BRAND-NEW SPECS AND PRICES ON 1,200 SPEAKERS

HIGH FIDELITY'S
Buying Guide to
Speaker Systems

LEARN THESE SIMPLE STEPS TO AMAZING SOUND

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1. How to Select the Top Speaker
2. Which Design Performs Best
3. What Component Can Improve the Sound of Any Speaker

PLUS CAR STEREO SPECIAL

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Bought expensive speakers?

Better not listen to ours!

However, if you're looking for incredible sounding speakers at an affordable price, by all means do! You will find that for less money than you planned on spending you can get much better sounding speakers than you dreamed you could ever afford. Polk Audio loudspeakers have received worldwide praise because people recognize that they offer remarkable value. Critical acclaim such as the following makes it clear why Polk speakers have become famous for offering the best possible sound for the money.

"Polk Audio is a small, Maryland-based company whose speakers enjoy an enviable reputation among audiophiles who would prefer to own such exotica as the Beveridge System 2SW-1 ($7000 per pair) or Pyramid Metronome ($5200 per pair) but don't have the golden wallets to match their golden ears!" The Complete Buyer's Guide to Stereo/Hi-Fi Equipment

"Audio experts know that the price of a speaker is not always directly proportional to its quality. Nowhere at CES was that fact more dramatically demonstrated than in room 900 of the Pick Congress where the folks from Polk Audio of Baltimore were demonstrating their speaker line..." High Fidelity Trade News

"They (Polk 10's) are a high definition speaker system deserving the very best associated electronics. And at their price, they are simply a steal!" Audio Advisor-Audiogram

Polk Audio loudspeakers, starting around $125 each, are available at the world's finest hi-fi stores. Write us for complete information on our products and the location of the Polk Audio dealer nearest you.

Polk Audio Inc. 1205 S. Carey St., Baltimore, Md. 21230 Dept. B11
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CIRCLE 28 ON READER-SERVICE CARD
Pick the Speaker that Suits You Best
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?
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
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!
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.
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.

CIRCLE 26 ON READER-SERVICE CARD
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
Why do so many stars and studios use JBLs? And more discos* 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 matched 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.


*CIRCLE 17 ON READER-SERVICE CARD

*Billboard Disco Survey, 1978
**Recording Institute of America Survey
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 broad-band 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 3½" midranges 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 midrange. 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.
Bring along... records that place the highest demands on a speaker.

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.

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.

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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. Adjust 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 records, 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 announcer’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 reproduce 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 (especially 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-

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**Shopping Tips**

1. **Served**—both in the showroom and at home.

2. 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.

3. When you find a speaker you think you like, listen 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 prestigious audio stores often offer this service.

4. Try to test a prospective speaker with an amplifier 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.

5. For this reason, demonstration systems that adjust relative levels by way of attenuators between the amplifier’s output and the speakers may compromise performance of the more efficient 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 boominess in a relatively efficient speaker system—you may need to hear the speaker driven directly from the amplifier before you can assess it adequately.

hap's 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 compensated 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? HF
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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 midranges 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 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.

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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.

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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 4½-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.

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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...
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.

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For this name and product information write to: KEF Electronics, Ltd., c/o Intratec, P.O. Box 17414, Dulles International Airport, Washington, DC 20041.

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

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.

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 electrostatics) 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.
The Dahlquist DQ-10.
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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

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

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
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.

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 listening pleasure. Two sizes—5¼" 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.

We’re always thinking of sound ideas.
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
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>Features</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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## ACOUSTIC 626

Acoustic Control Corp.
7949 Woodley Ave.
Van Nuys, Calif. 91406

<table>
<thead>
<tr>
<th>Price</th>
<th>$220</th>
<th>$150</th>
<th>$175</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>24H x 16W x 11D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>40 lbs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Ventilated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer; 5&quot; midrange; 3½&quot; dome tweeter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 22 kHz, ±3 dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>1.2 kHz; 6 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (10 dBW) at 8 ohms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Mfrange, tweeter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Features</td>
<td>Circuit breaker protection for midrange and tweeter</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## ACOUSTICAL ENGINEERING

Acoustical Engineering
P.O. Box 60221
Sunnyvale, Calif. 94088

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,395</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>41H x 42W x 30D (at sides)</td>
</tr>
<tr>
<td>Weight</td>
<td>150 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Corner horn</td>
</tr>
<tr>
<td>Drivers</td>
<td>15&quot; woofer, 8&quot; midrange, two horn tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>16 Hz to 20 kHz, ±5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>400 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>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>L-pad</td>
</tr>
<tr>
<td>Features</td>
<td>Walnut finish with black grille cloth</td>
</tr>
</tbody>
</table>

## ACOUSTIC PHASE

Acousticon-Phase
P.O. Box 207
Proctorsville, Vt. 05153

<table>
<thead>
<tr>
<th>Price</th>
<th>$415</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>29H x 16W x 15½D</td>
</tr>
<tr>
<td>Weight</td>
<td>75 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>15&quot; woofer; 2 midrange horns; 4 super horn tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 30 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>900 Hz; 3 kHz</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>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>High-gloss black finish, side-mount carrying handles; slide casters; accepts ¼&quot; phone plug connection</td>
</tr>
</tbody>
</table>

## DISCO II

<table>
<thead>
<tr>
<th>Price</th>
<th>$449.95</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>29H x 16W x 15½D</td>
</tr>
<tr>
<td>Weight</td>
<td>75 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer; 5&quot; midrange; 1&quot; Mylar dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>32 Hz to 20 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>700 Hz; 4.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 to 8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW) continuous</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Circuit breaker, also available in solid-wood butcher-block cabinet for $359.95</td>
</tr>
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</table>

## PHASE III+

<table>
<thead>
<tr>
<th>Price</th>
<th>$309.95</th>
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<tr>
<td>Dimensions</td>
<td>29H x 16W x 14D</td>
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<tr>
<td>Weight</td>
<td>47 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer; 5&quot; midrange; 1&quot; Mylar dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>32 Hz to 20 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>700 Hz; 4.5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 to 8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW) continuous</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Circuit breaker, also available in solid-wood butcher-block cabinet for $359.95</td>
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## Microphone

<table>
<thead>
<tr>
<th>Price</th>
<th>$99.95</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>17½H x 10½W x 8D</td>
</tr>
<tr>
<td>Weight</td>
<td>19 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>6½&quot; woofer; 1&quot; Mylar dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>48 Hz to 20 kHz, ±4.5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>1.6 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 to 8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>5 watts (7 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>30 watts (14.75 dBW)</td>
</tr>
</tbody>
</table>

---

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

#### TRIPHONIC SYSTEMS

<table>
<thead>
<tr>
<th>Reference</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-1000 Bass Module</td>
<td>$1,800</td>
<td>47H x 27W x 12D</td>
<td>220 lbs.</td>
<td>Acoustic pressure feedback</td>
<td>Includes 150-watt (21.75 dBW) built-in amplifier, microphone, and VU meter</td>
</tr>
<tr>
<td>TR-800 Bass Module</td>
<td>$1,300</td>
<td>30H x 27W x 12D</td>
<td>180 lbs.</td>
<td>Acoustic pressure feedback</td>
<td>Includes 150-watt (21.75 dBW) built-in amplifier, microphone, and VU meter</td>
</tr>
<tr>
<td>Atom 2 Triphonic Satellite</td>
<td>$600/pr</td>
<td>19H x 9W x 3D</td>
<td>10 lbs.</td>
<td>Peripheral laminar decompression</td>
<td>Flat rim ribbon tweeter/midrange; flat-lam tweeter</td>
</tr>
<tr>
<td>Andante Master Control</td>
<td>$1,000</td>
<td>18H x 12W x 7D</td>
<td>50 lbs.</td>
<td>Time-aligned laminated back wave through flat tunnel</td>
<td></td>
</tr>
</tbody>
</table>

#### Models also available
- TR-1200 Bass Module, $1,665
- Atom 2 Triphonic Satellite, $650/pr.
- Andante Linear, $679
- Adagio, $559
- Apogee Monitor, $449
- Auditor, $299
- Apogee MK II, $249
- Alphate, $179

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

#### CVV-19
**Price** | $285 (kit); $345 (assembled)
---|---
**Dimensions** | 21H x 21W x 21D
**Weight** | 70 lbs.
**Type** | Vented
**Drivers** | 12" woofer, two 6" midrange drivers, horn tweeter
**Response** | 42 Hz to 15 kHz, ± 3 dB re 96 dB
**Crossover** | 400 Hz, 4 kHz
**Impedance** | 8 ohms
**Min. power** | 20 watts (13 dBW)
**Max. power** | 200 watts (23 dBW)
**Controls** | None
**Features** | Constant-voltage crossover networks

#### CVV-10 Bass Module
**Price** | $259 (kit); $325 (assembled)
---|---
**Dimensions** | 42H x 17W x 51/2D
**Weight** | 55 lbs.
**Type** | Acoustic suspension
**Drivers** | 10" woofer; 6" midrange; horn tweeter
**Response** | 65 Hz to 15 kHz, ± 3 dB re 91 dB
**Crossover** | 400 Hz, 4 kHz
**Impedance** | 8 ohms
**Min. power** | 20 watts (13 dBW)
**Max. power** | 175 watts (22 dBW)
**Controls** | None
**Features** | Constant-voltage crossover networks; slimline panel styling

#### CVV-15
**Price** | $175 (vinyl kit); $199 (walnut kit); $239 (walnut assembled)
---|---
**Dimensions** | 20H x 15W x 111/2D
**Weight** | 60 lbs.
**Type** | Vented
**Drivers** | 10" woofer; 6" midrange; horn tweeter
**Response** | 42 Hz to 15 kHz, ± 3 dB re 91 dB
**Crossover** | 400 Hz, 4 kHz
**Impedance** | 8 ohms
**Min. power** | 20 watts (13 dBW)
**Max. power** | 175 watts (22.5 dBW)
**Controls** | None
**Features** | Constant-voltage crossover networks

#### CVV-12
**Price** | $95 (vinyl kit); $115 (walnut kit)
---|---
**Dimensions** | 23H x 15W x 111/2D
**Weight** | 49 lbs.
**Type** | Vented
**Drivers** | 10" woofer/midrange; 1" dome tweeter
### Crossover Response

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dBW)</td>
<td>100 watts (20 dBW)</td>
<td>None</td>
</tr>
</tbody>
</table>

### Models also available

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>$249</td>
<td>23 kHz (2011)</td>
<td>70 lbs.</td>
</tr>
</tbody>
</table>

### High Fidelity's Buying Guide to Speaker Systems

**ADCOM**

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

**GF-6 Subwoofer**

Price: $229.95 (vinyl), $289.95 (walnut)  
Dimensions: 15 1/2 x 17 1/2 x 17 1/5D  
Weight: 42.5 lbs.  
Type: Infrasonic filter  
Drivers: 10" long-throw woofer  
Max. power: 20 watts (13 dBW)  
Max. power: 300 watts (20.75 dBW)  
Features: 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 style

**ADS**

Analog & Digital Systems, Inc.  
One Progress Way  
Wilmington, Mass. 01887

**L-630**

Price: $285  
Dimensions: 25 kHz x 14 13/16 x 11 3/4  
Weight: 42 lbs.  
Type: Acoustic suspension  
Drivers: 1" soft-dome tweeter; 5 1/4" woofer  
Max. power: 15 watts (10 dBW)  
Max. power: 60 watts (17 dBW)  
Features: Solid-aluminum mini drivers; 4 ohms

**ADS 810**

Price: $170  
Dimensions: 25 kHz x 14 kHz x 11 kHz  
Weight: 46 lbs.  
Type: Acoustic suspension  
Drivers: Two 8" woofers; 1" soft-dome midrange; 3" dome tweeter  
Min. power: 35 watts (14 dBW)  
Max. power: 1000 watts (20 dBW)  
Features: Optional speaker stand; drivers flush-mounted for minimum diffusion

**ADS 2002**

Price: $470/pr  
Dimensions: 6 kHz x 4 kHz x 5 kHz  
Weight: 2.5 lbs.  
Type: Acoustic suspension  
Drivers: Four 8" woofers; 1" soft-dome midrange; 4" dome tweeter  
Min. power: 25 watts (14 dBW)  
Max. power: 200 watts (24 dBW)  
Features: Optional speaker stand; drivers flush-mounted for minimum diffraction

**300C**

Price: $520  
Dimensions: 8 kHz x 6 kHz x 5 kHz  
Weight: 7 lbs.  
Type: Acoustic suspension  
Drivers: 5 1/4" woofer; 1" dome tweeter  
Min. power: 25 watts (14 dBW)  
Max. power: 75 watts (18.75 dBW)  
Features: Solid-aluminum mini speakers with swivel brackets for car installation

**200C**

Price: $118  
Dimensions: 6 kHz x 4 kHz x 4 kHz  
Weight: 4 lbs.  
Type: Acoustic suspension  
Drivers: 4" woofer; 1" dome tweeter  
Min. power: 5 watts (7 dBW)  
Max. power: 50 watts (8 dBW)  
Features: Solid-aluminum mini speakers with swivel brackets for car installation; optional flush-mount kit (FMK)
### SW-177 II
- **Price**: $395
- **Dimensions**: 27½H x 17¼W x 12¼D
- **Weight**: 46 lbs
- **Type**: Dynamic
- **Drivers**: 15" woofer; 5¾" midrange; two 1¾" 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)
- **Features**: Walnut-veneer cabinet

### SW-137 II
- **Price**: $200
- **Dimensions**: 23½H x 11½W x 11¼D
- **Weight**: 26 lbs
- **Type**: Dynamic
- **Drivers**: 10" woofer; 5¼" midrange; 1½" 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)

### SW-7
- **Price**: $160/pr.
- **Dimensions**: 8¾H x 5½W x 5¾D
- **Weight**: 11 lbs/pr.
- **Drivers**: 5½" woofer; 2" horn tweeter
- **Response**: 55 Hz to 22 kHz
- **Crossover**: 10 kHz
- **Impedance**: 4 ohms
- **Max. power**: 40 watts (16 dBW)

### Monitor 80
- **Price**: $375
- **Dimensions**: 26½H x 12W x 11¾D
- **Weight**: 31 lbs
- **Type**: Acoustic suspension
- **Drivers**: 10" Richard Allan woofer; 5¾" Richard Allan midrange; 1½" Richard Allan dome tweeter
- **Response**: 40 Hz to 20 kHz, ±3 dB
- **Crossover**: 1 kHz; 6 kHz
- **Impedance**: 8 ohms
- **Min. power**: 30 watts (14.75 dBW)
- **Max. power**: 80 watts (19 dBW)
- **Features**: Walnut-veneer cabinet

### ALLISON
- **Model**: Allison Acoustics, Inc.
- **Location**: Natick, Mass. 01760

#### Allison: One
- **Price**: $420
- **Dimensions**: 40¼H x 19¼W x 10½D
- **Weight**: 67 lbs
- **Type**: Dynamic; acoustic suspension
- **Drivers**: Two 10½" woofers; two 3¾" midrange units; two 1½" tweeters
- **Response**: Complete specifications available on request
- **Crossover**: 350 Hz; 7.75 kHz
- **Impedance**: 8 ohms
- **Min. power**: 30 watts (14.75 dBW) per channel
- **Max. power**: 150 watts (12.75 dBW) per channel
- **Features**: Complete specifications available

#### Allison: Six
- **Price**: $125
- **Dimensions**: 11¼H x 11¼W x 11¼D
- **Weight**: 17 lbs
- **Type**: Dynamic; acoustic suspension
- **Drivers**: 8½" woofer; 1½" tweeter
- **Response**: Complete specifications available on request
- **Crossover**: 2 kHz
- **Impedance**: 4 ohms
- **Min. power**: 15 watts (11.75 dBW) per channel
- **Max. power**: 150 watts (21.75 dBW)
- **Features**: High-frequency balance switch

### The Electronic Subwoofer®
- **Price**: $290
- **Dimensions**: 24H x 14¼W x 4½D
- **Features**: Complete specifications available

### ALTEC LANSING
- **Location**: Altec Corp., 1515 S. Manchester Ave. Anaheim, Calif. 92803

#### Nineteen
- **Price**: $899.95
- **Dimensions**: 39H x 30W x 21D
- **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**

| **Price** | $800 (approx.) |
| **Drivers** | 12" bass driver |
| **Crossover** | 40 Hz, 60 Hz, 80 Hz |
| **Features** | Electronic crossover; high-power amplifier; new power control system: red light warns when power input is too high; power is automatically reduced |

**Fourteen**

| **Price** | $499.95 |
| **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 Mantrary constant-directivity horn |
| **Response** | 35 Hz to 20 kHz |
| **Crossover** | 1.5 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 10 watts (10 dBW) |
| **Max. power** | 75 watts (18.75 dBW) |
| **Controls** | High/mid-frequency attenuator |
| **Features** | Hand-rubbed oiled walnut; acoustically transparent black knit grille; automatic power control to 200 watts (20 dBV) |

**Nine Series II**

| **Price** | $379.95 |
| **Dimensions** | 25H x 171/2W x 15D |
| **Weight** | 55 lbs |
| **Type** | Bass reflex; vented |
| **Drivers** | 12" bass, 5" cone tweeter; 61/2" mid-frequency |
| **Response** | 40 Hz to 20 kHz or 93 dB SPL at 1 meter at 1 watt |
| **Crossover** | 800 Hz, 7 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 12 watts (10.75 dBW) |
| **Max. power** | 60 watts (17.75 dBW) continuous |
| **Controls** | High/mid-frequency attenuator |
| **Features** | Hand-rubbed oiled oak |

**Santana II**

| **Price** | $329.95 |
| **Dimensions** | 19W x 251/4H x 16D |
| **Weight** | 57 lbs |
| **Type** | Bass reflex; vented |
| **Drivers** | 12" bass, 5" frame cone tweeter |
| **Response** | 40 Hz to 20 kHz |
| **Crossover** | 2.5 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 12 watts (10.75 dBW) |
| **Max. power** | 45 watts (16.5 dBW) |
| **Controls** | High-frequency attenuator |
| **Features** | Hand-rubbed oiled walnut with composite slate top |

**One Series II**

| **Price** | $129.95 |
| **Dimensions** | 21H x 12W x 11D |
| **Weight** | 26 lbs |
| **Type** | Acoustic suspension, sealed |
| **Drivers** | 8" bass, 4" cone tweeter |
| **Response** | 50 Hz to 20 kHz, 89 dB SPL at 1 meter at 1 watt |
| **Crossover** | 3.5 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 10 watts (10 dBW) |
| **Max. power** | 30 watts (14.75 dBW) |
| **Controls** | High-frequency attenuator |
| **Features** | Hand-rubbed oiled walnut |

**Models also available**

| **Type** | LF-1 Universal Subwoofer, $500 (approx.), Seven Series II, $279.95, Five Series II, $299.95, Three Series II, $189.95 |

**CLASSIC SERIES**

**Classic 120**

| **Price** | $369 |
| **Dimensions** | 35H x 14W x 11D |
| **Weight** | 58 lbs |
| **Type** | Acoustic suspension |
| **Drivers** | Two 10" foam surround woofers; 5" cone midrange; 3" cone tweeter |
| **Response** | 25 Hz to 20 kHz |
| **Crossover** | 1 kHz; 7 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 10 watts (10 dBW) |
| **Max. power** | 120 watts (20.75 dBW) |
| **Features** | Front-mounted midrange and tweeter controls for infinite tonal balance |

**Classic 110**

| **Price** | $239 |
| **Dimensions** | 23H x 14W x 11D |
| **Weight** | 34 lbs |
| **Type** | Acoustic suspension |
| **Drivers** | 10" foam surround woofer; 5" cone midrange; 3" cone tweeter |
| **Response** | 30 Hz to 20 kHz |
| **Crossover** | 1 kHz; 7 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 10 watts (10 dBW) |
| **Max. power** | 55 watts (17.5 dBW) |
| **Features** | Front-mounted midrange and tweeter controls for infinite tonal balance |

**DISCO SERIES**

**Super Jock**

| **Price** | $625 |

**APOLLO SERIES**

**Apollo 8853**

| **Price** | $169 |
| **Dimensions** | 37H x 13W x 11D |
| **Weight** | 39 lbs |
| **Type** | Ported |
| **Drivers** | Two 8" foam surround woofers; 2" cone phenolic ring |
| **Response** | 25 Hz to 22 kHz |
| **Crossover** | 1 kHz; 5 kHz |
| **Impedance** | 16 ohms |
| **Min. power** | 5 watts (7 dBW) |
| **Max. power** | 55 watts (17.5 dBW) |

**Apollo 2712**

| **Price** | $139 |
| **Dimensions** | 27H x 16W x 11D |
| **Weight** | 36 lbs |
| **Type** | Vented |
| **Drivers** | 12" foam surround woofer; 5 1/4" cone midrange; 2" cone phenolic ring tweeter |
| **Response** | 25 Hz to 22 kHz |
| **Crossover** | 1 kHz; 5 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 5 watts (7 dBW) |
| **Max. power** | 40 watts (16.5 dBW) |
| **Features** | Acoustical Porting System |

**PRO SERIES**

**PRO RH-9040**

| **Price** | $900 |
| **Dimensions** | 41H x 19W x 32D |
| **Weight** | 83 lbs |
| **Type** | Direct radiating |
| **Response** | 400 Hz to 19 kHz |
| **Impedance** | 8 ohms |
| **Max. power** | 100 watts (20 dBW) |

**PRO W-212**

| **Price** | $640 |
| **Dimensions** | 28H x 48W x 20D |
| **Weight** | 140 lbs |
| **Type** | Horn loaded |
| **Drivers** | Two 12" accordion surround woofers |
| **Response** | 40 Hz to 5 kHz |
| **Impedance** | 4 ohms |
| **Max. power** | 200 watts (23 dBW) |

**PRO MT-70**

| **Price** | $450 |
| **Dimensions** | 111/4H x 30W x 111/4D |
| **Weight** | 45 lbs |
| **Type** | Direct radiating |
| **Response** | 1 kHz to 25 kHz |
| **Impedance** | 8 ohms |
| **Max. power** | 60 watts (17.75 dBW) |

**Pro MA-14**

| **Price** | $325 |
| **Dimensions** | 111/4H x 30W x 111/4D |
| **Weight** | 38 lbs |
| **Type** | Direct radiating |
| **Drivers** | Four 8" solid-state tweeters |
| **Response** | 7 kHz to 25 kHz |
| **Max. power** | 250 watts (24 dBW) |

**Pro MS-12**

| **Price** | $210 |
| **Dimensions** | 23H x 16W x 16D |
| **Weight** | 35 lbs |
| **Type** | Direct radiating |
| **Drivers** | 12" accordion surround woofer; 3" solid-state piezoelectric tweeter |
| **Response** | 100 Hz to 20 kHz |
| **Crossover** | 5 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 25 watts (14 dBW) |
| **Max. power** | 100 watts (20 dBW) |

**STUDIO SERIES**

**Studio 400**

| **Price** | $269 |
| **Dimensions** | 35H x 141/2W x 111/4D |
| **Weight** | 48 lbs |
| **Type** | Acoustic suspension |
| **Drivers** | Two 10" foam surround woofers; 5 1/4" cone midrange; 3" solid-state piezoelectric supertweeter |
| **Response** | 25 Hz to 25 kHz |
| **Crossover** | 1 kHz; 5 kHz |
| **Impedance** | 4 ohms |
Min. power 10 watts (10 dBW)
Max. power 75 watts (18.75 dBW)
Controls Front-mounted midrange and tweeter controls for infinite tonal balance

Studio 200
Price $169

Min. power 5 watts (7 dBW)
Max. power 35 watts (15.75 dBW)
Drivers Two 10" woofers facing sideways, Acoustic suspension
Weight 82 lbs.
Dimensions 43 1/4H x 14 1/2W x 15 13/16D
Features Mirror-image pans; Mylar capacitors; hand-rubbed wood veneer

Models also available
AR-25, $220/pr.; AR-18, $78 ea. (sold only in pairs); AR-9, $750, AR-92, $300

ARMSTRONG
Armstrong Audio (U.S.A.) Inc.
Sindell Organization
11046 Santa Monica Blvd.
Los Angeles, Calif. 90025

AR-90
Price $550
Dimensions 42 1/4H x 14 1/2W x 15 13/16D
Weight 82 lbs.
Type Acoustic suspension
Drivers Two 10" woofers facing sideways; 8" lower midrange, 1 1/2" upper midrange, 1/4" tweeter
Response 35 Hz to 25 kHz, ±2 dB re 87 dB
SPL at 1 meter at 1 watt
Crossover 200 Hz, 1 kHz, 7.0 kHz
Impedance 4 ohms
Min. power 10 watts (14 dBW)
Max. power 100 watts (20 dBW)
Features Phase-corrected crossover network

Models also available
620, $250

AudioPlate
Barcus Berry, Inc.
15461 Springdale St.
Huntington Beach, Calif. 92649

Model 36 Add-on Tweeter
Price $200/pr
Dimensions 7H x 7W x 3 1/2D
Weight 4 lbs. 8 oz.
Type Non-inertial plate
Drivers Two Barcus-Berry Audio Plate® drivers
Response 2 kHz to 20 kHz
Impedance 8 ohms

A-10U
Price $225
Dimensions 28H x 14W x 15D
Weight 60 lbs.
Type Vented
Drivers 10" woofer, 1 1/2" midrange dome, 1" soft-dome tweeter
Response 39 Hz to 20 kHz, ±3.0 dB re 90 dB
SPL at 1 meter at 1 watt
Crossover 1.2 kHz, 6 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 125 watts (21 dBW)
Controls Midrange, tweeter
Features Mirror-image pans; Mylar capacitors; utility finish

A-10W
Price $265
Dimensions 28H x 14W x 15D
Weight 60 lbs.
Type Vented
Drivers 10" woofer, 1 1/2" midrange dome, 1" soft-dome tweeter
Response 39 Hz to 20 kHz, ±3.0 dB re 90 dB
SPL at 1 meter at 1 watt
Crossover 1.2 kHz, 6 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 125 watts (21 dBW)
Controls Midrange, tweeter
Features Mirror-image pans; Mylar capacitors; hand-rubbed wood veneer

Models also available
<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Features</th>
<th>Controls</th>
<th>Mm. power</th>
<th>Crossover</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL -20</td>
<td></td>
<td>Wide-area dispersion of high frequencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL -60</td>
<td></td>
<td>Designed to supplement or replace tweeter in</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>existing speaker systems; can be added to</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>speaker system in minutes; no soldering or</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>special tools needed; furnished in solid-walnut</td>
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<td></td>
</tr>
</tbody>
</table>

