

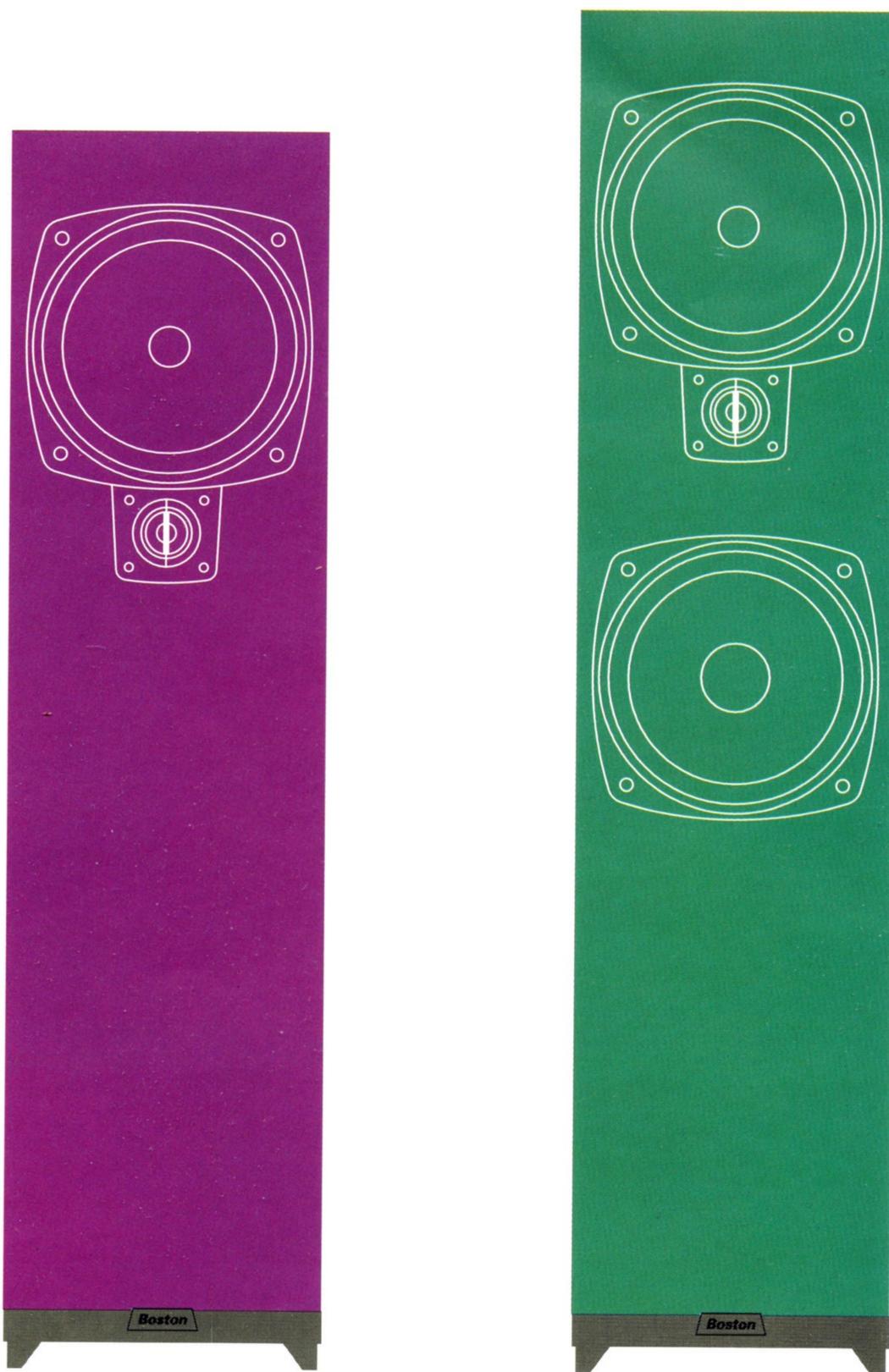
BOSTON ACOUSTICS



LYNNFIELD VR SERIES SPEAKER SYSTEMS

# THE LYNNFIELD EVOLUTION

The technology from Lynnfield VR is a direct result of what we learned from an earlier R&D effort. In 1990, we set a very ambitious goal: to build the finest speaker systems ever—regardless of cost. We explored new materials, new processes and new philosophies. And in the process, developed several promising speaker technologies. The result was a family of three loudspeakers known as the Lynnfield Series. At up to \$5,000 a pair, we realized that