Partner: Nureva
Model: HDL410
Device Type: Audio Conferencing System

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Nureva HDL410 Sound Tracking v1.2
CATEGORY:	Misc.
VERSION:	1.2
SUMMARY:	This module interacts with an HDL410 device using a WebSocket connection to provide sound location data to a Crestron program for custom camera tracking programming.
GENERAL NOTES:	**Prerequisites:** The HDL410 must be enrolled within a Nureva Console account to enable module support. Additional details available at: https://developers.nureva.com/docs/get-started. **Camera tracking integration must be enabled.** Follow the process as described on https://support.nureva.com/camera-tracking to enable camera tracking integration. Once camera tracking is enabled, enter the IPAddress of the Crestron processor in the allow list. **Enable voice detection.** Follow the process as described on https://support.nureva.com/docs/enabling-voice-detection-nureva-app-hdl410 to enable voice detection. Use the Nureva console coverage map to configure room dimensions and zones. Note that this module orders the list of zones by first created to last created. The module re-orders the list of zones if zones are added or deleted. **Module Support Contact:** Nureva Support support@nureva.com (844) 370-2111
CRESTRON HARDWARE REQUIRED:	Crestron 3-Series or 4-Series processor.
SETUP OF CRESTRON HARDWARE:	N/A
VENDOR FIRMWARE:	N/A
VENDOR SETUP:	See general notes above.

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PARAMETERS:

CommmandProcessorId	The unique identifier of this module. If multiple modules are used in the same program, each module just use a different id.
IPAddress	The IPAddress of the device as defined in the camera tracking configuration in Nureva Console.
Port	The communication port as defined in the camera tracking configuration in Nureva Console. Default is 8931.
Ambient Level Threshold	The sound power level and coordinates will only update if the sound level reported is above the threshold. Valid values are 0 to 60d. Default is 40d.

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CONTROL:

Connect	D	Pulse to establish communication with the device. Once the connection is established, if the connection is lost, the module will attempt to reconnect until a connection is reestablished.
Disconnect	D	Pulse to terminate communication with the device.
Debug	D	Set high to enable the internal trace messages printed in SIMPL Debugger. These messages may be useful while debugging to see what processes are occurring within the module. Note it is highly recommended to leave debugging disabled unless actively debugging as it causes much additional signal traffic in Debugger.
Enable_Tracking	D	Set high to enable the sound location data and active zone feedback, such as when a meeting is in progress.

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FEEDBACK:

Is_Communicating	D	Digital high indicates that the module is successfully communicating with the device.
Is_Initialized	D	Digital high indicates all data points have returned device state and any preset modules have completed initialization.
Firmware_Version	S	The firmware version as reported by the device.
Model_Number	S	The model number as reported by the device.
Room_Dimension_Y_Axis	A	Analog value in millimeters of the North-South room dimension. Maximum value is 10,668d.
Room_Dimension_X_Axis	A	Analog value in millimeters of the West-East room dimension. Maximum value is 16,764d.
Sound_Power_Level	A	The sound power level in decibels at the reported sound location. Values range from 0d to 100d.
Sound_Coordinate_Y_Axis	A	Analog value in millimeters of sound location on the Y Axis. Values range from 0d to Room Dimensions Y.
Sound_Coordinate_X_Axis	A	Analog value in millimeters of sound location on the X Axis. Values range from 0 to Room Dimensions X.
ZoneX_Active	D	Digital high indicates that sound is detected within the zone.
ZoneX_Label	S	The label as defined in Nureva console.
ZoneX_Point1_Y_Axis	A	Analog value in millimeters of the y location of the point1 (zone origin) coordinate.
ZoneX_Point1_X_Axis	A	Analog value in millimeters of the x location of the point1 (zone origin) coordinate.
ZoneX_Point2_Y_Axis	A	Analog value in millimeters of the y location of the point2 (opposite corner to **point1**) coordinate.
ZoneX_Point2_X_Axis	A	Analog value in millimeters of the x location of the point2 (opposite corner to **point1**) coordinate.

