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Pick the Speaker that Suits You Best 6
by Bennett Evans
Discovering what to listen for and what to listen to are key elements in buying speakers intelligently. But first there is a process of elimination, ruling out those models that obviously are unsuited for you, either because of size or cost. Learn time-tested tips that can give you the best speakers your money can buy.

Is One Design Superior? 93
by Edward J. Foster
Once you've begun looking for speakers, you'll discover that they come in a number of different designs; infinite baffle, acoustic suspension, bass reflex, vented, horn-loaded, and electrostatic are the most common, as well as the new minis and subwoofers. Does one approach offer clear advantages over all the rest? Our answer may surprise you.

The Most Critical Component 20
by Alan Fielding
Many people overlook an important link in the audio chain. They spend hundreds, perhaps thousands, of dollars to obtain the least distorted, flattest frequency response possible from their stereo rigs, but forget that electronics no longer play a part once the sound has entered the critical component—the listening room. How well you 'tune' that room will determine the sound quality of your entire stereo system.

Good-bye Squawk-Box Speaker! 110
by Robert Angus
If the music from your present car speaker leaves you as cold as last night's leftovers, it may be time to replace that speaker with one of the hundreds of new car stereo units. Essentially, you have five ways you can upgrade your speakers. Read which approach is best for your specific car.

Buying Guide to more than 1,200 Home and Car Speakers

Home Speaker Systems 36
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Ohm’s Law 9:
It is possible to make a loudspeaker that gets loud and still sounds good.

Ohm introduces another new loudspeaker that defies the traditional laws of loudspeaker design. The new Ohm I.

It used to be, if you liked listening to music as loud as life in your home, you had a tough choice to make. You could buy high efficiency "monster" systems, and put up with the boom and shriek. If you wanted something smoother (with really deep bass), you could buy low efficiency systems, but then you'd need an amplifier big enough to power Toledo.

The Ohm I solves the problem. It can achieve concert hall levels in your home effortlessly, with no sacrifice in bandwidth, linearity, or imaging abilities. While the Ohm I gets amazingly loud with as little as 10 watts input, it can handle 1000 watts comfortably.

It's the world's first good and loud loudspeaker.

Inside the Ohm I, you'll find everything we've learned about multi-driver dynamic loudspeaker design. It uses a total of five drivers, including a 12-inch, optimally-vented subwoofer with an incredible 72 ounce magnet. Voice coils are cooled by magnetic fluid to increase power handling. The Ohm I's beautifully-finished, floor-standing enclosure is compact enough to fit gracefully into any home.

The new Ohm I's are already earning rave reviews from stereo critics. After listening to them, The Complete Buyer's Guide to Stereo/Hifi Equipment says, "The volume level was approaching the threshold of pain, but the speakers were showing no sign of strain. The response, regardless of level, was smooth and free from annoying colorations... Too often a loud loudspeaker is deficient in many other areas. Fortunately, this is not the case with the Ohm I...."

According to Hifi Stereo Buyer's Guide (8/79), the new Ohm I has "...a combination of efficiency and power handling that, as far as we know, is unmatched." They continue: "(The Ohm I) is one of the finest speakers we've ever heard. There is nothing it couldn't do and do it superbly... it thundered out the lowest pipe-organ pedal notes in a way that made us feel we were in a great cathedral... When appropriate, the bass was discreet. It was all there, without saying 'Here I am'.... The treble filled the room with a spacious sweetness that seemed... downright seductive... (The Ohm I) will bring out the best from any program material and will also do justice to the coming glories of digital recording... this is a speaker with a future - for the future."

For a listening experience you've never enjoyed before except at a live performance, visit your local Ohm dealer. Ask to hear the world's first good and loud loudspeaker: the new Ohm I.

For 16 complete reviews, and full specifications, please write us at: Ohm Acoustics Corp., 241 Taaffe Place, Brooklyn, N.Y. 11205.

Ohm
We make loudspeakers correctly.
You Can’t Hear the Forest for the Trees

So many different models of speakers are available today that you could literally compare them at the rate of 10 per day and not be finished for more than 4 months—when another several hundred new models would probably be available. There must be a better way to choose a speaker.

There is: It takes time and planning, but not necessarily that much money. An important factor is knowing what to listen for and what to listen to. Essentially it’s a learning process that requires you to audition a number of speaker systems under specific conditions. Bennett Evans, in “Pick the Speaker that Suits You Best,” draws on his extensive experience in audio to point out time-tested ways to sort the wheat from the chaff.

Besides choosing from hundreds of models, you’re also faced with selecting among many designs. Each is said to have its particular advantages. In “Is One Design Superior?,” Edward J. Foster, head of Diversified Science Laboratories, details the pros and cons of eight of the most popular speaker system designs. As you’ll discover, each design tries to accomplish something the others don’t, but the ultimate speaker has yet to be designed.

Speakers that sound good at the audio salon sometimes are less exciting once you’ve placed them in your listening room. Often it’s because a critical component in the audio chain—the listening room—has been overlooked. For example, the room may not have the flat frequency response it should. How you can optimize the performance of any speaker system by altering room acoustics is covered by Alan Fielding in “The Most Critical Component.”

More and more speakers are being designed specifically for installation in cars and vans, and the increasing choice is bewildering. If you’re planning to replace the factory-installed speaker in your car or to upgrade your current car system, you’ll find timely advice in Robert Angus’ “Good-bye Squawk-Box Speaker!”

To give you a headstart on finding out what’s available in both home and car stereo speakers, we’ve included an extensive buying guide section that lists more than 1,200 speakers. Complete specs and prices are given on most of them, and all information is presented in an easy-to-read format that makes comparing models (in terms of manufacturers’ specs) a breeze.

Overall, our 5th annual edition of HIGH FIDELITY’S BUYING GUIDE TO SPEAKER SYSTEMS offers a compact and comprehensive reference guide that can save you time and money when you’re shopping for speakers. —WT
Pick the Speaker that Suits You Best

by Bennett Evans

Discover what to listen for . . .

and what to listen to

You can do a pretty good job of comparing amplifiers, tape decks, tuners, and other components on the basis of their spec sheets. You can't do that with speakers. The only way to buy speakers intelligently is to listen to them. And that doesn't mean just listening casually; it means learning to listen analytically, learning what to listen for and what to listen to.

Before heading for the showrooms, you can do some homework that will save you time and listening fatigue. Begin by narrowing down your list of prospects. More than 1,200 different speaker models are available, almost a quarter of which have been introduced during the past six months. Use this process of elimination to lop off unsuitable speakers from your list.

Speakers that won't fit your room are obviously unsuitable. Study your listening room. Are there any other locations where the speakers might be placed other than the spot where your present speakers are? Spec sheets are useful for determining the dimensions of various speakers. A speaker that won't squeeze into that space between the doorway and the built-in bookcase, or that won't fit on the only shelf that's suitable, should be dismissed, no matter how good it may sound.

Size isn't the only hurdle you'll confront. Placement can be equally troublesome. I couldn't use a Klipschorn, for example, because it requires a straight, 90-degree corner, and the corners of my room all have archways or pillars in them. I couldn't use AR-9s, because my left-channel speaker has to sit between two record cabinets, which would block the AR-9's side-mounted woofers. I couldn't use Bose 901s, because they must sit out from the wall, and in my house that placement would obstruct the main flow of traffic to or from the living room.

Your household's habits may eliminate some speakers too; for example, I couldn't use Linn Isobariks, because they have topfiring tweeters—and I know that sooner or later (probably sooner), I'd lay a stack of papers on top of the speaker cabinet, muffling their sound. You, for example, might have to use bookshelf speakers because your cats scratch up the grilles of floor-models, or be forced into floor-mounting speakers because your library has already usurped all the bookshelves.

How much you plan to spend will also eliminate a lot of speakers from
ACCURACY. JBL LAYS IT ON THE LINE.

Why do so many stars and studios use JBLs? And more discs* than any other speaker? Accuracy is the answer. The music as performed. That's the sound the pros insist on. No wonder 7 of the 10 top albums in 1978 were recorded, mixed or mastered on JBLs.*

And that's the sound we demand in every speaker in our line. JBL speakers are designed to match the music as played. Clear and lifelike.

We can state this with some pride since we create our speakers from the ground up. Concept, design, individual components—all are created at our plant and tested against stringent engineering specifications. Rigorous quality control is applied every step of the way.

We could go into more technical detail but we want to keep our message short and sweet. The reason so many stars, studios and professional installations prefer our speakers is JBL accuracy. Their living depends on how good they sound. So if you question your own ears, trust theirs.


FIRST WITH THE PROS.

**Recording Institute of America Survey.

CIRCLE 17 ON READER-SERVICE CARD
The Bose 901 – past, present, future.

Past The first Bose 901 Direct/Reflecting® speaker was introduced in 1968. It was the result of research started twelve years before at M.I.T. under the direction of Dr. Bose. This speaker introduced the fundamental advances of a balance of reflected and direct sound, nine matched, full-range speakers, active equalization and uniform power response — all very controversial concepts at the time. But the performance produced by this new technology soon earned for the 901 speaker its international reputation as the most highly reviewed loudspeaker regardless of size or price.

Present The founders of Bose, all from the field of science, decided that Bose would reinvest 100% of its profits back into the company to maintain the research that was responsible for the birth of the 901 loudspeaker. The unprecedented success of the Bose® 901® in world markets, coupled with this 100% reinvestment policy, has created what we believe is by far the best research team in the industry. This team has made over 300 design improvements in the 901 speaker since its introduction — including such basic developments as the Acoustic Matrix™ Enclosure (illustrated), the helical, low impedance voice coil and the advanced full-range precision drivers. And the new concept of controlling the spatial properties of the 901 speaker has just been introduced via the unique Bose Spatial Control™ Receiver.

Future At Bose we have decided that “901” will continue to be the designation of the product that represents the state-of-the-art of our technology — whatever size, shape or form that product may take. In our research we continue to look at any and all technologies and product concepts that might hold possibilities for better sound reproduction. Consistent with the past, we will introduce new technology into the 901 speaker as it is developed — often without announcement. This is our dedication to the goal that whenever you invest in the Bose® 901® system you will receive the latest technology and the best in music reproduction.
the list: not just those you can’t afford, but those that are so far below your price range that they’re unlikely to be worthy of notice. Speaker values can vary surprisingly, though, so don’t be rigid about the cutoff points. Speakers listing for as little as 60% of your maximum price are likely to satisfy you. If everyone is raving about some speaker selling for even less, listen to it too. At worst, you’ll waste a few minutes. At best, you’ll save a few hundred dollars.

Speakers nominally priced a bit above your range may be affordable if discounts are available in your area. (In any county big enough to support two or three audio dealers, you’re bound to find at least one shop that will give you a discount.) So if your limit is $300, don’t automatically scratch $350 speakers from your list.

Test reports can prove a useful guide, but only that. They can’t substitute for what you hear yourself. They can make you a more astute listener, however. Reviewers listen to endless speakers and have a vocabulary to describe what they hear. Find reviews of models that are carried by your local dealer and compare what he has heard with what you hear. Do this a few times for any given review source (High Fidelity’s Test Reports, for example) and learn to correlate the descriptions with the way the speaker will sound to you. (The reviews will also tell you useful details not found on spec sheets: optimum placement, etc.)

Listening analytically will become second nature and eventually you will understand what a reviewer means when he says that a speaker has “a forwardness and exciting sense of immediacy,” or has “some indication of low-frequency resonance . . . that added a roundness.” Once you’ve heard what’s being described, the audio vocabulary loses its mystery.

A manufacturer’s specs will often be useful in comparing performance between speakers in his line, but not so useful comparing performance with speakers built by a competitor. Even within one manufacturer’s line there may be inconsistencies. A reputable maker won’t exaggerate the specs of his most expensive speaker, but he may shave the specs of his lower-priced models to exaggerate the difference between the top and bottom of his line. For example, the high-end response from a given tweeter may be shown as lower when it’s in the least expensive system than when it’s in the flagship model.

A given reviewer’s measurements will yield meaningful comparisons between different speaker makes—but comparisons with other speakers, tested by a different magazine, will not be meaningful.

Two other factors to consider prior to listening tests are sensitivity (or efficiency) and appearance.

How a speaker looks won’t affect its sound. But since speakers are probably the most visible component of a stereo system, you should avoid one that sounds good but doesn’t appeal to you visually.

Sensitivity is usually given as output in decibels of sound-pressure level (dB SPL) for 1 watt of input, measured at a distance of 1 meter. Theoretically, a speaker with a sensitivity of 97 dB will need only half the amplifier power of one with a 94 dB sensitivity to produce the same sound level. (To put it another way, an increase of 3 dB—raising 94 dB to 97 dB—would require double the power.) In practice, it’s less clear-cut. These measurements are usually made with a 1 kHz sine-wave signal; those taken over a period of time with a musical signal might differ, as would any measurements made with high-quality pink noise. But it’s safe to assume that a 97 dB speaker requires somewhat less power than a 94 dB one. And the bigger the difference, the more significant it becomes in practice.

Sensitivity is an indirect guide to a speaker’s power requirement. More direct are the speaker’s amplifier power spec, and its rated maximum
First Chair. What better way to describe the Jensen Separates?

The finest, most accomplished car speaker system to date. With a revolutionary design that makes your car seat the best seat in the house.

It's a total departure from conventional car speaker design. Because acoustically, the interior of your car is nothing like your living room.

The Separates include two 6" x 9" woofers to be mounted in your car's rear deck. In this manner they utilize the large volume of the trunk to provide solid, deep bass response.

Two 2"phenolic ring tweeters mount high in the front doors to give you precise, transparent high frequencies. Two 3 1/2" mid-ranges beneath the tweeters let you enjoy all of the subtle-yet-important middle frequencies.

The Jensen Separates even come with an under-dash control/crossover unit with individual controls for each tweeter and each mid-range. This speaker system is also ideally suited for the advanced function of bi-amplification.

The Jensen Separates. The undisputed master of car stereo sound reproduction.

Artful, ever-faithful music. That's the thrill of being there. That's the Jensen Separates.

JENSEN
The thrill of being there.

For more information, write Jensen Sound Laboratories, Division of Pemcor, Inc., 4136 N. United Parkway, Schiller Park, Illinois 60176.

CIRCLE 18 ON READER-SERVICE CARD
power-handling capacity.

What constitutes recommended minimum and maximum power levels varies among speaker manufacturers. One might list the minimum amplifier power for undistorted background listening level, and the maximum the speaker can take without disintegrating. Another might quote the minimum power that can produce reasonably high levels without amplifier clipping distortion, and as maximum power the most the speaker can take before distortion increases by a specific (but unspecified) amount. Some speaker manufacturers use rms or continuous power for these specifications; others might use peak or average power.

Still, these specifications do suggest how much power a certain speaker will require. For best results, the speaker's maximum capacity and the amplifier's rated power should be about the same. Underpowered amps can cause problems; they may be driven into clipping, causing audible distortion and can burn out a tweeter.

Impedance may be a factor, too, especially if you plan to run more than one pair of speakers at a time. In that case, 8-ohm speakers are a better choice than 4-ohm ones; the latter could damage some amplifiers if driven in parallel.

The real challenge, the real work, and the real fun comes in listening. You must know what to listen for and how to insure that you can hear it.

That insurance begins with limiting your listening. Don't make a whirlwind tour of local hi-fi shops, trying to hear everything at once. Instead, listen at length to the best speakers in the shops (definitely including those you can't afford), priming your ears to recognize quality. Bring along some favorite records (if they're worn, buy new copies) with music that will place the highest demands on a speaker and use them as demo material. (Don't, however, ignore the records the dealer offers as testing material; just be sure yours are included too. Also, never use synthesized records where the stereo image has been synthesized from a mono signal: Any imaging shifts that occur may arise from the record and not the speakers.

**Bring along...**
records that place the highest demands on a speaker.

**Now start investigating** speakers you might actually buy. Weed out those that are unsatisfactory with simple tests. Pass over any speaker that sounds bad; it's not vital to figure out what's wrong. Roughly, check frequency response with interstation noise from an FM tuner. If you can hear an identifiable pitch, or if the noise seems concentrated in one area of the spectrum, be suspicious of the speaker's balance. (You can, however, alleviate bassiness in a floor-mounted speaker by raising it a foot or so, or increase the bass of a bookshelf speaker by setting it on the floor.)

Check high-frequency dispersion by walking past the speaker while the interstation noise is playing. A gradual fall-off of high frequencies at the far edges of the speaker's sound field shows even dispersion. Peaks and dips in high-frequency response, or narrow beams, indicate a problem.

Select only those speakers that are suited to your listening room, e.g., an extra-bright speaker is better for a dead, softly-furnished room, but a bad choice for a bright, reflective one, and vice versa. Often tweeter level controls can compensate for these effects, but have the control's effect demonstrated. If possible, listen to the speakers under the same circumstances. Try for a room of similar size and similar reflectance, use an amplifier of the same power as your own, and ask to have your demo records played with the same cartridge that you normally use. (If your cartridge is mounted in a "universal" headshell, bring it with you—carefully packed to prevent stylus damage—and use it on the dealer's turntables.) You'll never get an exact match, but the closer you come, the better you'll know how your new speaker will sound at home.

Compare speaker systems two at a time, and don't bring in a third pair until there's a clear winner to the first face-off. Be absolutely sure that
Because Scott puts more in.

Deeper, richer lows. Crisper, clearer highs. And an accuracy across the entire tonal spectrum that's second to none. That's what you get with Scott Controlled Impedance speakers.

No matter what your listening preference, Scott speakers will make your whole sound system sound better.

At Scott, there's no such thing as an "off-the-shelf" component. Unlike many other makers, Scott custom designs and acoustically tailors every speaker component to give you accurate frequency response, high efficiency, and extra power handling capacity. After all, the sound you get out depends on what we put in.

But listen for yourself. And you'll hear just how much Scott speakers really put out.

For more information on Scott speakers, or on our entire audio line, see your nearest Scott dealer or write H.H. Scott, Inc., Corporate Headquarters, 20 Commerce Way, Dept. 1S, Woburn, Massachusetts 01801. In Canada: Paco Electronics, Ltd., Quebec, Canada.

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Makers of high quality high fidelity equipment since 1947.
Stop Listening To Paper.

And start listening to music as you've never heard it before. Completely free of the spurious vibrations caused by conventional paper cone speakers.

Mitsubishi has eliminated those vibrations by eliminating the paper.

Instead, we build our woofer cones with an aluminum honeycomb core in a sandwich of glass fiber.

Unlike paper cones, the honeycomb structure is rigid enough to maintain its shape, yet light enough to be exceptionally responsive. So it can put out sound without adding to it.

And since the glass fiber is non-porous, it gives our air suspension speakers a perfect seal, and a lower resonance frequency for better bass response.

We've also added a flux normalizing ring that reduces distortion by 20dB. And automatic overload protection.

The end result is a speaker capable of a level of performance literally unheard of until now.

If our honeycomb speakers sound too good to be true, test listen to them and judge for yourself.

It's what you won't hear that will impress you.

MITSUBISHI AUDIO SYSTEMS

Mitsubishi's Honeycomb Speakers MS-10 10" 2-Way Bookshelf, MS-20 12" 2-Way Bookshelf, MS-30 12" 3-Way Bookshelf. For more information write Melco Sales, Inc., Dept 46, 3030 East Victoria Street, Compton, California 90221.

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the sound levels are precisely matched. A speaker that’s a fraction of a dB louder will sound cleaner and more open. Readjust levels from time to time too. Since speaker frequency responses differ, one speaker may sound louder on some passages and softer on others than the speaker it’s being matched against.

**Note overall** balance and clarity. Can you hear all parts of the sound spectrum, all instruments and voices clearly? Are any of them over- or underemphasized? Beware of any speaker that makes all music sound alike—you want to hear the music, not the speaker. Actually you’ll be less conscious of a better speaker—I always know I’m hearing a good speaker when I find myself asking for the order number of the record being played. Any speaker that seems to have no highs or lows—or that seems all highs or all lows—should be rejected.

No matter what a particular speaker sounds like, a musical passage probably exists somewhere that will make it sound good. Murphy’s Law suggests that this passage will be the first one you play. So listen to a wide variety of instrumental textures through each of the speakers you’re testing.

Most people have a natural tendency to switch speakers between passages out of respect for the music. Resist that urge. Switch in mid-passage so that the same sounds will be heard from both speakers in close sequence. Intersperse short A-B comparisons with longer periods of listening to each speaker individually and then compare how each sounds in relation to the other.

Overall balance isn’t everything. Pay attention to the way each speaker handles particular types of sound. Bass should be rich and full—but only when the music’s bass is. And that bass should change pitch as the music does. If it drones away at one note of its own regardless of where the music’s going, that’s a sign of uncontrolled bass resonance.

The bass must also be clean, so that you hear the music’s fundamental frequency, not a distorted note an octave or two higher. And listen to how low that fundamental goes, while remembering that, on the average, the better the bass response, the more power the speaker will demand, and the more it will cost.

**Organ records are good** to test sustained bass output. But you want to

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1. In conducting an A/B comparison test of speakers, be sure that both sets are made to play at the same level. Otherwise the louder set usually will sound better regardless of quality.

2. If the speakers you audition are a part of a display in which a great many are stacked against a wall, be sure that the candidates are in reasonably equivalent positions. A speaker at floor level will have a good deal more bass than one that is two feet off the floor.

3. Speakers that are designed to reflect off the walls probably will sound very different in the showroom, as compared with your listening room, especially if the former contains many models. Each speaker in the showroom that is not being driven sucks up acoustic power from those that are being demonstrated.

4. Bring your own records and/or tapes, preferably ones with which you are intimately familiar, to use in auditioning. If your choices are discs and you want to be really fussy, ask the dealer to play them with the cartridge model you have in your home system. An alternative is to use the cartridge model you intend to use with the new speakers.

5. If the speaker manufacturer has made specific recommendations about the positioning and installation of his product, be sure they are ob-
test bass transients too. A good swift thump from either a bass drum or
tympani will do the trick—particularly on the new digitally-mastered rec-
ords, which excel at bass transient response.

Bass should have a sense of power: You should be able to feel it while
still hearing the notes change. The more expensive the speaker, the more
you should expect this.

For an upper-bass test, tune in a male FM announcer. If one speaker
makes him sound as if he is in a barrel, there’s probably a resonance in the
100-Hz region. If that happens on all the speakers, he may naturally
sound that way, in which case, tune in a different station. Check the an-
nouncer’s voice for nasality as well (a sign of a midrange peak), and for
oversibilant “S”, “Z” and “F” sounds, which are signs of either distortion
or treble peaks.

Speakers that make the music seem to shoot out towards you usually
have a midrange peak; those that make it recede into the distance have a
midrange dip.

Ignore demo records that are all brass, full of plucked string-bass notes,
or other gimmicks foreign to your normal listening. Such records can
make almost any speaker sound good. The material is a lot easier to re-
produce than you’d think.

Choir recordings are excellent tests of midrange clarity: The better you
can separate the voices from each other, the more clarity the speaker has.
(But first test your choral record on the best speaker in the house; choirs
are very hard to record properly.)

Piano—rock or classical, as long as it’s acoustic—should have bell-like
transparency, neither muted nor jangly (signs, respectively, of deficient
highs or treble peakiness and distortion). Stringed instruments (espe-
cially in well-miked chamber recordings) should have a definite “bite” as
the bow first bears down, yet not sound raspy. Cymbals should shimmer.

Sound-effects records sometimes make good tests. Use those sounds
with which you’re familiar (ice in a glass is O.K.; steam locomotives and
the A-bomb, however, won’t tell you as much . . . and the A-bomb cut was
probably faked, anyway), and a record you know well.

Try every speaker at a variety of sound levels. The sound balance
should “track,” with the music sounding much the same as you raise and
lower the volume; but expect to lose a noticeable amount of bass and per-

Shopping Tips

6. Unless you are sure that an FM station in your
area does not limit or otherwise process its signal, 
avoid using FM music for speaker evaluations.

7. When you find a speaker you think you like, lis-
ten to it for a fairly long time (half an hour should
do) to check for long-term fatigue effects. Better
yet, try to arrange for a home trial. The more pre-
igious audio stores often offer this service.

8. Try to test a prospective speaker with an ampli-
fer at least similar to the one you plan to use. The
speaker’s performance will avail you little if you
cannot supply the power it needs. Damping factor
of the test amplifier also should be similar to that
with which the speakers will be driven.

9. For this reason, demonstration systems that
adjust relative levels by way of attenuators be-
tween the amplifier’s output and the speakers
may compromise performance of the more ef-
cient models through loss in effective damping
factor. Ask your dealer whether level adjustments
are made at the input or output of the amplifier; if
the latter—and particularly if you hear any boomi-
ness in a relatively efficient speaker system—you
may need to hear the speaker driven directly from
the amplifier before you can assess it adequately.

10. Listen with an open mind.
haps a touch of treble at low volume levels due to the low-level insensitivity to the frequency extremes of your ears. But the speaker’s sound should neither change drastically nor sputter in and out when you turn the volume down.

At high volume levels, be sure not to confuse loudness with distortion. We’re so accustomed to hearing loud sounds distorting that it’s possible to equate distortion with loudness. If the speaker doesn’t seem “loud,” but you have to shout to be heard over it, it’s loud, alright—but clean.

Listen for accuracy in stereo imaging too. The more clearly you can locate instruments or performers, the better the imaging. The simpler the microphone setup used in making the recording, the more likely it will be a good test for imaging. (My own favorite image-test disc is *Die Fledermaus*, DGG 270 7088, which I’ve also heard used as a test and demo disk by both Infinity and B & W; it’s also a good performance.) These listening checks will prove as exhausting as they are exhaustive, and you’ll find that after comparing three or four pairs of speakers in sequence, your ear and brain will tire. When that happens, take a break. Go back later in the afternoon or the next day and resume your listening.

Try to label all the differences you hear, and characterize each speaker’s sound verbally. It doesn’t matter much whether you use your favorite reviewer’s vocabulary, or one of your own, so long as you use it consistently. Take notes, for when you’re through with your listening tests, you’ll have heard so many speakers that you’ll find it difficult to remember how each sounded.

**Beware of speakers whose** sound is too memorable. Usually it’s the poor but flashy speakers that reach out and grab you by the ear, due to overemphasis of some part of the frequency range.

Some speakers, due mainly to skilled design, give far better value than others. This will show up in your listening comparisons. But there are other routes to getting more for your speaker buck. Kits, closeouts, secondhand and “distressed” speakers are among those worth considering.

Kits are an obvious tradeoff: You do some of the work, and are recompensed in lower cost and in a feeling of accomplishment. On the other hand, you may not get a chance to hear the finished product until you’ve bought and finished it. If you know someone who’s built the kit, or if the dealer has a finished unit on the floor, listen to it. You may like what you hear.

Some work may be involved in repairing the finish on speakers sold at a discount because of cabinet scratches or other non-electronic damage. But you may be able to set up your system so that the damage won’t show.

When a new model supersedes an old one, some dealers close out their old stock at reduced prices. If the reduction is small, the new (and presumably improved) version may be the better buy. But if the reduction is substantial, it may give you access to a model that was above the price range you had contemplated. If the sound is as pleasing as the price, buy the speaker.

Used speakers may or may not be superseded models, but they have been secondhand. If the sound is good and the cabinet’s dents or scratches are tolerable at that price, don’t let them deter you from buying. Speakers are more likely to die than to deteriorate. Speakers with foam surrounds are an exception, though; examine the foam portions of these carefully for flaking, powdering, or cracking before you buy.

These are the basic tips on speaker buying. The rest is mostly a matter of keeping your ears trained. And that process can last as long as your ears do: I’m on my fifth or sixth speaker system, and already shopping for the next one. I still can’t claim to know it all. But then, who likes a know-it-all? **MP**
How Audio History is made.

Has American ingenuity taken a back seat to cheaper foreign labor? Not at Altec Lansing, where we've been inventing and building high-quality speakers for well over 42 years. Like the Model 14. It's so unique, that before we could create it, we first had to invent a whole new family of components.

You get the full spectrum of sound and the most solid three-dimensional stereo image you've ever heard. And since the sound doesn't diminish off center axis, the Model 14 enlarges your listening area, your "stereo sweet spot."

As an extra benefit, Mantaray's precise sound focusing means your music goes in your ears—not in your drapes, walls, and ceilings. Consequently, it's more likely than other speakers to sound the same in your home as it does in your dealer's showroom.

Then to give you even higher highs, we developed the first radial phase plug, the Tangerine. In contrast to conventional phase plugs with two equidistant circular slots that block some frequencies, the Tangerine's tapered slots permit a free flow of high frequencies to beyond 20 KHz.

Equally important to all this is our new Automatic Power Control System. Unlike fuse-type devices or circuit breakers, the system keeps track of the power pumped into the speaker, lets you know with a blinking light when power exceeds safe limits, and then reduces overloads automatically, but without shutting the speaker off. It's quite a system.

In addition, the Model 14 offers you super-efficiency, highpower handling capacity and exceptional dynamic range, plus a new vented enclosure with a 12-inch bass driver for a tighter, crisper low end. So that's how audio history is made. And it's all yours at a price that means the best sound value available for your home today.

So the next time someone tries to tell you that American workmanship is taking a back seat, play your Altec Lansing speakers for them and prove how wrong they are.

For a free brochure and the name of your local dealer, write: Altec Lansing International, 1515 South Manchester Avenue, Anaheim, CA 92803.

©Altec Corp.
The Most Critical Component

Why your listening room can be more important than the speakers you choose

by Alan Fielding

Many stereo shoppers, after giving due care to their choices, take the equipment home, plunk the receiver turntable down on some convenient flat surface, put the speakers where they are not in anyone's way, hook the whole thing up, and consider themselves "in business." They don't
Inside, most speakers look pretty much the same. Drivers, baffle board and enclosure. Which is why some manufacturers make so much noise when they come up with anything new.

But in the midst of all the uproar, Kenwood’s engineers have quietly developed five important design improvements you won’t find anywhere else.

**1. Separate front baffles.** We mounted the mid and high frequency drivers on a separate baffle board. That keeps the woofer’s vibrations from interfering with the mid and high frequencies. So you can get solid bass without losing any of the vocals.

**2. Cross-over coil positioning.** We found that two coils next to each other on a crossover network can cause signal leakage from the midrange to the woofer. By isolating the coils away from each other, we eliminated cross-talk and muddy midrange.

**3. Thermal/shock cone construction.** We manufacture our own wood-pulp cones by applying our exclusive heat/shock treatment. This creates a cone that is more rigid than the usual pressed type for low distortion, yet light enough to deliver much better efficiency.

**4. Midrange stabilizer.** To get the nasal sound out of the midrange frequencies, where most of the music is, we introduced a center support system and a 3-point cone suspension. To you that means clear sound imaging and better transient response.

**5. Power linearity.** The frequency response of most speakers deteriorates at high power levels. By using a computer, we designed the LS-1200 to deliver the same linear frequency response throughout its power handling range. From solo flute to full orchestra.

Listen to the LS-1200 at your Kenwood dealer and discover that, even at low listening levels, you get exceptional depth, clarity and fidelity. At high volume, it delivers the kind of tonal quality you normally expect from a live performance with a clean, punchy bass and clear, open highs.

That’s one more reason the LS-1200 is simply too good to keep quiet.

Your speaker’s reputation should be as good as your receiver’s.

**Speaker design takes five steps forward. Quietly.**
really think about the room or the position of the system in it—after all, what difference can it possibly make as long as nothing blocks the speakers? Besides, the way we listen has to fit the rest of our life-style, right? Well, friends, it certainly does make a difference—and a big one. If you’re serious about listening to music, you’ll have to face the fact that putting your stereo system in an unsuitable room is as silly as setting up a Ping-Pong table that measures 9 by 5 feet in a 10-by-8 room.

Your listening room is part of the audio chain, between the loudspeakers and your ears; every sound that reaches you must pass through it—and be altered by it. It should be no surprise, then, that the room you choose may influence the final sound more than your choice of loudspeakers. This is an inconvenient truth, since it’s normally far easier to change speakers than to change rooms, but there are steps that you can take to improve less than desirable acoustics. And, of course, acoustic options are open to anyone who is building a house from scratch or heavily remodeling one.

Like any component, a listening room must have reasonably flat frequency response in order to avoid screechy highs or boomy lows. Then, too, it must be free of distortion in the form of loose panelboard or other objects free to buzz and rattle at various frequencies. And just as transient response is important to a phono cartridge or speaker, it is important to a room. If the room sound takes too long to build up—and depending on the way in which sound is delivered from the speakers to the listener within the room—sudden attacks, like those of percussion or brass, are dulled; if the sound takes too long to die away, the “hangover” garbles the sound. Finally, it is a good idea, especially in an urban setting, to soundproof your listening room as much as possible, otherwise you may not be able to play the system as loud as you like for fear of waking the kids or eliciting complaints from neighbors.

When a loudspeaker (or any other sound source) starts to transfer its output into a closed space, the sound waves are reflected from and between the boundaries of the space. In some ways, conditions in the room resemble those in an organ pipe; the frequencies whose wavelengths “fit” most neatly into the dimensions of the space are reinforced. These are called the “natural frequencies” of the room and constitute its natural “modes” of vibration. Conversely, other frequencies, which the room reflects back to the source out of phase (zigging when the source is zagging, so to speak), at least partially cancel themselves.

To understand how to adjust the acoustics of a listening room, one must first understand how a perfectly reflective room behaves. Assume that a ray of sound leaves the source and bounces around the room, losing none of its energy in the process, finally returning to the source just in time to cancel the radiation then emerging. The net transfer of energy into the room at this frequency is now zero. But if the wave’s energy is partially absorbed in the room, the cancellation cannot be complete. Thus energy will flow into the room to equal the amount absorbed. If absorption is total, the source delivers its full output. A room that is totally absorptive at all frequencies (an anechoic chamber) allows sound to propagate exactly as if no boundaries existed—as if it were outdoors.

The first natural mode of a room of normal residential dimensions is usually at a low bass frequency. For example, the first few modes of a rectangular space 23 by 13½ by 8½ feet fall at roughly 25, 43, 48, and 49 Hz. Higher modes are progressively closer in frequency, eventually overlapping to become quasi-continuous. While the broad trend of all modes in any given region of the higher frequencies affect the coloration of a
The Sound of Koss is no longer something you have to keep to yourself.

You no longer have to limit your listening to stereophones to enjoy the incredible Sound of Koss. Because now you can get the optimum loudspeaker system, and the Sound of Koss, in any Koss CM series system you choose.

KOSS CM 1010

Here's the ultimate 2-bandpass system. The Koss CM 1010 has a unique passive radiator to enhance the lower two octaves of bass. As well as a special 8-inch woofer to increase the midrange frequency response up to 3500Hz.

And with the CM 1010's 1-inch dome tweeter, you get the highest energy output, and lowest distortion, of any tweeter on the market.

KOSS CM 1020

No three bandpass loudspeaker system currently available offers the benefits of the Koss CM 1020. Its dual ports improve cabinet tuning and structural stability. And its 10-inch woofer provides a 3dB gain in efficiency, as well as flat response over the lower bandpass. In addition, the CM 1020 uses a 4½-inch midrange driver to capture all the energy and presence of this critical bandpass. And the CM 1020's unique 1-inch dome tweeter produces the highest energy output and lowest distortion of any tweeter currently available. Indeed, the Koss CM 1020 is the 3-bandpass loudspeaker system you really have to hear to believe.

KOSS CM 1030

The Koss CM 1030 represents the ultimate in 4-bandpass loudspeaker systems. It includes a 10-inch woofer, mass aligned dual port system, a parallel midrange system with two 4¾-inch drivers, and both a tweeter and a 1-inch treble tweeter that feature a unique acoustic transformer. Each has been carefully and specifically designed to produce the optimum spectral characteristics of their respective bandpass.

Uniting the CM 1030 into a total system that represents the ultimate in loudspeaker technology, is a unique, quasi second-order crossover network. In all, the CM 1030 is so amazing, no other 4-bandpass system even comes close in bass, midrange or high bandpass performance.

KOSS CM 530

Setting entirely new standards for bookshelf speakers is the Koss CM 530. Whether you place them horizontally or vertically, they deliver perfect mirror imaging, an incredible degree of dispersion, and the breathtaking Sound of Koss.

KOSS PRO 4/TRIPLE A

Write us, c/o Virginia Lamm for a free copy of our full-color loudspeaker catalog. And when you visit your audio dealer to hear the incredible Sound of Koss loudspeakers, take an extra moment for a private listening experience with the world famous Koss Pro/4 Triple A. Once you've heard the Sound of Koss for yourself, you'll know why hearing is believing.
Now a speaker system so advanced you don't need a "listening position." B·I·C introduces SoundSpan. The first loudspeaker design capable of those ideals that conventional approaches could never achieve. A design that creates a single-point sound source that is absolutely phase coherent, with totally uniform polar response at all frequencies, and perfect 360° dispersion. That's Total Power Radiation. And the result almost defies description. Walls, floor and ceiling are replaced with musical presence. Sound doesn't come "from" the speakers. It's just there, live and real — unaffected by speaker placement or listening position. For complete details simply write B·I·C/AVNET, Dept. S, Westbury, New York 11590. The new SoundSpan Speaker Systems.

Say "Bee-Eye-Cee." Think "Best-In-Components."
room (its “brightness” or “warmth”), individual modes are of interest chiefly at low frequencies.

The number of modes to be found in a space of any given dimensions depends essentially on its volume. Thus, a nonrectangular space has about as many modes as a rectangular one of similar volume. But they are distributed in a more complex way, and the fact that they are less likely to coincide exactly (and thus doubly or triply reinforce certain frequencies) in nonrectangular rooms make spaces of this type particularly advantageous—something you should keep in mind if you’re contemplating extensive remodeling or building. (For example, you could realize a major acoustic improvement by removing the floor of an unused attic to create a cathedral ceiling for a listening room below. In general, an irregular room shape creates less reinforcement at the natural frequencies; it effectively broadens the “tuning” of the room modes and makes frequencies more likely to coalesce.

We’ve been considering the “steady-state” response of a room—its behavior when a continuous signal is turned on for a long time and the pattern of sound waves is allowed to stabilize. Although its behavior during the initial buildup and terminal decay of the sound is considerably more complex and difficult to predict, if buildup and decay time (sometimes called reverberation time) are kept short enough, the details of such behavior are unimportant.

A good case can be made for listening rooms with fairly high sound absorption. Absorption at high frequencies is easily supplied by such normal furnishings as carpets, scatter rugs, upholstered chairs and sofas, and wall hangings. But these must be strategically placed, and part of the strategy involves the needs of your speakers. Some manufacturers state specifically what conditions are necessary for their speakers to perform best. In so-called omnidirectional designs, for example, reflection of the sound off walls and ceilings is a necessary part of the propagation “game plan” and will be inhibited by excessively absorptive surfaces or incorrect speaker placement. Conversely, the design of speakers such as the British “monitor” types are predicated on the theory that the direct speaker-to-ear wave is the important one and that the diffused and reflected ones are basically undesirable in the quest for the best possible stereo imaging and minimum coloration; too reflective a room obviously works against their design intentions. The vast majority of speakers, however, are considered to be general-purpose designs and delivered without any particular instructions for best use.

Absorptive material, it turns out, is far more effective when distributed randomly throughout a space . . .

Absorptive material is far more effective when distributed randomly throughout a space . . .
faces—like irregular room shape—also contribute to the diffuseness of the reflected sound. That is, sound bouncing off the walls tends to reach the listening area approximately equally from all directions. This virtually assures that the room sound will not be able to confuse the loudspeakers’ stereo image, which will be formed, as it should, by the direct radiation.

**Despite the apparent advantages** of making a listening area highly absorptive, the method has its price. The problem is that a stereo system playing in a highly absorptive or “dead” room will not sound nearly as loud as one playing in a reflective or “live” room, where the reverberation reinforces the direct sound from the speakers. This directly affects the amount of amplifier power you will need. For example, your best listening position for a low-powered system playing in a “dead” room probably is within 6 feet of the speakers in order to keep the sound level at the listener’s ear reasonably high. The best solution, however, is to use an amplifier with enough power—and speakers with enough power-handling capacity—to produce adequate listening levels without much reinforcement from the room. This should give you the cleanest sound your system can produce. (It is, in fact, one rationale for the use of a superamp.)

Yet there are those who do not object to the acoustics of a dead room. To a certain extent, this is one of those unarguable matters of taste; but relatively heavy absorptive treatment has certain practical advantages that accrue even when the room is not being used for music: 1) The level of noise (whether generated internally or externally) is lower. 2) Less sound “leaks” out of the room to cause problems elsewhere. 3) Two or more conversations can take place with reduced aural competition. 4) The overall acoustics tend to be “intimate,” favoring sounds that originate nearby over those from far away.

So far, we have said very little about taming the acoustic effects of the room at low frequencies. Materials suitable for low-frequency absorption are hard to come by and do not fit happily into a domestic environment. Yet the room modes at low frequencies are the farthest apart and cause the greatest unevenness in the sound. Moreover, such room modes are inevitable concomitants of the room dimensions.

But the most common problem at low frequencies—and one that can be solved to a substantial degree—involves not the room modes, but the distance between the sources of bass sound (woofer cones) and the room boundaries. The sound radiates equally in all directions, reflects from the nearest boundaries, and returns to the woofer. When the wavelength of the speaker’s output equals four times the distance from the woofer to a boundary, cancellation reduces the radiated power by half; when the distance corresponds to half a wavelength, reinforcement doubles the power. This sonic behavior is not unlike that of room modes, except that here the frequencies of cancellation and reinforcement can be changed by moving the loudspeaker with respect to the room boundaries.

**Some manufacturers have** taken advantage of this effect by designing speaker systems so that woofers are located directly against one, two, or all three of the nearest boundaries, allowing the woofer and its reflected “images” to operate in unison at all frequencies and reinforce each other. This not only eliminates a serious source of room coloration, but also boosts the efficiency of the woofer. The only disadvantage of this technique is that the room modes associated with the boundary or boundaries with which the woofer is coupled will likely be exaggerated.

Most loudspeakers are designed in the form of a “box” with the drivers arranged on one of the long faces, and it is difficult to place them so that the woofer is in suitable proximity to, say, the floor and the nearest wall.
The traditional KEF accuracy in music reproduction now combined
- with a higher level of efficiency. . . .
Whether for use with amplifiers up to 100 watts or music centers as small as 10 watts,
the two new KEF speakers—Model 303 and Model 304—can achieve surprisingly
loud volume levels without any sacrifice of the tonal quality for which KEF is
world-famous.
Visit your authorized KEF dealer for a thorough demonstration.
For his name and product information write to: KEF Electronics, Ltd., c/o Intratec,
P.O. Box 17414, Dulles International Airport, Washington, DC 20041.
In Canada: Smyth Sound Equipment, Ltd., Quebec J4H 3V7.
without angling the more directional output of the tweeter (and mid-range driver, if any) away from the listening location. Experience, backed up by a modicum of theory, has shown that such speakers perform best—that is, give the flattest frequency response—when located well away from the nearest room boundaries to increase the length of the reflective paths from the speaker to the floor and walls and thus lower the frequencies at which cancellations and reinforcements occur. It is important to remember that the speaker must be moved away from the floor (or ceiling) as well as the walls, which often necessitates placing it on a stand or suspending it. Sometimes a small speaker whose woofer gives up gracefully rather than attempting to reproduce bass tones beyond its muscle can be positioned so that the principal response anomalies created by the room boundaries are below its cutoff point.

For larger speakers whose aspirations include bass drum sounds and organ pedal tones, the situation is more difficult and calls for more elaborate strategy. One trick that has worked successfully is to place the speaker so that the distance from the woofer to the wall behind it is just about twice that between the woofer and the floor. Now a cancellation and a reinforcement coincide in frequency and nullify each other. It is important that the distance not be doubled exactly, for this raises the possibility that double or triple cancellations or reinforcements will occur at higher frequencies.

**Often an inch or two one way or the other in location separates success from failure.**

**More than anything,** this example serves to suggest some of the complexity of the situation and explain why the best positions for speakers usually are found by trial and error. Often an inch or two one way or the other makes the difference between success and failure. It is virtually impossible to predict where a given pair of speakers will sound their best in a room, but in all likelihood they will be on stands and several feet away from the nearest walls. Again, however, it is important that you observe any placement instructions the manufacturer provides with the speakers. A corner horn will have weak bass if it is moved out of the corner, and the sound and stereo imaging of most dipole radiators (typically, but certainly not exclusively, the full-range electrostats) can be severely compromised by placing them too close to the wall behind them.

Minimizing reflective effects at low frequencies means sacrificing constructive reinforcement, just as it did at high frequencies. This type of positioning means the speaker will have less deep bass, but what there is will be the cleanest you can get. Here, too, the day is saved by high power capability in both the amplifiers and the speakers—which, for really high quality results, must tolerate enough bass boost to compensate for the low-frequency rolloff if it occurs at an audible frequency. And since typical absorptive materials in the home soak up more highs than lows, the bass may still predominate and require a cut. The use of low-frequency equalization in an attempt to compensate for room modes is, incidentally, doomed to failure; such means are effective only in correcting broad trends.

Obviously, the best listening room is one that has been designed for the purpose from scratch, and for this there is little that can substitute for competent professional services. The task of design and construction does not necessarily lie beyond the abilities of a do-it-yourselfer, but it is difficult and requires a great deal of knowledge and experience—and research. But even those of us who content ourselves with less radical tailoring of the listening environment have effective methods at hand. Careful choice and arrangement of furnishings, as well as the stereo system, can result in astounding improvements. Many listeners have never really heard their music systems at all—their rooms are in the way. **HF**
The Dahlquist DQ-10.  
Time...and Time again.

Critics and audiophiles agree — the listening quality of the DQ-10 is unexcelled. What accounts for its superb performance?

Time
Much credit for its smooth coherence must be given to the precisely matched transient characteristics of the five drivers. And, a good deal has been written about the DQ-10 and its extraordinary solution to the problems of time delay or phase distortion. It is not surprising that other high quality speaker designers have followed suit in offering their versions of time delay correction.

...and Time Again
The real "secret" to the unprecedented performance of the DQ-10 lies in Jon Dahlquist's patented method for reducing diffraction, a more audible and destructive form of time distortion. The separate baffle plate on which each driver is mounted is dimensioned to minimize diffraction in the frequency band in which it operates. Thus, the effect of the sound we hear is that of a driver mounted in free space, without obstructions or surfaces to distort the original sound source.

It can be said that the DQ-10 eliminates inaccurate reproduction caused by time elements — inertial time delay, and diffraction time delay — distortions that limit the performance of conventional speaker systems.

That's why the more critical listener will select the DQ-10. Time and time again.

Dahlquist
601 Old Willets Path
Hauppauge, N.Y. 11787
We're Mesa Electronics.
Who?

Mesa Electronics, and you're going to be hearing a lot from us.

If you've ever heard our speakers, we'd need no introduction. If you've never heard them, you should. But switch on our line of Bass Reciprocator speakers. Ordinary speakers (no matter what they cost) are going to sound different in different rooms, simply because the environment they are in affects their sound. But with the Mesa Vicom control, you get consistently good sound anywhere, because it allows you to position your sound eleven different ways according to environmental conditions, or for different kinds of music. (That's up to eleven different ways more than the competition.)

No small achievements: Our Mini-Mesa Series.

But Mesa doesn't just make big speakers. We also make terrific little speakers. In fact, so terrific, with your eyes closed you wouldn't know they were small. There's a full line, from our super compact Mini-Mesa 15 (less than 4 inches wide and 6 inches high) perfect for your car, van, boat or plane, to the Mini-Mesa 30, an unobtrusive bookshelf speaker at less than 5" wide and 8" high, to our Mini-Mesa 50...

left to right: the Mesa 85, Mesa 65, Mesa 45 and Mesa 125.

Ordinary speakers go from wall to wall, but a Mesa goes from room to room.

What makes Mesa special? One good example is our exclusive Vicom control...
3-way system complete with horn tweeter, yet only 6½" wide. We’ve already made a name for ourselves in the miniature speaker field, and small wonder.

listening pleasure. Two sizes—5 ¼" round flush mount or 6" x 9" rear ledge mounts—work with any full range car speakers, adding the low notes and instruments the full range speakers aren’t capable of handling alone. Wait until you hear what you’ve been missing.

Look! In the home! Under the lamp! It’s an end table! No, it’s a Subwoofer!

Mesa not only makes a subwoofer for your home stereo system, and makes it look like a beautiful piece of furniture to boot, it makes it unique. The Mesa MS-80 Subwoofer is the only subwoofer you can buy with a dual level control that lets you balance satellite speaker volume. The MS-80 adds a new dimension to the sound of any stereo speaker system, and looks good while it’s doing it. And since bass signals are omnidirectional, you can place it anywhere in the room—even as an end table.

If Mesa speakers sound so good, why do we stand behind them?

A lot of speakers have 90-day warranties. Some have one year warranties. A few have more. But only Mesa offers 5-year limited warranties on all our products. We don’t do it to make you think something might go wrong with them. We do it because we know nothing will.

Don’t do anything until you hear from us.

We’d like to hear from you. Write us today and we’ll send you more information on our products and a list of Mesa dealers in your area. Once you get to one of them, you’ll get the idea a lot faster than we can explain it.

Mobile speakers reach an all-time low: Mesa introduces subwoofers for cars.

For those unfortunates who didn’t buy a Mesa mini speaker for their car, or those perfectionists who did and want even better sound, Mesa’s new mobile Bass Boosters are guaranteed to bring you new lows in

Mesa Electronics Sales Ltd.
2940 Malmo Drive.

CIRCLE 24 ON READER-SERVICE CARD
If you're cramped for space, Heresy is a loudspeaker that won't cramp your style. The Klipsch® Heresy will fit anywhere in your apartment and it will just sit there, gentle as a kitten until you turn it on. Then, watch out. Heresy roars like a lion.

Here's a small loudspeaker that has both tremendous efficiency and wide bandwidth. It uses the same tweeter and mid-range driver as the Klipschorn®, the industry standard for the past 30 years. The rugged 12" woofer is matched to the box for optimum bass performance and bandwidth.

So, just because you can tuck a Heresy in out-of-the-way places, don't underestimate its power. Your neighbors may well be calling to see how you managed to get an orchestra into your apartment. Heresy is proof positive that big sound can come in small packages.

Please send me your FREE color brochure on the full line of Klipsch loudspeaker systems, along with a list of Klipsch dealers.

Name __________________________ Address __________________________

City __________________________ State ___________ Zip ___________

Clip and mail to Klipsch & Associates, Dept H129, P.O. Box 688, Hope, AR 71801

CIRCLE 22 ON READER-SERVICE CARD
Buying Guide
to more than
1,200
Speakers

At last count more than 1,200 different speakers are presently available. As we've pointed out elsewhere in this magazine, one of the best ways to begin selecting the model that you'll finally purchase is to first peruse the manufacturers' specs. We think this special buying guide section is an excellent place to start. Here's how to get the most out of these listings.

First, we make no claims that we have tested any of the equipment listed here, nor that the specs represent lab results. In compiling the information, we tried to compensate for the fact that not all manufacturers rate their equipment by the same methods. Since we couldn't possibly test all the speakers, the question was, how could we present it most effectively?

We used a series of guidelines and asked the companies to adhere to them when they provided performance specs on their models.

If they deviated from our reference points, we asked them to state how a particular measurement had been obtained.

Guidelines for speakers—both home and car stereo—were: designate the design of the speaker system; the number and type of drivers; the system's response with reference to a certain number of dB SPL measured at 1 meter at 1 watt, the recommended minimum and maximum power in watts and dBW; the crossover points; and any special controls.

Some of these specs, such as size, type, and crossover points, are straightforward, and where manufacturers have referenced frequency response, this too is directly comparable. Using the explanations provided in our articles, you can narrow down your selections to those that will fit in your listening area, the particular design that you prefer, and the models that will best match the power (and impedance) requirements of your amp.

As you head toward the audio store, you'll have done a good deal of the hard work—deciding which speakers are out of the question for basic reasons.

Where a particular spec does not appear, it means that the manufacturer did not supply it. N/A, or "not available," is generally reserved for new products on which complete information was unavailable at press time. Prices were supplied by the manufacturer and may vary from area to area.

Because of space limitations, not every model of every manufacturer has been fully listed. Those on which complete specifications do not appear are summarized at the end of the manufacturer's product listing.

