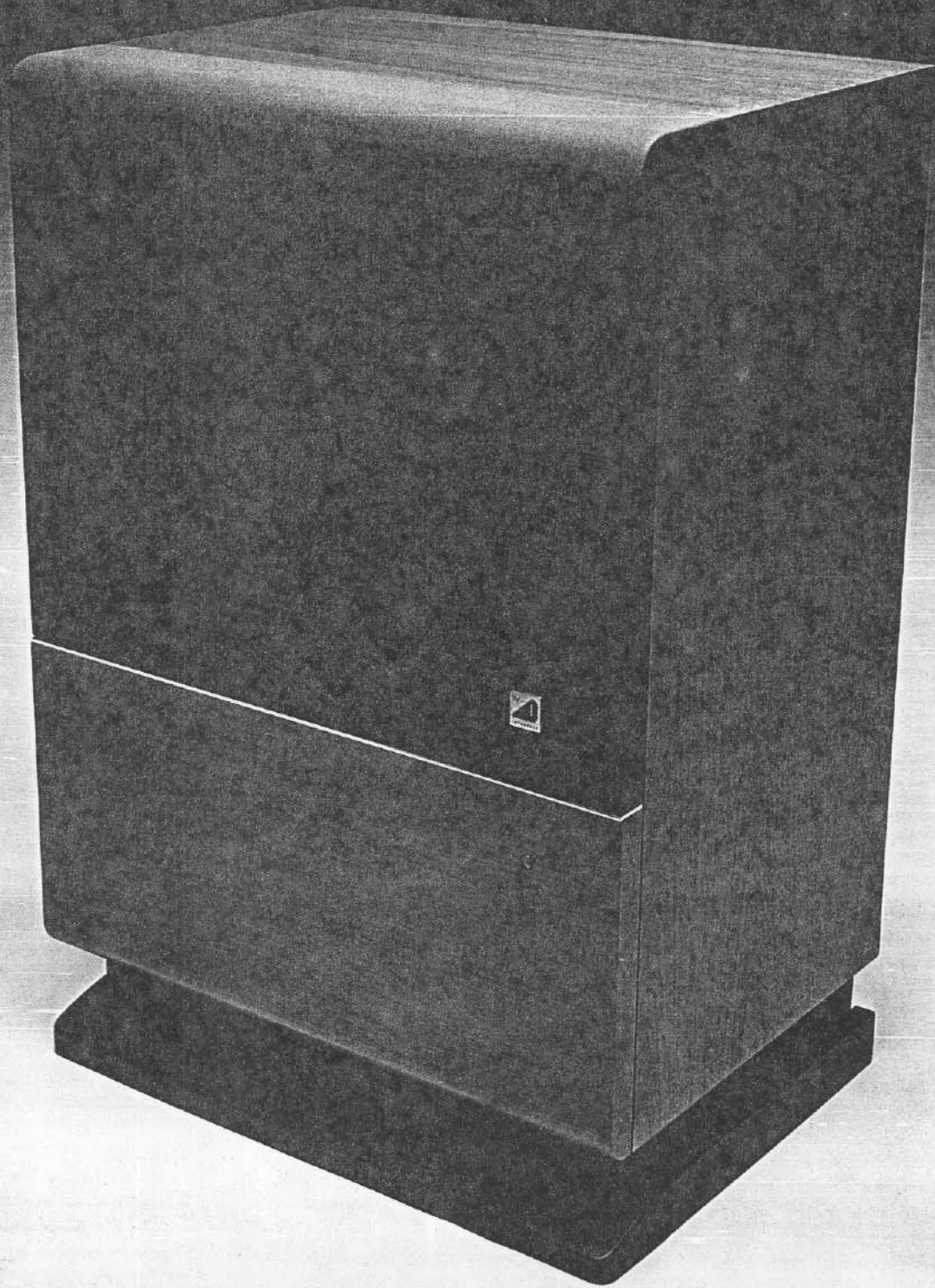


# Interface™ D



# Until now, even the best sp

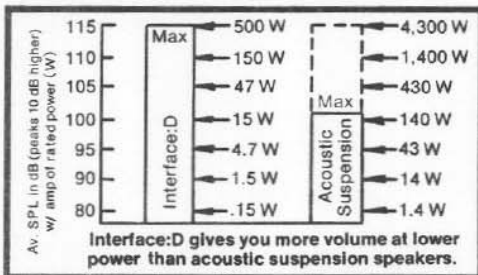
There are speakers with exceptional midrange definition. And speakers with deep bass or exceptional stereo imaging. Others are highly efficient and still others have the high output ability of a recording studio monitor. But no one speaker has ever combined all of those qualities.

