



Interface:A Series: III

The speaker that breaks all the rules

The Interface:A would have been absolutely impossible using bass reflex or acoustic suspension technology. You simply can't design a true bookshelf system with high efficiency and really deep bass response.

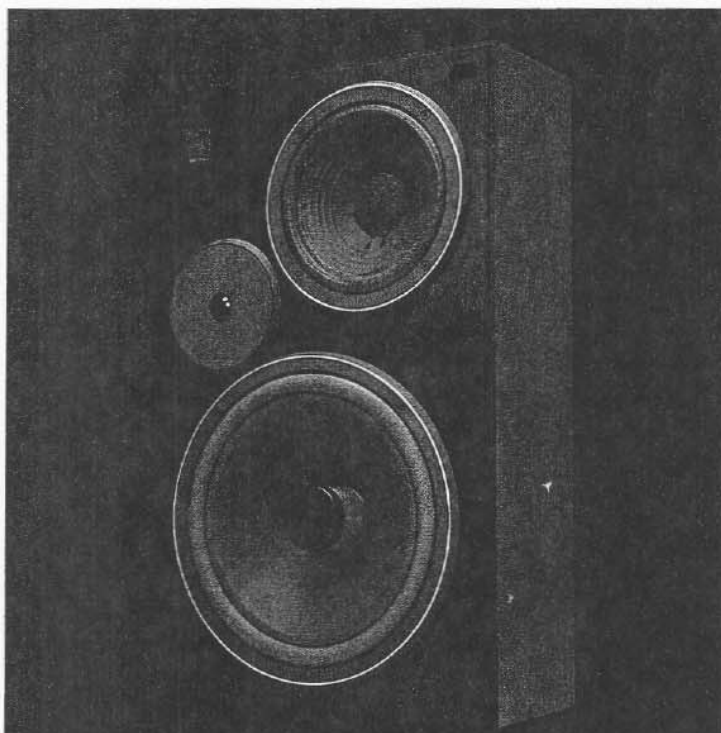
But that's exactly what the Interface:A is. We were able to break all the so-called "rules" because we created an entirely new technology. The secret is optimally vented design — the system explained on the back of this brochure.

The biggest surprise

The first thing most people notice about the Interface:A is its amazing bass response — just 3 dB down at 35 Hz. This kind of bass adds real authority to music, whether you're listening to a pipe organ or a kick drum. Claims aside, it's very rare to find a speaker with this kind of bass. To fit it into bookshelf size is unheard of.

We did it with a special 12" low-frequency radiator. It has no magnet or voice coil, but should not be confused with the "passive radiators" found in other speakers. Our low-frequency radiator is anything but passive.

It is actually equivalent to a vent 10" in diameter and 16 feet long. Using our optimally vented technology, a small movement by



Specifications:

Frequency Response: 20-20,000 Hz; ± 2.5 dB 35-18,000 Hz, 1 meter on axis

Dispersion Angle: $125^\circ \pm 30^\circ$ in the 500-8000 Hz octave bands;
 75° in the 12,500 Hz $\frac{1}{3}$ -octave band

Recommended Amplifier Power: 3.6 watts per channel minimum; 250 watts maximum

Sound Pressure Level: 92 dB at 1 meter, 1 watt in

Midband Sound Pressure Levels in a Typical Listening Room: 90 dB average, 100 dB peak with a 3.6-watt amplifier; 108 dB average, 118 dB peak (10 ms) with a 250-watt amplifier

Maximum High-Frequency Sound Pressure Level in a Typical Listening Room (10,000 Hz): 101 dB long-term average

Broadband Power Capacity (above 35 Hz): 25 watts long-term average; 250 watts peak (10 ms)

Crossover Frequencies: 49 Hz acoustic; 1500 Hz electrical

Transducers: 12" low-frequency radiator;
8" midrange/woofer;
1 1/2" Super-Dome™ tweeter with acoustic lens

Impedance: 8 ohms nominal; 5 ohms minimum

Size: 24 1/2" x 15 3/8" x 8 1/4" hwd

Cabinet: Walnut veneer

Optional Accessories: BBR-2 speaker stands (pair)

Weight: 30 lb

the 8" midrange/woofer at low frequencies produces a large movement of the low-frequency radiator. Below 49 Hz, it acts exactly like a woofer and provides the system's bass output.