You may want more information about specific products, in which case we suggest that you use our handy reader-service card or write to the manufacturers directly at the addresses in the directory.
## Home Speaker Systems

### ACCULAB
**Acculab**  
8116 Deering Ave.  
Canoga Park, Calif. 91304

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
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<tr>
<td>440</td>
<td>$250</td>
<td>25½″H x 14¼″W x 11D</td>
<td>43 lbs</td>
<td>Acoustic suspension</td>
<td>12″ woofer; 3½″ cone midrange; 2½″ cone tweeter; 3½″ solid-state super tweeter</td>
<td>33 Hz to 30 kHz, +4 dB re 91 dB SPL at 1 meter at 1 watt</td>
<td>3.3 kHz; 7.5 kHz; 10 kHz</td>
<td>8 ohms</td>
<td>5 watts (7 dBW)</td>
<td>50 watts (17 dBW)</td>
<td>Overall gain, high frequency gain (on amplifier)</td>
<td>Controlled dispersion; push-button speaker terminals</td>
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**Models also available**  
Monitor Four, $3,000

### ACOUSTIC 626
**Acoustic Control Corp.**  
7949 Woodley Ave.  
Van Nuys, Calif. 91406

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<td>626</td>
<td>$319</td>
<td>24½″H x 16W x 11D</td>
<td>40 lbs</td>
<td>Vented</td>
<td>12″ woofer; 5″ midrange; 3½″ dome tweeter</td>
<td>35 Hz to 22 kHz, +3 dB</td>
<td>12 kHz; 6 kHz</td>
<td>8 ohms</td>
<td>10 watts (10 dBW)</td>
<td>100 watts (20 dBW) at 8 ohms</td>
<td>Midrange, tweeter</td>
<td>Circuit breaker protection for midrange and tweeter</td>
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**Models also available**  
648, $749

### ACOUSTICAL ENGINEERING
**Acoustical Engineering**  
P.O. Box 60221  
Sunnyvale, Calif. 94088

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<tr>
<td>Mach IV</td>
<td>$995</td>
<td>41H x 42W x 30D (at sides)</td>
<td>150 lbs</td>
<td>Corner horn</td>
<td>15″ woofer, 8″ midrange, two horn tweeters</td>
<td>16 Hz to 20 kHz, +5 dB</td>
<td>400 Hz; 2.5 kHz</td>
<td>8 ohms</td>
<td>10 watts (10 dBW)</td>
<td>100 watts (20 dBW)</td>
<td>L-pad</td>
<td>Walnut finish with black grille cloth</td>
</tr>
</tbody>
</table>

**Microphase**  
**Mini Corner Horn**  
Price $495  
Dimensions 24½″H x 18W x 12D (at sides)  
Weight 75 lbs.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
<th>Features</th>
</tr>
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<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
<th>Features</th>
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<tbody>
<tr>
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### PHASE III+
**Acoustat Corp.**  
3101 S.W. 1st Terrace  
Ft. Lauderdale, Fla. 33315

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>25H x 15W x 14D</td>
<td>47 lbs</td>
<td>Bass reflex</td>
<td>12″ woofer, 5″ midrange; 1″ Mylar dome tweeter</td>
<td>32 Hz to 20 kHz, +3 dB</td>
<td>700 Hz; 4.5 kHz</td>
<td>4 to 8 ohms</td>
<td>10 watts (10 dBW) continuous</td>
<td>100 watts (20 dBW)</td>
<td>Tweeter</td>
<td>Circuit breaker, also available in solid-wood butcher-block cabinet for $359.95</td>
</tr>
</tbody>
</table>

### PHASE II
**Proctorsville, Vt. 05153**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>29½″H x 16W x 15½D</td>
<td>75 lbs</td>
<td>Bass reflex</td>
<td>15″ woofer; 2 midrange horns; 4 super horn tweeters</td>
<td>28 Hz to 30 kHz, +3 dB</td>
<td>900 Hz; 3 kHz</td>
<td>4 ohms</td>
<td>20 watts (13 dBW)</td>
<td>200 watts (23 dBW)</td>
<td></td>
<td>High-gloss black finish, side-mount carrying handles, side casters, accepts ¼″ phone plug connection</td>
</tr>
</tbody>
</table>

**Models also available**  
5, $795 (fin flat black finish, $695); The “Mule”, $295

---

High Fidelity's Buying Guide to Speaker Systems
ACOUSTIQUE 3A
Acoustique 3A International, Inc.
871 Montée de Liesse, St. Laurent
Montreal, P.Q., Canada

TRIPHONIC SYSTEMS

Reference

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,900</td>
<td>47x x 13W x 13D</td>
<td>110 lbs</td>
<td>Acoustic pressure feedback biamplified</td>
<td>Two 11&quot; special woofers; 8&quot; cone and 2&quot; dome midrange; Equaphone flat ribbon tweeter</td>
<td>20 Hz to 40 kHz, ± 3 dB re 94 dB SPL at 1 meter at 1 watt</td>
<td>150 Hz, 1.8 kHz, 6 kHz</td>
<td>100 ohms</td>
<td>Room-control adjustment</td>
<td>Preamp required; anechoic response supplied with speaker</td>
</tr>
</tbody>
</table>

TR-1000 Bass Module

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,800</td>
<td>47H x 27W x 12D</td>
<td>220 lbs</td>
<td>Acoustic pressure feedback</td>
<td>Three 11&quot; feedback woofers</td>
<td>30 Hz to 100 kHz, ± 1.5 dB</td>
<td>100 Hz</td>
<td>400 ohms</td>
<td>Rock/linear switch; efficiency adjustment</td>
<td>Unit in coffee-table configuration; includes 150-watt (21.75 dBW) built-in amplifier, microphone, and VU meter</td>
</tr>
</tbody>
</table>

TR-800 Bass Module

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,300</td>
<td>30H x 27W x 12D</td>
<td>34 lbs</td>
<td>Acoustic pressure feedback</td>
<td>Two 11&quot; special woofers</td>
<td>30 Hz to 100 kHz, ± 1.5 dB</td>
<td>100 Hz</td>
<td>400 ohms</td>
<td>Rock/linear switch; efficiency adjustment</td>
<td>Unit in coffee-table configuration; includes 150-watt (21.75 dBW) built-in amplifier, microphone, and VU meter</td>
</tr>
</tbody>
</table>

ACUSTA CRAFT
Acusta Craft
P.O. Box 12030
Shawnee Mission, Kans. 66212

CV-19

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$285</td>
<td>44x x 16½W x 12½D</td>
<td>95 lbs</td>
<td>Vented</td>
<td>12&quot; woofer, two 6&quot; midrange drivers, horn tweeter</td>
<td>42 Hz to 15 kHz, ± 3 dB re 96 dB SPL at 1 meter at 1 watt</td>
<td>400 Hz, 4 kHz</td>
<td>4 ohms</td>
<td>20 watts (13 dBW)</td>
<td>Constant-voltage crossover networks</td>
</tr>
</tbody>
</table>

CVW-10 Bass Module

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$259</td>
<td>21H x 21W x 21D</td>
<td>70 lbs</td>
<td>Vented</td>
<td>Two 10&quot; woofers</td>
<td>50 Hz to 100 kHz, ± 3 dB re 91 dB SPL at 1 meter at 1 watt</td>
<td>100 Hz</td>
<td>8 ohms</td>
<td>20 watts (13 dBW)</td>
<td>Constant-voltage crossover</td>
</tr>
</tbody>
</table>

CVS-3 Satellite Panel

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$245</td>
<td>42H x 17W x 5½D</td>
<td>55 lbs</td>
<td>Acoustic suspension</td>
<td>10&quot; woofer, 6&quot; midrange, horn tweeter</td>
<td>65 Hz to 15 kHz, ± 3 dB re 91 dB SPL at 1 meter at 1 watt</td>
<td>400 Hz, 4 kHz</td>
<td>8 ohms</td>
<td>20 watts (13 dBW)</td>
<td>Constant-voltage crossover networks; slimline panel styling</td>
</tr>
</tbody>
</table>

CV-15

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$175</td>
<td>30H x 16½W x 11½D</td>
<td>60 lbs</td>
<td>Vented</td>
<td>10&quot; woofer, 6&quot; midrange, horn tweeter</td>
<td>42 Hz to 15 kHz, ± 3 dB re 91 dB SPL at 1 meter at 1 watt</td>
<td>400 Hz, 4 kHz</td>
<td>8 ohms</td>
<td>20 watts (13 dBW)</td>
<td>Constant-voltage crossover networks</td>
</tr>
</tbody>
</table>

CV-12

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$95</td>
<td>23H x 15¼W x 11½D</td>
<td>49 lbs</td>
<td>Vented</td>
<td>10&quot; woofer/midrange, 1&quot; dome tweeter</td>
<td>Constant-voltage crossover networks</td>
</tr>
</tbody>
</table>

Models also available

- TR-1200 Bass Module, $1,665
- Atom 3 Triphonic Satellite, $650/pr.
- Andante Linear, $679
- Adagio, $559
- Apogee Monitor, $449
- Audiorad, $299
- Apogee Mk II, $249
- Alphase, $179

Andante Master Control

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
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<tbody>
<tr>
<td>$1,000</td>
<td>18H x 12W x 7D</td>
<td>50 lbs.</td>
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1980 Edition
CROSSOVER NETWORK WORK

CVS-1 Satellite Panel

<table>
<thead>
<tr>
<th>Price</th>
<th>$75 (kit), $99 (assembled)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>12H x 8W x 5½D</td>
</tr>
<tr>
<td>Weight</td>
<td>12 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>6&quot; woofer/midrange, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>105 Hz to 20 kHz, ±3 dB re 91 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>2.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>None</td>
</tr>
<tr>
<td>Features</td>
<td>Constant-voltage crossover network work, simline panel styling</td>
</tr>
</tbody>
</table>

Models also available

CV-18, $285 (kit); $345 (assembled); CVW-12 Bass Module, $198 (kit); $265 (assembled); CV-14, $129 (vinyl kit); $149 (walnut kit); $179 (assembled); CWS-2 Satellite Panel, $139 (kit); $159 (assembled); Model 10, $69 (vinyl kit); $80 (walnut kit); $105 (assembled); Model 6, $65 (kit); $95 (assembled) |

ADCOM

Adcom Co.

11A Jules Lane

New Brunswick, N.J. 08901

GFW-1 Swuoverwoofer

<table>
<thead>
<tr>
<th>Price</th>
<th>$229.95 (vinyl); $289.95 (walnut)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>15 ½H x 17 ½W x 17 ½D</td>
</tr>
<tr>
<td>Weight</td>
<td>36 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Infinite baffle</td>
</tr>
<tr>
<td>Drivers</td>
<td>15&quot; long-throw woofer</td>
</tr>
<tr>
<td>Response</td>
<td>22 Hz to 150 Hz, ±3 dB re 86 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>150 Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>20 watts (13 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>120 watts (20.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Two-way passive crossover built in, terminals for input from amp and output to satellite, a phasing switch provided to increase installation flexibility, compact, end-table styled</td>
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ADS

Analog & Digital Systems, Inc.

One Progress Way

Wilmington, Mass. 01887

L-630

<table>
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<th>Price</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>25H x 14 13/16W x 11½D</td>
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<tr>
<td>Weight</td>
<td>42 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>1&quot; soft-dome tweeter, 1½ soft-dome midrange, 10&quot; woofer</td>
</tr>
<tr>
<td>Response</td>
<td>22 Hz to 22 kHz, ±5 dB re 91 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>650 Hz, 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms nominal, 6 ohms minimum</td>
</tr>
<tr>
<td>Min. power</td>
<td>20 watts (13 dBW)</td>
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ADS 810

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<th>Price</th>
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<tr>
<td>Dimensions</td>
<td>25⅛H x 14⅝W x 11¾D</td>
</tr>
<tr>
<td>Weight</td>
<td>46 lbs 8 ozs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 8&quot; woofers, 2&quot; soft-dome midrange, 4½&quot; soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 23 kHz, ±3 dB, 20 Hz to 30 kHz, ±5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>550 Hz, 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>6 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>20 watts (13 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Optional speaker stand; drives flush-mounted for minimum diffraction</td>
</tr>
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ADS 2002

<table>
<thead>
<tr>
<th>Price</th>
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<tr>
<td>Dimensions</td>
<td>6¼H x 4¾W x 5¼D</td>
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<tr>
<td>Weight</td>
<td>4 lbs 8 ozs</td>
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<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>4&quot; woofer, 1½ soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>85 Hz to 17 kHz, ±3 dB, 55 Hz to 20 kHz, ±5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>2.5 kHz (electronic)</td>
</tr>
<tr>
<td>Impedance</td>
<td>47½ ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW) continuous for woofer, 5 watts (7 dBW) continuous for tweeter</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter level</td>
</tr>
<tr>
<td>Features</td>
<td>Biamplified miniaturized speaker for 12V operation (car) or home use with optional power supply (2002PS)</td>
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300C

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<th>Price</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>8½H x 5¾W x 5¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>7 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>5⅛&quot; woofer, 1&quot; soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 23 kHz, ±5 dB re 90 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>2.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>5 watts (7 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>75 watts (18.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Solid-aluminum miniature speakers with swivel brackets for car installation</td>
</tr>
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200C

<table>
<thead>
<tr>
<th>Price</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>6⅛H x 4½W x 4½D</td>
</tr>
<tr>
<td>Weight</td>
<td>4 lbs 8 ozs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>4½&quot; woofer, 1&quot; soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>85 Hz to 20 kHz, ±3 dB, 55 Hz to 22 kHz, ±5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>2.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>5 watts (7 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Solid-aluminum miniature speakers with swivel brackets for car installation, optional flush-mount kit (FMK)</td>
</tr>
</tbody>
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420

<table>
<thead>
<tr>
<th>Price</th>
<th>$115</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>20⅛H x 11¼W x 8½D</td>
</tr>
<tr>
<td>Weight</td>
<td>24 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>7&quot; woofer, 1½ soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 22 kHz, ±5 dB re 91 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>1.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>75 watts (17.85 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Fused tweeter; drivers flush-mounted</td>
</tr>
</tbody>
</table>

Models also available

620, 800; ADS 910, 720; ADS 2001, $599/pr.; ADS 710, $285; 300, $145; ADS 200, $113

ADVENT

Advent Corp.

195 Albany St.

Cambridge, Mass. 02139

Powered Advent

<table>
<thead>
<tr>
<th>Price</th>
<th>$499</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>29½H x 14½W x 13D</td>
</tr>
<tr>
<td>Weight</td>
<td>70 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Biamplified acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer; 1½&quot; dome tweeter</td>
</tr>
<tr>
<td>Crossover</td>
<td>1.5 kHz</td>
</tr>
<tr>
<td>Controls</td>
<td>Input sensitivity: bass boost (below 100 Hz), treble boost and cut (above 3 kHz)</td>
</tr>
<tr>
<td>Features</td>
<td>Integral amplifier with infrasonic filter</td>
</tr>
</tbody>
</table>

New Advent

<table>
<thead>
<tr>
<th>Price</th>
<th>$179 (wood cabinet), $155 (vinyl-clad utility cabinet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>25½H x 14⅝W x 11½D</td>
</tr>
<tr>
<td>Weight</td>
<td>44 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer, 1½&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 15 kHz, ±3 dB re 89 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>1.5 kHz</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dBW) continuous</td>
</tr>
<tr>
<td>Max. power</td>
<td>Available upon request</td>
</tr>
<tr>
<td>Controls</td>
<td>3-way high-frequency balance switch</td>
</tr>
</tbody>
</table>

Advent/4 System

<table>
<thead>
<tr>
<th>Price</th>
<th>$178 to $188/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>18½H x 11W x 8D</td>
</tr>
<tr>
<td>Weight</td>
<td>17 lbs 9 ozs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>6&quot; woofer, 1½&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>55 Hz to 25 kHz, ±3.5 dB re 89 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>28 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>60 watts (19 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Symmetrical offset tweeters; packaged in pairs</td>
</tr>
</tbody>
</table>

Advent/2

<table>
<thead>
<tr>
<th>Price</th>
<th>$89</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>19½H x 11½W x 7½D</td>
</tr>
<tr>
<td>Weight</td>
<td>18 lbs 4 ozs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>5½&quot; woofer, two 1½&quot; cone tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 15 kHz, ±5 dB re 88 dB</td>
</tr>
<tr>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>1.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>Available upon request</td>
</tr>
</tbody>
</table>
Models also available
Advent/1, $120, (wood cabinet, $135); Advent/3, $65, 400, $35

AKAI
Akai America, Ltd.
2139 E. Del Amo Blvd.
P.O. Box 6010
Compton, Calif. 90224

SW-177 II
Price $395
Dimensions 27 1/4" H x 17 3/4" W x 12 1/4" D
Weight 46 lbs.
Type Dynamic
Drivers 15" woofer, 5 1/4" midrange; two 1 1/4" tweeters
Response 25 Hz to 20 kHz, ±3 dB
Crossover 700 Hz, 5 kHz
Impedance 8 ohms
Min. power 40 watts (16 dBW)
Max. power 100 watts (20 dBW)
Controls Midrange, tweeter

SW-137 II
Price $200
Dimensions 23 1/4" H x 13 1/2" W x 11 1/4" D
Weight 26 lbs.
Type Dynamic
Drivers 10" woofer, 5" midrange, 1 1/4" tweeter
Response 40 Hz to 20 kHz, ±3 dB
Crossover 1 2 kHz, 5 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 40 watts (16 dBW)
Controls Midrange

SW-7
Price $160/pr.
Dimensions 84 1/4" H x 51 1/2" W x 5 1/2" D
Weight 11 lbs/pr.
Drivers 5" woofer, 2" horn tweeter
Response 55 Hz to 22 kHz
Crossover 10 kHz
Impedance 4 ohms
Max. power 40 watts (16 dBW)
Models also available
SW-157 II, $295; SW-127, $125; S-82, $90/pr.

RICHARD ALLAN
RCS Audio International, Inc.
1314 34th St., N.W.
Washington, D.C. 20007

Monitor 80

Price $375
Dimensions 26H x 12W x 11 1/4 D
Weight 31 lbs
Type Acoustic suspension
Drivers 10" Richard Allan woofer, 5" Richard Allan midrange, 1" Richard Allan dome tweeter
Response 40 Hz to 20 kHz, ±3 dB
Crossover 1 kHz, 6 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 80 watts (19 dBW)
Features Walnut-veneer cabinet

Models also available
RA-8, $150

ALLISON
Allison Acoustics, Inc.
7 Tech Circle
Natick, Mass. 01760

Allison: One

Price $420
Dimensions 40H x 19W x 10 1/4 D
Weight 67 lbs.
Type Dynamic, acoustic suspension
Drivers Two 10" woofers, two 3 1/2" midrange units, two 1" tweeters
Response Complete specifications available on request
Crossover 350 Hz, 3.75 kHz
Impedance 8 ohms
Min. power 30 watts (14.75 dBW) per channel for 100 dB SPL
Max. power Depends on program material; 400 watts (26 dBW/channel) may be used with music input
Controls Combined mid/high-frequency balance switch
Features Stabilized Radiation Loading™ enclosure design; convex diaphragm mid and tweeter units; full warranty for five years (*covered by U.S. and foreign patents)

Models also available
Allison: Two, $350; Allison: Three, $290; Allison: Five, $160

ALTEC LANSING
Altec Corp.
1515 S. Manchester Ave.
Anaheim, Calif. 92803

The Electronic Subwoofer®

Price $290
Dimensions 24 H x 14 W x 4 1/4 D
Features Three low-frequency boost curves with crossover (≥3 dB) points at 35.5 Hz, 41 Hz, and 48 Hz; infrasonic and ultrasonic filters slope at 18 dB/octave below 20 Hz and above 20 kHz; A-weighted S/N is better than 100 dB

Allison: Four

Price $195
Dimensions 11 1/4 H x 19 1/4 W x 10 D
Weight 23 lbs., 8 oz.

Features

Type Dynamic, acoustic suspension
Drivers 8" woofer, two 1" tweeters
Response Complete specifications available on request
Crossover 2 kHz
Impedance 8 ohms
Min. power 30 watts (14.75 dBW) per channel for 100 dB SPL
Max. power Depends on program material; 200 watts (23 dBW/channel) may be used with music input
Controls Combined mid-high-frequency balance switch
Features Stabilized Radiation Loading™ enclosure design; convex diaphragm tweeter; full warranty for five years (*covered by U.S. and foreign patents)

Models also available
Allison: Six

Price $125
Dimensions 11 1/4 H x 11 1/4 W x 11 1/4 D
Weight 17 lbs.
Type Dynamic, acoustic suspension
Drivers 8" woofer, 1" tweeter
Response Complete specifications available on request
Crossover 2 kHz
Impedance 4 ohms
Min. power 15 watts (11.75 dBW) per channel for 97 dB SPL
Max. power 150 watts (21.75 dBW)
Controls High-frequency balance switch
Features Stabilized Radiation Loading™ enclosure design; convex diaphragm tweeter; full warranty for five years (*covered by U.S. and foreign patents)

Nineteen

Price $899.95
Dimensions 39 1/4 H x 30 W x 21 D
Weight 143 lbs.
Type Bass reflex, vented
Drivers 15" bass; compression driver mounted to sectoral horn with the new Tangerine® Radial phase plug
Response 30 Hz to 20 kHz
Crossover 1.2 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 65 watts (18 dBW)
Controls: High/mid-frequency attenuator
Features: Hand-rubbed oiled walnut or oak

**LF-2 Universal Subwoofer**

<table>
<thead>
<tr>
<th>Price</th>
<th>$860 (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drivers</td>
<td>12&quot; bass driver</td>
</tr>
<tr>
<td>Crossover</td>
<td>40 Hz; 60 Hz; 80 Hz</td>
</tr>
<tr>
<td>Features</td>
<td>Electronic crossover; high-power amplifier; new power control system; red light warns when power input is too high; power is automatically reduced</td>
</tr>
</tbody>
</table>

| Dimensions | 30H x 21W x 161/2D |
| Weight | 77 lbs |

| Type | Bass reflex; vented |
| Drivers | 12" bass driver with radial phase plug, compression driver mounted to Manotaray constant-directivity horn |
| Response | 35 Hz to 20 kHz |
| Crossover | 1.5 kHz |
| Impedance | 8 ohms |
| Min. power | 10W (10 dBW) |
| Max. power | 75W (19 dBW) |
| Controls | High/medium-frequency attenuator |
| Features | Hand-rubbed oiled walnut, acoustically transparent black knit grille; automatic power control to 200 watts (25 dBW) |

**Nine Series II**

<table>
<thead>
<tr>
<th>Price</th>
<th>$379.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>26 ¼H x 17 ¼W x 15D</td>
</tr>
<tr>
<td>Weight</td>
<td>55 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex; vented</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; bass, 5&quot; cone tweeter; 6½&quot; mid-frequency</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz re 93 db SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz; 7 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>12W (10.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>80W (17.75 dBW) continuous</td>
</tr>
<tr>
<td>Controls</td>
<td>High/mid-frequency attenuator</td>
</tr>
<tr>
<td>Features</td>
<td>Hand-rubbed oiled oak</td>
</tr>
</tbody>
</table>

**Santana II**

<table>
<thead>
<tr>
<th>Price</th>
<th>$329.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>19W x 25 ¾H x 16D</td>
</tr>
<tr>
<td>Weight</td>
<td>57 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex; vented</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; bass, 5½ frame cone tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>2 ½ kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>12W (10.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>45W (16.5 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>High-frequency attenuator</td>
</tr>
<tr>
<td>Features</td>
<td>Hand-rubbed oiled walnut with composition slate top</td>
</tr>
</tbody>
</table>

**One Series II**

<table>
<thead>
<tr>
<th>Price</th>
<th>$129.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>21 ½H x 12W x 11D</td>
</tr>
<tr>
<td>Weight</td>
<td>26 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension; sealed</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; bass, 4&quot; cone tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>50 Hz to 20 kHz, re 89 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>3 ½ kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10W (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>30W (14.75 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>High-frequency attenuator</td>
</tr>
<tr>
<td>Features</td>
<td>Hand-rubbed oiled walnut</td>
</tr>
</tbody>
</table>

**AMERICAN ACOUSTICS LAB**

**AAL Speaker Systems**

**629 W. Cermak Road**

**Chicago, Ill. 60616**

**APOLLO SERIES**

**Apollo 8853**

<table>
<thead>
<tr>
<th>Price</th>
<th>$169</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>37H x 13W x 11D</td>
</tr>
<tr>
<td>Weight</td>
<td>39 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Ported</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 8&quot; foam surround woofers; 2&quot; cone phenolic ring</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 22 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>1 kHz; 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>16 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>5 watts (7 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>55 watts (17.5 dBW)</td>
</tr>
</tbody>
</table>

**Apollo 2712**

<table>
<thead>
<tr>
<th>Price</th>
<th>$139</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>27H x 16W x 11D</td>
</tr>
<tr>
<td>Weight</td>
<td>36 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Vented</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; foam surround woofer; 5½&quot; cone midrange; 2&quot; cone phenolic ring tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 22 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>1 kHz; 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>5 watts (7 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>40 watts (15 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Acoustical-Load Porting System</td>
</tr>
</tbody>
</table>

**CLASSIC SERIES**

**Classic 120**

<table>
<thead>
<tr>
<th>Price</th>
<th>$269</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>35H x 14W x 11D</td>
</tr>
<tr>
<td>Weight</td>
<td>58 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 10&quot; foam surround woofers; 5½&quot; cone midrange; 3½&quot; cone tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>1 kHz; 7 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>16 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10W (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>20W (15 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Front-mounted midrange and tweeter controls for infinite tonal balance</td>
</tr>
<tr>
<td>Features</td>
<td>Walnut veneer cabinet; see-through grilles; white cones with molded frames</td>
</tr>
</tbody>
</table>

**Classic 110**

<table>
<thead>
<tr>
<th>Price</th>
<th>$239</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>23H x 14W x 11D</td>
</tr>
<tr>
<td>Weight</td>
<td>34 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; foam surround woofer; 5½&quot; cone midrange; 3½&quot; cone tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>1 kHz; 7 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10W (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>55W (17.5 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Front-mounted midrange and tweeter controls for infinite tonal balance</td>
</tr>
<tr>
<td>Features</td>
<td>Walnut veneer cabinet; see-through grilles; white cones with molded frames</td>
</tr>
</tbody>
</table>

**DISCO SERIES**

**Super Jock**

| Price | $625 |

**PRO SERIES**

**PRO RH-9040**

<table>
<thead>
<tr>
<th>Price</th>
<th>$900</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>41H x 19W x 9 ¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>83 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Direct radiating</td>
</tr>
<tr>
<td>Response</td>
<td>400 Hz to 10 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Max. power</td>
<td>100W (20 dBW)</td>
</tr>
</tbody>
</table>

**PRO W-212**

<table>
<thead>
<tr>
<th>Price</th>
<th>$640</th>
</tr>
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<tbody>
<tr>
<td>Dimensions</td>
<td>28H x 48W x 20D</td>
</tr>
<tr>
<td>Weight</td>
<td>140 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Horn loaded</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 12&quot; accordion surround woofers</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Max. power</td>
<td>200W (23 dBW)</td>
</tr>
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</table>

**PRO MT-70**

<table>
<thead>
<tr>
<th>Price</th>
<th>$450</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>11¼H x 30W x 11¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>45 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Direct radiating</td>
</tr>
<tr>
<td>Response</td>
<td>1 kHz to 25 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Max. power</td>
<td>60W (17.75 dBW)</td>
</tr>
</tbody>
</table>

**Pro MA-14**

<table>
<thead>
<tr>
<th>Price</th>
<th>$325</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>11¼H x 30W x 11¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>38 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Direct radiating</td>
</tr>
<tr>
<td>Drivers</td>
<td>Fourteen 3½&quot; solid-state tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>7 kHz to 25 kHz</td>
</tr>
<tr>
<td>Max. power</td>
<td>250W (24 dBW)</td>
</tr>
</tbody>
</table>

**Pro MS-12**

<table>
<thead>
<tr>
<th>Price</th>
<th>$210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>23H x 16W x 16D</td>
</tr>
<tr>
<td>Weight</td>
<td>35 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Direct radiating</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; accordion surround woofer; 3½&quot; solid-state piezoelectric tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>100 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25W (14 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100W (20 dBW)</td>
</tr>
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</table>

**STUDIO SERIES**

**Studio 400**

<table>
<thead>
<tr>
<th>Price</th>
<th>$269</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>35H x 14 ½W x 11 ½D</td>
</tr>
<tr>
<td>Weight</td>
<td>48 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 10&quot; foam surround woofers; 5¼&quot; cone midrange; 3&quot; solid-state piezoelectric superspeaker</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 25 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>1 kHz; 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
</tbody>
</table>

High Fidelity's Buying Guide to Speaker Systems
<table>
<thead>
<tr>
<th>Model</th>
<th>Power Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR-14</td>
<td>$180</td>
<td>25H x 14W x 10¾D, 35 lbs. Type: Acoustic suspension, 3-position switch.</td>
</tr>
<tr>
<td>AR-90</td>
<td>$550</td>
<td>43½H x 14½W x 15 13/16D, 42 lbs. Type: Acoustic suspension, 3-position switch.</td>
</tr>
<tr>
<td>ARMSTRONG</td>
<td>$602</td>
<td>24H x 10W x 12D, 25 lbs. Type: Resonant-loaded, 3-position switch.</td>
</tr>
<tr>
<td>SW-B Monolith TL Subwoofer</td>
<td>$1,100</td>
<td>58H x 25W x 200, 250 lbs. Type: Transmission line</td>
</tr>
<tr>
<td>Studio 200</td>
<td>$169</td>
<td>75 watts (18.75 dB), Controls: Front-mounted midrange and tweeter</td>
</tr>
<tr>
<td>Studio 100</td>
<td>$139</td>
<td>22½H x 12½W x 9D, Weight: 23 lbs. Type: Acoustic suspension, 8-band crossover.</td>
</tr>
<tr>
<td>AR-91</td>
<td>$400</td>
<td>31½H x 14W x 11 7/16D, Weight: 53 lbs. Type: Acoustic suspension, 4-band crossover.</td>
</tr>
<tr>
<td>A-10W</td>
<td>$265</td>
<td>28H x 14W x 15D, Weight: 60 lbs. Type: Vented, 10 ½&quot; woofer, 1½&quot; midrange tweeter.</td>
</tr>
<tr>
<td>A-10U</td>
<td>$225</td>
<td>28H x 14W x 15D, Weight: 60 lbs. Type: Vented, 10 ½&quot; woofer, 1½&quot; midrange tweeter.</td>
</tr>
<tr>
<td>AR-15</td>
<td>$300</td>
<td>15 watts (11.75 dB), SPL in average 1,500 cu.-ft. room, 3-position tweeter.</td>
</tr>
<tr>
<td>Models also available</td>
<td></td>
<td>AR-25, $220/pr.; AR-18, $78 ea (sold only in pairs); AR-9, $750; AR-92, $300.</td>
</tr>
<tr>
<td>Models also available</td>
<td></td>
<td>AR-25, $220/pr.; AR-18, $78 ea (sold only in pairs); AR-9, $750; AR-92, $300.</td>
</tr>
<tr>
<td>Models also available</td>
<td></td>
<td>ARMSTRONG Armstrong Audio (U.S.A.) Inc. Sindell Organization 11046 Santa Monica Blvd. Los Angeles, Calif. 90025</td>
</tr>
</tbody>
</table>
Min. power | 0.5 watt (-3 dBW)  
Max. power | 100 watts (20 dBW)  
Controls | Attenuation  
Features | Wide-area dispersion of high frequencies; designed to supplement or replace tweeter in existing speaker systems; cannot be added to speaker systems in minutes; no soldering or special tools needed; burned in solid-walnut cabinet

**AUDIO LAB CONSORT**  
Untronex Corp.  
1171 Landmeier Road  
Elk Grove Village, Ill. 60007

**AL-60**  
Price | $359  
Dimensions | 26 4/5H x 17 3/10W x 12 3/5D  
Weight | 61 lbs 11 oz  
Type | Acoustic suspension  
Drivers | 12" cone woofer, 7" cone midrange, 1" wide dispersion horn tweeter  
Response | 32 Hz to 20 kHz  
Crossover | 300 Hz, 7 kHz  
Impedance | 8 ohms  
Min. power | 10 watts (10 dBW)  
Max. power | 140 watts (21.5 dBW)  
Controls | Treble, midrange (3-position switch for normal or +3 or -3 dB)  
Features | Same as Model AL-40

**AL-20**  
Price | $129  
Dimensions | 21 3/10H x 11 3/5W x 9 1/10D  
Weight | 21 lbs  
Type | Acoustic suspension  
Drivers | 8" woofer, 1" wide-dispersion neodymium tweeter  
Response | 60 Hz to 20 kHz  
Impedance | 8 ohms (nominal)  
Min. power | 10 watts (10 dBW)  
Max. power | 50 watts (17 dBW)  
Controls | Treble (3-position switch for normal or +3 or -3 dB)  
Features | Same model as AL-40

**Models also available**  
AL-40, $250; AL-30, $159

**AUDIO PRO**  
Intersearch, Inc.  
4720-Q Boston Way  
Lanham, Md. 20801

**A4-14**  
Price | $1,600/pr  
Dimensions | 20 1/4H x 12 1/4W x 10 1/2D  
Weight | 35 lbs  
Type | Biamped, with built-in subwoofer  
Drivers | Two 5" bass drivers, 4 1/2" midrange, 1" dome tweeter  
Response | 30 Hz to 20 kHz, ±3 dB re 96 dB SPL at 1 meter at 1 watt  
Crossover | 300 Hz, 2.5 kHz  
Impedance | 10K ohms  
Min. power | 1 µ (-60 dBW)  
Max. power | 200 watts (23 dBW)  
Controls | Volume, bass, bass blend, treble  
Features | Automatic on/off

**B2-50**  
Price | $795  
Dimensions | 21" x 18 3/16W x 17 7/16D  
Weight | 64 lbs  
Type | Subwoofer with built-in amplifier and variable crossover filters  
Drivers | Two 6 1/2"

**Audio PULSE**  
Audio Pulse Electronics, Inc.  
4323 North Arden Drive  
El Monte, Calif. 91731

**AP-52**  
Price | $350/pr  
Dimensions | 19 1/2H x 11W x 7D  
Weight | 15 lbs  
Type | Two-way ducted port  
Drivers | 6" woofer/midrange, 1" dome tweeter  
Response | 80 Hz to 20 kHz  
Impedance | 8 ohms  
Min. power | 10 watts (10 dBW)  
Max. power | 25 watts (14 dBW)  
Features | Tilted components

**Models also available**  
AP-102, $350/pr

**AUDIOANALYST**  
Audioanalyst, Inc.  
South Main Street  
P.O. Box 33  
Terryville, Conn. 06786

**Phase Matrix M-12**  
Price | $600  
Dimensions | 40 1/2H x 13 1/2W x 16 1/2D  
Weight | 115 lbs  
Type | Acoustic suspension  
Drivers | Two 10" woofers, three 4 1/2" midrange drivers, three 1" soft-dome tweeters; two 4" phase-match ultra-high-frequency drivers  
Response | 24 Hz to 25 kHz, ±3 dB re 91 dB SPL at 1 meter at 1 watt  
Crossover | 200 Hz, 2 kHz, 15 kHz  
Impedance | 4 ohms  
Min. power | 15 watts (11.75 dBW)  
Max. power | 200 watts (23 dBW)  
Features | Midrange, tweeter

**Phase Matrix M-2**  
Price | $149  
Dimensions | 9 9/16H x 6W x 7D  
Weight | 8 lbs  
Type | Acoustic suspension  
Drivers | Five 5" woofers, 1" soft-dome tweeter  
Response | 46 Hz to 20 kHz, ±4 dB re 89 dB at 1 meter at 1 watt  
Crossover | 2 kHz  
Impedance | 4 ohms  
Min. power | 10 watts (10 dBW)  
Max. power | 50 watts (17 dBW)  
Features | Fused; adaptable for mobile use

**Models also available**  
A-400XL, $359.95; A-200XL, $329.95; M-2, $299. Phase Matrix M-5, $189; M-4V-II, $139; A-76XL, $177.95

**AUDIORACKETING**  
Audiodiabetic, Ltd.  
652 Glenbrook Road  
Stamford, Conn. 06906

**Super Red Studio Monitor**  
Price | $1,115  
Dimensions | 47H x 30W x 17D  
Weight | 170 lbs  
Type | Infinite baffle  
Drivers | 15" woofer with coaxial horn tweeter, 15" subwoofer  
Response | 40 Hz to 17 kHz, ±2 dB re 101 dB SPL at 1 meter at 1 watt  
Crossover | 100 Hz, 3 kHz  
Impedance | 16 ohms
Min. power 5 watts (7 dBW)
Max. power 160 watts (22 dBW)
Controls 2 kHz shelving; 8 kHz shelving
Features Mastering-lab frequency-dividing network

**Little Red Studio Monitor**
Price $220
Dimensions 24H x 16W x 12D
Weight 45 lbs.
Type Acoustic suspension
Drivers 12" woofer; 1½" dome/cone tweeter
Response 40 Hz to 18 kHz, ±2 dB re 92 dB SPL at 1 meter at 1 watt
Crossover 2 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 50 watts (17 dBW)
Features Frequency-dividing network

*Models also available*
Big Red Studio Monitor, $816

**AUDIONICS**
Audionics, Inc.
10950 S.W. 5th Ave.
Beaverton, Ore. 97005

**LO-2 Foundation Bass**
Price $600
Dimensions 25H x 18W x 31D
Weight 110 lbs.
Type Vented
Drivers Two 10" push-pull
Response 32 Hz to 400 Hz, ±3 dB re 89 dB SPL at 1 meter at 1 watt
Crossover 125 Hz
Impedance 7 ohms
Min. power 70 watts (8.5 dBW)
Max. power 400 watts (26 dBW)
Controls Crossover bypass
Features Push-pull woofers cancel dynamic IM and harmonic distortion; interchangeable vents for Bessel, GB 3, and B6 alignments (B6: 15-18 Hz)

**LO-2 Vanishing Point**
Price $350
Dimensions 14H x 9W x 9D
Weight 25 lbs
Type Acoustic suspension
Drivers 6½" polymer-saturated cone; 1" damped dome
Response 75 Hz to 20 kHz, ±1.5 dB re 86 dB SPL at 1 meter at 1 watt
Crossover 3 kHz
Impedance 7 ohms

1980 Edition

**AUDIOTEX**
GC Electronics
400 South Wyman St.
Rockford, Ill. 61101

**94-1400**
Price $100
Dimensions 24H x 15W x 9½D
Weight 25 lbs.
Type Acoustic suspension
Drivers 12" woofer; 4½" tweeter; ½" mid-range
Response 35 Hz to 20 kHz
Crossover 2.5 kHz; 5 kHz
Impedance 8 ohms
Min. power 8 watts (9 dBW)
Max. power 45 watts (16.5 dBW)
Features Aluminum voice coil; multi-roll foam surround

**94-1200**
Price $60
Dimensions 17½H x 11½W x 7D
Weight 14 lbs.
Type Acoustic suspension
Drivers 8" woofer; 1½" tweeter
Response 45 Hz to 20 kHz
Crossover 5 kHz
Impedance 8 ohms
Min. power 2 watts (3 dBW)
Max. power 25 watts (14 dBW)
Features Aluminum voice coil; multi-roll foam surround

*Models also available*
94-1350, $90; 94-1300, $70

**AVIS**
Avid Corp.
10 Tripps Lane
East Providence, R.I. 02914

**330**
Price $400
Dimensions 30¾H x 17W x 10½D
Weight 66 lbs.

**BANG & OLUFSEN**
Bang & Olufsen
515 Busse Road
Elk Grove Village, Ill. 60007

**Beovox Phase-Link M100-2**
Price $1400/pair (including stands)
Dimensions 29½H x 15¼W x 12D
Weight 60 lbs. 8 oz.
Type Vented
Drivers: 12" bass; 4" phase-link filler driver; 
2½" dome midrange; 1½" dome 
tweeter; ¾" dome super tweeter
Response: 35 Hz to 22 kHz; ±4 dB
Crossover: 500 Hz; 2.5 kHz; 8 kHz
Impedance: 4 ohms
Min. power: 20 watts (13 dBW)
Max. power: 100 watts (20 dBW) continuous
Controls: Tilt angle and height
Features: Electronic protection circuit; linear 
phase response; rosewood veneer finish

Beovox Phase-Link S-75
Price: $570/pr.
Dimensions: 23½H x 21½W x 9½D
Weight: 24 lbs. 3 oz.
Type: Pressure chamber
Drivers: 10" woofer; 5" phase-link filler; 2" 
dome midrange; 1" dome tweeter
Response: 42 Hz to 20 kHz; ±4 dB
Crossover: 700 Hz; 4 kHz
Impedance: 4 ohms
Min. power: 20 watts (13 dBW)
Max. power: 75 watts (18.75 dBW) continuous
Features: Optional floor stands and wall 
mount brackets; linear phase response; rosewood 
finishing standard, oak, teak, or white optional

Beovox C-75
Price: $395/pr.
Dimensions: 12 3/16H x 4 3/16W x 7 13/16D
Weight: 11 lbs.
Type: Log line loading
Drivers: Two 4" woofers; 1" dome tweeter
Response: 75 Hz to 20 kHz; ±4 dB
Crossover: 2.5 kHz
Impedance: 6 ohms
Min. power: 10 watts (10 dBW)
Max. power: 70 watts (16.5 dBW)
Features: Log line loading to minimize envi 
ronmentally caused acoustic problems from small 
rooms; linear phase response; black or brushed 
aluminum finish

Phase-Link P-30
Price: $330/pr.
Dimensions: 21½H x 11¼W x 4½D
Weight: 11 lbs.
Type: Pressure chamber
Drivers: 6½" bass; 1" dome tweeter
Response: 58 Hz to 20 kHz; ±4 dB
Crossover: 3 kHz
Impedance: 4 ohms
Min. power: 10 watts (10 dBW)
Max. power: 30 watts (14.75 dBW) continuous
Features: Wall-mounting panel speaker; line 
ear phase response; rosewood finish standard, 
white or oak optional

Beovox Phase-Link S-40
Price: $200/pr.
Dimensions: 18¼H x 10½W x 7¼D
Weight: 13 lbs. 3 oz.
Type: Pressure chamber
Drivers: 8" woofer; 1" dome tweeter
Response: 49 Hz to 20 kHz; ±4 dB
Crossover: 3 kHz
Impedance: 4 ohms
Min. power: 10 watts (10 dBW)
Max. power: 40 watts (16 dBW) continuous
Features: Bookshelf or wall mount; linear 
phase response; rosewood veneer finish

Models also available
Beovox Phase-Link M-75, $380/pr. (including stands); Phase-Link P-

BELLES RESEARCH
Belles Research Corp.
A-1 Country Club Rd. 
P.O. Box 65 
East Rochester, N.Y. 14445

Belles 1
Price: $445
Dimensions: 33½H x 15W x 17½D
Weight: 69 lbs.
Type: Free Field System
Drivers: 8" cone woofer; 10" cone passive 
radiator; dome tweeter
Response: 30 Hz to 20 kHz
Crossover: 2.7 kHz (18 dB/octave)
Impedance: 8 ohms
Min. power: 50 watts (16 dBW)
Max. power: 200 watts (23 dBW)
Controls: L-pad for high-frequency attenua 
tion
Features: Channeled-edge baffled board for 
low diffraction; free-field suspended tweeter, rear 
mounted passive radiator; binding post input termi 
als; system protection fuse walnut stand included

B.E.S. GEOSTATIC
Bertagni Electroacoustic Systems, Inc.
345 Fischer St.
Costa Mesa, Calif. 92626

D-190W
Price: $649
Dimensions: 40¼H x 26W x 3¼D
Weight: 60 lbs.
Type: Two low-mass, polymer dia 
phragms activated by drivers con 
taining acoustic horns
Drivers: Five (two ferrous oil)
Response: 35 Hz to 20 kHz
Crossover: 1 kHz; 4 kHz; 10 kHz
Impedance: 3 ohms
Min. power: 30 watts (14.75 DBW)
Max. power: 250 watts (24 dBW)
Controls: Mid- and high-frequency
Features: Radiating surface of 1,700 sq 
in. dual modules trimmed in aluminum and wood 
housing

SM-270
Price: $339
Dimensions: 27 11/64H x 21 11/64 x 6D
Weight: 61 lbs.
Type: Single pulsating plane diaphragm 
Drivers: Two permanent magnet/voice coil 
driver, piezoelectric tweeter
Response: 32 Hz to 22 kHz at 91 dB SPL at 1 meter 
in 1 watt
Crossover: 800 Hz; 10 kHz
Impedance: 4 ohms
Min. power: 10 watts (10 dBW)
Max. power: 200 watts (23 dBW)
Controls: Midrange; tweeter 
Features: 360 degree omnipolar dispersion; 850-sq. in. radiating surface; resistible circuit pro 
tector

SM-260
Price: $249
Dimensions: 26 7/32H x 20 7/32W x 5D
Weight: 35 lbs.
Type: Single pulsating plane diaphragm 
Drivers: Two permanent magnet/voice coil 
drivers; piezoelectric tweeter
Response: 38 Hz to 22 kHz at 88 dB SPL at 1 meter 
in 1 watt
Crossover: 800 Hz; 10 kHz

Impedance: 8 ohms
Min. power: 5 watts (7 dBW)
Max. power: 150 watts (21.75 dBW)
Controls: Midrange; tweeter
Features: 360-degree omnipolar dispersion; 850-sq. in. radiating surface; resistible circuit pro 
tector

Models also available
D-280W, $997; D-120W, $599; SM-250, $169

BEVERIDGE ELECTROSTATIC
SPEAKER SYSTEMS
Harold Beveridge, Inc.
505 E. Montecito St. 
Santa Barbara, Calif. 93103

System 2SW-2
Price: $7,000/pr. (including direct-drive tubes for electrostatics, 
electronic crossovers, and solid 
state amplifiers for subwoofers)
Dimensions: 78H x 24W x 16D (electrostatic loudspeakers); 26H x 16½W x 22D 
(subwoofers)
Weight: 360 lbs.
Type: Electrostatic and dynamic subwoofer
Drivers: Electrostatic above 100 Hz; dyna 
mic below 100 Hz
Response: 20 Hz to 20 kHz; ±3 dB
Crossover: 100 Hz
Controls: Beveridge control module; spectrum 
trip slope; bass environmental and lateral controls
Features: Cylindrical sound emission from a 
single line source, 100 Hz to 18 kHz; subwoofers, 
one with each electrostatic loudspeaker, operating 
below 100 Hz

Models also available
System 3, $3,500

B.I.C.
B.I.C./Avnet
South Service Road
Westbury, N.Y. 11590

TPR-600
Price: $369.95
Dimensions: 41½H x 15¼W x 15¼D
Weight: 67 lbs.
Type: Venturi loaded 
Drivers: 12" subwoofer; 1½" compression 
midrange; piezoelectric tweeter
Response: 93 dB SPL at 1 meter at 1 watt 
Impedance: 6 to 8 ohms
Min. power: 3 watts (4.75 dBW)
Max. power: 150 watts (21 dBW)
Features: Total Power Radiation; non-critical speaker placement; finished on all four sides; see 
through black grille supplied

B65
Price: $268
Dimensions: 26¼H x 15¼W x 13¼D
Weight: 53 lbs. 8 oz.
Type: Venturi loaded 
Drivers: 12" woofer; 5½" cone midrange; two 
1½" cone tweeters
Response: 93 dB SPL at 1 meter at 1 watt 
Crossover: 400 Hz; 10 kHz 
Impedance: 6 ohms
Min. power: 3 watts (4.75 dBW)
Max. power: 100 watts (20 dBW)
Controls: Tonal balance

A Note on Prices
Prices shown in these pages are manufactur 
ers' or importers' nation 
ally advertised values, updated as is feasible by press time
### Features
Each driver individually fused; non-reflective, totally sound-transparent grille; furniture-grade walnut finish.

### TPR-200
- **Price**: $219.95
- **Dimensions**: 32/4" H x 11/4 W x 11/4 D
- **Weight**: 37 lbs
- **Type**: Venturi loaded
- **Drivers**: 8" woofer, 1½" compression midrange; piezoelectric tweeter
- **Response**: 90 dB SPL at 1 meter at 1 watt
- **Impedance**: 8 ohms
- **Min. power**: 5 watts (7 dBW)
- **Max. power**: 75 watts (18.75 dBW)
- **Features**: Total Power Radiation, non-critical speaker placement, angled on all four sides, see-through black grille supplied.

### B11
- **Price**: $85
- **Dimensions**: 18½" H x 11 W x 9 D
- **Weight**: 19 lbs
- **Type**: Venturi loaded
- **Drivers**: 8" woofer, 2" dome tweeter
- **Response**: 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 2 kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 45 watts (16.5 dBW)
- **Features**: Each driver individually fused; non-reflective, totally sound transparent grille; suffo-resistant walnut-grain finish.

### Models also available
TPR-400 $299.95, B44, $179.95, B22, $135

### BLACK BOX
- **Matres Industries
805 Woodman Ave.
Winslow, Ill. 61089**

### MA-BB
- **Price**: $125
- **Dimensions**: 9H x 6W x 5D
- **Weight**: 5 lbs 8 oz
- **Type**: Acoustic suspension
- **Drivers**: 4½” woofer, 2½” piezoelectric tweeter
- **Response**: 50 Hz to 22 kHz
- **Crossover**: 2.5 kHz
- **Impedance**: 4 ohms
- **Min. power**: 2 watts (3 dBW)
- **Max. power**: 50 watts (17 dBW)
- **Features**: Real wood enclosure.

### BML
- **BML Electronics, Inc.
5305 N. Ravenswood Ave.
Chicago, Ill. 60640**

### Sound Odyssey/Tracer 2001
- **Price**: $879
- **Dimensions**: 64½" x 26W x 8D
- **Weight**: 140 lbs
- **Type**: Combination dual-phase coupling/7th order Butterworth
- **Drivers**: 8½” woofer with two 5½” bass radiators, two solid-state tweeters
- **Response**: 35 Hz to 20 kHz, +3 dB re 93 dB SPL at 1 meter at 1 watt
- **Crossover**: 450 Hz, 1.5 kHz, 4.5 kHz
- **Impedance**: 5/4 ohms
- **Min. power**: 40 watts (16 dBW)
- **Max. power**: 350 watts (25.5 dBW)
- **Features**: Planar column design, fuse-protected; 9 terminated transmission line, 7 tuned chambers.

### Model Ten
- **Price**: $120
- **Dimensions**: 22H x 11W x 8D
- **Weight**: 22 lbs
- **Type**: Tuned port
- **Drivers**: 8” woofer, 2½” VHF tweeter
- **Response**: 50 Hz to 20 kHz, +5 dB re 94 dB SPL at 1 meter at 1 watt
- **Crossover**: 3.5 kHz
- **Impedance**: 5 or 6 ohms
- **Min. power**: 5 watts (7 dBW)
- **Max. power**: 100 watts (20 dBW)

### Models also available
- **Sound Window/Tracer 1001**: $349, Model Eleven: $199

### BOSE
- **Bose Corp.
100 The Mountain Road
Framingham, Mass. 01701**

### 901 Series IV
- **Price**: $859/pr. (includes equalizer)
- **Dimensions**: 12¼" H x 21½ W x 13 D
- **Weight**: 45 lbs 8 oz
- **Type**: Acoustic Matrix™
- **Drivers**: 9 full-range drivers with helical voice coils
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: No limitation for non-commercial applications
- **Controls**: Active equalizer for low- and high-frequency compensation controls
- **Features**: Direct/Reflecting™ design, active equalization

### 501
- **Price**: $424/pr
- **Dimensions**: 24H x 14½W x 14¼ D
- **Weight**: 42 lbs
- **Type**: Acoustic suspension
- **Drivers**: Two 3½” cone tweeters, 10” woofer
- **Crossover**: 1 kHz, 3 kHz
- **Impedance**: 4 ohms
- **Min. power**: 15 watts (11.75 dBW) continuous
- **Max. power**: 100 watts (20 dBW) continuous
- **Controls**: Direct energy control adjusts ratio of reflected to direct sound for greater spatial balance
- **Features**: Floor-standing Direct/Reflecting™ Speaker, uses a direct-radiating woofer and two tweeters for near and side sound radiation, utilizes asymmetrical design.

### Interaudio Model 1
- **Price**: $168/pr
- **Dimensions**: 14½ H x 9W x 7D
- **Weight**: 14 lbs 8 oz
- **Type**: Ported
- **Drivers**: 6” woofer, 2” tweeter
- **Crossover**: 22 kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 60 watts (17.75 dBW)
- **Features**: Compact bookshelf designed for flat total power radiation, clarity, and detail.

