

Exporting From Resolution: Step-By-Step Process

EAW Resolution is a fully-featured prediction tool, in and of itself sufficient for calculating performance of most commonly-used EAW products. However, it should be acknowledged that many industry professionals rely on independent prediction platforms such as AFMG's EASE software. For this reason, EAW software engineers developed a method to export data from Resolution for use in EASE.

To begin, select the tab of the array you wish to export, and select the 'Export EASE file' function from the 'File' menu within Resolution. Note that if more than one array exists in the Resolution model, it is critical that the specific array be selected. If the "Venue" tab is selected, the "Export EASE File" option will be unavailable (greyed out).

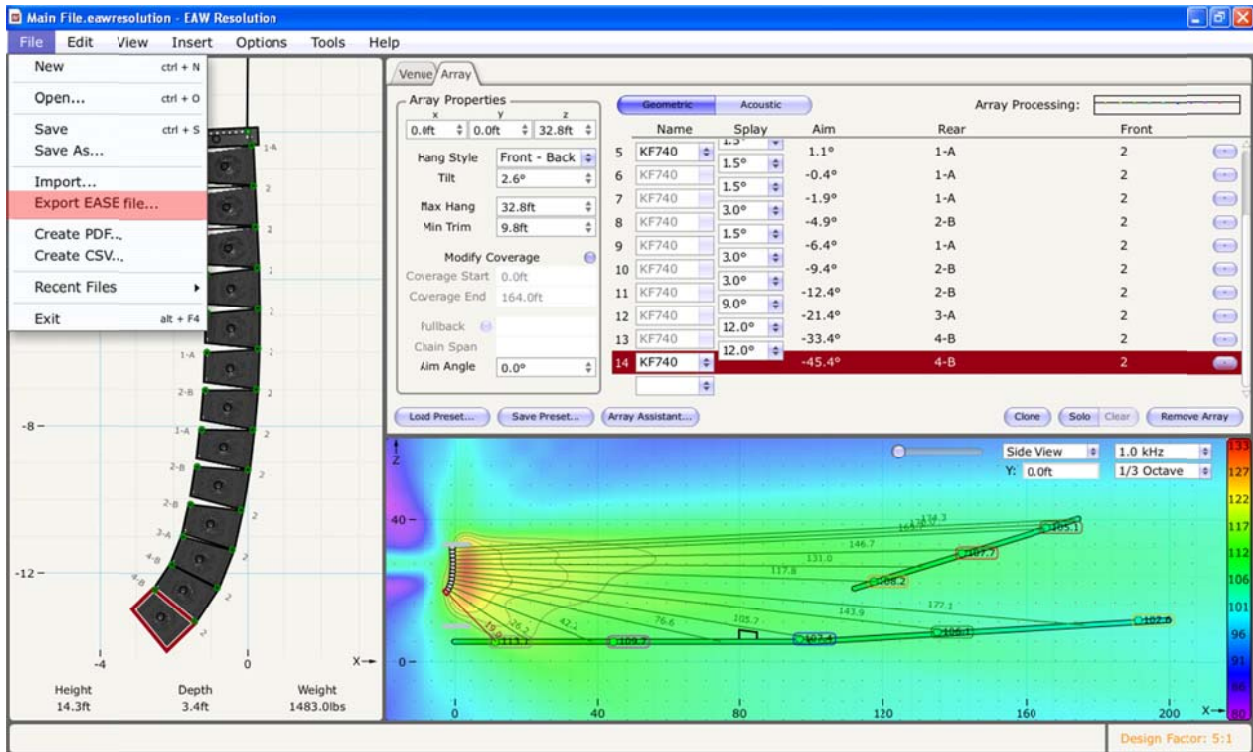


Figure 1: The 'Export EASE file' function within EAW Resolution.

Resolution-EASE Export Function: Step-By-Step Tutorial

After the user designates a location to save the file, Resolution will calculate a complete three-dimensional balloon for the currently-selected array, centered on the 'pick point', or origin (0,0) in the 'Array' pane.

The calculated balloon will *include* any vertical down- or up-tilt in the array, but will set the horizontal angle to zero. In other words, you will not need to re-tilt the array vertically, but it will be necessary to re-apply any horizontal rotation once you have imported the data to EASE.

