Sennheiser TeamConnect Ceiling 2

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| Version | 1.0.0 |
| Simpl+ Module filename | Sennheiser\_TCC2\_1.0.0\_SE.usp |
| Simpl# Library filename | Sennheiser\_Modules\_CSharp.clz |
| Tested on processor | CP3 |
| Tested on processor firmware | 1.601.0050 |
| Tested on device model | Sennheiser SL Ceiling Mic 2 |
| Tested on device firmware | 1.4.2 |
| Developed by | Niklas Olsson – JaDeVa AB |

**Summary:**

This module integrates with Sennheiser TeamConnect Ceiling 2, a microphone mounted in the ceiling of the room.

**Release notes:**

* 1.0.0
  + Initial release

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| PARAMETERS |  |
| Device\_IP\_Param | The IP-address of the device we will connect to.  If you want to be able to change this during runtime, instead use serial input **Device\_IP**. |
| Device\_UDP\_Port\_Param | The UDP port of the device we will connect to. This should most likely always be 45d  Default: 45d |

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| INPUTS |  |
| Connect | Opens the connection to the device when signal is high. I you use the parameters to set Device Ip and Port, you may define this signals as ’1’. |
| Debug | Enables debug messages to be printed to the text console while signal is high. Make sure this is not left high when not used. |
| Enable\_Incoming\_Commands | When set to high, all received data from the device will be outputed on the serial output **Incoming\_Command\_FB**. |
| Enable\_Beam\_Azimuth\_Feedback  Enable\_Beam\_Elevation\_Feedback  Enable\_Input\_Peak\_Level\_Feedback | Set this high when you want the analog output **Beam\_Azimuth\_Degrees\_FB** / **Beam\_Elevation\_Degrees\_FB** / **Input\_Peak\_Level\_FB** to start outputing values.  You may define this signals as ’1’.  The reason you have to manually enable this is because the device is quite ”chatty” so if you don’t use this feature all that traffic is unnecessary. |
| Mute\_On  Mute\_Off  Mute\_Toggle | Mutes/Unmutes/toggles the audio outputs. This will also |
| Identify\_On  Identify\_Off  Identify\_Toggle | Turns on/off/toggles the identify feature of the device. It blinks a LED on the frontpanel. |
| Exclusion\_Zone\_Active  Exclusion\_Zone\_Inactive  Exclusion\_Zone\_Toggle | Activates/disables/toggles the exclusion zones. Exclusion zones are areas where the microphone should not be listening. These are configured in the device settings. |
| Custom\_Led\_Active  Custom\_Led\_Inactive  Custom\_Led\_Toggle | Activates/disables/toggles the custom led color. The color is set with the analog input **Custom\_Led\_Color**. |
| Custom\_Led\_Color | Sets the custom led color. The color is activated with digital inputs **Custom\_Led\_Active/Inactive/Toggle**.  Range: 0-7  0 = Light Green  1 = Green  2 = Blue  3 = Red  4 = Yellow  5 = Orange  6 = Cyan  7 = Pink |
| Mic\_Mute\_Led\_Color  Mic\_On\_Led\_Color | Sets the led color for muted/unmuted states.  Range: 0-7  0 = Light Green  1 = Green  2 = Blue  3 = Red  4 = Yellow  5 = Orange  6 = Cyan  7 = Pink |
| Led\_Brightness | Sets the brightness of the leds on the device.  Range: 0-5  0 = Off  …  5 = Full |
| Dante\_Output\_Gain | Sets the Dante output gain. Value is in dB.  Range: 0-24 |
| Speaker\_Detection\_Threshold | Sets the sensitivity of the speaker detection based on the noise in the room.  Range: 0-2  0 = Quiet room  1 = Normal room  2 = Loud room |
| Set\_Name | Sets the name of the device.  Max length: 8 characters. |
| Set\_Location | Sets the location of the device.  Max length: 8 characters.  Allowed chars: 0-9, A-Z, a-z or <space>  Must start with a letter  May not start or end with a – or \_ |
| Set\_Position | Sets the position of the device. Intended to be used as the position in the location. Example if location is ”Room\_1”, position might be ”Over the table”.  Max length: 30 characters.  Allowed chars: 0-9, A-Z, a-z or <space> |
| Send\_Custom\_Command | Makes it possible to send your own commands to the device. Refer to the Sennheiser Sound Control Protocol (SSC).  Example command: {"device":{"reset":true}} |
| Device\_IP | The IP-address of the device we will connect to.  Make sure you connect after this is set. |
| Device\_UDP\_Port | The UDP port of the device we will connect to. This should most likely always be 45.  Make sure you connect after this is set. |

