Revit Model Notes
ADORN Ceiling Loudspeaker Family

The ADORN ceiling loudspeaker Family contains all three model variants; ACS-4OTS, ACS-55T, and ACS-55TS (Shallow). All data from their respective datasheets are included for quick reference within the Revit environment. The zip file also contains a text file that is the family Type library and must be saved in the same folder with the .rfa file.

When importing the models into a project, the text file triggers a dialog box that lists all the Types (loudspeaker models) available to import along with a listing of all the data parameters. This gives the user the option to import only the Types they need for a given project and helps to reduce the file size of the project. Multiple types may be selected using the standard CTL or SHIFT + click selection commands.

The Family of ceiling speakers has been created using the Generic Face Based Family template. This allows the family to recognize surfaces in a linked model to be hosted in the ceiling of an architects linked model as opposed to a Ceiling based template which can only be hosted on a ceiling that is native to the active project file. The user will need to select the "Place on Face" option in the Placement Ribbon when inserting the Family into a project model.

The user can select whether to include the "C-Ring" for each instance of placement by checking/unchecking the "Include C-Ring" switch parameter under the Model Properties parameter group in the Properties box. This is a "Shared Parameter" which can be used in Schedules such as a BOM and quantities will automatically adjust as changes are made in the model.

The Family also includes standard design calculations for loudspeaker spacing distances and REP (Required Electrical Power).

Spacing Calculation:

Once inserted into a ceiling, the user can select each instance of the loudspeaker to read the Elevation of the hosting element (typically the ceiling in the Model). Place this value in Ceiling Height parameter in the selected instance Properties box, then enter the desired Listener Height. The Family will then perform the calculations and display the results under the Model Properties group for standard Edge-to-Edge and Minimum Overlap spacing.

Note that for models with rated dispersion values >120°, we have entered a default Dispersion value of 120° since greater values can result in spacing that is too great for the selected Listener Height. The Dispersion value can be changed if the user prefers. The Family can also display a circle representing the nominal coverage area for each loudspeaker to allow Copy and Paste to

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visually insert additional instances and ensure proper spacing. This is especially helpful when working with irregular shaped ceilings that don't lend themselves well to simple Array insertions. This graphic can be turned on/off by clicking on the "Edit Type" button and click the checkbox for either "Edge-To-Edge" or "Min Overlap Guide" under the Graphics Group of Parameters as desired. This is a "Type" parameter that will switch these graphics on/off for all instances of the selected loudspeaker Type.

REP Calculation

Once inserted into a ceiling, the user can enter the Desired Level @ Listener and Peak Factor parameters and the Family will calculate the minimum REP (amplifier power in watts), and the Recommended Tap (based on the next highest tap available per model). This is an Instance calculation, and the results are "Shared Parameters" to allow the user to create Schedules listing all loudspeakers in the project with their associated TAP values. This also allows the user to create their own custom "Multi-Category Tag" to tag each loudspeaker to annotate tap values on drawings for each loudspeaker. The "Recommended Tap Selection" parameter will display a series of 9's if the REP exceeds the highest available Tap value for the selected loudspeaker model.

We have also included the AVIXA standard generic symbol in the Family. It is "Annotative", and the size of the symbol will adjust based on the drawing scale of the selected View. The user may replace this symbol with their own symbol according to your drawing standards. The Detail View settings for the symbol and the loudspeaker model have been set to the typical settings as follows:

- "Coarse" displays the symbol, but not the device model
- "Medium" displays both the symbol and the device model
- "Fine" displays the device model, but not the symbol.

Users may add additional parameters and Labels such as Device Type, Sub-Type, IDs, and many others according to your specific design and drawing standards. This will enhance the usefulness of the Family in your projects.

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