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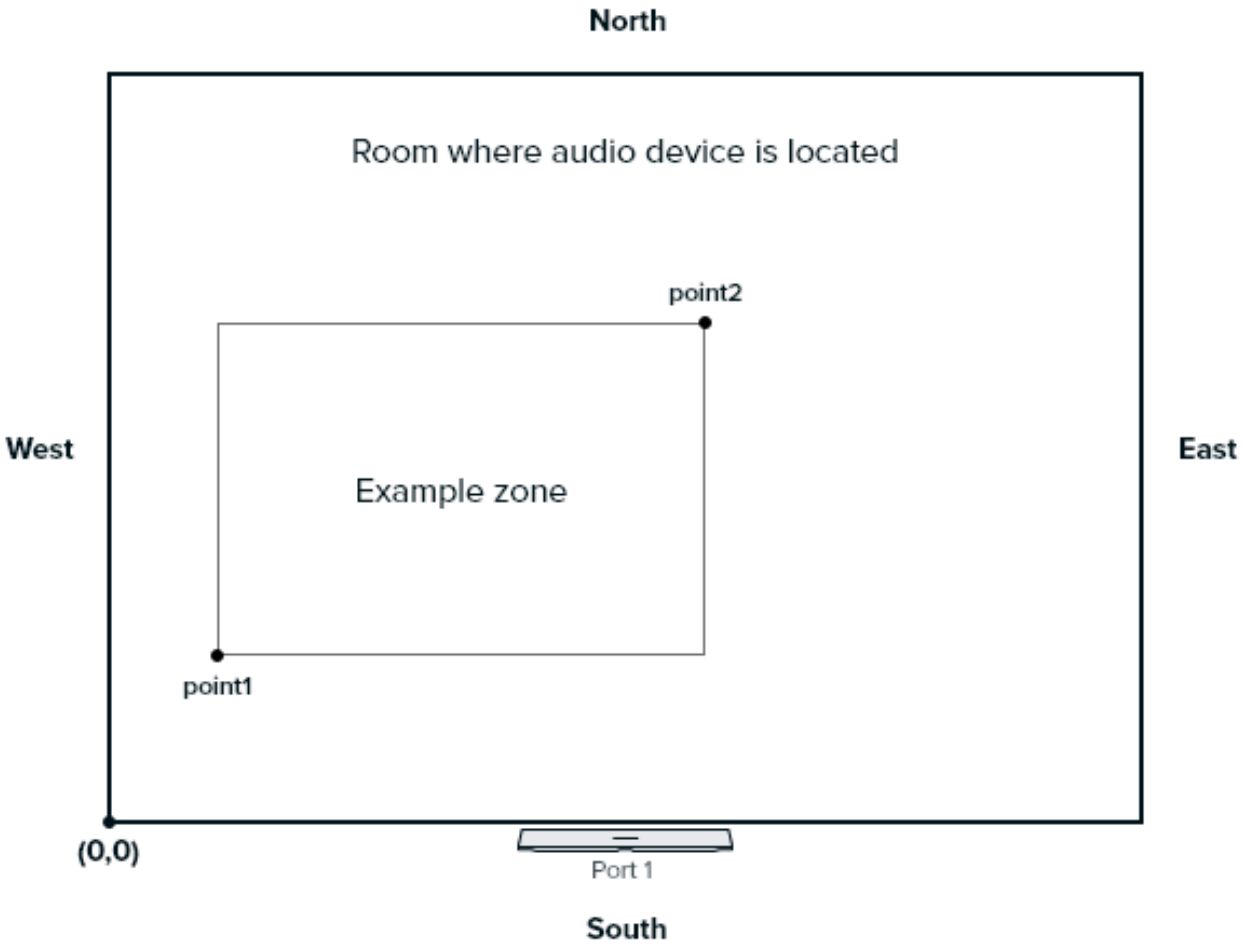
As shown in the image below, rooms are assumed to be rectangular, and each wall is identified by a cardinal direction: north, south, west and east.



When interpreting the zone position coordinates, the origin (0,0) is the southwest corner of the room. Positive x values are in the east direction. Positive y values are in the north direction.

The microphone and speaker bar plugged into Port 1 on the connect module will always be situated on the south wall of the room layout.

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TESTING:

OPS USED FOR TESTING:	CP3 v1.8001.5362.29861 CP4 v2.8003.00056
SIMPL WINDOWS USED FOR TESTING:	4.3000.01
CRES DB USED FOR TESTING:	225.05
DEVICE DATABASE:	200.350
SYMBOL LIBRARY USED FOR TESTING:	1205
SAMPLE PROGRAM:	Nureva HDL410 Sound Tracking Demo v1.1.smw
REVISION HISTORY:	v1.0 – Initial Release v1.1 – Added Switching zones v1.2 – Updated websocket connection logic – Active zone feedback only updates when Enable Tracking is high.

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