---

**AUDIO PULSE**

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Features</th>
<th>Controls</th>
<th>Mm. power</th>
<th>Crossover</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL -20</td>
<td></td>
<td>Two-way ducted port</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL -60</td>
<td></td>
<td>Wide dispersion phenolic dome tweeter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>60 Hz to 20 kHz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attenuation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Automatic on/off</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Fused; adaptable for mobile use</td>
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</tr>
</tbody>
</table>

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**Phase Matrix B-1 subwoofer**

Price $279
Dimensions 27"H x 15.5"W x 11.5"D
Weight 50 lbs.
Type Vented
Drivers 12" woofer
Response 22 Hz to 120 Hz, +3dB re 99 dB SPL at 1 meter at 1 watt
Crossover 120 Hz
Impedance 4 ohms
Min. power 10 watts (10 dBW)
Max. power 200 watts (23 dBW)
Features Built-in crossover with direct-coupled bass matrix and level-compensating high-pass filter for upper speaker system

---

**Phase Matrix M-12**

Price $800
Dimensions 40"H x 13"W x 16.5"D
Weight 115 lbs.
Type Acoustic suspension
Drivers Two 10" woofers; three 41/2" midrange; 1" soft-dome tweeters; two 1/4" phase-match ultra-high-frequency drivers
Response 24 Hz to 25 kHz, +3 dB re 91 dB at 1 meter at 1 watt
Crossover 200 Hz; 2 kHz; 15 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 dBW)
Max. power 200 watts (23 dBW)
Controls Midrange; tweeter
Features Fused; incorporates Ambient Phase Recovery System, a totally passive image enhancer, adjustable for near and far field listening conditions; defeatable

---

**Anthem Array**

Price $599
Dimensions 40"H x 15"W x 15"D
Weight 92 lbs.
Type Staggered acoustic suspension
Drivers 10" subwoofer; 10" woofer; 41/2" midrange; 1" dome tweeter; 3" piezoelectric tweeter
Response 30 Hz to 20 kHz, +3 dB re 87 dB at 1 meter at 1 watt
Crossover 200 Hz; 450 Hz; 3 kHz; 12 kHz
Impedance 8 ohms
Min. power 20 watts (13 dBW)
Max. power 250 watts (24 dBW)
Controls Midrange, tweeter
Features Midrange; fusion; tweeter; piezoelectric output variable, uniform polar response at significant frequencies

---

**Super Red Studio Monitor**

Price $1,115
Dimensions 47"H x 30"W x 17"D
Weight 170 lbs.
Type Infinite baffle
Drivers 15" woofer with coaxial horn tweeter; 15" subwoofer
Response 40 Hz to 17 kHz, +3 dB re 101 dB SPL at 1 meter at 1 watt
Crossover 100 Hz; 3 kHz
Impedance 16 ohms

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**AUDIOMARKETING**

Audiomarketing, Ltd. 652 Glenbrook Road Stamford, Conn. 06906

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**High Fidelity's Buying Guide to Speaker Systems**
### Impedance Crossover

#### 1980 Edition

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>LO -2 Vanishing Point</td>
<td>6.5&quot; vanishing</td>
<td>25 lbs</td>
<td>25H x 18W x 31D</td>
<td>$350</td>
</tr>
<tr>
<td>LO -2 Foundation Bass</td>
<td>10&quot; woofer, 6.5&quot; dome</td>
<td>38 lbs</td>
<td>25H x 18W x 31D</td>
<td>$600</td>
</tr>
<tr>
<td>Littke Red Studio Monitor</td>
<td>14H x 9W x 9D</td>
<td>70 watts</td>
<td>14 lbs</td>
<td>$220</td>
</tr>
<tr>
<td>LO-2 Foundation Bass</td>
<td>10&quot; woofer, 6.5&quot; dome</td>
<td>38 lbs</td>
<td>25H x 18W x 31D</td>
<td>$600</td>
</tr>
<tr>
<td>LO-2 Vanishing Point</td>
<td>6.5&quot; vanishing</td>
<td>25 lbs</td>
<td>25H x 18W x 31D</td>
<td>$350</td>
</tr>
<tr>
<td>Littke Red Studio Monitor</td>
<td>14H x 9W x 9D</td>
<td>70 watts</td>
<td>14 lbs</td>
<td>$220</td>
</tr>
</tbody>
</table>

#### Response

<table>
<thead>
<tr>
<th>SPL at 1 meter at 1 watt</th>
<th>LO -2 Vanishing Point</th>
<th>LO-2 Foundation Bass</th>
<th>Littke Red Studio Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 Hz to 20 kHz, ±2 dB re 92 dB</td>
<td>84 dB</td>
<td>89 dB</td>
<td>91 dB</td>
</tr>
</tbody>
</table>

#### Crossover

<table>
<thead>
<tr>
<th>40 Hz to 18 kHz, ±2 dB re 92 dB</th>
<th>LO -2 Vanishing Point</th>
<th>LO-2 Foundation Bass</th>
<th>Littke Red Studio Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>119 Hz</td>
<td>114 Hz</td>
<td>110 Hz</td>
<td></td>
</tr>
</tbody>
</table>

#### Controls

<table>
<thead>
<tr>
<th>Features</th>
<th>LO -2 Vanishing Point</th>
<th>LO-2 Foundation Bass</th>
<th>Littke Red Studio Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastering-lab frequency-dividing network</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Models also available

#### Big Red Studio Monitor, 5816

#### AUDIONICS

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

#### LO-2 Foundation Bass

- **Price:** $600
- **Dimensions:** 25H x 18W x 31D
- **Weight:** 38 lbs
- **Type:** Acoustic suspension
- **Drivers:** 10" woofer, 6.5" dome
- **Response:** 40 Hz to 18 kHz, ±2 dB re 92 dB
- **Crossover:** 2 kHz
- **Impedance:** 7 ohms
<table>
<thead>
<tr>
<th>Min. power</th>
<th>10 watts (10 dBW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Frequency-dividing network</td>
</tr>
</tbody>
</table>

- **Price:** $600
- **Dimensions:** 25H x 18W x 31D
- **Weight:** 38 lbs
- **Type:** Acoustic suspension
- **Drivers:** 10" woofer, 6.5" dome
- **Response:** 40 Hz to 18 kHz, ±2 dB re 92 dB
- **Crossover:** 2 kHz
- **Impedance:** 7 ohms
<table>
<thead>
<tr>
<th>Min. power</th>
<th>10 watts (10 dBW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Frequency-dividing network</td>
</tr>
</tbody>
</table>

#### Models also available

- **94-1400:** $100
- **Dimensions:** 24H x 15W x 9¾D
- **Weight:** 28 lbs
- **Type:** Acoustic suspension
- **Drivers:** 12" woofer, 2½" dome tweeter
- **Response:** 35 Hz to 20 kHz
- **Crossover:** 2.5 kHz
- **Impedance:** 8 ohms
<table>
<thead>
<tr>
<th>Min. power</th>
<th>2 watts (3 dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. power</td>
<td>45 watts (16.5 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Aluminum voice coil, multi-roll foam surround</td>
</tr>
</tbody>
</table>

- **94-1200:** $60
- **Dimensions:** 19¾H x 11W x 7D
- **Weight:** 14 lbs
- **Type:** Acoustic suspension
- **Drivers:** 8" woofer, 1½" dome tweeter
- **Response:** 45 Hz to 20 kHz
- **Crossover:** 5 kHz
- **Impedance:** 8 ohms
<table>
<thead>
<tr>
<th>Min. power</th>
<th>2 watts (3 dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. power</td>
<td>25 watts (14 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Aluminum voice coil, multi-roll foam surround</td>
</tr>
</tbody>
</table>

#### 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
- **Crossover:** 3 kHz
- **Impedance:** 7 ohms

#### Models also available

- **94-1350, 94-1300, 94-1300:** $70

#### AVID

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

#### 330

- **Price:** $400
- **Dimensions:** 30¼H x 17W x 10½D
- **Weight:** 66 lbs.

#### BANG & OLUFSEN

**Bang & Olufsen** Elk Grove Village, Ill. 60007

#### Beovox Phase-Link M100-2

- **Price:** $1400/pr. (including stands)
- **Dimensions:** 29¾H x 15W x 12D
- **Weight:** 60 lbs. 8 oz.
- **Type:** Vented
### High Fidelity's Buying Guide to Speaker Systems

#### Beovox Phase-Link S-75

<table>
<thead>
<tr>
<th>Price</th>
<th>$395/pr.</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>13&quot; H x 7&quot; W x 6&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>12 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Pressure chamber</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 4&quot; woofers, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>75 Hz to 20 kHz, ±4 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>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>70 watts (16.5 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Log line loading to minimize environmentally caused acoustic problems from small rooms; linear phase response; black or brushed aluminum finish</td>
</tr>
</tbody>
</table>

#### Beovox Phase-Link P-30

<table>
<thead>
<tr>
<th>Price</th>
<th>$330/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>21.1/4&quot; H x 11 3/4&quot; W x 4 1/4&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>11 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Pressure chamber</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 4&quot; woofers, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>58 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>30 watts (14.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Wall-mounting panel speaker; linear phase response; rosewood finish standard, walnut, or white optional finish</td>
</tr>
</tbody>
</table>

#### Beovox Phase-Link S-40

<table>
<thead>
<tr>
<th>Price</th>
<th>$200/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>18 1/4&quot; H x 10 1/4&quot; W x 7 1/4&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>13 lbs. 3 oz</td>
</tr>
<tr>
<td>Type</td>
<td>Pressure chamber</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofer, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>49 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>40 watts (16 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Bookshelf or wall mount, linear phase response, rosewood veneer finish</td>
</tr>
</tbody>
</table>

#### B.E.S. GEOSTATIC

#### Bertagni Electroacoustic Systems, Inc.

#### B.C.

#### B.C./Avenet

#### Systems 2SW-2

<table>
<thead>
<tr>
<th>Price</th>
<th>$7,000/pr. (including direct-drive tube amplifiers for electrostatics, electronic crossovers, and solid-state amplifiers for subwoofers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>78&quot; H x 24&quot; W x 15&quot; D (electrostatic loudspeakers); 26&quot; H x 16&quot; W x 22&quot; D (subwoofers)</td>
</tr>
<tr>
<td>Weight</td>
<td>360 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Electrostatic and dynamic subwoofer</td>
</tr>
<tr>
<td>Drivers</td>
<td>Electrostatic above 100 Hz; dynamic below 100 Hz</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 20 kHz, +3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>100 Hz</td>
</tr>
<tr>
<td>Controls</td>
<td>Bevridge control module; spectrum and lateral controls</td>
</tr>
<tr>
<td>Features</td>
<td>Cylindrical sound emission from a single line source, 100 Hz to 18 kHz; subwoofers, one with each electrostatic loudspeaker, operating below 100 Hz</td>
</tr>
</tbody>
</table>

#### Models also available

- System 3, $3,500

#### Models 260

<table>
<thead>
<tr>
<th>Price</th>
<th>$249</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>26 3/8&quot; H x 20 7/32&quot; W x 5 1/2&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>35 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Single-pulsing phase diagram</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two permanent magnet/voice coil drivers; piezoelectric tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>32 Hz to 22 kHz re 91 dB SPL at 1 meter</td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz; 10 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>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>360-degree omnidirectional dispersion; 850-sq. in. radiating surface; resistible circuit protector</td>
</tr>
</tbody>
</table>

#### Models also available

- B.V.

#### Models TP-600

<table>
<thead>
<tr>
<th>Price</th>
<th>$369.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>41 1/4&quot; H x 15 1/4&quot; W x 7&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>67 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Venturi loaded</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; subwoofer; 1 1/2&quot; compression driver; piezoelectric tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>93 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Impedance</td>
<td>6 to 8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>3 watts (4.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>130 watts (21 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Total Power Radiation; non-critical speaker placement; finished on all four sides; see-through black grille supplied</td>
</tr>
</tbody>
</table>

#### Models B-66

<table>
<thead>
<tr>
<th>Price</th>
<th>$268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>26 3/8&quot; H x 15 1/4&quot; W x 13 1/4&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>53 lbs. 8 oz</td>
</tr>
<tr>
<td>Type</td>
<td>Venturi loaded</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer; 5 1/2&quot; cone midrange; two 1 1/2&quot; dome tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>93 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>400 Hz; 10 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>6 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>3 watts (4.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Total balance</td>
</tr>
</tbody>
</table>

#### 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

#### B.E.S. GEOSTATIC

#### Bertagni Electroacoustic Systems, Inc.

345 Fischer St.
Costa Mesa, Calif. 92626

### Tonal Balance

**Drivers:** 12" bass; 4" phase-link filler driver; 21/2" dome midrange; 11/2" dome tweeter; 31/4" dome super tweeter

**Response:** 35 Hz to 22 kHz, +4 dB

**Crossover:** 500 Hz to 2.5 kHz; 8 kHz

**Impedance:** 4 ohms

**Min. power:** 20 watts (13 dBW)

**Max. power:** 100 watts (20 dBW) continuous

**Controls:** Unit angle and height

**Features:** Electrostatic protection circuit; linear phase response; rosewood veneer finish

---

**Belles Research**

**Belles Research Corp.**

**A-1 Country Club Rd.**

**P.O. Box 65**

**East Rochester, N.Y. 14445**

### Models also available

- D-280W, $997, D-120W, $599, SM-250, $169

#### BEVERIDGE ELECTROSTATIC SPEAKER SYSTEMS

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345 Fischer St.
Costa Mesa, Calif. 92626

### Tonal Balance

**Drivers:** 12" bass; 4" phase-link filler driver; 21/2" dome midrange; 11/2" dome tweeter; 31/4" dome super tweeter

**Response:** 35 Hz to 22 kHz, +4 dB

**Crossover:** 500 Hz to 2.5 kHz; 8 kHz

**Impedance:** 4 ohms

**Min. power:** 20 watts (13 dBW)

**Max. power:** 100 watts (20 dBW) continuous

**Controls:** Unit angle and height

**Features:** Electrostatic protection circuit; linear phase response; rosewood veneer finish

---

**Beovox Phase-Link S-75**

<table>
<thead>
<tr>
<th>Price</th>
<th>$395/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>13&quot; H x 7&quot; W x 6&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>12 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Pressure chamber</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 4&quot; woofers, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>75 Hz to 20 kHz, ±4 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>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>70 watts (16.5 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Log line loading to minimize environmentally caused acoustic problems from small rooms; linear phase response; black or brushed aluminum finish</td>
</tr>
</tbody>
</table>

#### Beovox Phase-Link P-30

<table>
<thead>
<tr>
<th>Price</th>
<th>$330/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>21.1/4&quot; H x 11 3/4&quot; W x 4 1/4&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>11 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Pressure chamber</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 4&quot; woofers, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>58 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>30 watts (14.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Wall-mounting panel speaker; linear phase response; rosewood finish standard, walnut, or white optional finish</td>
</tr>
</tbody>
</table>

#### Beovox Phase-Link S-40

<table>
<thead>
<tr>
<th>Price</th>
<th>$200/pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>18 1/4&quot; H x 10 1/4&quot; W x 7 1/4&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>13 lbs. 3 oz</td>
</tr>
<tr>
<td>Type</td>
<td>Pressure chamber</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofer, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>49 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>40 watts (16 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Bookshelf or wall mount, linear phase response, rosewood veneer finish</td>
</tr>
</tbody>
</table>

#### Models also available

- Beovox Phase-Link M-75, $880/pr. (including stands). Phase-Link P-
<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>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPR-200</td>
<td>$219.95</td>
<td>32¼H x 11½W x 11¼D</td>
<td>37 lbs</td>
<td>Venturi loaded</td>
<td>8&quot; subwoofer, 1½&quot; compression midrange; piezoelectric tweeter</td>
<td>90 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>5 watts (7 dBW)</td>
<td>75 watts (18.75 dBW)</td>
<td></td>
</tr>
<tr>
<td>B11</td>
<td>$85</td>
<td>18½H x 11W x 9D</td>
<td>19 lbs</td>
<td>Venturi loaded</td>
<td>8&quot; woofer, 2½' dome tweeter</td>
<td>87 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>10 watts (10 dBW)</td>
<td>45 watts (16.5 dBW)</td>
<td>Features: Total Power Radiation, non-critical speaker placement, lossless on all four sides, see-through black grille supplied.</td>
</tr>
<tr>
<td>MA-BB</td>
<td>$125</td>
<td>9H x 6W x 5D</td>
<td>8 lbs</td>
<td>Acoustic suspension</td>
<td>4½&quot; woofer, 2½&quot; piezoelectric tweeter</td>
<td>50 Hz to 22 kHz</td>
<td>2.5 kHz</td>
<td>Impedance: 4 ohms</td>
<td>2 watts (3 dBW)</td>
<td>Max. power: 45 watts (16.5 dBW)</td>
</tr>
<tr>
<td>BML</td>
<td>$879</td>
<td>64H x 26W x 8D</td>
<td>140 lbs</td>
<td>Combination dual-phase coupling</td>
<td>7th order Butterworth</td>
<td>35 Hz to 20 kHz</td>
<td>3 dB re 93 dB</td>
<td>SPL at 1 meter at 1 watt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS-310B Concert Grand</td>
<td>Contemporary cabinet: $1,260; classic cabinet (CS-410CL): $1,350, Moonish cabinet (CS-410M): $1,375</td>
<td>44½H x 26½W x 15¼D</td>
<td>165 lbs</td>
<td>Infinite baffle</td>
<td>Drivers: Two 12&quot; variable density woofers; 6½&quot; aluminum-cone midrange; eight 2&quot; aluminum-cone tweeters</td>
<td>35 Hz to 20 kHz</td>
<td>Crossover: 400 Hz, 2.5 kHz</td>
<td>Impedance: 8 ohms</td>
<td>Min. power: 16 watts (11.75 dBW)</td>
<td>Max. power: 100 watts (20 dBW)</td>
</tr>
<tr>
<td>BOZAK</td>
<td>$450</td>
<td>32H x 194W x 16D</td>
<td>95 lbs</td>
<td>Infinite baffle</td>
<td>Drivers: Two 12&quot; variable density woofers; 6½&quot; aluminum-cone midrange; three 2&quot; aluminum-cone tweeters</td>
<td>Response: 35 Hz to 20 kHz</td>
<td>Crossover: 200 Hz, 2.5 kHz</td>
<td>Impedance: 8 ohms</td>
<td>Min. power: 100 watts (17.75 dBW)</td>
<td>Max. power: 100 watts (20 dBW)</td>
</tr>
<tr>
<td>BOSTON ACOUSTICS</td>
<td>$559.95</td>
<td>14H x 9½W x 7D</td>
<td>14 lbs</td>
<td>Ported</td>
<td>Drivers: 6½&quot; woofer, 2½&quot; tweeter</td>
<td>Response: 22 kHz</td>
<td>Crossover: 8 ohms</td>
<td>Impedance: 4 ohms</td>
<td>Min. power: 10 watts (10 dBW)</td>
<td>Max. power: 60 watts (17.75 dBW)</td>
</tr>
<tr>
<td>B-1002 Bard</td>
<td>$159</td>
<td>21H x 12W x 18 diameter</td>
<td>25 lbs</td>
<td>Infinite baffle</td>
<td>Drivers: 8&quot; aluminum-cone bass/midrange; 2&quot; aluminum-cone tweeter</td>
<td>Response: 50 Hz to 20 kHz</td>
<td>Crossover: 1.8 kHz</td>
<td>Impedance: 8 ohms (nominal)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BOSTON ACOUSTICS**

Boston ACOUSTICS, Inc.
130 Condor St.
E. Boston, Mass. 02128
**Models also available**  

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

<table>
<thead>
<tr>
<th>LW-1 Subwoofer</th>
<th>Price</th>
<th>$700</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>L-1030</strong></td>
<td><strong>Price</strong></td>
<td>$958/pr.</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>12 1/4H x 27 1/4W x 10 1/4D</td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>42 lbs. ea.</td>
<td></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Acoustic suspension</td>
<td></td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>10&quot; high-compliance, long-throw woofer; 2&quot; mid-hemispherical dome; ¼&quot; hemispherical wide-dispersion dome tweeter</td>
<td></td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>20 Hz to 25 kHz</td>
<td></td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>500 Hz, 3 kHz</td>
<td></td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
<td></td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>25 watts (14 dBW)</td>
<td></td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>100/140 watts (20/21.5 dBW)</td>
<td></td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Genuine walnut veneer with black aluminum grille curved corners on cabinet, highly sophisticated, computer-designed crossover, winner of 1978 CES Design and Engineering Award</td>
<td></td>
</tr>
</tbody>
</table>

| SM-1004 | **Price** | $379 |
| SM-1003 | **Price** | $339 |
| SM-1002 | **Price** | $578/pr. |

**Output C**  
| **Price** | $249/pr. |
| **Dimensions** | 6 3/4H x 4 1/2W x 4 1/4D |
| **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 3/10H x 17 3/10W x 22 2/5D |
| **Weight** | 97 lbs. |

| **Type** | Acoustic suspension |
| **Drivers** | Bass, midrange, tweeter |
| **Response** | 45 Hz to 20 kHz, ± 2 dB re 85 dB SPL at 1 meter at 1 watt |
| **Min. power** | 50 watts (17 dBW) |
| **Controls** | Mid for 1 to 3 kHz, high for over 3 kHz |
| **Features** | Electron overload protect circuit |

| **DM-7** | **Price** | $635 |
| **Dimensions** | 35 7/16H x 10 11/16W x 15D |
| **Weight** | 64 lbs. |
| **Type** | Passive radiator |
| **Drivers** | Woofer/tweeter; supertweeter (2) |
| **Response** | 30 Hz to 25 kHz, ± 2 dB re 40 dB at 2 meters |
| **Crossover** | 3 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 50 watts (17 dBW) |
| **Max. power** | 200 watts (23 dBW) continuous |
| **Controls** | Bass, midrange, tweeter |
| **Features** | Linear-phase stepped positioning of drivers; third-order Butterworth high- and low-pass characteristics in crossover |

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

| **3800** | **Price** | $499.50 |
| **Dimensions** | 42 3/4H x 23 3/4W x 12 1/4D |
| **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** | 8 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** | 13 1/4H x 25 3/4W x 15 1/4D |
| **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** | 13 1/4H 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 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 10 watts (10 dBW) |
| **Max. power** | 50 watts (17 dBW) |

| **CELESTION** | **Price** | $189.50; $249.50; $289.50; $319.50 |
| **Dimensions** | 11W x 7H x 2D |
| **Weight** | 2.5 lbs. |
| **Type** | Acoustic suspension |
| **Drivers** | 2" long-throw woofer; 1" dome tweeter |
| **Response** | 45 Hz to 20 kHz, +2 dB re 85 dB |
| **Crossover** | 1 kHz |
| **Impedance** | 8 ohms |
| **Min. power** | 10 watts (10 dBW) |
| **Max. power** | 50 watts (17 dBW) |
| **Features** | Alum. clad plywood, roll-over casters, 30 lbs. |

| **Diton 662** | **Price** | $749.50 |
| **Dimensions** | 41 3/4H x 15 1/2W 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** | Forever tweeter; mirror imaging |

| **Diton 442** | **Price** | $449.50 |
| **Dimensions** | 30 3/4H x 15 7/8W x 11 7/16D |
| **Weight** | 52 lbs. 13 oz. |
| **Type** | Acoustic suspension |

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**High Fidelity's Buying Guide to Speaker Systems**
<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Weight</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL-100</td>
<td>$259.95/pr.</td>
<td>25&quot; x 15 1/2&quot; x 12 1/2&quot;</td>
<td>80 lbs. 8 oz./pr.</td>
<td>Bass reflex</td>
<td>12&quot; woofer, 4&quot; midrange, 2 1/2&quot; tweeter</td>
<td>40 Hz to 20 kHz re 92 dB SPL at 1 meter at 1 watt</td>
<td>30 Hz to 20 kHz re 92 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>70 watts (8.5 dBW)</td>
<td>40 Hz to 20 kHz re 92 dB SPL at 1 meter at 1 watt</td>
<td>60 Hz to 20 kHz re 90 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>Removable, acoustically transparent grille; walnut cabinet</td>
</tr>
<tr>
<td>MCL-3</td>
<td>$219.95/pr.</td>
<td>15H x 8 1/2&quot; x 8 1/4&quot;</td>
<td>28 lb. 10 oz./pr.</td>
<td>Bass reflex</td>
<td>6 1/2&quot; woofer, 1&quot; dome tweeter</td>
<td>60 Hz to 20 kHz re 90 dB SPL at 1 meter at 1 watt</td>
<td>50 Hz to 20 kHz re 90 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>60 watts (17 dBW)</td>
<td>60 Hz to 20 kHz re 90 dB SPL at 1 meter at 1 watt</td>
<td>60 Hz to 20 kHz re 90 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>Mini-sized, rosewood grained cabinet</td>
</tr>
<tr>
<td>18SW</td>
<td>$600</td>
<td>18&quot; stroker bass driver</td>
<td>25 Hz to 250 Hz, ±4 dB re 100 dB SPL at 1 meter at 1 watt</td>
<td>5 watts (7 dBW)</td>
<td>300 watts (24.75 dBW)</td>
<td>8 ohms</td>
<td>Subwoofer with high output</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12TR</td>
<td>$470</td>
<td>12 1/2&quot; woofer, 6 1/2&quot; cone midrange, rear reflecting horn tweeter</td>
<td>28 Hz to 20 kHz, ±4 dB re 102 dB at 1 meter at 1 watt</td>
<td>5 watts (7 dBW)</td>
<td>100 watts (20 dBW) continuous</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td></td>
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</tr>
<tr>
<td>Century 700</td>
<td>$599</td>
<td>25 1/4&quot;H x 20W x 17 1/4&quot;D</td>
<td>55 lbs.</td>
<td>Ducted tuned port, bass reflex</td>
<td>15&quot; bass driver, 4 1/4&quot; frame cone driver; 2 3/4&quot; phenolic ring tweeter</td>
<td>20 Hz to 20 kHz</td>
<td>900 Hz; 4 kHz; 6 kHz</td>
<td>8 ohms</td>
<td>10 watts (10 dBW)</td>
<td>80 watts (19 dBW)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Century 470</td>
<td>$179.95/pr.</td>
<td>1234 x 15&quot;H x 10&quot;W</td>
<td>29 lbs.</td>
<td>Ducted tuned port, bass reflex</td>
<td>12&quot; woofer, 4&quot; midrange, 2 3/4&quot; tweeter</td>
<td>25 kHz to 20 kHz</td>
<td>1 kHz; 3 1/2 kHz</td>
<td>8 ohms</td>
<td>10 watts (10 dBW)</td>
<td>40 watts (16 dBW)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Century 370</td>
<td>$199.95</td>
<td>234 x 14&quot;W x 10&quot;D</td>
<td>29 lbs.</td>
<td>Ducted tuned port, bass reflex</td>
<td>10&quot; bass driver, 4 1/4&quot; frame cone driver, 3 1/2&quot; phenolic ring tweeter</td>
<td>25 kHz to 20 kHz</td>
<td>1 kHz; 3 1/2 kHz</td>
<td>8 ohms</td>
<td>10 watts (10 dBW)</td>
<td>40 watts (16 dBW)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cerwin-Vega 12250 Montague St. Arleta, Calif. 91331</td>
<td>40 Hz to 20 kHz</td>
<td>250 Hz to 20 kHz, ±4 dB re 97 dB SPL at 1 meter at 1 watt</td>
<td>400 Hz to 20 kHz, ±4 dB re 97 dB SPL at 1 meter at 1 watt</td>
<td>4 ohms</td>
<td>100 watts (20 dBW)</td>
<td>8 ohms</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Models also available</td>
<td>Century 470, $229.95</td>
<td>100 watts (20 dBW)</td>
<td>8 ohms</td>
<td>Sesame, walnut veneer finish</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Note:** All models include subwoofers with high output for enhanced bass reproduction. Circuit breaker protection is standard on all models to ensure safe operation.
### Reference Monitor