they weren't for everyone. So we took the next logical step: to use all of the intelligence gained through the original Lynnfield project, and apply it to a family of speaker systems accessible to practically anyone—Lynnfield VR.

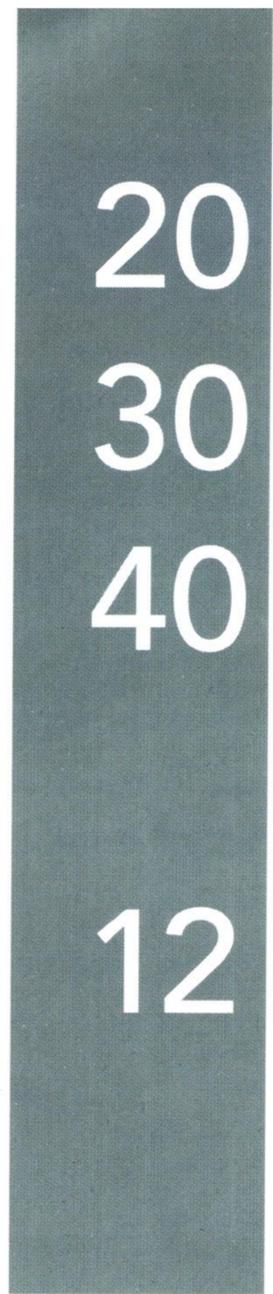
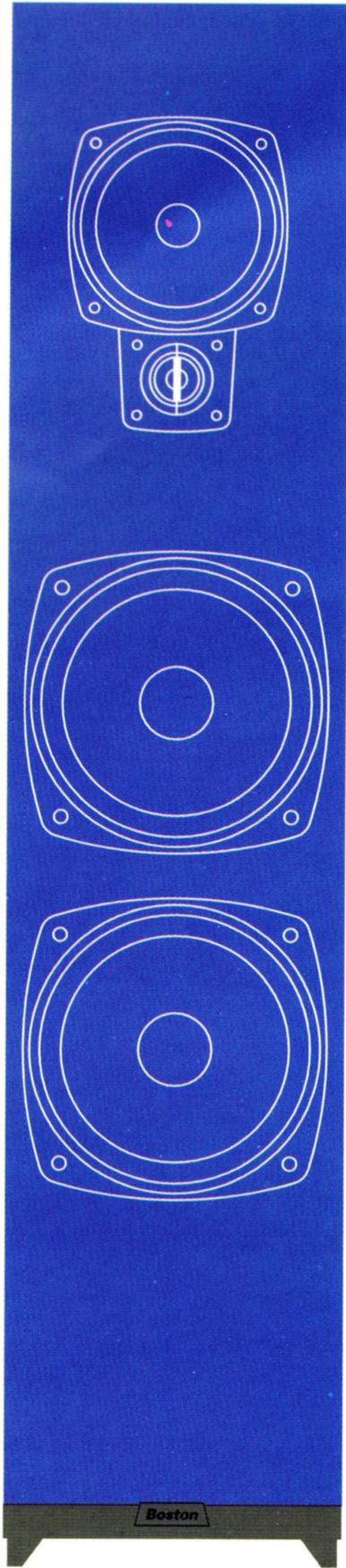


## VR20

The VR20 is the lowest-priced speaker in the Lynnfield VR line, which makes the system's clarity, punch and more-than-ample bass that much more impressive. A two-way ported system, the VR20 features a Lynnfield VR tweeter and a 180mm DCD bass unit.

