Inside the DRAGON X



6 hi, fidelity.



Tune Richter speakers to your room, simply

Richter brings you a simple way to tune speakers to your room. "Aperiodic reflex vent tuning" sounds complex but it basically involves damping the ports in our larger models (Wizards and Dragons) with the special plugs supplied, using your ears as a guide.

You may have noticed how different your speakers can sound in a different room or how the sound changes in different stores.

Positioning a large loudspeaker for optimal performance can be challenging especially if the room is oddly shaped, of small size or if the speaker is positioned into a corner.

Such situations can introduce significant variations in low frequency performance or bass response (known as loading), sometimes making the speaker sound a little too full, rich or even boomy. Surprisingly, pushing a loudspeaker into a corner can increase the sound pressure of bass frequencies by 6dB. This equates to four times the power and can drastically alter the tonal balance of the Richters' otherwise ideal response.

Large loudspeakers are particularly susceptible to this effect. Some designs tone down the bass performance of their

larger speakers to ensure they accommodate the small or average size living rooms – but this will compromise performance in a listening environment that can handle the full bass output.

Richter offers you a simple way to get the best of both worlds.

The larger Legend V models are now supplied with flow-resistive damping plugs which allow you to more effectively tune your loudspeaker to suit your listening environment. This gives you the power to alter the perceived quality and level of your Richter speakers. These resistive plugs act as "aperiodic dampers" effectively acting as shock absorbers on your loudspeaker cones, evenly lowering the bass level while tightening the sound, precisely countering the deleterious effects of a small listening room.

The Wizard model has one port per speaker box and you can use each loudspeaker with or without the plugs.

The Dragons have two ports for each box. This gives you four tuning options: No plugs, lower vents plugged, upper vents plugged or both plugged – a range of responses to counter the problems which may be produced in smaller listening rooms, tuning for corner and

Aperiodic 2. *Physics* (of a system or instrument) being damped sufficiently to reach equilibrium without oscillation.

- Collins Australian Dictionary

wall loading. For example if one loudspeaker is positioned in a corner and the other is not you can now tonally correct the corner-loaded loudspeaker to better match the other by plugging the corner speaker.

Most of all it's fun and very satisfying to experiment and tune your loudspeakers exactly to your room and taste. This simple feature lets you improve your sound in way that might otherwise cost significantly. Remember, adding the aperiodic plugs to your Richter loudspeakers in a smaller room will never reduce bass quality.

This feature accords with Richter's design philosophy of value for money performance, bringing you an emotional, involving sound that gives you the maximum enjoyment across all musical genres.

Dr Martin Gosnell B.E. PhD Senior Design Engineer Richter Acoustics

How to tune your Wizards or Dragons (Dragons pictured)



1. Locate the supplied port plug(s) for each speaker.



2. Insert almost fully into one or more ports at the rear of the speaker.



3. Listen to and compare the same piece of music (featuring plenty of bass) with plugs in and out of one or both ports, in one or both speakers. Look for the firmest, tightest bass sound.