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Response</th>
<th>Drivers</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-450 (Passive)</td>
<td></td>
<td>600 watts (21.75 dBW)</td>
<td>8 ohms</td>
<td>2 kHz to 20 kHz, ±10 dB</td>
<td>10&quot; cast woofer; Heil air-motion transformer, midrange/tweeter</td>
<td>$79.95</td>
<td></td>
</tr>
</tbody>
</table>

### Chartwell

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Response</th>
<th>Drivers</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW-1 Sound Window</td>
<td></td>
<td>70 watts (18.5 dBW)</td>
<td>8 ohms</td>
<td>1.5 kHz to 10 kHz, ±5 dB</td>
<td>6V2&quot; woofer; 1&quot; soft-dome tweeter</td>
<td>$219</td>
<td></td>
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</table>

### Custom Craft

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Response</th>
<th>Drivers</th>
<th>Dimensions</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>Dimension Lab Series</td>
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### Cross Dyer

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<tr>
<th>Model</th>
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<th>Max. power</th>
<th>Impedance</th>
<th>Response</th>
<th>Drivers</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIZEK</td>
<td></td>
<td>5 watts (7 dBW)</td>
<td>4 ohms</td>
<td>1.5 kHz to 10 kHz, ±5 dB</td>
<td>6V2&quot; woofer; 1&quot; soft-dome tweeter</td>
<td>$199</td>
<td></td>
</tr>
</tbody>
</table>

### Custom Craft

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Response</th>
<th>Drivers</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteron 2002A</td>
<td></td>
<td>10 watts (10 dBW)</td>
<td>4 ohms</td>
<td>1.5 kHz to 10 kHz, ±5 dB</td>
<td>6V2&quot; woofer; 1&quot; soft-dome tweeter</td>
<td>$199</td>
<td></td>
</tr>
</tbody>
</table>

### Dayton Audio

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Response</th>
<th>Drivers</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR-8</td>
<td></td>
<td>70 watts (18.5 dBW)</td>
<td>8 ohms</td>
<td>1.5 kHz to 10 kHz, ±5 dB</td>
<td>6V2&quot; woofer; 1&quot; soft-dome tweeter</td>
<td>$79.95</td>
<td></td>
</tr>
</tbody>
</table>

### Carlsbad, Calif. 92008

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Response</th>
<th>Drivers</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom Craft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Models also available
MK-6I, $149; MK-II, $110; MK-I, $87

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

DQ-10
Price $435
Dimensions 31 1/2 x 30 1/2 x 9 1/2
Weight 50 lbs.
Type Acoustic suspension
Drivers 10" woofer; 5" midwoofer; 2" dome midrange; 1/4" dome tweeter; piezoelectric super tweeter
Response 37 Hz to 27 kHz
Crossover 400 Hz; 1 kHz; 6 kHz; 12.5 kHz
Impedance 8 ohms
Min. power 60 watts (17.75 dBW)
Max. power 200 watts (23 dBW) with protective fuses
Controls Continuously variable tweeter control for boost or cut
Features Patented solutions to problems of inertial time delay and baffle edge diffraction

DQ-1W Low Bass Module
Price $275
Dimensions 26 x 18 1/2 x 14 1/2 x 5
Weight 60 lbs.
Type Acoustic suspension
Drivers 13" woofer in heavy cast frame
Response 20 to 100 Hz
Crossover Depends upon main system to which it is crossed over (external crossover required)
Impedance 8 ohms
Min. power 60 watts (17.75 dBW)
Max. power 200 watts (23 dBW) with protective fuse
Controls None
Features Unit typically adds on octave of accurate low bass response to speaker systems; available with black or white grille cloth

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

XG-10
Price $3,399
Dimensions 42 1/2 x 39 x 9 1/2
Weight 100 lbs.
Type Electrostatic
Drivers Ten electrostatic full-range cells
Response 40 Hz to 35 kHz; +4 dB re 82 dB SPL at 1 meter at 1 watt
Crossover 10 kHz
Impedance 2.5 ohms to 200 ohms
Min. power 75 watts (16.75 dBW)
Max. power 100 to 600 watts (20 to 27.5 dBW) continuous, varies with frequency

DECCA
Rocelco, Inc.
1669 Flint Road
Downsview, Ont. M3J 2J7

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

Models also available
London Ribbon Tweeter, $199.50

D-12A
Price $750 (walnut)
Dimensions 26 x 22 x 22 (spherical)
Weight 70 lbs.
Type Ventilated; acoustic suspension
Drivers Two 8" woofers; 1 1/2" dome midrange; two 5" cone midranges; two 1" dome tweeters; three 1 1/2" cone tweeters
Response 30 Hz to 18 kHz; +2 dB
Crossover 650 Hz; 2 kHz
Impedance 4 ohms
Min. power 25 watts (14 DBW)
Max. power 200 watts (23 DBW)
Controls Woofer; midrange; tweeter; dispersion control for 180 degrees or 360 degrees
Features Omnidirectional speaker with choice of 180- or 360-degree radiation

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

ESL-203
Price $875
Dimensions 39H x 10W x 8D
Weight 50 lbs.
Type Electrostatic/dynamic hybrid
Drivers Five electrostatics elements in vertical line source, 1 1/2" dome midrange; 8" acoustic suspension bextrene woofer
Response 30 Hz to 35 kHz; +2 dB re 88 dB SPL at 1 meter at 1 watt
Crossover 800 Hz; 3 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 DBW)
Max. power 150 watts (21.75 DBW)

180 "The Voice"
Price $220
Dimensions 21 1/2 x 13 1/2 x 3D
Weight 32 lbs.
Type Dynamic/electrostatic
Drivers 8" woofer, 5 electrostatic elements
Response 32 Hz to 32 kHz; +2.1 dB re 88 dB SPL at 1 meter at 1 watt
Crossover 1 kHz
Impedance 6 ohms
Min. power 15 watts (11.75 DBW)
Max. power Unlimted
Features Electrostatic hybrid

ST
Price $140
Dimensions 10H x 15W x 4D
Weight 20 lbs.
Type Tweeter array
Drivers 8 electrostatic tweeters
Response 3.5 kHz to 35 kHz; +1 dB
Crossover 4.5 kHz
Impedance 8 ohms
Min. power 15 watts (11.75 DBW)
Max. power Unlimted

Models also available
ESL-202, $350; ESL-110, $275

DESIGN ACOUSTICS
Design Acoustics, Inc.
2426 Amssler St.
Torrance, Calif. 90505

D-4 A
Price $345
Dimensions 38 x 16 1/2 x 11D
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 DBW)
Max. power 125 watts (21 DBW)
Controls Woofer; tweeter
Features Drivers arranged on trapezoid for wide dispersion; conventional appearance

D-3
Price $240
Dimensions 25H x 12W x 11 1/2D
Weight 40 lbs.
Type Ventilated, 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 DBW)
Max. power 100 watts (20 DBW)
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 11W x 8D
Weight 12 lbs.
Type Ventilated, 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 DBW)
Max. power 30 watts (14.75 DBW)
Features Same as D-1W

Models also available
D-8, $590; D-6, $390 (base included); D-2, $220; D-1W, $135
<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Min. Power</th>
<th>Max. Power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DFS</strong></td>
<td>$350</td>
<td>37 1/4&quot; x 14 1/4&quot; W x 12 1/4&quot; D</td>
<td>60 lbs</td>
<td>Vented</td>
<td>8 ohms</td>
<td>10 watts</td>
<td>90 watts</td>
<td>Self-resetting circuit breaker</td>
</tr>
<tr>
<td><strong>J-1</strong></td>
<td>$136</td>
<td>20&quot; x 12 1/4&quot; W x 10&quot; D</td>
<td>35 lbs</td>
<td>Acoustic Suspension</td>
<td>2 1/2' tweeter</td>
<td>15 watts</td>
<td>40 watts</td>
<td>Walnut cabinet</td>
</tr>
<tr>
<td><strong>J-2</strong></td>
<td>$160</td>
<td>24 1/4&quot; x 13 1/4&quot; W x 12 D</td>
<td>40 lbs</td>
<td>Acoustic Suspension</td>
<td>2 1/2' tweeter</td>
<td>40 watts</td>
<td>90 watts</td>
<td>Walnut cabinet</td>
</tr>
<tr>
<td><strong>T-5</strong></td>
<td>$325</td>
<td>T-5</td>
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</tr>
<tr>
<td><strong>A-150</strong></td>
<td>$150</td>
<td>22H x 12 3/4&quot; W x 12 1/4&quot; D</td>
<td>36 lbs</td>
<td>Acoustic Suspension</td>
<td>10&quot; rubber-edge cone woofer</td>
<td>50 Hz to 20 kHz, ±3 dB re 89 dB</td>
<td>2 kHz</td>
<td>Tweeter overload protection</td>
</tr>
<tr>
<td><strong>A-350</strong></td>
<td>$390</td>
<td>43H x 14 1/2&quot; W x 14 1/2&quot; D</td>
<td>68 lbs</td>
<td>Passive</td>
<td>8 ohms</td>
<td>20 watts</td>
<td>250 watts</td>
<td>Tapered cone woofer</td>
</tr>
<tr>
<td><strong>ETR-412</strong></td>
<td>$279</td>
<td>26H x 14 1/2&quot; W x 11 1/4&quot; D</td>
<td>40 lbs</td>
<td>Passive</td>
<td>8 ohms</td>
<td>15 watts</td>
<td>190 watts</td>
<td>Rear-mounted passive radiator, self-resetting circuit breaker</td>
</tr>
<tr>
<td><strong>ETR-280</strong></td>
<td>$129</td>
<td>T-5</td>
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</table>

**Power Panel Series**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Min. Power</th>
<th>Max. Power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Panel Ten</strong></td>
<td>$450</td>
<td>38H x 22W x 9D</td>
<td>85 lbs</td>
<td>Passive</td>
<td>8 ohms</td>
<td>25 watts</td>
<td>350 watts</td>
<td>Tapered cone woofer</td>
</tr>
</tbody>
</table>

**Models also available**

<table>
<thead>
<tr>
<th>Models</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Min. Power</th>
<th>Max. Power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-4</td>
<td>$290</td>
<td>J-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rear-mounted passive radiator</td>
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<tr>
<td>J-3</td>
<td>$235</td>
<td>J-4</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Rear-mounted passive radiator</td>
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</table>

**Electro-Voice**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Min. Power</th>
<th>Max. Power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sentry III, Series II</strong></td>
<td>$990 (optional SEQ equalizer, $95.50)</td>
<td>28 1/4&quot; x 34 1/4&quot; W x 20 1/2&quot; D</td>
<td>156 lbs</td>
<td>Vented</td>
<td>8 ohms</td>
<td>10 watts</td>
<td>300 watts</td>
<td>Tapered cone woofer</td>
</tr>
<tr>
<td><strong>Sentry V</strong></td>
<td>$325 (optional SEQ equalizer, $95.50)</td>
<td>28 1/4&quot; x 20 1/2&quot; W x 11 1/4&quot; D</td>
<td>52 lbs</td>
<td>Vented</td>
<td>6 ohms</td>
<td>2 watt</td>
<td>30 watts</td>
<td>Tapered cone woofer</td>
</tr>
</tbody>
</table>

**DYNACO**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Min. Power</th>
<th>Max. Power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DYNAUDIO</strong></td>
<td>$390</td>
<td>38H x 22W x 9D</td>
<td>85 lbs</td>
<td>Passive</td>
<td>8 ohms</td>
<td>25 watts</td>
<td>350 watts</td>
<td>Tapered cone woofer</td>
</tr>
<tr>
<td><strong>DYNAUDIO</strong></td>
<td>$390</td>
<td>38H x 22W x 9D</td>
<td>85 lbs</td>
<td>Passive</td>
<td>8 ohms</td>
<td>25 watts</td>
<td>350 watts</td>
<td>Tapered cone woofer</td>
</tr>
</tbody>
</table>

**Interface: C, Series II**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Min. Power</th>
<th>Max. Power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interface: B, Series II</strong></td>
<td>$995/br. (includes equalizer)</td>
<td>31&quot;H x 20W x 11 1/2&quot; D</td>
<td>60 lbs</td>
<td>Vented</td>
<td>6 ohms</td>
<td>2 watt</td>
<td>30 watts</td>
<td>Tapered cone woofer</td>
</tr>
</tbody>
</table>

**Interface: 2, Series II**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Min. Power</th>
<th>Max. Power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interface: 2, Series II</strong></td>
<td>$150</td>
<td>24 1/4&quot; x 13 1/4&quot; W x 10 1/16&quot; D</td>
<td>33 lbs</td>
<td>Vented</td>
<td>8 ohms</td>
<td>3.6 watts</td>
<td>250 watts</td>
<td>Tapered cone woofer</td>
</tr>
</tbody>
</table>

## Additional Information

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

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

- **Dyneco, Inc.**
  P.O. Box 612
  Needham, Mass. 02195

- **Dynaco**
  P.O. Box 41
  2105 S.W. Parkway
  Portland, Ore. 97204
<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>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPICURE</td>
<td>$125</td>
<td>24H x 13½W x 9D</td>
<td>33 lbs</td>
<td>Acoustic suspension</td>
<td>1” tweeter; 8” woofer</td>
<td>32 Hz</td>
<td>475 Hz</td>
<td>4 ohms</td>
<td>20 watts</td>
<td>100 watts</td>
<td>“Passive Piston” bass radiator; Three-position tweeter control on front panel</td>
</tr>
<tr>
<td>Ten: V</td>
<td>$125</td>
<td>22H x 12W x 9¾D</td>
<td>33 lbs</td>
<td>Acoustic suspension</td>
<td>1” tweeter; 8” woofer</td>
<td>42 Hz</td>
<td>20 kHz</td>
<td>4 ohms</td>
<td>20 watts</td>
<td>100 watts</td>
<td>“Passive Piston” bass radiator; Three-position tweeter control on front panel</td>
</tr>
<tr>
<td>AMT 1B Monitor</td>
<td>$650</td>
<td>39½H x 15¾W x 15¾D</td>
<td>103 lbs</td>
<td>Passive radiator</td>
<td>12” woofer; Heil air-motion transformer midrange/tweeter</td>
<td>40 Hz</td>
<td>20 kHz</td>
<td>4 ohms</td>
<td>20 watts</td>
<td>100 watts</td>
<td>Acoustic suspension; Heil square-wave rise time: 15 microseconds at 5 kHz, oiled-walnut cabinet</td>
</tr>
<tr>
<td>AMT 1B Bookshelf</td>
<td>$456</td>
<td>24H x 14W x 14D</td>
<td>65 lbs</td>
<td>Passive radiator</td>
<td>12” woofer; Heil air-motion transformer midrange/tweeter</td>
<td>40 Hz</td>
<td>20 kHz</td>
<td>4 ohms</td>
<td>20 watts</td>
<td>100 watts</td>
<td>Acoustic suspension; Heil square-wave rise time: 15 microseconds at 5 kHz, oiled-walnut cabinet</td>
</tr>
</tbody>
</table>

**Notes:**
- Models also available:
  - Models also available: 400 Plus, $450; Twenty +, $275; Eleven, $155; Five, $90; 120 C, $159; 70 C, $79
  - Ten: V
  - AMT 1B Monitor
  - AMT 1B Bookshelf

**EPI Series**

**M-200 C**
- Price: $275
- Dimensions: 32H x 17W x 11D
- Weight: 60 lbs
- Type: "Passive Piston" bass radiator
- Drivers: 8” high-efficiency woofer; 1” air-spring tweeter, 12” air-spring tweeter
- Response: 36 Hz to 20 kHz, ±3 dB
- Crossover: 1 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

**Heil Series**

**AMT 1B Monitor**
- Price: $650
- Dimensions: 39½H x 15¾W x 15¾D
- Weight: 103 lbs. 8 oz.
- Type: Passive radiator
- Drivers: 12” woofer; Heil air-motion transformer midrange/tweeter
- Response: 40 Hz to 23 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: 24H x 14W x 14D
- Weight: 65 lbs.
- Type: Passive radiator
- Drivers: 12” woofer; Heil air-motion transformer midrange/tweeter
- Response: 40 Hz to 23 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

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookshelf-1</td>
<td>50 lbs.</td>
<td>20 1/4x14 W x 14 D</td>
<td>$310</td>
</tr>
</tbody>
</table>

- **Features**: Genuine walnut veneer; Heil square-wave rise time: 15 microseconds at 5 kHz

**Controls**
- Max. power: 150 watts (11.75 dBW)
- Min. power: 15 watts (11.75 dBW)
- Impedance: 6 ohms
- Crossover: 2 kHz

**Drivers**
- 10" cone woofer, Heil air-motion transformer midrange/tweeter
- Double daphrams; self-energizing bias

**Response**
- 200 Hz; 1.2 kHz

**Price**
- $310

#### Bass Console 2

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bass Console 2</td>
<td>52 lbs.</td>
<td>24H x 14W x 14 D</td>
<td>$299</td>
</tr>
</tbody>
</table>

- **Features**: Genuine walnut veneer

**Controls**
- Max. power: 120 watts (16.5 dBW)
- Min. power: 25 watts (14 dBW)
- Impedance: 8 ohms
- Crossover: 200 Hz; 1.2 kHz

**Drivers**
- 8" cone woofer
- 3" tweeter

**Response**
- 200 Hz; 1.2 kHz

**Price**
- $299

### PERFORMANCE SERIES

#### PS-4A

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS-4A</td>
<td>48 lbs.</td>
<td>36H x 12 1/2 W x 12</td>
<td>$370</td>
</tr>
</tbody>
</table>

- **Features**: Walnut-grain vinyl; pedestal model; AMT square-wave rise time: 12 microseconds at 5 kHz

**Controls**
- Max. power: 130 watts (21.25 dBW)
- Min. power: 25 watts (14 dBW)
- Impedance: 8 ohms
- Crossover: 1 Hz; 5 kHz

**Drivers**
- 8" cone woofer, Heil air-motion transformer midrange/tweeter
- 1.5 kHz; 5 kHz

**Response**
- 58 Hz to 20 kHz, ±10 dB re 92 dB

**Price**
- $370

#### ST-461

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST-461</td>
<td>14 lbs.</td>
<td>27 1/2H x 17 1/2 W x 13 1/2D</td>
<td>$499.95</td>
</tr>
</tbody>
</table>

- **Features**: Treble, midrange

**Controls**
- Max. power: 75 watts (18.75 dBW)
- Min. power: 4 watts (6 dBW)
- Impedance: 8 ohms
- Crossover: 6 kHz

**Drivers**
- 12" woofer, 5" midrange, 3" tweeter

**Response**
- 6 kHz to 14 kHz, ±10 dB

**Price**
- $499.95

### FISHER

#### Fisher Corp.

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST-440</td>
<td>25 1/2H x 16W x 12 1/4D</td>
<td>$259.95</td>
<td></td>
</tr>
<tr>
<td>ST-450</td>
<td>25 1/2H x 16W x 12 1/4D</td>
<td>$259.95</td>
<td></td>
</tr>
<tr>
<td>ST-460</td>
<td>25 1/2H x 16W x 12 1/4D</td>
<td>$259.95</td>
<td></td>
</tr>
</tbody>
</table>

- **Features**: Circuit breaker

**Drivers**
- 12" woofer, 5" midrange, 3" tweeter
- 70 Hz to 20 kHz, ±10 dB re 90 dB

**Response**
- 5 kHz to 20 kHz, ±10 dB

**Price**
- $149.95

#### XP-335

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>XP-325</td>
<td>25 1/2H x 16W x 11 1/4D</td>
<td>$180</td>
<td></td>
</tr>
</tbody>
</table>

- **Features**: Circuit breaker

**Drivers**
- 12" woofer, 5" midrange, 3" tweeter
- 70 Hz to 10 kHz, ±10 dB re 90 dB

**Response**
- 5 kHz to 20 kHz, ±10 dB

**Price**
- $180

### MS-125A

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-125A</td>
<td>25 1/2H x 13W x 9 1/4D</td>
<td>$260</td>
<td></td>
</tr>
</tbody>
</table>

- **Features**: Circuit breaker

**Drivers**
- 12" woofer, 5" midrange, 3" tweeter
- 70 Hz to 14 kHz, ±10 dB re 90 dB

**Response**
- 6 kHz to 20 kHz, ±10 dB

**Price**
- $260

### Models also available

- AMT-1B, $507; Classic, $410; Bookshelf-2, $246; PS-5A, $270; PS-9A, $175
- FISHER, $310, $349; 300, $199
- XP-325, $140
- XP-335, $180
- MS-125A, $260
- Models also available: ST-460, $398.95; ST-450, $329.95; ST-441, $279.95; ST-430, $219.95; XP-330, $160; MS-145, $140; MS-135A, $100; MS-115A, $80

### ESTranslator

#### BTM Manufacturing Co.

**Bass Console 1**

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Type</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bass Console 1</td>
<td>$499</td>
<td>Electrostatic bipolar</td>
<td>47 lbs.</td>
</tr>
</tbody>
</table>

**Features**: Genuine walnut veneer; Heil square-wave rise time: 15 microseconds at 5 kHz

**Controls**
- Max. power: 35 watts (15.5 dBW)
- Impedance: 8 ohms
- Impedance: 8 ohms

**Drivers**
- 10" cone woofer, Heil air-motion transformer midrange/tweeter
- 2 kHz

**Response**
- 200 Hz to 20 kHz, ±10 dB re 91 dB

**Price**
- $499
### Frankmann Reference Standard Monitor

<table>
<thead>
<tr>
<th>Price</th>
<th>$895</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>42H x 10W x 9D</td>
</tr>
<tr>
<td>Weight</td>
<td>105 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Infinite baffle</td>
</tr>
<tr>
<td>Drivers</td>
<td>Four 12&quot; woofers (bass module C), two 6&quot; midrange drivers per panel; one diffraction horn tweeter and cone tweeter per panel</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 22 kHz, ±4 dB re 96 dB at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>200 Hz; 5 kHz; 10 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>1 watt (0 dBW) continuous</td>
</tr>
<tr>
<td>Max. power</td>
<td>30 watts (14.75 dBW) continuous</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter attenuator</td>
</tr>
<tr>
<td>Features</td>
<td>Three-unit system of one bass module and two mid-tweeter panels</td>
</tr>
</tbody>
</table>

### Frankmann Co. Module

<table>
<thead>
<tr>
<th>Price</th>
<th>$600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>30H x 50W x 24D</td>
</tr>
<tr>
<td>Weight</td>
<td>130 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Infinite baffle</td>
</tr>
<tr>
<td>Drivers</td>
<td>Eight 12&quot; woofers</td>
</tr>
<tr>
<td>Response</td>
<td>16 Hz to 22 kHz, ±4 dB re 96 dB at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>200 Hz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Common bass module; available in custom cabinetry</td>
</tr>
</tbody>
</table>

### Models also available

Frankmann B/4, $550/pr.; Frankmann C, Module, $500

### FRAZIER

Frazier, Inc.