## VR30

The VR30 is a 2½-way ported system. It features a Lynnfield VR tweeter and a unique low-frequency driver configuration. One 180mm DCD bass unit covers the midrange and bass. A second 180mm DCD driver is dedicated to deep bass only, for added punch at the low end.



All Lynnfield VR speaker systems feature MagnaGuard® magnetic shielding.



**VR40**

The VR40 is a reference standard, 4-driver, 3-way ported system. A Lynnfield VR tweeter is paired with a wide-dispersion subenclosed 135mm midrange. This driver is optimized to handle the musical spectrum critical to vocals and lead instruments. Two 180mm DCD bass units reproduce bass with authority.

**VR12**

The VR12 is quite possibly the finest center channel speaker available. This three-way system uses a vertically aligned Lynnfield VR tweeter and 115mm midrange. Dual 165mm horizontally opposed bass units extend response to 58 Hz.

# THE LYNNFIELD VR TWEETER

**Our sophisticated tweeter is perhaps the smoothest, most accurate high-frequency driver available.** We use a custom-made anodized aluminum dome and an innovative mechanical filter we call an AMD (patent pending) to create the Lynnfield VR tweeter. We've found that our anodized aluminum dome is unrivaled in its ability to accurately track the musical input signal.

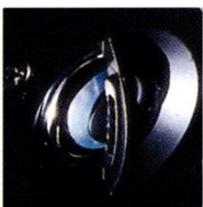
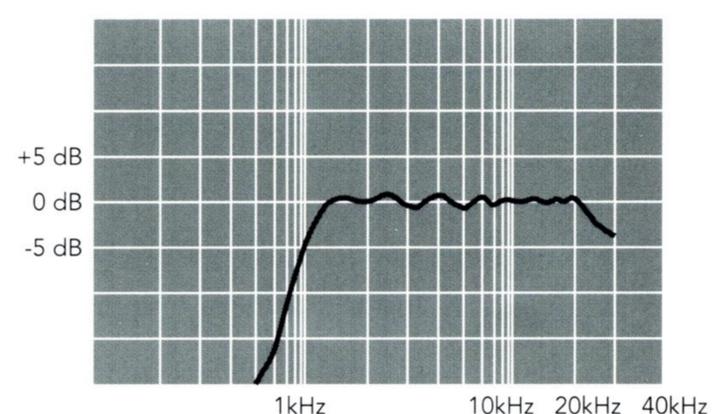
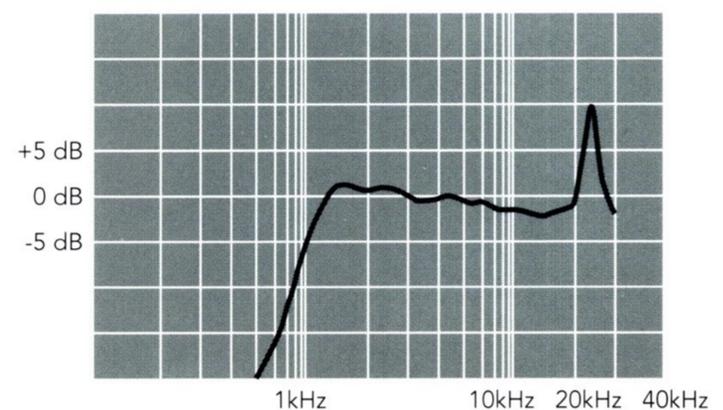
The AMD (Amplitude Modification Device) is an acoustic "filter" positioned in front of the tweeter. It consists of five hollow tubes precisely tuned to attenuate specific frequencies produced by the tweeter dome. The narrow bandwidth (High Q) of the AMD makes it ideal for eliminating the natural resonance found in aluminum (as illustrated below). The dome and AMD working together reproduce high frequencies that are pure, totally natural and smooth. The result can be realized in the shimmer of a cymbal or the clarity in a string passage.