So, if you were lucky, you bought a speaker that was outstanding in a couple of respects. And you learned to live with its weaknesses.

But you don't have to do that any more, because the Interface:D is all those things and more.

## Efficiency

What good is a great-sounding speaker if it requires an impractically large amplifier just to achieve a reasonable listening level? First, it's a waste of expensive amplifier power. And, second, it means that the amplifier must constantly operate at high power (and high distortion). On program material with wide dynamic range, amplifier clipping is a frequent and very audible problem. Finally, an inefficient speaker can't reproduce the sound pressure levels of live music.



But you don't have to accept those problems with the Interface:D. As the chart shows, the Interface:D is 10 dB more efficient than an acoustic suspension speaker. That means one watt into an Interface:D creates exactly the same volume as 10 watts into an acoustic suspension speaker. So whether you've got 10 watts or 200, the Interface:D makes your amplifier sound ten times as powerful. That means virtually unlimited dynamic range and, because your amp can operate at lower average power, you'll get less distortion, too.

The chart also shows that the Interface:D will play about 15 dB louder than a typical speaker. That means you can reproduce the sound pressure levels of live music (any live music) in your home. That's something you probably won't want to do most of the time. But it's nice to know you can if you want to.



## 28 Hz . . . really

The Interface:D's bass response is virtually unprecedented. Its 3-dB-down point is 28 Hz. And unlike some speakers which have limited output at low frequencies, the Interface:D can produce an incredible 106dB long-term sound pressure level at 28 Hz. You've probably never heard a speaker with that kind of response. It's an awesome experience to listen to music with really deep bass, whether it's a kickdrum, synthesizer, or a pedal note on a pipe organ.

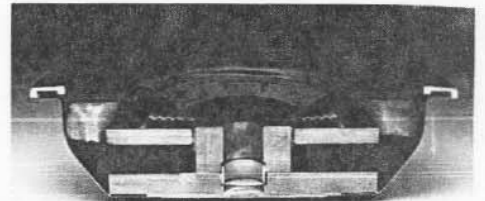
The bass is also smooth. This is due in large part to placing the 12" woofer in a downward-firing position. This couples it to the floor and wall which smooths the response, by eliminating boundary effects caused by front mounting, and efficiency is increased by 3 dB.

## A new kind of midrange

The efficiency and high output ability of the woofer made almost impossible demands of the midrange. In fact, it would have been impossible to design a midrange driver of reasonable size, high efficiency, high output and low crossover point using conventional speaker technology. So we designed our midrange using the same optimally vented technology we pioneered for woofers (the system explained on the back of this brochure).

This optimally vented midrange uses exactly the same 16-pound magnetic

structure as the woofer. So it can deliver long-term sound pressure levels of up to 115 dB and peaks up to 125 dB. At the same time, its small 6½" cone provides excellent dispersion over its entire frequency range.



Without vented technology, a small cone couldn't produce high sound pressure levels at low frequencies—it just couldn't move enough air. But the self-contained, vented enclosure solves that problem. The enclosure and vent size are critically selected so at low frequencies, a small movement of the cone produces a large movement of the air in the vent. Over the lowest octave-and-a-half of the midrange, the vent itself provides most of the system's output.

The exceptionally low crossover (350 Hz) made possible by the optimally vented midrange has an important audible result. There is no crossover in the most critical part of the vocal range. At last you'll hear an almost unbelievable clarity and definition. It's the "sweetness" many audiophiles associate with electrostatic speakers, but without their inherent weaknesses.



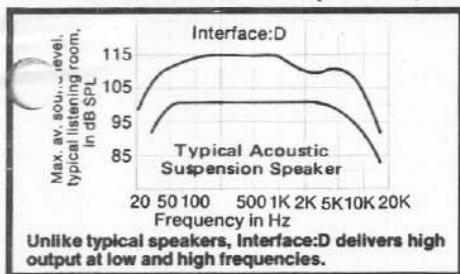
# Speakers were a compromise

## The tweeter

Unfortunately many audiophiles react with horror at the sight of a horn driver. But we think that horror quickly changes to delight, after listening to the Interface:D.

The so-called "horn sound" is really just the result of bad design. We've solved those problems (and eliminated the horn sound) by using a neckless, radial design. The resulting tweeter has natural, accurate sound and has significant advantages over conventional cone and dome drivers.