1930 Valley View Lane

Dallas, Texas 75234

### Eleven

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,440</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>55H x 30W x 18D</td>
</tr>
<tr>
<td>Weight</td>
<td>260 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Modified Helmholz tuned slot</td>
</tr>
<tr>
<td>Drivers</td>
<td>15&quot; woofers, 12&quot; woofers, four 4&quot; midranges, 2 piezoelectric tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>16 Hz to 25 kHz, ±5 dB re 107 dB at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>400 Hz; 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>1 watt (0 dBW) continuous</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW) continuous</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter, midrange</td>
</tr>
<tr>
<td>Features</td>
<td>Reproduces the lowest organ notes</td>
</tr>
</tbody>
</table>

### Frazier’s “Thing”

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,074</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>50H x 24W x 18D</td>
</tr>
<tr>
<td>Weight</td>
<td>175 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Modified Helmholz tuned slot</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofers, 10&quot; woofers, 13¾&quot; x 4½&quot; x 4½&quot; midrange horn; 2 piezoelectric tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 25 kHz, ±5 dB re 99 dB at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz; 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>1 watt (0 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>80 watts (19 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>High-frequency piezoelectrics stacked for column effect, large tower</td>
</tr>
</tbody>
</table>

### Super Montecarlo

<table>
<thead>
<tr>
<th>Price</th>
<th>$132</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>19H x 10½W x 12D</td>
</tr>
<tr>
<td>Weight</td>
<td>31 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Modified Helmholz tuned slot</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofers, direct-coupled piezoelectric tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>50 Hz to 25 kHz, ±5 dB re 93 dB at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>1 watt (0 dBW) continuous</td>
</tr>
<tr>
<td>Max. power</td>
<td>30 watts (15 dBW) continuous</td>
</tr>
<tr>
<td>Controls</td>
<td>None</td>
</tr>
<tr>
<td>Features</td>
<td>Two-way system with no crossover</td>
</tr>
</tbody>
</table>

### Super Midget

<table>
<thead>
<tr>
<th>Price</th>
<th>$60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>15¼H x 6¼W x 9¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>13 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Modified Helmholz tuned slot</td>
</tr>
<tr>
<td>Drivers</td>
<td>4&quot; driver</td>
</tr>
<tr>
<td>Response</td>
<td>50 Hz to 12 kHz, ±5 dB re 89 dB at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>None</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Max. power</td>
<td>10 watts (0 dBW) continuous</td>
</tr>
<tr>
<td>Controls</td>
<td>None</td>
</tr>
<tr>
<td>Features</td>
<td>May be used with car tape players</td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>Price</th>
<th>$5,000 (assembled); $1,200 (kit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>56H x 35W x 12D</td>
</tr>
<tr>
<td>Weight</td>
<td>164 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic, transmission line</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; high-flux plastic, 6&quot; high-flux midrange, 1&quot; high-flux Melinex tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 20 kHz, ±2 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>85 Hz; 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>Controls</td>
<td>None</td>
</tr>
<tr>
<td>Features</td>
<td>Cable system in floor speaker; separated by SWM available separately</td>
</tr>
</tbody>
</table>

### Model T subwoofer

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,500 (assembled); $500 (kit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>21H x 44W x 24D</td>
</tr>
<tr>
<td>Weight</td>
<td>175 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Dual transmission lines</td>
</tr>
</tbody>
</table>

### Models also available

DIY, $2,100 (assembled); $900 (kit); M/2, $950; R/L, $550; Model W, $350; Model A, $190

### O Subwoofer

<table>
<thead>
<tr>
<th>Price</th>
<th>$600 (assembled); $500 (kit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>30H x 24½W x 14D</td>
</tr>
<tr>
<td>Weight</td>
<td>66 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; high-flux plastic</td>
</tr>
<tr>
<td>Response</td>
<td>20 Hz to 600 Hz, ±2.5 dB re 90 dB at 1 meter at 1 watt</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>400 watts (26 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Two inputs, for use with either models B/2 or C</td>
</tr>
</tbody>
</table>

### B/2

<table>
<thead>
<tr>
<th>Price</th>
<th>$300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>12H x 8W x 7D</td>
</tr>
<tr>
<td>Weight</td>
<td>15 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Drivers</td>
<td>5&quot; woofers, 1&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>60 Hz to 22 kHz, ±21 dB re 90 dB at 1 meter at 1 watt</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>25 watts (14 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>300 watts (24.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Tilt-back stand recommended; available either by itself, or as top of Super Monitor</td>
</tr>
</tbody>
</table>

### Q Speaker

<table>
<thead>
<tr>
<th>Price</th>
<th>$140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>19¼H x 11¼W x 9¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>21 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofer, ½&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz, ±2.5 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>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>None</td>
</tr>
<tr>
<td>Features</td>
<td>Impulse-perspective control</td>
</tr>
</tbody>
</table>

### Models also available

H/2, M/2; R/L, $550; Model W, $350; Model A, $190

### FULTON

Fulton Electronics

4204 Brunswick Ave. N.

Minneapolis, Minn. 55422

1980 Edition
**Premiere**

<table>
<thead>
<tr>
<th>Price</th>
<th>$4,405/or</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>60H x 25W x 22D</td>
</tr>
<tr>
<td>Weight</td>
<td>300 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Drivers</td>
<td>12” woofer, 1” midwoofer, 10” upper woofer, 8” midrange, three special tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>13 Hz to 81 kHz, ±1 dB re 82 db</td>
</tr>
<tr>
<td>SPL 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>39 Hz, 122 Hz, 425 Hz, 2.4 kHz, 8 kHz, 26 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>500 watts (26 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Woofier, midrange, tweeter</td>
</tr>
</tbody>
</table>

**Nuance**

<table>
<thead>
<tr>
<th>Price</th>
<th>$495</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>34H x 14W x 13D</td>
</tr>
<tr>
<td>Weight</td>
<td>80 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Infinite baffle</td>
</tr>
<tr>
<td>Drivers</td>
<td>10” woofer, 5” midrange, 2 special tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>34 Hz to 42 kHz, ±1.5 dB</td>
</tr>
<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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter, midrange, woofier</td>
</tr>
<tr>
<td>Features</td>
<td>Phase-aligned; genuine American solid and veneer cabinet; glass top; black or brown grille cloth</td>
</tr>
</tbody>
</table>

**GLI Integrated Sound Systems**

<table>
<thead>
<tr>
<th>Price</th>
<th>$725</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>37¼H x 21¼W x 22¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>135 lbs.</td>
</tr>
</tbody>
</table>

**Genesis Physics Corp.**

<table>
<thead>
<tr>
<th>Price</th>
<th>$389</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>37¼H x 14½W x 11½D</td>
</tr>
<tr>
<td>Weight</td>
<td>53 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Passive radiator</td>
</tr>
<tr>
<td>Drivers</td>
<td>8” woofer, 4” midrange, 1” tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>28 Hz to 20 kHz, ±4 dB</td>
</tr>
<tr>
<td>SPL 1 meter at 1 watt</td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz, 3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>6 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>500 watts (27 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange; tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Mounting bases included; magnetic ferrofluid tweeter and midrange; walnut or oak finish</td>
</tr>
</tbody>
</table>

**GOODMANS**

<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” 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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Coil Guard protection circuit; heavy-duty professional construction</td>
</tr>
</tbody>
</table>

**Goodmans Loudspeakers, Ltd.**

<table>
<thead>
<tr>
<th>Price</th>
<th>$995, 1+, $625, The Dwarf FRA-2, $250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>27W 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” bass unit, 10½” auxiliary bass radiator, 1” high-frequency unit</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 23 kHz, ±5 dB re 86 dB</td>
</tr>
<tr>
<td>SPL 1 meter at 1 watt</td>
<td></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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>95 watts (19.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>“Long throw” bass unit; pleated surround woofer, soft-dome tweeter, 12-element crossover using ferrite-cored chokes; fused for protection</td>
</tr>
</tbody>
</table>

**GLI Integrated Sound Systems**

<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” woofers</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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>400 watts (26 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Fuse, system designed purely by ear</td>
</tr>
</tbody>
</table>

**Genesis Physics Corp.**

<table>
<thead>
<tr>
<th>Price</th>
<th>$133 (walnut), $147 (oak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>18H x 10W x 7D</td>
</tr>
<tr>
<td>Weight</td>
<td>19 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>6½” woofer; 1” tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>38 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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Magnetic fluid in tweeter</td>
</tr>
</tbody>
</table>

**Genesis Physics Corp.**

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,900</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>Eight 5½” mid/low drivers with 15” 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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Coil Guard protection circuit; heavy-duty professional construction</td>
</tr>
</tbody>
</table>

**Genesis Physics Corp.**

<table>
<thead>
<tr>
<th>Price</th>
<th>$105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>18¼H x 10W 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” woofer; 1” 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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>75 watts (18.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Magnetic fluid in tweeter</td>
</tr>
</tbody>
</table>

**The Dwarf FRA-1**

<table>
<thead>
<tr>
<th>Price</th>
<th>$725</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>37¼H x 21¼W x 22¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>135 lbs.</td>
</tr>
</tbody>
</table>

**GLI Integrated Sound Systems**

<table>
<thead>
<tr>
<th>Price</th>
<th>$400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>27W 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>Eight 5½” mid/low drivers with 15” passive radiator; four 3½” solid-state tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 23 kHz, ±5 dB re 86 dB</td>
</tr>
<tr>
<td>SPL 1 meter at 1 watt</td>
<td></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 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>95 watts (19.75 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>“Long throw” bass unit; pleated surround woofer, soft-dome tweeter, 12-element crossover using ferrite-cored chokes; fused for protection</td>
</tr>
</tbody>
</table>

**Achromat Sigma**

<table>
<thead>
<tr>
<th>Price</th>
<th>$420</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>28¼H 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” bass unit; 5” midrange driver, 1” high-frequency unit</td>
</tr>
<tr>
<td>Response</td>
<td>60 Hz to 20 kHz, ±5 dB re 95 dB</td>
</tr>
<tr>
<td>SPL 1 meter at 1 watt</td>
<td></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>35 watts (5.5 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>65 watts (18 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>High-power voice coils, 9-element ferrite-cored 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>13¼H x 8½W x 9D</td>
</tr>
<tr>
<td>Weight</td>
<td>18 lbs.</td>
</tr>
</tbody>
</table>
Type | Acoustic suspension
--- | ---
Drivers | 61/4" woofer, 1" tweeter
Response | 65 Hz to 23 kHz, ±5 dB re 85 dB SPL at 1 meter at 1 watt
Crossover | 3 kHz
Impedance | 8 ohms
Min. power | 18 watts (12.5 dBW)
Max. power | 70 watts (18.5 dBW)
Features | Ten-element crossover incorporating ferrite-core chokes to minimize loss of sensitivity; fused for protection

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

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 11/2” dome tweeters; two 1” open-baffled super-tweeters
Response | 20 Hz to 20 kHz, ±2.5 dB re 89 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 | 501/4H x 36W x 24D
Weight | 300 lbs.
Type | Magnetic suspension
Drivers | Two 10” woofers; 7” midranges/tweeter, 1” super-tweeter
Response | 15 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 | 49H x 20W x 14D
Weight | 105 lbs.
Type | Magnetic suspension
Drivers | Two 10” woofers; 1” tweeter
Response | SPL at 1 meter at 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

Zodiac 300B

Price | $275
Dimensions | 25H x 231/2W x 111/2 D
Weight | 65 lbs.
Type | Mechanical suspension
Drivers | Two 10” woofers; 1” tweeter
Response | 30 Hz to 25 kHz
Crossover | 2 kHz
Impedance | 4 ohms
Min. power | 5 watts (7 dBW)
Max. power | 100 watts (20 dBW)
Controls | None
Features | Matched pairs

Zodiac 1B

Price | $135
Dimensions | 211/4H x 141/2W x 83/4 D
Weight | 65 lbs./pr.
Type | Mechanical suspension
Drivers | 10” woofer; 1” tweeter
Response | 40 Hz to 25 kHz
Crossover | 2 kHz
Impedance | 8 ohms
Min. power | 5 watts (7 dBW)
Max. power | 100 watts (20 dBW)
Controls | None
Features | Matched pairs

Models also available
- Concertmaster, $1,380; Concert Jr., $375; Zodiac '78, $180; Zodiac Jr., $96

HEATHKIT
Heath Co.
Benton Harbor, Mich. 49022

ASX-1383

Price | $600/pr. (kits)
Dimensions | 36H x 131/2W x 131/2 D
Weight | 50 lbs.
Type | Acoustic suspension
Drivers | 10” critically-damped woofer, 5” linear-phase cone midrange; 1” linear-phase soft-dome tweeter
Response | 40 Hz to 25 kHz, ±3 dB
Crossover | 800 Hz; 45.3 kHz
Impedance | 8 ohms
Min. power | 10 watts (10 dBW)
Max. power | 200 watts (23 dBW)
Features | Compound curved baffle to eliminate diffraction; individually fused drivers; rosewood veneer cabinet

AS-1373

Price | $170 (kit)
Dimensions | 26H x 141/2W x 111/4 D
Weight | 47 lbs.
Type | Acoustic suspension

1980 Edition
### Table 1: Speaker Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS-1363</td>
<td>$150 (kit)</td>
<td>23¾'H x 14¼'W x 11½'D</td>
<td>40 lbs.</td>
<td>Acoustic suspension</td>
<td>8 ohms</td>
<td>3 kHz</td>
<td>30 Hz to 20 kHz, ±3 dB</td>
<td>Controls: Midrange, tweeter; Features: Tweeter can be installed in a direction to optimize imaging with the system positioned vertically or horizontally; separate midrange subenclosure; individually fused drivers.</td>
</tr>
<tr>
<td>AS-1332</td>
<td>$55 (kit)</td>
<td>19½'H x 10½'W x 8'</td>
<td>15 lbs.</td>
<td>Infinite baffle</td>
<td>8 ohms</td>
<td>4 kHz</td>
<td>40 Hz to 20 kHz, ±3 dB</td>
<td>Controls: Tweeter; Features: Individually fused drivers.</td>
</tr>
<tr>
<td>models also available</td>
<td>AS-1348, $330 (kit); AS-1344, $150 (kit); AS-1342, $80 (kit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HECO</td>
<td>Hammond Industries, Inc.</td>
<td>155 Michael Drive</td>
<td>Arleta, Calif. 91331</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HED</td>
<td>Cerwin Vega, Inc.</td>
<td>12250 Montague St.</td>
<td>Arleta, Calif. 91331</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-100</td>
<td>$499</td>
<td>31½'H x 15¼'W x 10¼'D</td>
<td>75 lbs.</td>
<td>Dynamic</td>
<td>4 ohms</td>
<td>800 Hz, 2 kHz</td>
<td>30 Hz to 20 kHz, 105 dB SPL at 1 meter</td>
<td>Controls: Bampification; Features: Circuit breaker protection for tweeter.</td>
</tr>
<tr>
<td>U-351</td>
<td>$375</td>
<td>32½'H x 19'W x 17¾'D</td>
<td>105 lbs.</td>
<td>Vented</td>
<td>8 ohms</td>
<td>2 kHz</td>
<td>70 Hz to 4 kHz</td>
<td>Controls: Cabinets; Features: Circuit breaker protection for tweeter.</td>
</tr>
<tr>
<td>models also available</td>
<td>U-321, $265; U-15, $325; U-123, $215; U-10, $170</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HITACHI</td>
<td>Hitachi Sales Corp. of America</td>
<td>401 W. Artesia Blvd.</td>
<td>Compton, Calif. 90220</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS-430</td>
<td>$399.95</td>
<td>23½'H x 14½'W x 14 15/16'D</td>
<td>46 lbs. 3 oz.</td>
<td>Vented</td>
<td>8 ohms</td>
<td>700 Hz, 4 kHz</td>
<td>35 Hz to 20 kHz, -15 dB re 90 dB SPL at 1 meter</td>
<td>Controls: Midrange, tweeter; Features: Circuit breaker protection for tweeter.</td>
</tr>
<tr>
<td>models also available</td>
<td>HS-330, $250; HS-3120, $150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMPACT</td>
<td>Unitronex Corp.</td>
<td>1171 Landmeier Rd.</td>
<td>Elk Grove, Ill. 60007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact 8</td>
<td>$399</td>
<td>26 4/5'H x 17 3/10'W x 12 3/5'D</td>
<td>64 lbs.</td>
<td>Balanced; ducted-port speaker system with time-aligned transducers</td>
<td>8 ohms</td>
<td>3 kHz</td>
<td>30 Hz to 22 kHz</td>
<td>Controls: Tweeter, midrange; Features: Circuit breaker protection for tweeter.</td>
</tr>
<tr>
<td>models also available</td>
<td>Impact 4, $199; Impact 2, $149</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFINITY</td>
<td>Infinity Systems, Inc.</td>
<td>7930 Deering Ave.</td>
<td>Canoga Park, Calif. 91304</td>
<td></td>
<td></td>
<td></td>
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</table>
## Reference Standard 4.5

<table>
<thead>
<tr>
<th>Price</th>
<th>$3,450</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>64 H x 26 1/2 W x 14 1/2 D</td>
</tr>
<tr>
<td>Weight</td>
<td>190 lbs</td>
</tr>
<tr>
<td>Drivers</td>
<td>Four EMIT® tweeters; two 12&quot; infinitely- Wattings dual drive woofers with polypropylene cone, four-electromagnetic induction EMIT® midranges</td>
</tr>
<tr>
<td>Response</td>
<td>24 Hz to 32 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>150 Hz, 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>500 watts (27 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Separate crossover control unit to adjust output levels of woofers and midranges</td>
</tr>
<tr>
<td>Features</td>
<td>Oak and oak veneer, brown grille</td>
</tr>
</tbody>
</table>

## Reference Standard 1.5

<table>
<thead>
<tr>
<th>Price</th>
<th>$470</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>26 H x 15 W x 11 D</td>
</tr>
<tr>
<td>Weight</td>
<td>36 lbs</td>
</tr>
<tr>
<td>Drivers</td>
<td>EMIT® tweeter; 12&quot; Watkins-Infinity dual drive polypropylene woofer, polypropylene midrange</td>
</tr>
<tr>
<td>Response</td>
<td>38 Hz to 32 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>350 Hz, ±5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>60 watts (17.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 DBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Oak and oak veneer, dark brown grille</td>
</tr>
</tbody>
</table>

## Quantum Jr.

<table>
<thead>
<tr>
<th>Price</th>
<th>$299</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>25 H x 14 1/2 W x 12 D</td>
</tr>
<tr>
<td>Weight</td>
<td>50 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer, 1/4&quot; dome midrange;Infinity EMIT® tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 32 kHz, ±3 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>600 Hz, 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 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>Midrange; tweeters</td>
</tr>
<tr>
<td>Features</td>
<td>Optional metal pedistals</td>
</tr>
</tbody>
</table>

## INNOTECH

### Innotech Audio Systems
#### 182 Henry St.
#### Brooklyn, N.Y. 11201

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-24</td>
<td>$427</td>
<td>36 H x 10 1/2 W x 15 1/4 D</td>
<td>55 lbs</td>
<td>Dynamic/electrostatic</td>
<td>Two 5&quot; Bextrene woofers; one 1 1/2&quot; Mylar dome midrange; 1&quot; Mylar dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 20 kHz, ±3 dB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>3.5 kHz, ±5 kHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. power</td>
<td>35 watts (15.5 dBW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 DBW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Fuse protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Features</td>
<td>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</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

## JANIS

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>W-1 Subwoofer</td>
<td>$175</td>
<td>25 H x 14 1/2 W x 12 D</td>
<td>36 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; cone woofer, 1&quot; cone midrange, EMIT® tweeter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>42 Hz to 32 kHz, ±3 dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>600 Hz, 4 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 DBW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. power</td>
<td>150 watts (21.75 DBW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Features</td>
<td>Optional metal pedistals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Quantum Jr.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qb</td>
<td>$207</td>
<td>25 H x 14 1/2 W x 12 D</td>
<td>43 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer, 4&quot; mldrange; Infinity EMIT® tweeter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>42 Hz to 32 kHz, ±3 dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>600 Hz, 4 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 DBW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. power</td>
<td>150 watts (21.75 DBW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Features</td>
<td>Optional metal pedistals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## JBL

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-212</td>
<td>$2,000</td>
<td>361/2 H x 17 W x 13 D</td>
<td>225 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; cone woofer, 8&quot; cone midrange, 5&quot; cone midrange, 1&quot; dome tweeter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>70 Hz, 800 Hz, 3 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. power</td>
<td>10 watts (10 DBW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. power</td>
<td>300 watts (24.75 DBW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Continuously variable tweeter and midrange; ultra-bass and phase controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Features</td>
<td>12&quot; self-powered common bass loudspeaker in a third enclosure (dim.: 19 1/4 H x 18 9/16 W x 18 3/16 D); system sensitivity: 91 dB SPL at 1 meter at 1 watt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## JANSSEN

### Janssen Electrostatic by Soundmastes
#### 796 29th Ave., S.E.
#### Minneapolis, Minn. 55414

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-40</td>
<td>$530</td>
<td>49 1/2 H x 13 1/2 W x 13 1/4 D</td>
<td>64 lbs</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic/electrostatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer, passive radiator; 2 mid-frequency electrostatic tweeters; 2 high-frequency electrostatic tweeters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>33 Hz to 2 kHz, ±3 dB re 86 dB SPL at 2 volts at 1 meter, 26 Hz to 30 kHz, ±6 dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossover</td>
<td>800 Hz, 4 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Models also available

- Quantum Jr.
- Janis Audio Associates, Inc.
- Janssen Electrostatic by Soundmastes

### Models also available

#### Z-30
#### Z-20
#### Z-30.

### Models also available

#### Z-10
#### JBL
#### James B. Lansing Sound, Inc.
#### 8500 Balboa Blvd.
#### Northridge, Calif. 91329

### L-220
#### L-150
### RADIANCE SERIES

#### 902
- **Price:** $219.95
- **Dimensions:** 27½H x 17½W x 12½D
- **Weight:** 44 lbs. 6 oz.
- **Type:** Bass reflex
- **Drivers:** 12" direct radiator woofer; 5" direct radiator midrange; 1½" direct radiator tweeter
- **Crossover:** 1 kHz; 4 kHz
- **Impedance:** 8 ohms
- **Min. power:** 10 watts (10 dBW)
- **Max. power:** 200 watts (23 dBW)
- **Features:** Three-position high frequency

#### 502
- **Price:** $139.95
- **Dimensions:** 21½H x 13½W x 11 3/16D
- **Weight:** 27 lbs. 8 oz.
- **Type:** Bass reflex
- **Drivers:** 8" direct radiator woofer; 3" direct radiator tweeter
- **Crossover:** 2 kHz
- **Impedance:** 4 ohms
- **Min. power:** 10 watts (10 dBW)
- **Max. power:** 80 watts (19 dBW)

#### Models also available
- LS-3b, $369.95
- LS-4b, $219.95
- LS-5b, $154.95

### CONTRARA RESEARCH

#### Contrara Pedestal
- **Price:** $280
- **Dimensions:** 33H x 11½W x 11¼D
- **Weight:** 40 lbs.
- **Type:** Acoustic suspension
- **Drivers:** Two 8" woofers; 1" tweeter
- **Crossover:** 2.5 kHz
- **Impedance:** 8 ohms
- **Min. power:** 10 watts (10 dBW)
- **Max. power:** 100 watts (20 dBW)
- **Features:** Linear-phase coherency

#### Contrara Tower
- **Price:** $210
- **Dimensions:** 28½H x 11½W x 11½D
- **Weight:** 35 lbs.
- **Type:** Acoustic suspension
- **Drivers:** 10" woofer, 1" tweeter
- **Response:** 89 dB SPL at 1 meter at 1 watt
- **Impedance:** 8 ohms
- **Min. power:** 15 watts (11.75 dBW)
- **Max. power:** 100 watts (20 dBW)
- **Controls:** Tweeter

#### Models also available
- Vector Two, $270
- Vector One, $190
- Contrara Rectangle, $145
- Piccola Two, $110

### JENSEN SOUND LABS

#### Jensen Sound Labs
4136 N. United Parkway
Schiiller Park, Ill. 60176

#### System B
- **Price:** $549.95
- **Dimensions:** 33½H x 16½W x 11¼D (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:** 100 watts (21.75 dBW)
- **Controls:** Tweeter, upper midrange
- **Features:** Power protection circuit; optimized power response; 5-year transferable warranty

#### LS-5b
- **Price:** $279.95
- **Dimensions:** 26H x 15¼W x 13½D

### JONSON SPEAKERS

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

#### 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:** 8 ohms
- **Min. power:** 50 watts (17 dBW)
- **Max. power:** 140 watts (21.5 dBW)
- **Controls:** None
- **Features:** Pentagon: 540-degree radiation pattern; all dome drivers

### 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

---

**Features**

- **Sensitivity:** 96 dB SPL at 1 meter at 1 watt
- **Crossover:** 1 kHz; 4 kHz
- **Impedance:** 8 ohms
- **Min. power:** 10 watts (10 dBW)
- **Max. power:** 90 watts (19.5 dBW)
- **Controls:** Tweeter, midrange
- **Features:** Full 5-year transferable warranty

**Price** $169.95

**Dimensions:** 24½H x 15W x 10D

**Weight:** 26 lbs.

**Type:** Acoustic suspension

**Drivers:** 10" woofer, 3½" midrange, 2" cone tweeter

**Response:** 60 Hz to 16 kHz; +3 dB

**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, $369.95
- LS-4b, $219.95
- LS-3b, $154.95

---

**JENNINGS RESEARCH**

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

#### Tri-Angle
- **Price:** $330
- **Dimensions:** 29¼H x 18W x 14D
- **Weight:** 60 lbs.
- **Type:** Vented
- **Drivers:** 1" dome tweeter, 1½" dome midrange, 12" woofer

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

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<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero 9</td>
<td>70 lbs</td>
<td>41 1/2H x 16 1/16W x 16 1/16D</td>
<td>$700</td>
</tr>
<tr>
<td>JR Model 149</td>
<td>23 lbs 32 oz.</td>
<td>9 3/16H x 5 13/16W x 5 29/32D</td>
<td>$180</td>
</tr>
<tr>
<td>Koss CM/1030</td>
<td>375 lbs</td>
<td>54H x 30W x 18D (with base)</td>
<td>$1,995</td>
</tr>
<tr>
<td>Martin TL-0050</td>
<td>375 lbs</td>
<td>54H x 30W x 18D (with base)</td>
<td>$999</td>
</tr>
<tr>
<td>Jennings Contrafa Pedestal</td>
<td>92 lbs</td>
<td>59 1/4H x 11 1/4W x 5 3/4D</td>
<td>$299/pc.</td>
</tr>
<tr>
<td>JR Super Woofer</td>
<td>30 lbs. 14 oz.</td>
<td>22 13/16H x 121/2W x 12 1/2D</td>
<td>$999</td>
</tr>
<tr>
<td>Models also available</td>
<td>Dual, 8 double helical tapered acoustical trapezoidal line</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>Weight</td>
<td>Type</td>
<td>Drivers</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------</td>
<td>-----------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>49H x 16W x 14D</td>
<td>85 lbs</td>
<td>Tapered acoustical trapezoidal line/labyrinth</td>
<td>12&quot; long excursion woofer with synthetic composition deep cone</td>
</tr>
<tr>
<td>38H x 17 9/10W x 16 3/10D</td>
<td>80 lbs</td>
<td>Coherent phase</td>
<td>8&quot; woofer, 1&quot; magnet-liquid dome tweeter</td>
</tr>
<tr>
<td>52H x 16W x 18D</td>
<td>125 lbs</td>
<td>Vented</td>
<td>13&quot; woofer, 5/8&quot; midrange, 13/4&quot; tweeter</td>
</tr>
<tr>
<td>27 15/16H x 15 11/32W x 12 23/32D</td>
<td>115 lbs</td>
<td>Linear -phase design</td>
<td>Two 5&quot; Bextrene midwoofers; dome tweeter</td>
</tr>
<tr>
<td>29H x 161/2W x 141/4D</td>
<td>55 lbs</td>
<td>Ventilated</td>
<td>Tapered acoustical line</td>
</tr>
<tr>
<td>29H x 131/2W x 12 2/5D</td>
<td>30 lbs</td>
<td>Infinite baffle</td>
<td>30 lbs</td>
</tr>
<tr>
<td>17/3H x 101/2W x 9 3/4D</td>
<td>65 lbs</td>
<td>Tapered acoustical line/labyrinth</td>
<td>Two 8&quot; woofers, 1&quot; dome tweeter</td>
</tr>
</tbody>
</table>