You'll notice we place the Lynnfield VR tweeter as close to the woofer as possible, so sound appears to come from a single source. To achieve this, we designed a sub-compact tweeter assembly by using a neodymium magnet. This unique magnet is the size of a quarter, yet has the force of a traditional magnet 20 times larger.

The Lynnfield VR tweeter is exceptional at tracking the transients evident in drum hits or acoustic guitar music. To achieve this, we designed the tweeter to handle high levels of power, yet remain cool during operation. We fill the tweeter's voice coil gap with ferrofluid—a magnetic liquid that conducts heat away from the coil, and dissipates it through a large aluminum heat sink attached to the tweeter's back plate.

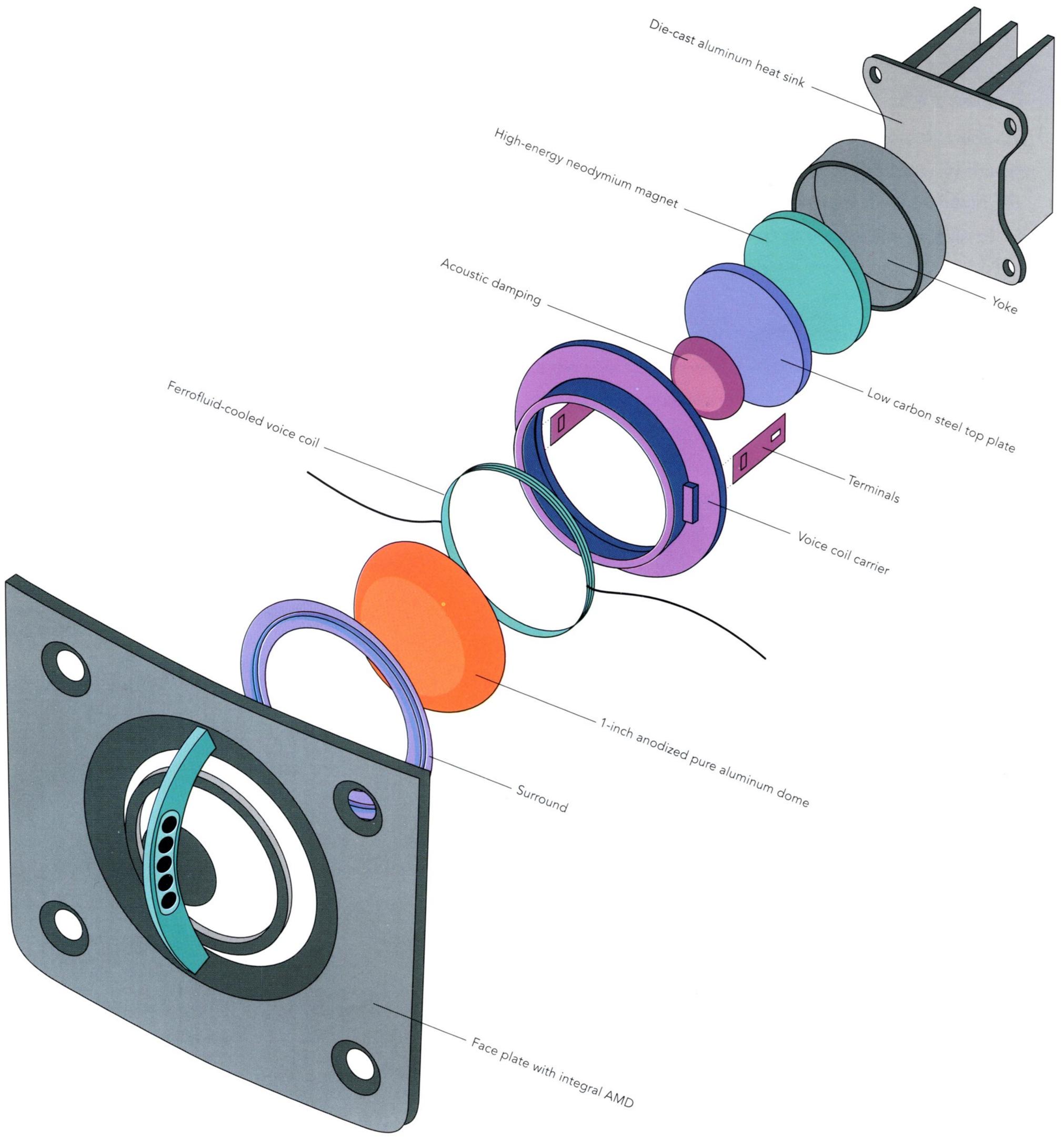
## What the AMD does.