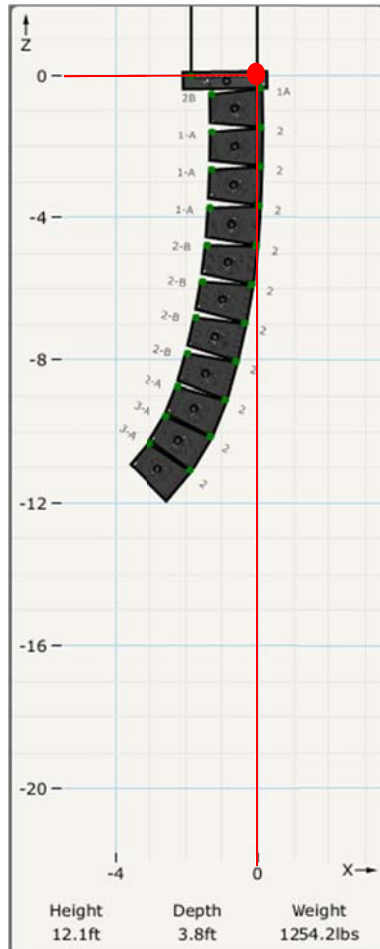


Figure 2: The array pane, with 'pick point' highlighted. Depending on the number of hang points and center of gravity, the designated 'pick point' may shift slightly.

Next, the user must import the .XHN into EASE via SpeakerBase. In the file menu, select “Import ASCII”

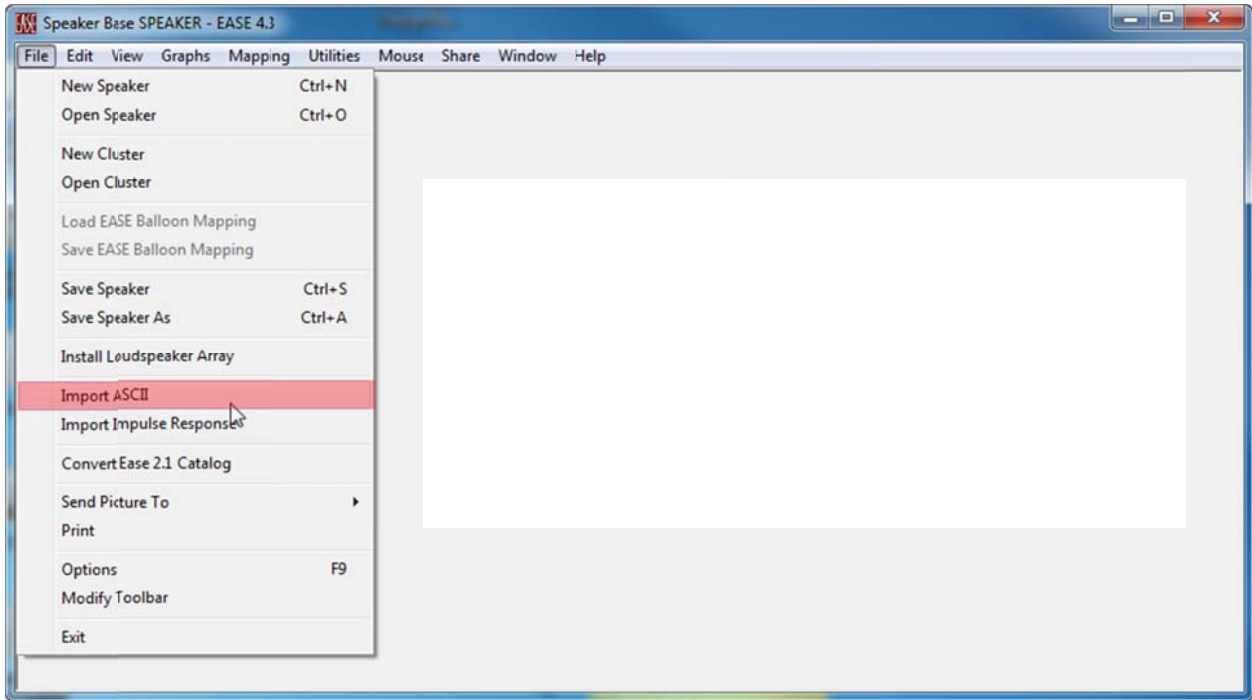


Figure 3: The EASE Speaker Base opening screen.

