding this signal high will cause the from Panel LED to flah to aid in finding the unit. Lowering the signal will return the LED to its previous setting. When the LED Flash mode is active the LED_Flash_FB signal iwill be high.

LED_Brightness ansd LED_Brightness_FB

The LED brightnes can be set to three different levels.

VALUE	BRIGHTNESS
0	LED OFF
1	LED Dim
2	LED Full

The LED can be turned OFF by setting a vlaue of 1, it can be set to a dim level by setting the value to 1 or it can be turned on fully by setting this signal to 2. When the unit starts up the LED will come on to the full level and after its start up is complete it will return to the value you set here. The currently selected brightness level will be available on the LED_Brightness_FB signal.

Module History

Version 20180104

- Inital release