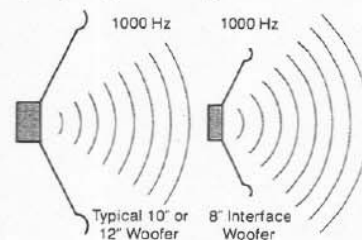
Lower distortion

In acoustic suspension and bass reflex speakers, the woofer has to move farther and farther to reproduce lower and lower frequencies. These longer cone excursions increase harmonic distortion. Because the cone is trying to produce low bass, upper bass and midrange at the same time, intermodulation distortion is also high.

The Interface:A minimizes harmonic distortion because our low-frequency radiator reproduces the low bass. It also minimizes intermodulation distortion in the upper bass and midrange. The result is greater definition and clarity which are particularly noticeable on vocals and string instruments.

Bigger isn't better

Most other two or three-way systems use a 10" or 12" woofer. At first glance that may make our 8" midrange/woofer seem puny...right? Wrong!



Interface woofers give you better midrange dispersion.

Those other systems are forced to use a 10" or 12" speaker to produce adequate bass. But a

Before you build great speakers, you've got to have a system.

Most speakers use one of two basic design systems. The first, acoustic suspension, uses a sealed enclosure. The second, bass reflex, is characterized by a hole (also called a vent, duct or port), in the enclosure.

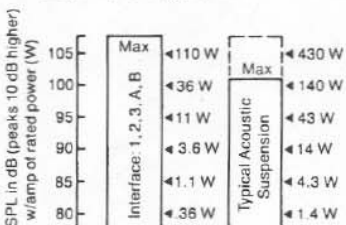
Both systems have definite weaknesses. Acoustic suspension speakers can provide good bass response only if they are inefficient. They also demand such long cone excursions that distortion is inherently high. Bass reflex speakers are typically more efficient, but lack deep bass, and suffer from bumps in their response curve.

A better way

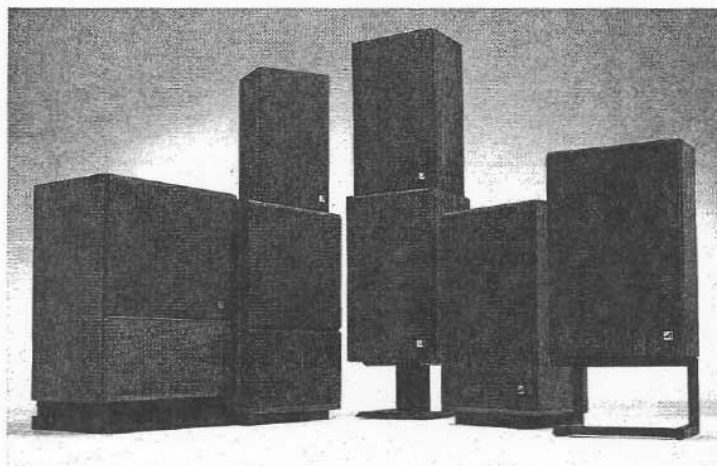
Electro-Voice pioneered a third way to design speakers. We call it "optimally vented design," and every Interface speaker uses it. It's based on the sophisticated scientific analyses of an Australian scientist named A.N. Thiele (pronounced Teel). This way of designing speakers has so many advantages, it makes the other systems obsolete.

Efficiency

Every Interface speaker is at least 6 dB more efficient than an acoustic suspension speaker of the same size. That means one watt into an Interface speaker produces exactly the same volume as four watts into an acoustic suspension system.