Then, select a location in which to save the new loudspeaker files. Speaker Base will select a generic project folder by default, so it is suggested that the user select a more familiar location for the new loudspeaker data. To do this, click on “Change Destination Path For All Files” and indicate the desired location. EASE will place a number of files in this directory.

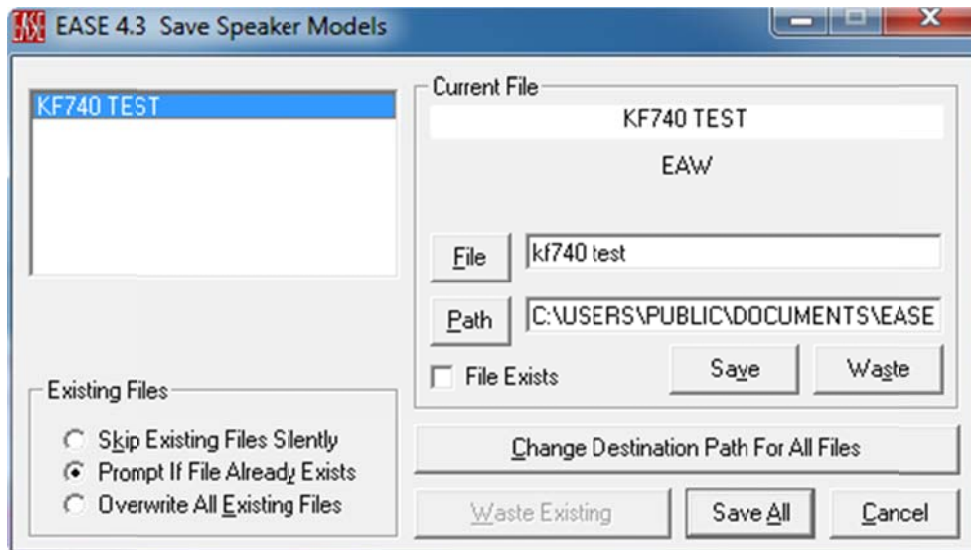


Figure 4: “Save Speaker Models” dialogue box in EASE.

After a suitable path has been selected, click “Save All”.