### Models also available
- **601, $599/pr.**: 301 Bookshelf Speaker, $242/pr.

### A-200
- **Price**: $350
- **Dimensions**: 41½H x 21W x 6¼ D
- **Weight**: 58 lbs
- **Type**: Acoustic suspension
- **Drivers**: Woofer, midrange, tweeter
- **Crossover**: 450 Hz; 3 kHz
- **Impedance**: 8 ohms
- **Min. power**: 16 watts (12 dBW)
- **Max. power**: 150 watts (21.75 dBW)
- **Features**: Designed to operate as part of a room by integrating with the wall and floor with simple and convenient placement; relatively flat impedance curve makes it an easy load to drive

### BOZAK
- **Bozak, Inc.
587 Connecticut Ave.
Norwalk, Conn. 06854**

### CS-310B Concert Grand
- **Price**: Contemporary cabinet, $1,260; classic cabinet (CS-410LC), $1,350; Moonish cabinet (CS-410M), $1,375
- **Dimensions**: 52H x 36W x 19D
- **Weight**: 225 lbs
- **Type**: Infinite baffle
- **Drivers**: Four 12” woofers, two 6½” midrange, eight 2½” tweeters
- **Response**: 28 Hz to 20 kHz
- **Crossover**: 400 Hz, 2.5 kHz
- **Impedance**: 8 ohms (nominal)
- **Min. power**: 60 watts (17.75 dBW)
- **Max. power**: 150 watts (21.25 dBW)
- **Features**: Factory-equipped for conventional or biampl operation

### CS-400A Symphony No. 1
- **Price**: Modern cabinet, $750; classic cabinet, $860, moonish cabinet, $890
- **Dimensions**: 44½H x 26½ W x 15¼ D
- **Weight**: 165 lbs
- **Type**: Infinite baffle
- **Drivers**: Two 12” variable density woofers, 6½” aluminum-cone midrange, eight 2” aluminum-cone tweeters
- **Response**: 35 Hz to 20 kHz
- **Crossover**: 400 Hz, 2.5 kHz
- **Impedance**: 8 ohms
- **Min. power**: 50 watts (17 dBW)
- **Max. power**: 100 watts (20 dBW)
- **Features**: Factory equipped for conventional or biampl operation

### CS-501A Concerto 7
- **Price**: $450
- **Dimensions**: 32H x 19¼ W x 16 D
- **Weight**: 95 lbs
- **Type**: Infinite baffle
- **Drivers**: Two 12” variable density woofer, 6½” aluminum-cone midrange, three 2” aluminum-cone tweeters
- **Response**: 35 Hz to 20 kHz
- **Crossover**: 800 Hz, 2.5 kHz
- **Min. power**: 20 watts (13 dBW)
- **Max. power**: 75 watts (18.75 dBW)
- **Controls**: Tweeter

### B-1002 Bard
- **Price**: $159
- **Dimensions**: 21H x 12W x 18 diameter
- **Weight**: 25 lbs
- **Type**: Infinite baffle
- **Drivers**: 8” aluminum-cone bass/midrange; 2” aluminum-cone tweeter
- **Response**: 50 Hz to 20 kHz
- **Crossover**: 1.8 kHz
- **Impedance**: 8 ohms (nominal)
Min. power 12 watts (10.75 dBW)
Max. power 60 watts (17.75 dBW)
Features Completely weatherproofed; also suitable for indoor use

Models also available

BRAUN
Adcom Co.
11A Jules Lane
New Brunswick, N.J. 08901

**LW-1 Subwoofer**
**Price** $700

**L-1030**
Price $958/pr.
Dimensions 12¼H x 27¼W x 10¼D
Weight 42 lbs. ea
Type Acoustic suspension
Drivers 10' high-compliance, long-throw woofers; 2" mid-hemispherical dome; ½" hemispherical wide-dispersion dome tweeter
Response 20 Hz to 25 kHz
Crossover 500 Hz, 3 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 100/140 watts (20/21.5 dBW)
Features Genuine walnut veneer with black aluminum grille curved corners on cabinet; highly sophisticated, computer-designed crossover, winner of 1978 CES Design and Engineering Award

**SM-1004**
Price $379

**SM-1003**
Price $339

**SM-1002**
Price $578/pr.

**Output C**
Price $249/pr.
Dimensions 6¼H x 4¼W x 4¼D
Weight 14 lbs.
Type Acoustic suspension minispeaker
Drivers 4" long-throw high-compliance woofer; 1" hemispherical wide-dispersion dome tweeter
Response 50 Hz to 25 kHz, 90 dB SPL at 1 meter at 1 watt
Crossover 1.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 35/50 watts (15/17 dBW)
Features Aluminum cabinet, computer-designed filter network

Models also available
L-300, $429/pr.; L-200, $289/pr.

**B & W**
Anglo-American Audio
Box 653
Buffalo, N.Y. 14240

**801**
Price $1,275
Dimensions 37 ¼H x 17 3/10W x 22 2/5D
Weight 97 lbs.

**C.C.L.**
C.C.L. Enterprises, Inc.
30682 San Antonio St.
Hayward, Calif. 94544

**3800**
Price $499.50
Dimensions 43¾H x 23¼W x 12¼D
Weight 60 lbs.
Type Infinite baffle
Drivers Two 10' woofers; 8" mid bass; 2" soft-dome midrange; 1" textile dome tweeter
Response 22 Hz to 20 kHz, 91 dB SPL at 1 meter at 1 watt
Crossover 125 Hz, 700 Hz, 5 kHz
Impedance 4 ohms
Min. power 30 watts (14.75 dBW)
Max. power 300 watts (24.75 dBW)
Features Roll-away casters

**2000 Subwoofer**
Price $289.50
Dimensions 22¼H x 25¼W x 15¼D
Weight 45 lbs.
Type Infinite baffle
Drivers Two 10' woofers
Response 22 Hz to 150 kHz, 90 dB SPL at 1 meter at 1 watt
Crossover 150 Hz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 300 watts (24.75 dBW)

**2200 Satellite**
Price $104.50
Dimensions 13½H x 8W x 6D
Weight 10 lbs.
Type Air suspension
Drivers 5' woofer; 1" textile dome
Response 65 Hz to 20 kHz, 90 dB SPL at 1 meter at 1 watt
Crossover 2.2 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 50 watts (17 dBW)

Models also available
3400, $349.50; 3200, $294.50; 2800, $124.50

**CELESTION**
Celestion Industries, Inc.
Kuniholm Drive, Box 521
Holliston, Mass. 01746

**Diton 662**
Price $749.50
Dimensions 41½H x 15¼W x 11 13/16D
Weight 74 lbs. 13 oz.
Type Passive radiator
Drivers 12" woofer; 2" dome midrange, 1" dome tweeter
Response 38 Hz to 20 kHz, ± 3 dB re 90 dB SPL at 1 meter at 2.9 watts
Crossover 700 Hz, 4.5 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 160 watts (22 dBW)
Features Fused tweeter; mirror imaged

**Diton 442**
Price $449.50
Dimensions 30½H x 15¼W x 11 7/16D
Weight 52 lbs. 13 oz.
Type Acoustic suspension

Models also available
GLE-50, $195
Drivers: 12" woofer, 6" cone midrange, 1" dome tweeter
Response: 45 Hz to 20 kHz, ± 3 dB re 90 dB SPL at 1 meter at 2.95 watts
Crossover: 600 Hz, 4.5 kHz
Impedance: 8 ohms
Min. power: 20 watts (13 dBW)
Max. power: 120 watts (20.75 dBW)
Features: Fused, mirror-imaged pairs

**MCL-3**
Price: $219.95/pr
Dimensions: 15H x 8½W x 8½D
Weight: 28 lb. 10 oz./pr.
Type: Bass reflex
Drivers: 6½" woofer, 1" dome tweeter
Response: 60 Hz to 20 kHz re 90 dB SPL at 1 meter at 1 watt
Impedance: 6.3 ohms
Max. power: 50 watts (17 dBW)
Features: Minimized, rosewood grained cabinet

**Models also available**
CL-70, $179.95/pr.; CL-40, $129.95/pr.

**18SW**
Price: $600
Type: Ported reflex
Drivers: 18" stroker bass driver
Response: 25 Hz to 250 Hz, ± 4 dB re 100 dB SPL at 1 meter at 1 watt
Impedance: 4 ohms
Min. power: 5 watts (7 DBW)
Max. power: 300 watts (24.75 DBW)
Features: Subwoofer with high output

**12TR**
Price: $470
Dimensions: 46H x 13 ½W x 13 ½D
Weight: 75 lbs.
Type: Ported reflex
Drivers: 12" woofer, 6½" cone midrange; rear reflecting horn; tweeter; super-Dhorn tweeter
Response: 28 Hz to 20 kHz, ± 4 db re 102 dB at 1 meter at 1 watt
Crossover: 250 Hz, 4 kHz
Impedance: 8 ohms
Min. power: 5 watts (7 DBW)
Max. power: 100 watts (20 DBW) continuous
Controls: Midrange; tweeter; rear horn
Features: Tower-style speaker with rear reflecting horn

**Dahliquiet DQ-10**

**Boston Acoustics A-200**

**Centurion MX-XIII**

**Century 670**
Price: $299.95
Dimensions: 25½H x 20W x 17½D
Weight: 55 lbs.
Type: Ducted tuned port, bass reflex
Drivers: 15" bass driver, 4½" frame cone driver; two 3½" phenolic ring tweeter
Response: 20 Hz to 20 kHz
Crossover: 900 Hz, 4 kHz; 6 kHz
Impedance: 8 ohms
Min. power: 10 watts (10 DBW)
Max. power: 80 watts (19 DBW)

**Century 370**
Price: $199.95
Dimensions: 23H x 14W x 10D
Weight: 29 lbs.
Type: Ducted tuned port, bass reflex
Drivers: 10" bass driver, 4½" frame cone driver; 3½" phenolic ring tweeter
Response: 25 Hz to 20 kHz
Crossover: 1 kHz, 3.5 kHz
Impedance: 8 ohms
Min. power: 10 watts (10 DBW)
Max. power: 40 watts (16 DBW)

**Models also available**
Century 470, $229.95

**Century Vega**

**Cerwin-Vega 12250 Montague St. Arleta, Calif. 91331**

**1980 Edition**
Chartwell
Reference Monitor
International, Inc.
2380 C Camino Vida Roble
Carlsbad, Calif. 92008

PM-450 (Passive)
Price $2,600/pr.
Dimensions 30H x 18W x 16¾D
Weight 70 lbs
Type Bass reflex
Drivers 12" polypropylene woofer; 1" soft-dome tweeter
Response 40 Hz to 20 kHz, ±3 dB
Crossover 2 kHz
Impedance 8 ohms
Min. power 30 watts (14.75 dBW)
Max. power 350 watts (25.5 dBW)
Features Utilizes new low-coloration polypropylene cones

LS3/5A
Price $560/pr.
Dimensions 12H x 7½W x 6¾D
Weight 11 lbs. 8 oz.
Type Acoustic suspension
Drivers 4½" bass/midrange; dome tweeter
Response 60 Hz to 20 kHz, ±4 dB
Crossover 3 kHz
Impedance 15 ohms
Min. power 25 watts (14 dBW)
Max. power 25 watts (14 dBW)
Features Designed by British Broadcasting Corp.

PM-110
Price $530/pr.
Dimensions 18½H x 10¼W x 8D
Weight 17 lbs
Type Bass reflex
Drivers 6½" bass/midrange; polypropylene bass/midrange; 1" tweeter
Response 65 Hz to 20 kHz, ±3 dB
Crossover 2.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 80 watts (16 dBW)
Features Utilizes new low-coloration polypropylene cones

CIZEK
Cizek Audio Systems, Inc.
15 Stevens St.
Andover, Mass. 01810

MG-27
Price $295
Dimensions 29¾H x 17¼W x 12¼D
Weight 80 lbs.
Type Acoustic suspension
Drivers Two 10" acoustic suspension, bass drivers
Response 27 Hz to 200 Hz, ±3 dB re 86 dB SPL at 1 meter
Crossover 200 Hz
Impedance 4 ohms
Min. power 25 watts (14 dBW)
Max. power 600 watts (27.75 dBW)
Features Direct connection to Cizek Models 1, 2, or 3, or provision for biamping

1 Price $219

Dimensions 25H x 15¾W x 9½D
Weight 45 lbs. 14 oz.
Type Dynamic
Drivers 10" acoustic suspension woofer; 1" hemispherical dome tweeter
Response 35 Hz to 17 kHz, +1.5, 2 db re 88 dB SPL at 1 meter
Crossover 1.5 kHz
Impedance 4.25 ohms, +0.20 ohms from 100 Hz to 17 kHz with controls in "flat" position; with Q adjustment in 0.6 position; with Q in the 1 position, impedance is 7.25 ohms
Min. power 15 watts (11.75 dBW) continuous
Max. power 150 watts (21.75 dBW)
Controls Level, contour, Q adjustment

SW-1 Sound Window
Price $315/pr.
Dimensions 12H x 12W x 3½D
Weight 20 lbs/pr.
Type Acoustic suspension
Drivers 6½" woofers; 1¼" cone tweeter
Response 100 Hz to 17 kHz, ±3 dB re 88 dB SPL at 1 meter at 1 watt
Crossover 3 kHz
Impedance 4 ohms
Min. power 15 watts (11.75 dBW)
Max. power 100 watts (20 dBW)
Features Solid Acoustahne 6 with oak finish; acoustically transparent foam grille

Models also available
KA-1 Classic, $285, 2, $149; 3, $99

CONCEPT
Concept
1601 W. Glenlake Ave.
Chicago, Ill. 60143

CEM
Price $595
Dimensions 45H x 16W x 15½D
Weight 102 lbs.
Type Passive radiator
Drivers Hi-fi air-motion transformer, midrange/tweeter
Response 25 Hz to 23 kHz, ±3 dB
Crossover 1.3 kHz at 18 dB
Impedance 6 ohms
Min. power 25 watts (14 dBW)
Controls Midrange, tweeter
Features Room-resonance compensation control

CE-2
Price $345
Dimensions 25½H x 14W x 14¾D
Weight 54 lbs.
Type Passive radiator
Drivers 10" cast woofer, Hi-fli air-motion transformer
Response 35 Hz to 23 kHz, ±3 dB
Crossover 1.5 kHz at 18 dB
Impedance 6 ohms
Min. power 20 watts (13 dBW)
Controls Midrange, tweeter
Features LED power indicator

Models also available
CE-1, $445

CRITERION
Lafayette Radio Electronics
111 Jericho Turnpike
Syosset, N.Y. 11791

Mk-XII Subwoofer
Price $445
Dimensions 24⅛ x 16W x 12D
Weight 50 lbs.
Type Acoustic suspension
Drivers 12" bass
Response 30 Hz to 100 Hz, ±3 dB re 92 dB SPL at 1 meter at 1 watt
Crossover 3 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 150 watts (21.75 dBW)

Mk-VIII
Price $199
Dimensions 14½H x 10W x 6¼D
Weight 17 lbs.
Type Acoustic suspension
Drivers 8" woofer, 4½" midrange; 1" tweeter
Response 57 Hz to 20 kHz, ±3 dB re 94 dB SPL at 1 meter at 1 watt
Crossover 1.5 kHz; 4 kHz
Impedance 4 ohms
Min. power 10 watts (10 dBW)
Max. power 60 watts (17.75 dBW)
Features American walnut cabinet

Models also available
Criterion 2003A, $149.99; Criterion 2001A, $119.99

CUSTOM CRAFT
Custom Craft, Inc.
819 S. Kraemer Blvd.
Placentia, Calif. 92670

Dimension Lab Series

Mk-XII Subwoofer
Price $445
Dimensions 24⅛ x 16W x 12D
Weight 50 lbs.
Type Acoustic suspension
Drivers 12" bass
Response 30 Hz to 100 Hz, ±3 dB re 92 dB SPL at 1 meter at 1 watt
Crossover 3 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 150 watts (21.75 dBW)

Mk-VIII
Price $199
Dimensions 14½H x 10W x 6¼D
Weight 17 lbs.
Type Acoustic suspension
Drivers 8" woofer, 4½" midrange; 1" tweeter
Response 57 Hz to 20 kHz, ±3 dB re 94 dB SPL at 1 meter at 1 watt
Crossover 1.5 kHz; 4 kHz
Impedance 4 ohms
Min. power 10 watts (10 dBW)
Max. power 60 watts (17.75 dBW)
Features American walnut cabinet

Models also available
Criterion 2003A, $149.99; Criterion 2001A, $119.99

Professional Series

PR-8
Price $79.95
Dimensions 22H x 13½W x 8¼D
Weight 20 lbs.
Type Acoustic suspension
Drivers 8" woofer, 1¼" phenolic-ring tweeter

High Fidelity's Buying Guide to Speaker Systems
**DAHLQUIST**

Dahlquist, Inc.
601 Old Willets Path
Hauppauge, N.Y. 11787

<table>
<thead>
<tr>
<th>DQ-10</th>
<th></th>
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<tbody>
<tr>
<td>Price</td>
<td>$435</td>
</tr>
<tr>
<td>Dimensions</td>
<td>31 1/2&quot; x 30 1/2&quot; x 9 D</td>
</tr>
<tr>
<td>Weight</td>
<td>50 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Phased array</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer; 5 1/2&quot; midwoofer; 2 1/2&quot; dome midrange; 4&quot; dome tweeter, piezoelectric super tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 25 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>50 Hz; 6 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>20 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>60 watts</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dB)</td>
</tr>
<tr>
<td>Controls</td>
<td>Continuously variable tweeter control for boost or cut</td>
</tr>
<tr>
<td>Features</td>
<td>Patented solutions to problems of inertial time delay and baffle edge diffraction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Models also available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mk-IV: $149, Mk-VI: $110, Mk-I: $87</td>
</tr>
</tbody>
</table>

**DECCA**

Rocolco, Inc.
1669 Flint Road
Downsvill, Ont. M3J 2J7

<table>
<thead>
<tr>
<th>Supertweeter</th>
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<tbody>
<tr>
<td>Price</td>
<td>$199.50</td>
</tr>
<tr>
<td>Dimensions</td>
<td>4 x 4 x 5 1/2 D</td>
</tr>
<tr>
<td>Weight</td>
<td>5 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Ribbon tweeter in enclosure without horn</td>
</tr>
<tr>
<td>Drivers</td>
<td>Ribbon tweeter only (add-on to existing systems)</td>
</tr>
<tr>
<td>Response</td>
<td>7 kHz to 30 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>7 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Max. power</td>
<td>30 watts (14.75 dB)</td>
</tr>
<tr>
<td>Controls</td>
<td>None</td>
</tr>
<tr>
<td>Features</td>
<td>Driven element is ultra-light ribbon for fast transient response</td>
</tr>
</tbody>
</table>

**Models also available**

London Ribbon Tweeter, $199.50

**DENNESEN**

Dennesen Electrostatic, Inc.
Box 51
Beverly, Mass. 01915

<table>
<thead>
<tr>
<th>ESL-203</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Price</td>
<td>$875</td>
</tr>
<tr>
<td>Dimensions</td>
<td>39 x 10 x 8 D</td>
</tr>
<tr>
<td>Weight</td>
<td>50 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Electrostatic/dynamic hybrid</td>
</tr>
<tr>
<td>Drivers</td>
<td>Five electrostatic elements in vertical line source, 1 1/2&quot; dome midrange; 8&quot; acoustic suspension baffle tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 35 kHz, ±2 dB re 88 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz; 3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (117.5 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>150 watts (217.5 dB)</td>
</tr>
</tbody>
</table>

**180 "The Voice"**

| Price              | $220             |
| Dimensions         | 21 1/2 x 13 1/2 x 3 D |
| Weight             | 32 lbs           |
| Type               | Dynamic/electrostatic |
| Drivers            | 8" woofer; 5 electrostatic elements |
| Response           | 32 Hz to 32 kHz, ±2 dB re 88 dB SPL at 1 meter at 1 watt |
| Crossover          | 1.25 kHz         |
| Impedance          | 6 ohms           |
| Min. power         | 15 watts (117.5 dB) |
| Max. power         | 200 watts (23 dB) |
| Features           | Electrostatic hybrid |

**ST**

| Price              | $140             |
| Dimensions         | 10 x 15 x 4 D     |
| Weight             | 20 lbs           |
| Type               | Tweeter array    |
| Drivers            | 8 electrostatic tweeters |
| Response           | 3.5 kHz to 35 kHz, ±1 dB |
| Crossover          | 25 kHz           |
| Impedance          | 8 ohms           |
| Min. power         | 15 watts (117.75 cW) |
| Max. power         | Unlited          |

**Models also available**

E-200, E-350, E-310, $275

**DESIGN ACOUSTICS**

Design Acoustics, Inc.
2426 Amsler St.
Torrance, Calif. 90505

<table>
<thead>
<tr>
<th>D-12A</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>$750 (walnut)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>26 x 22 x 22 (spherical)</td>
</tr>
<tr>
<td>Weight</td>
<td>70 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Vented, acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 8&quot; woofers; 1 1/2&quot; dome midrange, two 5&quot; cone midrange, two 1&quot; dome tweeters; three 1 1/2&quot; cone tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 18 kHz, ±2 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>650 Hz; 2 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 DB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 DB)</td>
</tr>
<tr>
<td>Controls</td>
<td>Woofer; midrange, tweeter, dispersion control for 180 degrees or 360 degrees</td>
</tr>
<tr>
<td>Features</td>
<td>Omnidirectional speaker with choice of 180- or 360-degree radiation</td>
</tr>
</tbody>
</table>

**D-4 A**

| Price            | $345             |
| Dimensions       | 38 x 16 1/2 x 11 D |
| Weight           | 55 lbs           |
| Type             | Acoustic suspension; vented |
| Drivers          | Two 8" long-throw woofers; 5" midrange driver; two 1 1/2" cone tweeters; 1" dome tweeter |
| Response         | 40 Hz to 18 kHz, ±3 dB |
| Crossover        | 700 Hz; 2 kHz    |
| Impedance        | 4 ohms           |
| Min. power       | 20 watts (13 DB)  |
| Max. power       | 125 watts (21 DB) |
| Controls         | Woofer; tweeter  |
| Features         | Drivers arranged on trapezoid for wide dispersion; conventional appearance |

**D-3**

| Price            | $240             |
| Dimensions       | 25 x 12 x 11 1/2 D |
| Weight           | 40 lbs           |
| Type             | Vented, acoustic suspension |
| Drivers          | 10" woofer; 5" cone midrange; 1" dome tweeter |
| Response         | 40 Hz to 20 kHz, ±3.5 dB |
| Crossover        | 500 Hz; 2.5 kHz  |
| Impedance        | 8 ohms           |
| Min. power       | 30 watts (14.75 DB) |
| Max. power       | 100 watts (20 DB) |
| Features         | Comes equipped with bracket on rear panel and accessory hardware to permit hanging on a wall |

**C-1A**

| Price            | $125             |
| Dimensions       | 20 x 14 x 11 W x 8 D |
| Weight           | 12 lbs           |
| Type             | Vented, acoustic suspension |
| Drivers          | 8" long-throw woofer; 1 1/2" cone |
| Response         | 50 Hz to 15 kHz, ±3.5 dB |
| Crossover        | 1.5 kHz          |
| Impedance        | 6 ohms           |
| Min. power       | 15 watts (11.75 DB) |
| Max. power       | 30 watts (14.75 DB) |
| Features         | Same as D-1W    |

**Models also available**

D-8, S590; D-6, S390 (base included); D-2, S220; D-1W, S135

**DAYTON WRIGHT**

Odin Studios Ltd.
(Distributor)
7321 Victoria Park Ave., Unit 2
Markham, Ontario, Canada L3R 2Z8

<table>
<thead>
<tr>
<th>XG-10</th>
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<tbody>
<tr>
<td>Price</td>
<td>$3,399</td>
</tr>
<tr>
<td>Dimensions</td>
<td>42 1/2 x 39 x 9 1/2 D</td>
</tr>
<tr>
<td>Weight</td>
<td>100 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Electrostatic</td>
</tr>
<tr>
<td>Drivers</td>
<td>Ten electrostatic full-range cells; one modified piezoelectric tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 35 kHz, ±4 dB re 82 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>10 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>2.4 ohms to 200 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>75 watts (18.75 DB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 to 600 watts (20 to 275 dB/continuous, varies with frequency)</td>
</tr>
</tbody>
</table>

**Models also available**

1986 Edition
DFS
DFS, Inc.
10255 S.W. Parkway
Portland, Ore. 97204

T-5

Price $350
Dimensions 37 1/4" x 14 1/4" x 12 1/2"D
Weight 60 lbs.
Drivers 10" woofer; 8" woofer; 5" midrange; two 2 1/4" tweeters
Response 40 Hz to 18 kHz, ±5 dB re 98 dB SPL at 1 meter at 1 watt!

J-2

Price $160
Dimensions 24 1/4" x 13 1/4" x 12"D
Weight 40 lbs.
Type Acoustic suspension
Drivers 16" woofer. 2 1/2" tweeter
Response 50 Hz to 18 kHz, ±5 dB re 95 dB SPL at 1 meter at 1 watt
Features Walnut cabinet

J-1

Price $136
Dimensions 20 1/4" x 12 1/4" x 10 1/4"D
Weight 35 lbs.
Drivers 8" woofer; 2 1/2" tweeter
Response 55 Hz to 18 kHz, ±5 dB re 96 dB SPL at 1 meter at 1 watt
Min. power 15 watts (11.75 dBW)
Max. power 40 watts (16 dBW)
Features Constructed of high-density particle board and walnut veneer

Models also available
T-4, $290; U-3, $235

DWD
DWD Audio Systems
3206 N. Marks St.
Fresno, Calif. 93705

ETR 12" Tower

Price $429
Dimensions 42H x 14W x 11 1/4"D
Weight 61 lbs.
Type Passive radiator
Drivers 12" woofer; 5" midrange; 3" tweeter
Response 36 Hz to 20 kHz, ±4 dB re 96 dB SPL at 1 meter at 1 watt
Crossover 1 1/2 kHz, 7 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 225 watts (23.5 dBW)
Features Tweeter
Controls Tweeter
Features Front-mounted passive radiator; ferrofluid-damped; self-resetting circuit breaker

DYNACO
Dynaco, Inc.
P.O. Box 612
Needham, Mass. 02195

A-350

Price $390
Dimensions 43H x 14W x 14 1/4"D
Weight 68 lbs.
Type Passive radiator
Drivers Omni directional superwoofer; 4" soft plastic dome tweeter; 3" cone midrange, 10" rubber-ridge cone woofer
Response 35 Hz to 25 kHz, ±3 dB re 89 dB SPL at 1 meter at 1 watt
Crossover 3 1/2 kHz, 11 3/4 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 110 watts (20.5 dBW)
Features Omnis-Dyn omnidirectional tweeter, golded walnut veneer

A-150

Price $150
Dimensions 22H x 12 1/4"W x 12 1/4"D
Weight 36 lbs.
Type Acoustic suspension
Drivers 1" soft-cloth dome tweeter, 10" rubber-ridge cone woofer
Response 50 Hz to 20 kHz, ±3 dB re 89 dB SPL at 1 meter at 1 watt
Crossover 2 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 65 watts (18.25 dBW)
Features Tweeter (4 1/2" d)to 50 dB)
Features Walnut-grain vinyl

MODELS also available
A-250, $250

ELECTRO-VOICE
Electro-Voice, Inc.
656 Cecil St.
Buchanan, Mich. 49107

Sentry III, Series II

Price $900 (optional SEQ equalizer, $95,50)
Dimensions 28 1/4"H x 34"W x 20 1/2"D
Weight 156 lbs.
Type Vented
Drivers 15" cone low-frequency driver; 32" sectoral horn midrange, 8" sectoral horn tweeter
Response 40 Hz to 18 kHz, ±3 dB re 99 dB SPL at 1 watt at 1 meter
Crossover 600 Hz, 3,5 kHz
Min. power 14 watts (0 dBW)
Max. power 50 watts (17 dBW)
Controls Tweeter
Features Tweeter protection

Interface: C, Series II Series II

Price $995/br. (includes equalizer)
Dimensions 31"H x 20W x 12 1/2"D
Weight 60 lbs.
Type Vented, equalized
Drivers 16" woofer. Super-Dome® tweeter with acoustic lens, 6 1/2" vented midrange
Response 25 Hz to 20 kHz, 30 Hz to 18 kHz, ±2.5 dB
Crossover 42 Hz (acoustic), 400 Hz, 2.5 kHz (electrical)
Impedance 6 ohms
Min. power 2 watts (4.5 dBW) re 90 dB SPL
Max. power 350 watts (25.5 dBW) re 11 dB SPL
Controls High-frequency slope on equalizer
Features Walnut veneer cabinet

Sentry V

Price $325 (optional SEQ equalizer, $95,50)
Dimensions 28 1/4"H x 20W x 11 1/4"D
Weight 52 lbs.
Type Vented
Drivers 10" low-frequency cone driver; 8" sectoral horn tweeter
Response 45 Hz to 18 kHz, ±3 dB re 96 dB SPL at 1 meter at 1 watt
Crossover 2 kHz
Impedance 6 ohms
Min. power 28 watts (4.5 dBW)
Max. power 30 watts (14.75 dBW)
Features Tweeter
Controls Tweeter overload protection

Interface: 3, Series II

Price $199
Dimensions 25 1/2"H x 14 1/4"W x 13 1/2"D
Weight 33 lbs.
Type Vent substitute
Drivers 12" low-frequency radiator; 8" midrange/woofer; 1 1/4" Super-Dome® tweeter with acoustic lens
Response 34 Hz to 20 kHz, 40 Hz to 18 kHz, ±3 dB
Crossover 57 Hz (acoustic), 1.5 kHz (electrical)
Impedance 8 ohms
Min. power 3.6 watts (5.5 dBW) re 90 dB SPL
Max. power 250 watts (24 dBW) re 108 dB SPL
Controls High-frequency slope control
Features Walnut-grained cabinet

Interface: 2, Series II

Price $150
Dimensions 24 1/4"H x 13 1/2"W x 10 1/16"D

High Fidelity's Buying Guide to Speaker Systems
EPICURE

Epicure Products, Inc.
1 Charles St.
Newburyport, Mass. 01950

3.0 (Trilogy)

Price $575
Dimensions 41 1/4 H x 8 1/2" square (at top) x 16 1/2" square (at bottom)
Weight 61 lbs.
Type Acoustic suspension
Drivers 10" woofer; 6" midrange; 1" air
spring tweeter
Response 32 Hz to 20 kHz, +3 dB
Crossover 475 Hz; 2.5 kHz
Impedance 4 ohms
Min. power 30 watts (14.75 dBW)
Max. power 100 watts (20 dBW)
Controls Three-position L-pad tweeter attenuator
Features Truncated pyramid cabinet for minimal diffraction; low inductance amplifier load; total system resonance control

500

Price $400
Dimensions 14 x 12 x 36D with 3 1/4" integral base
Weight 50 lbs.
Type Passive piston bass radiator
Drivers 1" air-spring tweeter; 4" dynamic midrange; 10" woofer with focussed field magnetic circuit; two 12" passive radiators
Response 45 Hz to 20 kHz, +3 dB
Crossover 750 Hz, 3 kHz

Ten: V

Price $125
Dimensions 22 x 12 x 9 3/4D
Weight 33 lbs.
Type Acoustic suspension
Drivers 1" tweeter; 8" woofer
Response 42 Hz to 20 kHz, +3 dB
Crossover 1 1/2 kHz
Impedance 8 ohms
Min. power 12 watts (10.75 dBW)
Max. power 75 watts (18.75 dBW)
Controls Three-position tweeter
Features Individual frequency-response graph provided with each speaker

M-200 C

Price $275
Dimensions 32 1/4 x 17 x 11D
Weight 60 lbs.
Type "Passive Piston" bass radiator
Drivers 8" high-efficiency woofer; 1" air
spring tweeter; 12" passive radiator
Response 36 Hz to 20 kHz, +3 dB
Crossover 1 1/2 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW) continuous
Max. power 125 watts (21 dBW)
Controls Three-position tweeter attenuator switch on front panel
Features Walnut veneer cabinet

Fried Model C

Impedance 4 ohms
Min. power 20 watts (13 dBW)
Max. power 100 watts (20 dBW)
Features Twin "Passive Piston" bass radiators; "Focused Field" magnetic circuit in bass driver

Fourteen

Price $199
Dimensions 24 x 13 1/2 x 9D
Weight 40 lbs.
Type Passive piston bass radiator
Drivers 6" long-throw woofer; 8" passive radiator; 1" air spring tweeter
Response 28 Hz to 20 kHz, +3 dB
Crossover 1.5 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 80 watts (19 dBW)
Controls Three-position tweeter control on front panel
Features 8" "Passive Piston" bass radiator with fourth order alignment, walnut veneer cabinet

ESS

ESS, Inc.
9613 Oates Drive
Sacramento, Calif. 95827

AMT 1B Monitor

Price $650
Dimensions 39 x 14 x 12D
Weight 103 lbs. 8 oz.
Type Passive radiator
Drivers 12" woofer; Heil air-motion transformer midrange/tweeter
Response 40 Hz to 20 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 1 kHz
Impedance 5 ohms
Min. power 20 watts (13 dBW)
Max. power 375 watts (25.75 dBW)
Controls Tweeter (continuously variable)
Features Equipped with direct inputs for baffle connection; Heil square-wave rise time: 15 microseconds at 5 kHz, oiled-walnut cabinet

AMT-1B Bookshelf

Price $456
Dimensions 24 x 14 x 14D
Weight 65 lbs.
Type Passive radiator
Drivers 12" woofer; Heil air-motion transformer midrange/tweeter
Response 40 Hz to 20 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 1 kHz
Impedance 6 ohms
Min. power 20 watts (13 dBW)
Max. power 375 watts (25.75 dBW)
TEMPEST SERIES

Bookshelf-1
Price $310
Dimensions 24H x 14W x 14D
Weight 50 lbs.
Type Passive radiator
Drivers 10" resin-impregnated cone woofer; Heil air-motor transformer midrange/tweeter
Response 38 Hz to 24 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt
Crossover 24 kHz
Impedance 6 ohms
Max. power 140 watts (21.5 dBW)
Min. power 15 watts (117.5 dBW)
Features Brilliance (variable from +1 to -60 dB over range of 3 to 23 kHz)

PERFORMANCE SERIES

PS-4A
Price $370
Dimensions 35H x 12½W x 12 1/10 D
Weight 48 lbs.
Type Passive radiator
Drivers 10" cone woofer, Heil air-motor transformer midrange/tweeter
Response 36 Hz to 24 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt
Crossover 2 kHz
Impedance 6 ohms
Max. power 15 watts (117.5 dBW)
Max. power 160 watts (22 dBW)
Features Brilliance (variable from 1.5 to 24 kHz)

PS-8A
Price $205
Dimensions 22H x 12½W x 10 3/5 D
Weight 30 lbs.
Type Passive radiator
Drivers 8" cone woofer, Heil air-motor transformer midrange/tweeter
Response 50 Hz to 20 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt
Crossover 2 kHz
Impedance 6 ohms
Min. power 10 watts (10 dBW)
Max. power 100 watts (20 dBW)
Features Brilliance (variable from 2 to 22 kHz)

Models also available
AMT-1B, $507. Classic, $410; Bookshelf-2, $246; PS-5A, $270; PS-9A, $175

320
Price $499
Dimensions 43½H x 21¼W x 4½D (top); 9½D (bottom)
Weight 47 lbs.
Type Electrostatic bipolar
Drivers Two 10" cone woofers
Response 30 Hz to 22 kHz
Crossover 200 Hz; 1 kHz
Impedance 8 ohms
Max. power 35 watts (15.5 dBW)
Controls Double diaphragms; self-energizing bias

Bass Console 2
Price $229

290
Price $139
Dimensions 21¼H x 12¼W x 4½D (top); 7½D (bottom)
Weight 14 lbs.
Type Electrostatic bipolar
Drivers 8" cone woofer
Response 70 Hz to 22 kHz
Crossover 200 Hz; 1.2 kHz
Impedance 8 ohms
Min. power 5 watts (14 dBW)

Bass Console 3
Price $85

Models also available
310, $349; 300, $199

BASS CONSOLE 2

ST-440
Price $259.95
Dimensions 25½H x 16W x 12¼D
Weight 35 lbs.
Type Ported bass reflex
Drivers 12" woofer; 5" midrange; 3" tweeter
Response 45 Hz to 18 kHz, ±10 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 1 kHz; 5 kHz
Impedance 8 ohms
Min. power 12 watts (10.75 dBW)
Max. power 75 watts (18.75 dBW)
Features Treble, midrange

ST-335
Price $180
Dimensions 25¼H x 16W x 11¾D
Type Vented
Drivers 12" woofer; 5" midrange; 3" tweeter
Response 58 Hz to 20 kHz
Impedance 8 ohms
Max. power 70 watts (18.5 dBW)

ST-420
Price $149.95
Dimensions 21½H x 13¼W x 9¼D
Weight 19 lbs.
Type Passive radiator
Drivers 8" woofer, 3" tweeter
Response 50 Hz to 16 kHz, ±10 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 5 kHz
Impedance 8 ohms
Min. power 5 watts (5.5 dBW)
Max. power 35 watts (15.5 dBW)

ST-461
Price $499.95
Dimensions 29¼H x 18¼W x 14¼D
Weight 53 lbs.
Type Ported bass reflex
Drivers 15" woofer; two 5" midrange drivers, 3" tweeter
Response 40 Hz to 20 kHz, ±10 dB re 92 dB SPL at 1 meter at 1 watt
Crossover 1 Hz; 5 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 130 watts (21.25 dBW)
Features Treble, midrange

ST-451
Price $349.95
Dimensions 27¼H x 17½W x 13¾D
Weight 44 lbs.
Type Ported bass reflex
Drivers 12½" woofer, two 5" midrange drivers, 3" tweeter
Response 45 Hz to 20 kHz, ±10 dB re 91 dB SPL at 1 meter at 1 watt
Crossover 1 kHz; 5 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 100 watts (20 dBW)
Features Treble, midrange

XP-95B
Price $279.95
Dimensions 28H x 17¼W x 12 7/8 D
Weight 44 lbs.
Type Air suspension
Drivers 15" woofer; two 5" midranges, 3" flare-dome tweeter
Response 28 Hz to 20 kHz

Models also available
ST-460, $389.95; ST-450, $329.95; ST-441, $279.95; ST-430, $219.95; XP-330, $160; MS-145, $140; MS-136A, $100; MS-115A, $80

MS-125A
Price $90
Dimensions 21¼H x 13¼W x 9 D
Weight 15 lbs.
Type Passive radiator
Drivers 8" woofer, 2" tweeter
Response 70 Hz to 14 kHz, ±10 dB
Crossover 6 kHz
Impedance 8 ohms
Min. power 4 watts (6 dBW)
Max. power 30 watts (14.75 dBW)

Models also available
ST-460, $389.95; ST-450, $329.95; ST-441, $279.95; ST-430, $219.95; XP-330, $160; MS-145, $140; MS-136A, $100; MS-115A, $80

FISHER
Fisher Corp.
21314 Lassen St.
Chatsworth, Calif. 91311

XP-325
Price $140
Dimensions 21¼H x 13¼W x 8½D
Weight 18 lbs. 8 oz.
Type Air suspension
Drivers 10" woofer; 5" midrange, 3" tweeter
Response 65 Hz to 18 kHz
Crossover 1.5 kHz; 5 kHz
Impedance 8 ohms
Max. power 35 watts (15.5 dBW)

FRANKMANN RESEARCH
Frankmann Research
P.O. Box 125
758 Washington Ave.
Greenville, Ohio 45331

High Fidelity's Buying Guide to Speaker Systems
Frankmann Reference
Standard Monitor
Price $895
Dimensions 42H x 10W x 9D
Weight 105 lbs.
Type Infinite baffle
Drivers Four 12" woofers (bass module C1); two 6" midrange drivers per panel; one diffraction horn tweeter and cone tweeter per panel
Response 24 Hz to 22 kHz, ±4 dB re 96 dB SPL at 1 meter at 1 watt
Crossover 200 Hz; 5 kHz; 10 kHz
Impedance 6 ohms
Min. power 10 watts (10 dBW)
Max. power 125 watts (21 dBW)
Controls Tweeter attenuator
Features Three-unit system of one bass module and two mid-tweeter panels

Frankmann C0 Module
Price $800
Dimensions 30H x 50W x 24D
Weight 130 lbs.
Type Infinite baffle
Drivers Eight 12" woofers
Response 16 Hz to 200 kHz, ±4 dB re 96 dB SPL at 1 meter at 1 watt
Crossover 200 Hz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 200 watts (23 dBW)
Features Common bass module; available in custom cabinetry

Models also available
Frankmann B/4, $650/pr.; Frankmann C, Module, $500

FRAZIER
Frazier, Inc.
1930 Valley View Lane
Dallas, Texas 75234

Eleven
Price $1,440
Dimensions 55H x 30W x 18D
Weight 280 lbs.
Type Modified Helmholtz tuned slot
Drivers 15" woofer, 12" woofer, four 4" midranges, 2 piezoelectric tweeters
Response 16 Hz to 25 kHz, ±5 dB re 107 dB SPL at 1 meter at 1 watt
Crossover 400 Hz; 4 kHz
Impedance 4 ohms
Min. power 1 watt (0 dBW) continuous
Max. power 100 watts (20 DBW) continuous
Controls Tweeter, midrange
Features Reproduces the lowest organ notes

Frazier's "Thing"
Price $1,074
Dimensions 50H x 24W x 18D
Weight 175 lbs.
Type Modified Helmholtz tuned slot
Drivers 12" woofer, 10" woofer, 134° x 4½ exponential midrange horn; 2 piezoelectric tweeters
Response 20 Hz to 25 kHz, ±5 dB re 99 dB SPL at 1 meter at 1 watt
Crossover 800 Hz; 4 kHz
Impedance 4 ohms
Min. power 1 watt (0 dBW)
Max. power 80 watts (19 DBW)
Controls Tweeter, midrange, tweeter
Features High-frequency piezoelectrics stacked for column effect; large tower

Concerto
Price $315
Dimensions 21½H x 16W x 16D
Weight 56 lbs.
Type Modified Helmholtz tuned slot
Drivers 10" woofer, 3" x 7" compression horn, piezoelectric tweeter
Response 35 Hz to 25 kHz, ±5 dB re 96 dB SPL at 1 meter at 1 watt
Crossover 2 kHz; 4 kHz
Impedance 8 ohms
Min. power 1 watt (0 dBW) continuous
Max. power 30 watts (14.75 dBW) continuous
Controls Tweeter
Features Also available in black utility finish as "Capsule Monitor" end-table height

Super Monte Carlo
Price $132
Dimensions 15H x 10½W x 12D
Weight 31 lbs.
Type Modified Helmholtz tuned slot
Drivers 8" woofer, direct-coupled piezoelectric tweeter
Response 50 Hz to 25 kHz, ±5 dB re 93 dB SPL at 1 meter at 1 watt
Crossover 4 kHz
Impedance 8 ohms
Min. power 1 watt (0 dBW) continuous
Max. power 30 watts (15 dBW) continuous
Controls None
Features Two-way system with no crossover

Super Midget
Price $60
Dimensions 15¾H x 6¼W x 9½D
Weight 13 lbs.
Type Modified Helmholtz tuned slot
Drivers 4" driver
Response 50 Hz to 12 kHz, ±5 dB re 89 dB SPL at 1 meter at 1 watt
Crossover None
Impedance 8 ohms
Min. power 1 watt (0 dBW) continuous
Max. power 10 watts (10 dBW) continuous
Controls None
Features May be used with car tape players

Models also available
Seven A, $515; Mark V-A, $385; Mark IV-A, $233; CAD-1, $101

FRIED
Fried Products Co.
7616 City Line Ave.
Philadelphia, Pa. 19151

Super Monitor
Price $5,000 (assembled); $1,200 (kit)
Dimensions 56H x 35W x 12D
Weight 164 lbs.
Type Dynamic, transmission line
Drivers 12" high-flux plastic, 6" high-flux midrange, 1" high-flux Melinex tweeter
Response 20 Hz to 20 kHz, ±2 dB
Crossover 85 Hz; 3 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 200 watts (23 dBW)
Features Can satellite or woofer (specify SWM) available separately

Model T subwoofer
Price $1,500 (assembled); $500 (kit)
Dimensions 19H x 44W x 24D
Weight 175 lbs.
Type Dual transmission lines
Drivers Two 10" high-flux plastic woofers
Response 20 Hz to 300 kHz, ±2 dB
Crossover Variable
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 100 watts (20 dBW)
Features Two separate inputs: one for use with B/2 (first-order crossover); one for bi-amplification

Q Subwoofer
Price $650 (assembled); $500 (kit)
Dimensions 30H x 24½W x 14D
Weight 66 lbs.
Type Dynamic
Drivers 10" high-flux plastic
Response 20 Hz to 600 Hz, ±2.5 dB re 90 dB SPL at 1 meter at 1 watt
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 400 watts (26 dBW)
Features Two inputs, 1 for use with either models B/2 or C, 1 for use with bi-amplification

C
Price $475 (assembled); $200 (kit)
Dimensions 13¼H x 6W (top); 10½W (bottom)
Weight 6 lbs.
Type Vented, pyramid shape
Drivers 6½" high-flux plastic bass driver; 1½" Melinex treble dome unit
Response 60 Hz to 22 kHz, ±2.1 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 3.5 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 300 watts (24.75 dBW)
Features Optional tilt-back stand available; available either by itself, or as top of Super Monitor

B/2
Price $300
Dimensions 12H x 8W x 7D
Weight 15 lbs.
Type Dynamic
Drivers 5" woofer, 1" tweeter
Response 60 Hz to 30 kHz, ±2 dB
Crossover 3.5 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 100 watts (20 dBW)
Features Tilt-back stand recommended; available as an option

Q Speaker
Price $140
Dimensions 19¼H x 11¾W x 9¼D
Weight 23 lbs.
Type Dynamic
Drivers 6½" woofer; 3½" tweeter
Response 40 Hz to 20 kHz, ±2.5 dB
Crossover 2.5 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 200 watts (23 dBW)
Controls Impulse-perspective control
Features Tilt-back stand recommended; available as an option

Models also available
400 (assembled); $600 (kit), M/2, $950, R/II, $550; Model W, $350; Model A, $190

FULTON
Fulton Electronics
4204 Brunswick Ave. N.
Minneapolis, Minn. 55422
**Premiere**

<table>
<thead>
<tr>
<th>Price</th>
<th>$4.405/ft</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>60H x 95W x 22D</td>
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<tr>
<td>Weight</td>
<td>300 lbs</td>
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<tr>
<td>Type</td>
<td>Dynamic</td>
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<tr>
<td>Drivers</td>
<td>12&quot; woofer, 12&quot; midwoofer, 10&quot; upper woofer, 8&quot; midrange, three special tweeters</td>
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<tr>
<td>Response</td>
<td>13 Hz to 81 kHz, ±1 dB re 82 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>39 Hz, 122 Hz, 425 Hz, 2.4 kHz, 8 kHz, 26 kHz</td>
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<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>50 watts (17 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (26 dB)</td>
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<tr>
<td>Controls</td>
<td>Woofer, midrange, tweeter</td>
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**Nuance**

<table>
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<tr>
<th>Price</th>
<th>$495</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>34H x 14W x 13D</td>
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<tr>
<td>Weight</td>
<td>80 lbs</td>
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<tr>
<td>Type</td>
<td>Infinite baffle</td>
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<tr>
<td>Drivers</td>
<td>10&quot; woofer, 5&quot; midrange; 2 special tweeters</td>
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<tr>
<td>Response</td>
<td>34 Hz to 42 kHz, ±1.5 dB</td>
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<tr>
<td>Crossover</td>
<td>760 Hz, 65 kHz, 15 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>28 watts (14.5 dB)</td>
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<tr>
<td>Max. power</td>
<td>200 watts (23 dB)</td>
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<tr>
<td>Controls</td>
<td>Tweeter; midrange; woofer</td>
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<tr>
<td>Features</td>
<td>Phase-aligned; genuine American solid and veneer cabinet; glass top; black or brown grille cloth</td>
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**Genesis**

**Genesis Physics Corp.**

**Newington Park**

**Newington, N.H. 03801**

**Model 3+**

<table>
<thead>
<tr>
<th>Price</th>
<th>$389</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>37½H x 14½W x 11½D</td>
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<tr>
<td>Weight</td>
<td>53 lbs</td>
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<tr>
<td>Type</td>
<td>Passive radiator</td>
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<tr>
<td>Drivers</td>
<td>8&quot; woofer; 4&quot; midrange; 1&quot; tweeter</td>
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<tr>
<td>Response</td>
<td>28 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz, 3 kHz</td>
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<tr>
<td>Impedance</td>
<td>6 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dB)</td>
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<tr>
<td>Max. power</td>
<td>500 watts (27 dB)</td>
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<tr>
<td>Controls</td>
<td>Midrange; tweeter</td>
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<tr>
<td>Features</td>
<td>Mounting bases included; magnetic ferrite-rubber tweeter and midrange; walnut or oak finish</td>
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**Genesis Model 1+**

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<tr>
<th>Price</th>
<th>$133 (walnut); $147 (oak)</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>22½H x 12½W x 9½D</td>
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<tr>
<td>Weight</td>
<td>28 lbs</td>
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<tr>
<td>Type</td>
<td>Acoustic suspension</td>
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<tr>
<td>Drivers</td>
<td>8&quot; woofer; 4&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>36 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>1.8 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dB)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Magnetic fluid in tweeter</td>
</tr>
</tbody>
</table>

**Genesis V-6**

<table>
<thead>
<tr>
<th>Price</th>
<th>$105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>18¼H x 10¼W x 7D</td>
</tr>
<tr>
<td>Weight</td>
<td>19 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Vented</td>
</tr>
<tr>
<td>Drivers</td>
<td>6½&quot; woofer; 1&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>52 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>1.8 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>75 watts (18.75 dB)</td>
</tr>
<tr>
<td>Features</td>
<td>Magnetic fluid in tweeter</td>
</tr>
</tbody>
</table>

**GLI Integrated Sound Systems**

**29-50 Northern Blvd.**

**Long Island City, N.Y. 11101**

**4+**

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>50H x 36W x 29D</td>
</tr>
<tr>
<td>Weight</td>
<td>385 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Horn bass cabinet with separate mid/high array</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 15&quot; woofer drivers with 2&quot; passive radiators; two 12&quot; x 22&quot; midrange horns, 6&quot; x 18&quot; horn tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>750 Hz, 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>500 watts (27 dB)</td>
</tr>
<tr>
<td>Features</td>
<td>Coil Guard speaker-protection circuit; heavy-duty professional construction</td>
</tr>
</tbody>
</table>

**2+**

<table>
<thead>
<tr>
<th>Price</th>
<th>$725</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>37¼H x 21¼W x 22½D</td>
</tr>
<tr>
<td>Weight</td>
<td>135 lbs</td>
</tr>
</tbody>
</table>

**The Dwarf FRA-1**

<table>
<thead>
<tr>
<th>Price</th>
<th>$800/pr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>20W x 19H x 9½D</td>
</tr>
<tr>
<td>Weight</td>
<td>45 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex/passive radiator</td>
</tr>
<tr>
<td>Drivers</td>
<td>Eight 5½ mid/low drivers with 15&quot; passive radiator; four 3½ solid-state tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>48 Hz to 20 kHz, ±3.5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>7 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4/16 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dB)</td>
</tr>
<tr>
<td>Features</td>
<td>Coil Guard protection circuit, heavy-duty professional construction</td>
</tr>
</tbody>
</table>

**GOODMANS**

Goodmans Loudspeakers, Ltd.

Plessey Consumer Products

(Distributor)

100 Commercial St.

New York, N.Y. 11802

**Achromat Sigma**

<table>
<thead>
<tr>
<th>Price</th>
<th>$460</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>27H x 13W x 11D</td>
</tr>
<tr>
<td>Weight</td>
<td>44 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension with auxiliary bass radiator</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; bass unit; 10½&quot; auxiliary bass radiator, 1&quot; high-frequency unit</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 23 kHz, ±5 dB re 86 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>2.4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>20 watts (13 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>95 watts (19.75 dB)</td>
</tr>
<tr>
<td>Features</td>
<td>&quot;Long throw&quot; bass unit; pleated surround woofer, soft-dome tweeter, 12-element crossover using ferrite-coated chokes; fused for protection</td>
</tr>
</tbody>
</table>

**HE-2**

<table>
<thead>
<tr>
<th>Price</th>
<th>$420</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>28½H x 13½W x 14D</td>
</tr>
<tr>
<td>Weight</td>
<td>53 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Vented</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; bass unit; 5&quot; midrange driver, 1&quot; ferrite-rubber, soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>60 Hz to 20 kHz, ±5 dB re 93.5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>1.5 kHz, 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>35 watts (5.5 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>65 watts (18 dB)</td>
</tr>
<tr>
<td>Features</td>
<td>High-power voice coils, 9-element ferrite-coated crossovers, high-flux magnet systems; fused for protection</td>
</tr>
</tbody>
</table>

**Achromat Beta**

<table>
<thead>
<tr>
<th>Price</th>
<th>$250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>13½H x 8¼W x 9D</td>
</tr>
<tr>
<td>Weight</td>
<td>18 lbs</td>
</tr>
</tbody>
</table>

---

FUNDAMENTAL RESEARCH

Fundamental Research

Success St.