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| OUTPUTS |  |
| Responding\_FB | This is high as long as the device is responding. As the protocol uses UDP there is no connection state, so it might take up to a minute before responding goes low after the device has stopped responding. |
| Mute\_On\_FB | This is high while the audio output is muted. |
| Identifying\_FB | This is high while the device is in identifying state. |
| Exclusion\_Zone\_Active\_FB | This is high while exclusion zones are active in the device. Exclusion zones are areas where the microphone should not be listening. These are configured in the device settings. |
| Custom\_Led\_Active\_FB | This is high while the leds on the device show the custom color. |
| Custom\_Led\_Color\_FB | The currently selected custom led color.  Range: 0-7  0 = Light Green  1 = Green  2 = Blue  3 = Red  4 = Yellow  5 = Orange  6 = Cyan  7 = Pink |
| Mic\_Mute\_Led\_Color\_FB  Mic\_On\_Led\_Color\_FB | The currently selected led color for muted/unmuted states.  Range: 0-7  0 = Light Green  1 = Green  2 = Blue  3 = Red  4 = Yellow  5 = Orange  6 = Cyan  7 = Pink |
| Led\_Brightness\_FB | The currently selected brightness of the leds on the device.  Range: 0-5  0 = Off  …  5 = Full |
| Dante\_Output\_Gain\_FB | The current Dante output gain. Value is in dB.  Range: 0-24 |
| Speaker\_Detection\_Threshold\_FB | The currently selected sensitivity of the speaker detection.  Range: 0-2  0 = Quiet room  1 = Normal room  2 = Loud room |
| Beam\_Azimuth\_Degrees\_FB | If you set the digital input **Enable\_Beam\_Azimuth\_Feedback** high, this will output he horizontal angle to the person currently speaking.  Value is in degrees.  Range: 0-359 |
| Beam\_Elevation\_Degrees\_FB | If you set the digital input **Enable\_Beam\_Elevation\_Feedback** high, this will output the vertical angle to the person currently speaking.  Value is in degrees.  Range: 0-90 |
| Input\_Peak\_Level\_FB | If you set the digital input **Input\_Peak\_Level\_Feedback** high, this will output the current input peak level of the microphone. Value is in dB.  Range: -90 - 0 |
| Name\_FB | The name of the device. |
| Location\_FB | The location of the device. |
| Position\_FB | The position of the device. Intended to be used as the position in the location. Example if location is ”Room\_1”, position might be ”Over the table”. |
| Product\_FB | The product name of the device. Example: SLCM2 |
| Version\_FB | The firmware version of the device. Example: 1.4.2 |
| Serial\_FB | The serial number of the device. Example: 1234567890 |
| Mac\_Addresses\_FB | The mac adresses of the device. Example: 00:1B:66:11:22:33 |
| Dante\_Ip\_Addresses\_FB | The ip addresses of the Dante outputs. This returns both addreses separated with a comma. If there’s no network cable connected or no acdresses set, this might return a string only containing a comma.  Example: 192.168.10.2,192.168.10.3 |
| Dante\_Mac\_Addresses\_FB | The mac addresses of the Dante outputs. This returns both addresses separated with a comma.  Example: 00:1B:66:44:55:66,00:1B:66:77:88:99 |
| Incoming\_Command\_FB | If you set the digital input **Enable\_Incoming\_Commands** high, this will output all the received data from the device.  The use case for this would be to extend the functionality of the module. |