Resolution-EASE Export Function: Step-By-Step Tutorial

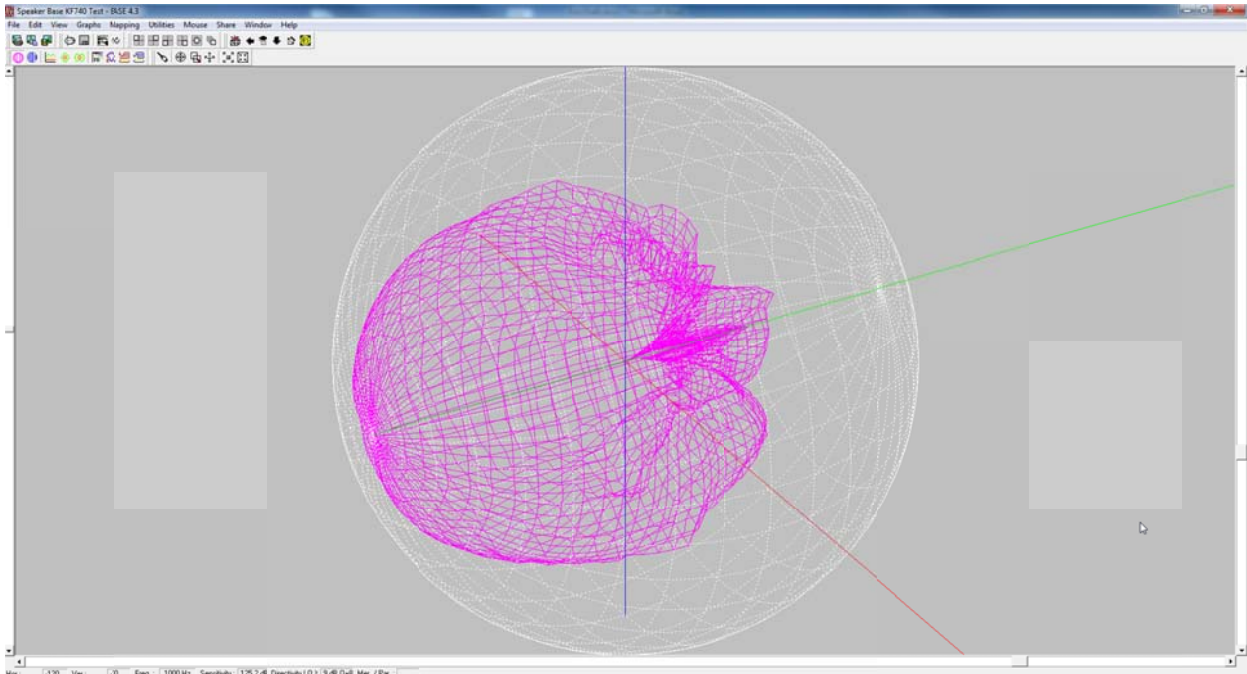


Figure 5: Main Speaker Lab screen, after selecting file path. The three-dimensional balloon is visible (generally at 1,000 Hz by default).

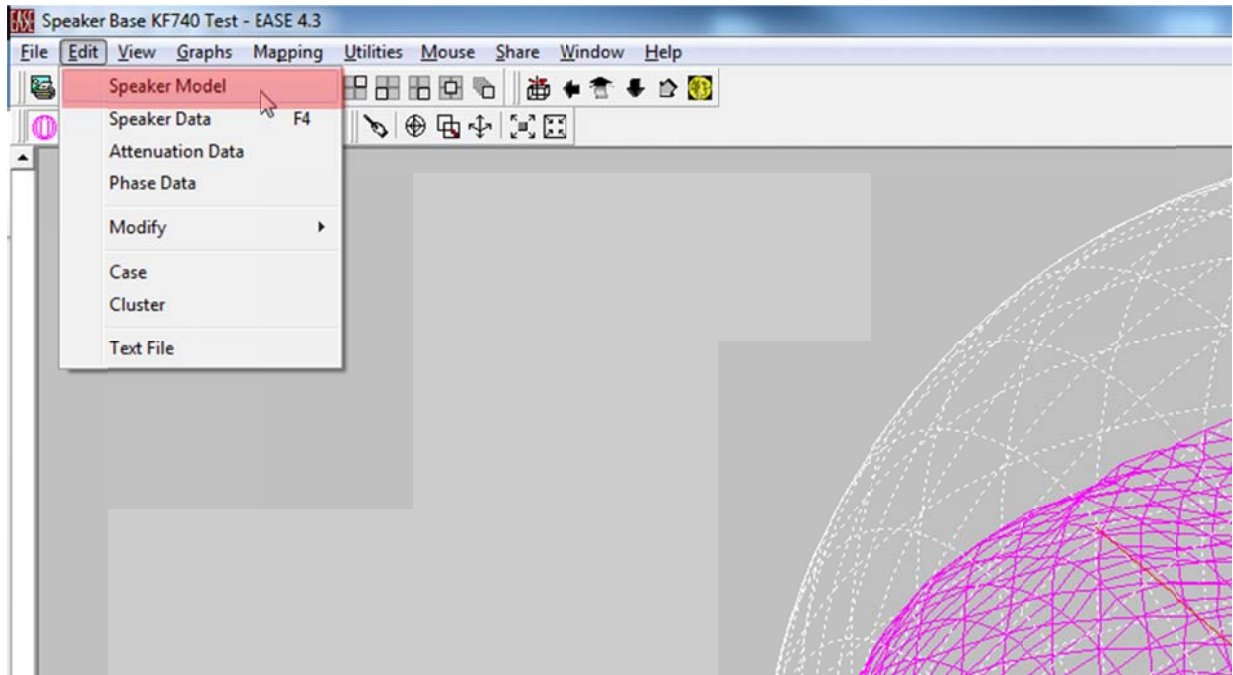


Figure 6: Edit menu, within the Main Speaker Lab screen.

