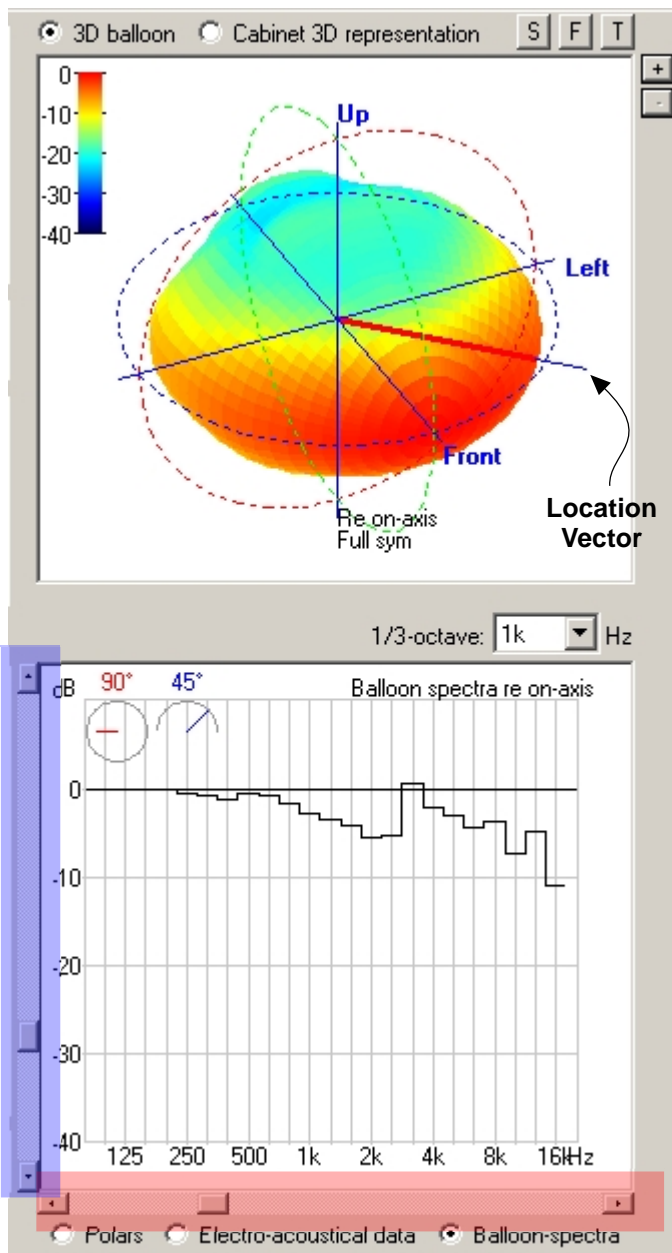


Understanding Spherical Coordinates for Loudspeaker Data

Some reference arcs (see above):

Arc index "0" (across the top) and arc index "180" (across the bottom) produce the vertical polar.

Arc index "90" (around the side) and arc index "270" (around the other side) produce the horizontal polar.



An **arc** is a series of measurements 5 or 10 deg apart that start directly in front of the ldspek and end directly behind it. like lines of longitude on a polar grid (loudspeaker facing north pole).

1. The horizontal slider (red) is the "arc index." This keeps track of which arc you are on. The default is 0, which is an arc that starts in front of and moves directly over the top of the ldspek. As you increment the arc index you are selecting which arc the vertical (blue) slider moves along.
2. The vertical slider (blue) is for the "arc position." As you increment the vertical slider you are moving along an arc.

The balloon data is produced from response measurements made at various positions along arcs around the loudspeaker. These measurements must each have a file name that uniquely identifies it, such as V045H095.ext or IR045095.ext. The arc position is referred to as H for horizontal. The arc index is referred to as V for vertical. These are unfortunate conventions as they create the wrong mental image of your position on the sphere. It is instructive to set the arc position (blue) to 90 and then increment the arc index (red). The pointer in the 3D plot will move like the hand on a clock, since this is causing you to cycle through the arcs while keeping the same position on each.

Hint:

Always pick your arc index first with the horizontal slider, and then move along the arc with the vertical slider.

With these conventions in mind watch the position indicator in the 3D (top) display to determine where you are.

File Name for Position on Sphere

V090H045.spk
or
IR090045.wav