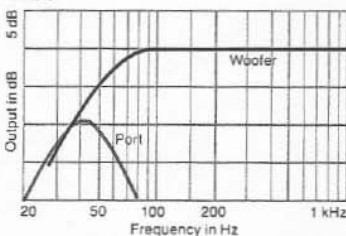


The efficiency of Interface speakers gets the most out of your amplifier.



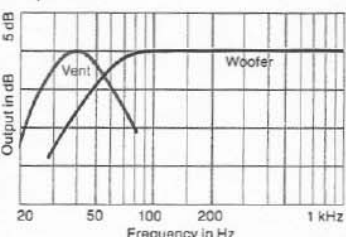
Bass...really

Here's a typical bass reflex frequency response curve. The red parabola is the acoustic output of the port. Unfortunately, its volume is so far below the woofer's that it adds little, if any, audible bass.



Typical bass reflex speaker. You can't hear the output of the port.

But in an optimally vented Interface speaker, the output of the vent matches the woofer's output. So the vent actually acts like a second woofer which significantly improves the bass response.



Interface optimally vented speaker. The vent acts like a woofer.

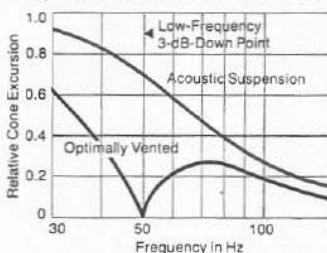
How can a hole do that?

At mid and high frequencies, the air in the vent is too heavy to move. But, if the speaker has been optimally designed, a very small movement by the woofer at low frequencies produces a very large movement of the air in the vent. The air in the vent moves in and out like a piston (exactly like a speaker cone).

So Interface speakers provide exceptional bass no bass reflex system can match. An acoustic suspension system would have to be four times the size of a vented and equalized Interface speaker just to have the same bass response and efficiency. Those aren't opinions, they're scientific facts. It's part of our system.

Low distortion

This chart shows that an acoustic suspension or bass reflex woofer



Our optimally vented speaker has lower cone excursion because the vent does the work.

has to move farther and farther to reproduce lower frequencies. So distortion goes higher and higher. But an optimally vented woofer's excursion actually decreases at lower frequencies. The vent does most of the work, leaving the woofer free to handle the important upper bass and midrange. That means lower distortion and more accurate sound.

Wide dynamic range

Interface speakers are rugged as well as efficient. You can play your music at a realistic volume if you want to, and you'll have amplifier power left to reproduce musical peaks — like the thump of a kick drum or the attack of a brass ensemble. Instead of distortion (or a burned out speaker), you'll hear the effortless, natural sound of live music.

Accuracy

We've also designed accuracy into every Interface speaker. We've paid close attention to crossovers, smooth frequency response, wide dispersion, uniform total acoustic power output, and we don't believe in the "east coast/west coast sound" or in "rock" or "classical" speakers. We make accurate speakers — speakers that sound like music.

Why buy any other speaker?

Our optimally vented "system" gives Interface speakers a lot of advantages — efficiency, wide dynamic range, deep bass, low distortion and accuracy. So if you're serious about getting the best sound for your money, you want Interface speakers.

Electro-Voice continually tries to improve existing products, as well as to create new ones. So, the specifications in this Interface brochure are subject to change without notice.

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woofer like that simply cannot have the smooth upper bass and midrange or the wide dispersion of an 8" driver. The Interface: A doesn't have to compromise midrange performance since the low-frequency radiator reproduces the bass. In this case, smaller is better.

The Super-Dome™ tweeter

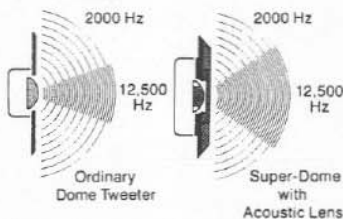
One of the challenges of designing a highly efficient speaker system like the Interface: A is designing a tweeter that is not only as efficient as the woofer, but is also capable of withstanding the demanding high-frequency energy found in many contemporary recordings. In the original Interface: A a classic cone tweeter was chosen. We fitted it with an acoustic lens for improved high-frequency dispersion, and improved high-frequency performance through the use of equalization and the addition of a rear-firing tweeter. The results were close to perfect, but we knew there was still room for improvement.