In the next dialogue box, select “Check Speaker” so that the “Checked” field indicates “Yes”. You may also enter a name for the loudspeaker model. Then click “Ok”.

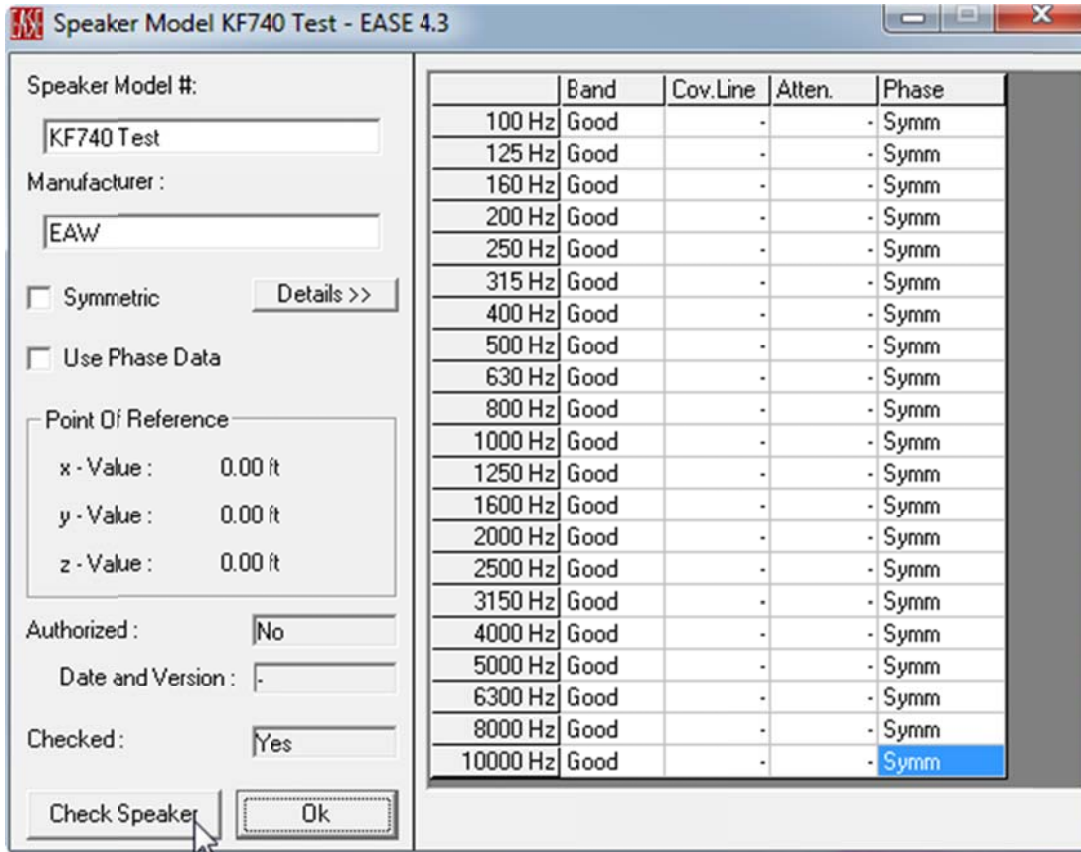


Figure 7: Speaker Model dialogue box.

Next, EASE requires you to run a few quick calculations on the data. These are accessed via the “Speaker Data” function within the “Edit” drop-down menu. This can also be accessed quickly by pressing the F4 keyboard key.