### Features
- Satin black finish; optional floor stand
- Acoustic line
- Infinite baffle
- Mirror-matched; linear-phase design
- Fuse protection; phase corrected
- Tapered acoustic line
- Mirror-matched, walnut veneer cabinet

### Corelli
- **Price**: $215
- **Dimensions**: 18H x 8 3/5W x 11D
- **Weight**: 20 lbs
- **Type**: Infinite baffle
- **Drivers**: 8" woofer; 1/4" dome tweeter
- **Response**: 50 Hz to 30 kHz, ±3 dB
- **Crossover**: 3.5 kHz
- **Impedance**: 8 ohms
- **Min. power**: 25 watts (14 DBW)
- **Max. power**: 50 watts (17 DBW)
- **Features**: Walnut or teak wood cabinet

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

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### KENWOOD
**Kenwood Electronics, Inc.**

#### 75 Seaview Drive
**Secaucus, N.J. 07094**

#### Seven
**Price**: $1,250
**Dimensions**: 37H x 18⅝W x 15D
**Weight**: 121 lbs.
**Type**: Acoustic suspension
**Drivers**: 14" woofer; 4⅛" midrange; ⅛" tweeter; ¾" supertweeter
**Response**: 20 Hz to 35 kHz, 94 dB SPL at 1 watt at 1 meter
**Crossover**: 400 Hz; 4 kHz; 8 kHz
**Impedance**: 8 ohms
**Min. power**: 50 watts (21.75 DBW)
**Max. power**: Midrange; tweeter; supertweeter

#### LS-1600
**Price**: $550
**Dimensions**: 27 15/16H x 15 11/32W x 12 23/32D
**Weight**: 64 lbs 14 oz.
**Type**: Ventilated
**Drivers**: 13" woofer; 5¼" midrange; high-frequency driver
**Response**: 32 Hz to 20 kHz, 92 dB SPL at 1 watt at 1 meter
**Crossover**: 900 Hz; 5 kHz
**Impedance**: 8 ohms
**Min. power**: 50 watts (17 DBW)
**Max. power**: 125 watts (20.75 DBW)
**Controls**: Mid/high frequency
**Features**: Linear response

#### LS-408B
**Price**: $310
**Dimensions**: 29 5/8H x 16½W x 14⅝D
**Weight**: 50 lbs.
**Type**: Ventilated
**Drivers**: 12" woofer; 4⅝" midrange, 1¼" tweeter
**Response**: 40 Hz to 20 kHz, 92 dB SPL at 1 watt at 1 meter
**Crossover**: 2 kHz
**Impedance**: 8 ohms
**Min. power**: 20 watts (13 DBW)
**Max. power**: 160 watts (22 DBW)
**Controls**: Mid/high frequency
**Features**: Linear response

#### LS-405B
**Price**: $175
**Dimensions**: 23H x 13½W x 12¾D
**Weight**: 30 lbs.
**Type**: Ventilated
**Drivers**: 10" woofer; 1¼" tweeter
**Response**: 50 Hz to 20 kHz, 93 dB SPL at 1 watt at 1 meter
**Crossover**: 2.5 kHz
**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-4078, $245; LS-4048, $265/pr**

### KINETIC AUDIO INTERNATIONAL
**Kinetic Audio International, Ltd.**

#### 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; 6½" plastic cone midrange, ¼" synthetic dome transmission line midwoofer; 1" dome tweeter
**Response**: 18 Hz to 22 kHz, ±2.5 dB
**Crossover**: 90 Hz; 2 kHz; 7.5 kHz
**Impedance**: 6 ohms (5 ohms min; 11 ohms max)
**Min. power**: 15 watts (11.75 dBW) per channel into 8 ohms
**Max. power**: 200 watts (23 dBW) per channel into 8 ohms (program material)
**Controls**: 3 T-pads (super duty wire-wound)
**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**: 17¼H x 10¼W x 9 ⅛D
**Weight**: 60 lbs.
**Type**: Tapered acoustical trapezoidal line
**Drivers**: Two 5" Bextrene midwoofers; 1¼" 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
**Crossover**: 2.5 kHz
**Impedance**: 8 ohms
**Min. power**: 10 watts (10 DBW) into 8 ohms
**Max. power**: 200 watts (23 DBW) into 8 ohms
**Controls**: T-pads (heavy-duty wire wound)
**Features**: Fuse protection; phase corrected; mid/woofers have 3/4-P-P excursion and 25 oz. magnets; rack-mountable with optional ears; walnut veneer mirror-matched; components also mirror-matched, linear-phase design

#### IMP
**Price**: $299
**Dimensions**: 24H x 14W x 4D
**Weight**: 60 lbs.
**Type**: Tapered acoustical line
**Drivers**: 12" woofer, 1¼" magnet-liquid tweeter; (synthetic dome) 5" Bextrene midrange with T-shaped pole piece
**Response**: 29 Hz to 20 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt
**Crossover**: 200 Hz; 2 kHz
**Impedance**: 8 ohms
**Min. power**: 6 to 8 ohms
**Max. power**: 10 watts (10 DBW)
**Max. power**: 200 watts (23 DBW)
**Controls**: T-pads (2) wire-wound
**Features**: Fuse protection; mirror-matched walnut veneer over 1" thick high density fiberboard; mirrored components; infinite line enclosure on tweeter

### Models also available
- **Trapezoid™, $599; Impulse™ CRM, $499**
KLH Research & Development Corp.
145 University Ave.
Westwood, Mass. 02090

KLH-1
Price $1,100/pr. (including Analog Bass Computer

Dimensions 30Xh x 10W 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 cone; 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 dBW)
Max. power 250 watts (24 dBW)
Controls Position, power indicator, tape, in/out (on computer)
Features Utilizes Analog Bass Computer® for extended bass response in conjunction with high flux motor system; proprietary drivers with natural polypropylene cones; includes speaker stand

KLH-3
Price $450 (including Analog Bass Computer®

Dimensions 121\(\frac{1}{2}\)H x 8\(\frac{1}{2}\)W 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 40 watts (16 dBW)
Max. power 200 watts (23 dBW)
Controls Position tape, in/out (on computer)
Features Utilizes Analog Bass Computer® for extended bass response in conjunction with high flux motor system; proprietary drivers with natural polypropylene cones

KLISCH

KLipsch & Associates
P.O. Box 688
Hope, Ark. 71801

KLipschorn
Price $1,275 (walnut oil, walnut lacquer); $1,775 (roswood, teak, oak, cherry); $950 (birch, raw, black); $844 (decorator model in birch, raw, black)

Dimensions 52H x 31\(\frac{1}{2}\)W x 28\(\frac{1}{2}\)D (walnut, rosewood, teak, oak, cherry); 50\(\frac{1}{4}\)H (birch, raw, black); 49\(\frac{3}{4}\)H (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 dBW)
Max. power 105 watts (20.25 dBW)

Belle Klipsch
Price $1,045 (walnut oil, walnut lacquer); $1,498 (roswood, teak, oak, cherry)

Dimensions 35H x 30\(\frac{1}{2}\)W x 18\(\frac{1}{2}\)D
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 dBW)
Max. power 105 watts (20.25 dBW)

Heresy
Price $362 (walnut oil, walnut lacquer); $475 (roswood, teak, oak, cherry); $311 (birch, raw, black)

Dimensions 21\(\frac{1}{4}\)H x 15\(\frac{1}{2}\)W x 13\(\frac{1}{2}\)D
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 dBW)
Max. power 105 watts (20.25 dBW)

Models also available
KLH-2, 6600/pr. (including Analog Bass Computer®); KLH-4, $290/pr.

Models also available
KLISCH-2, 6600/pr. (including Analog Bass Computer®); KLISCH-4, $290/pr.

KLISCH

KLipsch & Associates
P.O. Box 688
Hope, Ark. 71801

KLipschorn
Price $1,275 (walnut oil, walnut lacquer); $1,775 (roswood, teak, oak, cherry); $950 (birch, raw, black); $844 (decorator model in birch, raw, black)

Dimensions 52H x 31\(\frac{1}{2}\)W x 28\(\frac{1}{2}\)D (walnut, rosewood, teak, oak, cherry); 50\(\frac{1}{4}\)H (birch, raw, black); 49\(\frac{3}{4}\)H (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 dBW)
Max. power 105 watts (20.25 dBW)

Belle Klipsch
Price $1,045 (walnut oil, walnut lacquer); $1,498 (roswood, teak, oak, cherry)

Dimensions 35H x 30\(\frac{1}{2}\)W x 18\(\frac{1}{2}\)D
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 dBW)
Max. power 105 watts (20.25 dBW)

Heresy
Price $362 (walnut oil, walnut lacquer); $475 (roswood, teak, oak, cherry); $311 (birch, raw, black)

Dimensions 21\(\frac{1}{4}\)H x 15\(\frac{1}{2}\)W x 13\(\frac{1}{2}\)D
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 dBW)
Max. power 105 watts (20.25 dBW)

Models also available
KLH-2, 6600/pr. (including Analog Bass Computer®); KLH-4, $290/pr.

Models also available
KLISCH-2, 6600/pr. (including Analog Bass Computer®); KLISCH-4, $290/pr.

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

**CM/1030**  
**Price** $49.95  
**Dimensions** 39" x 16½" x 14½"  
**Weight** 74 lbs.  
**Type** Vented  
**Drivers** 10" woofer, two 4½" midrange drivers; 1" tweeter; 1½" super-tweeter  
**Response** 29 Hz to 19 kHz, -3 dB  
**Crossover** 400 Hz; 2.5 kHz; 6 kHz  
**Impedance** 8 ohms  
**Min. power** 15 watts (11.75 dBW)  
**Max. power** 200 watts (23.5 dBW)  
**Features** Midsrange; tweeter; super-tweeter

**CM/530**  
**Price** $229.95  
**Dimensions** 24½" x 13½" x 11¼"  
**Weight** 35 lbs.  
**Type** Passive radiator  
**Drivers** 8" woofer; 1" tweeter  
**Response** 36 Hz to 17 kHz, -3 dB  
**Crossover** 3 kHz  
**Impedance** 7 ohms  
**Min. power** 15 watts (11.75 dBW)  
**Max. power** 75 watts (18.75 dBW)  
**Features** Tweeter; Controls Midsrange; tweeter; super-tweeter

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

**1009**  
**Price** $99.99  
**Dimensions** 24½" x 14½" x 10½"  
**Weight** 40 lbs.  
**Type** Acoustic suspension  
**Drivers** 12" woofer, 5½" midrange, 3½" tweeter  
**Response** 40 Hz to 18 kHz  
**Impedance** 8 ohms  
**Min. power** 5 watts (7.5 dBW)  
**Max. power** 55 watts (17.25 dBW) peak  
**Features** Midsrange; tweeter

**1005**  
**Price** $59.99  
**Dimensions** 20¾" x 12½" x 8½"  
**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** Midsrange; tweeter

**Pip Speak**  
**Price** $58  
**Dimensions** 7½" x 4½" x 4½"  
**Weight** 6 lbs.  
**Type** Acoustic suspension mini speaker system  
**Drivers** 4½" woofer; 1½" soft-dome tweeter

### Models also available

<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>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM/1020</td>
<td>$449.95</td>
<td>25² x 15½&quot; x 11¼&quot;</td>
<td>35 lbs.</td>
<td>Vented</td>
<td>10&quot; woofer; 4½&quot; midrange</td>
<td>29 Hz to 19 kHz</td>
<td>400 Hz; 2.5 kHz; 6 kHz</td>
<td>8 ohms</td>
<td>15 watts</td>
<td>120 watts</td>
<td>Genuine walnut veneers and solids cabinet; front-mounted controls; double-knit grille</td>
</tr>
</tbody>
</table>

**LANCER**  
Lancer Electronisics  
10530 Lawrence River Ave.  
Fountain Valley, Calif. 92708

**SC-8**  
**Price** $359.50  
**Dimensions** 29½" x 18½" x 13¼"  
**Weight** 65 lbs.  
**Type** Vented  
**Drivers** 12" woofer; 5½" midrange; 3½" dome tweeter  
**Response** 20 Hz to 22 kHz, 92 dB SPL at 1 meter at 1 watt  
**Crossover** 500 Hz; 4.5 kHz  
**Impedance** 8 ohms  
**Min. power** 8 watts (9 dBW)  
**Max. power** 20 watts (20.75 dBW)  
**Features** Midsrange; tweeter

**SC-9T**  
**Price** $249.50  
**Dimensions** 24½" x 13¼" x 11¼"  
**Weight** 24 lbs.  
**Type** Acoustic suspension  
**Drivers** 10" woofer; 5½" midrange; two dome tweeters  
**Response** 20 Hz to 20 kHz, 99 dB SPL at 1 meter at 1 watt  
**Crossover** 500 Hz; 4.5 kHz  
**Impedance** 8 ohms  
**Min. power** 10 watts (10 dBW)  
**Max. power** 50 watts (19.5 dBW)  
**Features** Midsrange; tweeter

**SC-11**  
**Price** $179  
**Dimensions** 22½" x 12½" x 10"  
**Weight** 36 lbs.  
**Type** Acoustic suspension  
**Drivers** 10" woofer, 5½" midrange, 2½" dome tweeter  
**Response** 20 Hz to 20 kHz, 99 dB SPL at 1 meter at 1 watt  
**Crossover** 750 Hz; 6 kHz  
**Impedance** 8 ohms  
**Min. power** 10 watts (10 dBW)  
**Max. power** 50 watts (19.5 dBW)  
**Features** Midsrange; tweeter

**9335-2**  
**Price** $99.50  
**Dimensions** 25½" x 14¼" x 11¼"  
**Weight** 33 lbs.  
**Type** Tubular vented  
**Drivers** 12" woofer; 2½" dome tweeter  
**Response** 30 Hz to 20 kHz, 93 dB SPL at 1 meter at 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

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

**3090**  
**Price** $960  
**Dimensions** 47½" x 20½" x 15½"  
**Weight** 112 lbs.  
**Type** Transmission line  
**Drivers** 15" woofer, 7" x 4½" midrange, isotor-tweeter  
**Impedance** 300 ohms  
**Min. power** 80 watts (15.5 dBW)  
**Max. power** 160 watts (22 dBW)  
**Features** Upper-midrange; tweeter

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

**DMS Isobarik**  
**Price** $3,600/pr.  
**Dimensions** 30½" x 15½" x 16½"  
**Weight** 95 lbs.  
**Type** Isobarik loading  
**Drivers** Two 9½" x 12½" woofers, two 5½" midranges, two 1½" dome tweeters  
**Response** 16 Hz to 20 kHz, ±3 dB  
**Crossover** 350 Hz; 3 kHz  
**Impedance** 8 ohms  
**Min. power** 50 watts (17 dBW)  
**Max. power** 500 watts (27 dBW)  
**Features** Instantaneous dynamic range of 54 to 56 dB

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

**MG-II**  
**Price** $825/pr.  
**Dimensions** 72½" x 22½" x 1¼"  
**Weight** 45 lbs.  
**Type** Magneplanar  
**Drivers** 15" woofer, tweeter  
**Response** 45 Hz to 18 kHz, ±3 dB  
**Crossover** 2 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.
### MARANTZ 
Superscope, Inc. 
20525 Nordhoff St. 
Chatsworth, Calif. 91311

#### HD-880
- **Price**: $420
- **Dimensions**: 26½H x 15W x 11½D
- **Type**: VARI-Q® (infinite baffle/ported)
- **Drivers**: 12" woofer, 5" midrange, 1½" LPF dome tweeter, 1" LPF dome super-tweeter
- **Response**: 30 Hz to 22 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt
- **Crossover**: 750 Hz; 2½ kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 250 watts (25 dBW)
- **Features**: Midrange, tweeter and super-tweeter L-pad controls
- **Price**: Low stored energy loudspeakers

#### HD-660
- **Price**: $270
- **Dimensions**: 24¼H x 14¾W x 11½D
- **Type**: VARI-Q® (infinite baffle/ported)
- **Drivers**: 10" woofer, 5" midrange, 1½" dome tweeter
- **Response**: 30 Hz to 20 kHz, +3 dB re 88 dB SPL at 1 meter at 1 watt
- **Crossover**: 750 Hz; 2½ kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 250 watts (25 dBW)
- **Features**: Midrange and tweeter L-pad controls
- **Price**: Low stored energy loudspeakers

#### HD-440
- **Price**: $110
- **Dimensions**: 19¼H x 11¼W x 8½D
- **Weight**: 25 lbs. 5 oz
- **Type**: Acoustic suspension
- **Drivers**: 8" woofer, 3½" midrange, tweeter
- **Response**: 45 Hz to 18 kHz, +3 dB re 87 dB at 1 meter at 1 watt
- **Crossover**: 2½ kHz; 8 kHz
- **Impedance**: 8 ohms
- **Features**: Low stored energy loudspeakers

## ML-8228 
Norman Laboratories Model 9

- **Response**: 33 Hz to 20 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt
- **Crossover**: 750 Hz; 2½ kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 200 watts (25 dBW)
- **Features**: Midrange and tweeter L-pad controls
- **Price**: Low stored energy loudspeakers

Models also available

HD-770, $330; HD-550, $200; 8 Mk II, $260/pr; 6 Mk II, $140/pr; 4 Mk II, $80/pr; 900, $380/pr; 9000, $320/pr

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

#### TL-4050
- **Price**: $650
- **Dimensions**: 52¼H x 12¼W x 11¼D
- **Weight**: 84 lbs
- **Type**: Dual transmission line
- **Drivers**: Two 11" woofers, 5" cloth curvilinear midrange, 1½" dome tweeter
- **Response**: 28 Hz to 22 kHz, +4 dB re 92 dB SPL at 1 meter at 1 watt
- **Crossover**: 100 Hz; 900 kHz; 4 kHz
- **Impedance**: 8 ohms
- **Min. power**: 100 watts (20 dBW)
- **Max. power**: 300 watts (24.75 dBW)
- **Features**: Midrange, tweeter
- **Price**: Low stored energy loudspeakers

## DESIGN SERIES

### 940
- **Price**: $440/pr.
- **Dimensions**: 45¼H x 15W x 12D
- **Weight**: 82 lbs. 2 oz
- **Type**: VARI-Q® (infinite baffle/ported)
- **Drivers**: 12" woofer, 5" midrange, 1½" dome tweeter, 1" LPF dome super-tweeter
- **Response**: 30 Hz to 22 kHz, +3 dB re 90 dB SPL at 1 meter at 1 watt
- **Crossover**: 750 Hz; 2½ kHz
- **Impedance**: 8 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 300 watts (25 dBW)
- **Features**: Midrange, tweeter and super-tweeter, L-pad controls
- **Price**: Low stored energy loudspeakers

### 920
- **Price**: $380/pr.
- **Dimensions**: 38¼H x 15W x 12D
- **Weight**: 65 lbs
- **Type**: VARI-Q® (infinite baffle/ported)
- **Drivers**: 12" woofer, 5" midrange, 1½" dome tweeter
- **Response**: 28 Hz to 20 kHz re 92 dB SPL at 1 meter at 1 watt
- **Crossover**: 500 Hz; 4 kHz
- **Impedance**: 8 ohms
- **Min. power**: 35 watts (15.5 dBW)
- **Max. power**: 100 watts (20 dBW)
- **Features**: Midrange, tweeter
- **Price**: Low stored energy loudspeakers

Magnificat

- **Price**: $449
- **Dimensions**: 37¼H x 18W x 14D
- **Weight**: 86 lbs
- **Type**: Acoustic suspension
- **Drivers**: Two 12" woofers, 5" convex midrange, two 2" polyaxial tweeters
- **Response**: 28 Hz to 20 kHz re 92 dB SPL at 1 meter at 1 watt
- **Crossover**: 500 Hz; 4 kHz
- **Impedance**: 8 ohms
- **Min. power**: 35 watts (15.5 dBW)
- **Max. power**: 100 watts (20 dBW)
- **Features**: Midrange, tweeter
- **Price**: Low stored energy loudspeakers

TL-2050
- **Price**: $350
### Gamma Gold 3000M

**Price** $299  
**Dimensions** 251/4 x 14W x 111/4D  
**Weight** 55 lbs.  
**Type** Bias port  
**Drivers** 10" heavy-duty butyl woofer, 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** 1.5 kHz  
**Impedance** 8 ohms  
**Min. power** 35 watts (15.5 dBW)  
**Max. power** 100 watts (20 dBW)  
**Features** Same as model TL-4050

### TL-1650

<table>
<thead>
<tr>
<th>Price</th>
<th>$250</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>251/4 x 8W x 111/4D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>65 lbs.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Transmission line</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>61/2&quot; woofer; 1&quot; dome tweeter</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>36 Hz to 20 kHz, +3 dB re 88 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>1.5 kHz</td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>15 watts (11.75 dBW)</td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>60 watts (11.75 dBW)</td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td>Midrange/tweeter</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Handcrafted</td>
</tr>
</tbody>
</table>

### Gamma Gold 2006M

<table>
<thead>
<tr>
<th>Price</th>
<th>$129</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>13H x 181/2W x 9D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>17 lbs. 8 oz.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Transmission line</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>61/2&quot; woofer; dome tweeter</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>40 Hz to 20 kHz, +4 dB re 91 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>1.5 kHz</td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>25 watts (14 dBW)</td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>75 watts (18.75 dBW)</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Tweeter</td>
</tr>
</tbody>
</table>

### Models also available

- **MA-130**  
  **Price** $175.50  
  **Dimensions** 24H x 15W x 91/4D  
  **Weight** 37 lbs.  
  **Type** Acoustic suspension  
  **Drivers** 12" woofer, 1" dome tweeter, 61/2" midrange  
  **Response** 35 Hz to 22 kHz  
  **Crossover** 1 kHz, 5 kHz  
  **Impedance** 8 ohms  
  **Min. power** 8 watts (9 dBW)  
  **Max. power** 75 watts (18.75 dBW)  
  **Features** 6" isolated midrange/tweeter level control

- **MA-105**  
  **Price** $165.50  
  **Dimensions** 22H x 13W x 91/4D  
  **Weight** 30 lbs.  
  **Type** Acoustic suspension  
  **Drivers** 10" woofer; 41/2" midrange 1" dome tweeter  
  **Response** 35 Hz to 22 kHz  
  **Crossover** 2.5 kHz; 5 kHz  
  **Impedance** 8 ohms  
  **Min. power** 5 watts (7 dBW)  
  **Max. power** 50 watts (17 dBW)  
  **Features** Tweeter

- **MA-103**  
  **Price** $65.50  
  **Dimensions** 30H x 12W x 91/4D  
  **Weight** 18 lbs. 8 oz.  
  **Type** Acoustic suspension  
  **Drivers** 10" woofer; 3" dome midrange; 2" dome tweeter  
  **Response** 35 Hz to 22 kHz  
  **Crossover** 5 kHz  
  **Impedance** 8 ohms  
  **Min. power** 5 watts (7 dBW)  
  **Max. power** 35 watts (15.5 dBW)  
  **Features** Aluminum voice coil, multi-roll foam surround

- **MclINTOSH**

  **MclINTOSH Loudspeaker Division**

  **2 Chambers St.**

  **Binghamton, N.Y. 13903**

### XR-7

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,099</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>40H x 191/2W x 141/4D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>118 lbs.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Linear phase bass reflex</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>Two 12&quot; woofers; 8&quot; lower midrange; one 11/2&quot; dome midrange</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>20 Hz to 20 kHz</td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>250 Hz; 1.4 kHz; 7 kHz</td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>30 watts (14.75 dBW)</td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>300 watts (24.45 dBW) peak</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>McIntosh environmental equalizer may be used</td>
</tr>
</tbody>
</table>

### XR-5

<table>
<thead>
<tr>
<th>Price</th>
<th>$599</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>30H x 15W x 12D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>69 lbs.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>Two 12&quot; woofers; 6&quot; lower midrange, 11/2&quot; dome upper midrange, two 2&quot; dome tweeters</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>20 Hz to 20 kHz</td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>250 Hz; 1.4 kHz; 7 kHz</td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>30 watts (14.75 dBW)</td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>200 watts (23 dBW) peak</td>
</tr>
</tbody>
</table>

### MclINTOSH

- **XR-6**, $749; **XR-3**, $425

### Models also available

- **MA-211**, $173.50; **MA-124**, $131.50; **MA-83**, $48.50

### McIntosh environmental equalizer

- **MC-700**

### High Fidelity's Buying Guide to Speaker Systems

- **ML-10C**  
  **Price** $319  
  **Dimensions** 251/4 x 13/16W x 121/4D  
  **Weight** 47 lbs.  
  **Type** Acoustic suspension  
  **Drivers** 10" woofer, 11/2" 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 dBW)  
  **Max. power** 100 watts (20 dBW)  
  **Features** McIntosh environmental equalizer may be used

### Models also available

- **XR-6**, **XR-3**, $425

### MCS® SERIES

**J.C. Penney**

- **1301 Ave. of the Americas**
- **New York, N.Y. 10019**

### 8288

<table>
<thead>
<tr>
<th>Price</th>
<th>$399.95</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>361/4 x 16W x 101/4D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>100 lbs.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>12&quot; woofer; two 2&quot; soft-dome midranges, 1&quot; soft-dome tweeter</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>Air suspension</td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>600 Hz; 2 kHz</td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>150 watts (21.75 dBW)</td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td>Mid/tweeter</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Ferrofluid-cooled elements; built-in stand; removable grille</td>
</tr>
</tbody>
</table>

### 8330

<table>
<thead>
<tr>
<th>Price</th>
<th>$299.95</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>261/4 x 15W x 13D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>37 lbs. 8 oz.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Linear phase bass reflex</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>12&quot; cone woofer, 5&quot; cone midrange, 2&quot; cone tweeter</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>29 Hz to 22 kHz, -20 dB re 93 dB</td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>1.5 Hz, 3.8 kHz</td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>15 watts (11.75 dBW)</td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>120 watts (20.75 dBW)</td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td>Midrange; tweeter</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Two thermal relays; integral carrying handles</td>
</tr>
</tbody>
</table>

### 8320

<table>
<thead>
<tr>
<th>Price</th>
<th>$199.95</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>24H x 131/4W x 121/4D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>27 lbs. 8 oz.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Linear phase bass reflex</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>10&quot; cone woofer, 5&quot; cone midrange, 2&quot; cone tweeter</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>32 Hz to 22 kHz; -20 dB re 95.5 dB</td>
</tr>
<tr>
<td><strong>Crossover</strong></td>
<td>1.7 kHz, 5.5 kHz</td>
</tr>
<tr>
<td><strong>Impedance</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Min. power</strong></td>
<td>5 watts (7 dBW)</td>
</tr>
<tr>
<td><strong>Max. power</strong></td>
<td>75 watts (18.75 dBW)</td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td>Tweeter</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>Two thermal relays; removable front grille</td>
</tr>
</tbody>
</table>