Pittsburgh, Pa. 15212

**"The Punch" Woofer**

<table>
<thead>
<tr>
<th>Price</th>
<th>$750</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>24H x 60W x 18D</td>
</tr>
<tr>
<td>Weight</td>
<td>225 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>Four 12&quot; woofer</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 150 Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 or 8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>60 watts (17.75 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>400 watts (26 dB)</td>
</tr>
<tr>
<td>Features</td>
<td>Fuse; system designed purely by ear</td>
</tr>
</tbody>
</table>

**The Smaller Infrasonic Woofer**

<table>
<thead>
<tr>
<th>Price</th>
<th>$299</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>28H x 13W x 13D</td>
</tr>
<tr>
<td>Weight</td>
<td>55 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 200 Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>60 watts (17.75 dB)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dB)</td>
</tr>
<tr>
<td>Features</td>
<td>Fuse; system designed purely by ear</td>
</tr>
</tbody>
</table>

**Models also available**

The Infrasonic Woofer, $450

---

High Fidelity's Buying Guide to Speaker Systems
GREAT WHITE WHALE
Great White Whale Dist., Inc.
348 E. 84th St.
New York, N.Y. 10028

Point 4
Price $800/pr.
Dimensions 42H x 19W x 11D
Weight 90 lbs.
Type Acoustic suspension and open air
Drivers Two 10" woofers; two 8" midbass; two 5" midranges; two 1 1/2" dome tweeters; two 1" open-baffled super tweeters
Response 20 Hz to 20 kHz, ±2.5 dB re 80 dB SPL at 1 meter at 1 watt
Crossover 80 Hz; 300 Hz; 2.5 kHz; 8 kHz
Impedance 4 ohms
Min. power 50 watts (17 dBW)
Max. power 200 watts (23 dBW)
Controls Midrange; tweeter (continuously variable from -3 to +3 dB)

Models also available
Point 3, $450

HARTLEY
Hartley Products Corp.
620 Island Road
Ramsey, N.J. 07446

Reference
Price $1,725
Dimensions 50 1/4"H x 36W x 24D
Weight 300 lbs.
Type Magnetic suspension
Drivers 24" woofer; 10" midrange; 7" midrange/tweeter; 1" super tweeter
Response 16 Hz to 25 kHz
Crossover 250 Hz; 3 kHz; 7 kHz
Impedance 5 to 8 ohms
Min. power 25 watts (14 dBW)
Max. power 300 watts (24.75 dBW)
Features Matched pairs

Holton Tower
Price $495
Dimensions 49 1/2"H x 20W x 14D
Weight 105 lbs.
Type Magnetic suspension
Drivers Two 10" woofers; 1" tweeter
Response 25 Hz to 25 kHz
Crossover 2 kHz
Impedance 4 ohms
Min. power 15 watts (11.75 dBW)
Max. power 150 watts (21.75 dBW)
Features Matched pairs

Models also available
SP-Eight, $149; SP-Six, $109

1980 Edition
Drivers
10" woofer, 4½" midrange, 1" dome tweeter
Response
30 Hz to 22 kHz, +0, -10 dB, 40 Hz to 20 kHz, ±3 dB
Crossover
3 kHz
Impedance
8 ohms
Min. power
10 watts (10 dBW)
Max. power
200 watts (23 dBW)
Controls
Midrange, tweeter
Features
Tweeter can be installed for optimum imaging with system positioned vertically or horizontally; separate midrange sub enclosure; individually fused drivers

AS-1363
Price
$150 (kit)
Dimensions
23⅛H x 14⅛W x 11½D
Weight
40 lbs.
Type
Acoustic suspension
Drivers
10" woofer, 4½" midrange, 1" dome tweeter
Response
30 Hz to 20 kHz, -10 dB
Crossover
750 Hz, 4 kHz
Impedance
8 ohms
Min. power
5 watts (7 dBW)
Max. power
130 watts (21.25 dBW)
Controls
Midrange, tweeter

AS-1332
Price
$58 (kit)
Dimensions
19½H x 10½W x 8 D
Weight
15 lbs.
Type
Infinite baffle
Drivers
8" woofer, 1¼" tweeter
Response
40 Hz to 20 kHz, 0, -10 dB, 50 Hz to 18 kHz, ±3 dB
Crossover
3.4 kHz
Impedance
8 ohms
Min. power
10 watts (10 dBW)
Max. power
50 watts (17 dBW)
Controls
Tweeter
Features
Individually fused drivers

Models also available
AS-1348, $390 (kit); AS-1344, $150 (kit); AS-1342, $80 (kit)

HECO
Hammond Industries, Inc.
155 Michael Drive
Syosset, N.Y. 11791

D-100
Price
$499
Dimensions
31½H x 15¼W x 10¼D
Weight
75 lbs.
Type
Dynamic
Drivers
14" woofer, four 4½" midranges; 2½" x 1¼" tweeter
Crossover
800 Hz, 2 kHz
Impedance
4 ohms
Max. power
200 watts (23 dBW)
Controls
Bamplication

HED
Cerwin Vega, Inc.
12250 Montague St.
Arleta, Calif. 91331

U-351
Price
$375
Dimensions
32H x 19W x 17¾D
Weight
105 lbs.
Type
Vented
Drivers
15" cone bass, 6" cone midrange, 1" voice-coil horn tweeter
Response
32 Hz to 17 kHz, ±4 dB re 103 dB SPL at 1 meter at 1 watt
Crossover
700 Hz, 4 kHz
Impedance
8 ohms
Min. power
5 watts (7 dBW)
Max. power
100 watts (20 dBW)
Controls
Midrange, tweeter
Features
Circuit breaker protection for tweeter

UT-12R
Price
$390
Dimensions
39½H x 15¼W x 15D
Weight
75 lbs.
Type
Ported reflex
Drivers
12" cone bass; two 6" cone midranges, 1" voice-coil horn tweeter
Response
32 Hz to 17 kHz, ±4 dB re 98 dB SPL at 1 meter at 1 watt
Crossover
700 Hz, 4 kHz
Impedance
8 ohms
Min. power
5 watts (7 dBW)
Max. power
80 watts (19 dBW)
Controls
Midrange, rear midrange, tweeter
Features
Circuit breaker protection for tweeter, rear-reflecting driver

SW-12
Price
$280
Dimensions
15¼H x 25½W x 15½D
Weight
42 lbs.
Type
Ported reflex
Drivers
12" cone bass
Response
38 Hz to 150 Hz, ±4 dB re 90 dB SPL at 1 meter at 1 watt
Impedance
8 ohms
Min. power
5 watts (7 dBW)
Max. power
100 watts (20 dBW)

U-12
Price
$195
Dimensions
25¼H x 15½W x 11D
Weight
37 lbs.
Type
Ported reflex
Drivers
12" cone bass; 1" voice-coil horn tweeter
Response
45 Hz to 17 kHz, ±4 dB re 96 dB SPL at 1 meter at 1 watt
Crossover
2 kHz
Impedance
8 ohms
Min. power
5 watts (7 dBW)
Max. power
60 watts (17.75 dBW)
Controls
Tweeter
Features
Circuit breaker protection for tweeter

U-6
Price
$65
Dimensions
16H x 10W x 8D
Weight
12 lbs.
Type
Ported reflex
Drivers
6" cone bass; 1" voice-coil Horn tweeter
Response
60 Hz to 20 kHz, ±4 dB re 90 dB SPL at 1 meter at 1 watt
Crossover
3 kHz
Impedance
8 ohms
Min. power
5 watts (7 dBW)
Max. power
40 watts (16 dBW)
Controls
Tweeter
Features
Circuit breaker protection for tweeter

Models also available
U-321, $265; U-15, $325; U-123, $215; U-10, $170

HIKICHI
Hitachi Sales Corp. of America
401 W. Artesia Blvd.
Compton, Calif. 90220

HS-430
Price
$399.95
Dimensions
23½H x 14½W x 14 15/16D
Weight
46 lbs. 3 oz.
Type
Vented
Drivers
Woofer; midrange; tweeter
Response
35 Hz to 20 kHz; -15 dB re 92 dB SPL at 1 meter at 1 watt
Crossover
700 Hz, 4 kHz
Impedance
8 ohms
Min. power
120 watts (20.75 dBW)
Controls
Dual
Features
Three-way speaker system with exclusive Hitachi metal cone and patented gathered edge

HS-371
Price
$199.95
Dimensions
23½H x 14½W x 12¾D
Weight
35 lbs. 3 oz.
Type
Sealed acoustic suspension
Drivers
Woofer; midrange; tweeter
Response
45 Hz to 20 kHz; -15 db re 90 dB SPL at 1 meter at 1 watt
Crossover
15 kHz; 6 kHz
Impedance
8 ohms
Min. power
60 watts (17.75 dBW)
Controls
Tweeter (-3 dB)
Features
Clean performance at all frequencies; exceptional power-handling capacity; attractive decorator-styled cabinets; easily removable matte grille cloth

HSA-3100
Price
$100
Dimensions
14½H x 23½W x 11¾D
Weight
28 lbs. 4 oz.
Type
Vented
Drivers
Woofer; midrange; tweeter
Response
45 Hz to 20 kHz
Impedance
8 ohms
Max. power
50 watts rms (17 dBW)
Features
Same as Model HSA-3120

Models also available
HSA-330, $250; HSA-3120, $150

IMPACT
Unitronex Corp.
1171 Landmeier Rd.
Elk Grove, Ill. 60007

Impact 8
Price
$399
Dimensions
26 ⅔H x 17 3/10W x 12 3/5D
Weight
64 lbs.
Type
Balanced; ducted-port speaker system with time-aligned transducers
Drivers
12" woofer; 7" midrange; 2" x 5" horn tweeter
Response
30 Hz to 23 kHz, 105 dB SPL at 1 meter at 1 watt
Crossover
300 Hz, 7 kHz
Impedance
8 ohms (nominal)
Min. power
10 watts (10 dBW)
Max. power
150 watts (21.75 dBW)
Controls
Tweeter; midrange (±3 dB)

Impact 6
Price
$299
Models also available
Impact 4, $199; Impact 2, $149

INFINITY
Infinity Systems, Inc.
7930 Deering Ave.
Canoga Park, Calif. 91304

High Fidelity's Buying Guide to Speaker Systems
INOTECH
Innotech Audio Systems
182 Henry St.
Brooklyn, N.Y. 11201

D-24
Price $427
Dimensions 36"H x 10½W x 15¾D
Weight 55 lbs.
Type Asymmetrical transmission line
Drivers Two 5" Bextrene woofers; one 1½" Mylar dome midrange; 1" Mylar dome tweeter
Response 35 Hz to 20 kHz, ± 3 dB
Crossover 3.5 kHz, 7.5 kHz
Impedance 8 ohms
Min. power 35 watts (15.5 dBW)
Max. power 200 watts (23 dBV)
Controls Fuse protection
Features Asymmetrical geometry to eliminate creation of standing waves inside and outside of enclosure; narrow enclosure to allow full radiation of sound waves resulting in wide dispersion

JANIS
Janis Audio Associates, Inc.
2889 Roebling Ave.
Bronx, N.Y. 10461

W-1 Subwoofer
Price $595
Dimensions 17½H x 22W x 22D (floor standing)
Weight 90 lbs.
Type Slot-loaded
Drivers 15" dynamic
Response 30 to 100 Hz, ± 1 dB re 85 dB SPL
Crossover External electronic crossover, 18 dB/ octave at 100 Hz
Impedance 8 ohms
Min. power 60 watts (18 dBW) continuous
Max. power 200 watts (23 dBV) continuous
Controls System is fused to protect against amplifier instability
Features Designed to extend bass response of high-quality wide-range speakers; harmonic distortion components of 1% or less, Individual calibration report supplied with each speaker; to be used in biamplified mode (crossovers available)

JANSZEN
Janszen Electrostatic by Soundmates
796 29th Ave., S.E.
Minneapolis, Minn. 55414

Z-40
Price $530
Dimensions 49½H x 13¼W x 13¼D
Weight 64 lbs.
Type Dynamic/electrostatic
Drivers 10" woofer; passive radiator; 2 mid-frequency electrostatic tweeters; 2 high-frequency electrostatic tweeters
Response 33 Hz to 2 kHz, ± 3 dB re 86 dB SPL at 2 volts at 1 meter, 26 Hz to 30 kHz, ± 6 dB
Crossover 800 Hz, 4 kHz
Impedance 4 ohms

Models also available
Reference Standard 2.5, $836, Column II, $369, 3000B, $235, Qa, $175

Quantum Jr.
Price $299
Dimensions 25½H x 14½W x 12D
Weight 50 lbs.
Type Dynamic
Drivers 12" woofer; 1½" dome midrange; Infinity EMT™ tweeter
Response 40 Hz to 32 kHz, ± 3 dB
Crossover 600 Hz, 4 kHz
Impedance 4 ohms
Min. power 25 watts (14 dBW)
Max. power 200 watts (23 dBV)
Controls Midrange, tweeters
Features Optional metal pedestals

Qb
Price $207
Dimensions 25½H x 14½W x 12D
Weight 43 lbs.
Type Dynamic
Drivers 10" woofer; 4" midrange, Infinity EMT™ tweeter
Response 42 Hz to 32 kHz, ± 3 dB
Crossover 600 Hz, 4 kHz
Impedance 4 ohms
Min. power 15 watts (11.75 dBW)
Max. power 150 watts (21.75 dBV)
Controls Midrange
Features Optional metal pedestals

JBL
James B. Lansing Sound, Inc.
8500 Balboa Blvd.
Northridge, Calif. 91329

L-212
Price $2,000
Dimensions 38½H x 17W x 13D
Weight 225 lbs.
Type Dynamic
Drivers 12" cone woofer; 8" cone midrange; 5" cone midrange; 1" dome tweeter
Response 70 Hz to 800 Hz, 3 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 300 watts (24.75 dBV)
Controls Continuously variable tweeter and midrange; ultra-bass and phase controls
Features 12" self-powered common bass loudspeaker in a third enclosure (dim.: 19½H x 18½W x 18½D); system sensitivity: 91 dB SPL at 1 meter at 1 watt

L-220
Price $875
Dimensions 48¾H x 20 3/16W x 15¾D
Weight 121 lbs.
Type Passive radiator
Drivers 14" direct bass radiator with 15" passive radiator; 5" direct midrange; ultra-high-frequency ring radiator
Response 800 Hz, 5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 400 watts (26 dBW)
Controls Tweeter, midrange
Features Sensitivity: 90 dB SPL at 1 meter at 1 watt

L-150
Price $595
Dimensions 41¾H x 17W x 13D
Weight 80 lbs.
Type Passive radiator
Drivers 12" direct bass radiator with 12" passive radiator; 5" direct midrange radiator; 1" dome tweeter
Response 1 kHz to 4 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 300 watts (24.75 dBV)
Controls Tweeter, midrange

Models also available
Z-30, $430, Z-20, $375

1980 Edition
Features | 431WX
--- | ---
Price | $365
Dimensions | 23⅞H x 14½W x 11¼D
Weight | 49 lbs.
Type | Bass reflex
Drivers | 12" direct radiator woofer; 5" direct radiator midrange; 1½" direct radiator tweeter
Crossover | 1.5 kHz; 6 kHz
Impedance | 8 ohms
Min. power | 10 watts (10 dBW)
Max. power | 300 watts (24.75 dBW)
Controls | Tweeter; midrange
Features | Sensitivity: 91 dB SPL at 1 meter at 1 watt

Response | 89 dB SPL at 1 meter at 1 watt
Crossover | 1.2 kHz; 5 kHz
Impedance | 6 ohms
Min. power | 15 watts (11.75 dBW)
Max. power | 150 watts (21.75 dBW)
Controls | Tweeter; midrange
Features | Linear-phase coherency

Contrara Pedestal
Price | $280
Dimensions | 33⅞H x 11⅞W x 11½D
Weight | 40 lbs.
Type | Acoustic suspension
Drivers | Two 8" woofers; 1" tweeter
Response | 92 dB SPL at 1 meter at 1 watt
Crossover | 2.5 kHz
Impedance | 8 ohms
Min. power | 10 watts (10 dBW)
Max. power | 100 watts (20 dBW)

Features | Full 5-year transferable warranty

Piccola Bass Cube
Price | $275
Dimensions | 21⅞H x 18⅝W x 18D
Weight | 40 lbs.
Type | Acoustic suspension
Drivers | 12" woofer
Response | 92 dB SPL at 1 meter at 1 watt
Crossover | 80 Hz
Impedance | 8 ohms
Min. power | 30 watts (14.75 dBW)
Max. power | 200 watts (23 dBW)

Features | Common bass subwoofer

Contrara Tower
Price | $210
Dimensions | 26⅞H x 11⅝W x 11½D
Weight | 35 lbs.
Type | Acoustic suspension
Drivers | 10" woofer; 1" tweeter
Response | 89 dB SPL at 1 meter at 1 watt
Crossover | 2.5 kHz
Impedance | 8 ohms
Min. power | 15 watts (11.75 dBW)
Max. power | 100 watts (20 dBW)

Features | Three-position high frequency

JENSEN
Jensen Sound Labs
4136 N. United Parkway
Schiller Park, Ill. 60176

System B
Price | $549.50
Dimensions | 26⅝H x 16⅝W x 11⅝D (including base)
Weight | 78 lbs.
Type | Vented
Drivers | 12" woofer; 1½" upper midrange; 1" main tweeter; 2" rear-firing tweeter
Response | 27 Hz to 21 kHz, +2, -4 dB re 90 dB SPL at 1 meter at 1 watt
Crossover | 300 Hz; 2 kHz; 6 kHz
Impedance | 8 ohms
Min. power | 9 watts (9.5 dBW)
Max. power | 150 watts (21.75 dBW)
Controls | Tweeter; upper midrange
Features | Power protection circuit; optimized power response; 5-year transferable warranty; oak veneer saddle base with variable tilt vertically aligned drivers; impedance compensated crossover network

LS-5b
Price | $279.95
Dimensions | 26½H x 15⅜W x 13⅜D
Weight | 50 lbs.
Type | Acoustic suspension
Drivers | 12" woofer; two 3½" cone midrange drivers; 1" soft-dome tweeter
Response | 50 Hz to 20 kHz, ±2 dB re 90 dB SPL at 1 meter at 1 watt
Crossover | 1 kHz; 4 kHz
Impedance | 8 ohms
Min. power | 10 watts (10 dBW)
Max. power | 50 watts (17.5 dBW)
Features | Full 5-year transferable warranty

30
Price | $169.95
Dimensions | 24½H x 15⅞W x 10D
Weight | 28 lbs.
Type | Acoustic suspension
Drivers | 10" woofer; 3½" midrange; 2½ cone tweeter
Response | 60 Hz to 18 kHz, ±3 dB
Crossover | 1.5 kHz; 4 kHz
Impedance | 8 ohms
Min. power | 10 watts (10 dBW)
Max. power | 50 watts (17 dBW)
Features | Vertically aligned drivers; full 5-year transferable warranty

Models also available
LS-6b, $399.95; LS-4b, $219.95; LS-3b, $154.95; 20, $89.95

JONSON SPEAKERS
Speakers and Associated Sound, Inc.
420 Austin Place
Bronx, N.Y. 10455

Tri-Angle
Price | $330
Dimensions | 29×⅝H x 18W x 14D
Weight | 60 lbs.
Type | Vented
Drivers | 1" dome tweeter; 1½" dome midrange; 12" woofer

JENNINGS RESEARCH
Contrara Research, Inc.
5719 South Avalon Blvd.
Los Angeles, Calif. 90011

3-DM-2000/WDR-2H, "The President"
Price | $799
Dimensions | 42¼H x 21¼W x 20D
Weight | 120 lbs.
Type | Acoustic suspension
Drivers | Top unit: "Pentagon": 5 midrange domes, 3 dome tweeters; bass unit: two 10" woofers
Response | 25 Hz to 20 kHz, ±3 dB re 60 dB SPL at 1 meter at 1 watt
Crossover | 2 kHz; 4 kHz
Impedance | 15 ohms
Min. power | 50 watts (17 dBW)
Max. power | 140 watts (21.5 dBW)
Features | None

3DM-1/WHS-2, "The Diplomat"
Price | $450
Dimensions | 27H x 24W x 18D
Weight | 80 lbs.
Type | Acoustic suspension
Drivers | Top unit: "Pentagon Junior": 4 full-range drivers, 1 tweeter; bass unit: two 10" woofers facing downwards
JR LOUDSPEAKERS
H & H International
3047 W. Henrietta Road
Rochester, N. Y. 14623

**JR-149**
- **Price:** $550/pr.
- **Dimensions:** 14½H x 9W x 9D
- **Weight:** 12 lbs.
- **Type:** Sealed cabinet
- **Drivers:** Bextrene cone woofer; soft-dome tweeter
- **Response:** 70 Hz to 20 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt
- **Crossover:** 3 kHz
- **Impedance:** 16 ohms
- **Min. power:** 20 watts (13 dBW)
- **Max. power:** 100 watts (20 dBW)
- **Controls:** None
- **Features:** Aluminum cylinder

**Models also available**
- **JR-150:** $825/pr.

**JVC**
U.S. JVC Corp.
Hi-Fi Division
58-75 Queens Midtown Expressway
Maspeth, N. Y. 11378

**Zero 9**
- **Price:** $700
- **Dimensions:** 41¼H x 16 1/16W x 16½D
- **Weight:** 92 lbs. 6.4 oz.
- **Type:** Bass reflex

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**JR Model 149**

**Koss CM/1030**

**Martin TL-6050**

**Models also available**
- Zero 5, $400; SK-1000 II, $280; SK-600 II, $240/pr.; SK-400 II, $150/pr.; S-M3, $169.90/pr.

**KA/KUSTOM ACOUSTICS**
Kustom Acoustics
6624 W. Irving Park Road
Chicago, Ill. 60634

**Titan Labyrinth**
- **Price:** $1,995
- **Dimensions:** 54H x 30W x 18D (with base)
- **Weight:** 375 lbs.
- **Type:** Dual, 8" double helical tapered acoustical trapezoidal line
- **Drivers:** Two 12" rubber composition cone woofers; two 6½" plastic cone midranges; 1½" magnet-liquid tweeters; 1" dome magnetic liquid super tweeter
- **Response:** 14 Hz to 22 kHz, ±2½ dB
- **Crossover:** 60 Hz, 2 kHz; 7.5 kHz
- **Impedance:** 4 ohms (3.2 ohms min.; 9 ohms max)
- **Min. power:** 15 watts (11.75 dBW) per channel into 4 ohms
- **Max. power:** 300 watts (24.75 dBW) per channel into 4 ohms
- **Controls:** 4 level controls
- **Features:** Complete with base and casters; may be bi- or triamped; fuse protection; phase-corrected; transducers have T-shaped pole pieces and mammoth magnet assemblies

**TAS**
- **Price:** $999
- **Dimensions:** 40H x 24W x 18D
- **Weight:** 225 lbs.
- **Type:** Dual, half wavelength tapered acoustical trapezoidal line
- **Drivers:** Two 12" cone woofers; 5" Bextrene cone midrange; 1¼" dome mid-tweeter; 1" dome super tweeter
- **Response:** 25 Hz to 22 kHz, ±2.5 dB re 97 dB SPL at 1 meter at 1 watt
- **Crossover:** 350 Hz; 2½ kHz; 7.5 kHz
- **Impedance:** 4 to 6 ohms (4 recommended; 2 ohms min.; 9 ohms max)
- **Min. power:** 10 watts (10 dBW) per channel into 8 ohms
- **Max. power:** 250 watts (24 dBW) per channel into 8 ohms
- **Controls:** 3 T-pads (heavy-duty wire-wound)
- **Features:** KA Var-I-Vent (adjusts system resonance); may be bi- or triamped; fuse protection, phase-corrected; magnet-liquid mid-tweeters

**Trapezoid Subwoofer**
- **Price:** $399
### Specifications

**Zoid**
- **Price**: $189
- **Dimensions**: 17½H x 10½W x 9D
- **Weight**: 30 lbs
- **Type**: Tapered acoustical trapezoidal line/labyrinth
- **Drivers**: 8" woofer, 1" magnet-liquid dome tweeter
- **Response**: 60 Hz to 25 kHz, ±2 dB
- **Impedance**: 8 ohms
- **Features**: Four built-in sets of terminals in back; biamp with or without electronic crossover

**Corelli**
- **Price**: $215
- **Dimensions**: 18½H x 8 3/5W x 11D
- **Weight**: 20 lbs
- **Type**: Infinite baffle
- **Drivers**: 8" woofer, ¾" dome tweeter
- **Response**: 50 Hz to 30 kHz, ±3 dB
- **Impedance**: 8 ohms
- **Min. power**: 25 watts (14 dBW)
- **Max. power**: 50 watts (17 dBW)
- **Features**: Walnut or teak wood cabinet

### Models also available
- **Cantata**, $625 (assembled), $395 (kit); **Calinda**, $350, $101, $250, $303, $175

**Kenwood**
- **Kenwood Electronics, Inc.**
- **75 Seaview Drive**
- **Secaucus, N.J. 07094**

### Specifications

**Seven**
- **Price**: $1,250
- **Dimensions**: 37H x 18 1/4W x 15D
- **Weight**: 121 lbs
- **Type**: Acoustic suspension
- **Drivers**: 14" woofer, 1 1/4" midrange, 1 1/4" tweeter, 3/4" super tweeter
- **Response**: 20 Hz to 35 kHz, 94 dB SPL at 1 watt at 1 meter
- **Impedance**: 8 ohms
- **Min. power**: 50 watts (21.75 dBW)
- **Max. power**: Midrange, tweeter, super tweeter

**LS-1600**
- **Price**: $550
- **Dimensions**: 27 15/16H x 15 11/32W x 12 23/32D
- **Weight**: 64 lbs 14 oz
- **Type**: Ventedd
- **Drivers**: 13" woofer, 5 1/4" midrange, high-frequency driver
- **Response**: 32 Hz to 20 kHz, 92 dB SPL at 1 meter at 1 watt
- **Impedance**: 8 ohms
- **Min. power**: 50 watts (17 DBW)
- **Max. power**: 200 watts (27.5 DBW)
- **Features**: Mid/high frequency
- **Features**: Linear response

**LS-408B**
- **Price**: $310
- **Dimensions**: 29H x 16 1/2W x 14 1/2D
- **Weight**: 50 lbs
- **Type**: Vented
- **Drivers**: 12" woofer, 4 1/4" midrange, 1 1/4" tweeter
- **Response**: 40 Hz to 20 kHz, 92 dB SPL at 1 meter at 1 meter
- **Impedance**: 8 ohms
- **Min. power**: 20 watts (13 DBW)
- **Max. power**: 160 watts (22 DBW)
- **Features**: Mid/high frequency

**LS-405B**
- **Price**: $175
- **Dimensions**: 23 15/16H x 13 1/2W x 12 4/5D
- **Weight**: 30 lbs
- **Type**: Vented
- **Drivers**: 10" woofer, 1 1/4" tweeter
- **Response**: 50 Hz to 20 kHz, 93 dB SPL at 1 meter at 1 meter
- **Impedance**: 2.5 kHz
- **Min. power**: 10 watts (10 DBW)
- **Max. power**: 200 watts (23 DBW)
- **Features**: Fuse protection, mirror-matched walnut veneer; over 1" thick high density fiberboard; mirrored components, infinite line enclosure on tweeter

### Models also available
- **Trapezoid**, $999; **Impulse** CRM, $499

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**KEF**
- **Intratec**
- **P.O. Box 17414**
- **Dulles International Airport**
- **Washington, D.C. 20041**

**105**
- **Price**: $950
- **Dimensions**: 38H x 17 9/16W x 16 3/10D
- **Weight**: 80 lbs
- **Type**: Coherent phase
- **Drivers**: 12" woofer, 5" cone midrange, 1 1/2" dome tweeter
- **Response**: 30 Hz to 25 kHz, ±2 dB
- **Impedance**: 8 ohms
- **Min. power**: 40 watts (15 DBW)
- **Max. power**: 200 watts (23 DBW)
- **Features**: Midrange, tweeter level

**104A**
- **Price**: $425 (assembled), $250 (kit)
- **Dimensions**: 24 4/5H x 13 11/32W x 10 1/5D
- **Weight**: 36 lbs
- **Type**: Reflex
- **Drivers**: 8" woofer, 9" x 13" cone, 3/4" dome tweeter
- **Response**: 50 Hz to 20 kHz, ±2 dB
- **Impedance**: 8 ohms
- **Min. power**: 15 watts (11.75 DBW)
- **Max. power**: 200 watts (20 DBW)
- **Features**: Midrange level

**304**
- **Price**: $295
- **Dimensions**: 26 7/10H x 11W x 12 2/5D
- **Weight**: 30 lbs
- **Type**: Infinite baffle
- **Drivers**: Two 8" woofers, 1" dome tweeter
- **Response**: 60 Hz to 20 kHz, ±3 dB re 87 dB SPL at 1 meter at 1 watt
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 DBW)
- **Max. power**: 100 watts (20 DBW)

### Models also available
- **LS-1900**, $1,165; **LS-1200**, $365; **LS-4075**, $245; **LS-404B**, $265/pr

**Kinetic Audio International**
- **6624 W. Irving Park Road**
- **Chicago, Ill. 60634**

**The Labyrinth**
- **Price**: $1,495
- **Dimensions**: 52H x 16W x 18D (with base)
- **Weight**: 185 lbs
- **Type**: 9" tapered acoustical trapezoidal labyrinth
- **Drivers**: 12" synthetic composition cone woofer, 6 1/2" plastic cone midrange, 1 1/4" synthetic dome transmission line midwoofer, 1" dome tweeter
- **Response**: 18 Hz to 22 kHz, ±2.5 dB
- **Impedance**: 90 Hz; 2 kHz: 7.5 kHz
- **Min. power**: 15 watts (11.75 DBW) per channel into 8 ohms
- **Max. power**: 200 watts (23 DBW) per channel into 8 ohms
- **Features**: May be bi- or triamped with or without electronic crossover(s) (14 terminals included for all possible connections applications); fuse protection, phase-coherent, magnetic-liquid tweeter; linear phase; mirror-matched walnut veneer and components

**STAT**
- **Price**: $399
- **Dimensions**: 17 1/2H x 10 1/2W x 9D
- **Weight**: 40 lbs
- **Type**: Tapered acoustical trapezoidal
- **Drivers**: Two 5" Bextreme midwoofers, 1 1/4" synthetic dome transmission line magnetic liquid tweeter
- **Response**: 34 Hz to 22 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt
- **Impedance**: 2.5 kHz
- **Min. power**: 4 ohms
- **Max. power**: 200 watts (23 DBW) into 8 ohms
- **Features**: T-pads (heavy-duty wire wound)

**IMP**
- **Price**: $299
- **Dimensions**: 24H x 14W x 4D
- **Weight**: 60 lbs
- **Type**: Tapered acoustical line
- **Drivers**: 12" woofer, 1 1/4" magnet-liquid tweeter, (synthetic dome) 5" Bextreme midrange with T-shaped pole piece
- **Response**: 29 Hz to 20 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt
- **Impedance**: 200 Hz; 2 kHz
- **Min. power**: 6 to 8 ohms
- **Max. power**: 10 watts (10 DBW)
- **Max. power**: 200 watts (23 DBW)
- **Features**: T-pads (2) wire-wound

**Models also available**
- **Trapezoid**, $999; **Impulse** CRM, $499

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High Fidelity's Buying Guide to Speaker Systems
KIRKSAETER
Kirksaeter-Saga Hi-Fi, Inc.
398 South Pickett St.
Alexandria, Va. 22304

Monitor 400
Price $1,400
Dimensions 26½H x 18½W x 13¾D
Weight 59 lbs 8 oz.
Type Acoustic suspension
Drivers Four 8" long excursion woofers; four 1½" dome midranges, four 1" dome tweeters
Response 16 Hz to 25 kHz (DIN)
Crossover 6,650 Hz, 4.5 kHz
Impedance 4 to 8
Min. power 30 watts (14.75 dBV)
Max. power 400 watts (26 dBV)
Controls Two tweeter, 2 midrange controls adjustable from 0 to 6 dB
Features All drivers fused; designed for disco operation; speaker radiates sound from the top, both sides and front for panoramic dispersion; walnut finish

Monitor 250
Price $850
Dimensions 26¼H x 18½W x 9¾D
Weight 46 lbs 5 oz.
Type Acoustic suspension
Drivers Two 10" long excursion woofers; two 1½" dome midranges; two 1" dome tweeters
Response 18 Hz to 25 kHz (DIN)
Crossover 650 Hz, 4.5 kHz
Impedance 4 to 8
Min. power 20 watts (13 dBV)
Max. power 250 watts (24 dBV)
Controls Two tweeter, 2 midrange controls adjustable from 0 to 6 dB
Features Same as Monitor 400

Monitor 100
Price $300
Dimensions 16¼H x 10½W x 8D
Weight 18 lbs.
Type Acoustic suspension
Drivers 8" woofer; 1½" dome midrange; 1" dome tweeter
Response 28 Hz to 25 kHz (DIN)
Crossover 650 Hz, 4.5 kHz
Impedance 4 to 8 ohms
Min. power 10 watts (10 dBV)
Max. power 100 watts (20 dBV)
Controls Tweeter (adjustable 0 to 6 dB), midrange (adjustable from 0 to 6 dB)

Models also available
Monitor 150, $600; Monitor 120, $375

KLEIN & HUMMEL
Gotham Audio Corp.
741 Washington St.
New York, N.Y. 10014

0-92
Price $3,360
Dimensions 31½H x 17½W x 11¼D
Weight 66 lbs.
Type Acoustic suspension
Drivers 4 concs
Response 50 Hz to 16 kHz, ± 5 dB re 80 dB SPL at 1 meter at 1 watt
Crossover 100 Hz, 3 kHz
Min. power Low frequency: 120 watts (20.75 dBV); mid-frequency: 60 watts (17.75 dBV); high-frequency: 60 watts (17.75 dBV)
Max. power 240 watts (23.75 dBV) (self-powered)

Controls Woofer; tweeter
Features Plug-in compensators for room placement; 0, 1, 2, or 3 surfaces

Models also available
OY, $1,140

KLH Research & Development Corp.
145 University Ave.
Westwood, Mass. 02090

KLH-1
Price $1,150/pr. (including Analog Bass Computer®)
Dimensions 30½H x 10½W x 11D
Weight 55 lbs ea.
Type Computer-controlled, vented sixth-order Butterworth alignment
Drivers Two 8" die-cast frame dynamic bass units, with natural polypropylene formed cones; 4½" midrange with formed cone of natural polypropylene; 1" dome tweeter with butyl-loaded synthetic soft dome
Response 30 Hz to 20 kHz, ± 3 dB re 86 dB SPL at 1 meter at 1 watt
Crossover 750 Hz, 3 kHz
Impedance 4 ohms
Min. power 16 watts (16 dBV)
Max. power 250 watts (24 dBV)
Controls Position, power indicator, tape, in/out (on computer)
Features Utilizes Analog Bass Computer® for extended bass response in conjunction with hi-fi flux motor system; proprietary drivers with natural polypropylene cones; includes speaker stand

KLH-3
Price $450 (including Analog Bass Computer®)
Dimensions 12½H x 8½W x 6D
Weight 25 lbs.
Type Computer-controlled, vented sixth-order Butterworth alignment
Drivers 6" die-cast frame dynamic bass unit with natural polypropylene cone; one 1" dome tweeter with butyl loaded synthetic soft dome
Response 40 Hz to 20 kHz, ± 3 dB re 84 dB SPL at 1 meter at 1 watt
Crossover 2.75 kHz
Impedance 4 ohms
Min. power 20 watts (16 dBV)
Max. power 200 watts (23 dBV)
Controls Position, tape, in/out (on computer)
Features Utilizes Analog Bass Computer® for extended bass response in conjunction with hi-fi motor system; proprietary drivers with natural polypropylene cones

319B
Price $230
Dimensions 24½H x 14½W x 11¼D
Weight 40 lbs.
Type Tuned phase Inverter
Drivers 12" woofer; 5½" cone midrange; 1½" soft-dome tweeter; 2½" cone tweeter on rear
Response 52.5 Hz to 22 kHz
Crossover 1 kHz, 3 kHz
Impedance 4 ohms
Min. power 10 watts (10 dBV)
Max. power 100 watts (20 dBV)
Controls Midrange; tweeter

327
Price $179
Dimensions 23½H x 14W x 10¼D
Weight 29 lbs
Type Acoustic suspension
Drivers 10" woofer; 4½" cone midrange; 2½" cone tweeter

Response 55 Hz to 18 kHz
Crossover 900 Hz, 3.6 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBV)
Max. power 80 watts (19 dBV)
Controls Midrange; tweeter

311B
Price $100
Dimensions 21H x 12½W x 9¼D
Weight 20 lbs 8 oz.
Type Acoustic suspension
Drivers 8" woofer; 2½" cone tweeter
Response 64 Hz to 18 kHz
Crossover 3 kHz
Impedance 8 ohms
Min. power 8 watts (9 dBV)
Max. power 50 watts (17 dBV)

Models also available
KLH-2, 660/pr. (including Analog Bass Computer®); KLH-4, $290/pr., 337, $199, 317B, $130

KLIPSCH
Klipsch & Associates
P.O. Box 688
Hope, Ark. 71801

Klipschorn
Price $1,275 (walnut oil, walnut lacquer); $1,775 (rosetowel, teak, oak, cherry); $950 (birch, raw, black); $844 (decorator model in birch, raw, black)
Dimensions 52H x 31½W x 28⅜D (walnut, rosewood, teak, oak, cherry); 50½H (birch, raw, black); 49½H (decorator model)
Weight 180 to 240 lbs., depending on style
Type Horn
Drivers 15" bass; compression midrange; compression high frequency
Response 35 Hz to 17 kHz, ± 5 dB
Crossover 400 Hz, 6 kHz
Impedance 8 ohms
Min. power 1 watt (0 dBV)
Max. power 105 watts (20.25 dBV)

Belle Klipsch
Price $1,045 (walnut oil, walnut lacquer); $1,498 (rosewood, teak, oak, cherry)
Dimensions 35¼H x 30¼W x 18¾D
Weight 125 lbs.
Type Horn
Drivers 15" bass; compression midrange; compression high frequency
Response 45 Hz to 17 kHz, ± 5 dB
Crossover 400 Hz, 6 kHz
Impedance 8 ohms
Min. power 1 watt (0 dBV)
Max. power 105 watts (20.25 dBV)

Heresy
Price $362 (walnut oil, walnut lacquer); $475 (rosewood, teak, oak, cherry); $311 (birch, raw, black)
Dimensions 21½H x 15½W x 13½D
Weight 55 lbs.
Type Dynamic
Drivers 12" bass; compression midrange; compression high frequency
Response 50 Hz to 17 kHz, ± 5 dB
Crossover 700 Hz, 6 kHz
Impedance 8 ohms
Min. power 1 watt (0 dBV)
Max. power 105 watts (20.25 dBV)

Models also available
La Scala, $674 (birch, raw, black); $704 (birch lacquer-finished); Cornwall, $638
(walnut oil, walnut lacquer); $813
(rosewood, teak, oak, cherry); $495 (birch, raw, black)

KOSS
Koss Corp.
4129 North Port Washington Ave.
Milwaukee, Wis. 53212

CM/1030
Price $549.95
Dimensions 39H x 13¾W x 14½D
Weight 74 lbs.
Type Vented
Drivers 10'' woofer, two 4½'' midrange drivers, 1'' tweeter, 1'' super tweeter
Response 29 Hz to 19 kHz, -3 dB
Crossover 400 Hz, 2.5 kHz, 6 kHz
Impedance 7 ohms
Min. power 15 watts (11.75 dBW)
Max. power 200 watts (23 dBW)
Controls Midrange, tweeter, super tweeter

CM/530
Price $229.95
Dimensions 24½H x 13¾W x 11¼D
Weight 35 lbs.
Type Passive radiator
Drivers 8'' woofer, 1'' tweeter
Response 36 Hz to 17 kHz, -3 dB
Crossover 3 kHz
Impedance 7/4 ohms
Min. power 15 watts (11.75 dBW)
Max. power 75 watts (18.75 dBW)
Controls Tweeter
Features Mirror-imaged pairs

Models also available
CM/1020, $449.95, CM/1010, $349.95

LAFAYETTE
Lafayette Radio Electronics
111 Jericho Turnpike
Syosset, N.Y. 11791

1009
Price $99.99
Dimensions 24¾H x 14¼W x 10½D
Weight 40 lbs.
Type Acoustic suspension
Drivers 12'' woofer, 5'' midrange, 3'' tweeter
Response 40 Hz to 18 kHz
Impedance 8 ohms
Min. power 5 watts (7 dBW)
Max. power 55 watts (17.25 dBW) peak
Controls Midrange, tweeter
Features Simulated birch finish

1005
Price $59.99
Dimensions 20½H x 12½W x 8½D
Weight 21 lbs.
Type Acoustic suspension
Drivers 10'' woofer, 2½'' tweeter
Impedance 8 ohms
Min. power 5 watts (7 dBW)
Max. power 50 watts (17 dBW) peak
Features Simulated birch finish

Pip Speak
Price $50
Dimensions 7½H x 4½W x 4½D
Weight 6 lbs.
Type Acoustic suspension mini speaker system
Drivers 4'' woofer, 1'' soft-dome tweeter

Response 80 Hz to 20 kHz
Crossover 2.5 kHz
Impedance 8 ohms
Min. power 12 watts (10.75 dBW)
Max. power 50 watts (17 dBW)
Features Die-cast aluminum cabinet, perforated metal grille; includes adjustable mounting brackets

Models also available
1007, $79.99; 1003, $44.99, 1001, $29.99

LANCER
Lancer Electronics
10530 Lawson River Ave.
Fountain Valley, Calif. 92708

SC-8
Price $359.50
Dimensions 28H x 18W x 13¼D
Weight 65 lbs.
Type Vented
Drivers Two 12'' woofers, 5½'' dome midrange, 3½'' dome tweeter
Response 20 Hz to 22 kHz, 92 dB SPL at 1 meter, 1 watt
Crossover 500 Hz, 4.5 kHz
Impedance 8 ohms
Min. power 8 watts (9 dBW)
Max. power 120 watts (20.75 dBW)
Controls Midrange, tweeter
Features Genuine walnut veneers and solids cabinet; front mounted controls; dual-knob grille

SC-9T
Price $249.50
Dimensions 38H x 12W x 12D
Weight 57 lbs.
Type Acoustic suspension
Drivers 10'' woofer, 5'' midrange, two dome tweeters
Response 20 Hz to 20 kHz, 89 dB SPL at 1 meter, 1 watt
Crossover 500 Hz, 4.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 90 watts (19.5 dBW)
Controls Midrange, tweeter
Features Same as Model SC-7A

SC-11
Price $179
Dimensions 22½H x 12½W x 10D
Weight 38 lbs.
Type Acoustic suspension
Drivers 10'' woofer, 5'' midrange, 2½'' tweeter
Response 20 Hz to 20 kHz, 90 dB SPL at 1 meter, 1 watt
Crossover 750 Hz, 6 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 50 watts (10 dBW)
Controls Midrange, tweeter
Features Same as Model SC-7A

9335-2
Price $99.50
Dimensions 25½H x 14¼W x 11¼D
Weight 33 lbs.
Type Tubular vented
Drivers 12'' woofer, 2½'' tweeter
Response 30 Hz to 20 kHz, 93 dB SPL at 1 meter, 1 watt
Crossover 3 kHz
Impedance 8 ohms
Min. power 5 watts (7 dBW)
Max. power 50 watts (17 dBW)
Features Genuine oiled-walnut veneer; white, gold and brown grilles

9711
Price $54.50
Dimensions 20¼H x 10W x 9¼D
Weight 19 lbs.
Type Tubular vented
Drivers 8'' full-range driver
Response 45 Hz to 15 kHz, 90 dB SPL at 1 meter, 1 watt
Impedance 8 ohms
Min. power 3 watts (4.75 dBW)
Max. power 30 watts (14.75 dBW)
Features Same as Model 9335-2

Models also available
SC-7A, $299; SC-4A, $229; SC-10A, $145, 953x4, $65.95, SC-1, $34.50

LEAK
Rank Hi Fi, Inc.
20 Bushes Lane
Elmwood Park, N.J. 07407

3090
Price $960
Dimensions 47½H x 20W x 15D
Weight 112 lbs.
Type Transmission line
Drivers 15'' woofer, 7'' x 4'' midrange, isol-wetter
Impedance 6 ohms
Min. power 35 watts (15.5 dBW)
Max. power 160 watts (22 dBW)
Controls Midrange, tweeter
Features Upper-mid/ high section swivels for optimum dispersion

LINN PRODUCTS LTD.
Audiophile Systems
5750 Rymark Court
Indianapolis, Ind. 46250

DMS Isobarik
Price $3,600/pr.
Dimensions 30½H x 15W x 16D
Weight 95 lbs.
Type Isobarik loading
Drivers Two 9'' 12'' woofers, two 5'' midranges, two 1'' dome tweeters
Response 15 Hz to 20 kHz, ± 3 dB
Crossover 300 Hz, 3 kHz
Impedance 4 ohms
Min. power 50 watts (17 dBW)
Max. power 500 watts (27 dBW)
Features Instantaneous dynamic range of 54 to 56 dB

Models also available
S.A.R.A. Isobarik, $1,470/pr.

MAGNEPLANAR
Magnepan, Inc.
1645 9th St.
White Bear Lake, Minn. 55110

MG-IIA
Price $825/pr.
Dimensions 72¼H x 22W x 14½D
Weight 45 lbs.
Type Magnepanlar
Drivers Woofer, tweeter
Response 45 Hz to 16 kHz, ± 4 dB
Crossover 2.1 kHz
Impedance 6 ohms
Min. power 30 watts (14.75 dBW)
Max. power 200 watts (23 dBW) continuous
Features Mirror-Imaged matched pair; purely resistive load

MG-I
Price $495/pr.

High Fidelity's Buying Guide to Speaker Systems
**MARANTZ**
Superscope, Inc.
20525 Nordhoff St.
Chatsworth, Calif. 91311

**HD-880**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>261/2 x 15 W x 11 1/4 D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>56 lbs. 10 oz.</td>
</tr>
<tr>
<td>Type</td>
<td>VARI-Q® (finite baffle/ported)</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofers, 5&quot; midrange, 11/2&quot; LPF dome tweeter, 1&quot; LPF dome super tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 22 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>750 Hz; 2.3 kHz; 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter, and super tweeter L-pad controls</td>
</tr>
<tr>
<td>Features</td>
<td>Low stored energy loudspeakers</td>
</tr>
</tbody>
</table>

**HD-660**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>24 1/4 x 14 1/4 W x 11 1/4 D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>49 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>VARI-Q® (finite baffle/ported)</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofers, 5&quot; midrange, 1 1/2&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 20 kHz, +3 dB re 88 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>750 Hz; 2.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (21 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange and tweeter L-pad controls</td>
</tr>
<tr>
<td>Features</td>
<td>Low stored energy loudspeakers</td>
</tr>
</tbody>
</table>

**HD-440**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>19 1/4 x 11 1/4 W x 8 1/2 D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs. 5 oz.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofers, 3 1/2&quot; midrange, tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>45 Hz to 18 kHz, +3 dB re 87 dB at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>2 kHz; 8 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
</tbody>
</table>

**Design Series**

**940**

<table>
<thead>
<tr>
<th>Price</th>
<th>$440/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>45 1/4 x 15 W x 12 D</td>
</tr>
<tr>
<td>Weight</td>
<td>82 lbs. 2 oz.</td>
</tr>
<tr>
<td>Type</td>
<td>VARI-Q® (finite baffle/ported)</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer; 5&quot; midrange, 1 1/2&quot; dome tweeter, 1&quot; LPF dome super tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 22 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>750 Hz; 2.3 kHz; 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter, and super tweeter, L-pad controls</td>
</tr>
<tr>
<td>Features</td>
<td>Low stored energy loudspeakers</td>
</tr>
</tbody>
</table>

**920**

<table>
<thead>
<tr>
<th>Price</th>
<th>$380/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>38 1/4 x 15 W x 12 D</td>
</tr>
<tr>
<td>Weight</td>
<td>65 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>VARI-Q® (finite baffle/ported)</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofers, 5&quot; midrange, 1 1/2&quot; LPF dome tweeter</td>
</tr>
</tbody>
</table>

**MARTIN**
Eastman Sound Mfg. Co., Inc.
Rt. #295 & Harmony Road
Mickleton, N.J. 08056

**TL-4050**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>52 1/8 x 12 1/8 W x 11 1/4 D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>84 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Dual transmission line</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 11&quot; woofers, 5&quot; cloth curvilinear midrange, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>28 Hz to 22 kHz, +4 dB re 92 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>100 Hz; 900 kHz; 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>300 watts (24 75 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Newly designed enclosures, using direct-coupled highly-computed line of constant width, trimmed with port tube to better maintain basic relationship between mass of woofer cone and trimming tube</td>
</tr>
</tbody>
</table>

**Magnificat**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>37 1/8 x 18 W x 14 D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>86 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 12&quot; woofers, 5&quot; convex midrange, two 2&quot; polyaxial tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>28 Hz to 20 kHz re 92 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>500 Hz; 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>35 watts (15.5 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Drivers of varied design and bandwidth cover entire audible range and beyond; each includes a large and efficient voice coil and magnet structure</td>
</tr>
</tbody>
</table>

**Models also available**


---

1980 Edition
MA-130
Price $175.50
Dimensions 241 x 15W x 9¼D
Weight 37 lbs.
Type Acoustic suspension
Drivers 12" woofer, 1" dome tweeter, 6" midrange
Response 35 Hz to 22 kHz
Crossover 1 kHz
Impedance 8 ohms
Min. power 80 watts (9 dB)
Max. power 75 watts (18.75 dB)
Controls 6" isolated midrange/tweeter level control
Features Same as model TL-4050

Gamma Gold 3000M
Price $529
Dimensions 25¾ H x 14W x 11¼ D
Weight 55 lbs.
Type Bias port
Drivers 10" heavy-duty butyl woofers, soft-dome midrange, soft-dome tweeter
Response 34 Hz to 20 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 4 kHz
Impedance 8 ohms
Min. power 35 watts (15.5 dB)
Max. power 100 watts (20 dB)
Features Monitor/tweeter

TL-1650
Price $250
Dimensions 25½ H x 8 W x 11 ½ D
Weight 65 lbs.
Type Transmission line
Drivers 6½" woofer, 1" dome tweeter
Response 38 Hz to 20 kHz, +3 dB re 98 dB SPL at 1 meter at 1 watt
Crossover 1.5 kHz
Impedance 8 ohms
Min. power 15 watts (25.5 dB)
Max. power 100 watts (20 dB)
Controls None
Features Same as model TL-4050

Gamma 310X
Price $219
Dimensions 21¼ H x 12¾ W x 10 D
Weight 37 lbs.
Type Acoustic suspension
Drivers 16" woofer, 5" convex midrange, 2" polyurethane tweeter
Response 36 Hz to 18 kHz re 91 dB SPL at 1 meter at 1 watt
Crossover 0 kHz, 4.5 kHz
Impedance 8 ohms
Min. power 15 watts (17.5 dB)
Max. power 60 watts (17.5 dB)
Controls Midrange/tweeter
Features Handcrafted

Gamma Gold 2006M
Price $129
Dimensions 13 H x 18½ W x 9 D
Weight 17 lbs. 8 oz.
Type Bias port
Drivers 6½" woofer, dome tweeter
Response 40 Hz to 20 kHz, +4 dB re 91 dB SPL at 1 meter at 1 watt
Crossover 1.5 kHz
Impedance 8 ohms
Min. power 25 watts (14.75 dB)
Max. power 75 watts (18.75 dB)
Controls Tweeter

Models also available
MA-211... $173.50, MA-124... $131.50, MA-63... $46.50

McINTOSH
McIntosh Loudspeaker Division
2 Chambers St.
Binghamton, N.Y. 13903

XR-7
Price $1,099
Dimensions 40H x 19½W x 14¼D
Weight 11 lbs.
Type Acoustic suspension
Drivers Two 12" woofers, 8" lower midrange, two 1½" dome upper midranges, four 2½" coaxial super tweeters
Response 20 Hz to 20 kHz
Crossover 250 Hz, 1.4 kHz, 7 kHz
Impedance 8 ohms
Min. power 30 watts (14.75 dB)
Max. power 300 watts (24.74 dB) peak
Features McIntosh environmental equalizer may be used

XR-5
Price $599
Dimensions 30H x 15W x 12D
Weight 69 lbs.
Type Acoustic suspension
Drivers 12" woofer, 6" lower midrange, 1½" dome upper midrange, two 2½" coaxial super tweeters
Response 20 Hz to 20 kHz
Crossover 250 Hz, 1.4 kHz, 7 kHz
Impedance 8 ohms
Min. power 30 watts (14.75 dB)
Max. power 200 watts (23 dB) peak

Features McIntosh environmental equalizer may be used

ML-10C
Price $319
Dimensions 25¾ x 12 13/16W x 12¼ D
Weight 47 lbs.
Type Acoustic suspension
Drivers 10" woofer, 1½" dome midrange, coaxial super tweeter
Response 20 Hz to 20 kHz, 89 dB SPL at 1 meter at 1 watt
Crossover 1 kHz, 7 kHz
Impedance 8 ohms
Min. power 20 watts (13 dB)
Max. power 100 watts (20 dB)
Features McIntosh environmental equalizer may be used

Models also available
XR-6... $749, XR-3... $425

MCS® SERIES
J.C. Penney
1301 Ave. of the Americas
New York, N.Y. 10019

8228
Price $399.95
Dimensions 36½ H x 16 W x 10½ D
Weight 100 lbs.
Type 12" woofer, two 2" soft-dome midranges, 1" soft-dome tweeter
Drivers Air suspension
Crossover 600 Hz, 2 kHz
Impedance 8 ohms
Min. power 50 watts (17 dB)
Max. power 150 watts (21.75 dB)
Features Mid/tweeter
Features Ferrofluid-cooled elements, built-in stand, removable grille

8330
Price $299.95
Dimensions 26¹/4 H x 15 W x 13 D
Weight 37 lbs. 8 oz.
Type Linear phase bass reflex
Drivers 12" cone woofer, 5" cone midrange, 2" cone tweeter
Response 29 Hz to 22 kHz, -20 dB re 93 dB SPL at 1 meter at 1 watt
Crossover 15 Hz, 3.8 kHz
Impedance 8 ohms
Min. power 15 watts (17.75 dB)
Max. power 120 watts (20.75 dB)
Controls Midrange, tweeter
Features Two thermal relays; integral carryin

8320
Price $199.95
Dimensions 24 x 13½ W x 12¼ D
Weight 27 lbs. 8 oz.
Type Linear phase bass reflex
Drivers 10" cone woofer, 5" cone midrange, 2" cone tweeter
Response 32 Hz to 22 kHz, -20 dB re 92.5 dB SPL at 1 meter at 1 kHz
Crossover 1.7 kHz, 5.5 kHz
Impedance 8 ohms
Min. power 5 watts (7 dB)
Max. power 75 watts (18.75 dB)
Controls Tweeter
Features Two thermal relays; removable front grille

8310
Price $119.95
Dimensions 21¼ H x 11½ W x 9½ D
Weight 18 lbs. 11 oz.
Type Linear phase bass reflex
Drivers 8" cone woofer, 2" cone tweeter
Response 37 Hz to 22 kHz, -20 dB re 92 dB

MATRECS Industries
805 Woodman Ave.
Windsor, Ill. 61089

High Fidelity's Buying Guide to Speaker Systems
Models also available
8227, $299.95; 8226, $199.95

MESA
Mesa Electronics Sales, Ltd.
2940 Malmo Drive
Arlington Heights, Ill. 60005

Disco-Duo
Price $409.95
Dimensions 29⅛x18⅝x14D (bottom); 7⅜x18x10D (top)
Weight 73 lbs. (bottom); 16⅝ lbs. (top)
Type Bass reflex
Drivers Two 12" woofers in bottom section; 2" x 5" piezoelectric horn; two superpiezoelectric tweeters
Response 45 Hz to 40 kHz at 100 dB SPL at 1 meter at 1 watt
Crossover 2.5 Hz; 4 kHz
Impedance 8 ohms (bottom)
Max. power 200 watts (23 DBW) (bottom)
Features Black-vinyl cabinet; flush-mount carrying handles

MS-80 Subwoofer
Price $249
Dimensions 16⅝ x 18W x 16D
Weight 64 lbs.
Type Bass reflex
Drivers 10" woofer; 10" bass reflex
Response 30 Hz to 115 kHz, ±5 dB
Crossover 200 Hz (passive)
Impedance 8 ohms
Min. power 5 watts (7 DBW)
Max. power 100 watts (10 DBW)
Features Dual volume control for satellite speakers

600
Price $199
Dimensions 24⅝x14⅛x10⅝D
Weight 34 lbs.
Type Bass reflex
Drivers 10" woofer; 5" midrange; 3" tweeter
Response 40 Hz to 20 kHz
Crossover 2 kHz; 5 kHz
Impedance 8 ohms
Min. power 10 watts (10 DBW)
Max. power 60 watts (17.75 DBW)
Controls Midrange, tweeter (±5 DB range)

500
Price $109
Dimensions 21⅛ x 12⅞W x 9D
Weight 25 lbs.
Type Bass reflex
Drivers 8" woofer; 3" tweeter
Response 35 Hz to 20 kHz
Crossover 4.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 DBW)
Max. power 50 watts (17 DBW)
Controls Tweeter (+5 DB range)

S-35
Price $139/pr
Dimensions 9⅞ x 6⅝ W x 5¾D
Weight 12 lbs/pr.
Type 5" woofer with 1 ⅛" voice coil; 4¾" soft-dome tweeter
Drivers 115 Hz to 17 kHz
Response 200 Hz (passive)
Crossover 4 to 8 ohms
Impedance 5 watts (7 DBW)
Min. power 20 watts (17 DBW)
Controls Satellite speaker specifically designed for use with a subwoofer

Models also available
125; $279; 85; $229; 65; $169; 45; $119

MICRO-ACOUSTICS
Micro-Acoustics Corp.
8 Westchester Plaza
Elmsford, N.Y. 10523

FRM-1AX
Price $235
Dimensions 25¼H x 15¼W x 12¼D
Weight 40 lbs.
Type Acoustic suspension
Drivers Five 1½" drivers mounted in a Pen- ti-Axis array; one 10" woofer with heavy-duty dynamic assembly
Response 32 Hz to 18 kHz, ±6 dB
Crossover 1.7 kHz
Impedance 8 ohms
Min. power 18 watts (12.5 DBW) (at 8 ohms) continuous
Max. power 70 watts (18.5 DBW) (at 8 ohms) continuous
Features Tweeter (adjusts center on-axis tweeters); dispersion control (adjusts four surrounding off-axis tweeters simultaneously)

MS-1
Price $125/pr
Dimensions 4 x 9¼W x 5⅛D
Weight 21 lbs. 5 oz.
Drivers Four 1¼" drivers
Crossover 3.5 kHz; 7 kHz
Impedance 16 ohms
Min. power 5 watts (7 DBW)
Max. power 60 watts (17.75 DBW)
Features Full 5-year warranty

Models also available
FRM-2AX, $185; FRM-3AX, $279/pr.