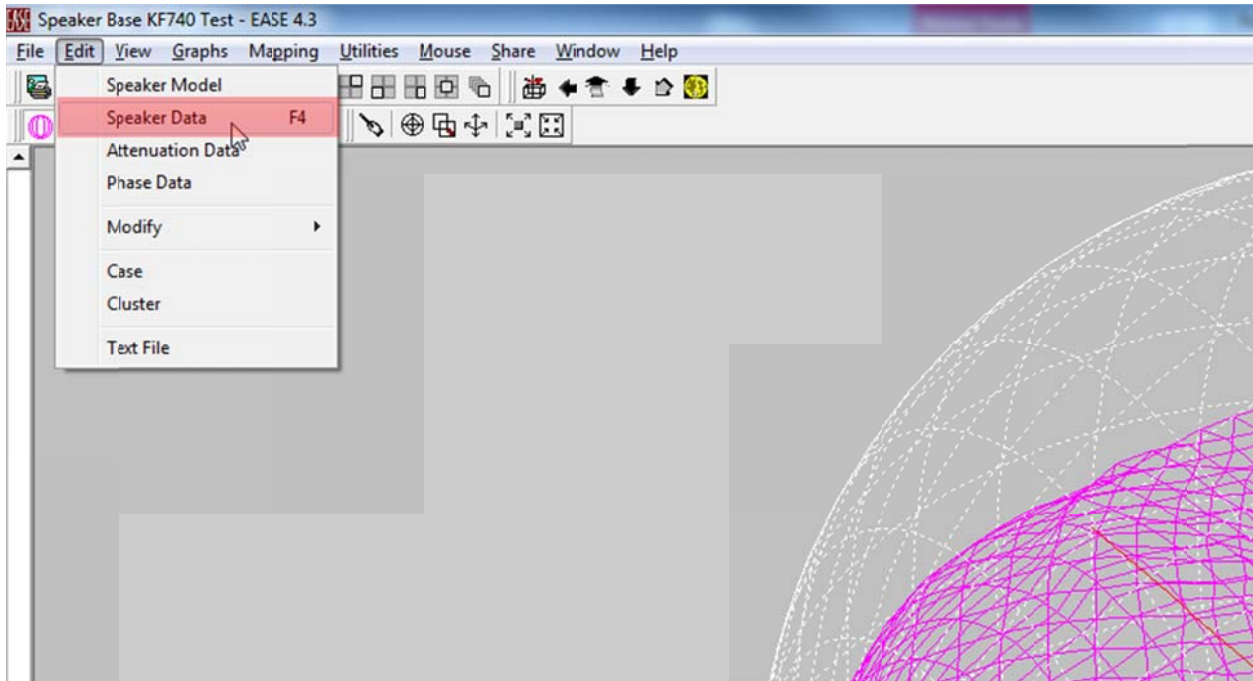


Figure 8: The 'Edit' drop-down menu within the main Speaker Base window.

In the 'Speaker Data' dialogue box, perform the following functions in order:

1. Compute Cone
2. Compute Directivity
 - a. You may be asked if you wish to do this for all bands. Click "OK".
3. Compute Efficiency
 - a. You may again be asked if you wish to do this for all bands. Click "OK".
4. Apply, then "Ok."

These functions ensure that the correct directivity and output data is included in the loudspeaker model.