Without an AMD, the tweeter exhibits a peak caused by aluminum's natural resonance. The AMD creates a smooth, flat response, which is impossible without the AMD.



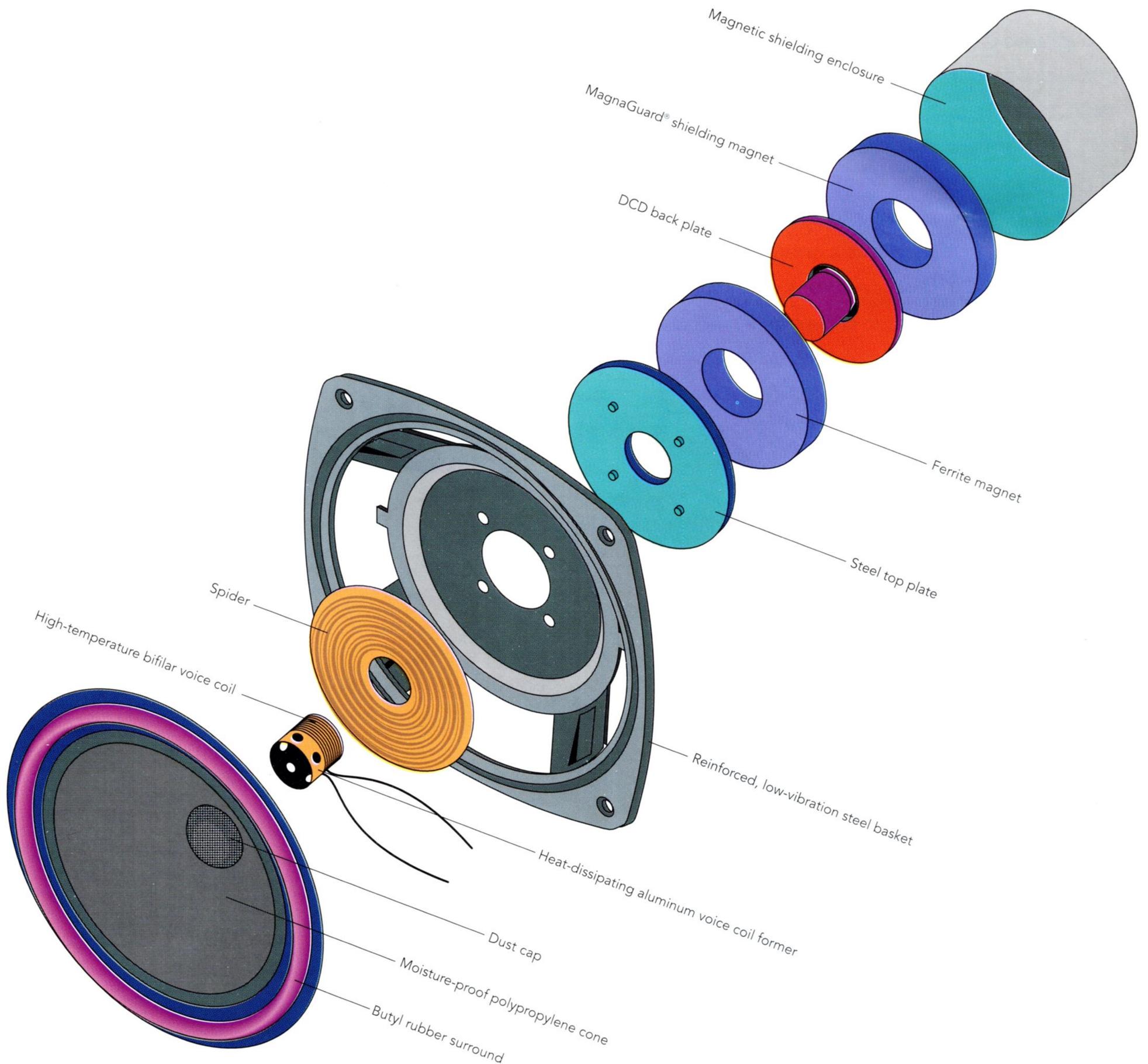
## Lynnfield VR AMDs are molded of ABS.