MITSUBISHI
Melco Sales, Inc.
3030 E. Victoria St.
Compton, Calif. 90221

MS-40
Price $550
Dimensions 31¼H x 15¼W x 15 5/16D
Weight 77 lbs.
Type Acoustic suspension
Drivers 12" honeycomb cone woofer; 4" cone midrange; 1½" hybrid-dome tweeter
Response 25 Hz to 20 kHz re 87 dB SPL at 1 meter at 1 watt
Crossover 600 Hz; 5 kHz
Impedance 6 ohms
Min. power 30 watts (14.75 DBW)
Max. power 150 watts (21.75 DBW)
Features Midrange, tweeter

MS-10
Price $165
Dimensions 21¼H x 12¼W x 11½D
Weight 32 lbs.
Type Acoustic suspension
Drivers 10" honeycomb-cone woofer; 2" midrange
Response 35 Hz to 20 kHz
Crossover 1.5 kHz
Impedance 6 ohms
Min. power 20 watts (13 DBW)
Max. power 100 watts (20 DBW)
Features Overload-protection circuit; edgeless grille and cabinet design

Features Overload-protection circuit; edgeless cabinet and grille

Models also available
MS-30, $395; MS-20, $275

MONITOR
General Audio Corp.
3504 Hillcroft
Houston, Tex. 77027

Monitor M-1000
Price $500
Dimensions 57¾H x 16½W x 13½D
Weight 65 lbs.
Type Vented
Drivers Two 10" bass drivers; two 4" frame-cone drivers; four 3½" phenolic-rinse tweeters
Response 20 Hz to 20 kHz
Crossover 900 Hz; 1.5 kHz; 5 kHz; 6 kHz
Impedance 8 ohms
Min. power 10 watts (10 DBW)
Max. power 80 watts (19 DBW)

Monitor Mark II
Price $209.95
Dimensions 23⅝ x 14W x 10D
Weight 29 lbs.
Type Vented
Drivers 10" bass driver; 4½" frame-cone driver; 3½" phenolic-rinse tweeter
Response 26 Hz to 20 kHz
Crossover 1 kHz; 3.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 DBW)
Max. power 35 watts (15.5 DBW)

Models also available
Monitor Mark IV, $279.95; Monitor Mark III, $239.95

MORDAUNT-SHORT
Mordaunt-Short, Inc.
1919 Middle Country Road
Centerereach, N.Y. 11720

Signifier
Price $1,480/pr including matching stand
Dimensions 31½H x 15½W x 13¼D
Weight 64 lbs.
Type Three-way ported bass reflex
Drivers 11 4½" woofer; 5 3/10" midrange; 1" wide-dispersion synthetic-dome tweeter
Response 38 Hz to 25 kHz, ±2 dB
Crossover 500 Hz; 4 kHz
Impedance 8 ohms
Min. power 25 watts (14 DBW)
Max. power 250 watts (24 DBW)
Features Bass: treble

Carnival Series 2
Price $275/pr
Dimensions 15¼H x 9½W x 5¼D
Weight 11 lbs. 9 oz.
Type Dynamic
Drivers 8" midrange; 2½" paper-cone tweeter
Response 85 Hz to 17 kHz, ±3 dB
Crossover 3.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 DBW)
Max. power 80 watts (19 DBW)
Features Walnut or teak wood finish

Models also available
Pageant Series 2, $495/pr.; Festival Series 2, $385/pr.
NAGRA
Nagra Magnetic Recorders, Inc.
19 W. 44th St.
New York, N.Y. 10036

DSM
Price $1,297
Dimensions 9 1/4 x 10 x 4 3/4 in.
Weight 13 lbs. 14 oz.
Type Acoustic suspension
Drivers Two 10" woofers, 1" tweeter
Response 60 Hz to 15 kHz, +3 dB
Crossover 2.2 kHz
Impedance 8 ohms
Features Built-in amp

NEAL-FERROGRAPH
Neal-Ferrograph
652 Glenbrook Road
Glenbrook, Conn. 06906

S-23
Price $416
Dimensions 17 1/4 x 7 1/2 x 11 1/2 in.
Weight 19 lbs. 8 oz.
Type Acoustic suspension with internal labyrinth
Drivers Two 4" long-throw roll surround, 1" soft dome
Response 65 Hz to 20 kHz, +4 dB re 90 dB SPL at 1 meter at 1 watt
Impedance 6 ohms (nominal)
Min. power 10 watts (10 dBW)
Max. power 35 watts (15.5 dBW)
Features Walnut or teak veneer; crossover allows one woofer to switch over to midrange

NORDENDE
Sterling Hi-Fidelity, Inc.
22-20 40th Ave.
Long Island City, N.Y. 11101

LB-26
Price $100/pr.
Dimensions 9 x 6 1/2 x 5 in.
Weight 4 lbs
Type Dynamic
Drivers 5 1/4" x 1" x 1 1/2"
Response 50 Hz to 20 kHz
Impedance 4 ohms
Min. power 3 watts (3 dB)
Max. power 15 watts (11.75 dBW)

NORMAN LABORATORIES
Norman Laboratories, Inc.
2278 Industrial Blvd.
Norman, Okla. 73069

Nine
Price $470
Dimensions 45 1/4 x 15 1/2 x 15 1/2 in.
Weight 75 lbs.
Type Acoustic suspension
Drivers Three 10" woofers, three 1" tweeters
Response 35 Hz to 20 kHz, +3 dB (1.5 kHz to 20 kHz, +2 dB)
Crossover 1.5 kHz
Impedance 4 ohms
Min. power 30 watts (14.75 dBW)
Max. power 70 watts (18.5 dBW) continuous
Controls Tweeter, woofer
Features Rear-lining third woofer operates in either acoustic or passive radiator mode for differing bass outputs; tweeter-protection circuit breaker; magnetic damping fluid in tweeters

Eight
Price $140
Dimensions 23 H x 12 W x 10 D
Weight 28 lbs.
Type Acoustic suspension
Drivers 10" woofer, 1" tweeter
Response 45 Hz to 20 kHz, +4 dB (1.5 kHz to 20 kHz, +2 dB)
Crossover 1.5 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 35 watts (15.5 dBW) continuous
Controls Tweeter (3-position)
Features Magnetic damping fluid in tweeter

Models also available
Ten, $310; Seven, $220

OHM ACOUSTICS
OHM Acoustics Corp.
241 Taaffe Place
Brooklyn, N.Y. 11205

F
Price $950
Dimensions 17 1/4 x 17 3/4 x 17 1/2 in. (bottom); 13 x 13 x 13 in. (top)
Weight 80 lbs.
Type Walsh; sealed system
Drivers 12" Walsh driver
Response 35 Hz to 19 kHz, +4 dB re 90 dB SPL
Impedance 4 ohms
Min. power 56 watts (17.5 dBW)
Max. power 150 watts (21.75 dBW) continuous above 1 kHz
Features Protective louver; 10 lbs. 4 oz. magnetic structures; 3" voice coil

J
Price $675
Dimensions 31 H x 15 1/2 W x 16 D
Weight 76 lbs.
Type Vented with subwoofer
Drivers 12" subwoofer, 8" woofer, 2" low tweeter; two 1" dome tweeters
Response 35 Hz to 19 kHz, +3 1/2 dB
Crossover 100 Hz; 2 kHz; 10 kHz
Impedance 8 or 4 ohms
Min. power 10 watts (10 dBW)
Max. power 1,000 watts (30 dBW)
Features Four (1 for each tweeter and for 8" woofer)
Features Walnut, oak, teak, and black cabinets, omnidirectional response

N Subwoofer
Price $340
Dimensions 15 H x 16 W x 15 D
Type Dual subwoofer with passive radiators
Drivers Two 8" woofers; two 12" passive radiators
Response 32 Hz to 140 kHz, +4 dB re 89 dB SPL at 1 meter at 1 watt
Crossover 140 Hz
Impedance 8 or 4 ohms
Min. power 10 watts (10 dBW)
Max. power 100 watts (20 dBW)
Features Built-in passive crossover for both channels in one walnut veneer enclosure

L Speaker
Price $185
Dimensions 20 H x 12 W x 10 D
Weight 33 lbs. 8 oz.
Type Vented
Drivers 8" woofer, 2" low tweeter, 2" high tweeter
Response 42 Hz to 20 Hz, +4 dB

Crossover 1.7 kHz; 10 kHz
Impedance 8 or 4 ohms
Min. power 8 watts (9 dBW) for approx. 100 dB SPL at 3'
Max. power 100 watts (10 dBW)
Controls Two (one for each tweeter)
Features Quasi third-order Butterworth filter, optimally vented enclosure, oiled-walnut veneer

Models also available
H, $365; G-2, $275, M, $145, E, $120

R.W. OLIVER
R.W. Oliver Electronics, Ltd.
580 E. Dobie Ave.
Winnipeg, Manitoba R3K 1G4

Thor-II Center-Channel Subwoofer
Price $895 (dependant on finish)
Dimensions 18 H x 24 W x 24 D
Weight 112 lbs
Type Self-powered motion feedback subwoofer
Drivers Two 12" high-power long-throw
Response 15 Hz to 100 Hz, +3 dB
Crossover 50 to 100 Hz (variable)
Impedance 10 ohms
Max. power 120 dB SPL (acoustic power)
Controls Continuously variable bandwidth (low frequency: 15 to 50 Hz; high frequency: 50 to 100 Hz) sensitivity control; limiter on/off
Features Integral amplification with motion feedback and limiting; summation amplifier combines left and right channels, selection of inlaid stone tops

Model 7 Speaker
Price $280
Dimensions 24 3/4 H x 16 1/2 W x 11 1/4 D
Weight 45 lbs.
Type Tuned ducted port
Drivers 12" high-power woofer; 4" x 10" mid-range horn; 1" dome tweeter
Response 35 Hz to 20 kHz, +3 dB re 100 dB SPL at one meter at one watt
Crossover 1 1/2 Hz, 5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 75 watts (19 dBW)
Features Walnut finish; rear baffle port loading for improved bass loading

Models also available
Model 3 Speaker, $400

OLSON
Olson Electronics
260 S. Forge St.
Akron, Ohio 44327

SP-580 Pedestal Tower II
Price $349.98
Dimensions 41 1/4 H x 12 1/4 W x 12 D
Weight 60 lbs
Type Acoustic suspension: dynamic
Drivers Two 8" woofers; one 1/2 voice coil; two 5" mids; one voice coil; two 2 1/2" tweeters
Response 60 Hz to 22 kHz
Crossover 600 Hz, 8 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 125 watts (21.25 dBW)
Controls Tweeter: midget
Features Two grilles; removable molded cloth, all drivers covered with steel mesh grille; cabinet is walnut-finished vinyl over 1/4" thick particle board

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SP-585 "Acoust Aire IV"
Price $229.95
Dimensions 25H x 15W x 10½D
Weight 30 lbs
Type Acoustic suspension
Drivers 12" woofers; 2" voice coil; 5" midrange, 1" voice coil; 2¼" tweeter
with silicon-coated voice coil
Response 30 Hz to 22 kHz
Crossover 800 Hz; 10 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 125 watts (21 dBW)
Controls Midrange, tweeter
Features Walnut vinyl finish over ¼" particle board, steel mesh grill over tweeter and midrange
Models also available FR-3, $400; SP-579 "Acoust Aire IV", $159.98

ONDYKO
Onkyo U.S.A. Corp.
42-07 20th Ave.
Long Island City, N.Y. 11105

240
Price $260
Dimensions 27H x 161/2W x 13D
Weight 45 lbs
Type Acoustic suspension
Drivers 15" woofer; 4" carbon-fiber midrange; 1" titanium dome tweeter
Response 45 Hz to 20 kHz, ± 5 dB re 93 dB SPL at 1 meter at 1 watt
Crossover 700 Hz; 4.5 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 100 watts (20 dBW) continuous
Controls Midrange, tweeter
Models also available 160, $175

OPTONICA
Sharp Electronics Corp.
10 Keystone Place
Paramus, N.J. 07652

CP-5151A
Price $400
Dimensions 28H x 16W x 13¼D
Weight 61 lbs. 8 oz.
Type Acoustic suspension
Drivers 12" woofer; 2" dome midrange; horn-loaded ribbon tweeter
Response 30 Hz to 50 kHz
Crossover 500 Hz; 6 kHz

Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 90 watts (19.5 dBW)
Controls Midrange; tweeter
Features Crossover has switchable 30 kHz filter; speaker may be tripped

Models also available CP-211A, $210

PEDERSON ACoustics
Pederson Acoustics
Box 47
Chestnut Hill, Mass. 02167

HF-2
Price $7.50/pr.
Dimensions 48H x 32W x 26D
Weight 40 lbs
Type Direct radiator/loaded horn
Drivers Three dynamic (optional ribbon tweeter)
Response 20 Hz to 20 kHz
Crossover 200 Hz; 3 kHz
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 250 watts (24 dBW)

PETROFF LABS
Petroff Labs
11436 Victoria Ave.
Los Angeles, Calif. 90066

PL-6D Dipole Panel
Price $450/pr.
Dimensions 42H x 12W x 3½D
Weight 30 lbs.
Type Open-back dipole radiating line source
Drivers Four 4½" midranges; hybrid 2" dome; ¾" dome tweeter
Response 100 Hz to 20 kHz, ± 1.5 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 100 Hz; 5 kHz
Impedance 8 ohms
Min. power 30 watts (14.75 dBW)
Max. power 200 watts (23 dBW)
Controls Upper mid/high frequency contour
Features Dipole equalized crossover; must be used with PL-6D subwoofer system

PL-6D subwoofer
Price $246
Dimensions 14H x 25½W x 15½D
Weight 50 lbs.
Type Acoustic suspension; floor firing
Drivers Two 10" mass-loaded woofers
Response 30 Hz to 100 kHz, ± 3 dB re 90 dB SPL at 1 meter at 1 watt
Crossover 100 Hz
Impedance 8 ohms

Min. power 30 watts (14.75 dBW)
Max. power 200 watts (23 dBW)
Features Internal air core inductor crossover networks; glass inlay top

PHASE RESEARCH
Phase Research Corp.
3207 Orrell
Dallas, Texas 75220

"R"
Price N/A
Dimensions 26H x 13W x 14D
Weight 48 lbs.
Type Modified transmission line
Drivers 8" woofer; 1½" dome midrange tweeter
Response 38 Hz to 20 kHz, ± 3.5 dB re 88 dB SPL at 1 meter at 1 watt
Crossover 1.8 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 250 watts (24 dBW)
Features Time-phased; mirror imaged; low diffraction; fiberwood construction; multiple internal bracing; high power resistors; hickory vinyl finish; 2½% tolerance level crossovers
Models also available "RT", N/A

PHILIPS
Philips High Fidelity Laboratories, Inc.
P.O. Box 2209
Fort Wayne, Ind. 46801

RH-545
Price $1,500
Dimensions 25½H x 17W x 12½D
Weight 67 lbs.
Type Acoustic suspension with triamplification
Drivers 12" high-compliance woofer; 2" dome midrange; 1½" dome tweeter
Response 20 Hz to 20 kHz
Crossover 500 Hz; 3 kHz
Min. power Can be driven from preamp
Max. power Internal amplifiers
Controls Bass cut/boost; treble rolloff; treble-frequency selection switch; room-correction filter switches; channel-selector switch; automatic on/off switch; input-sensitivity control
Features Motional feedback system

RH-544
Price $400
Dimensions 15½H x 11¼W x 8½D
| Weight | 26 lbs. |
| Type | Acoustic suspension with biampification |
| Drivers | 8" high-compliance woofer, 2" dome midrange, 1" dome tweeter |
| Response | 35 Hz to 20 kHz |
| Crossover | 500 Hz to 400 Hz |
| Min. power | Can be driven from preamp |
| Max. power | Internal amplifiers |
| Controls | High-frequency rolloff, input sensitivity, automatic on/off switch, channel-selector switch |
| Features | Motional feedback system |

### AH-476

| Price | $240 |
| Dimensions | 26" x 13¼ W x 11¼ D |
| Weight | 42 lbs. |
| Type | Acoustic suspension |
| Drivers | 10" high-compliance woofer, 2" dome midrange, 1" dome tweeter |
| Response | 35 Hz to 20 kHz |
| Crossover | 1.5 kHz; 5.5 kHz |
| Impedance | 8 ohms |
| Min. power | 20 watts (13 dBW) |
| Max. power | 60 watts (17.75 dBW) |
| Controls | Midrange |

### SJ-2932

| Price | $130 |
| Dimensions | 27¼ x 14½ W x 12½ D |
| Weight | 42 lbs. |
| Type | Tuned port |
| Drivers | 10" high-compliance woofer; two 5" cone midrange drivers, 1" dome tweeter |
| Response | 46 Hz to 20 kHz |
| Crossover | 2 kHz; 6 kHz |
| Impedance | 8 ohms |
| Max. power | 60 watts (17.75 dBW) |

### Models also available

| RH-567, $450; AH-477, $300; RH-541, $250, AH-475, $150; SJ-2930, $150/pr |

#### Pioneer

**U.S. Pioneer Electronics Corp.**

**85 Oxford Drive**

**Moonachie, N.J. 07074**

### HPM-150

| Price | $550 |
| Dimensions | 38 2½/32H x 17¼ W x 17¼ D |
| Weight | 74 lbs. 14 oz. |
| Type | Bass reflex |
| Drivers | 15¾" carbon-fiber cone woofer; 4" cone-type midrange; 1¼" cone tweeter, omnidirectional, horn-loaded, high-polymer film super tweeter |
| Response | 25 Hz to 25 kHz |
| Crossover | 75 Hz; 2.6 kHz; 8.5 kHz |
| Impedance | 8 ohms |
| Min. power | 55 watts (17 dBW) |
| Max. power | 300 watts (24.75 dBW) |
| Controls | Midrange, tweeter |

### CS-99A

| Price | $350 |
| Dimensions | 24¼ H x 16½ W x 11¼ D |
| Weight | 51 lbs. 11 oz. |
| Type | Infinite baffle |
| Drivers | 15" cone woofer; 5" cone midrange; 4" cone tweeter, multifilar horn tweeter, 2 dome super tweeters |
| Response | 25 Hz to 22 kHz |
| Crossover | 800 Hz; 2 kHz; 5 kHz; 10 kHz |
| Impedance | 8 ohms |
| Min. power | 100 watts (20 dBW) |
| Max. power | Controls: Midrange; tweeter |

### HPM-40

| Price | $180 |
| Dimensions | 22¼ H x 12¼ W x 12½ D |
| Weight | 28 lbs. 10 oz. |
| Type | Bass reflex |
| Drivers | 10" carbon-fiber cone woofer; 1½" carbon-fiber cone tweeter, high-polymer film |
| Response | 35 Hz to 25 kHz |
| Crossover | 1 kHz; 10 kHz |
| Impedance | 8 ohms |
| Min. power | 20 watts (13 dBW) |
| Max. power | 100 watts (20 dBW) |
| Controls | Tweeter |

### Project 80

| Price | $99 |
| Dimensions | 18¼ H x 10½ W x 8¼ D |
| Weight | 12 lbs. 8 oz. |
| Type | Bass reflex/ducted port |
| Drivers | 8" cone woofer; 1½" cone tweeter |
| Response | 35 Hz to 20 kHz |
| Crossover | 1.5 kHz |
| Impedance | 8 ohms |
| Max. power | 20 watts (13 dBW) |

### Models also available

- HPM-100, $350; HPM-60, $260; Project 120, $145; Project 65A, $80

### PLASMATRONIC

**PLASMATRONIC, Inc.**

**2460 Alamó, S.E., Suite 101**

**Albuquerque, N.M. 87106**

### Hill Type 1 Plasma System

| Price | $7,000 |
| Dimensions | 57¼ H x 24½ W x 20 D |
| Weight | 580 lbs. /pr |
| Type | Plasma |
| Drivers | Plasma; cone midrange; cone bass |
| Response | 18 Hz to 30 kHz, +2 dB re 107 dB SPL at 1 meter from one plasma driver |
| Crossover | 120 Hz; 700 Hz |
| Impedance | 8 ohms |
| Controls | Plasma level; crossover point |
| Features | Biamped with high amp crossover, VU meters, hi-lo balancing network |

### POLK Audio

**1205 South Carey St.**

**Baltimore, Md. 21230**

### Real Time Array Model 12

| Price | $374.95 |
| Dimensions | 45¼ H x 19¼ W x 15 D (stand, 12H) |
| Weight | 85 lbs. |
| Type | Passive radiator |
| Drivers | Two 6½" plasticized bass/midrange; 1½" dome (open-mounted) tweeter, 1½" passive radiator |
| Response | 27 Hz to 20 kHz, +2 dB re 96 dB SPL at 1 meter at 1 watt |
| Crossover | 50 Hz; 2 kHz |
| Impedance | 8 ohms |
| Min. power | 10 watts (10 dBW) |
| Max. power | 500 watts (27 dBW) |
| Controls | Factory calibrated |

### Features

- Optional stand, choice of rosewood-vinyl or walnut-vinyl finish

### 5A Bookshelf Monitor

- **Price**: $129.95
- **Dimensions**: 21½ H x 10½ W x 8½ D
- **Weight**: 29 lbs.
- **Type**: Passive radiator
- **Drivers**: 6½" midrange with 8" passive radiator; 1" dome tweeter
- **Response**: 40 Hz to 21 kHz, +3 dB re 92 dB at 1 watt at 1 meter
- **Crossover**: 60 Hz; 3 kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 60 watts (17.75 dBW)
- **Controls**: Factory calibrated
- **Features**: Same as Model 10A

### Mini Monitor

| Price | $114.95 |
| Dimensions | 13¼ H x 6¼ W x 4½ D |
| Weight | 10 lbs. |
| Type | Passive radiator |
| Drivers | 4½" bass/midrange driver with 4½" bass radiator, 1" dome tweeter |
| Response | 60 Hz to 20.5 kHz, +2 dB re 92 dB SPL at 1 watt at 1 meter |
| Crossover | 100 Hz; 3 kHz |
| Impedance | 8 ohms |
| Min. power | 5 watts (7 dBW) |
| Max. power | 60 watts (17.75 dBW) |
| Features | Optional mounting kit |

### Models also available

- 10A Monitor System. $239.95; 7B Monitor System. $174.95

### PRECEDENT

**Precedent Audio Products, Inc.**

**306 E. Oliver St.**

**Baltimore, Md. 21202**

### PRECEDENT SERIES

### MZ-Mod II

- **Price**: $74.50/pr
- **Dimensions**: 36½ H x 7½ W x 13 D
- **Weight**: 50 lbs ea.
- **Type**: Transmission line 7
- **Drivers**: 5" midrange, ¼" tweeter
- **Response**: 70 Hz to 20 kHz, +2½ dB re 88 dB SPL at 1 meter at 1 watt
- **Crossover**: 3.5 kHz
- **Impedance**: 8 ohms
- **Min. power**: 25 watts (14 dBW)
- **Max. power**: 50 watts (17 dBW)
- **Features**: Phase and time aligned; minimized diffraction areas; modular construction allows build-up to MZ Mod III speaker system by adding on modular woofer drivers to Mod II system and flipping switch from two-way to three-way mode

### CYLINDER SERIES

### Panorama

- **Price**: $795/pr
- **Dimensions**: 50½ H x 13½ W x 13½ D
- **Weight**: 40 lbs ea.
- **Type**: Dynamic
- **Drivers**: 8" woofer; 2½" midrange, 1" tweeter
- **Response**: 40 Hz to 20 kHz, +2½ dB re 92 dB SPL at 1 meter at 1 watt
- **Crossover**: 800 Hz; 2.5 kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 200 watts (23 dBW)
- **Features**: Extremely efficient and superb polar response due to unique cylinder design; high-power handling

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Models also available
M2 Mod III, $1.495/pr. (teak laminated), $1.695/pr. (walnut veneer); Vista, $380/pr.

PRESAGE
Presage Corp.
Domaine Ave.
Nashua, N.H. 03060

Presage 4
Price $599.95
Dimensions 42h x 15W x 15½D
Weight 65 lbs.
Type Passive radiator
Drivers 10” woofer; 4½ cone midrange; 1” dome tweeter
Impedance 8 ohms
Min. power 25 watts (14 dBW)
Max. power 200 watts (23 dBW) continuous
Controls Tweeter, midrange

Presage 5
Price $349.95
Dimensions 26H x 15½W x 12½D
Weight 43 lbs.
Type Passive radiator
Drivers 8” woofer; 4½ cone midrange; 1” dome tweeter
Impedance 4 ohms
Min. power 25 watts (14 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Tweeter, midrange

Models also available
S-9, $199.95; Presage 15, $119.95 (walnut grained vinyl); $135 (oak or walnut veneer)

PSB
PSB Speakers
Box 144
St. Jacobs, Ont. NOB/2NO

Beta IIa
Price $595
Dimensions 23H x 12W x 10½D
Weight 35 lbs.
Type Acoustic suspension
Drivers 1’’ soft-cloth dome tweeter; 8” motion feedback woofer
Impedance 4 ohms
Min. power 80 watts (19 dBW)
Controls Listening level (5-position); amp-matching C (11-position)
Features Motion feedback system using existing system amplifier; built-in infrasonic filter; fused

Summit Eleven
Price $580

Summit Nine
Price $445

1980 Edition

Passif I
Price $195
Dimensions 26H x 12W x 10¼D
Weight 30 lbs.
Type Passive radiator
Drivers 11" textile dome tweeter; 7” woofer; 8” passive radiator
Impedance 50 Hz to 20 kHz; ±2 dB
Crossover 1 kHz
Power 8 ohms
Min. power 30 watts (14.75 dBW)
Max. power 60 watts (17.75 dBW)
Features Real walnut veneer

Models also available
Passif II, $295; Avantâ Aîla Walnut, $170 (walnut); $145 (vinyl); Avantini II, $100

PYRAMID
Pyramid Loudspeaker Corp.
131-15 Fowler Ave.
Flushing, N.Y. 11355

Metronome 3
Price $1,700/pr.
Dimensions 34H x 21¼W x 15¼D
Weight 105 lbs.
Type Acoustic suspension
Drivers Two 8” woofers; 4½ cone midrange; ribbon tweeter. 05” x 3
Impedance 3 kHz to 36 kHz; ±3 dB re 90 dB
Crossover 470 Hz; 3.5 kHz
Power 8 ohms
Min. power 25 watts (14 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Tweeter, midrange

Metronome 2W Subwoofer
Price $1,600/pr.
Dimensions 25H x 27½W x 16¼D (truncated)
Weight 115 lbs.
Type Acoustic suspension
Drivers 14”
Impedance 90 Hz to 90 kHz; ±3 dB re 87 dB
Crossover 1 kHz
Power 8 ohms
Min. power 200 watts (23 dBW)
Max. power 800 watts (29 dBW)
Features None

Models also available
Metronome 2, $1,400/pr.; T-1 Ribbon Tweeter, $1,175/pr.

QUADRAFLEX
Quadraflex Industries
1301 65th St.
Emeryville, Calif. 94608

1012B
Price $150
Dimensions 27H x 16½W x 10½D
Weight 45 lbs.
Type Acoustic suspension
Drivers 12” woofer; 5” midrange cone; 2½” tweeter
Impedance 600 Hz; 2 kHz
Power 8 ohms
Min. power 5 watts (7 dBW)

QYSONIC
Qysonic Research Corp.
920 S. Placentia Ave.
Placentia, Calif. 92670

Array
Price $479
Dimensions 47¾H x 12½W x 8½D
Weight 55 lbs.
Type Critical alignment; Laminar flow vent
Drivers Two 8” woofers; 4½” midrange; 2” spoolless tweeter; 1” (pol) dome supertweeter
Impedance 28 Hz to 22 kHz; ±3 dB re 92 dB
Crossover 800 Hz; 3 kHz
Power 6 ohms
Min. power 30 watts (14.75 dBW)
Max. power 1,140 watts (30.75 dBW)
Features Midrange; tweeter; polar supertweeter.
Features Wood stand included

Laug Subwoofer System
Price $229
Dimensions 33¼H x 11⅛W x 10D
Weight 50 lbs.
Type Critical Alignment™; bass reflex
Drivers Two 8” woofers
Impedance 3 ohms
Min. power 30 watts (14.75 dBW)
Max. power 250 watts (24 dBW)
Features Built-in passive crossover for satellites with rolloff at 90 Hz; 6 dB per octave

TAD II
Price $225
Dimensions 29H x 9W x 6½D
Weight 25 lbs.
Type Critical Alignment™; Laminar flow vent
Drivers Two 6” woofers; 2” spoolless tweeter; 2” supertweeter
Impedance 40 Hz to 25 kHz; ±3 dB re 90 dB
Features 2 kHz; 8 kHz
Power 6 ohms
Min. power 15 watts (11.75 dBW)
Max. power 250 watts (24 dBW)
Features Tweeter
Features Hardwood corners; optional floor base

Models also available
Spree, $139; Micro, $99

REALISTIC
Radio Shack
2617 W. 7th St.
Ft. Worth, Texas 76107

Optimus T-200
Price $259.95
Dimensions 34H x 21¼W x 12½D
Type Acoustic suspension
Drivers Two 10” woofers; 6½” midrange; 2” tweeter (with special horn assembly)
Impedance 50 Hz to 20 kHz
Power 8 ohms
Max. power 150 watts (21.75 dBW)
Features Midrange; treble
Features Graded slope crossovers; floor-standing tower enclosure; walnut veneer

Mach One
Price $239.95
Dimensions 28⅞H x 17¼W x 12D
Weight 65 lbs.
Type Acoustic suspension
Drivers 15” woofer; midrange; horn tweeter
Impedance 20 Hz to 25 kHz
Features 1 kHz; 5 kHz
Power 8 ohms
Max. power 25 watts (14 dBW)
Max. power 100 watts (20 dBW) peak
Features Midrange; tweeter
Features Walnut veneer cabinet
Optimus 23
Price $99.95
Dimensions 22½H x 12¼W x 11¼D
Type Venturi
Drivers 10” woofer, 2½ tweeter
Response 55 Hz to 20 kHz
Crossover 3.5 kHz
Impedance 8 ohms
Max. power 75 watts (18.75 dB)
Features Walnut veneer cabinet

Nova 6
Price $80
Dimensions 19¼H x 11¾W x 8⅛D
Weight 24 lbs. 8 oz.
Type Acoustic suspension
Drivers 8” woofer; 3” tweeter
Response 30 Hz to 20 kHz
Impedance 7 watts (8.5 dB)
Max. power 45 watts (16.5 dB)
Features Walnut veneer cabinet

Minimus 7
Price $50
Dimensions 7¾H x 4½W x 4¾D
Weight 4 lbs. 8 oz.
Type Acoustic suspension
Drivers 4” high-compliance woofers; 1” extended range high-compliance dome tweeter
Response 50 Hz to 20 kHz, ±5 dB
Crossover 2.5 kHz
Impedance 8 ohms
Min. power 7 watts (8.5 dB)
Max. power 40 watts (16 dB) continuous
Features Aluminum die-cast enclosure

Models also available
Optimus T-100, $179.95; Optimus 27, $149.95; Optimus 25, $139.95; Optimus 10, $140

REGA RESEARCH LTD.
Import Audio, Ltd.
13430 Clayton Road
St. Louis, MO. 63131

RTX
Price $2.200/pr. including stands
Dimensions 36½H x 14¼W x 15 9/16D (on stands)
Weight 70 lbs.
Type Triangulated transmission line
Impedance 8 ohms
Min. power 40 watts (16 dB)
Features Cabinet material is laminated fiber-board coated with phenolic resin for rigidity

REVOX
Studer Revox America, Inc.
1819 Broadway
Nashville, Tenn. 37203

BX-4100
Price $1,199
Dimensions 30 3/10H x 17 7/10W x 15 7/10D
Weight 66 lbs.
Type Acoustic suspension
Drivers Eight 5” woofers; ¾” dome tweeter; 7” midrange
Response 25 Hz to 25 kHz
Crossover 450 Hz; 3.2 kHz
Impedance 4 ohms
Min. power 20 watts (13 dBW)
Max. power 260 watts (23 dBW)
Features 3-position midrange; 3-position treble

Models also available
BX-350, $395

ROGERS
Reference Monitor International, Inc.
2380 C Camino Vida Roble
Carlsbad, Calif. 92008

XA-75/L-35B Reference Monitor System
Price $2,900
Dimensions 32½H x 16½W x 18D
Weight 78 lbs.
Type Acoustic suspension
Drivers 12” woofer in each cabinet
Response 20 Hz to 150 Hz, ±3 dB re 96 dB SPL at 1 meter at 1 watt (sub-woofer); 45 Hz to 20 kHz, ±2 dB for L-35B
Crossover 150 Hz
Impedance 8 ohms
Min. power 20 watts (17 dBW)
Max. power 100 watts (20 dBW)
Features XA-75 electronic crossover and bass amplifier combined for adding to LS-3/5a

LS 3/5a BBC Monitor
Price $560/pr.
Dimensions 12H x 7½W x 6¾D
Weight 11 lbs. 8 oz.
Type Acoustic suspension
Drivers 4½” Bextrene bass/midrange; 1” dome tweeter
Response 70 Hz to 20 kHz, ±3 dB re 96 dB SPL at 1 meter at 1 watt
Crossover 3 kHz
Impedance 15 ohms
Min. power 25 watts (14 dBW)
Max. power 25 watts (14 dBW)
Features Designed by BBC

Models also available
Monitor 2, $900/pr.; Compact Monitor, $660/pr.

RSL
Rogersound Labs, Inc.
8381 Canoga Ave.
Canoga Park, Calif. 91304

6600H
Price $525
Dimensions 46H x 18W x 10D
Weight 90 lbs.
Type Twin subenclosure, bass reflex
Drivers Two 12” woofers: two 5” cone midranges. Electro-Voice compression horn tweeter
Response 25 Hz to 20 kHz
Crossover 800 Hz, 5 kHz
Impedance 4 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBV)
Features Tweeters, midrange

Sierra
Price $499.95
Dimensions 40⅞H x 14⅞W x 12¼D
Weight 71 lbs.
Type Passive radiator
Drivers 12” woofer
Response 20 Hz to 22 kHz
Crossover 800 Hz, 5 kHz (at 60 dB-octave)
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBV)
Features Mid-woofer (variable damping)

Studio 3600
Price $299.95
Dimensions 25¼H x 14¼W x 11¼D
Weight 50 lbs.
Type Bass reflex
Drivers 12” woofer; 5” flat-cone midrange; 4” dome tweeter
Response 35 Hz to 22 kHz
Crossover 800 Hz, 4 kHz
Impedance 8 ohms
Min. power 12 watts (10.75 dBW)
Max. power 125 watts (21 dBW)
Features Midrange; tweeter

Models also available
Grande, $750, Nevada, $450; Studio Monitor, $225 black studio-type enclosure, $265, walnut enclosure, Studio 3600 Black, $175

RTR
RTR Industries, Inc.
8116 Deering Ave.
Canoga Park, Calif. 91304

DR-1
Price $1,495
Dimensions 49½H x 16½W x 16½D

High Fidelity's Buying Guide to Speaker Systems
Gysronic Laug

**RSL 3300 Studio Monitor**

**Sansui J-11**

**Showco S-200**

**Gysronic Laug**

**Weight**
165 lbs.

**Type**
Electrostatic/dynamic

**Drivers**
12", two 10" woofers, 14" diameter cylindrical electrostatic radiator

**Response**
30 Hz to 30 kHz, ±2 dB

**Crossover**
325 Hz

**Impedance**
8 ohms

**Min. power**
75 watts (18.75 dB) for woofer section

**Max. power**
150 watts (21.75 dB) for woofer section

**Controls**
Electrostatic volume, treble

**Features**
Internally contained power amp and electronic crossover control; direct-drive electrostatic radiator (325 Hz to 30 kHz range)

---

**600D**

**Price**
$600

**Dimensions**
48H x 161/4W x 161/4D

**Weight**
112 lbs.

**Type**
Acoustic suspension

**Drivers**
Two 12" woofers, two 1 1/2" soft-dome midranges, two 1 3/4" soft-dome tweeters

**Response**
32 Hz to 20 kHz, ±2 dB re 91.5 dB

**Crossover**
950 Hz, 10 kHz

**Impedance**
4 ohms

**Min. power**
25 watts (14 dBW)

**Max. power**
200 watts (23 DBW)

**Controls**
Midrange, tweeter

**Features**
Circuit breaker

---

**ESR-15**

**Price**
$400

**Dimensions**
19 1/2H x 16 1/2W x 16 1/2D

**Weight**
48 lbs.

**Type**
Electrostatic tweeter array

**Drivers**
Fifteen 3" x 6" HF-50 electrostatic panels

**Response**
1.25 kHz to 20 kHz, ±2 dB

**Crossover**
1.25 kHz

**Impedance**
8 ohms

**Min. power**
15 watts (11.75 DBW)

**Max. power**
100 watts (20 DBW)

**Controls**
Tweeter, woofer

**Features**
Circuit breaker

---

**PS/1**

**Price**
$325

**Dimensions**
21 1/4H x 5W (top) x 12 3/4W (bottom) x 8D

**Weight**
35 lbs.

**Type**
Acoustic suspension

**Drivers**
8” woofer, 1 1/2”, soft-dome midrange, 1 3/4” soft-dome tweeter

**Response**
65 Hz to 20 kHz, ±2 dB re 90.5 dB

**Crossover**
15 kHz, 9.5 kHz

**Impedance**
8 ohms

**Min. power**
25 watts (14 DBW)

**Max. power**
100 watts (20 DBW)

**Features**
Speaker system; use independently or with DAC/1 subwoofer; pyramid shape

---

**ESR-6**

**Price**
$250

**Dimensions**
14 1/2H x 14 1/2W x 12D

**Weight**
23 lbs.

**Type**
Electrostatic tweeter array

**Drivers**
Six 3" x 6" HF-50 electrostatic panels

**Response**
1.5 kHz to 20 kHz, ±2 dB

**Crossover**
1.5 kHz

**Impedance**
8 ohms

**Min. power**
15 watts (11.75 DBW)

**Max. power**
60 watts (17.75 DBW)

**Controls**
Tweeter, woofer

**Features**
Circuit breaker

---

**G-10**

**Price**
$190

**Dimensions**
25 1/2H x 14 1/4W x 11D

**Weight**
44 lbs.

**Type**
Vented

**Drivers**
10” woofer, 1 1/2” dome tweeter

**Response**
48 Hz to 20 kHz, ±3 dB re 91 dB

**Crossover**
2 kHz

**Impedance**
6 ohms

**Min. power**
10 watts (10 DBW)

**Max. power**
80 watts (19 DBW)

**Controls**
Tweeter level, user-resettable circuit-breaker protection

**Features**
Same as Model G-200

---

**Models also available**
DAC/1, $600; 800D, $600; 300D, $400; G-200, $270; 75D, $250; EXP 8V, $100

---

**SANSDUI**

**Sansui Electronics Corp.**

**1250 Valley Brook Ave.**

**Lyndhurst, N.J. 07071**

**SP-L700**

**Price**
$680

**Dimensions**
35 1/16H x 16 1/16W x 14 13/16D

**Weight**
81 lbs. 8 oz.

**Type**
Bass reflex

**Drivers**
Two 10" cone woofers; 2 3/4" horn tweeter

**Response**
30 Hz to 25 kHz

**Crossover**
2 kHz

**Impedance**
8 ohms

**Min. power**
10 watts (10 DBW)

**Max. power**
200 watts (23 DBW)

**Controls**
Tweeter

**Features**
Sensitivity: 93 dB at 1 meter at 1 watt; blimp connections; genuine walnut veneer finish; casters

---

**SP-X8700**

**Price**
$335

**Dimensions**
27 1/16H x 18 1/8W x 10 5/8D

**Weight**
39 lbs. 3 oz.

**Type**
Bass reflex

**Drivers**
17" woofer, 6 1/2" cone midrange, 6 1/16" x 2" rectangular horn tweeter; three 2" cone super tweeters

**Response**
25 Hz to 23 kHz re 98 dB SPL at 1 meter at 1 watt

**Impedance**
8 ohms

**Min. power**
10 watts (10 DBW)

**Max. power**
220 watts (23.5 DBW)

**Features**
Genuine carved wood grille; walnut-grain vinyl finish on particle board cabinet

---

**SP-X6700**

**Price**
$235

**Dimensions**
25 3/16H x 15 5/16W x 11 1/16D

**Weight**
20 lbs. 11 oz.

**Type**
Bass reflex

**Drivers**
13" woofer, 4" cone midrange, 6 1/4" x 2 3/4" rectangular horn tweeter, two 2" cone super tweeters

**Response**
30 Hz to 22 kHz re 96 dB SPL at 1 meter at 1 watt

**Impedance**
8 ohms

**Min. power**
10 watts (10 DBW)

**Max. power**
130 watts (21.25 DBW)

**Controls**
Tweeter

**Features**
Genuine carved wood grille; walnut-grain vinyl finish on particle board enclosure

---

**SPA-2100**

**Price**
$150

**Dimensions**
22 13/16H x 13 3/16W x 11 1/4D

**Weight**
26 lbs. 14 oz.

**Type**
Acoustic suspension

**Drivers**
10" cone woofer; 5 1/2" cone midrange, 2" x 5" piezoelectric tweeter

**Response**
40 Hz to 22 kHz

**Crossover**
800 Hz, 2.5 kHz

**Impedance**
8 ohms

**Min. power**
15 watts (11.75 DBW)

**Max. power**
45 watts (16.5 DBW)

**Controls**
Midrange; tweeter

**Features**
Circuit breaker; walnut-grain vinyl finish; black double-knit grille

---

**J-11**

**Price**
$290/pr.

**Dimensions**
11 13/16H x 4 13/16W x 5 3/16D

**Weight**
6 lbs. 6 oz.

**Type**
Bass reflex with passive radiator

**Drivers**
4" cone woofer, 1 1/2" dome tweeter, 4" passive radiator

**Response**
40 Hz to 20 kHz, re 85 dB SPL at 1 meter at 1 watt

**Crossover**
2 5/8 kHz

**Impedance**
5 ohms

**Min. power**
10 watts (10 DBW)

---

1980 Edition

71
Max. power: 60 watts (17.75 dBW)
Features: Brushed aluminum finish

Models also available
SP-L800, $950; SP-X9700, $390; SP-X7700, $290; SPA-3100, $400/pr., SPA-1100, $100; J-33, $450/pr.