### 8310

<table>
<thead>
<tr>
<th>Price</th>
<th>$119.95</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>211/4 x 11W x 91/2D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>18 lbs. 11 oz.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Linear phase bass reflex</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>8&quot; cone woofer, 2&quot; cone tweeter</td>
</tr>
<tr>
<td><strong>Response</strong></td>
<td>37 Hz to 22 kHz, -20 dB re 92 dB</td>
</tr>
</tbody>
</table>
### Disco-Duo

<table>
<thead>
<tr>
<th>Price</th>
<th>$409.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>29⅛H x 18⅛W x 14D (bottom); 7⅛H x 18⅛W x 10D (top)</td>
</tr>
<tr>
<td>Weight</td>
<td>73 lbs. (bottom); 16½ lbs. (top)</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 12&quot; woofer &amp; 8&quot; bass reflex; 2&quot; x 5¾ piezoelectric horn; two superpiezoelectric tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>45 Hz to 40 kHz re 100 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>2.5 Hz, 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms (bottom)</td>
</tr>
<tr>
<td>Max. power</td>
<td>210 watts (23 dBW) (bottom)</td>
</tr>
<tr>
<td>Features</td>
<td>Black-vinyl cabinet; flush-mount carrying handles</td>
</tr>
</tbody>
</table>

### MS-80 Subwoofer

<table>
<thead>
<tr>
<th>Price</th>
<th>$249</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>16⅛H x 18⅛W x 16D</td>
</tr>
<tr>
<td>Weight</td>
<td>64 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer; 10&quot; bass reflex</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 115 kHz, +5 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>200 Hz (passive)</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>100 watts (10 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Dual volume control for satellite speakers</td>
</tr>
</tbody>
</table>

### 600

<table>
<thead>
<tr>
<th>Price</th>
<th>$199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>24½H x 14⅛W x 10⅛D</td>
</tr>
<tr>
<td>Weight</td>
<td>34 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer; 5½&quot; midrange; 3½&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>2 kHz, 5.5 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>60 watts (17.75 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter (+5 dB range)</td>
</tr>
</tbody>
</table>

### 500

<table>
<thead>
<tr>
<th>Price</th>
<th>$109</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>21H x 12⅞W x 9D</td>
</tr>
<tr>
<td>Weight</td>
<td>25 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofer; 3&quot; tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>35 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>4.5 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>Tweeter (+5 dB range)</td>
</tr>
</tbody>
</table>

### S-35

<table>
<thead>
<tr>
<th>Price</th>
<th>$139/pr.</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>9⅞H x 6⅞W x 5⅞D</td>
</tr>
<tr>
<td>Weight</td>
<td>12 lbs/pr.</td>
</tr>
<tr>
<td>Type</td>
<td>5&quot; woofer with 1½&quot; voice coil; 4½&quot; soft-dome tweeter</td>
</tr>
<tr>
<td>Drivers</td>
<td>115 Hz to 17 kHz</td>
</tr>
<tr>
<td>Response</td>
<td>200 Hz (passive)</td>
</tr>
<tr>
<td>Crossover</td>
<td>4 to 8 ohms</td>
</tr>
<tr>
<td>Impedance</td>
<td>5 watts (7 dBW)</td>
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<tr>
<td>Min. power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Satellite speaker specifically designed for use with a subwoofer</td>
</tr>
</tbody>
</table>

### Models also available
- FRM-1AX
  - Price: $235
  - Dimensions: 25½H x 15¼W x 12½D
  - Weight: 40 lbs.
  - Type: Acoustic suspension
  - Drivers: Five 1½" drivers mounted in a Pen-ta-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
  - Controls: Tweeter (adjusts center on-axis tweeters); dispersion control (adjusts four surrounding off-axis tweeters simultaneously)
  - Features: Full 10-year warranty; tweeter protection circuit

### MS-1

<table>
<thead>
<tr>
<th>Price</th>
<th>$125/pr.</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>4¼H x 9¼W x 5½D</td>
</tr>
<tr>
<td>Weight</td>
<td>21 lbs. 5 oz.</td>
</tr>
<tr>
<td>Type</td>
<td>Bass reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>Four 1¼&quot; drivers</td>
</tr>
<tr>
<td>Crossover</td>
<td>3.5 kHz, 7 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>60 watts (17.5 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Full 5-year warranty</td>
</tr>
</tbody>
</table>

### MS-40

<table>
<thead>
<tr>
<th>Price</th>
<th>$550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>34⅛H x 15⅛W x 15 5/16D</td>
</tr>
<tr>
<td>Weight</td>
<td>77 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; honeycomb cone woofer; 4&quot; cone midrange; 1½&quot; hybrid-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 20 kHz re 87 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>600 Hz, 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>6 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>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Overload protection circuit; LED indicator; edgeless grille and cabinet design</td>
</tr>
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</table>

### MS-10

<table>
<thead>
<tr>
<th>Price</th>
<th>$165</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>32⅛H x 12⅛W x 11⅛D</td>
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<td>Weight</td>
<td>32 lbs.</td>
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<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; honeycomb-cone woofer; 2½&quot; superpiezoelectric horn; 4½&quot; soft-dome tweeter</td>
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<tr>
<td>Response</td>
<td>35 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>1.5 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>100 watts (20 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter</td>
</tr>
</tbody>
</table>

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

### MITSUBISHI

#### Melco Sales, Inc.
- **3030 E. Victoria St., Compton, Calif. 90221**

### MS-40

<table>
<thead>
<tr>
<th>Price</th>
<th>$550</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>34⅛H x 15⅛W x 15 5/16D</td>
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<tr>
<td>Weight</td>
<td>77 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; honeycomb cone woofer; 4&quot; cone midrange; 1½&quot; hybrid-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>25 Hz to 20 kHz (re 87 dB SPL) at 1 meter</td>
</tr>
<tr>
<td>Crossover</td>
<td>600 Hz, 5 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>6 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>
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<tr>
<td>Controls</td>
<td>Midrange, tweeter</td>
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<tr>
<td>Features</td>
<td>Overload protection circuit; LED indicator; edgeless grille and cabinet design</td>
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### MORAUNTA-SHORT

#### Mordaunt-Short, Inc.
- **1919 Middle Country Road, Centereach, N.Y. 11720**

### Signifier

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,480/pr. including matching stand</th>
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<tr>
<td>Dimensions</td>
<td>31½H x 15⅛W x 13⅛D</td>
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<tr>
<td>Weight</td>
<td>64 lbs.</td>
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<tr>
<td>Type</td>
<td>Three-way ported bass reflex</td>
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<tr>
<td>Drivers</td>
<td>11 4½&quot; woofer; 5 3½&quot; midrange; 1&quot; wide-dispersion synthetic-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>38 Hz to 25 kHz, +2 dB</td>
</tr>
<tr>
<td>Crossover</td>
<td>500 Hz, 4 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>6 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dBW)</td>
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<td>Controls</td>
<td>Bass: treble</td>
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### Carnival Series 2

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<tr>
<th>Price</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>15¼H x 9⅜W x 5¼D</td>
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<tr>
<td>Weight</td>
<td>11 lbs. 9 oz.</td>
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<tr>
<td>Type</td>
<td>Dynamic</td>
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<tr>
<td>Drivers</td>
<td>8&quot; midrange; 2½&quot; paper-cone tweeter</td>
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<tr>
<td>Response</td>
<td>85 Hz to 17 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>80 watts (19 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Walnut or teak wood finish</td>
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</table>

### Models also available
- Pageant Series 2, $395/pr.; Festival Series 2, $385/pr.
<table>
<thead>
<tr>
<th>Brand</th>
<th>Address</th>
<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>Features</th>
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</thead>
<tbody>
<tr>
<td>NAGRA</td>
<td>Nagra Magnetic Recorders, Inc.</td>
<td>Model 7 Speaker</td>
<td>$280</td>
<td>24½H x 16½W x 11¼D</td>
<td>45 lbs</td>
<td>Type</td>
<td>Toned ducted port</td>
<td>Drivers</td>
<td>Crossover</td>
<td>Impedance</td>
<td>Features</td>
</tr>
<tr>
<td></td>
<td>19 W. 44th St. New York, N.Y. 10036</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12&quot; high-power woofer; 4&quot; x 10&quot; mid-range horn; 1&quot; dome tweeter</td>
<td>Two 12&quot; high-power woofer</td>
<td>120 dB SPL</td>
<td>8 ohms</td>
<td>walnut, oak, teak veneer, removable molded cloth; drivers covered with steel mesh grille, cabinet is walnut-finished vinyl over .05&quot; thick particle board</td>
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<tr>
<td>DSM</td>
<td></td>
<td></td>
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<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td>NEAL-FERROGRAPH</td>
<td>652 Glenbrook Road Glenbrook, Conn. 06906</td>
<td></td>
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<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td>NORDMENDE</td>
<td>Sterling Hi-Fidelity, Inc. 22-20 40th Ave. Long Island City, N.Y. 11101</td>
<td></td>
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<td></td>
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<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td>OLSON</td>
<td>Olson Electronics 260 S. Forge St. Akron, Ohio 44327</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td>SP-580 Pedestal Tower II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Vented with subwoofer</td>
<td>Two 12&quot; subwoofers; 8&quot; woofers; 2&quot; low tweeter; two 1&quot; dome tweeters</td>
<td>35 Hz to 19 kHz</td>
<td>4 or 8 ohms</td>
<td>magnetic damping fluid in tweeters</td>
</tr>
</tbody>
</table>

---

**Driving Tips:**

- NAGRA
  - Type: Magnetic Recorders
  - Address: 19 W. 44th St. New York, N.Y. 10036
  - Price: $1,297
  - Dimensions: 9¼H x 12¼W x 12D
  - Weight: 28 lbs.
  - Type: Acoustic suspension
  - Drivers: Two 10" woofers, 1" tweeter
  - Response: 45 Hz to 20 kHz, ±4 dB (1.5 kHz to 20 kHz, ±2 dB)
  - Crossover: 15 kHz
  - Impedance: 8 ohms
  - Features: Built-in amp

- NEAL-FERROGRAPH
  - Address: 652 Glenbrook Road Glenbrook, Conn. 06906
  - Price: $416
  - Dimensions: 17¼H x 7½W x 1½D
  - Weight: 19 lbs.
  - 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: 8 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

- NORDMENDE
  - Address: Sterling Hi-Fidelity, Inc. 22-20 40th Ave. Long Island City, N.Y. 11101
  - Price: $100/pr.
  - Dimensions: 9H x 6W x 5D
  - Weight: 4 lbs.
  - Type: Dynamic
  - Drivers: 5½" 1¼
  - Response: 50 Hz to 20 kHz
  - Impedance: 4 to 8 ohms
  - Min. power: 3 watts (4 75 dBW)
  - Max. power: 15 watts (11.75 dBW)

- NORM LABORATORIES (Norman Laboratories, Inc. 2278 Industrial Blvd. Norman, Okla. 73069)
  - Nine
    - Price: $470
    - Dimensions: 45½H x 15½W x 15D
    - 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: 15 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

- OHM ACOUSTICS
  - Address: OHM Acoustics Corp. 241 Taaffe Ave. Brooklyn, N.Y. 11205
  - Price: $950
  - Dimensions: 17½H x 17½W x 17¼D (bottom); 13W x 13D (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 fused; 10 lbs. 4 oz magnetic structures; 3'' voice coil

- OLSON
  - Address: Olson Electronics 260 S. Forge St. Akron, Ohio 44327
  - Price: $340
  - Dimensions: 15½H x 16¼W x 15D
  - 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: 1,000 watts (30 dBW)
  - Controls: Four (1 for each tweeter and for 8'' woofer)
  - Features: Walnut, oak, teak, and black cabinets; omnidirectional response

- SP-580 Pedestal Tower II
  - Price: $349.98
  - Dimensions: 41¼H x 12¼W x 12D
  - Weight: 60 lbs.
  - Type: Acoustic suspension; dynamic
  - Drivers: Two 8'' woofers; 1½ voice coil; two 5'' midranges; 1 voice coil; two 2½'' tweeters
  - Response: 60 Hz to 22 kHz
  - Crossover: 600 Hz, 8 kHz
  - Impedance: 8 ohms
  - Min. power: 15 watts (11.75 dBW)
  - Max. power: 135 watts (21.25 dBW)
  - Controls: Tweeter; midrange
  - Features: Two grilles; removable molded cloth; all drivers covered with steel mesh grille, cabinet is walnut-finished vinyl over .05" thick particle board
## Models also available

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Models also available</td>
<td>30 lbs</td>
<td>25H x 15W x 10½D</td>
<td>$229.95</td>
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<tr>
<td>ONKYO</td>
<td>Onkyo U.S.A. Corp.</td>
<td>42-07 20th Ave.</td>
<td>Long Island, N.Y. 1105</td>
</tr>
<tr>
<td>OPTONICA</td>
<td>Sharp Electronics Corp.</td>
<td>10 Keystone Place</td>
<td>Paramus, N.J. 07652</td>
</tr>
<tr>
<td>CP-5151A</td>
<td>$400</td>
<td>28H x 16W x 13¼D</td>
<td>61 lbs. 8 oz.</td>
</tr>
<tr>
<td>Type</td>
<td>Weight</td>
<td>Type</td>
<td>Weight</td>
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<tr>
<td>Acoustic suspension</td>
<td>12&quot; woofer; 2&quot; dome midrange; horn-loaded ribbon tweeter</td>
<td>30 lbs.</td>
<td>50 lbs.</td>
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<tr>
<td>Crossover</td>
<td>30 Hz to 50 kHz</td>
<td>Crossover</td>
<td>30 Hz to 22 kHz</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dBW)</td>
<td>Drivers</td>
<td>12&quot; woofer; 2&quot; dome midrange; horn-loaded ribbon tweeter</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (19.5 dBW)</td>
<td>Drivers</td>
<td>12&quot; woofer; 2&quot; dome midrange; horn-loaded ribbon tweeter</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Response</td>
<td>45 Hz to 20 kHz</td>
<td>Response</td>
<td>45 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>200 Hz; 3 kHz</td>
<td>Crossover</td>
<td>200 Hz; 3 kHz</td>
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<tr>
<td>Impedance</td>
<td>8 ohms</td>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW)</td>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dBW)</td>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
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</table>

## PETROFF LABS

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight</th>
<th>Dimensions</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>Models also available</td>
<td>30 lbs</td>
<td>25H x 15W x 10½D</td>
<td>$400</td>
</tr>
<tr>
<td>Sharp Electronics Corp.</td>
<td>61 lbs. 8 oz.</td>
<td>14H x 25½W x 15¼D</td>
<td>50 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Weight</td>
<td>Type</td>
<td>Weight</td>
</tr>
<tr>
<td>Acoustic suspension</td>
<td>12&quot; woofer; 2&quot; dome midrange; horn-loaded ribbon tweeter</td>
<td>30 lbs.</td>
<td>50 lbs.</td>
</tr>
<tr>
<td>Crossover</td>
<td>30 Hz to 50 kHz</td>
<td>Crossover</td>
<td>30 Hz to 22 kHz</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dBW)</td>
<td>Drivers</td>
<td>12&quot; woofer; 2&quot; dome midrange; horn-loaded ribbon tweeter</td>
</tr>
<tr>
<td>Max. power</td>
<td>100 watts (19.5 dBW)</td>
<td>Drivers</td>
<td>12&quot; woofer; 2&quot; dome midrange; horn-loaded ribbon tweeter</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Response</td>
<td>45 Hz to 20 kHz</td>
<td>Response</td>
<td>45 Hz to 20 kHz</td>
</tr>
<tr>
<td>Crossover</td>
<td>200 Hz; 3 kHz</td>
<td>Crossover</td>
<td>200 Hz; 3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>25 watts (14 dBW)</td>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Max. power</td>
<td>250 watts (24 dBW)</td>
<td>Controls</td>
<td>Midrange, tweeter</td>
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## PHASE RESEARCH

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<tr>
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<th>Dimensions</th>
<th>Price</th>
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<tbody>
<tr>
<td>Models also available</td>
<td>30 lbs</td>
<td>25H x 17W x 12½D</td>
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<tr>
<td>Sharp Electronics Corp.</td>
<td>67 lbs.</td>
<td>14H x 25½W x 15¼D</td>
<td>50 lbs.</td>
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<tr>
<td>Type</td>
<td>Weight</td>
<td>Type</td>
<td>Weight</td>
</tr>
<tr>
<td>Acoustic suspension</td>
<td>12&quot; high-compliance woofer; 2&quot; dome midrange; 1&quot; dome tweeter</td>
<td>30 lbs.</td>
<td>50 lbs.</td>
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<tr>
<td>Crossover</td>
<td>30 Hz to 20 kHz</td>
<td>Crossover</td>
<td>30 Hz to 20 kHz</td>
</tr>
<tr>
<td>Min. power</td>
<td>15 watts (11.75 dBW)</td>
<td>Controls</td>
<td>Upper mid/high frequency contour</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dBW)</td>
<td>Features</td>
<td>Dipole equalized crossover; must be used with PL-6D subwoofer system</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Crossover</td>
<td>200 Hz; 3 kHz</td>
<td>Crossover</td>
<td>200 Hz; 3 kHz</td>
</tr>
<tr>
<td>Impedance</td>
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<td>Controls</td>
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<tr>
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<td>30 watts (14.75 dBW)</td>
<td>Controls</td>
<td>Upper mid/high frequency contour</td>
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<td>Controls</td>
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<td>Impedance</td>
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<td>Model</td>
<td>Type</td>
<td>Price</td>
<td>Dimensions</td>
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<tr>
<td>AH-476</td>
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<td>$240</td>
<td>26H x 13¾W x 11¾D</td>
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<tr>
<td>SJ-2932</td>
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<td>$130</td>
<td>27¾H x 14½W x 12½D</td>
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<tr>
<td>SJ-2931</td>
<td></td>
<td>$100</td>
<td>24H x 13¼W x 11¼D</td>
</tr>
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<td>PIONEER</td>
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<td></td>
<td></td>
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<tr>
<td>HPM-150</td>
<td></td>
<td>$550</td>
<td>26H x 13¼W x 17¼D</td>
</tr>
<tr>
<td>HPM-40</td>
<td></td>
<td>$180</td>
<td>22¼H x 12¼W x 12½D</td>
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<tr>
<td>SJ-2930</td>
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<td>$350</td>
<td>24¼H x 16½W x 11¾D</td>
</tr>
<tr>
<td>PLASMATRONIC</td>
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<tr>
<td>HPM-100</td>
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<td>$350</td>
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<tr>
<td>HPM-60</td>
<td></td>
<td>$260</td>
<td></td>
</tr>
<tr>
<td>HPM-40</td>
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<td>$350</td>
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</tr>
<tr>
<td>HPM-150</td>
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<td>$550</td>
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<tr>
<td>POLK</td>
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<tr>
<td>CS-99A</td>
<td></td>
<td>$350</td>
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### Passif I

<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>Min. power</th>
<th>Max. power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$195</td>
<td>26H x 12W x 10½D</td>
<td>30 lbs.</td>
<td>Passive radiator</td>
<td>11 textile dome tweeter; 7&quot; woofer; 8&quot; passive radiator</td>
<td>50 Hz to 20 kHz, ±2 dB</td>
<td>2 kHz</td>
<td>8 ohms</td>
<td>30 watts (14.75 dBW)</td>
<td>50 watts (17.75 dBW)</td>
<td>Real walnut veneer</td>
</tr>
</tbody>
</table>

### Models also available

- Patiala II, $295; Avantâ’ia Walnut, $170 (walnut); $145 (nylon); Avantâ’ia II, $100

### PYRAMID

#### Pyramid Loudspeaker Corp.

131-15 Fowler Ave.

Flushing, N.Y. 11355

<table>
<thead>
<tr>
<th>Metronome 3</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>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,700/pr.</td>
<td>34H x 21½W x 15¼D</td>
<td>105 lbs.</td>
<td>Acoustic suspension</td>
<td>Two 8&quot; cone woofers; 4&quot; cone midrange; ribbon tweeter</td>
<td>35 Hz to 35 kHz, ±3 dB re 90 dB SPL at 1 meter at 1 watt</td>
<td>650 Hz, 3 kHz</td>
<td>6 ohms</td>
<td>75 watts (18.75 dBW)</td>
<td>200 watts (24.75 dBW)</td>
<td>Unipolar linear diffraction, radiation type</td>
<td></td>
</tr>
</tbody>
</table>

### Models also available

- Presage 17, $119.95; Avantâ’ia Walnut, $170 (walnut); $145 (nylon); Avantâ’ia II, $100

### PSB

#### PSB Speakers

Box 144

St. Jacobs, Ont. NOB/2NO

<table>
<thead>
<tr>
<th>Beta Ia</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>$505</td>
<td>23H x 12W x 10½D</td>
<td>35 lbs.</td>
<td>Acoustic suspension</td>
<td>1&quot; soft-cloth dome tweeter; 8&quot; motional feedback woofer</td>
<td>25 Hz to 20 kHz, ±2 dB</td>
<td>4 ohms</td>
<td>60 watts (19 DBW)</td>
<td>Controls</td>
<td>Listening level (5-position); amo-matching C (11-position)</td>
<td></td>
</tr>
</tbody>
</table>

### Summit Eleven

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$580</td>
<td>33H x 18W x 12¼D</td>
<td>55 lbs.</td>
<td>Acoustic suspension</td>
<td>1&quot; tweeter</td>
<td>20 Hz to 20 kHz</td>
<td>3 ohms</td>
<td>60 watts (19 DBW)</td>
<td>Controls</td>
<td>Listening level (5-position); amo-matching C (11-position)</td>
</tr>
</tbody>
</table>

### Summit Nine

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
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</thead>
<tbody>
<tr>
<td>$445</td>
<td>23H x 16W x 12½D</td>
<td>35 lbs.</td>
<td>Acoustic suspension</td>
<td>1&quot; tweeter</td>
<td>20 Hz to 20 kHz</td>
<td>3 ohms</td>
<td>60 watts (19 DBW)</td>
<td>Controls</td>
<td>Listening level (5-position); amo-matching C (11-position)</td>
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</tbody>
</table>

### QUADRAFLEX

#### Quadraflex Industries

1301 65th St.

Emeryville, Calif. 94608

<table>
<thead>
<tr>
<th>1012B</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$150</td>
<td>27H x 16½W x 10¾D</td>
<td>42 lbs.</td>
<td>Acoustic suspension</td>
<td>12&quot; woofer; 5&quot; midrange cone; 2½&quot; tweeter</td>
<td>28 Hz to 18 kHz, ±4 dB</td>
<td>8 ohms</td>
<td>5 watts (7 DBW)</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

### QYSONIC

#### Qysonic Research Corp.

920 S. Placentia Ave.

Placentia, Calif. 92670

<table>
<thead>
<tr>
<th>Arran</th>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$479</td>
<td>47H x 12½W x 8¼D</td>
<td>55 lbs.</td>
<td>Acoustic suspension</td>
<td>Two 8&quot; woofers; 4½&quot; midrange; 2&quot; spiderless tweeter</td>
<td>28 Hz to 22 kHz, ±3 dB re 92 dB SPL at 1 meter at 1 watt</td>
<td>6 ohms</td>
<td>30 watts (14.75 dBW)</td>
<td>Controls</td>
<td>Midrange; tweeter; polar supertweeter</td>
<td></td>
</tr>
</tbody>
</table>

### Models also available

- Spree, $139; Micro, $99

### REALISTIC

Radio Shack

2617 W. 7th St.

Ft. Worth, Texas 76107

### Optimus T-200

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>$295</td>
<td>23H x 12½W x 12½D</td>
<td>65 lbs.</td>
<td>Acoustic suspension</td>
<td>Two 10&quot; woofers</td>
<td>50 Hz to 20 kHz</td>
<td>8 ohms</td>
<td>150 watts (21.75 DBW)</td>
<td>Controls</td>
<td>Midrange, treble</td>
</tr>
</tbody>
</table>

### Mach One

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>$329</td>
<td>26H x 17½W x 12D</td>
<td>65 lbs.</td>
<td>Acoustic suspension</td>
<td>Two 15&quot; woofers, midrange, horn tweeter</td>
<td>20 Hz to 25 kHz</td>
<td>8 ohms</td>
<td>100 watts (20 DBW) peak</td>
<td>Controls</td>
<td>Midrange; tweeter</td>
</tr>
</tbody>
</table>

### Features

- Wood stand included

#### Laug Subwoofer System

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
<th>Response</th>
<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>$229</td>
<td>33⅓H x 11¼W x 10D</td>
<td>50 lbs.</td>
<td>Acoustic suspension</td>
<td>Two 6&quot; woofers, 2&quot; spiderless tweeter, 2&quot; supertweeter</td>
<td>40 Hz to 25 kHz, ±3 dB re 90 dB SPL at 1 meter at 1 watt</td>
<td>8 kHz</td>
<td>15 watts (11.75 DBW)</td>
<td>Controls</td>
<td>T-200</td>
</tr>
</tbody>
</table>

### Models also available

- Spree, $139; Micro, $99

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*Note: The above information is extracted from the text and formatted into a table for easier readability.*
### Optimus 23
- **Type:** Vented
- **Drivers:** 10" woofer, 2½" tweeter
- **Response:** 55 Hz to 20 kHz
- **Crossover:** 3 kHz
- **Max. power:** 75 watts (18.75 dBW)
- **Weight:** 31 lbs.
- **Dimensions:** 22¼H x 12½W x 11¾D
- **Price:** $99.95

### Nova 6
- **Min. power:** 7 watts (8.5 dBW)
- **Max. power:** 45 watts (16.5 dBW)
- **Impedance:** 8 ohms
- **Driver:** 10" woofer, 3" tweeter
- **Crossover:** 5 kHz
- **Price:** $80

### Minimus 7
- **Impedance:** 8 ohms
- **Min. power:** 7 watts (8.5 dBW)
- **Max. power:** 40 watts (16 dBW continuous)
- **Weight:** 7 lbs.
- **Dimensions:** 7¾H x 4½W x 4¾D
- **Price:** $50

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

### REGA RESEARCH LTD.
- **Price:** $80

### CBS Retail Stores
- **Price:** $299.95
- **Dimensions:** 25¼H x 14½W x 11½D
- **Weight:** 50 lbs.
- **Price:** $299.95

### Studio 3600
- **Dimensions:** 25¼H x 14½W x 11½D
- **Price:** $560/pr

### LS 3/5a BBC Monitor
- **Price:** $560/pr
- **Dimensions:** 12¼H x 7½W x 6½D
- **Weight:** 11 lbs. 8 oz.
- **Price:** $80

### Rogersound Labs, Inc.
- **Price:** $1,495
- **Dimensions:** 49½H x 16½W x 16½D

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#### Models also available
- Monitor 2, $900/pr.; Campact Monitor, $660/pr.