Each tube requires such precise tuning that manufacturing of the AMD adheres to critical watchmaker's standards accurate to  $\pm 0.025\text{mm}$ .



# Lynnfield VR Tweeter

# DCD Bass Unit Technology



The goal of any low-frequency driver is to move as much air as possible, as efficiently as possible, while maintaining pistonic motion. Our DCD (Deep Channel Design) bass unit technology has a deeply grooved pole plate that allows the voice coil to travel farther than conventional designs. (See diagram above.) This increase in linear movement, also known as "excursion," allows the driver to move an extremely large volume of air. DCD also boasts impressive power-handling and extremely low distortion, evident in dynamic bass passages. As part of the Lynnfield VR development process, our engineering staff used Finite Element Analysis, a computerized process that allowed them to "see" the magnetic characteristics of motor structures. This meant they could develop a novel, and extremely powerful, magnet structure. One that helped us determine exactly where to increase material mass in order to concentrate energy in the gap for the highest efficiency.

## VR12 Center Channel Speaker

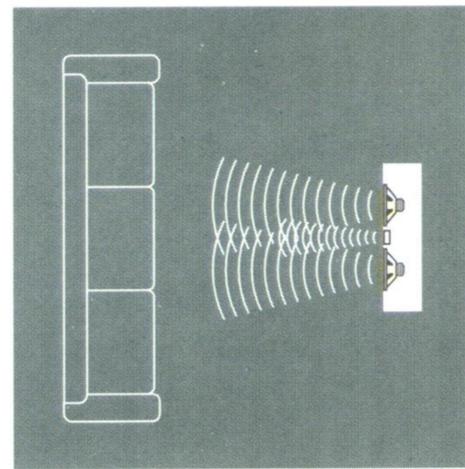
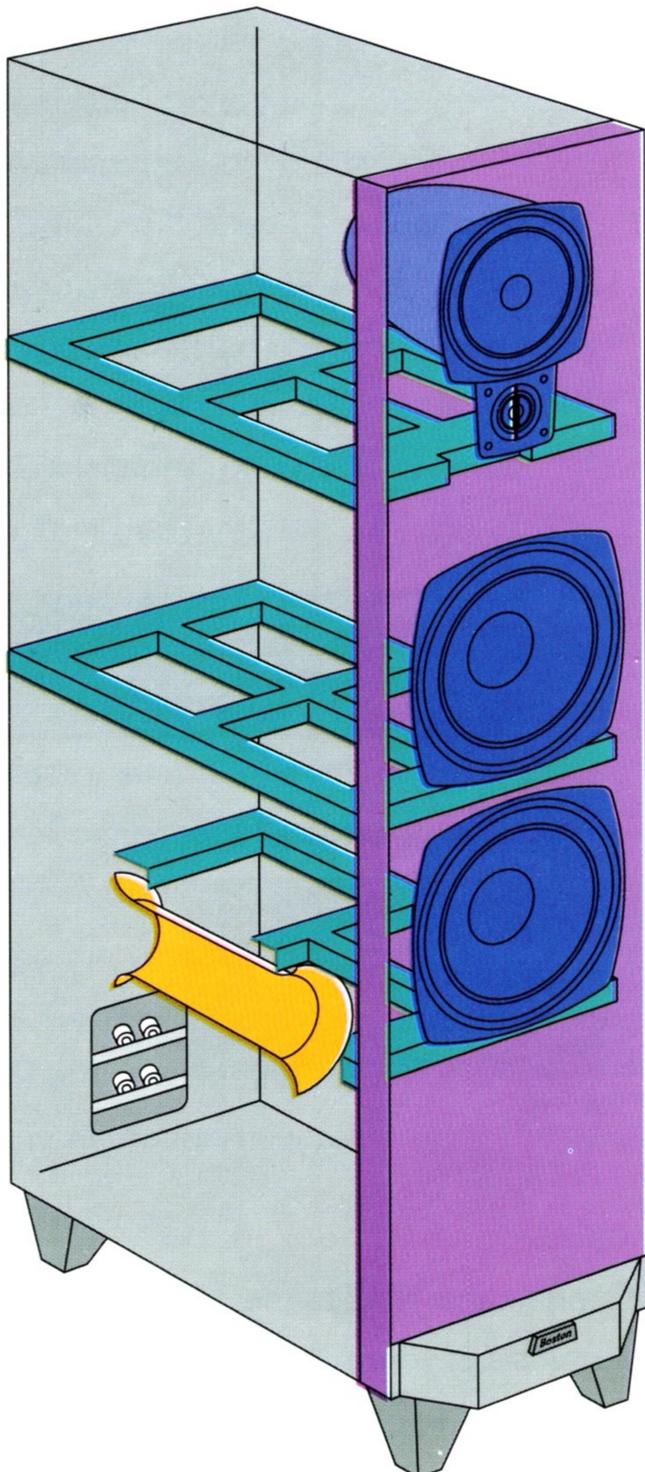