SARAS
Saras of America
4150 Glencoe Ave.
Venice, Calif. 90291

ST-200
Price: $550
Dimensions: 42½H x 14¼W x 13D
Weight: 90 lbs.
Type: Acoustic suspension
Drivers: Two 10" woofers; 5" midrange; 1" convex tweeter
Response: 30 Hz to 18 kHz, ±2.5 dB
Crossover: 500 Hz, 5 kHz
Impedance: 8 ohms
Max. power: 150 watts (21.75 dBW)
Controls: None
Features: Time alignment enclosure, third-order Butterworth filters, LED power indicator; suspended grille cloth panel

11
Price: $210
Dimensions: 24H x 13¼W x 11¼D
Weight: 48 lbs.
Type: Acoustic suspension
Drivers: 10" woofer, 1" convex tweeter
Response: 35 Hz to 18 kHz, ±3.0 dB re 90 dB SPL at 1 meter at 1 watt
Crossover: 18 ohms
Controls: None

Models also available
30A, $350; 22, $250

SCOTT
H. H. Scott, Inc.
20 Commerce Way
Woburn, Mass. 01801

Pro 100B
Price: $550
Dimensions: 29½H x 19W x 14½D
Weight: 67 lbs.
Type: Air suspension
Drivers: 15" woofer, two 4½" cone midranges, two 1" dome tweeters
Response: 36 Hz to 20 kHz, ±4 dB re 94 dB SPL at 1 meter at 1 watt
Crossover: 700 Hz, 3.5 kHz
Impedance: 4 ohms
Min. power: 20 watts (13 dBW)
Max. power: 300 watts (24.75 dBW)
Controls: Midrange, tweeter, speaker adjustment
Features: Bi-directional radiation, high-power construction woofer

S-188T
Price: $230
Dimensions: 33½H x 13W x 10½D
Weight: 44 lbs.
Type: Air suspension
Drivers: 10" woofer; 4½" midrange; 1" dome tweeter
Response: 38 Hz to 20 kHz, ±4 dB re 94.5 dB SPL at 1 meter at 1 watt
Crossover: 900 Hz, 3.5 kHz
Impedance: 6 to 8 ohms
Min. power: 10 watts (10 dBW)
Max. power: 100 watts (20 dBW)
Controls: Midrange, tweeter
Features: Extra-long voice coil, high-power construction woofer

S-177B
Price: $120
Dimensions: 19½H x 11W x 9D
Weight: 20 lbs.
Type: Air suspension
Drivers: 8" woofer; 5" midrange; 1½" tweeter
Response: 50 Hz to 18 kHz, ±4 dB re 94 dB SPL at 1 meter at 1 watt
Crossover: 1.2 kHz, 3.5 kHz
Impedance: 6 to 8 ohms
Min. power: 7 watts (8.5 dBW)
Max. power: 70 watts (18.5 dBW)
Features: High-compliance woofer with butyl rubber annulus; phenolic-ring tweeter

S-176B
Price: $90
Dimensions: 18H x 10½W x 8½D
Weight: 17 lbs.
Type: Bass reflex with tuned port
Drivers: 8" woofer; 1½" tweeter
Response: 60 Hz to 18 kHz, ±4 dB re 93.5 dB SPL at 1 meter at 1 watt
Crossover: 3.5 kHz
Impedance: 6 to 8 ohms
Min. power: 5 watts (7 dBW)
Max. power: 60 watts (17.5 dBW)
Features: High-compliance woofer with butyl rubber annulus, phenolic-ring tweeter

SHAHINIAN
Shahinian Acoustics, Ltd.
4 Selden Court
Selden, N.Y. 11784

Obelisk
Price: $400 (walnut); $450 (oak; $500 rosewood, $550)
Dimensions: 26½H x 14W x 12D
Weight: 50 lbs.
Type: Hybrid transmission line with passive radiator
Drivers: 8" woofer; 4½" Mylar dome tweeter
Response: 35 Hz to 18.5 kHz, ±2.3 dB re 90 dB SPL at 1 meter at 1 watt
Crossover: 2 kHz
Impedance: 6 ohms
Min. power: 25 watts (14 dBW)
Max. power: 350 watts (25.5 dBW)
Controls: None
Features: Forty-eighth" hybrid transmission line with 10" passive radiator

SHOWCO
Showco Manufacturing Corp.
1225 Round Table Drive
Dallas, Texas 75247

1718-S
Price: $1,005
Dimensions: 88½H x 49½W x 22¼D
Weight: 300 lbs.
Type: Pyramid loaded bass horn
Drivers: 18" woofer
Response: 20 Hz to 100 Hz, ±4 dB re 101.5 dB SPL at 1 meter at 1 watt
Crossover: 100 Hz (biampified)
Impedance: 8 ohms
Min. power: 50 watts (17 dBW)
Max. power: 500 watts (27 dBW)
Features: Tower subwoofer

Pyramid S-200
Price: $399
Dimensions: 42½H x 14½W x 14D
Weight: 95 lbs.
Type: Four-sided, folded-horn midbass; acoustic suspension low bass
Drivers: 8" and 12" woofers; 5" midrange; 2 dome tweeters
Response: 28 Hz to 18 kHz, ±3 dB re 91.5 dB SPL at 1 meter at 1 watt
Crossover: 200 Hz; 800 Hz, 5 kHz
Impedance: 8 ohms
Min. power: 10 watts (10 dBW)
Max. power: 100 watts (20 dBW)
Controls: Tweeter
Features: Tower design

Models also available
Pyramid 1800, $780; Pyramid 1500, $630

SNELL ACOUSTICS
Snell Acoustics
10 Prince Place
Newburyport, Mass. 01950

Type A
Price: $840
Dimensions: 46½H x 23¼W x 13D
Weight: 97 lbs.
Type: Acoustic suspension
Drivers: 10" woofer; 4½" midrange, 1" dome tweeter
Response: 36 Hz to 18 kHz, ±½ dB
Crossover: 275 Hz; 2.5 kHz
Impedance: 4 ohms
Min. power: 80 watts (19 dBW)
Features: Mirror-imaged pairs; bamped drivers individually fused biampification possible

SONIC SYSTEMS
Sonic Systems
6165 N. Rosemead Blvd.
Temple City, Calif. 91780

Tower
Price: $1,100
Dimensions: 39½H x 21½W x 19D
Weight: 135 lbs.
Type: Radial-slot port bass reflex
Drivers: 12" woofer; two compression drivers
Response: 30 Hz to 20 kHz, ±3 dB re 94 dB SPL at 1 meter at 1 watt
Crossover: 1 kHz
Impedance: 8 ohms
Min. power: 10 watts (10 dBW)
Max. power: 350 watts (25.5 dBW)
Controls: High-frequency section
Features: Biplanar dispersion system; set up for biamping

Studio B-1
Price: $135
Dimensions: 23½H x 12½W x 11¼D
Weight: 30 lbs.
Type: Acoustic suspension
Drivers: 8" cone woofer; 4½" cone midrange; 1" soft-dome tweeter
Response: 45 Hz to 20 kHz, ±3 dB
Impedance: 8 ohms
Min. power: 10 watts (10 dBW)

High Fidelity's Buying Guide to Speaker Systems
### DALAESFORD EXPORT SERIES

**312**

<table>
<thead>
<tr>
<th>Price</th>
<th>$575 (assembled), $350 (kit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>39.6 x 15.4 x 7 W x 15.4 D</td>
</tr>
<tr>
<td>Weight</td>
<td>90 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; Bextreme woofer, 6&quot; Bextreme midrange, 1&quot; low-mass soft-dome Audax tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 20 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>250 Hz, 3.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Bituminous felt and long-fiber wool damping, distortion-free enclosure</td>
</tr>
</tbody>
</table>

**210**

<table>
<thead>
<tr>
<th>Price</th>
<th>$275 (assembled), $185 (kit)</th>
</tr>
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<tbody>
<tr>
<td>Dimensions</td>
<td>25.4 x 12.9 W x 12 D</td>
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<tr>
<td>Weight</td>
<td>38 lbs</td>
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<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; Bextreme woofer/midrange, 1&quot; low-mass Audax soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>2.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Same as Model 208</td>
</tr>
</tbody>
</table>

**BSC-3 Mini (Rogers)**

<table>
<thead>
<tr>
<th>Price</th>
<th>$175 (assembled), $115 (kit)</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>19.4 x 11.9 x 8.9 W x 8.9 D</td>
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<tr>
<td>Weight</td>
<td>19 lbs</td>
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<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>5&quot; Bextreme woofer/midrange, 1&quot; low-mass Audax soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>50 Hz to 20 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>3.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>50 watts (17.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>&quot;Bass Tilt&quot; circuitry, bituminous felt damping, distortion-free enclosure</td>
</tr>
</tbody>
</table>

### FRIED SERIES

**Fried Super Subwoofer**

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,550 (assembled), $550 (kit)</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>36.9 x H x 30 x 15 D</td>
</tr>
<tr>
<td>Weight</td>
<td>120 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Transmission line</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; high-power Bextreme woofer</td>
</tr>
<tr>
<td>Response</td>
<td>15 Hz to 200 Hz, ±0.5 dB re 92 dB SPL at 1 meter/1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>75 Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (20 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Passive crossover, biampl inputs provided</td>
</tr>
</tbody>
</table>

**Fried T Subwoofer**

<table>
<thead>
<tr>
<th>Price</th>
<th>$700 (assembled), $360 (kit)</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>21.4 x H x 12.4 x W x 44.4 D</td>
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<tr>
<td>Weight</td>
<td>88 lbs</td>
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<tr>
<td>Type</td>
<td>Transmission line</td>
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<tr>
<td>Drivers</td>
<td>10&quot; high-power Bextreme woofer</td>
</tr>
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**S.E.A.S. SERIES**

**603**

<table>
<thead>
<tr>
<th>Price</th>
<th>$220 (kit)</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>26.4 x 15 x W x 12.9 D</td>
</tr>
<tr>
<td>Weight</td>
<td>46 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Ducted port</td>
</tr>
<tr>
<td>Drivers</td>
<td>13&quot; plastic-doped woofer, 4½&quot; plastic-doped midrange, 1½&quot; soft plastic dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 25 kHz, ±3 dB re 91 dB SPL at 1 meter/1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>600 Hz, 3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>10 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>80 watts (19 dBW)</td>
</tr>
</tbody>
</table>

**253**

<table>
<thead>
<tr>
<th>Price</th>
<th>$120 (kit)</th>
</tr>
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<tbody>
<tr>
<td>Dimensions</td>
<td>19.1 x H x 11.4 x W x 11.4 D</td>
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<tr>
<td>Weight</td>
<td>20 lbs, 8 oz</td>
</tr>
<tr>
<td>Type</td>
<td>Ducted port</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofer, 4½&quot; plastic-doped midrange, 1½&quot; soft plastic dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 25 kHz, ±3 dB re 89 dB SPL at 1 meter/1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz, 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>60 watts (17.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Computer-signal midrange, computer-aligned port, lacquered-ash enclosure</td>
</tr>
</tbody>
</table>

**Models also available**

- 310, $475 (assembled); $300 (kit)  
- 208, $195 (assembled), $125 (kit)  
- Fried Super Monitor System, $2,000 (assembled), $800 (kit)  
- Fried H2 Monitor System, $950 (assembled), $550 (kit)  
- Fried D Subwoofer, $500 (assembled), $338 (kit)  
- Fried B/2 Mini Monitors, $275 (assembled), $180 (kit)  
- Desco 47 Monster, $354 (kit), 403, $150 (kit), 223, $85 (kit)

### The Charisma

<table>
<thead>
<tr>
<th>Price</th>
<th>$975/pr</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>36 x 16½ x W x 13½ D</td>
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<tr>
<td>Weight</td>
<td>80 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 10&quot; woofers, 5&quot; midrange, 1½&quot; soft-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>550 Hz, 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>30 watts (14.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>150 watts (21.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Same as The Dayspring</td>
</tr>
</tbody>
</table>

### The Revelation

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,250/pr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>42 x 17½ x W x 15 D</td>
</tr>
<tr>
<td>Weight</td>
<td>104 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 12&quot; woofers, two 5&quot; midrange drivers, two 1½ soft-dome tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>550 Hz, 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>30 watts (14.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Same as The Dayspring</td>
</tr>
</tbody>
</table>

### SONY

**Sony Corp. of America**

**9 West 57th St.**

**New York, N.Y. 10019**

**SS-G7X**

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>37½ x 20 W x 17½ D</td>
</tr>
<tr>
<td>Weight</td>
<td>106 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>15&quot; cone woofer; 4½&quot; midrange, 1½&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 20 kHz, re 94 dB SPL at 1 meter/1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>550 Hz, 4.5 kHz (each 12 dB/octave)</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter; midrange</td>
</tr>
<tr>
<td>Features</td>
<td>Phase-aligned speaker management; “AG” baffle board</td>
</tr>
</tbody>
</table>

**SS-G5X**

<table>
<thead>
<tr>
<th>Price</th>
<th>$300</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>9 x 5½ x H x 6½ W x 8½ D</td>
</tr>
<tr>
<td>Weight</td>
<td>8 lbs, 6 oz</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>5½&quot; woofer, 1½&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>65 Hz to 20 kHz, ±4 db, ±8 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>1½ kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>20 watts (13 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Plumb-IIM, IPC, drivers, thermodynamic cooling</td>
</tr>
</tbody>
</table>

**SSU-2070**

<table>
<thead>
<tr>
<th>Price</th>
<th>$200</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>26 x 15½ x W x 14½ D</td>
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<tr>
<td>Weight</td>
<td>40 lbs</td>
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<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10½&quot; woofer; 3½&quot; midrange, 2½&quot; tweeter</td>
</tr>
</tbody>
</table>

**SONRISE Audio Systems**

**13620 N.E. 20th St., Suite A**

**Bellevue, Wash. 98005**

**The Spirit**

<table>
<thead>
<tr>
<th>Price</th>
<th>$400/pr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>20½ x 13½ x W x 11 D</td>
</tr>
<tr>
<td>Weight</td>
<td>38 lbs</td>
</tr>
</tbody>
</table>

**Type**

- Acoustic suspension
- Drivers
  - 10½" woofer; 1½" soft-dome tweeter
- Response
  - 30 Hz to 20 kHz
  - 1½ kHz
- Impedance
  - 8 ohms
- Min. power
  - 25 watts (11.75 dBW)
- Max. power
  - 75 watts (18.75 dBW)
- Features
  - Same as The Dayspring

**Models also available**

- The Dayspring, $258/pr; The Trinity, $850/pr
SSU-1270

Price $100
Dimensions 26H x 14 1/4" W x 10 3/4" D
Weight 25 lbs
Type Acoustic suspension
Drivers 10" woofer, 3 1/4" midrange, 2" tweeter
Response 40 Hz to 20 kHz
Crossover 2 kHz, 7 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 100 watts (20 dBW)
Controls Tweeter, midrange
Features IM line-driver arrangement

MODELS ALSO AVAILABLE
SSU-4000, $400; SSU-3000, $300; SSU-2000, $150; SSU-1070, $85

SOUND DYNAMICS
Sound Dynamics Corp.
161 Don Park Road
Markham, Ontario L3R 1C2

12S
Price $279.50
Dimensions 26 3/4" H x 15 1/2" W x 12" D
Weight 55 lbs
Type Computer-tuned low-resonance bass reflex
Drivers 12" long-throw woofer, 1" phenolic dome horn-loaded with 5 1/4" cast-aluminum lens
Response 28 Hz to 20 kHz, +3 dB re 101.5 dB SPL at 1 meter at 1 watt
Crossover 2 kHz
Impedance 8 ohms (nominal)
Min. power 10 watts (10 dBW)
Max. power 125 watts (21 dBW)
Controls L-pad variable through full range
Features Bookshelf design, hand-built component drivers, walnut/veneer finish

120S
Price $359.50
Dimensions 33" H x 17 1/2" W x 12" D
Weight 70 lbs
Type Computer-tuned low-resonance bass reflex
Drivers 12" heavy-duty woofer with long-throw 1 1/2" voice coil, sealed cone; 1" horn-loaded, 5 2/5" cast-aluminum lens
Response 26 Hz to 20 kHz, +3 dB
Crossover 750 Hz, 3.25 kHz
Impedance 8 ohms (nominal)
Min. power 12 watts (10.75 dBW)
Max. power 150 watts (21.75 dBW)
Controls L-pad variable through full range
Features "Floating bass port," phase-corrected, precisely angled, floor-standing cabinet; hand-built component drivers, walnut/veneer finish

MODELS ALSO AVAILABLE
108S, $199.50, 65, $149.50, 155, $449.50

SOUND MATES
Soundmates, Inc.
796 29th Ave., S.E.
Minneapolis, Minn. 55414

1.500
Price $269.95

Dimensions 24 1/4" H x 14 1/2" W x 12 1/4" D
Weight 50 lbs
Type Acoustic suspension
Drivers Two 8" butyl-surround woofers, 3" direct radiator tweeter with 5-lb. magnet
Response 30 Hz to 20 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 80 watts (19 dBW)
Controls Tweeter level

.125
Price $109.95
Dimensions 8H x 14 1/4" W x 15 1/2" D
Weight 4 lbs, 12 oz
Type Acoustic suspension
Drivers 4" butyl-surround woofer with 1" voice coil, soft-dome tweeter with 1" voice coil
Response 50 Hz to 20 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 50 watts (18 dBW)
Controls Tweeter level

MODELS ALSO AVAILABLE
1.000, $179.95

SOUND SOURCE
1435 Jacqueline Drive
Columbus, Ga. 31907

1240
Price N/A
Dimensions 24 1/4" H x 15" W x 12 1/4" D
Weight 40 lbs
Type Tube vented reflex
Drivers 12" woofer; 2" x 6" piezolectric horn
Response 35 Hz to 40 kHz, -3 dB
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 250 watts (24 dBW)
Controls None
Features External Fusing, genuine walnut veneer enclosure

1020
Price N/A
Dimensions 22 1/4" H x 13 1/4" W x 10 1/4" D
Weight 34 lbs
Type Tube vented reflex
Drivers 10" woofer; 5" (sealed environment) midrange, 2" phenolic-ring tweeter
Response 40 Hz to 20 kHz, -3 dB
Impedance 8 ohms
Min. power 5 watts (7 dBW)
Max. power 100 watts (20 dBW)
Controls Tweeter
Features External Fusing, genuine walnut veneer enclosure

SIGNATURE SERIES

4A
Price $499
Dimensions 42" H x 16" W x 13" D
Weight 95 lbs
Type Rear-frequency time line, acoustically damped
Drivers 12" woofer; 5" isolated midrange; 1" soft-dome tweeter
Response 20 Hz to 22 kHz, -3 dB
Crossover 900 Hz, 6 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 200 watts (23 dBW)
Controls Tweeter, midrange

2A
Price $279
Dimensions 26H x 13 1/2" W x 10 1/2" D

SPEAKERCRAFT
Speakercraft of Oregon
P.O. Box 13460
Portland, Ore. 97213

SYLVAN MONITOR
Price $489
Dimensions 46H x 16W x 14D
Weight 82 lbs
Type Loaded transmission line
Drivers Four 12" passive elements, two 6 1/2" high-compliance bass drivers, push/pull configuration; 6 1/2" plasticized midrange; 1" soft-dome tweeter
Response 20 Hz to 28 kHz, +3 dB re 86 dB SPL at 1 meter at 1 watt
Crossover 200 Hz, 3 KHz
Impedance 4 ohms
Min. power 35 watts (15.5 dBW)
Max. power 250 watts (24 dBW)
Controls Tweeter (3-position)
Features Push/pull, phase corrected, walnut veneer enclosure, floorstanding

SYLVAN STANDARD
Price $179
Dimensions 24H x 13W x 11D
Weight 32 lbs
Type Acoustic suspension
Drivers Three 8" plasticized woofers; two 2 1/2" spiderless cone tweeters
Response 37 Hz to 21 kHz, -3 dB
Crossover 3 kHz
Impedance 4 ohms
Min. power 15 watts (11.75 dBW)
Max. power 100 watts (20 dBW)
Controls Tweeter (3-position)
Features Phase corrected; walnut veneer enclosure, bookshelf standing

MODELS ALSO AVAILABLE
Sylvan Premier, $329

SPEAKERLAB
Speakerlab, Inc.
735 N. Northlake Way
Seattle, Wash. 98103

SK
Price $650 (SKP8V kit, $445)
Dimensions 50 1/4" H x 32 1/4" W x 26D
Weight 220 lbs
Type Folded horn
Drivers 15" woofer, 17" x 6" horn midrange, 4" x 8" Wave Aperture" Driver
Response 101 dB SPL at 1 meter at 1 watt
Crossover 400 Hz, 5 KHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 250 watts (24 dBW)
Controls Midrange, tweeter
Features Extremely wide dispersion Wave Aperture" tweeter, tweeter and midrange fluid damped with Magnox

S-6
Price $360 (vinyl kit, $256)
Dimensions 27 1/4" H x 15 1/4" W x 11 1/4" D

High Fidelity's Buying Guide to Speaker Systems
Models also available
S-7 WA, $650 (vinyl kit, $309); S-30, $330 walnut kit (vinyl kit, $285); S-3, $275 (vinyl kit, $169); S-2, $159 (vinyl kit, $97); Speakerlab 0.1, $99 (vinyl kit, $65)

SPECKMAN
J.W.S. Acoustic Design Corp.
11407A Route 14
Harvard, Ill. 60033

S-415 Titus
Price $1,025
Dimensions 36H x 15 1/2 dia.; x 18 dia., with legs
Weight 75 lbs. (approx., depending on leg style)
Type Cylindrical Column of Air Effect® subchamber
Drivers 15" extended-range subwoofer; 4" lower midrange; two 2" dome midranges; two 1" dome tweeters
Response 19 Hz to 20 kHz, +2 db re 91 dB SPL at 1 meter at 1 watt
Crossover 450 Hz; 2 kHz; 6 kHz
Impedance 8 ohms
Min. power 50 watts (14 dBW)
Max. power 250 watts (24 dBW)
Features Midnight-black flat smooth finish with interchangeable pecan legs; chain package available for hanging

S-2.5
Price $215 (vinyl kit, $139)
Dimensions 26 1/4H x 15 1/4W x 10 1/4D
Weight 56 lbs.
Type Acoustic suspension
Drivers 10" woofer; 6" midrange; 1" dome tweeter
Response 91 dB SPL at 1 meter at 1 watt
Crossover 500 Hz; 3 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 150 watts (21.75 dBW)
Features Polymere® double-layer woofer and midrange cone construction

S-1
Price $115 (vinyl kit $67)
Dimensions 20 3/4H x 11 3/4W x 8 1/4D
Weight 31 lbs.
Type Acoustic suspension
Drivers 8" woofer; 1" recessed-dome tweeter
Response 92 dB SPL at 1 meter at 1 watt
Crossover 2.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 75 watts (18.75 dBW)
Features Polymere® double-layer woofer cone construction

S-82
Price $129
Dimensions 19H x 8 1/2 dia.; 24H x 13 1/2 dia., with legs
Weight 15 lbs.
Type Cylindrical Column of Air Effect® subchamber
Drivers 8" woofer; 1" dome tweeter
Response 70 Hz to 20 kHz, +2 db re 90 dB SPL at 1 meter at 1 watt
Crossover 2.5 kHz
Impedance 8 ohms
Min. power 15 watts (1.75 dBW)

Max. power 45 watts (16.5 dBW)
Features Midnight-black flat smooth finish with interchangeable pecan legs; chain package available for hanging

Models also available

SPENDOR
RCS Audio International, Inc.
1314 34th St., N.W.
Washington, D.C. 20007

BC-3
Price $625 (walnut veneer), $900 (rosewood veneer)
Dimensions 31 1/2H x 15 1/2W x 15 1/2D
Weight 75 lbs.
Type Modified reflex
Drivers 12" Spendor woofer; 8" Spendor midrange driver; Celestion 1300 tweeter; Celestion 2000 tweeter
Response 30 Hz to 25 kHz (50 Hz to 14 kHz, +2.0 db)
Crossover 700 Hz; 3 kHz; 13 kHz
Impedance 8 ohms
Min. power 50 watts (17 dBW)
Max. power 80 watts (19 dBW)

SA-1 Mini Monitor
Price $230 (walnut veneer), $250 (rosewood veneer)
Dimensions 12H x 9W x 9D
Weight 16 lbs.
Type Dynamic
Drivers 6" Spendor woofer; Son Audax HD 12.8 D25 tweeter
Response 50 Hz to 20 kHz (70 Hz to 14 kHz, 3 db)
Crossover 3 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 40 watts (16 dBW)

Models also available
BC-1, $375 (walnut veneer), $415 (rosewood veneer)

STRELIOFF
Strelloff System Designs
5305 Teudilla Ave.
Woodland Hills, Calif. 91364

TS-1 Transducer System
Price $5,500/1 pr.
Dimensions 66H x 36W x 18D
Weight 210 lbs.
Type Acoustic suspension
Drivers Two 10" cast-aluminum frame
woofers; six 1½" dome midranges; six 1" dome tweeters
Response 38 Hz to 18 kHz; ±4 dB re 87 dB
SPL at 1 meter at 1 watt
Crossover 800 Hz; 5 kHz
Impedance 5 ohms at 500 Hz
Min. power 100 watts (20 dBW)
Max. power 500 watts (27 dBW)
Controls Blimp, tripod, low frequency roll-off (mode switches), 10 dB attenuation for each frequency range (rotary controls)
Features Custom finishes available

ME-1 Monitor Bass Extender
Price $350
Dimensions 48H x 20W x 20D
Weight 110 lbs.
Type Acoustic suspension
Drivers Two 10" cast-aluminum frame woofers in separate chambers
Response 38 Hz to 150 Hz; ±4 dB re 78 dB
SPL at 1 meter at 1 watt
Crossover 20 Hz; 200 Hz (filter network)
Impedance 8 ohms at 70 Hz
Min. power 20 watts (13 dBW)
Max. power 200 watts (23 dBW)
Controls None
Features Individual input terminals for either mono or stereo applications; cabinet construction includes high-density ½" thick walls throughout and internal bracing; custom finishes available

Models also available
TE-1 Transducer Bass Extender, $3,000/pr., MS-1 Monitor System, $1,250/pr.

SUPER SOUND PANEL
Meteor Light & Sound Co.
155 Michael Drive
Syosset, N.Y. 11791

Super Sound Panel
Price $949
Dimensions 39½ x 51½ x 6½ D
Weight 130 lbs.
Type Dynamic
Drivers Six 12" woofers; four 6" mid/high drivers, 7½ x 2½ horn-compression tweeter
Crossover 2.5 kHz; 7 kHz
Impedance 12 ohms
Min. power 80 watts (19 dBW)
Max. power 300 watts (24.75 dBW) continuous
Features Full protection (spare fuse and changeover switch provided); automatic tweeter-protection unit

SUPEREX
Superex Electronics Corp.
151 Ludlow St.
Yonkers, N.Y. 10705

Satellite/1
Price $89.95
Dimensions 10½ x 8½ x 6 D
Weight 5 lbs. 3 oz.
Type Dynamic high-frequency augmentor
Drivers Two 1" textile dome tweeters
Response 4 Hz to 4 kHz to 20 kHz; ±2 dB re 98 dB SPL at 1 meter at 1 watt
Crossover 4 kHz
Impedance 4 ohms
Min. power 100 watts (20 dBW)
Max. power 500 watts (27 dBW)
Features High-frequency attenuator

S-92 Panels and Commode
Price $2,000
Dimensions Commode: 19½ x 38W x 18D; panels: 61½H x 23W x 4D
Weight Commode: 130 lbs.; panels: 70 lbs.
Type Acoustic suspension
Drivers Six 4½" open-backed midrange drivers; 12" woofers; two bipolar tweeters
Response 24 Hz to 20 kHz; ±4 dB re 91 dB SPL at 1 meter at 1 watt
Crossover 140 Hz; 2.0 kHz
Impedance 8 ohms
Min. power 35 watts (15.5 dBW)
Max. power 600 watts (27.75 dBW)
Controls Midrange and tweeter levels
Features Circuit breakers; ¾" high-density particle board finished with genuine hand-rubbed walnut veneer; 3-piece bipolar with stereo subwoofer

S-73 Tower
Price $575
Dimensions 46½ x 2 x 14½ x W x 15 D
Weight 79 lbs.
Type Vented
Drivers 12" passive radiator, two 8" high-compliance woofers; bipolar samarium cobalt tweeter midrange
Response 30 Hz to 20 kHz, ±3 dB
Crossover 45 Hz; 2.0 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 150 watts (21.75 dBW)
Controls Tweeter and tweeter levels
Features ¾" high-density particle board finished with genuine hand-rubbed walnut veneer; bipolar design; circuit breaker

S-51C
Price $325
Dimensions 25½ x 14½ x W x 11½ D
Weight 41 lbs.
Type Vented
Drivers 12" passive radiator, 8¾ high-compliance woofer; pezoelectric super-tweeter; 2½ tweeter
Response 35 Hz to 24 kHz, ±4 dB
Crossover 45 Hz; 2.5 kHz; 12.5 kHz
Impedance 8 ohms
Min. power 6 watts (7.75 dBW)
Max. power 80 watts (19 dBW)
Controls Tweeter level
Features ¾" high-density particle board finished with genuine hand-rubbed walnut veneer; circuit breaker

S-33
Price $175
Dimensions 25½ x 14½ x W x 11½ D
Weight 37 lbs.
Type Vented
Drivers 10½" passive radiator; 8½ woofer; 2½ tweeter
Response 40 Hz to 18 kHz, ±4 dB
Crossover 50 Hz; 2.5 kHz
Impedance 8 ohms
Min. power 6 watts (7.75 dBW)
Max. power 50 watts (17 dBW)
Controls Tweeter level
Features ¾" high-density particle board finished in walnut-grain vinyl; circuit breaker

S-22B
Price $130
Dimensions 23H x 12W x 9½ D
Weight 29 lbs.
Type Acoustic suspension
Drivers 8½ woofer, 2½ tweeter
Response 50 Hz to 18 kHz, ±4 dB
Crossover 3.2 kHz
Impedance 8 ohms
Min. power 6 watts (7.75 dBW)
Max. power 40 watts (16 dBW)
Features ¾" high-density particle board finished in walnut-grain vinyl!

Models also available
S-63 Tower, $400; S-53 Tower, $325; S-46, $250; S-23, $150; S-12B, $100

TAMON
Tamon Audio Corp. of America
P.O. Box 322
Concord, Calif. 94522

TS-707
Price $380
Dimensions 31¼H x 16½W x 11¼D
Weight 55 lbs.
Type Infinite baffle
Drivers 15" cone woofer; two 5" sealed-back cone midrange drivers; 3½" ring-radiating tweeter; 2½" metallic super-tweeter
Response 30 Hz to 24 kHz
Crossover 600 Hz; 6 kHz; 15 kHz
Impedance 8 ohms
Max. power 110 watts (20.5 dBW); 200 watts (23 dBW) peak

CRO-40L
Price $250
Dimensions 22H x 12½W x 11¼D
Weight 27 lbs. 8 oz.
Type Infinite baffle
Drivers 10" cone woofer; 5" sealed-back cone midrange; 3½" cone tweeter
Response 38 Hz to 22 kHz
Crossover 800 Hz; 3 kHz
Impedance 8 ohms
Max. power 35 watts (15.5 dBW); 60 watts (17.75 dBW) peak

TS-404
Price $299.95
Dimensions 22½H x 12¼W x 11¼D
Weight 27 lbs. 8 oz.
Type Infinite baffle
Drivers 10" cone woofer; 5" sealed-back cone midrange; 3½" ring-radiating tweeter
Response 38 Hz to 35 kHz
Crossover 800 Hz; 2.5 kHz
Impedance 8 ohms
Max. power 60 watts (17.75 dBW); 100 watts (20 dBW) peak

LB-1030
Price $229.95 (with mounting brackets)
Dimensions 7½W x 4½H x W x 4½
Type Dynamic
Drivers 4½" long-throw woofer; 1½ soft-dome tweeter
Response 60 Hz to 20 kHz
Min. power 15 watts (11.75 dBW)
Features Suitable for home or auto use

CRO-30L
Price $140
Dimensions 19½H x 10½W x 8¼D
Weight 16 lbs.
Type Infinite baffle
Drivers 8½ cone woofer; 3½ cone tweeter
Response 45 Hz to 22 kHz
Crossover 3 kHz
Impedance 8 ohms
Max. power 25 watts (14 dBW); 40 watts (16 dBW) peak

Models also available
CRO-30L, $380; TS-505, $349; CRO-33L, $169; TS-303, $140

TANDBERG
Tandberg of America, Inc.
Labriola Court
Armour, N.Y. 10504

Fasets
Price $200/pr.
TANNYO
Tannoy-Ortofon, Inc.
122 Dupont St.
Plainview, N.Y. 11803

Buckingham
Price $2,250
Dimensions 46H x 24W x 18D
Weight 212 lbs.
Type Ducted port
Drivers Integrated phase-coherent 8" midrange/tweeter with two 12" bass drivers
Response 40 Hz to 20 kHz, +3 dB
Crossover 350 Hz, 3.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Treble rolloff, treble energy

BERKELEY
Price $655
Dimensions 33H x 21W x 12D
Weight 90 lbs.
Type Ducted port
Drivers 15" woofer with compression high-frequency tweeter mounted on common axis
Response 45 Hz to 20 kHz, +4 dB
Crossover 1 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Treble energy, treble rolloff
Features Phase-coherent integrated design

225
Price $495
Dimensions 28H x 15W x 12D
Weight 66 lbs.
Type Passive radiator
Drivers 10" woofer with compression high-frequency tweeter mounted on common axis
Response 45 Hz to 20 kHz, +3 dB
Crossover 3.5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Treble rolloff, treble energy
Features Glass-top floor standing speaker utilizing phase-coherent integrated design

125
Price $228
Dimensions 24H x 12W x 10D
Weight 40 lbs.
Type Ducted port
Drivers 10" woofer with compression high-frequency tweeter
Response 50 Hz to 20 kHz, +3 dB
Crossover 5 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Treble rolloff, treble energy

Models also available
Windsor, $1,250, Arden, $777, 185, $425

TECHNICS
Panasonic Co.
1 Panasonic Way
Secaucus, N.J. 7094

SB-7070
Price $450
Dimensions 40H x 17W x 161/2D
Weight 72 lbs. 13 oz.
Type Bass reflex
Drivers 13½" woofer, 6½" midrange, 4½" mid-high, 1" dome tweeter
Response 30 Hz to 32 kHz re 92 dB SPL at 1 meter at 1 watt
Crossover 350 Hz, 1.2 kHz, 4 kHz
Impedance 8 ohms
Max. power 180 watts (22.5 dBW) (music), 120 watts (20.75 dBW) (DIN)
Features Linear-phase design; individual thermal relay protection for driver

SB-L300
Price $250
Dimensions 28H x 14W x 12½D
Weight 40 lbs.
Type Bass reflex
Drivers 12" woofer, 4" midrange, radial horn tweeter
Response 39 Hz to 22 kHz re 90 dB SPL at 1 meter at 1 watt
Crossover 16 Hz, 4.5 kHz
Impedance 8 ohms
Max. power 130 watts (21.25 dBW) (music); 90 watts (19.5 dBW) (DIN)
Features Tweeter, midrange, tweeter

SB-L100
Price $150
Dimensions 24H x 11W x 10½D
Weight 24 lbs.
Type Vented
Drivers 10" woofer, radial horn tweeter
Response 43 Hz to 22 kHz re 86.5 dB SPL at 1 meter at 1 watt
Crossover 3.2 kHz
Impedance 8 ohms
Max. power 75 watts (18.75 dBW) (music); 50 watts (17 dBW) (DIN)
Features Linear-phase design; individual thermal relay protection for each driver

TECHNISON
Technison, Inc.
60 E. Ida St.
Antioch, ILL. 60002

120B
Price $250
Dimensions 27H x 16W x 11D
Weight 58 lbs.
Type Passive radiator velocity regenerative
Drivers 10" woofer, 6½" midrange driver, 3½" tweeter
Response 36 Hz to 20 kHz, +2 dB
Crossover 300 Hz, 3.5 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 100 watts (20 dBW) continuous
Controls Midrange; tweeter

1200
Price $200
Dimensions 26H x 18W x 12D
Weight 54 lbs.
Type Vented
Drivers Three
Response 37 Hz to 20 kHz, +3 dB
Crossover 475 Hz, 4 kHz
Min. power 15 watts (11.75 dBW) continuous
Max. power 60 watts (17.75 dBW) continuous
Controls Midrange, tweeter, thermal overload reset

Models also available
SB-6060, $350, SB-L200, $200; SB-P1000, $180/pr.

THIEL
Thiel Audio Products Co.
4158 Georgetown Road
Lexington, Ky. 40511

04
Price $550/pr.
Dimensions 36H x 10W x 10D
Weight 34 lbs.
Type Passive radiator
Drivers 8" bass radiator, 6½" woofer/midrange, 1" dome tweeter
Response 40 Hz to 20 kHz, +2 dB re 89 dB SPL at 1 meter at 1 watt
Crossover 4 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 150 watts (21.75 dBW)
Features Time and phase coherent

02
Price $250/pr.
Dimensions 19H x 11W x 9½D
Weight 22 lbs.
Type Ported
Drivers 6½" woofer, 1" dome tweeter
Response 45 Hz to 20 kHz, +2 dB re 92 dB SPL at 1 meter at 1 watt
Crossover 2 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 100 watts (20 dBW)

Models also available
03, $875/pr.

THORENS
Elpa Marketing Industries, Inc.
Atlantic & Thorens A/Vs.
New Hyde Park, N.Y. 11040

HP-380
Price $1,000
Dimensions 47H x 31½W x 3 1/16D
Weight 78 lbs. 5 oz.
Type Dipole radiator
Drivers Fifteen 6" woofers, 4½" midrange, 2½" tweeter
Response 35 Hz to 22 kHz
Crossover 600 Hz; 5 kHz
Impedance 4 ohms
Min. power 80 watts (10 dB)
Max. power 200 watts (23 dBW)

HP-360
Price $700
Dimensions 34H x 22W x 3 1/16D
Weight 46 lbs. 5 oz.
Type Dipole radiator
Drivers Nine 6" woofers, 4½" midrange, 2½" tweeter
Response 45 Hz to 22 kHz
Crossover 600 Hz; 5 kHz
Impedance 4 ohms
Min. power 80 watts (19 dBW)
Max. power 150 watts (21.75 dBW)

TRACER
BML Electronics, Inc.
5307 N. Ravenswood Ave.
Chicago, Ill. 60640

Sound Rack/Tracer 1501
Price $349
Dimensions 51 H x 20W x 5D
Weight 7½ lbs.
Type Fluturated transmission line
Drivers Three: 4½" mid-bass unit; 4½" acoustic bass radiator; 1¾" direct radiator tweeter

77
### TR'SANSAUDIO
Quadriflex Industries
130 1 65th St.
E. meryville, Calif. 94608

#### 1011LT³
**Price** $100
**Dimensions** 26 4 x 15 1/2 in. x 10 1/2 in.
**Weight** 36 lbs
**Type** Acoustic suspension
**Drivers** 1 1/2-way, 3 1/2-way tweeter
**Response** 60 Hz to 18 kHz, ± 3 dB
**Crossover** 1 kHz
**Impedance** 8 ohms
**Min. power** 5 watts (7 dBV)
**Max. power** 60 watts (17.75 dBV)

#### 1008A
**Price** $49.95
**Dimensions** 18 in. x 11 1/2 in. x 8 1/4 in.
**Weight** 19 lbs
**Type** Acoustic suspension
**Drivers** 8 1/2-way, 3 1/2-way tweeter
**Response** 60 Hz to 18 kHz, ± 5 dB
**Crossover** 1 kHz
**Impedance** 8 ohms
**Min. power** 5 watts (7 dBV)
**Max. power** 40 watts (16 dBV)

Models also available
1010 B, 1070

### TRI-DELTA
Triangle Acoustics, Inc.
12721 S.W. 68 th Lane
Miami, Fla. 33183

#### Tri-Delta III
**Price** $399
**Dimensions** 29 1/2 in. x 29 1/2 in. x 6 1/4 in.
**Weight** 60 lbs
**Type** Air suspension
**Drivers** Two 10" cone woofers, 5" cone midrange, 4" dome tweeter
**Response** 20 Hz to 23 kHz, ± 3 dB re 90 dB SPL at 1 meter or at 1 watt
**Crossover** 500 Hz, 5 kHz
**Impedance** 8 ohms
**Min. power** 15 watts (11.5 dBV)
**Max. power** 200 watts (23 dBV)
**Features** Trihedral, design, enclosure measures 33" on an edge

#### Tri-Delta I
**Price** $259.95
**Dimensions** 24 1/4 in. x 28 1/4 in. x 23 1/4 in.
**Weight** 37 lbs
**Type** Acoustic suspension
**Drivers** 10" cone woofer, 5" cone midrange

### TRUSONIC
Trusonic Co.
10530 Lawson River Ave.
Fountain Valley, Calif. 92708

#### Monitor Seven
**Price** $990
**Dimensions** 44 in. x 24 in. x 17 in.
**Weight** 156 lbs
**Type** High-efficiency acoustic suspension
**Drivers** Two 12" cast frame woofers, 6" cast frame midrange with 110 oz. midrange structure, four solid-state tweeters
**Response** 25 Hz to 22 kHz, ± 4 dB re 94 dB SPL at 1 meter or at 1 watt
**Crossover** 500 Hz, 400 kHz
**Impedance** 4 ohms
**Min. power** 10 watts (10 dBV)
**Max. power** 250 watts (24 dBV)
**Controls** Midrange, ± 5 dB, high range, ± 5 dB
**Features** Computer-assisted design, "Criti-cal Q" oiled-oak cabinet, brown double-knit grille

### ULTRILINEAR
Ultrainfrared Loudspeakers
3282 E. 50th St.
Los Angeles, Calif. 90058

#### 265
**Price** $419.95
**Dimensions** 31 1/4 in. x 18 1/2 in. x 16 1/4 in.
**Weight** 66 lbs
**Type** Ported duct
**Drivers** 15" foam-edge suspension low-frequency driver with large diameter high-temperature voice coil, 6" foam-suspension midrange transducer in separate sealed enclosure, 1" high-output soft-dome high-frequency radiator, 1" ultra-high-frequency Mylar dome radiator with retractive dispersion screen
**Response** 25 Hz to 22.5 kHz
**Crossover** 700 Hz, 4 kHz, 6 kHz
**Impedance** 8 ohms
**Min. power** 12 watts (10.75 dBV)
**Max. power** 90 watts (19.5 dBV)
**Controls** Midrange, high-frequency front-mounted level
**Features** Circuit breaker protected, walnut cabinet

#### DW-10
**Price** $249.95
**Dimensions** 34 1/4 in. x 14 1/2 in. x 12 in.
**Weight** 47 lbs
**Type** Air suspension
**Drivers** Two 10" woofers, 6" midrange, two 1/2" tweeters
**Response** 29 Hz to 19 kHz
**Crossover** 600 Hz, 3.5 kHz
**Impedance** 4 ohms
**Min. power** 8 watts (9 dBV)
**Max. power** 75 watts (18.75 dBV)

#### S-1 Subwoofer
**Price** $249.95

### Models also available

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>7W X 5 1/2 V x 4 1/4 in</td>
<td>30 lbs</td>
<td>10&quot; woofers, 10&quot; passive radiator</td>
<td>29 Hz to 23 kHz</td>
<td>68 ohms</td>
<td>10 watts (10 dBV)</td>
<td>70 watts (18.5 dBV)</td>
<td>Bass cube of TM-116 system</td>
<td></td>
</tr>
<tr>
<td>24 1/2 in. x 14 1/2 in. x 12 in</td>
<td>35 lbs</td>
<td>12&quot; woofers, 1 1/4&quot; midrange, 2 1/2&quot; tweeter</td>
<td>30 Hz to 19 kHz</td>
<td>8 ohms</td>
<td>10 watts (10 dBV)</td>
<td>8 watts (9 dBV)</td>
<td>Front-mounted midrange level</td>
<td></td>
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<tr>
<td>24 1/4 in. x 14 1/2 in. x 12 in</td>
<td>50 lbs</td>
<td>12&quot; woofers, 1 1/4&quot; midrange, 2 1/2&quot; tweeter</td>
<td>30 Hz to 19 kHz</td>
<td>8 ohms</td>
<td>8 watts (9 dBV)</td>
<td>50 watts (17 dBV)</td>
<td>Breaker protected, walnut cabinet</td>
<td></td>
</tr>
<tr>
<td>24 1/4 in. x 14 1/2 in. x 12 in</td>
<td>35 lbs</td>
<td>12&quot; woofers, 1 1/4&quot; midrange, 2 1/2&quot; tweeter</td>
<td>30 Hz to 19 kHz</td>
<td>8 ohms</td>
<td>8 watts (9 dBV)</td>
<td>50 watts (17 dBV)</td>
<td>Breaker protected</td>
<td></td>
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</tbody>
</table>

### 82
**Price** $149.95
**Dimensions** 20 1/2 in. x 11 1/4 in. x 9 1/4 in.
**Weight** 42 lbs
**Drivers** 8" high-compliance woofer, 3 high-frequency radiator
**Response** 40 Hz to 16.5 kHz
**Crossover** 2.2 kHz
**Impedance** 8 ohms
**Min. power** 4 watts (6 dBV)
**Max. power** 35 watts (15.5 dBV)

### Models also available

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weight</th>
<th>Drivers</th>
<th>Response</th>
<th>Crossover</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-116, $429.95, 228, 279.95, HPS-112, $249.95, 188, 239.95, DW-8, $179.95, 93, $149.95, 66A, 139.95</td>
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</table>

### VERIT
Wald Sound, Inc.
11131 Dora St.
Sun Valley, Calif. 91352

### RL-X5
**Price** $479
**Dimensions** 39 in. x 14 1/2 in. x 14 1/4 in.
**Weight** 53 lbs
**Type** Mass-compliance tuned passive radiator
<table>
<thead>
<tr>
<th>Drivers</th>
<th>12&quot; woofer; 5½&quot; midrange; 2&quot; x 5&quot; horn tweeter</th>
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</thead>
<tbody>
<tr>
<td>Response</td>
<td>25 Hz to 30 kHz, ±5 dB re 97 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>700 Hz to 3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>12&quot; passive radiator in back; circuit breaker</td>
</tr>
<tr>
<td></td>
<td>RL-X3</td>
</tr>
<tr>
<td>Price</td>
<td>$269</td>
</tr>
<tr>
<td>Type</td>
<td>Mass-compliance tuned passive radiator</td>
</tr>
</tbody>
</table>

**models also available**

- RL-X4, $329

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**Vermont Wood Crafts**

- Model: Visonik Hif
- Contact: Visonik of America, Inc.
- Address: 701 Heinz St., Berkeley, Calif. 94710

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**David 9000**

- **Price**: $300
- **Dimensions**: 14¼ x 9¼ x 9¼ in
- **Weight**: 19 lbs, 12 oz
- **Type**: Air suspension
- **Drivers**: 7" woofer; 1½" midrange; ¾" tweeter
- **Response**: 35 Hz to 25 kHz, +4, -8 dB re 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 2.5 kHz
- **Impedance**: 4 ohms
- **Min. power**: 20 watts (13 dBW)
- **Max. power**: 120 watts (20.75 dBW)

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**David 6000**

- **Price**: $150
- **Dimensions**: 7¼ x 5¼ x 5 in
- **Weight**: 6 lbs, 12 oz
- **Type**: Acoustic suspension
- **Drivers**: 4" woofer; 1" soft-dome tweeter
- **Response**: 45 Hz to 25 kHz, +4, -8 dB re 84 dB SPL at 1 meter at 1 watt
- **Crossover**: 2.5 kHz
- **Impedance**: 4 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 70 watts (18.5 dBW)

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**D-803**

- **Price**: $250 (black), $280 (walnut)
- **Dimensions**: 12¾ x 7¼ x 8 in
- **Weight**: 19 lbs
- **Type**: Acoustic suspension
- **Drivers**: 7½" woofer; 1½" dome midrange, ¾" dome tweeter
- **Response**: 30 Hz to 30 kHz, +4, -8 dB
- **Crossover**: 1.1 kHz
- **Impedance**: 4 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 120 watts (20.75 dBW)

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**D-602**

- **Price**: $160 (black), $170 (walnut)
- **Dimensions**: 9½ x 5½ x 5¼ in
- **Weight**: 9 lbs
- **Type**: Acoustic suspension
- **Drivers**: 5½" woofer; 1" dome tweeter
- **Response**: 38 Hz to 25 kHz, +4 dB, -8 dB
- **Crossover**: 1 kHz
- **Impedance**: 4 ohms
- **Min. power**: 15 watts (11.75 dBW)
- **Max. power**: 80 watts (19 dBW)

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**D-5000**

- **Price**: $130 (optional bracket, $10)

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**Euro Series**

- **Royal 5**
- **Price**: $200
- **Dimensions**: 19½ x 11½ x 9½ in
- **Weight**: 24 lbs
- **Type**: Acoustic suspension
- **Drivers**: 8" woofer; 1½" dome tweeter
- **Response**: 35 Hz to 25 kHz, +4 dB, -6 dB
- **Crossover**: 1 kHz
- **Impedance**: 4 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 60 watts (17.75 dBW)

---

**Dick Wagner**

- **5930 Penfield Ave., Woodland Hills, Calif. 91367**

---

**Dick Wagner**

- **Price**: $6,000/pr.
- **Dimensions**: 63½ x 48½ x 20 in
- **Weight**: 160 lbs
- **Type**: Eight 12" woofers, sixteen 4" midrange drivers, four dome tweeters, one omni
- **Response**: 27 Hz to 19 kHz, ±5 dB re 87 dB SPL at 1 meter at 1 watt

---

**Euro Series**

- **Royal 5**
- **Price**: $200
- **Dimensions**: 19½ x 11½ x 9½ in
- **Weight**: 24 lbs
- **Type**: Acoustic suspension
- **Drivers**: 8" woofer; 1½" dome tweeter
- **Response**: 35 Hz to 25 kHz, +4 dB, -6 dB
- **Crossover**: 1 kHz
- **Impedance**: 4 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 60 watts (17.75 dBW)

---

**Models also available**

- David 7000, $185; David 4000, $110; David 702, $210 (black); David 502, $120, SUB 1, $400, Euro 7, $360

---

**Dick Wagner**

- **5930 Penfield Ave., Woodland Hills, Calif. 91367**

---

**Dick Wagner**

- **Price**: $6,000/pr.
- **Dimensions**: 63½ x 48½ x 20 in
- **Weight**: 160 lbs
- **Type**: Eight 12" woofers, sixteen 4" midrange drivers, four dome tweeters, one omni
- **Response**: 27 Hz to 19 kHz, ±5 dB re 87 dB SPL at 1 meter at 1 watt
Crossover 450 Hz; 6.5 kHz (electronically variable triamp)
Impedance 8 ohms
Min. power 100 watts (20 dBW)
Max. power 1,000 watts (90 dBW)
Controls Continuously variable triamp
Features Over 120 dB output with no distortion and breakup

WATSON Watston Laboratories
2711 Rena Road
Mississauga, Ont. L4T 3K1, Canada

25W Price $1,650
Dimensions 17H x 52W x 34D
Weight 130 lbs.
Type Subwoofer, inert gas suspension
Drivers 8" x 10" total voice-coil length equivalent to 16" diameter voice coil on 24" diameter woofer
Response 17 Hz to 150 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt
Crossover 150 Hz
Impedance 4 to 8 ohms
Min. power 100 watts (20 dBW)
Max. power 500 watts (27 dBW)
Features Coffee-table styling

Model Five Price $840/pr
Dimensions 32H x 15W x 15Q/D
Weight 38 lbs.
Type Inert gas suspension
Drivers 10" woofer, 6" midrange; 1" soft-dome tweeter
Response 30 Hz to 20 kHz, ±3 dB re 91 dB SPL at 1 meter at 1 watt
Crossover 510 Hz, 3 kHz
Impedance 5 ohms
Min. power 50 watts (17 dBW)
Max. power 150 watts (21.75 dBW)
Controls Square-wave response capability from 150 Hz to 5 kHz
Features Free-standing midrange and tweeter units may be aligned vertically or horizontally

Models also available
Model Ten, $2,387; Model Seven, $1,417

WHARFEDALE Rank Hi-Fi Inc.
20 Bushes Lane
Elmwood Park, N.J. 07407

E-90 Price $850
Dimensions 45¾H x 15 3/16W x 14¾D
Weight 112 lbs.
Type Bass reflex
Drivers Two low-mass 10" woofers; two 4" high-freq cone midrange drivers; 1" compression-drive horn tweeter
Response 43 Hz to 18 kHz, ±3 dB re 95 dB SPL at 1 meter at 1 watt
Crossover 1 kHz; 5 kHz
Impedance 8 ohms
Min. power 15 watts (17.5 dBW)
Max. power 280 watts (24.5 dBW)
Features Matched-grain walnut finish; removable open-mesh black-grille cloths; casters

E-50 Price $460
Dimensions 26H x 13W x 13¾D
Weight 42 lbs.
Type Bass reflex
Drivers 10" woofer, 4" cone midrange, 1" compression drive horn-loaded tweeter
Response 55 Hz to 18 kHz, ±3 dB re 94 dB SPL at 1 meter at 1 watt
Crossover 800 Hz; 7 kHz
Impedance 8ohms
Min. power 3 watts (4.75 dBW)
Max. power 70 watts (18.5 dBW)
Controls Low-frequency; tweeter
Features Natural walnut veneer on high-density particle board, internal cabinet damping of high-hysteresis expanded polyurethane foam; matched pairs

L-300 Price $300
Dimensions 26 3/16H x 13W x 13 13/16D
Type Acoustic suspension
Drivers 10" woofers, 4" midrange
Response 38 Hz to 26 kHz, ±3 dB re 88 dB SPL at 1 meter at 1 watt
Crossover 1 kHz, 5.5 kHz
Impedance 6 ohms
Min. power 10 watts (10 dBW)
Max. power 90 watts (19.5 dBW)
Features Hand-finished in walnut veneer; matched pairs, laser-beam holography/computer-optimized tuning of bass drivers and cabinet size

XP-60 Linton Price $175
Dimensions 16¼H x 10½W x 9½D
Type Acoustic suspension
Drivers 8" woofer, 4" cone midrange driver; ¾" dome tweeter
Response 60 Hz to 20 kHz, ±3 dB re 87 dB SPL at 1 meter at 1 watt
Crossover 1 kHz, 4.5 kHz
Impedance 6 ohms
Min. power 10 watts (10 dBW)
Max. power 35 watts (15.5 dBW)
Controls Low frequency; tweeter

XP-20 Denton Price $99
Dimensions 14¼H x 10W x 9D
Type Acoustic suspension
Drivers 6½" woofer, 2" tweeter
Response 65 Hz to 18 kHz, ±3 dB re 88 dB SPL at 1 meter at 1 watt
Crossover 1 kHz, 35 kHz
Impedance 6 ohms
Min. power 10 watts (10 dBW)
Max. power 25 watts (14 dBW)
Features Matched pairs, brown jersey cloth grille; natural walnut-veneer finish

Models also available
E-70, $550; E-30, $340; XP-80 Glendale, $225, XP-40 Shelton, $125

YAMAHA Yamaha International Corp.
6600 Orangeforheo
Buena Park, Calif. 90620

NS-1000 Price $1,500/pr
Dimensions 26H x 15W x 14¾D
Weight 85 lbs. 13 oz.
Type Acoustic suspension
Drivers Woofer, beryllium dome midrange; beryllium dome tweeter
Response 40 Hz to 20 kHz
Crossover 500 Hz; 6 kHz
Impedance 8 ohms
Min. power 50 watts (17 dBW)
Max. power 100 watts (20 dBW)
Controls Midrange; tweeter
Features Choice of ebony or black finish

NS-890 Price $1,060/pr
Dimensions 19¼H x 14W x 12½D
Weight 68 lbs. 3 oz.
Type Sealed enclosure
Drivers 12" cone woofer, 4¼" cone mid/bass; 2" beryllium dome mid/high; 1¼" beryllium dome tweeter
Response 40 Hz to 20 kHz
Crossover 600 Hz; 2 kHz; 6 kHz
Impedance 8 ohms
Min. power 40 watts (16 dBW)
Max. power 80 watts (19 dBW)
Features Mid/high; tweeter (continuously variable)

NS-590 Price $640/pr
Dimensions 26 3/16H x 14 9/16W x 12 7/16D
Weight 51 lbs. 13 oz.
Type Acoustic suspension
Drivers 12" cone woofer, 4¼" cone midrange; 3/16" beryllium dome tweeter
Response 40 Hz to 20 kHz
Crossover 700 Hz; 6 kHz
Impedance 8 ohms
Min. power 35 watts (15.5 dBW)
Max. power 70 watts (18.5 dBW)
Features Midrange; tweeter (continuously variable)

NS-344 Price $480/pr
Dimensions 23H x 12W x 12O
Weight 30 lbs. 6 oz.
Type Acoustic suspension
Drivers 10" cone woofer, 5" cone midrange, 1" soft-dome tweeter
Response 50 Hz to 38 kHz
Crossover 700 Hz; 6 kHz
Impedance 8 ohms
Min. power 35 watts (15.5 dBW)
Max. power 70 watts (18.5 dBW)
Features Midrange (±3dB to ∞); tweeter (+1.5dB to ∞)

NS-244 Price $340/pr
Dimensions 21H x 12½W x 11¾D
Weight 25 lbs. 5 oz.
Type Acoustic suspension
Drivers 10" cone woofer, 1¼" soft-dome tweeter
Response 50 Hz to 38 kHz
Crossover 2 kHz
Impedance 8 ohms
Min. power 30 watts (14.75 dBW)
Max. power 60 watts (17.75 dBW)
Features Level, ±3 dB (max), ∞ (min)

Models also available
NS-1000M, $1,120/pr.; NS-690 8 ohms.
Mark II, $750/pr.; NS-8, $420/pr.
NS-10M, $270/pr.; NS-4, $190/pr.