#### Models also available
- Monitor 2, $900/pr.; Campact Monitor, $660/pr.
### Crossover

<table>
<thead>
<tr>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
<th>Drivers</th>
<th>Weight</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic/dynamic</td>
<td>12&quot;, two 10&quot; woofers, 14&quot; diameter cylindrical electrostatic radiator</td>
<td>Electrostatic volume, treble</td>
<td>150 watts (21.75 dB) for woofer section</td>
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### 600D

<table>
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<th>Type</th>
<th>Controls</th>
<th>Features</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
<th>Drivers</th>
<th>Weight</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$600</td>
<td>48H x 16 1/2W x 16 1/2D</td>
<td>112 lbs.</td>
<td>Acoustic suspension</td>
<td>Two 12&quot; woofers, two 1 1/2&quot; soft-dome midranges, two 1&quot; soft-dome tweeters</td>
<td>Circuit breaker</td>
<td>32 Hz to 20 kHz, +2 dB re 91.5 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>10 watts (10 dBW)</td>
<td>Tweeter, woofer</td>
<td>Tweeter level; user-resettable circuit-breaker protection</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ESR-15

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
<th>Drivers</th>
<th>Weight</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$400</td>
<td>19 1/4H x 16 1/2W x 16 1/2D</td>
<td>48 lbs.</td>
<td>Electrostatic tweeter array</td>
<td>Fifteen 3&quot; x 6&quot; HF-50 electrostatic panels</td>
<td>Circuit breaker</td>
<td>1.25 kHz to 20 kHz, +2 dB re 95 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td></td>
<td>Tweeter, woofer</td>
<td>Same as Model G-200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### G-10

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
<th>Max. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
<th>Drivers</th>
<th>Weight</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$190</td>
<td>25 1/4H x 14 1/4W x 11D</td>
<td>44 lbs.</td>
<td>Vented</td>
<td>Eight 8 ohms</td>
<td>Tweeter, woofer</td>
<td>48 Hz to 20 kHz, +3 dB re 91 dB SPL at 1 meter at 1 watt</td>
<td>2 kHz</td>
<td></td>
<td>Tweeter level; user-resettable circuit-breaker protection</td>
<td>Same as Model G-200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Models also available

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

### SANSUI

#### Sansui Electronics Corp.

1250 Valley Brook Ave.
Lyndhurst, N.J. 07071

#### Price

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$680</td>
<td>35 1/16H x 16 15/16W x 14 13/16</td>
<td>8 lbs.</td>
<td>Bass reflex</td>
<td>Tweeter, woofer</td>
<td>Circuit breaker, walnut-grain vinyl finish, black double-knit grille</td>
</tr>
</tbody>
</table>

### SANSUI Models

- **Model G-200**
- **Model G-10**
- **Model ESR-15**
- **Models also available**

### SHAHIDAN

#### Obellak

#### Price

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$335</td>
<td>27 1/16H x 18 1/2W x 10 5/8D</td>
<td>39 lbs. 3 oz.</td>
<td>Bass reflex</td>
<td>Tweeter, woofer</td>
<td>Tweeter level; user-resettable circuit-breaker protection</td>
</tr>
</tbody>
</table>

### SPA

#### Price

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<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$120</td>
<td>22 13/16H x 13 3/16W x 11 1/4D</td>
<td>26 lbs. 14 oz.</td>
<td>Acoustic suspension</td>
<td>Midrange, tweeter</td>
<td>Circuit breaker, walnut-grain vinyl finish, black double-knit grille</td>
</tr>
</tbody>
</table>

### Price

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$300</td>
<td>25 3/16H x 22 kHz re 95 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td>Bass reflex</td>
<td>Tweeter</td>
<td>Tweeter level; user-resettable circuit-breaker protection</td>
</tr>
</tbody>
</table>

### Price

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Controls</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$335</td>
<td>30 Hz to 22 kHz re 95 dB SPL at 1 meter at 1 watt</td>
<td>8 ohms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>Price</td>
<td>Dimensions</td>
<td>Weight</td>
<td>Type</td>
<td>Drivers</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>------------</td>
<td>--------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>S-188T</td>
<td>$230</td>
<td>33 X 13 X 10</td>
<td>44 lbs</td>
<td>Air suspension</td>
<td>10&quot; woofer; 4 1/2&quot; midrange; 1&quot; dome tweeter</td>
</tr>
<tr>
<td>S-177B</td>
<td>$120</td>
<td>19 X 11 X 9</td>
<td>20 lbs</td>
<td>Air suspension</td>
<td>8&quot; woofer; 5&quot; midrange; 1 1/2&quot; tweeter</td>
</tr>
<tr>
<td>S-176B</td>
<td>$90</td>
<td>18 X 10 X 8</td>
<td>17 lbs</td>
<td>Bass reflex with tuned port</td>
<td>8&quot; woofer; 1&quot; dome tweeter</td>
</tr>
<tr>
<td>S-177T</td>
<td>$125</td>
<td>28 X 16 X 12</td>
<td>19 lbs</td>
<td>Hybrid transmission line with passive radiator</td>
<td>10&quot; woofer; 4&quot; dome tweeter</td>
</tr>
<tr>
<td>S-188T</td>
<td>$230</td>
<td>33 X 13 X 10</td>
<td>44 lbs</td>
<td>Air suspension</td>
<td>10&quot; woofer; 4 1/2&quot; midrange; 1&quot; dome tweeter</td>
</tr>
</tbody>
</table>

**Models also available**

- **SP-L800, $595; SP-X9700, $399; SP-X7700, $290; SPA-1100, $800 (40 Hz-20 kHz, +4 dB re 96 dB)***

**SCOTT**

**H. H. Scott, Inc.**

20 Commerce Way

Woburn, Mass. 01801

Pro 100B

| Price | $550 | 29 1/4 X 19 X 14 1/2 | 48 lbs | Air suspension | 15" woofer, two 4 1/2" cone midranges; two 1" dome tweeters | 36 Hz to 20 kHz, +4 dB re 84 dB | 1 meter | 3.5 kHz | 4 ohms | 20 watts (13 dB) | 300 watts (24.75 kW) | MIdrange, tweeter, speaker adjustment |

**SHAHINIAN** SHAHINIAN Acoustics, Ltd.

4 Selden Court

Selden, N.Y. 11784

Obelisk

| Price | $400 | 26 X 14 X 12 | 50 lbs | Hybrid transmission line with passive radiator | 8" woofer; 4" dome tweeter | 35 Hz to 18 kHz, +2.3 dB re 90 dB | 1 meter | 3.5 kHz | 6 to 8 ohms | 25 watts (14 dB) | 350 watts (25.5 dB) | None |

**SHOWCO** Showco Manufacturing Corp.

1225 Round Table Drive

Dallas, Texas 75247

1718-S

| Price | $1,005 | 88 X 49 1/2 X 22 1/4 | 64 lbs | Hybrid transmission line with passive radiator | 10" passive radiator | 38 Hz to 20 kHz, +4 dB re 96 dB | 1 meter | 3.5 kHz | 6 to 8 ohms | 120 watts (20.75 kW) | MIdrange, tweeter | Extra-long voice coil; high-power construction woofer; oiled-walnut veneer cabinet |

**Models also available**

- **SP-5400, $450; SP-6400, $650; SP-7400, $850; SP-8400, $1,050***

**SNELL ACOUSTICS**

Snell Acoustics

10 Prince Place

Newburyport, Mass. 01950

Type A

| Price | $840 | 46 1/2 X 23 X 13 | 97 lbs | Acoustic suspension | 10" woofer; 4" cone midrange; 1" dome tweeter | 36 Hz to 18 kHz, +3.5 dB re 1800 Hz; 5 kHz | 20 Hz to 100 Hz | 4 dB re 101.5 kHz | 8 ohms | 10 watts (10 dB) | 80 watts (19 dB) | MIdrange, tweeter | Tweeter |

**SONIC SYSTEMS**

Sonic Systems

6165 N. Rosemead Blvd.

Temple City, Calif. 91780

Tower

| Price | $1,100 | 39 1/4 X 21 1/2 X 19 | 135 lbs | Radial-slot port bass reflex | 12" woofer; two compression drivers | 30 Hz to 20 kHz, +3.5 dB re 94 dB | 1 meter | 1 kHz | 8 ohms | 10 watts (10 dB) | 40 watts (25.5 dB) | None |

**Studio B-1**

| Price | $135 | 23 1/2 X 12 1/2 X 11 1/4 | 30 lbs | Acoustic suspension | 6-cube woofer, 4" cone midrange; 1" soft-dome tweeter | 45 Hz to 20 kHz, +3 dB | 5399 |

**Models also available**

- **Pyramid, $1,800; Pyramid, $780; Pyramid, $390; Pyramid, $150; $630***

**Tower design**
### Fried Super Subwoofer

- **Price:** $2,450 (assembled); $1,250 (kit)
- **Dimensions:** 36-1/2H x 30W x 21D
- **Weight:** 90 lbs.
- **Type:** Acoustic suspension
- **Drivers:** 12" Bextrene woofer; 6" Bextrene midrange; 1" low-mass soft-dome Audax tweeter
- **Response:** 30 Hz to 20 kHz, ± 3 dB
- **Crossover:** 3 kHz
- **Impedance:** 8 ohms
- **Min. power:** 25 watts (14 dBW)
- **Max. power:** 100 watts (20 dBW)
- **Features:** Bituminous felt and long-fiber wool damping, diffraction-free enclosure

### Fried T Subwoofer

- **Price:** $700 (assembled); $360 (kit)
- **Dimensions:** 21-1/4H x 12-1/2W x 44-1/4D
- **Weight:** 88 lbs.
- **Type:** Transmission line
- **Drivers:** 10" high-power Bextrene woofer
- **Response:** 60 Hz to 20 kHz, ± 3 dB
- **Crossover:** 3 kHz
- **Impedance:** 8 ohms
- **Min. power:** 25 watts (14 dBW)
- **Max. power:** 100 watts (20 dBW)
- **Features:** Passive crossover, biampl inputs provided

### The Spirit

- **Price:** $400/pr.
- **Dimensions:** 20H x 13-1/4W x 11D
- **Weight:** 38 lbs.
<table>
<thead>
<tr>
<th>Type</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweeter, midrange</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>IM line-driver arrangement</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>Tweeter</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>26H x 141/2W x 103/4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs</td>
</tr>
<tr>
<td>Price</td>
<td>$100</td>
</tr>
</tbody>
</table>

**SOUND DYNAMICS**

**Sound Dynamics Corp.**

**161 Don Park Road**

**Markham, Ontario L3R/1C2**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweeter, midrange</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>IM line-driver arrangement</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>Tweeter</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>26H x 141/2W x 103/4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs</td>
</tr>
<tr>
<td>Price</td>
<td>$100</td>
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</tbody>
</table>

**SOUND MATES**

**Soundmates, Inc.**

**796 29th Ave., S.E.**

**Minneapolis, Minn. 55414**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweeter, midrange</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>IM line-driver arrangement</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>Tweeter</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>26H x 141/2W x 103/4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs</td>
</tr>
<tr>
<td>Price</td>
<td>$100</td>
</tr>
</tbody>
</table>

**SPEAKERCRAFT**

**Speakercraft of Oregon**

**P.O. Box 13460**

**Portland, Ore, 97213**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweeter, midrange</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>IM line-driver arrangement</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>Tweeter</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>26H x 141/2W x 103/4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs</td>
</tr>
<tr>
<td>Price</td>
<td>$100</td>
</tr>
</tbody>
</table>

**SYLVAN MONITOR**

**Speakercraft of Oregon**

**P.O. Box 13460**

**Portland, Ore, 97213**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweeter, midrange</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>IM line-driver arrangement</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>Tweeter</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
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<table>
<thead>
<tr>
<th>Dimensions</th>
<th>26H x 141/2W x 103/4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs</td>
</tr>
<tr>
<td>Price</td>
<td>$100</td>
</tr>
</tbody>
</table>

**SPEAKERLAB**

**Speakerlab, Inc.**

**735 N. Northlake Way**

**Seattle, Wash. 98103**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweeter, midrange</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>IM line-driver arrangement</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>Tweeter</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>26H x 141/2W x 103/4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs</td>
</tr>
<tr>
<td>Price</td>
<td>$100</td>
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**S-6**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. power</th>
<th>Min. power</th>
<th>Impedance</th>
<th>Crossover</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweeter, midrange</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>IM line-driver arrangement</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
<tr>
<td>Tweeter</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>4 kHz; 7.5 kHz</td>
<td>800 Hz to 20 kHz</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>26H x 141/2W x 103/4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>25 lbs</td>
</tr>
<tr>
<td>Price</td>
<td>$100</td>
</tr>
</tbody>
</table>
### Sonic Systems Tower

<table>
<thead>
<tr>
<th>Weight</th>
<th>70 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer; 4½&quot; x 4½&quot; Wave Aperature® driver; 4&quot; x 8½&quot; Wave Aperature® driver</td>
</tr>
<tr>
<td>Response</td>
<td>91 dB SPL at 1 meter at 1 watt</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>15 watts (11.75 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Extremely wide dispersion Wave Aperature® midrange and tweeter, fluid damped with Magnor®, Polylam®, double-layer woofer and midrange cone construction</td>
</tr>
</tbody>
</table>

### S-4

<table>
<thead>
<tr>
<th>Price</th>
<th>$310 (vinyl kit, $199)</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>27¼H x 15⅞W x 11¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>70 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; woofer, 6&quot; midrange, 4&quot; x 8½&quot; Wave Aperature® driver</td>
</tr>
<tr>
<td>Response</td>
<td>91 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>600 Hz; 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>200 watts (23 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Extremely wide dispersion Wave Aperature® compression tweeter, fluid damped with Magnor®, Polylam®, double-layer woofer and midrange cone construction</td>
</tr>
</tbody>
</table>

### S-2.5

<table>
<thead>
<tr>
<th>Price</th>
<th>$215 (vinyl kit, $139)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>26¼H x 15¼W x 10¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>56 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>10&quot; woofer, 6&quot; midrange, 1&quot; dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>91 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>500 Hz; 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>150 watts (21.75 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Midrange, tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Polylam® double-layer woofer and midrange cone construction</td>
</tr>
</tbody>
</table>

### S-1

<table>
<thead>
<tr>
<th>Price</th>
<th>$115 (vinyl kit $67)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>20¾H x 11¼W x 8¼D</td>
</tr>
<tr>
<td>Weight</td>
<td>31 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>8&quot; woofer, 1&quot; recessed-dome tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>92 dB SPL at 1 meter at 1 watt</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>75 watts (18.75 dBW)</td>
</tr>
<tr>
<td>Controls</td>
<td>Tweeter</td>
</tr>
<tr>
<td>Features</td>
<td>Polylam® double-layer woofer cone construction</td>
</tr>
</tbody>
</table>

### SPECKMAN

**J.W.S. Acoustic Design Corp.**

**11407A Route 14**

**Harvard, Ill. 60033**

#### S-415 Titus

<table>
<thead>
<tr>
<th>Price</th>
<th>$1,025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>36H x 15¼ dia.; x 18 dia., with legs</td>
</tr>
<tr>
<td>Weight</td>
<td>75 lbs. (approx., depending on leg style)</td>
</tr>
<tr>
<td>Type</td>
<td>Cylindrical Column of Air Effect® subchamber</td>
</tr>
<tr>
<td>Drivers</td>
<td>15&quot; extended-range subwoofer; 4&quot; lower midrange; two 2&quot; dome midranges; two 1&quot; dome tweeters</td>
</tr>
<tr>
<td>Response</td>
<td>19 Hz to 20 KHz, ±2 dB re 91 dB SPL at 1 meter at 1 watt</td>
</tr>
<tr>
<td>Crossover</td>
<td>450 Hz; 2 kHz; 6 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>250 watts (24 dBW)</td>
</tr>
<tr>
<td>Features</td>
<td>Midnight-black flat smooth finish with interchangeable pecan legs; chain package available for hanging</td>
</tr>
</tbody>
</table>

### Models also available

- S-7 WA, $500 (vinyl kit, $309); S-30, $330 walnut kit (vinyl kit, $285); S-3, $275 (vinyl kit, $169); S-2, $159 (vinyl kit, $97); Speakerlab 01, $99 (vinyl kit, $85)

#### SPECKMAN

**S-415 Titus**

**Price** $1,025

**Dimensions** 36H x 15¼ 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** 25 watts (14 dBW)

**Max. power** 250 watts (24 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

<table>
<thead>
<tr>
<th>Price</th>
<th>$625 (walnut veneer), $900 (rosewood veneer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>31½H x 15½W x 15½D</td>
</tr>
<tr>
<td>Weight</td>
<td>75 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Modified reflex</td>
</tr>
<tr>
<td>Drivers</td>
<td>12&quot; Spendor woofer; 8&quot; Spendor midrange driver; Celestion 1300 woofer, Celestion 2000 tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>30 Hz to 25 kHz (50 Hz to 14 kHz, ±2.0 dB)</td>
</tr>
<tr>
<td>Crossover</td>
<td>700 Hz; 3 kHz; 13 kHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Min. power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Max. power</td>
<td>80 watts (19 dBW)</td>
</tr>
</tbody>
</table>

### Models also available

- BC-1, $375 (walnut veneer); $415 (rosewood veneer)

#### SA-1 Mini Monitor

<table>
<thead>
<tr>
<th>Price</th>
<th>$230 (walnut veneer), $250 (rosewood veneer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>12¾H x 9W x 9D</td>
</tr>
<tr>
<td>Weight</td>
<td>16 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Drivers</td>
<td>6&quot; Spendor woofer; Son Audax HD 12.8 D25 tweeter</td>
</tr>
<tr>
<td>Response</td>
<td>50 Hz to 20 kHz (70 Hz to 14 kHz, 3 dB)</td>
</tr>
<tr>
<td>Crossover</td>
<td>3 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>40 watts (16 dBW)</td>
</tr>
</tbody>
</table>

### Models also available

- BC-1, $375 (walnut veneer); $415 (rosewood veneer)

#### STRELOFF

**Streloff System Designs**

**5305 Teudilla Ave.**

**Woodland Hills, Calif. 91364**

#### TS-1 Transducer System

<table>
<thead>
<tr>
<th>Price</th>
<th>$5,500/1 pr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>66H x 36W x 18D</td>
</tr>
<tr>
<td>Weight</td>
<td>210 lbs.</td>
</tr>
<tr>
<td>Type</td>
<td>Acoustic suspension</td>
</tr>
<tr>
<td>Drivers</td>
<td>Two 10&quot; cast-aluminum frame</td>
</tr>
</tbody>
</table>

**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

woofers; six 1 1/2" 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 dB W)
Max. power: 500 watts (27 dB W)

Controls: Biamp; triamp; low frequency roll-off (mode switches); 10 dB attenuation for each frequency range (rotary switches)

Features: Custom finishes available

ME-1 Monitor Bass Extender

Price: $950
Dimensions: 48W x 20H 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 dB W)
Max. power: 200 watts (23 dB W)

Controls: Individual input terminals for either mono or stereo applications; cabinet construction includes high-density 1 1/2" 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: 39H x 51W x 6 1/2D
Weight: 130 lbs.

Type: Dynamic
Drivers: Six 12" woofers; four 6" mid/high drivers; 7 1/4" x 2 1/4" 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-protect unit

SUPEREX

Superex Electronics Corp.
151 Ludlow St.
Yonkers, N.Y. 10705

Satellite/1

Price: $89.95
Dimensions: 10 1/4H x 8 1/2W x 6D
Weight: 5 lbs. 3 oz.

Type: Dynamic high-frequency augmentation
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
Max. power: 100 watts (20 dB W)

Features: High-frequency attenuator

SYNERGISTICS

Maybern Co.
9565 Midwest Ave.
Cleveland, Ohio 44125

S-92 Panels and Commode

Price: $2,000
Dimensions: Commode: 19 1/4H x 38W x 18D; panels: 61H x 23W x 4D
Weight: Commode: 130 lbs.; panels: 70 lbs.

Type: Acoustic suspension
Drivers: Six 4 1/2" 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 dB W)
Max. power: 600 watts (27.75 dB W)

Controls: Midrange and tweeter levels
Features: Circuit breakers; 1/4" high-density particle board finished with genuine hand-rubbed walnut veneer; 3-piece bipolar with stereo subwoofer

S-73 Tower

Price: $175
Dimensions: 46 1/2H x 21 1/4W x 15D
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 dB W)
Max. power: 150 watts (21.75 DBW)

Controls: Tweeter level
Features: 1/4" high-density particle board finished with genuine hand-rubbed walnut veneer; bipolar design; circuit breaker

S-51C

Price: $325
Dimensions: 25 1/2H x 14 1/4W x 11 1/2D
Weight: 41 lbs.

Type: Vented
Drivers: 12" passive radiator; 8" high-compliance woofer; piezoelectric super tweeter, 2 1/4" 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 DB W)

Controls: Tweeter level
Features: 1/4" high-density particle board finished with genuine hand-rubbed walnut veneer; circuit breaker

S-33

Price: $175
Dimensions: 25 1/2H x 14 1/4W x 11 1/2D
Weight: 37 lbs.

Type: Vented
Drivers: 10" passive radiator; 8" woofer; 2 1/2" tweeter
Response: 40 Hz to 18 kHz, ± 4 dB
Crossover: 50 Hz, 2.5 kHz
Impedance: 8 ohms
Min. power: 6 watts (7.75 DB W)
Max. power: 50 watts (17 DB W)

Controls: Tweeter level
Features: 1/4" high-density particle board finished in walnut-grain vinyl; circuit breaker

S-22B

Price: $130
Dimensions: 23H x 12W x 9 1/2D
Weight: 29 lbs.

Type: Acoustic suspension
Drivers: 8" woofer; 2 1/2" 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 DB W)

Features: 1/4" high-density particle board finished in walnut-grain vinyl

Models also available:

S-63 Tower, $400; S-53 Tower, $325; S-46, $250; S-22, $150; S-12B, $100

TAMON

Tamon Audio Corp. of America
P.O. Box 322
Concord, Calif. 94522

TS-707

Price: $380
Dimensions: 31 1/4H x 16 1/4W x 11 1/2D
Weight: 55 lbs.

Type: Infinite baffle
Drivers: 15" cone woofer; two 5" sealed-back cone midranges; 3" ring-radiating tweeter; 2 1/2" metallic super tweeter

Response: 50 Hz to 35 kHz
Crossover: 600 Hz; 6 kHz; 15 kHz
Impedance: 8 ohms
Max. power: 110 watts (20.5 DB W); 200 watts (23 DBW) peak

CRO-40L

Price: $250
Dimensions: 22H x 12 1/2W x 11 1/4D
Weight: 27 lbs. 8 oz.

Type: Infinite baffle
Drivers: 10" cone woofer; 5" sealed-back cone midrange; 3" cone tweeter

Response: 38 Hz to 22 kHz
Crossover: 800 Hz; 3 kHz
Impedance: 8 ohms
Max. power: 40 watts (15.5 DB W); 60 watts (17.75 DBW) peak

CRO-404

Price: $249.95
Dimensions: 22 1/2H x 12 1/4W x 11 1/4D
Weight: 27 lbs. 8 oz.

Type: Infinite baffle
Drivers: 10" cone woofer; 5" sealed-back cone midrange; 3" ring-radiating tweeter

Response: 38 Hz to 35 kHz
Crossover: 800 Hz; 2.5 kHz
Impedance: 8 ohms
Max. power: 60 watts (17.75 DB W); 100 watts (20 DBW) peak

LB-1030

Price: $299.95 (with mounting brackets)
Dimensions: 7H x 4 1/2W x 4 1/4D
Type: Dynamic
Drivers: 4" long-throw tweeter; 1" soft-dome tweeter

Response: 60 Hz to 20 kHz
Min. power: 15 watts (11.75 DB W)
Features: Suitable for home or auto use

CRO-30L

Price: $140
Dimensions: 19H x 10 1/4W x 8 1/4D
Weight: 16 lbs.

Type: Infinite baffle
Drivers: 8" cone woofer; 3" cone tweeter

Response: 45 Hz to 22 kHz
Crossover: 3 kHz
Impedance: 8 ohms
Max. power: 25 watts (14 DB W); 40 watts (16 DBW) peak

Models also available:
CRO-30L, $360; TS-505, $349; CRO-33L, $169; TS-303, $140

TANDBERG

Tandberg of America, Inc.
Labriola Court
Armour, N.Y. 10504

Fasets

Price: $200/pr.