Resolution-EASE Export Function: Step-By-Step Tutorial

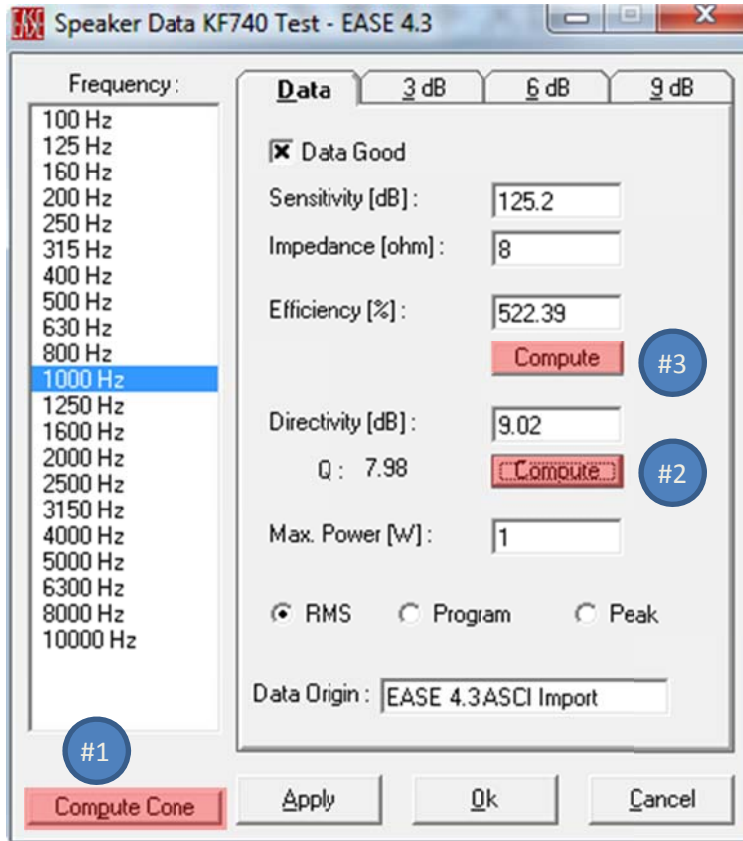


Figure 9: The 'Speaker Data' dialogue box, with the recommended order of calculations.

Once done with this, the final step is only to save the correctly-formatted and calculated loudspeaker. Simply select "Save" from the "File" drop-down menu:

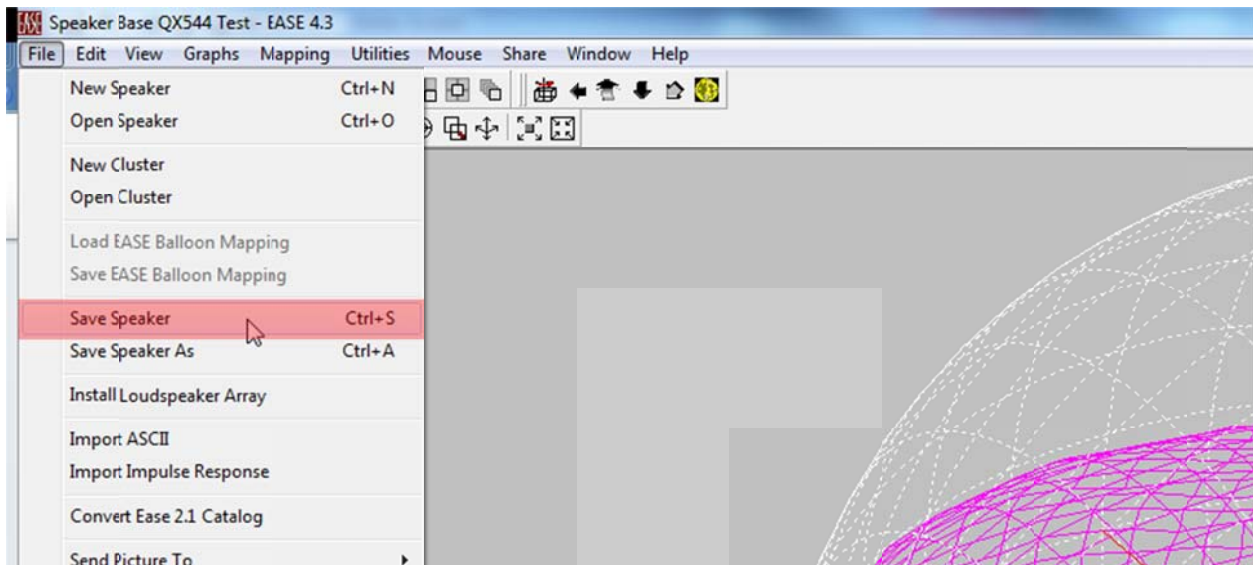


Figure 10: The File drop-down menu.

Resolution-EASE Export Function: Step-By-Step Tutorial

Speaker Base will save the data as an .SPK file, and will also include several other files sharing the name but using different extensions (.spk, .fed, .ffc, .frd, .fvt, .fwm, and .lob). It is critical that all of these files are kept together.

You can now utilize the exported model in any EASE simulation, just as you would any other loudspeaker. Remember that the loudspeaker (representing your array) should be positioned in the model at the pick point (as indicated in Resolution). While any up- or down-tilt will be included in the data exported from Resolution (the EASE object should be left at 0 degrees vertical), it will be necessary to horizontally aim the array within EASE as appropriate.

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