Towards this end we developed Super-Dome. The Super-Dome not only has the superior sonic quality and wide, uniform dispersion characteristics of a high-performance dome tweeter, but

also has the efficiency of a conventional cone tweeter — two to four times the efficiency found in a normal dome tweeter. We also increased the power handling capacity of the Super-Dome to 25 watts long term! That's five times the rating of most conventional tweeters!

The result is something that can be heard. Super-Dome is as efficient as the rest of the system, so as not to degrade the high-frequency content of your music. Its power handling capacity also allows us to rate the Interface: A at 25 watts long-term, regardless of frequency which not only frees you from the fear of tweeter "burn-outs" and complex fusing arrangements, but also allows you to listen to contemporary recordings and enjoy their wide dynamic range to the fullest.



The Interface acoustic lens improves dispersion in the highest octaves.

One of the carryovers from the original Interface: A is the use of an acoustic lens. Unfortunately, the factors which combine to produce high efficiency and high power handling capability usually work against wide, uniform dispersion. EV engineers developed an exclusive acoustic lens made from high density Acoustifoam.™ At low frequencies the lens is acoustically transparent. At higher frequencies, where a decreased angle of dispersion would normally occur, the lens becomes

acoustically opaque, thus reducing the effective dome size and vastly improving high-frequency dispersion. This offers the listener the wide, uniform high-frequency dispersion necessary for precise localization of sound, both lateral and front-to-back.

Plus efficiency

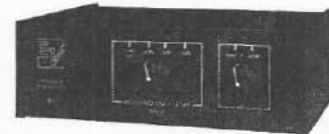
Any speaker that does all those things is amazing, but the Interface: A is also efficient — 6 dB more efficient than an acoustic suspension speaker. So one watt into the Interface: A produces exactly the same volume as four watts into an acoustic suspension system. That makes any amplifier sound four times bigger — without spending a nickel.

The Interface: A can also produce a sound pressure level of 108 dB — louder than all but the most ear-shattering rock music. So you can enjoy live performance volume at home. And, because the Interface: A is efficient, you don't have to buy an expensive, high-powered amplifier.

All that technical innovation makes Interface: A an incredibly accurate speaker. It reproduces music — any kind of music — with a natural, effortless sound that's utterly realistic. It lets you enjoy music more, and that's what hi-fi is all about.

The equalizer

An active electronic equalizer is an integral part of the Interface: A's design. Its low-frequency contour extends bass response without increasing cabinet size. (The same response without the equalizer would have required a cabinet more than twice the size of the Interface: A). The amount of boost is quite small so the equalizer places no strain on your amplifier.



The equalizer also contains an active filter which removes distortion-producing subsonic noise, and allows you to tailor the speaker's treble response to the acoustics of your room. The equalizer can be connected in the tape monitor circuit of most amplifiers or between the pre-amplifier and power amplifier.

Equalizer Specifications:

Total Harmonic Distortion:

Less than .01%, 1 V RMS input, 20-20,000 Hz

Intermodulation Distortion:

.005%, 1.5 V RMS equivalent sine wave input

Maximum Input Signal:

7 V RMS sine wave, midband

Noise Output:

80 dB below 200 mV, 20-20,000 Hz bandwidth

Controls:

High Frequency Slope (Power Off, 0 dB, -3 dB, -6 dB at 10,000 Hz); Tape-Source

Power Requirement:

110/120 V, 50/60 Hz, 3 W

AC Accessory Outlet:

200 W unswitched

Dimensions:

2" x 8" x 7" hwd

For complete speaker and equalizer specifications and a detailed description of test conditions, send for an Interface: A Series III owner's manual.