Most ordinary center channel speakers have two side-by-side woofer/midrange speakers that beam sound straight ahead toward the center of the room like a flashlight. So those viewers sitting off-axis receive only a portion of the speaker's sonic information.

Unlike ordinary center channel speakers, the VR12 is a true three-way system with a vertically-aligned midrange and tweeter, plus dual high-power bass units. Vocals and on-screen effects are natural, and the broad, uniform dispersion—inherent to this design—assures that everyone in the room has the “best seat.”

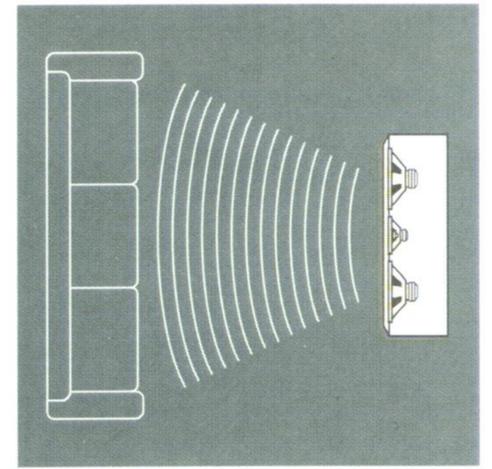
**Ports at the rear of the VR speakers are flared to eliminate audible turbulence.**

**The front baffle of VR speakers is made of a 25mm thickness of hardwood composite board. This heavy, acoustically dead material acts as an anchor for the speaker's drivers, and will not vibrate to color the speaker's sound.**

**Lynnfield VR cabinets have window-pane braces offset to quell primary panel resonance and resulting harmonics.**



Ordinary center channel speaker



VR12

## Bypass Capacitors

The crossover networks in our \$5,000 Lynnfield Series speakers use sophisticated (and expensive) bypass capacitor circuitry. This circuitry prevents subtle “ringing” or “smearing” of the signal. We use the same bypass technology in Lynnfield VR systems. So you hear crystalline detail, distinct separation among instruments and impressive bass punch.