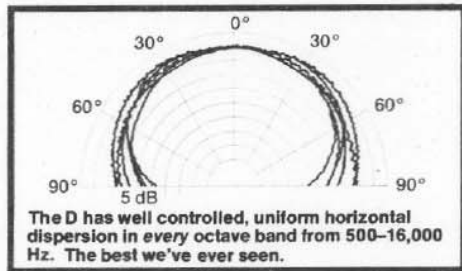
It is 10 dB more efficient than any cone or dome could possibly be. And it can play louder than conventional tweeters. This graph shows the maximum long-term acoustic power output of the Interface:D and a typical acoustic suspension speaker. As you can see, the Interface:D's tweeter has about 10 dB more output than the conventional cone or dome driver used in the acoustic suspension system.



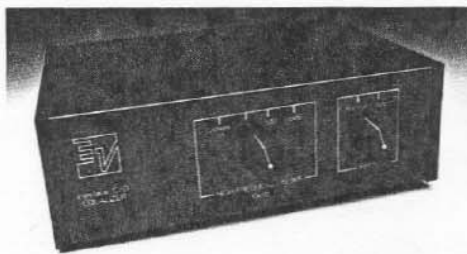
This additional output is extremely important in contemporary music. At realistic volume, synthesizers and close-miked brass or percussion make severe demands of a tweeter. Thanks to its horn tweeter, the Interface:D reproduces that kind of music accurately.

The third advantage of our horn tweeter is equally important—unusually uniform and well-controlled horizontal dispersion over its entire frequency range. The dispersion of all cone and dome drivers varies with frequency. At low frequencies, dispersion often exceeds 180° which causes severe diffraction from the edges of the cabinet. This results in cancellation effects and less uniform total acoustic power output. But at higher frequencies, conventional tweeters have much narrower dispersion. These constantly changing dispersion angles result in a vague, blurred stereo image.

But the Interface:D's dispersion is tightly controlled by the 120° angle of the horn. Even at low treble frequencies, dispersion remains well under 180°, eliminating diffraction effects. And even above 16,000 Hz, dispersion is better than 110°.



As this polar response curve shows, the Interface:D's dispersion is exceptionally uniform. In fact, it's by far the best curve we've ever seen (and we've been testing our own and other peoples' speakers for years)! So you'll hear a stable, pinpoint stereo image. And, on the finest recordings, the Interface:D reveals a depth and sense of space that is uncannily realistic.



## The equalizer

A small, electronic equalizer is an integral part of the Interface:D's design. Primarily, it provides a slight low-frequency boost which extends bass response without increasing the size of the cabinet. (The same bass response in an unequalized system would have required an enclosure more than twice as large.) In addition, an active filter in the equalizer eliminates subsonic noise which would otherwise distort the audible bass. A high-frequency control on the front panel tailors the speakers' output to the acoustics of the room.

The equalizer comes complete with cables and can easily be installed in the tape monitor circuit of your amplifier or receiver or between your preamplifier and power amplifier.

## And many other features

The Interface:D also has a built-in tweeter protector—an electronic circuit which constantly monitors the power going to the tweeter. A woofer environment control provides balanced frequency response whether you place the speaker in a quarter-space (on the floor, next to a wall) or a half-space (on the floor, more than 24"

from the wall). The Interface:D's woofer and midrange/tweeter can even be bi-amplified using an external electronic crossover.

## A new standard

The Interface:D combines the best qualities of the finest speakers in the world without their weaknesses. The result is a new standard of accuracy, efficiency and overall performance.

## Specifications

For complete specifications and a detailed description of test conditions, send for an Interface:D owner's manual.

Each Speaker

Frequency Response: 23-20,000 Hz;

± 3 dB 28-18,000 Hz, 1 meter on axis

Total Acoustic Power Output: ± 3 dB 28-18,000 Hz

Horizontal Dispersion Angle: 170° ± 5° in the 500-1000 Hz octave bands; 115° ± 10° in the 2000-16,000 Hz bands; 110° in the 16,000 Hz band

Recommended Amplifier Power: 1.5 watts per channel minimum; 500 watts maximum

Sound Pressure Level: 97 dB at 1 meter, 1 watt in Midband Sound Pressure Levels in a Typical Listening Room: 90 dB average, 100 dB peak with a 1.5-watt amplifier; 115 dB average, 125 dB peak (10 ms) with a 500-watt amplifier

Maximum High-Frequency Sound Pressure Level in a Typical Listening Room (10,000 Hz): 103 dB long-term average

Midband Power Capacity: 50 watts long-term average; 500 watts peak (10 ms)

Crossover Frequencies: 40 Hz acoustic; 350 & 3000 Hz electrical (may be bi-amplified at 350 Hz)

Transducers: 12" downward-firing woofer; 6½" vented midrange; radial horn tweeter

Impedance: 8 ohms nominal; 5 ohms minimum

Controls: Environment (floor or floor/wall);

High frequency slope (0 dB, -3 dB, -6 dB, -9 dB at 10,000 Hz)

Size: 32" X 21¼" X 15½" hwd

Cabinet: walnut veneer

Weight: 114 lbs.