High Fidelity's Buying Guide to Speaker Systems
Car Stereo Speakers

ADS
Analog & Digital Systems
One Progress Way
Wilmington, Mass. 01887

L-300i
Price $118
Dimensions 8¾H x 5 7/10W x 3D (1¼" above surface; 1½" below surface)
Configuration 2-Way
Response 50 Hz to 20 kHz, ±3 dB re 90 dB SPL at 1 meter at 1 watt
Min power 10 watts (10 dBW)
Max power 100 watts (20 dBW)
Impedance 4 ohms
Diameter Dome tweeter, 5¼" woofer
Mounting Flush or surface

AFS/KRIKET
Acoustic Fiber Sound
Systems, Inc.
8050 Castlewat Drive
Indianapolis, Ind. 46250

6099
Price $80 each
Dimensions 5¼H x 11W x 9¾D
Configuration 2-Way
Response 50 Hz to 20 kHz, ±5 dB re 87 dB SPL at 1 meter at 1 watt
Min power 2 watts
Max power 40 watts
Impedance 4 to 8 ohms
Driver size 5¼"
Magnet 10 oz.
Mounting Flush or surface

8974
Price $110/kit
Dimensions 6¼H x 9W x 3¾D
Configuration 2-Way
Response 40 Hz to 20 kHz, ±5 dB re 95 dB SPL at 1 meter at 1 watt
Min power 2 watts (3 dBW)
Max power 50 watts (17 DBW)
Impedance 4 to 8 ohms
Mounting 6 x 9"
Mounting 10 oz.
Mounting Flush or surface

8231
Price $50/kit
Dimensions 4½H x 2½D
Configuration 2-Way
Response 55 Hz to 15 kHz, ±5 dB re 92 dB SPL at 1 meter at 1 watt
Min power 25 watts (14 DBW)
Max power 25 watts (14 DBW)
Impedance 4 to 8 ohms
Driver size 5¼"
Magnet 10 oz.
Mounting Flush

6049
Price $40
1980 Edition

Dimensions 5¼H x 11W x 9¾D
Configuration Dual cone
Response 60 Hz to 15 kHz, ±5 dB re 90 dB SPL at 1 meter at 1 watt
Min power 2 watts (3 dBW)
Max power 25 watts (14 DBW)
Impedance 4 to 8 ohms
Driver size 5¼"
Magnet 10 oz.
Mounting Flush or surface

8932
Price $65/kit
Dimensions 6¼H x 9¼W x 3¼D
Configuration Dual cone
Response 45 Hz to 18 kHz, ±5 dB re 94 dB SPL at 1 meter at 1 watt
Min power 2 watts (3 dBW)
Max power 35 watts (15.5 DBW)
Impedance 4 to 8 ohms
Driver size 6 x 9"
Magnet 10 oz.
Mounting Flush

8931
Price $55/kit
Dimensions 6¼H x 9¼W x 3¼D
Configuration Dual cone
Response 45 Hz to 18 kHz, ±6 dB re 94 dB SPL at 1 meter at 1 watt
Min power 2 watts (3 dBW)
Max power 35 watts (15.5 DBW)
Impedance 4 to 8 ohms
Driver size 6 x 9"
Magnet 10 oz.
Mounting Flush

8531
Price $50/kit
Dimensions 4¾H x 2D
Configuration Dual cone
Response 65 Hz to 15 kHz, ±6 dB re 92 dB SPL at 1 meter at 1 watt
Min power 2 watts (3 dBW)
Max power 25 watts (14 DBW)
Impedance 8 ohms
Driver size 5"
Magnet 10 oz.
Mounting Flush

Models also available
6079, 665, 6059, 555, 5069, 50, 8972, $65/kit; 8232, $75/kit; 8032, $75/kit; 2732, $28, 7311, $9

ALTUS
Altus Corp.
6 Main St.
Melrose, Mass. 02176

SK-6969 Powersonic
Price $118.95
Configuration 3-Way
Response 50 Hz to 20 kHz
Max power 50 watts (17 DBW)
Impedance 8 ohms
Driver size 6 x 9"
Magnet 20 oz.

Models also available
SK-6393 Powersonic, $65.95; SK-6292 Powersonic, $55.95

AMERICAN ACOUSTICS LAB
AAL Speaker Systems
629 W. Cermak Road
Chicago, Ill. 60616

Micro 100B
Price $119
Dimensions 7¼H x 4¾W x 4 9/16D
Configuration 2-way
Response 50 Hz to 20 kHz re 84 dB SPL at 1 meter at 1 watt
Min power 5 watts (7 DBW)
Max power 50 watts (17 DBW)
Impedance 4 ohms
Driver size 4½" woofer, 1" tweeter
Mounting Surface
Features 5-year warranty

Blaster Woofer
Price $119
Dimensions 15D

Blaster Midrange Horn
Price $119
Driver size 4 x 10 in.

Models also available
Blaster Woofer, $89; Blaster Superwoofer, $12

AUDITEX
GC Electronics
400 South Wyman
Rockford, Ill. 61101

30-2648
Price $91.95
Configuration 3-way
Response 70 Hz to 20 kHz
Max power 25 watts (14 DBW)
Impedance 4 to 8 ohms
Driver size 4" x 10" Magnet 20 oz.
Mounting Flush
Features Includes 2 speakers, grilles, wiring, and hardware

81
**30-2646**

- **Price**: $53.45
- **Configuration**: Dual cone
- **Response**: 70 Hz to 16 kHz
- **Max power**: 25 watts (12 DBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 4" x 10"
- **Magnet**: 20 oz
- **Mounting**: Flush

Features: Includes 2 speakers, grilles, wiring, and hardware.

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**30-3072**

- **Price**: $38.70
- **Configuration**: 2-way
- **Response**: 40 Hz to 18 kHz
- **Max power**: 35 watts (15.5 DBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 6" x 9"
- **Magnet**: 25 oz
- **Mounting**: Flush

Features: Also available as 30-2654, which includes 2 speakers, grilles, wiring, and hardware.

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**30-3071**

- **Price**: $31.20
- **Configuration**: 2-way
- **Response**: 45 Hz to 18 kHz
- **Max power**: 25 watts (14 DBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 6" x 9"
- **Magnet**: 20 oz
- **Mounting**: Flush

Features: Also available as 30-2653, which includes 2 speakers, grilles, wiring, and hardware.

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**30-3065**

- **Price**: $22.10
- **Configuration**: Dual cone
- **Response**: 50 Hz to 16 kHz
- **Max power**: 25 watts (14 DBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 5½" (round)
- **Magnet**: 20 oz.
- **Mounting**: Flush

Features: Also available as 30-2642, which includes 2 speakers, grilles, wiring, and hardware.

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**30-3053**

- **Price**: $18.60
- **Configuration**: Dual cone
- **Response**: 55 Hz to 15 kHz
- **Max power**: 20 watts (13 DBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 6" x 9"
- **Magnet**: 10 oz.
- **Mounting**: Flush

Features: Also available as 30-2650, which includes 2 speakers, grilles, wiring, and hardware.

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**30-3064**

- **Price**: $17.70
- **Configuration**: Dual cone
- **Response**: 55 Hz to 15 kHz
- **Max power**: 20 watts (13 DBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 5½" (round)
- **Magnet**: 10 oz.
- **Mounting**: Flush

Features: Also available as 30-2641, which includes 2 speakers, grilles, wiring, and hardware.

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**30-3063**

- **Price**: $16.15
- **Configuration**: Dual cone
- **Response**: 60 Hz to 15 kHz
- **Max power**: 16 watts (12 DBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 5½" (round)
- **Magnet**: 5 oz.
- **Mounting**: Flush

Features: Also available as 30-2640, which includes 2 speakers, grilles, wiring, and hardware.

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**Models also available**

- 30-5121, $99.50/pr.; 30-2647, $80.55; 30-3074, $39.10; 30-3066, $31.75; 30-3070, $27.40; 30-3054, $22.10; 30-3047, $17.70; 30-3056, $17.35

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**AVID**

**Avid Corp.**

**10 Trippes Lane**

**East Providence, R.I.**

**02914**

**Ten**

- **Price**: $225/pr.
- **Dimensions**: 4½ x 1/4 x 8¼ x 9½ D
- **Configuration**: 2-way (5 kHz crossover)
- **Response**: 60 Hz to 20 kHz, ± 5 dB
- **Min power**: 5 watts (7 DBW)
- **Max power**: 100 watts (20 DBW)
- **Impedance**: 4 ohms
- **Driver size**: 6½" woofer, 1" soft-dome tweeter
- **Magnet**: 20 oz. (woofer), 10 oz. (tweeter)
- **Mounting**: Surface

Features: Two-way rear-deck design; limited 5-year warranty; comes complete with wiring; also available as Avid Ten Plus System (RD-5) with 4½" door units, $250

**RD-5**

- **Price**: $40 pr.
- **Dimensions**: 5½ x 5½ x 1½ D
- **Configuration**: Full range
- **Response**: 100 Hz to 10 kHz
- **Min power**: 8 watts. (9 DBW)
- **Max power**: 60 watts (17.75 DBW)
- **Impedance**: 8 ohms
- **Driver size**: 4½"
- **Magnet**: 12 oz.
- **Mounting**: Door

Features: Protective grille and water cover

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**BIG ROCK**

** Olson Electronics**

**260 S. Forge St.**

**Akron, Ohio 44327**

**SP-470**

- **Price**: $89.98/pr.
- **Dimensions**: 3x x 6W x 9D
- **Configuration**: 2-way
- **Response**: 80 Hz to 15 kHz
- **Min power**: 2 watts (3 DBW)
- **Max power**: 50 watts (17 DBW)
- **Impedance**: 8 ohms
- **Driver size**: 6" x 9" woofer, 2½" midrange; two 1¼" tweeters
- **Magnet**: 30 oz.
- **Mounting**: Flush

Features: Matched ABS grilles; mounting hardware and wire included; cloth roll air suspension woofer cone

**SP-388**

- **Price**: $34.98
- **Dimensions**: 9H x 6W x 3½ D
- **Configuration**: 2-way
- **Response**: 50 Hz to 18 kHz
- **Min power**: 3 watts (4.75 DBW)
- **Max power**: 25 watts (14 DBW)
- **Impedance**: 8 ohms
- **Driver size**: 6" x 9" (3" tweeter)
- **Magnet**: 20 oz.
- **Mounting**: Flush

Features: 13" woofer, foam roll suspension, 1¼" copper voice coil

**SP-513**

- **Price**: $27.98
- **Dimensions**: 10H x 4W x 2½ D

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**Models also available**

- SP-389, $41.98; SP-516, $28.98; SP-387, $19.98

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**BLAUPUNKT**

**Robert Bosch Corp.**

**2800 S. 25th Ave.**

**Broadview, Ill. 60153**

**729 000**

- **Price**: $85

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**728 000**

- **Price**: $155/pr.
- **Dimensions**: 6½ x 9¼ W x 3½ D
- **Configuration**: 3-way
- **Response**: 40 Hz to 20 kHz
- **Min power**: 15 watts (11.75 DBW)
- **Max power**: 40 watts (16 DBW)
- **Impedance**: 4 ohms
- **Mounting**: Flush

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**676 000**

- **Price**: $71.40
- **Dimensions**: 5½ x 8½ x 1¼ D
- **Configuration**: 2-way
- **Response**: 70 Hz to 20 kHz
- **Min power**: 15 watts (11.75 DBW)
- **Max power**: 25 watts (14 DBW)
- **Impedance**: 4 ohms
- **Mounting**: Flush

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**868 000**

- **Price**: $134.25/pr.
- **Dimensions**: 6½ x 9¼ x 3¼ D
- **Configuration**: 2-way
- **Response**: 40 Hz to 16 kHz
- **Min power**: 20 watts (13 DBW)
- **Max power**: 35 watts (15.5 DBW)
- **Impedance**: 4 ohms
- **Mounting**: Flush

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**721 000**

- **Price**: $41.40
- **Dimensions**: 6½ x 5½ x 5¼ D
- **Configuration**: Air suspension
- **Response**: 70 Hz to 15 kHz
- **Min power**: 25 watts (14 DBW)
- **Impedance**: 4 ohms
- **Mounting**: Surface

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**733 060**

- **Price**: $62/pr.

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**726 000**

- **Price**: $25

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**Models also available**

- 731 000, $85, 639 000, $71 40, 687 000, $120/pr., 725 060, $73.50/pr., 724 060, $34.30, 727 000, $34.25, 736 060, $44/pr.

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**BOMAN**

**Boman Industries**

**9300 Hall Road**

**Downey, Calif. 90241**

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*High Fidelity's Buying Guide to Speaker Systems*
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**BOSE**

**Bose Corp.**
100 The Mountain Road
Framingham, Mass. 01701

**1401 Car Stereo System**

- **Price**: $328.95
- **Dimensions**: 1½H x 10W x 4½D (equalizer)
- **Configuration**: Full-range with active electronic equalizer
- **Min power**: 0.25 watts (-4 dBV)
- **Max power**: 25 watts (14 dBV)
- **Impedance**: 4 ohms
- **Driver size**: 4½ x 1½ dome tweeter
- **Mounting**: Flush
- **Features**: Speaker and booster/equalizer system; equalizer mounted under dash, output of equalizer 50 watts (17 dBW) per channel continuously into 0.45 ohms from 40 Hz to 17 kHz with no more than 0.09% THD

**BRAUN**

**Adcom**

11A Jules Lane
New Brunswick, N.J. 08901

**Output C**

- **Price**: $279/pr (with brackets)
- **Dimensions**: 6½H x 4½W x 4¾D
- **Configuration**: 2-way
- **Response**: 50 Hz to 25 kHz
- **Min power**: 10 watts (10 dBW)
- **Max power**: 35/50 watts (15/17 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 4½ woofer, 1½ dome tweeter
- **Mounting**: Surface
- **Features**: Original mini speaker from Braun, aluminum cabinet 5mm thick, crossover at 1.5 kHz; 12 dB/octave, employs long-throw woofer and computer-calculated crossover network; bracket allows maximum flexibility in mounting; padded rubber edging acts as cushion

**CANTON**

**Adcom**

11A Jules Lane
New Brunswick, N.J. 08901

**AC-200**

- **Price**: $350
- **Dimensions**: 4 2/5H x 7 3/5W x 5 ¾D
- **Configuration**: Powered, biaxial two-way system
- **Response**: 48 Hz to 25 kHz
- **Driver size**: 4 1/3 woofer, 5 ½ dome tweeter
- **Mounting**: Surface
- **Features**: Designed to run off car stereo speaker output, can also be operated with low-level source such as a preamplifier, active crossover at 1.7 kHz; 20-watt amplifier for the woofer; 5-watt amp for the tweeter; wooden bridge with direct coupling; S/N 78 dB; THD: 0.03% at 20 watts, 50 Hz to 2 kHz; high-frequency amp is a single amp with S/N, 74 dB; THD 0.5% at 5 watts, 1.5 kHz to 12.5 kHz; crossover at 12 dB/octave, input voltages: 3V to 60 ohms or 300 mV to 50 ohms for full modulation, ground interference suppression: 45 dB; enclosure made of die-cast aluminum, finished in black

**Models also available**

- **SK-410TR40GL**: $79.95/pr
- **SK-525R40GL**: $74.95/pr
- **SK-410CX20GL**: $59.95/pr
- **SK-525CX20GL**: $49.95/pr
- **SK-680N**: $34.95/pr
- **SK-680N, $29.95/pr**
- **SK-650N**: $21.95/pr

**CAR-FI**

**Car-Fi International**

152 W. Cypress Ave.
Burbank, Calif. 91502

- **Price**: $50/pr
- **Dimensions**: 6½H x 4½W x 4¾D
- **Configuration**: 2-way
- **Response**: 50 Hz to 25 kHz
- **Min power**: 10 watts (10 dBW)
- **Max power**: 35/50 watts (15/17 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 4½ woofer, 1½ dome tweeter
- **Mounting**: Surface
- **Features**: Designed to run off car stereo speaker output, can also be operated with low-level source such as a preamplifier, active crossover at 1.7 kHz; 20-watt amplifier for the woofer; 5-watt amp for the tweeter; wooden bridge with direct coupling; S/N 78 dB; THD: 0.03% at 20 watts, 50 Hz to 2 kHz; high-frequency amp is a single amp with S/N, 74 dB; THD 0.5% at 5 watts, 1.5 kHz to 12.5 kHz; crossover at 12 dB/octave, input voltages: 3V to 60 ohms or 300 mV to 50 ohms for full modulation, ground interference suppression: 45 dB; enclosure made of die-cast aluminum, finished in black

**Models also available**

- **SK-410TR40GL**: $79.95/pr
- **SK-525R40GL**: $74.95/pr
- **SK-410CX20GL**: $59.95/pr
- **SK-525CX20GL**: $49.95/pr
- **SK-680N**: $34.95/pr
- **SK-680N, $29.95/pr**
- **SK-650N**: $21.95/pr
CS-4
Price: $293.97
Dimensions: 6H x 9W x 4D
Configuration: 3-way
Response: 40 Hz to 30 kHz, ±2 dB re 93 dB SPL at 1 meter at 1 watt
Min power: 4 watts (6 dBW)
Max power: 50 watts (17 dBW)
Impedance: 4 ohms
Driver size: 6" x 9"
Magnet: 30 oz.
Mounting: Flush or surface
Features: Samarium cobalt tweeter, soft-dome midrange; biampl compaisable

CS-1
Price: $89.95
Dimensions: 6H x 9W x 4D
Configuration: Woofer
Response: 40 Hz to 2 kHz, ±2 dB re 94 dB SPL at 1 meter at 1 watt
Min power: 4 watts (6 dBW)
Max power: 45 watts (15.5 dBW)
Impedance: 4 ohms
Driver size: 6" x 9"
Magnet: 30 oz.
Mounting: Flush or surface
Models also available:
CS-3, $149.95, CS-2, $129.95

CLARION
Claron Corp. of America
5500 Rosecrans Ave.
Laundale, Calif. 91260

SK-103
Price: $174.50
Dimensions: 5H x 13W x 2D
Configuration: 3-way
Response: 60 Hz to 20 kHz, ±3 dB
Max power: 30 watts (14.75 dBW)
Impedance: 8 ohms
Driver size: 6" x 9"
Magnet: 20 oz.
Mounting: Flush

SK-106
Price: $69.95
Configuration: Woofer
Response: 100 Hz to 16 kHz, ±5 dB re 95 dB SPL at 1 meter at 1 watt (when used with SK-105 tweeter/midrange)
Min power: 50 watts (17 dBW)
Max power: 100 watts (20 dBW)
Impedance: 8 ohms
Driver size: 6" x 9"
Magnet: 20 oz.
Mounting: Flush
Features:
- To be used with SK-105 tweeter/midrange, 1½ aluminum bobbin voice coil

Models also available:
SK-102, $156.50; SK-99B, $36.95

EPI
Epicure Products, Inc.
One Charles St.
Newburyport, Mass. 01950

LS-70
Price: $150/pr.
Dimensions: 10¼ H x 7 W x 3½ D
Configuration: 2-way
Response: 70 Hz to 20 kHz, ±3 dB re 87 dB SPL at 1 meter at 1 watt
Min power: 12 watts (10.75 dBW)
Max power: 60 watts (17.75 dBW)
Impedance: 8 ohms
Driver size: 6" woofer, 1 tweeter
Magnet: 24 oz. (18 oz. woofer, 6 oz. tweeter)
Mounting: Flush or surface
Features:
- Individually-run frequency-response graph supplied with each unit, can be mounted in 6" x 9" cutout or in 5" or 4" cutout with optional adapters

Companion Speaker System (CSS) LS 35 Speaker and LCS Level Control System
Price: $45
Dimensions: 3½H x 1¼D
Configuration: Full range
Min power: 15 watts (11.75 dBW)
Max power: 60 watts (17.75 dBW)
Impedance: 8 ohms
Driver size: 3½" (5 round grille)
Mounting: Flush
Features:
- High power-handling capability; Level Control System (LCS) balances sound in the car, available for $50

FOSGATE
Fosgate Electronics, Inc.
2935 West Fairmount Ave.
Phoenix, Ariz. 85017

PRS-690
Price: $120
Dimensions: 6H x 9W
Configuration: 2-way
Response: 35 Hz to 16 kHz, ±6 dB
Min power: 20 watts (13 dBW)
Max power: 50 watts (17 dBW)
Impedance: 4 ohms
Driver size: 6" x 9"
Magnet: 20 oz.
Mounting: Flush
Models also available:
PRS-500, $100

FULLTRON
Arthur Fulmer
260 Monroe
Memphis, Tenn. 38101

15-9260
Price: $149.95
Dimensions: 6½D
Configuration: 2-way
Response: 30 Hz to 12 kHz
Min power: 20 watts (13 dBW)
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 4½" woofer, 2" cone tweeter
Mounting: Surface
Features:
- Die-cast aluminum housing with brilliance control

15-9696
Price: $79.95
Dimensions: 6H x 9W x 3¼D
Configuration: 2-way
Max power: 30 watts (14.75 dBW)
Impedance: 4 to 8 ohms

Magnet: 30 oz.
Mounting: Flush
Features:
- Aluminum voice coil, deluxe quick-mount mesh grille

15-9590
Price: $69.95
Dimensions: 4H x 10W x 6½D
Configuration: 3-way
Max power: 20 watts (13 dBW)
Impedance: 4 to 8 ohms
Magnet: 20 oz.
Mounting: Flush
Features:
- Aluminum voice coil, deluxe quick-mount mesh grille

15-9670
Price: $49.95
Dimensions: 3½D
Max power: 25 watts (14 dBW)
Impedance: 4 or 8 ohms
Magnet: 20 oz.
Mounting: Flush
Features:
- Aluminum voice coil, deluxe quick-mount mesh grille

15-9440
Price: $26.95
Dimensions: 5¼H x 2¼D
Configuration: Single cone
Max power: 10 watts (10 dBW)
Impedance: 4 to 8 ohms
Magnet: 10 oz.

15-9220
Price: $14.95
Dimensions: 6¾D
Configuration: Twin wedge
Max power: 5 watts (7 dBW)
Impedance: 4 to 8 ohms
Magnet: 3 oz.
Mounting: Surface
Models also available:
15-9655, 999.95, 15-9690, 70; 15-9440, $60; 15-9470, $46.95; 15-9430, $24.95; 15-9240, $21.95; 15-9420, $15.95

GRUNDIG
LAS Electronics East, Inc.
85C Saratoga Blvd.
Island Park, N.Y. 11558

Kossack
Price: $98
Max power: 30 watts (14.75 dBW)
Impedance: 4 ohms
Driver size: 4½" woofer, 2" tweeter

HF-2040
Price: $110/pr.
Dimensions: 4¼H x 9½W x 4½D
Configuration: 2-way
Response: 30 Hz to 20 kHz
Min power: 20 watts (13 dBW) (nominal)
Max power: 20 watts (16 dBW)
Impedance: 4 ohms
Driver size: 4½" woofer, 2" cone tweeter
Mounting: Surface
Features:
- Die-cast aluminum housing with brilliance control

GLA-1640
Price: $49.90/pr.
Models also available:
HF-2025, $75/pr.; GLA-1230, $39.90/pr.

HANDIC
Handic U.S.A., Inc.
15945 N.W. 57th Ave.
Hialeah, Fla. 33014

High Fidelity's Buying Guide to Speaker Systems
CL-225
Price $130
Dimensions 4½H x 9¾W x 4¾D
Configuration 2-way
Response 40 Hz to 20 kHz
Min power 1 watt (0 dBW)
Max power 40 watts (16 dBW)
Impedance 4 ohms
Mounting Surface
Features Sealed, air suspension
Models also available
CL-12, $29.95

HED
Cerwin-Vega, Inc.
12250 Montague St.
Arlena, Calif. 91331

CS-15
Price $130/pr
Dimensions 6½H x 9W x 3½D
Configuration 2-way
Response 40 Hz to 20 kHz, ±4 dB re 95 dB SPL at 1 meter at 1 watt
Min power 2 watts (0 dBW)
Max power 75 watts (18.75 dBW)
Impedance 4 ohms
Driver size 6" x 9"
Mounting Surface
Features Rugged construction

CS-7
Price $90/pr
Dimensions 6½H x 9½W x 3D
Configuration 2-way
Response 50 Hz to 16 kHz, ±4 dB re 96 dB SPL at 1 meter at 1 watt

Infinitesimal
Price $184
Dimensions 11H x 6½W x 5¾D
Configuration 2-way
Response 65 Hz to 32 kHz, ±2 dB
Min power 15 watts (11.75 dBW)
Max power 100 watts (20 dBW)
Impedance 4 ohms
Driver size 5½ Infinity-Watkins dual-drive woofer with propylene cone; EMIT® tweeter
Mounting Flush/Surface
Features Self-contained unit
Models also available
A-30, $179.95/pr

JBL
James B. Lansing Sound, Inc.
8500 Balboa Blvd.
Northridge, Calif. 91329

A-30
Price $219.95/pr
Configuration 2-way
Response 30 Hz to 15 kHz
Max power 40 watts (16 dBW)
Impedance 4 ohms
Driver size 6½ x 9" cone
Mounting Piezoelectric tweeter
Features Piezoelectric tweeter
Models also available
A-15, $179.95/pr

INFINITY
Infinity Systems, Inc.
7930 Deering Ave.
Canoga Park, Calif. 91304

JENSEN
Jensen Sound Laboratories
4136 North United Parkway
Schiller Park, Ill. 60176

1980 Edition
**SERIES II**

**J-1130 Triax® II**
- **Price**: $139.95
- **Dimensions**: 10 9/32 x 4 9/16 x 3 7/32
- **Configuration**: 3-way
  - **Response**: 65 Hz to 20 kHz
  - **Max power**: 50 watts (17 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 4 x 1 1/2
  - **Magnet**: 20 oz
  - **Mounting**: Flush

**J-1033 Triax® II**
- **Price**: $139.95
- **Dimensions**: 9 1/4 x 6 1/4 x 3 1/4
- **Configuration**: 3-way
  - **Response**: 45 Hz to 20 kHz
  - **Max power**: 100 watts (20 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 6 x 9 (woofer)
  - **Magnet**: 20 oz
  - **Mounting**: Flush

**J-1037 Coax II**
- **Price**: $99.95
- **Dimensions**: 9 1/4 x 6 1/4 x 3 1/4
- **Configuration**: 2-way
  - **Response**: 45 Hz to 15 kHz
  - **Max power**: 90 watts (19.5 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 6 x 9
  - **Magnet**: 20 oz
  - **Mounting**: Flush

**J-1126 Coax II**
- **Price**: $79.95
- **Dimensions**: 4 23/32 x 4 23/32 x 12 13/32
- **Configuration**: 2-way
  - **Response**: 75 Hz to 15 kHz
  - **Max power**: 50 watts (17 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 4 1/2
  - **Magnet**: 12 oz
  - **Mounting**: Flush

**J-1101 Series I**
- **Price**: $179.95
- **Configuration**: 3-way (separate speakers)
  - **Response**: 35 Hz to 20 kHz (total system)
  - **Max power**: 35 watts (15.5 dBW)
  - **Impedance**: 8 ohms
  - **Driver size**: 6 x 9 woofer, 6 x 3 1/2 midrange, 6 x 2 tweeter
  - **Magnet**: 20 oz (woofer), 3 oz (midrange), 3 oz (tweeter)
  - **Mounting**: Flush
  - **Features**: Separate control module to control midrange driver levels

**J-1174 Series I Triax®**
- **Price**: $199.95
- **Configuration**: 3-way (separate tweeter and midrange unit)
  - **Response**: 60 Hz to 20 kHz
  - **Max power**: 50 watts (17 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 5 1/4 woofer, 2 tweeter, 2 midrange
  - **Magnet**: 20 oz
  - **Mounting**: Flush (woofer), surface (tweeter, midrange)
  - **Features**: Separate tweeter/midrange module allows optimum directionality and high frequency

**J-1069 Series I Coaxial**
- **Price**: $74.95

**J-1113 Series I Coaxial**
- **Price**: $74.95
- **Configuration**: 2-way
  - **Response**: 40 Hz to 18 kHz
  - **Max power**: 45 watts (16.5 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 6 x 9
  - **Magnet**: 20 oz
  - **Mounting**: Flush

**J-1081 Series I Coaxial**
- **Price**: $67.95
- **Configuration**: 2-way
  - **Response**: 60 Hz to 18 kHz
  - **Max power**: 45 watts (16.5 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 5 x 7
  - **Magnet**: 20 oz
  - **Mounting**: Flush

**J-1073 Series I Dual Cone**
- **Price**: $52.95
- **Configuration**: Woof/whizzer cone
  - **Response**: 60 Hz to 14 kHz
  - **Max power**: 40 watts (15 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 6 x 9
  - **Magnet**: 20 oz
  - **Mounting**: Flush

**J-1089 Series I Dual Cone**
- **Price**: $39
- **Configuration**: Woof/whizzer cone
  - **Response**: 60 Hz to 14 kHz
  - **Max power**: 40 watts (15 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 5 1/4
  - **Magnet**: 10 oz
  - **Mounting**: Flush

**J-1134 Series I Dual Cone Replacement**
- **Price**: $34.95
- **Configuration**: Woof/whizzer cone
  - **Response**: 70 Hz to 14 kHz
  - **Max power**: 15 watts (11.75 dBW)
  - **Impedance**: 4 ohms
  - **Driver size**: 4 x 6 woofer
  - **Magnet**: 5 oz
  - **Mounting**: Flush
  - **Features**: Includes a pair of speakers only, no grilles, wiring, mounting, or installation instructions

**Models also available**
- **VCS-2000**
- **TRI-310**
- **Tri 3-410**

**KRAKO**
- **Kra To Kral**
  - **Dimensions**: 505 E. Euclid Ave.
  - **Compton, Calif. 90224**

**TRI-469**
- **Price**: $100
- **Dimensions**: 2 1/4 x 10kW x 6 1/8 D
- **Configuration**: 4-speaker sound system combination
  - **Response**: 70 Hz to 19 kHz, +10 db re 87 dB SPL at 1 meter at 1 watt
  - **Max power**: 25 watts (14 dBW)
  - **Impedance**: 8 ohms
  - **Driver size**: 5 1/4
  - **Magnet**: 20 oz
  - **Mounting**: Flush
  - **Features**: Acoustic foam grille, complete with speaker cord, mounting hardware, and installation instructions

**CX-410-20**
- **Price**: $59.95
- **Dimensions**: 3 1/4 x 10W x 4 1/4 D
- **Configuration**: 2-way coaxial
  - **Response**: 100 Hz to 19 kHz, +10 dB re 83 DB SPL at 1 meter at 1 watt
  - **Max power**: 20 watts (13 dBW)
  - **Impedance**: 8 ohms
  - **Driver size**: 4 x 10
  - **Magnet**: 20 oz
  - **Mounting**: Flush
  - **Features**: Air-suspension speaker with 2-inch tweeters; acoustic foam grille for tone quality; complete with speaker cord, mounting hardware, and installation instructions

**Models also available**
- **KVA-2300**
- **SAE-4300**
- **TRI-310**

**LAFAYETTE**
- **Lafayette Electronics**
  - **111 Jericho Turnpike**
  - **Syosset, N.Y. 11791**

**Triple Play**
- **Price**: $49.99/pr
- **Dimensions**: 6 1/4 x 9W
- **Configuration**: 3-way
  - **Response**: 50 Hz to 20 kHz
  - **Max power**: 30 watts (14.75 dBW)
  - **Impedance**: 8 ohms
  - **Magnet**: 20 oz
  - **Mounting**: Flush
  - **Features**: Includes high-impact, heat-resistant grilles

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**KA/KUSTOM ACOUSTICS**
- **Kustom Acoustics, Inc.**
  - **6624 W. Irving Park Road**
  - **Chicago, Ill. 60634**

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**High Fidelity's Buying Guide to Speaker Systems**
**LOVE SOUND**
Love Sound, Inc.
2065 Martin Ave. #113
Santa Clara, Calif. 95050

**LS-95**
- **Price**: $170
- **Dimensions**: 8 1/4" x 7 1/4" x 3 3/4"
- **Configuration**: 2-way
- **Response**: 40 Hz to 18 kHz, ±2 dB
- **Min power**: 10 watts (10 dBW)
- **Max power**: 50 watts (17 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 6 1/2" woofer; 1" dome tweeter
- **Magnet**: 13 oz
- **Mounting**: Flush or Surface
- **Features**: Die-cast aluminum mounting baffles; co-ax mounted tweeter can be removed for separate mounting, with 12 dB/octave crossover network

**LS-40**
- **Price**: $135
- **Dimensions**: 3 1/2" x 6 1/4" x 10 1/4" D
- **Configuration**: 2-way
- **Response**: 45 Hz to 20 kHz, ±2 dB
- **Min power**: 10 watts (10 dBW)
- **Max power**: 30 watts (14.75 dBW) continuous
- **Impedance**: 4 ohms
- **Driver size**: 5 1/4" woofer; 2" dome tweeter
- **Magnet**: 13 oz
- **Mounting**: Surface
- **Features**: Same as Model LS-80

**Models also available**
LS-80, $160

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**MARANTZ**
Marantz Co., Inc.
20525 Nordhoff St.
Chatsworth, Calif. 91311

**SS-5000**
- **Price**: $300/pr.
- **Dimensions**: 7 9/32" H x 11 1/2" W x 7 9/32" D (less mounting bracket)
- **Configuration**: 2-way
- **Response**: 30 Hz to 20 kHz (DIN) re 81 dB SPL at 1 meter at 1 watt
- **Min power**: 15 watts (11.75 dBW)
- **Max power**: 250 watts (24 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 6 1/2" x 1 1/2"
- **Magnet**: 13 oz
- **Mounting**: Surface

**SS-569**
- **Price**: $130
- **Dimensions**: 9 1/4" H x 6 3/4" W x 4 3/4" D
- **Configuration**: 5-way
- **Response**: 40 Hz to 20 kHz
- **Max power**: 30 watts
- **Impedance**: 8 ohms
- **Driver size**: 6 x 9"
- **Magnet**: 20 oz
- **Mounting**: Flush

**SS-3469**
- **Price**: $110
- **Dimensions**: 9 1/4" H x 6 3/4" W x 3 3/4" D
- **Configuration**: 2-way
- **Response**: 40 Hz to 18 kHz
- **Max power**: 30 watts (14.75 dBW)
- **Impedance**: 8 ohms
- **Driver size**: 6 x 9"
- **Magnet**: 20 oz
- **Mounting**: Flush

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**SS-3357**
- **Price**: $100/pr.
- **Dimensions**: 7 1/4" H x 5 1/2" W x 3 3/4" D
- **Configuration**: 3-way
- **Response**: 90 dB SPL at 1 meter at 1 watt
- **Min power**: 10 watts (10 dBW)
- **Max power**: 20 watts (13 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 5 " x 7"" Magnet: 10 oz
- **Mounting**: Flush
- **Features**: Front-placement design with snap-on grille; strontium-titanium magnet equivalent to 20 oz ceramic type

**SS-825**
- **Price**: $90/pr.
- **Dimensions**: 6 1/2" W x 2 3/4" D
- **Configuration**: 2-way
- **Response**: 50 Hz to 20 kHz
- **Max power**: 25 watts (14 dBW)
- **Impedance**: 8 ohms
- **Driver size**: 6 1/4"
- **Magnet**: 20 oz.
- **Mounting**: Flush

**SS-269**
- **Price**: $70/pr.
- **Dimensions**: 9 1/4" H x 4 3/4" W x 3 1/8" D
- **Configuration**: 2-way
- **Response**: 40 Hz to 15 kHz
- **Max power**: 30 watts (14.75 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 6 " x 9"
- **Magnet**: 20 oz
- **Mounting**: Flush

**SS-140**
- **Price**: $40/pr.
- **Dimensions**: 4" W x 1 1/4" D
- **Configuration**: Full-range
- **Response**: 60 Hz to 14 kHz
- **Max power**: 10 watts (10 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 4"
- **Magnet**: 10 oz
- **Mounting**: Flush

**Models also available**

**MATRECS**
Matreces Industries
805 Woodman Ave.
Rockford, Ill. 61101

**MA-0410-20CP**
- **Price**: $90.04
- **Configuration**: 2-way
- **Response**: 70 Hz to 20 kHz
- **Max power**: 25 watts (14 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 5 1/2"
- **Magnet**: 20 oz.
- **Mounting**: Flush
- **Features**: Includes 2 speakers, grilles, and hardware, ferrofluid in voice-coil gap

**Models also available**
MA-0410-20TP; $109.66; MA-0069-10CP, $75.21; MA-0069-025C, $44.27; MA-0069-020C, $36.63; MA-0069-10DV, $23.79; MA-0525-0020, $22.30; MA-0410-0010, $20.38; MA-0057-0010, $20.09; MA-0525-00010, $19.18

**MA-0525-020C**
- **Price**: $36.56
- **Configuration**: 2-way
- **Response**: 50 Hz to 20 kHz
- **Max power**: 25 watts (14 dBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 6 x 9"
- **Magnet**: 20 oz.
- **Mounting**: Flush
- **Features**: Also available as MA-0525-20CP, which includes 2 speakers, grilles, wiring, and hardware, ferrofluid in voice-coil gap

**MA-0069-0020**
- **Price**: $23.40
- **Configuration**: Dual cone
- **Response**: 40 Hz to 16 kHz
- **Max power**: 25 watts (14 dBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 6 x 9"
- **Magnet**: 20 oz.
- **Mounting**: Flush
- **Features**: Also available as MA0069-020P, which includes 2 speakers, grilles, wiring, and hardware, ferrofluid in voice-coil gap

**MA-0069-0010**
- **Price**: $20.90
- **Configuration**: Dual cone
- **Response**: 50 Hz to 16 kHz
- **Max power**: 20 watts (13 dBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 6 x 9"
- **Magnet**: 10 oz.
- **Mounting**: Flush
- **Features**: Also available as MA0069-010P, which includes 2 speakers, grilles, wiring, and hardware, ferrofluid in voice-coil gap

**MA-0525-0005**
- **Price**: $16.80
- **Configuration**: Dual cone
- **Response**: 50 Hz to 15 kHz
- **Max power**: 16 watts (12 dBW)
- **Impedance**: 4 to 8 ohms
- **Driver size**: 5 1/4" (round)
- **Magnet**: 5.5 oz.
- **Mounting**: Flush
- **Features**: Also available as MA-0525-005P, which includes 2 speakers, grilles, wiring, and hardware, ferrofluid in voice-coil gap

**MESA**
Mesa Electronics Sales, Ltd.
2940 Maimo Drive
Arlington Heights, Ill. 60005
THE ONE-STOP MUSIC SHOP
AT WHOLESALE PRICES

BLANK TAPE ADS

CASSETTE TAPE

类别

价格

Dimensions

Configuration

Response

Min power

Max power

Impedance

Driver size

Mounting

Features

Mini-Mesa 50

$300/pr

941/4 x 6 1/4 x 4 1/4 D

3-way

50 Hz to 25 kHz

10 watts (10 dBW)

80 watts (19 dBW)

4 ohms

5 1/4" woofer

Self-contained; designed for home use as well

Mini-Mesa 30

$236/pr

7 1/4 x 4 1/4 x 4 1/4 D

2-way

60 Hz to 25 kHz

10 watts (10 dBW)

50 watts (17 dBW)

4 ohms

4 1/4" woofe

Tweeter

Self-contained

MB-5

$54.95 (kit)

51/4 round

Single Subwoofer

200 Hz

15 watts (11.75 dBW)

4 ohms

5 1/4"

4 oz

Mounting

Mobile bass booster; includes crossover network and two 20 cables

Models also available

Mini-Mesa 15, $129.95/pr., MB-6, $69.95 (kit)

MITSUBISHI

Mitsubishi Audio Systems

Melco Sales, Inc.

3030 E. Victoria St.
Compton, Calif. 90221

SX-30SA

$149.95

2-way

80 Hz to 20 kHz, ±2 dB re 86 dB

50 watts

4 ohms

4" x 4"

65 oz

Mounting

Screw-on tweeter attenuator control; aluminum die-casting baffie board enclosure

SG-69QA

$119.95

4-way

65 Hz to 18 kHz, ±3 dB re 91 dB

20 watts

4 ohms

Driver size

20 oz

Mounting

Features

1" voice coil; one-piece ceramic

SG-20CA

$99.95

2-way

60 Hz to 17 kHz, ±3 dB re 91 dB

20 watts

4 ohms

Driver size

8" x 8"

Magnet

6.5 oz

Mounting

Flush

Features

Three-position tweeter level

SG-16CA

$69.95

2-way

60 Hz to 20 kHz, ±3 dB

20 watts (13 dBW)

4 ohms

6 1/4" x 1/4" Magnet

Mounting

Flush

SG-40WA

$59.95/pr.

2-way, dual cone

50 Hz to 20 kHz, ±3 dB

20 watts (13 dBW)

Driver size

10 oz

Mounting

Flush

SG-16EA

$49.95

Single cone

70 Hz to 12 kHz, ±3 dB re 86 dB

20 watts (13 dBW)

Impedance

Driver size

Magnet

Mounting

Features

Models also available

SX-10BA, $129.95; SG-69TA, $99.95; SG-69CA, $79.95/pr.; SG-40CA, $69.95; SG-69WA, $49.95/pr.; SG-13WA, $49.95; SB-2SA, $39.95

MOTOROLA

Motorola, Inc.

Automotive Products Div.

1299 E. Algonquin Rd.
Schaumburg, Ill. 60196

M41-20T

$134.95

10 1/2 x 18 w x 3 1/2 D

55 Hz to 16 kHz

20 watts (14 dBW)

Impedance

Driver size

Magnet

Mounting

Features

1" voice coil; one-piece ceramic

M69-20T

$119.95/pr.

9 x 6 W x 3 1/2 D

45 Hz to 18 kHz

High Fidelity's Buying Guide to Speaker Systems
Max power 25 watts (14 dBW)
Impedance 6 ohms
Driver size 6" x 9"
Magnet 20 oz
Mounting Flush
Features 2.5" midrange; 2" tweeters; one-piece ceramic magnet

**M69-20C**
Price $109.95/pr.

**M68-15C**
Price $99.95/pr.
Dimensions 8H x 6W x 3½D
Configuration 2-way
Response 55 Hz to 15 kHz
Max power 25 watts (14 dBW)
Impedance 6 ohms
Driver size 6" x 8"
Magnet 13 oz.
Mounting Flush
Features 1" voice coil; one-piece ceramic magnet

**D69-20C**
Price $89.95/pr.
Dimensions 9H x 6W x 3½D
Configuration 2-way
Response 45 Hz to 15 kHz
Max power 25 watts (14 dBW)
Impedance 6 ohms
Driver size 6" x 9"
Magnet 20 oz.
Mounting Flush
Features 1" voice coil; 2" tweeters; one-piece ceramic magnet

**DS-20C**
Price $77.95/pr.
Dimensions 5¼H x 2½D
Configuration 2-way
Response 65 Hz to 14 kHz
Max power 25 watts (14 dBW)
Impedance 6 ohms
Driver size 5¼"
Magnet 20 oz.
Mounting Flush
Features Ceramic magnet; 1" voice coil; 2" tweeters

**M69-10W**
Price $40.95/pr.

Models also available
M68-1ST, $129.95/pr.; M41-20C, $104.95/pr.; M5-20C, $94.95/pr.; M5-10C, $89.95/pr.; M4-10C, $74.95/pr.; DS-10C, $66.95/pr.; D3-5W, $55.95; M4-8C, $49.95/pr.

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Dynaco helped create stereo hi-fi 25 years ago. We built a reputation based on rigorous yet simple designs that produced more sound than the industry had ever seen.

Now we've come back to do it again. With two new speakers that are far and away the best we've ever built. Each of these systems continues the Dynaco legend of simplicity and performance at a modest cost. Each in its own way will make you part of a listening experience that for 25 years has meant only Dynaco.

To sample that experience, take your favorite record album to your Dynaco dealer. Lean back and listen. You'll hear that Dynaco sounds better than ever. And the legend will continue. We have many new and exciting products coming your way.

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**OROVOX**
Orovox Sound
11545 Tuxford St.
Sun Valley, Calif. 91352

**M-124**
Price $195.80/pr.
Configuration 3-way
Response 25 Hz to 22 kHz
Max power 85 watts (19.25 dBW)
Impedance 8 ohms
Driver size 6" x 9"
Magnet 30 oz.
Mounting Flush/surface
Features Independent combined piezoelectric tweeter/midrange; 1¼" aluminum voice coil

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Continued on page 102

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1980 Edition 91
Glossary

A/B test A listening test in which two similar audio devices (or program sources) are compared by rapidly switching between them while the rest of the system is unchanged, except for relative volume adjustment if needed. A/B tests are particularly germane in evaluating loudspeakers, although they also can reveal audible differences in any sound equipment.

crossover A frequency at which other frequencies below and above it are separated. A crossover or dividing network, for instance, separates the highs and lows in a woofer/tweeter speaker system.

directivity, speaker A tendency of some speakers to "beam" or reproduce less clearly and/or strongly off axis as frequency rises. Multidirectional or "omnidirectional" speakers represent a design effort to avoid beaming and to radiate all frequencies uniformly.

doubling A speaker's tendency to distort by producing harmonics of bass tones.

efficiency A ratio, often expressed as a percentage, of output power to input power; often used to estimate the power needed to drive a loudspeaker, and, in effect, the same as the "sensitivity" of a loudspeaker.

feedback A return of an output signal to the input of the system. In disc playback, a similar form of feedback occurs when loudspeaker energy is sensed by the pickup and amplified through the system.

frequency response The measure of ability to pass signals of different frequency without affecting their relative strengths. This is shown as a graph or "curve" which assumes input signals equally strong at all frequencies, and plots their output intensities against a decibel scale. The ideal "curve" is a straight line (perfectly "flat") response. Frequency response generally is stated with specific decibel limits indicating the maximum deviations from flat response. For instance, 30 Hz to 18 kHz, ±2 dB means that the audio device or system will not change the relative intensities of any frequencies within that range by more than 2 dB above or 2 dB below the ideal zero-dB (volume unchanged) point.

impedance Essentially, opposition to the flow of alternating current and consisting of "pure resistance" combined with inductive or capacitative reactances. Impedance values are specified for some components (such as microphones or loudspeakers) when it is important for their proper functioning that their interconnection with another component provide some specified terminations or load impedance, expressed in ohms.

loudness Generally synonymous with volume, which is the intensity of perceived sound. "Loudness compensation" refers to equalization applied to a signal according to its volume in order to compensate for the ear’s tendency to change frequency response at different listening levels. Loudness compensation typically boosts the bass, and sometimes the treble to a lesser degree.

phantom A signal carried by or reproduced through two sources in such a manner as to "appear" from another source. In two and four-channel stereo reproduction, sounds which "appear" to come from between the loudspeakers are said to be phantom.

phase The characteristic of a wave that relates it to a time or to another wave with respect to time.

power output The signal produced by an amplifier into a given load when fed with a given input signal. Power, expressed in watts, should be stated with reference to several qualifying factors—the impedance of the load, the frequency at which (or the range of frequencies over which) the power is derived; the amount of distortion present for a given power output level; whether the power stated is for one channel or the sum of all channels. The most accurate and rigorously derived power figure is for the average sine-wave power (also termed "continuous" or "RMS" power).

speaker enclosure A structure or cabinet specifically designed to house a loudspeaker in order to load its output and generally aid in its response. A bass reflex system uses a critically dimensioned port (auxiliary opening) to help smooth and extend the bass response. An infinite baffle totally encloses the speaker to suppress its rear wave, thereby permitting the speaker to respond down to its inherent resonant frequency. An acoustic or air-suspension system is relatively smaller than the previous types and uses a very loosely suspended woofer whose resonance is tuned to the audible range and whose diaphragm motion is controlled by air trapped within the enclosure. A folded horn adds a constantly expanding horn structure to the front and/or rear of a diaphragm to couple its output, via "acoustic transformer" action to the room. A transmission-line system (actually a variation of the former labyrinth system) loads a diaphragm with a critically dimensioned duct that smooths the response and helps extend the low-frequency range.

wavelength The distance between the beginning and the end of a complete cycle of any spatial periodic phenomenon. In acoustics it is the distance occupied by one cycle of a repetitive sound traveling through the air at a velocity of about 1,100 feet per second. A 1 kHz tone has a wavelength of one foot.

woofer Loudspeaker designed for low frequencies.
Learn the pros and cons of 8 popular speaker types

by Edward J. Foster

Is One Design Superior?

If one loudspeaker design were superior to all others in all respects, it would stand to reason that, after all these years, it would be the only surviving technology. You might call that statement the first corollary of the Darwinian Law of Natural Selection as applied to high fidelity. Yet many types of loudspeakers exist today. So we'll state flatly that no one design is superior to all others in all circumstances. Different technologies have different strong points (and different weaknesses); by knowing what to expect from each of them, you'll be better able to decide which one is best for you in your listening environment.

The basic problem of getting the sound of a 5-foot bass drum or a 16-foot organ pipe out of an 8-inch, 10-inch, or even 12-inch woofer has captured the imagination and certainly taxed the ingenuity of loudspeaker designers from the inception of the high-fidelity age. Whack a bass drum and lots of air moves. To create that same sound in your living room the speaker must be able to move an equivalent amount of air. Considering the difference in the cross-sectional area between a bass drum and a speaker cone, the cone must move a lot farther than the drum skin in order to yield the same sound.

There are two opposing views on this: the "bigger-is-better" school and the "do-it-right-and-you-can-get-the-same-response-out-of-a-small-cone" school. The nut of that disagreement can be cracked. As far as frequency response at relatively low levels goes, you can get bass range out of a small cone equivalent to that of a large one if you do it right. But—and it's an important "but"—you can't expect the small cone to produce
the same maximum sound level as a larger cone without an increase in distortion. Here and elsewhere in this article we’re discussing what can be done, not necessarily what is done in any given design. So you can have extended bass frequency response from a small speaker but it won’t play at concert-hall levels; that requires a speaker that can physically displace the requisite amount of air.

Conventional cone loudspeakers—and electrostats too—displace the air by causing a diaphragm (cone) to move back and forth. Of course, as the diaphragm moves forward, pushing the air into the room, it is sucking air into its rear section. When the cone moves backwards, the opposite is true. If the air from the front can blow around to the back, all the cone will achieve is a sloshing action—about as effective in re-creating sound as waving a hand in a breeze.

Sound takes time to move around the cone from back to front. (The velocity of sound in air is roughly 1,100 feet per second.) If the cone vibrates rapidly enough (in response to a high-pitch tone), it reverses its direction before the sound wave from the back can reach the front and cancel the front wave. But at low frequencies (in the bass) sound wavelengths are very long, and the back wave effectively cancels the front wave if the speaker is left out in the open. Loudspeaker design—at least as far as bass reproduction goes—has concentrated on what to do with that back radiation.

One thing you can do with back radiation is to ignore it. If the speaker is mounted on an infinitely long and wide panel, the sound will never cross from the rear plane to the front. A more practical alternative is to trap the back-radiated sound in a big, well-padded box to absorb it. This is an “infinite baffle” design.

Consider also that the cone of a loudspeaker has some “mass,” which is held in place by a “surround” and “spider” that properly locate it and provide some restoring force so that it returns to its resting position after the signal has ceased. Thus the surround and spider serve as a “spring” —a classic case of mechanical resonance. The cone moves most easily at its “resonance frequency” and is likely to produce more sound at that frequency than at any other. At frequencies well above resonance, the cone will respond more uniformly and do what it’s “told” by the signal. Below the resonance frequency, the cone responds less uniformly and bass output drops off.

As soon as the air is trapped behind the speaker, it acts as a sort of spring. When the cone moves inward, the air is compressed and tries to push the cone out. When the cone moves forward, the partial vacuum created in the cabinet tends to suck the cone back in. In the sealed box the resonance frequency of the speaker is higher than it is in free air. Bass response, therefore, starts to roll off at a higher frequency than it would have if the speaker had been mounted on an infinitely broad panel. The larger the box, the less internal air pressure will build up, and the less the resonance frequency will be affected.

Villchur, who founded Acoustic Research and set off a revolution in loudspeaker design, took a different approach to the problem: If the “spring effect” of the entrapped air can’t be avoided, then put it to work. If the surround and spider “springs” are made very weak, the woofer that results has a natural resonance frequency that is very low. Then use the entrapped air to “suspend” the cone and provide a large part of the restoring force. Thus the term “acoustic suspension.”

This technique, which swept and dominated the high-fidelity loudspeaker market for a decade, has several nifty advantages. The “box” is relatively small—it has to be to insure enough pressure build-up inside to act as a spring. Yet the system resonance frequency can be quite low for good bass-frequency response. And an air spring is inherently more
You know that Cerwin-Vega makes a very loud loudspeaker. Now we're going to tell you why Cerwin-Vega makes a very good loudspeaker. Any of our speakers will make your system sound big, no matter what size your receiver. (Our model 417R delivers 103 dB with only 1 watt input. You get studio listening levels in excess of 120 dB with just average power!) We'll make your system sound clean. The reason is "dynamic range." And all you need to know is that it comes with every Cerwin-Vega you can buy. That's just one of the reasons Billboard magazine says that in discos, the most demanding environment a speaker can be placed in, the best sound is Cerwin-Vega. The most dramatic sound is Cerwin-Vega. (Remember when your seat shook in "Earthquake"? The cinema special effects systems were ours. The innovations were ours.) If you have any doubts about what a Cerwin-Vega can do, give us the Test: Play any competitor. Any size. Any price. Then plug in one of ours. And discover that you don't have to choose between loudest and best.

Cerwin-Vega!

THE LOUDEST SPEAKER ISN'T ALWAYS THE BEST. BUT IT IS THIS TIME.
"linear" than a mechanical one, so the restoring force acting on the cone is more precise and distortion is reduced. With a linear spring, the cone can move back and forth through a greater distance, moving more air for a given distortion level; as a consequence, the maximum bass power is augmented.

That does sound like getting something for nothing—smaller size, equivalent or better bass-frequency response, the same (or lower) distortion at greater (or equal) maximum power. The laws of physics, however, exact a price. In the case of the acoustic-suspension system it is efficiency, which is lower than that of an infinite baffle.

The thought of losing half the acoustic output power of a loudspeaker (the rear-emanating sound) has continually challenged designers: How put it to work? The solution: Cut a hole in the box and let it out. Done correctly, this has beneficial effects.

As soon as a hole is cut into the box, it becomes a "Helmholtz Resonator." The most familiar Helmholtz Resonator is the coke bottle; blow across the top, and it makes a tone. Resonance is created by the mass and compliance of the air in the neck and in the bottle. Similarly, the loudspeaker baffle can be "tuned" to augment bass response at frequencies below that at which an equivalent acoustic-suspension system might roll off. "Tuning" is achieved by cutting the right-sized hole in the right-sized box. Adding a "duct" or tube to the hole can change the box-resonance frequency.

Early designs of this type, called "bass-reflex" or Helmholtz Resonator systems, were not highly regarded. The problem was not with the concept but with its implementation. No one really knew how to design the system mathematically. It was all cut and try; some systems worked well, others "boomed" like crazy. To get "flat" bass response from a vented system requires a careful juggling of parameters. In addition to tuning the box, the Q (or damping) must be properly matched to the characteristics of the driver—the mass of the cone, the compliance of the suspension and the strength of its "motor"; i.e., the magnetic field strength and the length of the wire in the voice coil.

An Australian engineer (A. N. Thiele) saw a parallel between loudspeaker-system design and electrical-filter theory and formulated equations and tables to predict the system's performance from the characteristics of the box and the driver. For example, start off with the bass response, efficiency, and box size, and the math determines what driver characteristics you need (though they may not be possible to achieve). The basic parameters—size, efficiency, and response—are traded off to get the desired compromise. You can have good response in a small enclosure if you relinquish efficiency; or higher efficiency in that enclosure if you give up extended bass response and/or power-handling ability.

Thiele's equations apply to virtually all "direct-radiator" systems—those in which the cone vibrates the air of the room directly—including both vented systems and acoustic-suspension systems. Expanding on the original work, other engineers have designed systems using passive radiators or drone cones. These are merely speakerlike diaphragms that are driven by the air pressure within the cabinet, thus serving as vents.

The passive radiator gives the designer a "handle" on the air's mass in the vent, since it can be controlled by the cone's mass. He can use it to reduce the velocity of air through the vent and avoid the "whistle" that sometimes occurs at high volume when a small-area, high-velocity vent is used. Thiele's equations also apply to "high-order" alignments where an external electrical equalizer is used as part of the filter network. Such systems offer even more propitious tradeoffs vis-a-vis efficiency, size, and response, albeit with the added complexity of the electronic equalizer.

Now, certainly, we have gotten something for nothing. Not quite. Al-
When all the drivers in a speaker system are mounted on the same plane (top), soundwaves from the woofer originate at a point more distant from the listener than do those from the midrange and tweeter, and thus take longer to reach the listener. This can cause phase-coherence problems, which so-called “time-aligned” systems (bottom), which place the points of origination on the same plane are designed to solve.

though a vented system may hold up to a somewhat lower frequency than a sealed system of the same size and/or offer greater efficiency, it rolls off much more rapidly below the cutoff frequency. (You didn’t think you could let that back wave and never have it cancel the front wave, did you?) And, since there is no “entrapped-air spring” to restore the cone at very low frequencies, the cone can be deflected substantially by infrasonic signals (for example, from a warped record). If the deflections become excessive, distortion may ensue; a good infrasonic filter is therefore desirable. High-order systems—those with an external equalizer—usually have one built in. Some listeners feel that the steeper bass rolloff below resonance and the attendant phase shift it creates causes vented systems to sound less tight than sealed ones, and that the higher the order, the more severe this effect is.

Whether sealed or vented, direct-radiator loudspeakers are basically inefficient in converting electrical power into acoustical output. A horn loudspeaker is much more efficient, despite the fact that almost invariably only the front driver radiation is used. (The back wave is simply trapped and dissipated.)

The “grand old horn” is, of course, the Klipschorn, whose design is one of the constants of high fidelity. Essentially, a horn is an acoustical transformer that matches the small-area cone to the large volume of air surrounding the speaker. Every horn has a cutoff frequency below which it is ineffective. For a horn to work at low frequencies it must be very long and have a large “mouth area.” In the original Klipsch design, the horn was “folded,” and the system required corner placement so that the walls of the room could be used as extenders.

Wide-range electrostatic panels, which are open on both sides, intentionally radiate sound to the front and rear. The front and rear waves, which are out of phase do not cancel each other out until they reach a fairly low frequency (long wavelength), because of their physical size, panels act as self-baffles. Nonetheless, cancellation does increase at low frequencies, and electronic equalization is normally used to help the bass response from diminishing. Sometimes, a conventional cone subwoofer is used to augment the electrostatic panels in the lowest octaves.

If the driver that supplied the bass sounds were equally adept at reproducing the midrange and treble, life would be simple. But such is not the
case. To produce adequate bass response and power, the woofer must be large and massive. These attributes become deterrents when trying to reproduce tones of higher pitch. The woofer cone is too heavy to respond to high-frequency signals, and, when attempting to do so, "breaks up" and vibrates in sections. Frequency response becomes notably irregular. Also, when the wavelength of the signal approaches the diameter of the cone, the speaker tends to beam or focus the sound directly along its axis, rather than radiate it uniformly over a wide angle.

These problems can be solved by routing higher-frequency signals to a smaller driver; hence we have so-called two-way, three-way, and four-way systems with crossover networks—really bandpass filters—to direct the sound to the proper driver. But in each crossover region, two of the drivers are radiating; due to phase shifts in the crossover network and to the physical separation of the drivers, the two sounds may not be in phase at all frequencies and at all listening angles. So the waves may interfere and the response through the crossover region may be irregular. And since the small high-frequency drivers may not be able to handle the same power as the woofer, some designers use two or more drivers in the same high-frequency range, increasing the possibility of sound-wave interference.

Even ignoring possible problems in the crossover region and assuming only a single driver is used in each frequency range, there are theoretical limitations on the accuracy with which the system can duplicate a complex wave shape. The sound from the deep woofer cone comes from a point within the cabinet; that from the relatively shallow midrange and tweeter seems to come from a point closer to the mounting surface. Because the sound from the woofer must travel farther to reach the room, it arrives "late." "Time-aligned" systems, in which the woofer is placed in a more forward location than the midrange and tweeter to get its effective point of radiation in line with that of the smaller drivers, are designed to solve this problem.

When a sound wave reaches a sharp edge, it tends to "diffract" around it much the same way that light diffracts when passing through a tiny slit. Diffraction is important mainly in the high-frequency region where the wavelength is short, but when it occurs it is mathematically equivalent to having a second (phantom) sound source at the edge of the discontinuity. The sound wave from this phantom interferes with the main wave and again causes an irregular frequency response, one that varies with the angle between the listener and the speaker. Thus we see speakers with acoustic "blankets" that absorb the sound that is propagated along the front of the cabinet and prevents it from reaching the edge. We see many cabinet designs in which sharp discontinuities are avoided entirely.

Mid- and high-frequency drivers come in many shapes and forms: cones, domes, horns, and electrostatic panels—even novel Heil drivers that squeeze the air from corrugated folds in the diaphragm. Each has its staunch proponents (and opponents). None are perfect; none are entirely bad. Which is "best" depends on your point of view. Which faults are you
The Wharfedale E's are the newest speakers in an unequalled tradition of excellence that goes back to the early days of music reproduction.

In those days, our speakers—like the unique sand-filled designs of Gilbert Briggs—were received with wide acclaim despite the limited technical resources of that era. Today's Wharfedale E's benefit from our space-age technology, and hold a special position of leadership in acoustic engineering.

The design goal for America's Wharfedale E's was to achieve that elusive combination of crystal-like clarity, strong bass and extremely high efficiency. We met this objective using computer optimization and holographic research, developing speakers with extremely wide dynamic range and no coloration. They've won the praise of lovers of every kind of music. And seem destined to keep that praise for years to come.

A Wharfedale E can fill a room with just a couple of watts. Or handle hundreds for unusually large areas. At any level, with any music, you won't detect any of the harshness or roughness inherent in lesser speakers.

Each Wharfedale E goes through a stringent Quality Control procedure that rejects all but the most perfect speakers. Those that pass represent the highest attainable audio technology, enhanced by the skills of old-world craftsmen who make each pair of perfectly matched hand-rubbed, fine wood veneer cabinets.

Many speaker makers have come and gone in the nearly 50 years since the first Wharfedale was made. And when you listen to the E's you'll know why Wharfedale lasts.

The new E90 measures 45-3/8" H x 13-3/4" W x 14-3/4" D and has a typical frequency response of 30-18,000Hz +3dB. The E70 is 32" H x 13-1/2" W x 14" D with frequency response from 35-18,000Hz +3dB. The E50 measures 25" H x 13-1/2" W x 13-1/2" D with a frequency response of 40-18,000Hz +3dB. The new E30 is 22-3/4" H x 13-3/16" W x 10-5/16" D with a 45-18,000Hz ±3dB frequency response. Efficiency is 94dB at 1 watt and 1 meter for the E30.

RANK HI Fi Inc., 20 Bushes Lane, Elmwood Park, New Jersey, 07407 (201) 791-7888
CIRCLE 29 ON READER-SERVICE CARD
most willing to accept; which virtues are most important to you? Listen and decide for yourself. This writer has heard good and bad cones, domes, horns, etc. As much seems to depend on how well the design was conceived and implemented as on the basics themselves.

Since multi-driver systems have their own problems of phase cancellation, as well as their own virtue of sharing the music among drivers most capable of reproducing it, it’s not that clear whether a four-way system is better than a three-way or whether the latter is necessarily superior to a two-way. In my experience, the three-way, full-range system seems to have an edge over the two-way, although I’ve heard good two-way systems that outperform mediocre three-way setups. The difference between a four-way and a three-way seems less apparent to me.

Ultimately, the performance depends upon how well the designer chose his crossover frequency(ies) and how well the drivers perform in their designated range. The crossover frequency in a two-way is frequently between 1 and 3 kHz. A good-size woofer has difficulty getting up that high without cone breakup, and a small tweeter has trouble getting down that low smoothly. A midrange driver eliminates the necessity for either “outside” driver to have to perform to the limits of its range.

In recent years there has been a proliferation of “mini” speaker systems—as small as a shoebox, and even smaller. How well do they work? In my experience some of them are remarkably good. Ponderously deep bass—no. High-power capability—no. But for a smaller room and at moderate listening levels many of them are highly competent.

Almost invariably, these speakers are two-way systems using a long-throw woofer/midrange of a 4 to 6-inch size and (usually) a dome tweeter. From, say, 150 Hz up, a good one can be virtually indistinguishable from its full-size brother. Below about 150 Hz, they run out of steam—at least as far as power-handling goes. Back to the laws of physics. A 4-inch cone can move only so much air. Even if these small systems can respond at lower frequencies, distortion increases rapidly when they’re pushed too hard.

Since most of the stereo imaging is created by frequencies above 100 Hz, a subwoofer can be added to a mini system to flesh out the bass, and a single subwoofer may even serve both channels. A subwoofer is simply a loudspeaker system, in a separate enclosure, designed to serve only in the low-frequency region—from its cutoff up to, say, 100 to 200 Hz. When added to a mini system the results can be quite surprising but, ideally, the system should be selected as an ensemble. Essentially you have created a three-way system out of a two-way, even though the woofer is separately enclosed, and the crossover frequency should be chosen appropriately for that system. Obviously, the subwoofer efficiency should be matched to that of the “satellites” if the response is to remain smooth.

The value of adding a subwoofer to a full-range system is less apparent. If the response of your present goes down to, say, 40 Hz, it’s not going to get much lower by adding a subwoofer. Of course this assumes that not only does your system get down that low, but that it can cleanly handle the power in the bass region. If it can’t, there might be some point in handing off that excess to another speaker. Frequently, the supposed benefits of adding a subwoofer to a good full-range system are fictitious. The listener is responding to a more powerful, exaggerated bass, not to smoother, more extended bass.

If such a thing as a perfect loudspeaker—or even a truly superior design—existed, the differences among them would be purely cosmetic. Despite the advances made in recent years that put a mathematical footing under loudspeaker design, art still counts as much as science. As long as that continues to be the case, you will have to rely on your ears to guide you as to the design that’s best for you. HF
ESS Wins...Again

U.C.L.A. experiment repeated: in comparative tests, students attending the University of Wisconsin judge ESS speakers superior to Bose, Pioneer, JBL, Infinity, AR and Cerwin Vega.

Hundreds of students participating in a series of blind listening tests at two separate universities have now judged ESS speakers superior in performance to other top brands by increasingly significant margins.

The controlled direct comparison tests, conducted under the supervision of an independent national testing laboratory, were designed to simulate home listening conditions. Loudness differences were electronically equalized, and all speakers were positioned for optimal performance.

Without knowledge of speaker brands, the students listened in groups of 30 or less to the same musical material on each of the speakers. They were then asked to choose which speaker sounded best in terms of clarity, accuracy and freedom from distortion.

"Of particular significance is the fact that the pairings on the two campuses were not identical," report ESS technicians. "Even though different speaker matchings were made, the participants still chose ESS in 13 out of 14 comparison situations at both universities. And the 14th test at each campus was too close to be statistically valid." In many cases, as the graph reveals, ESS speakers were chosen over far more expensive competing loudspeakers by significant margins.

ESS speakers differ from all other conventional speakers because they alone incorporate the ESS Heil air-motion transformer midrange-tweeter (invented by Dr. Oskar Heil, creator of the FET), licensed exclusively to ESS. This unique principle of sound reproduction has been called by one reviewer "the first real breakthrough in loudspeaker design in over 50 years." By squeezing air like a bellows instead of pushing it, the Heil achieves virtually "instant acceleration." This increased velocity permits the Heil to provide a degree of clarity, spaciousness and freedom from distortion unattainable by conventional drivers.

ESS will be conducting similar comparison tests on college campuses across the nation. Watch for the dramatic results from Georgia Tech. Or better yet, visit your local ESS dealer and take the ESS Listening Test yourself. See if you can't appreciate the difference.

Take the ESS Listening Test yourself!

*Suggested Retail Price

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CIRCLE 14 ON READER-SERVICE CARD
<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Configuration</th>
<th>Driver size</th>
<th>Magnet</th>
<th>Features</th>
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<tbody>
<tr>
<td>M-122</td>
<td>$103.50/pr.</td>
<td>2-way</td>
<td>6&quot; x 9&quot;</td>
<td>30 oz.</td>
<td>Separate piezoelectric tweeters in mini grilles</td>
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<td>M-110</td>
<td>$153/pr.</td>
<td>2-way</td>
<td>6&quot; x 9&quot;</td>
<td>30 oz.</td>
<td>Separate piezoelectric tweeters mounted in mini grilles</td>
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<td>M-142</td>
<td>$143.60/pr.</td>
<td>Coaxial</td>
<td>6&quot; x 9&quot;</td>
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<td>Piezoelectric tweeters</td>
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<td>M-132/pr.</td>
<td>$135/pr.</td>
<td>Coaxial</td>
<td>5 1/4&quot;</td>
<td></td>
<td>Bipolar capabilities</td>
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<tr>
<td>A-46</td>
<td>$40.80</td>
<td>Coaxial</td>
<td></td>
<td></td>
<td>Piezoelectric tweeter, available with 10 oz. magnet as A-47 for $37</td>
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<td>A-50</td>
<td>$28.80</td>
<td>6&quot; x 9&quot; woofer</td>
<td></td>
<td></td>
<td>Available with 10 oz. magnet as A-51 for $25</td>
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<td>A-40</td>
<td>$95.90</td>
<td>5 1/4&quot; woofer</td>
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<td>Available with 10 oz. magnet as A-41 for $21.90</td>
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**200 SERIES**

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<td>S-210</td>
<td>$75/pr.</td>
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<td>S-201</td>
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<td>S-220</td>
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**Atlas Series**

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<tr>
<td>A-38</td>
<td>$118.80/set</td>
<td>3-way</td>
<td>6&quot; x 9&quot; woofers</td>
<td>20 oz.</td>
<td>Separate grilles with combined piezoelectric tweeter and midrange</td>
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<td>A-36</td>
<td>$95/set</td>
<td>2-way</td>
<td>6&quot; x 9&quot; woofers</td>
<td>20 oz.</td>
<td>Piezoelectric tweeters with separate surface-mounting mini grilles</td>
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<td>A-23</td>
<td>$87.75/set</td>
<td>2-way coaxial</td>
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<td></td>
<td>Piezoelectric tweeter, bip amplifier, available with 10 oz. magnet as A-24 for $79.50/set</td>
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<tr>
<td>A-20</td>
<td>$69.75/set</td>
<td>2-way dual cone</td>
<td></td>
<td></td>
<td>Includes wire and hardware, available with 10 oz. magnet as A-21 for $49.50/set</td>
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**Models also available**

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<th>Model</th>
<th>Price</th>
<th>Configuration</th>
<th>Driver size</th>
<th>Magnet</th>
<th>Features</th>
</tr>
</thead>
</table>

**PANASONIC**

Panasonic Auto Products

One Panasonic Way

Secaucus, N.J. 07094

**EAB-752 Sound Pump II**

<table>
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<tr>
<th>Price</th>
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<tr>
<td>$79.55/pr.</td>
<td>2-way coaxial</td>
<td>6&quot; x 9&quot;</td>
<td>20 oz.</td>
<td>High power, high compliance coaxials; lightweight aluminum voice coil; designed to provide excellent tone quality in a car's harsh acoustic environment</td>
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**EAB-911 Thin Series**

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<th>Price</th>
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<tbody>
<tr>
<td>$34.95/pr.</td>
<td>70 Hz to 15 kHz</td>
<td>10 watts (10 dBW)</td>
</tr>
</tbody>
</table>

**MW-II SPEAKERS**

We've engineered the finest satellite speakers and combined them with our own superior subwoofer for a sound that can't be beat.

The MW-BC I and MW-II system is but a small part of the complete line of Dalco sound engineered speaker systems.

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What's made the EPI 100 such a classic?

The fact that for around $110, they can give you EPI's amazing "Linear Sound." Sound that's remarkably accurate. Uncolored and that's delivered to every part of the room. Because of the unique one-inch air-spring tweeter, you get nearly hemispherical dispersion with EPI 100's.

The highs come across sharp and clear; the lows deep and smooth. And unlike nearly every speaker, you can listen for hours without suffering listening fatigue. There's virtually no distortion.

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EPI 100

Most people who buy EPI 100's don't even ask to listen to them.
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EAB-905 Hi-Power Sound Pump, $77.95/pr.; EAB-920 Sound Pump $100, $169.95/pr.; EAB-774 Sound Pump, $59.95/pr.

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Long Beach, Calif. 90810

TS-X9
Price $239.95
Configuration 2-way
Response 50 Hz to 22 kHz
Max power 40 watts (16 DBW)
Driver 3½" woofer, 1" dome tweeter
Mounting Surface

TS-W203
Price $189.95
Configuration Woofer
Response 28 Hz to 10 kHz
Max power 60 watts (16.5 DBW)
Driver size 8"
Magnet 20 oz.
Features Fits 6" x 9" opening

TS-696
Price $139.95
Configuration 2-way
Response 35 Hz to 18 kHz
Max power 20 watts (16 DBW)
Driver size 6" x 9"
Magnet 20 oz. (high efficiency)
Features Crossover frequency at 4 kHz; 2½" midrange

TS-X6
Price $124.95
Configuration 2-way
Response 80 Hz to 20 kHz
Max power 20 watts (13 DBW)
Driver 4" woofer, 4" passive radiator; 2½" tweeter
Mounting Surface

TS-167
Price $82.95
Configuration 2-way coaxial
Response 30 Hz to 20 kHz
Max power 20 watts (13 DBW)
Impedance 4 ohms
Driver size 2½" tweeter
Magnet 10 oz.
Mounting Door
Features Tweeter horn built into grille; high-compliance woofer

TS-692
Price $73.95
Configuration 2-way
Response 35 Hz to 16 kHz
Max power 20 watts (13 DBW)
Driver size 6" x 9"
Magnet 20 oz.

TS-T3
Price $69.95

Configuration Tweeter
Response 250 Hz to 20 kHz
Max power 60 watts (17.5 DBW)
Driver size 3½"
Magnet 6½ oz
Mounting Flush
Features Built-in crossover network

TS-164
Price $59.95
Configuration 2-way coaxial
Response 40 Hz to 16 kHz
Max power 20 watts (13 DBW)
Impedance 4 ohms
Driver size 2½" tweeter
Magnet 10 oz.
Mounting Door
Features Same as Model TS-167

TS-M2
Price $54.95
Configuration Tweeter
Response 450 Hz to 20 kHz
Max power 20 watts (13 DBW)
Mounting Dash
Features Adapts to any car system; adjustable level controls

TS-35
Price $47.95
Response 80 Hz to 13 kHz
Max power 40 watts (16 DBW)
Mounting Flush/surface

TS-120
Price $40.95
Response 80 Hz to 16 kHz
Max power 8 watts (9 DBW)
Impedance 4 ohms
Mounting Door
Features Thin design

Models also available
TS-202, $219; TS-695, $159.95; TS-168, $139.95; TS-694, $95.95; TS-693, $81.95; TS-165, $72.95; TS-691, $59.95; TS-162DK, $59.95; TS-121; $61.95; TS-160, $41.95; TS-15, $29.95

POWER DRIVE
Rocolton Corp.
46-23 Crane St.
Long Island City, N.Y. 1101

CS-3690
Price $119.95
Configuration 3-way
Response 60 Hz to 20 kHz
Max power 50 watts (17 DBW)
Impedance 8 ohms
Driver size 5½" woofer, 3" midrange; two ¾" horn tweeters
Magnet 20 oz.
Mounting Flush
Features Built-in mesh grille; hardware and speaker wire included

CS-35
Price $69.95
Configuration 3-way
Response 60 Hz to 15 kHz
Max power 20 watts (13 DBW)
Impedance 8 ohms
Driver size 5½" (woofer)
Magnet 20 oz.

CS-105
Price $39.95

High Fidelity's Buying Guide to Speaker Systems
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THE ELECTRONIC SUBWOOFER™

Achieve true subwoofer capability (flat response to 20Hz) from your Allison speaker systems. Also gives similar results when used in conjunction with other well designed, long excursion, acoustic suspension systems such as AR, Advent, and others.

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ALLISON ACOUSTICS INC 7 Tech Circle, Natick, MA 01760

Audio Pulse Digital Time Delay is possibly the greatest advance in sound reproduction since stereo. A strong statement indeed, but we feel strongly about it. By means of time delay, the ambience of the live performance is returned to the music in a way not possible with ordinary stereo reproduction.

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Digital time delay must really be heard to be appreciated... but once you do, you won't want to listen without it.

Audio Pulse offers complete digital time delay systems. Model Two, the new Model 1000 and two sets of specially designed secondary speakers.

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© 1979 Audio Pulse, Inc. 4322 Arden Drive, El Monte, CA. 91734 (213) 579-4873

Why Wait, Delay Now.

1980 Edition
Mounting: Flush
Features: Grilles and mounting hardware included

**AS-77**

- **Price**: $59.95
- **Configuration**: 2-way coaxial design
- **Min power**: 2 watts (3 dBW)
- **Max power**: 20 watts (13 dBW)
- **Impedance**: 4 ohms
- **Driver size**: 6" x 9"
- **Magnet**: 20 oz.
- **Mounting**: Flush
- **Features**: Grilles and mounting hardware included

**Models also available**
- AS-2T, $69.95
- AS-67, $44.95

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**REALISTIC**

Radio Shack
1400 One Tandy Center
Ft. Worth, Texas 76102

**12-1854**

- **Price**: $79.95/pr.
- **Dimensions**: 6½H x 10W x 2¼D
- **Configuration**: 3-way
- **Response**: 50 Hz to 15 kHz
- **Max power**: 20 watts (13 dBW)
- **Impedance**: 8 ohms
- **Driver size**: 5¼" woofer, 2½" midrange, 2" tweeter
- **Magnet**: 5.7 oz.
- **Mounting**: Surface

**12-1848**

- **Price**: $29.95/pr.
- **Configuration**: Single
- **Response**: 100 Hz to 15 kHz
- **Max power**: 15 watts (11.75 dBW)
- **Impedance**: 8 ohms
- **Driver size**: 5"
- **Magnet**: 10 oz.
- **Mounting**: Flush
- **Features**: Instant-mount retainer rings included

**40-1256**

- **Price**: $49.95
- **Configuration**: 2-way
- **Max power**: 60 watts (17.75 dBW)
- **Impedance**: 8 ohms
- **Driver size**: 6" x 9"
- **Magnet**: 20 oz.
- **Mounting**: Flush

**Models also available**
- 12-1853, $59.95/pr.
- 12-1855, $27.95/pr.
- 40-1255, $39.95

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**ROAD SOUNDS**

Suntron
425 7th St. N.W.
Washington, D.C. 20004

**RS-2000**

- **Price**: $100
- **Configuration**: 2-way
- **Min power**: 10 watts (10 dBW)
- **Max power**: 50 watts (17 dBW)
- **Mounting**: Surface
- **Features**: Metal case

**Models also available**
- RS-694, $50
- RS-412, $50
- RS-693, $40

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**ROYAL SOUND**

Royal Sound Co., Inc.
248 Buffalo Ave.
Freeport, N.Y. 11520

**RS-6100**

- **Price**: $300/pr.
- **Dimensions**: 7¼H x 4¼W x 5¼D
- **Configuration**: 2-way

---

**Symphony for the Angels**

In the final movement of Mahler's "Symphony of a Thousand" Faustus ascends to Heaven amid the singing of angelic choirs.

Listen to the angels sing on AUDIO LAB CONSOR speakers by Unironex. The best speakers this side of Heaven.

For detailed product information and the location of the AUDIO LAB CONSOR dealer nearest you write: UNIRONEX CORPORATION, 1171 Landmeier Road, Elk Grove Village, IL 60007

Unironex: State-of-the-art speakers you won't have to sell your soul to afford.
### Features
- Basic housing and components chemically treated to inhibit corrosion; heavy-duty mounting hardware to resist extremes of temperature, humidity, vibration, and jarring; heavy-gauge wiring harness to insure full fidelity sound at full power output; screw-type speaker terminals for ease of mounting; low-frequency (automobile use), high-frequency (home use) switchable crossover networks; LED green power light; LED red signal overload light

### RS-6030
- **Price**: $150/pr.
- **Dimensions**: 6H x 3 3/4W x 3D
- **Configuration**: 2-way
- **Features**: Basic housing and components chemically treated to inhibit corrosion; heavy-duty mounting hardware to resist extremes of temperature, humidity, vibration, and jarring; heavy-gauge wiring harness to insure full fidelity sound at full power output; screw-type speaker terminals for ease of mounting

### Models also available
- RS-6045N, $200/pr.

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### SP-410
- **Price**: $89.95
- **Dimensions**: 4H x 10W x 3D
- **Configuration**: 3-way
- **Response**: 70 Hz to 20 kHz
- **Max power**: 25 watts (14 dBW)
- **Impedance**: 4 or 8 ohms
- **Driver size**: 4" x 10"
- **Magnet**: 15 oz. (woofer); 2.2 oz. (midrange); 0.6 oz. (tweeter)
- **Mounting**: Flush
- **Features**: Attractive metal mesh grille; removable crossover for conventional or biamp systems; perfect original equipment upgrade for cars with 4" x 10" speakers

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### SANYO

**Sanyo Electric Co.**
1200 West Artesia Blvd.
Compton, Calif. 90220

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### SP-759
- **Price**: $79.95
- **Configuration**: 3-way convertible
- **Response**: 70 Hz to 20 kHz
- **Max power**: 25 watts (14 dBW)
- **Impedance**: 4 or 8 ohms
- **Driver size**: 5" x 7"
- **Magnet**: 15 oz. (woofer); 2.2 oz. (midrange); 0.6 oz. (tweeter)
- **Mounting**: Flush or Surface
- **Features**: Removable crossover for conventional or biamp system

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### Models also available
- SP-777, $100; SP-780, $89.95; SP-770, $90; SP-768, $89.95; SP-731, $44.95; SP-733, $59.95/pr.

### SP-757
- **Price**: $54.95
- **Dimensions**: 5H x 7W
- **Configuration**: 2-way convertible coaxial
- **Response**: 80 Hz to 15 kHz
- **Max power**: 16 watts (12.75 dBW)
- **Impedance**: 4 or 8 ohms
- **Driver size**: 5" x 7"
- **Magnet**: 15.3 oz. (woofer); 0.5 oz. (tweeter)
- **Features**: Designed for rear-deck, door panels, under or over dash, or flush mounting when detached from convertible housing

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### SP-737
- **Price**: $69.95/pr.
- **Dimensions**: 6 3/4H x 6 1/8W x 2D
- **Configuration**: 3-way
- **Response**: 45 Hz to 20 kHz
- **Max power**: 24 watts (14 dBW)
- **Impedance**: 4 or 8 ohms
- **Driver size**: 6 1/2"
- **Magnet**: 20 oz. (woofer); 2.2 oz. (midrange); 0.6 oz. (tweeter)
- **Mounting**: Flush
- **Features**: Removable crossover for conventional or biamp system

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### Models also available
- SP-777, $100; SP-780, $89.95; SP-770, $90; SP-768, $89.95; SP-731, $44.95; SP-733, $59.95/pr.

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### SOUND BARRIER

**Sound Barrier Corp.**
1050 E. Dominguez, Unit P
Carson, Calif. 90746

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### Sympathy for the Devil

In their rock and roll classic about the Prince of Darkness, the Stones set an electric trap for the demon and capture him.

Listen to the devil get his due on IMPACT speakers by Unitronex. You'll be amazed at how easily diabolical power can be controlled.

For detailed product information and the location of the IMPACT dealer nearest you write: UNITRONEX CORPORATION, 1171 Landmeir Road, Elk Grove Village, IL 60007

Unitronex. State-of-the-art speakers you won't have to sell your soul to afford.
Phantom 3B
Price $399.80
Dimensions 5¼ x 8⅜ x 7⅞ D
Response 50 Hz to 20 KHz, ± 75 dB re 70 dB SPL at 1 meter at 1 watt
Min power 3 watts (4.75 dBW)
Max power 100 watts (20 dBW)
Impedance 4 to 8 ohms
Driver size 4" x 9"
Magnet 1 oz.
Mounting Surface
Features Built-in amplifier with 7-band graphic equalizer control box; die-cast aluminum frame.

Phantom 3
Price $229.95
Dimensions 5¼ x 8⅜ x 7⅞ D
Configuration 3-way
Response 50 Hz to 22 KHz, ± 8 dB re 75 dB SPL at 1 meter at 1 watt
Min power 1 watt (0 dBW)
Max power 100 watts (20 dBW)
Impedance 4 to 8 ohms
Driver size 4" x 9"
Magnet 1 oz.
Mounting Surface
Features Enclosed type high performance with aluminum die-cast frame; may be used as a bookshelf speaker at home.

787
Price $129.95
Dimensions 9½ x 6½ x 3¼ D
Configuration 3-way
Response 80 Hz to 20 KHz, ± 10 dB re 75 dB SPL at 1 meter at 1 watt
Min power 1 watt (0 dBW)
Max power 200 watts (23 dBW)
Impedance 4 to 8 ohms
Driver size 6" x 9"
Magnet 20 oz.
Mounting Flush/Surface
Features 1½" voice coil.

Falcon 20
Price $69.95
Dimensions 1½ x 1½ x 5¼ W
Configuration 2-way
Driver size 1½" tweeter with samarium cobalt magnet

Models also available
757, $249.95; 767, Compo Kit, $159.95; 777R, $115.95; Bonanza 35, $54.95; DC-8R, $37.95

SOURCE
Sound Source
1435 Jacqueline Drive
Columbus, Ga. 31907

UD-1
Price $185/pr.
Dimensions 3½ x 11½ x 7 D
Configuration 2-way
Response 40 Hz to 20 KHz, ± 3 dB
Min power 12.5 watts (11 dBW)
Max power 100 watts (20 dBW)
Impedance 8 ohms
Driver size 6" woofer/midrange, 1" dome horn tweeter; two phenolic-impregnated baffle tweeters.
Magnet 20 oz.
Features Hot-lacquered walnut cabinet

SPARKOMATIC
Sparkomatic
Routes 6 and 209
Milford, Pa. 18337

SK-6950
Price N/A
Configuration 4-way
Response 50 Hz to 20 KHz
Max power 100 watts (20 dBW)
Impedance 4 ohms
Driver size 6½ x 9"
Magnet 20 oz.
Mounting Deck
Features Special magnet design with hole in center allows air cooling and directs magnetic energy to where required; 1½" voice coil dissipates heat and allows for better power-handling capability at low frequencies; large damper for improved bass response; 2 tweeters for better power-handling capabilities at high frequencies; midrange specially designed for low resonance.

SK-600
Price N/A
Dimensions 1½ x 3¼ D
Configuration 2-way coaxial
Response 70 Hz to 15 kHz
Min power 15 watts (11.75 dBW)
Max power 30 watts (14.75 dBW)
Impedance 4 to 8 ohms
Mounting Door
Features Slim enough to fit all door applications regardless of size; snap-on grille designed so it will clear all window crank slits; new high-energy strontium cobalt magnet with heavy magnetic structure; cone has treated edge to assure long life, new bridge design, resonance-free performance.

SK-700V
Price $89.95
Dimensions 21¾ x 8 ¾ x 8 D
Configuration 2-way
Response 50 Hz to 16 kHz, ± 3 dB
Min power 25 watts (27 dBW)
Max power 50 watts (17 dBW)
Impedance 4 to 8 ohms
Driver size 6½" woofer, 1½" midrange/woofer (Alnico V magnets)
Magnet 10 oz.
Mounting Surface
Features Designed exclusively for vans and RVs.

SK-6922T
Price $69.95
Dimensions 6⅝ x 9¾ x 4 D
Configuration 3-way
Response 30 Hz to 17 kHz, ± 3 dB
Min power 40 watts (16 dBW)
Max power 80 watts (19 dBW)
Impedance 4 ohms
Driver size 4½" x 7¼"
Magnet 20 oz.
Mounting Flush
Features 6½" x 9" foam-edge air-suspension woofers; direct-radiator midrange speakers; dome horn-loaded tweeters; crossover networks; Thermostat® grilles and housings; new bridge design.

SK-6920C
Price $47.95
Dimensions 6⅝ x 9¾ x 3½ D
Configuration 2-way
Response 30 Hz to 15 kHz, ± 3 dB
Min power 25 watts (14 dBW)
Max power 50 watts (17 dBW)
Impedance 4 to 8 ohms
Driver size 4½" x 7¼"
Magnet 20 oz.
Mounting Flush
Features 6½" x 9" foam-edge air-suspension woofers; built-in coaxial 2" tweeters; Thermostat® grilles and housings; new bridge design, crossover networks.
Models also available
SK-6900, $89.95; SK-525, $89.95; SK-5227, $59.95; SK-6227, $49.95; SK-4120C, $47.95

TENNA
Tenna Corp.
19201 Cranwood Parkway
Cleveland, Ohio 44128

CPS-69EM
Price $184.95
Configuration 2-way coaxial
Response 50 Hz to 18 kHz, ± 5 dB
Max power 100 watts (20 dBW)
Impedance Universal
Driver size 6" x 9"
Magnet 10 oz
Mounting Flush
Features Built-in power amplifiers; wire mesh grilles with removable mounting studs for ease of installation

PS-69RD
Price $153.99
Response 50 Hz to 12 kHz
Max power 100 watts (20 dBW)
Impedance Universal
Driver size 6" x 9"
Magnet 10 oz
Mounting Flush
Features Built-in power amplifiers

HE-481
Price $139.95
Dimensions 7½H x 4 7/16W x 4¾D
Configuration 2-way
Response 120 Hz to 20 kHz, ± 5 dB re 90 dB
SPL at 1 meter at 1 watt
Min power 60 watts (17.75 dBW)
Max power 100 watts (20 dBW)
Impedance 8 ohms
Driver size 4"
Magnet 6 oz
Mounting Surface
Features Custom mounting brackets can be positioned vertically or horizontally; wire mesh grilles

HE-531
Price $119.95
Configuration 3-way
Response 90 Hz to 20 kHz, ± 5 dB re 85 dB
SPL at 1 meter at 1 watt
Min power 30 watts (14.75 dBW)
Max power 60 watts (17.75 dBW)
Impedance 8 ohms
Driver size 5¼
Magnet 9.3 oz
Mounting Flush
Features Hi-fi frequency switch; removable studs for easy installation; wire mesh grilles

TM-6920C
Price $87.95
Configuration 2-way
Response 60 Hz to 17 kHz, ± 5 dB re 90 dB
SPL at 1 meter at 1 watt
Min power 40 watts (16 dBW)
Max power 60 watts (17.75 dBW)
Impedance 8 ohms
Driver size 6" x 9"
Magnet 20 oz
Mounting Flush
Features Aluminum voice coil for high power; wire mesh grilles

CO-620RM
Price $59.95
Configuration 2-way

Continued on page 115
5 easy ways to upgrade your present car

by Robert Angus

Good-bye Squawk-Box Speaker!

If you’re disappointed with the sound of your car stereo system, one source of that dissatisfaction may be your current speaker(s). Whether you’re moving from a single, factory-installed squawk-box speaker to a stereo rig, or merely upgrading your speakers, you have essentially five ways to go about it.

First, you can simply select a high quality replacement speaker for your current single-cone unit. If you’re interested in a stereo system, you can choose between surface-mounting coaxial or triaxial units, positioning them in cutouts, putting separate woofers and tweeters at different locations, or installing one of the mini acoustic suspension systems (if your vehicle has the room).

Which way should you go? We can’t emphasize enough that your choice will be limited by the vehicle in which you install the system. But some advice is generally applicable. To help you in selecting the best system, we’ll look at what’s available, suggest what approach is best for certain types of vehicles, set down the factors involved in matching speakers to the rest of your system, and outline what is entailed in installing speakers.

The choices available to mobile audiophiles are more varied than they have ever been, and the prospects for creativity in speaker selection and placement are almost as unlimited as in the do-it-yourself days of early audio.

True, you won’t have quite as much freedom in selecting and mounting speakers in your car as those for your home. The interior volume of the passenger compartment is smaller, perhaps only one-eighth to one-tenth that of your favorite listening room; moreover, it’s virtually impossible to
relocate speakers once they have been installed. Nonetheless, the new component-type car stereo speakers do offer a wide range of possibilities.

Traditional round and oval speakers now come in coaxial and triaxial designs, with improved magnets and cone and surround design. Miniaturized versions of home acoustic suspension systems utilize the trunk as a resonance chamber, or are available in their own little aluminum enclosures. Woofers, tweeters, and crossovers are increasingly common as separately-mounted custom systems in vans and cars. New mounting wrinkles include wedge and surface mounts, in-door and rear-deck flush designs.

What you drive dictates which of these options are available to you. Limited room in sub-compacts (Datsun 510s and VW beetles, for example) automatically eliminates the more exotic speaker systems and installation techniques. Vans, tractor-trailer cabs, or luxury cars offer wider choices. So before buying car speakers, study your car.

With the aid of a screwdriver and a ruler, check out where speakers might best be placed. Is there a cutout in the rear deck? You probably can locate one by examining the deck area either with the fabric cover removed, or from the trunk. Next, check the dimensions: Cutouts are designed for either 6\" x 9\" or 4\" x 10\" speakers. If there is no cutout, you or an installer may be able to make your own to hold virtually any size and shape. The rear deck is an ideal location for a woofer, and also a good place for mounting full-range acoustic suspension speakers such as EPI's LS-70s.

Then check the front-door panels. Which are the best spots for tweeters, midrange units, or round full-range speakers? Snap off the door padding with your screwdriver. Measure the distance between the door frame and the interior surface. That will determine how deep a speaker you can mount in the door. You'll also want to know how large a speaker you can mount, and approximately where you can put it. Also measure how much clearance you have with the window rolled all the way down. Generally, the remaining space will be at the bottom of the door—a location more suited to bass reproducers than to tweeters.

If neither of these locations is practical, you may have to consider some variety of surface-mount such as a pair of wedge speakers under the front
seats facing forward, or on the side walls or roof. You can surface-mount speakers just about anywhere. Make sure to anchor them firmly if you put them on the rear deck. The same applies to the self-contained acoustic suspension speakers. In more roomy vehicles these can be hung below your dashboard.

Which approach is best—surface-mount or flush, self-contained system or separate components, rear-deck or up front? It depends on your vehicle. However, there are some generalizations. Woofers reproduce bass frequencies. The sound they produce is generally nondirectional (and, incidentally, is heard to maximum advantage when the windows are closed), which means that their placement in the car is not critical. Tweeters, on the other hand, project high-frequency sound similar to the beam from a flashlight. For best results, they should be directed at the ears of listeners in the front seat. Midrange reproducers handle the sounds in between, which are more directional than deep bass, less directional than treble. Placement is less critical than that for tweeters, but they too should be aimed at the ears of front-seat listeners.

Full-range speakers and systems call for compromises. Woofertweeter combinations designed for rear-deck mounting (to take advantage of the car trunk as a baffle) generally bounce their high frequencies off the rear window, a less-than-ideal situation.

Generally speaking, in passenger cars separate speaker components, chosen and installed with care, represent the best possible sound. They also cost more and are expensive to install—unless you intend doing the work yourself. (They'll give you the most trouble.) As we've seen, it's necessary to find a location with good baffling possibilities for the bass, and another location in close proximity to the driver and passenger for the tweeters. Vans or boats usually have plenty of room for a mini-bookshelf system that is designed for home use.

...Be certain that your new speakers are compatible with your car stereo's amplifier...
be acquired from the speaker maker’s literature or from a handbook on car stereo installing (for example, Tab Books’ Auto Stereo Service & Installation, by Paul Dorweiler and Harry Hansen, $8.95), but it does require some gymnastics under the dashboard and elsewhere inside the passenger compartment.

If you choose otherwise, you must find a reliable installer. Sometimes the dealer will install the speakers. Audio salons and other stores whose business isn’t primarily car stereo generally can recommend an experienced installer. They don’t guarantee his work; but his reputation is on the line with the store, so he has a strong incentive to do good work. A store that installs as well as sells does guarantee its own work, which can be important in the case of a very expensive installation in a very expensive vehicle. If you buy the speakers where the price is lowest and then go shopping for an installer, you have less leverage if anything goes wrong, even though you paid less money initially.

Before hiring someone to install your auto stereo system, it is a good idea to look over one of his installations, how well the woofers and tweeters were placed, and his overall neatness. Avoid those who install mainly CB radio and hang-on speaker systems for low-wattage stereo gear. They may understand cars and do neat work, but they seldom know anything about high fidelity sound.

If you already have a set of speakers in your car, upgrading them is fairly simple. The toughest part of the job—running the wiring and making the necessary cutouts—has already been done. Simply remove the existing grille, loosen the mounting screws, pull out and disconnect the speaker leads, then reverse the process, substituting your new speaker. But be sure before you buy your new speakers that they will fit in the space where the old ones were.

What are some typical ways to improve your system? If you have a pair of single-cone ovals in the door or rear deck, why not mount a coaxial or triaxial up front and/or a three-way acoustic suspension system in the back? The results are dramatic. Or you might replace or augment the full-range speakers in your doors with a woofer in the back cutout. You could add a pair of tweeters in the dashboard or door posts to complement Installing car speakers requires a certain expertise with tools. Above, professional installer removes interior door panel (left), and then drills mounting holes. He has also cut away part of the door to accept the speaker.
Overall neatness is important. Above, the installer hides the wiring under the carpeting before attaching it to the speaker. Upgrading speakers a second time is much easier; usually no additional cutting or wiring is necessary.

the rear-deck woofer and door-mounted midranges.

For really deep bass, you might try Visonik's Sub I system, consisting of subwoofer and two tiny acoustic suspension systems. If there isn't room for three self-contained speakers in your vehicle, try a trunk-loaded woofer. If you do buy self-contained systems, it's important to mount them securely by bolting them to the car chassis. Don't merely anchor them to the fiberboard deck floor; they're very heavy for their size, and, in case of a sudden stop, can tear themselves free of an insecure mount and come hurtling forward. Be sure too that they don't obstruct your rear vision, a safety violation in some states.

Whether you're installing your first system or upgrading your speakers, remember that you probably won't own your present car forever. Should you install the ultimate mobile system? After all, car stereo speakers don't add to the value of your car when you trade it in—or do they? This answer depends on who buys your car.

Most used-car dealers don't know what they're looking at when they appraise the speakers in your car. Accordingly, a friend of mine, who is both a car and audio enthusiast, has kept the cheap speakers he replaced recently. When he sells his present car he plans to reinstall the cheap speakers and transfer his more expensive JBLs to his new car. "Once the holes are there, you have to fill them with something," he explained. "But no way am I going to deliver a pair of JBLs to the buyer. I'd never get my money out of them that way." (He is prepared to write off his cassette deck/tuner/amp, however—he wants more power and an equalizer next time.)

If your car contains a good stereo system, sell to a private party. You may not get a much higher price, but the car, surprisingly, will be easier to sell.

Car stereo speakers really are no more of a mystery than speakers for your living room—and thanks to some familiar brand names they're becoming just as easy for audiophiles to listen to. If your car is one of the 17 million or so with a stereo system that's more than one and a half years old, chances are you can make a significant improvement in its sound simply by upgrading your speakers. MF
TRIFLEX
Orovox Sound
11545 Tuxford Ave.
Sun Valley, Calif. 91352

TR-6001
Price: $63.80
Dimensions: 7¼ x 9½ x 6½
Configuration: 3-way
Response: 75 Hz to 19.6 kHz
Min power: 6 watts (7.75 dBW)
Max power: 40 watts (16 dBW)
Impedance: 8 ohms
Driver size: 5¼"
Magnet: 20 oz.
Mounting: Surface

Models also available
TF-1000, $49.95

TRUSONIC
Trusonic
10530 Lawson River Ave.
Fountain Valley, Calif. 92708

K-6943
Price: $175
Dimensions: 9¾ H x 6 2/5W x 4 1/5D
Configuration: 3-way
Response: 25 Hz to 25 kHz; ± 4 dB re 98 dB SPL at 1 meter at 1 watt
Min power: 3 watts (4.75 dBW)
Max power: 120 watts (20.75 dBW)
Impedance: 4 ohms
Driver size: 6" x 9"
Magnet: 40 oz.
Mounting: Flush/Surface
Features: Chromed cast frame; 1½" voice coil; blamable, waterproof construction; 5-year warranty; hardware included

K-6923
Price: $150
Dimensions: 9¾ H x 6 2/5W x 3 4/5D
Configuration: 3-way
Response: 30 Hz to 25 kHz; ± 4 dB re 96 dB SPL at 1 meter at 1 watt
Min power: 3 watts (4.75 dBW)
Max power: 80 watts (19 dBW)
Impedance: 4 ohms
Driver size: 6"
Magnet: 20 oz.
Mounting: Flush/Surface
Features: Chromed cast frame; 1½" voice coil; blamable, waterproof construction; 5-year warranty; hardware included

K-6942
Price: $145
Dimensions: 9¾ H x 6 2/5W x 4 1/5D
Configuration: 2-way
Response: 25 Hz to 25 kHz; ± 4 dB re 98 dB SPL at 1 meter at 1 watt
Min power: 3 watts (4.75 dBW)

Audio Pro Stereo Components...
No compromise sound for no compromise people.

1) Subwoofer B2-50 for tight, clean, powerful bass, flat down to the limit of hearing (20 Hz). Comes complete with built-in amplifier and very versatile crossover filter.

2) & 3) Blampedifier A4-14 full range speaker with built-in subwoofer plus unique room-effect compensating controls. Do not let its small size fool you—its sound is gigantic. Tight, clean bass, flat to 30 Hz. Midrange and treble clean and open with exceptional stereo imaging.

4) Receiver TA-150. "All too often, equipment that boasts... sophisticated control techniques falls down when it comes to sound. The TA-150 is a brilliant exception." [Review by Ralph Neill, June 1979 Issue of Australian Hi-Fi.]

Hear the no compromise sound of Audio Pro equipment at dealers nationwide.

Call TOLL FREE 800-438-0228 for name and address of Audio Pro dealers in your area; Maryland residents call collect 301-458-3292. Or, if you like, write directly to: Audio Pro, 4720-Q Boston Way, Lanham, MD 20706.

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115
K-6022
Price $100
Dimensions 6¼H x 6½W x 2½D
Configuration 2-way
Response 40 Hz to 25 kHz, +4 dB re 94 dB SPL at 1 meter at 1 watt
Min power 3 watts (4.75 dBW)
Max power 80 watts (19 dBW)
Impedance 4 ohms
Driver size 6
Magnet 20 oz
Mounting Flush/Surface
Features Chromed cast frame; 1½" voice coil; biampliable; waterproof construction; 5-year warranty; hardware included

K-5722
Price $100
Dimensions 7¼H x 5W x 3½D
Configuration 2-way
Response 40 Hz to 25 kHz, +4 dB re 94 dB SPL at 1 meter at 1 watt
Min power 3 watts (4.75 dBW)
Max power 80 watts (19 dBW)
Impedance 4 ohms
Driver size 5½ x 7
Magnet 20 oz
Mounting Flush/surface
Features Chromed cast frame; 1½" voice coil; biampliable; waterproof construction; 5-year warranty; hardware included

KMT-3542
Price $100
Dimensions 2¾H x 5W x 2D
Configuration 2-way midrange/tweeter
Response 200 Hz to 25 kHz, +4 dB re 93 dB SPL at 1 meter at 1 watt
Min power 3 watts (4.75 dBW)
Max power 130 watts (21.25 dBW)
Impedance 4 ohms
Driver size 3½
Mounting Surface
Features Designed to match subwoofers K-6941, K-6921, K-6041, K-6021; protection circuit LED power indicators; built-in crossover; biampliable; 5-year warranty; hardware included

K-6021
Price $75
Dimensions 6½H x 6½W x 2 3/8D
Configuration Subwoofer
Response 40 Hz to 2 kHz, +3 dB re 93 dB SPL at 1 meter at 1 watt
Min power 3 watts (4.75 dBW)
Max power 90 watts (19.5 dBW)
Impedance 4 ohms
Driver size 6
Magnet 20 oz
Mounting Flush/surface
Features Chromed cast frame, 1½" voice coil; waterproof construction; 5-year warranty; hardware included

Models also available K-6024, $125

ULTRALINEAR
Ultralinear Loudspeakers
Div. Solar Audio Products, Inc.
3228 E. 50th St.
Los Angeles, Calif. 90058

M-16
Price $199.95
Dimensions 7½H x 5¼W x 4½D
Configuration 2-way
Response 50 Hz to 22 kHz re 84 dB SPL at 1 meter at 1 watt
Min power 10 watts (10 dBW)
Max power 50 watts (17 dBW)
Impedance 4 ohms
Driver size 4½ x 1½
Magnet 24 oz

VERIT
Vail Sound, Inc.
1131 Dora St.
P.O. Box 1085
Sun Valley, Calif. 91352

Micro-25
Price $59
Dimensions 6H x 6W x 6D
Configuration Full range
Response 80 Hz to 12 kHz, +5 dB re 93 dB SPL at 1 meter at 1 watt; 80 Hz to 12 kHz, +6 dB in automobile
Min power 5 watts (6 dBW)
Max power 25 watts (14 dBW)
Impedance 4 to 8 ohms
Driver size 4½
Magnet 10 oz
Mounting Surface
Features Automotive and home speaker; 1½ wide mounting bracket; 3 knobs; push terminal "5/8" cup

VISSONIK DAVID
Vission of America, Inc.
701 Heinz Ave.
Berkeley, Calif. 94710

W-600
Price $130 (with M-6 mounting kit)
Dimensions 7½H x 8¼W x 5D
Configuration Subwoofer
Response 40 Hz to 160 kHz, -4 dB
Min power 70 watts (18.5 dBW)
Impedance 4 ohms
Driver size 7
Magnet 67 oz
Mounting Flush
Features Optional enclosure

D-5000
Price $140 each (with bracket)
Dimensions 6¾H x 4½W x 4¾D
Configuration 2-way
Response 50 Hz to 25 kHz, +4, -8 dB re 85 dB SPL at 1 meter at 1 watt
Min power 10 watts (10 dBW)
Max power 50 watts (17 dBW)
Impedance 4 ohms
Driver size 4½ x 1½
Mounting Surface
Features Recommended for use with A-301 auto amplifier or AS-1 auto-subs system

D-4000
Price $110 (optional bracket, $10)
Dimensions 4½H x 6¼W x 4½D
Configuration 2-way
Response 50 Hz to 22 kHz re 84 dB SPL at 1 meter at 1 watt
Min power 10 watts (10 dBW)
Max power 50 watts (17 dBW)
Impedance 4 ohms
Driver size 4½ x 1½
Mounting Surface
Features Uniquely proportioned enclosure allows wide variety of placement possibilities

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