## Interface:D Equalizer

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, 3W

AC Accessory Outlet: 200 W, unswitched

Dimensions: 2" X 8" X 7" hwd

# 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.

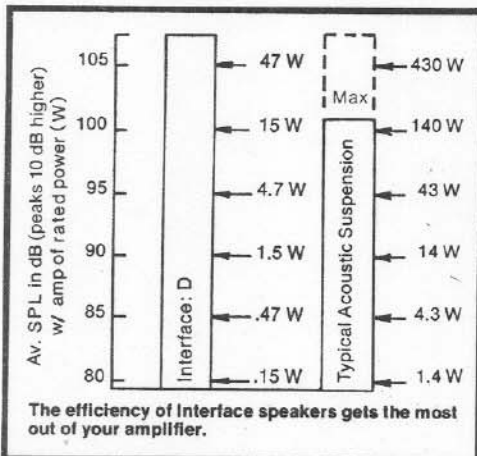
Both systems have definite weaknesses. Acoustic suspension speakers can provide good bass response only if they are inefficient; and, they demand such long cone excursions that distortion is inherently high. So, they demand lots of amplifier power and even then they "color" the sound. Bass reflex speakers 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). And this way of designing speakers has so many advantages, it makes the other systems obsolete.

## Efficiency

Interface:C and D are up to 10 dB more efficient than an acoustic suspension speaker. That means one watt into an Interface speaker produces exactly the same

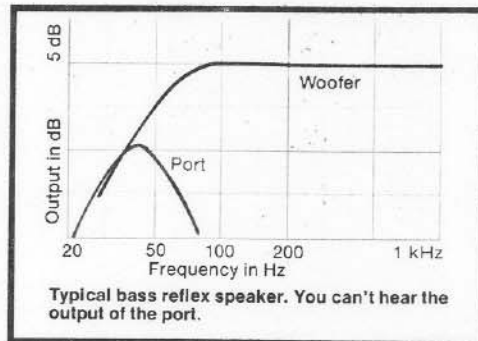


volume as ten watts into an acoustic suspension system. Imagine what that means... whether you've got a 15 or 60-watt amplifier!

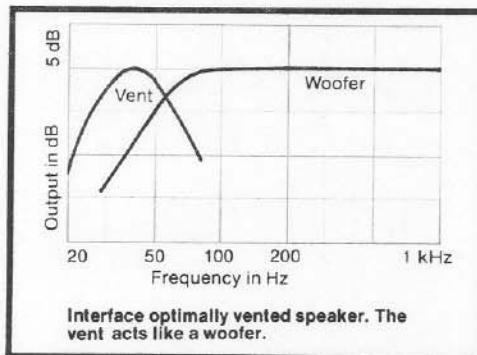
## Bass... really

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.

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.



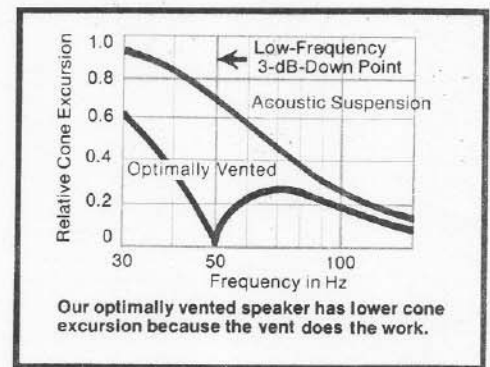
## How can a hole do that?

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. And 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 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

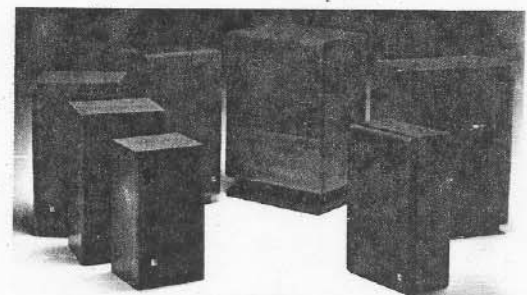
Interface speakers are rugged as well as efficient. So you can play your music at a realistic volume if you want to. And you'll have amplifier power left to reproduce musical peaks—like the thump of a kick drum or the attack of a brass ensemble. Instead of distortion (or a burned out speaker) you'll 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 much more. 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.



**Interface.**  
A generation ahead.

**EV** Electro-Voice  
a gulton company

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