High Fidelity's Buying Guide to Speaker Systems
Buckingham

Price $2,250
Dimensions 46H x 24W x 18D
Weight 212 lbs.
Type Ducted port
Drivers 15" woofer with compression high-frequency tweeter mounted on common axis
Response 45 Hz to 20 kHz, ±3 dB
Crossover 1 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Treble rolloff, treble energy
Features Phase-coherent integrated design

Berkeley

Price $665
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, ±3 dB
Crossover 1 kHz
Impedance 8 ohms
Min. power 10 watts (10 dBW)
Max. power 150 watts (21.75 dBW) continuous
Controls Treble rolloff, treble energy
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 $295
Dimensions 24H x 12W x 10D
Weight 40 lbs.
Type Ducted port
Drivers 10" woofer with compression high-frequency tweeter mounted on common axis
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. 07094

1980 Edition

TECHNISOUND

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, 6" midrange driver, 3" tweeter
Response 65 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
Windsor, $1,250; Arden, $777; 185, $425
| Models available | Sound Window/Tracer 1001A, $349 |

### Dimensicons

### Sound IEnds/Tracker 701

| Price | $249 |
| Dimensions | 19 1/4 x 18 1/2 x 5 1/4D |
| Weight | 25 lbs |
| Type | Acoustic suspension line |
| Drivers | 41/2" acoustic bass radiator; 11/2" direct radiator tweeters |
| Response | 32 Hz to 20 kHz, ±3 dB re 91 dB |
| Impedance | 5 ohms |
| Min. power | 30 watts (14.75 dBW) |
| Max. power | 200 watts (23 dBW) |
| Features | Fuse protection, direct coupled |

### Models also available

| Tri-Delta III | Models also available |
| Price | $399 |
| Dimensions | 29H x 34 1/2W x 28 3/4D |
| Weight | 60 lbs |
| Type | Air suspension |
| Drivers | Two 10" con ce woofers; 5" cone midrange, 4" dome tweeter |
| Response | 20 Hz to 23 kHz, ±3 dB re 90 dB |
| Impedance | 8 ohms |
| Min. power | 15 watts (11.5 dBW) |
| Max. power | 200 watts (23 dBW) |
| Features | Tetrachord design; enclosure measures 33" on an edge |

### Tri-Delta I

| Price | $259.95 |
| Dimensions | 24 1/4H x 28 1/4W x 23 1/2D |
| Weight | 37 lbs |
| Type | Acoustic suspension |
| Drivers | 10" cone woofer; 5" cone midrange, 4" dome tweeter |
| Response | 25 Hz to 22 kHz, ±3 dB re 92 dB |
| Impedance | 8 ohms |
| Min. power | 10 watts (10 dBW) |
| Max. power | 75 watts (18.75 dBW) |
| Features | Tetrachord design; enclosure measures 27" on an edge |

### Models also available

| Tr- Delta III, $350; Tr-Delta II, $312 |

### TRUSONIC

| Price | $199.95 |
| Dimensions | 241/4H x 14 1/2W x 12D |
| Weight | 35 lbs |
| Type | Air suspension |
| Drivers | 12" woofer, 41/2" midrange, 21/2" tweeter |
| Response | 30 Hz to 19 kHz |
| Impedance | 8 ohms |
| Min. power | 8 watts (9 dBW) |
| Max. power | 50 watts (17 dBW) |

### ULTRALINEAR

### Ultralinear Loudspeakers

### Monitor Seven

| Price | $990 |
| Dimensions | 44H x 24W x 17D |
| Weight | 155 lbs |
| Type | High-efficiency acoustic suspension |
| Drivers | Two 12" cast frame woofers; 6" cast frame midrange with 110 ounce magnet structure, four solid-state tweeters |
| Response | 25 Hz to 22 kHz, ±4 dB re 94 dB |
| Impedance | 8 ohms |
| Min. power | 10 watts (10 dBW) |
| Max. power | 250 watts (24 dBW) |
| Controls | Midrange, ±5 dB, high range, ±5 dB |
| Features | Computer-assisted design; "Critical Q" oiled-oak cabinet, brown double-knit grille |

### ULTRALINEAR

### Ultralinear Loudspeakers

### Monitor Seven

| Price | $990 |
| Dimensions | 44H x 24W x 17D |
| Weight | 155 lbs |
| Type | High-efficiency acoustic suspension |
| Drivers | Two 12" cast frame woofers; 6" cast frame midrange with 110 ounce magnet structure, four solid-state tweeters |
| Response | 25 Hz to 22 kHz, ±4 dB re 94 dB |
| Impedance | 8 ohms |
| Min. power | 10 watts (10 dBW) |
| Max. power | 250 watts (24 dBW) |
| Controls | Midrange, ±5 dB, high range, ±5 dB |
| Features | Computer-assisted design; "Critical Q" oiled-oak cabinet, brown double-knit grille |

### Models also available

| 1011 B, $189 95; 93, $149.95; 66A, $249.95; 188, $239.95; TM-116, $429.95; 228, $279.95 |

### 82

| Price | $119 95 |
| Dimensions | 20 3/4H x 11 3/4W x 9 1/4D |
| Weight | 42 lbs |
| Type | High-compliance woofer, 3" high-frequency radiator |
| Drivers | 40 Hz to 16.5 kHz |
| Impedance | 8 ohms |
| Min. power | 8 watts (9 dBW) |
| Max. power | 50 watts (17 dBW) |
| Features | Circuit breaker protected, walnut cabinet |

### Models also available

| TM-116, $429.95, 228, $279.95; HPS-112, $249.95, 188, $239.95, DW-8, $179.95, 93, $149.95, 66A, $139 95 |

### VERIT

### Wald Sound, Inc.

### RL-X5

| Price | $479 |
| Dimensions | 39H x 14 1/2W x 14 1/4D |
| Weight | 53 lbs |
| Type | Mass-compliance tuned passive radiator |
### Models also available

- **SL-4**, $179.95; **SL-3**, $119.95; **SL-2**, $99.95

**VISONIK HIFI**

Visonik of America, Inc.

701 Heinz St.

Berkeley, Calif. 94710

### David 9000

**Price**

$300

- **Dimensions**: 14¼H x 9¼W x 9¼D
- **Weight**: 19 lbs. 12 oz.
- **Type**: Acoustic suspension
- **Drivers**: 7” woofers, 1½” midranges, 1¼” tweeter
- **Response**: 35 Hz to 25 kHz, +4 dB, -8 dB re 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 2.5 kHz
- **Impedance**: 4 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 120 watts (20.75 dBW)

### David 6000

**Price**

$150

- **Dimensions**: 7¼H x 5¼W x 5D
- **Weight**: 6 lbs. 12 oz.
- **Type**: Acoustic suspension
- **Drivers**: 6” woofers, 1½” midrange, 3/4” dome tweeter
- **Response**: 30 Hz to 30 kHz, +4 dB, -8 dB re 87 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 (16.5 dBW)

### D-803

**Price**

$250 (black), $280 (walnut)

- **Dimensions**: 12¼H x 7¼W x 8D
- **Weight**: 19 lbs.
- **Type**: Acoustic suspension
- **Drivers**: 7½” woofer, 1½” midrange, ¾” dome tweeter
- **Response**: 30 Hz to 30 kHz, +4 dB, -8 dB re 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 1.1 kHz
- **Impedance**: 4 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 120 watts (20.75 dBW)

### D-602

**Price**

$160 (black), $170 (walnut)

- **Dimensions**: 9½H x 5¼W x 5¼D
- **Weight**: 9 lbs.
- **Type**: Acoustic suspension
- **Drivers**: 5” woofers, 1” dome tweeter
- **Response**: 38 Hz to 25 kHz, +4 dB, -8 dB re 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 1.4 kHz
- **Impedance**: 4 ohms
- **Min. power**: 15 watts (11.75 dBW)
- **Max. power**: 80 watts (19 dBW)

### D-5000

**Price**

$130 (optional bracket, $10)

- **Dimensions**: 6½H x 4½W x 4½D
- **Weight**: 5 lbs. 8 oz.
- **Type**: Acoustic suspension
- **Drivers**: 4” woofers, 1” soft-dome tweeter
- **Response**: 50 Hz to 25 kHz, +4 dB, -8 dB re 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 2.5 kHz
- **Impedance**: 4 ohms
- **Min. power**: 10 watts (10 dBW)
- **Max. power**: 50 watts (17 dBW)

#### SUBWOOFER SERIES

### SUB 2

**Price**

$300

- **Dimensions**: 19H x 14W x 11D
- **Weight**: 38 lbs.
- **Type**: Acoustic suspension
- **Drivers**: 10” dual voice-coil woofer
- **Response**: 24 Hz to 25 kHz, +4 dB, -8 dB re 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 150 Hz, 2.5 kHz
- **Impedance**: 4 ohms
- **Min. power**: 40 watts (16 dBW)
- **Max. power**: 240 watts (23.75 dBW)
- **Features**: Mini subwoofer with built-in crossover

### EURO SERIES

#### Euro 5

**Price**

$200

- **Dimensions**: 19H x 11W x 9¼D
- **Weight**: 24 lbs.
- **Type**: Acoustic suspension
- **Drivers**: 8” woofers, 1½” soft-dome tweeter
- **Response**: 35 Hz to 25 kHz, +4 dB, -8 dB re 87 dB SPL at 1 meter at 1 watt
- **Crossover**: 1.3 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; D-702, $210 (black), $240 (walnut), D-502, $120, SUB 1, $400, Euro 7, $360

### DICK WAGNER

Dick Wagner

5930 Penfield Ave.

Woodland Hills, Calif. 91367

#### DW-1

**Price**

$6,000/pr.

- **Dimensions**: 63H x 46W x 20D
- **Weight**: 160 lbs.
- **Type**: Sealed woofer, dipolar midrange
- **Drivers**: 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

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1980 Edition
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<th>Dimensions</th>
<th>Weight</th>
<th>Type</th>
<th>Drivers</th>
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<th>Impedance</th>
<th>Min. power</th>
<th>Max. power</th>
<th>Features</th>
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<tr>
<td>Model Five</td>
<td>$840/pr</td>
<td>32H x 15W x 14D</td>
<td>38 lbs.</td>
<td>Inert gas suspension</td>
<td>6&quot; woofer, 6.5&quot; midrange, 1&quot; soft-dome tweeter</td>
<td>60 Hz to 20 kHz, ±3 dB re 87 dB SPL at 1 meter at 1 watt</td>
<td>4 ohms</td>
<td>10 watts (10 dBW)</td>
<td>35 watts (15.5 dBW)</td>
<td>Low-frequency, tweeter</td>
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<tr>
<td>XP-20 Denton</td>
<td>$99</td>
<td>14H x 10W x 9D</td>
<td>112 lbs</td>
<td>Acoustic suspension</td>
<td>6½&quot; woofer, 2&quot; tweeter</td>
<td>65 Hz to 18 kHz, ±3 dB re 88 dB SPL at 1 meter at 1 watt</td>
<td>6 ohms</td>
<td>10 watts (10 dBW)</td>
<td>25 watts (14 dBW)</td>
<td>Matched pairs, brown jersey cloth grille, natural walnut-veneer finish</td>
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<td>Models also available</td>
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<td>E-70, E-50, E-30, E-80, Glendale, $225, XP-40, Shelton, $125</td>
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**WHARFEDALE**

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

| E-90 | $850 | 45 ⅛H x 15 ⅓W x 14 permits | 112 lbs | Bass reflex | Two low-mass 10" woofers, two 4" high-flux cone midrange drivers, 1 ½" compression-drive horn tweeter | 45 Hz to 18 kHz, ±3 dB re 95 dB SPL at 1 meter at 1 watt | 5 kHz | 15 watts (17.5 dBW) | 280 watts (24.5 dBW) | Matched-grain walnut finish, removable open-mesh black-grille cloths, casters |
| E-50 | $460 | 26H x 13⅛W x 13½D | 42 lbs | Bass reflex | 10" woofer, 4" cone midrange, 1" compression drive horn-loaded tweeter | 55 Hz to 18 kHz, ±3 dB re 94 dB SPL at 1 meter at 1 watt | 8 ohms | 70 watts (18.5 dBW) | 200 watts (19.5 dBW) | Choice of ebony or black finish |

**WHARTON**

Watson Laboratories 2711 Rena Road Mississauga, Ont. L4T 3K1, Canada

| 25W | $1,650 | 17H x 5⅝W x 3¾D | 130 lbs | Subwoofer, inert gas suspension | 10" woofer, 6½" midrange, 1" soft-dome tweeter | 17 Hz to 150 kHz, ±3 dB re 93 dB SPL at 1 meter at 1 watt | 6 ohms | 10 watts (10 dBW) | 90 watts (19.5 dBW) | Hand-finished in walnut veneer, matched pairs, laser-beam holography/computer-optimized of bass drivers and cabinet size |

**YAMAHA**

Yamaha International Corp. 6600 Orangetherpe Buena Park, Calif. 90620

| NS-1000 | $1,500/pr | 26 ⅞H x 15⅛W x 14¼D | 85 lbs. 13 oz. | Acoustic suspension | Woofer, beryllium dome midrange, beryllium dome tweeter | 40 Hz to 20 kHz | 6 ohms | 50 watts (17 dBW) | 500 Hz, 6 kHz |

**NS-890**

Price $1,395, pr. Dimensions 19¾H x 14⅝W x 12½D Weight 68 lbs. 3 oz. Type Sealed enclosure Drivers 12" cone woofer, 4½" cone mid/low, 2" beryllium dome mid/high; 1½" beryllium dome tweeter

Response 40 Hz to 20 kHz Crossover 600 Hz, 2 kHz, 6 kHz Impedance 8 ohms Min. power 10 watts (16 dBW) Max. power 80 watts (19 dBW) Controls Mid/high; tweeter (continuously variable)

**NS-90**

Price $860/pr Dimensions 26 1/16H x 9 11/16W x 12 7/16D Weight 51 lbs. 13 oz. Type Acoustic suspension Drivers 12" cone woofer, 4½" cone midrange, 1 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) Controls Midrange, tweeter (continuously variable)

**NS-344**

Price $480/pr Dimensions 21H x 12W x 12D Weight 30 lbs. 6 oz. Type Acoustic suspension Drivers 10" cone woofer, 5½" cone midrange, 1½" 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) Controls Midrange; tweeter (continuously variable)

**NS-244**

Price $340/pr Dimensions 21H x 12½W x 11¼D Weight 25 lbs. 5 oz. Type Acoustic suspension Drivers 10" cone woofer, 1½" 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) Controls Level, +3 dB (max) —∞ (min)

**NS-6**

Price $260/pr Dimensions 23H x 13W x 10½D Weight 35 lbs. Type Acoustic suspension Drivers 10" long-throw woofer, 1½" soft-dome tweeter Response 45 Hz to 20 kHz, ±3 dB Crossover 1 kHz Impedance 8 ohms Min. power 10 watts (10 dBW) Max. power 50 watts (17 dBW) Controls Midrange, tweeter (continuously variable)

**Models also available**

- NS-1000M, $1,120/pr.
- NS-690, 8 ohms
- 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
Wilmingtorn, Mass. 01887

L-300i
Price $118
Dimensions 8¾H x 5 7/10W x 3D (1½" above surface; 1½" below surface)
Configuration 2-Way
Response 50 Hz to 20 kHz, ±3 dB re 90 dB
Min power 10 watts (10 dBW)
Max power 100 watts (20 dBW)
Impedance 4 ohms
Driver size 5½"
Magnet 10 oz.
Mounting Flush or dome tweeter, 5½" woofer

AFS/KRIKET
Acoustic Fiber Sound
Systems, Inc.
8050 Castleway Drive
Indianapolis, Ind. 46250

6099
Price $80 each
Dimensions 5¼H x 11W x 9¼D
Configuration 2-way
Response 50 Hz to 20 kHz, ±5 dB re 87 dB
Min power 40 watts
Max power 250 watts
Driver size 6" x 9"
Magnet 10 oz.
Mounting Flush

8974
Price $110/kit
Dimensions 6¼H x 9½W x 3¼D
Configuration 2-Way
Response 40 Hz to 20 kHz, ±5 dB re 95 dB
Min power 2 watts (3 dBW)
Max power 50 watts (17 dBW)
Impedance 4 ohms
Driver size 5½"
Magnet 10 oz.
Mounting Flush or surface

8932
Price $65/kit
Dimensions 6½H x 9¼W x 3¼D
Configuration Dual cone
Response 45 Hz to 18 kHz, ±6 dB re 94 dB
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 6½H x 9¼W x 3¼D
Configuration Dual cone
Response 45 Hz to 15 kHz, ±5 dB re 95 dB
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 4½H x 2D
Configuration Dual cone
Response 65 Hz to 15 kHz, ±6 dB re 92 dB
Min power 2 watts (3 dBW)
Max power 25 watts (14 dBW)
Impedance 8 ohms
Driver size 5½"
Magnet 10 oz.
Mounting Flush

Models also available
6079, $65; 6059, $55; 5069, $50; 8972, $85/kit; 8232, $70/kit; 8032, $75/kit; 2732, $28; 7311, $9

ALTUS
Altus Corp.
6 Main St.
Melrose, Mass. 02176

SK-6696 Powersonic
Price $116.95
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.
Mounting Flush
Features Foam-roll suspension; 1½" voice coil

SK-6955 Powersonic
Price $85.95
Configuration 2-way coaxial
Response 50 Hz to 20 kHz
Max power 25 watts (14 dBW)
Impedance 4 to 8 ohms
Driver size 8 x 9
Magnet 20 oz.
Mounting Flush
Features Foam-roll suspension

Models also available
SK-6393 Powersonic, $66.95; SK-6292 Powersonic, $59.95

AMERICAN ACOUSTICS LAB
AAL Speaker Systems
629 W. Cermak Road
Chicago, Ill. 60616

Micro 100B
Price $119
Dimensions 7½H x 4½W 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
Max power 50 watts
Impedance 8 ohms
Driver size 4" x 10"
Magnet 1 oz.
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

1980 Edition
30-2646
Price $53.45
Configuration Dual cone
Response 70 Hz to 16 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

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

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

30-3065
Price $22.10
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 30-2642, which includes 2 speakers, grilles, wiring, and hardware

30-3053
Price $18.60
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 30-2650, which includes 2 speakers, grilles, wiring, and hardware

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 5 1/4" (round)
Magnet 10 oz.
Mounting Flush
Features Also available as 30-2641, which includes 2 speakers, grilles, wiring, and hardware

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 5 1/4" (round)
Magnet 5.5 oz.
Mounting Flush
Features Also available as 30-2640, which includes 2 speakers, grilles, wiring, and hardware

Models also available
30-0121, $99.95/pr.; 30-2647, $80.55; 30-3074, $39.10; 30-3056, $31.75; 30-3070, $27.40; 30-3054, $22.10; 30-3047, $17.70; 30-3056, $17.35

AVID
Avid Corp.
10 Trippes Lane
East Providence, R.I. 02914

Ten
Price $225/pr.
Dimensions 1 9/16H x 11 ¾W x 7 ¾D
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 6 1/4" 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 4 1/8" door units, $250

RD-5
Price $40. pr.
Dimensions 5H X 5W X 2D
Configuration Full range
Response 100 Hz to 10 kHz
Min power 6 watts (9 dBW)
Max power 60 watts (17.75 dBW)
Impedance 8 ohms
Driver size 4 1/4" Magnet 12 oz.
Mounting Door
Features Protective grille and water cover

BIG ROCK
Olson Electronics
260 S. Forge St.
Akron, Ohio 44327

SP-470
Price $99.98/pr.
Dimensions 3H 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; 2 1/2" midrange; two 1 1/4" 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 3½D
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" tweeter; foam roll suspension; 1 1/4" copper voice coil

SP-513
Price $27.98
Dimensions 10H x 4W x 2D

30-2658
Price $83
Configuration 2-way
Response 50 Hz to 17 kHz
Min power 2 watts (3 dBW)
Max power 20 watts (13 dBW)
Impedance 8 ohms
Driver size 4" x 10" (2" tweeter)
Magnet 20 oz.
Mounting Flush
Features 1" voice coil, 2" tweeter

Models also available
SP-389, $41.98; SP-516, $28.98; SP-387, $19.98

BLAUPUNKT
Robert Bosch Corp.
2800 S. 25th Ave.
Broadview, Ill. 60153
729 000
Price $85

728 000
Price $155/pr.
Dimensions 6 5/64H x 9W x 3 ¾D
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

676 000
Price $71.40
Dimensions 5 9/16H x 8 1/8W x 1¾D
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
Features Flush unique under-deck acoustic chamber

690 000
Price $134.25/pr.
Dimensions 6H x 9W x 3¾D
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

721 000
Price $41.40
Dimensions 6H x 9W x 5¾D
Configuration Air suspension
Response 70 Hz to 15 kHz
Max power 25 watts (14 dBW)
Impedance 4 ohms
Mounting Surface

733 060
Price $62/pr.

726 000
Price $25
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, 796 060, $44/pr.

BOMAN
Boman Industries
9300 Hall Road
Downey, Calif. 90241

High Fidelity's Buying Guide to Speaker Systems
BOSE
Bose Corp.
100 The Mountain Road
Framingham, Mass. 01701

1401 Car Stereo System
Price $328.95
Dimensions 1 1/2H x 10W x 4 1/2D (equalizer)
Configuration Full-range with active electronic equalizer
Min power 0.25 watts (-6 dBW)
Max power 25 watts (14 dBW)
Impedance 4 ohms
Driver size 6" woofer, 1" dome tweeter
Magnet 1 oz.
Mounting Flush
Features Speaker and booster/equalizer system; equalizer mounted under dash; output of equalizer 50 watts (17 dBW) per channel continuous 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 6 1/4H x 4 1/4W x 4 1/2D
Configuration 2-way
Response 50 Hz to 25 kHz
Min power 10 watts (10 dBW)
Max power 35/50 watts (15.5/17 dBW)
Impedance 4 ohms
Driver size 4" woofer, 1" dome tweeter
Magnet 18 oz. (woofer)
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 1/2D
Configuration Powered, biamplified two-way system
Response 48 Hz to 25 kHz
Driver size 4 1/3" woofer, 5/10" 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; crossover at 1.7 kHz; 20-watt amplifier for the woofer; 5-watt amp for the tweeter; woofer amp is a bridge-switching amp with direct coupling; S/N: 78 dB; THD: 0.03% at 20 watts, 40 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
MC-100, $210/pr

CAR-FI
Car-Fi International
152 W. Cypress Ave.
Burbank, Calif. 91502

Models also available
HC-100, $210/pr

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<tr>
<td>CS-4</td>
<td>$239.97</td>
<td>6H x 9W x 4D</td>
<td>3-way</td>
<td>40 Hz to 30 kHz, +2 dB re 93 dB SPL at 1 meter at 1 watt</td>
<td>4 watts (6 DBW)</td>
<td>50 watts (17 DBW)</td>
<td>4 ohms</td>
<td>6&quot; x 9&quot;</td>
<td>30 oz.</td>
<td>Flush or surface</td>
<td>Samarium cobalt tweeter, soft-dome midrange, biamp compatible</td>
<td>$39.95</td>
<td>4H x 7W x 3½D</td>
<td>2-way</td>
<td>70 Hz to 20 kHz, +3 dB re 87 dB SPL at 1 meter at 1 watt</td>
<td>12 watts (10.75 DBW)</td>
<td>60 watts (17.75 DBW)</td>
<td>8 ohms</td>
<td>6&quot; x 9&quot;</td>
<td>24 oz. (18 oz. woofer, 6 oz. tweeter)</td>
<td>Flush or surface</td>
</tr>
<tr>
<td>CS-1</td>
<td>$89.95</td>
<td>6H x 9W x 4D</td>
<td>Woofer</td>
<td>40 Hz to 2 kHz, +2 dB re 94 dB SPL at 1 meter at 1 watt</td>
<td>4 watts (6 DBW)</td>
<td>45 watts (16.5 DBW)</td>
<td>4 ohms</td>
<td>6&quot; x 9&quot;</td>
<td>30 oz.</td>
<td>Mounting</td>
<td>Fusion</td>
<td>$39 90/pr.</td>
<td>6½W x 9½D</td>
<td>13W</td>
<td>50 watts (17 dBW)</td>
<td>20 watts (13 dBW)</td>
<td>8 ohms</td>
<td>6½W x 9½D</td>
<td>3½ oz.</td>
<td>Mounting</td>
<td>Flush</td>
</tr>
<tr>
<td>SK-103</td>
<td>$174 50</td>
<td>5H x 13W x 4D</td>
<td>3-way</td>
<td>60 Hz to 20 kHz, -3 dB</td>
<td>30 watts (14.75 DBW)</td>
<td>8 ohms</td>
<td>6½W x 9½D</td>
<td>24 oz.</td>
<td>2½W x 13/4D</td>
<td>Mounting</td>
<td>Flush</td>
<td>$250/pr.</td>
<td>6½W x 9½D</td>
<td>13W</td>
<td>60 watts (17.75 DBW)</td>
<td>35 Hz to 16 kHz, +6 dB SPL at 1 meter at 1 watt (when used with SK-106 tweeter/midrange)</td>
<td>25 watts (14 dBW)</td>
<td>3 vbators</td>
<td>2½W x 13/4D</td>
<td>Mounting</td>
<td>Flush</td>
</tr>
<tr>
<td>SK-106</td>
<td>$69 95</td>
<td>6½W x 9½D</td>
<td>2-way</td>
<td>100 Hz to 16 kHz, +5 dB re 95 dB SPL at 1 meter at 1 watt (when used with SK-105 tweeter/midrange)</td>
<td>50 watts (17 DBW)</td>
<td>100 watts (20 DBW)</td>
<td>8 ohms</td>
<td>6½W x 9½D</td>
<td>20 oz.</td>
<td>Mounting</td>
<td>Flush</td>
<td>$150/pr.</td>
<td>6½W x 9½D</td>
<td>13W</td>
<td>50 watts (17 dBW)</td>
<td>30 Hz to 16 kHz, +6 dB SPL at 1 meter at 1 watt (when used with SK-106 tweeter/midrange)</td>
<td>20 watts (13 dBW)</td>
<td>3 vbators</td>
<td>2½W x 13/4D</td>
<td>Mounting</td>
<td>Flush</td>
</tr>
<tr>
<td>FULTRON</td>
<td>ARTHUR FULMER 260 Monroe Memphis, Tenn. 38101</td>
<td>$79.95</td>
<td>6½W x 9½D</td>
<td>50 Hz to 16 kHz, +5 dB re 95 dB SPL at 1 meter at 1 watt (when used with SK-106 tweeter/midrange)</td>
<td>25 watts (14 dBW)</td>
<td>50 watts (17 DBW)</td>
<td>8 ohms</td>
<td>3½W x 13/4D</td>
<td>1½W x 13/4D</td>
<td>Mounting</td>
<td>Surface</td>
<td>$79.95</td>
<td>6½W x 9½D</td>
<td>13W</td>
<td>30 watts (14.75 DBW)</td>
<td>100 Hz to 16 kHz, +6 dB SPL at 1 meter at 1 watt (when used with SK-106 tweeter/midrange)</td>
<td>25 watts (14 dBW)</td>
<td>3 vbators</td>
<td>2½W x 13/4D</td>
<td>Mounting</td>
<td>Flush</td>
</tr>
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**Models also available:**
- CS-3, $149.95, CS-2, $129.95
- CLARION Clarion Corp. of America 5500 Rosecrans Ave. Laundale, Calif. 91260
- SK-103, $174.50
- SK-106, $69.95
- SK-105, $69.95

**Handic Products, Inc.**

**Models also available:**
- SK-106, $156.50, SK-99B, $136.95

**Handic U.S.A., Inc.**

15945 N.W. 57th Ave. Hialeah, Fla. 33014
**AFS K Hite! 6099**

Altus SK-6505

American Acoustics Lab Micro 100

Boman SK-4000GL

Grundig HF-2040

Braun Output C

JBL A-30

Tenna HF-461

Jenson J-1037

Panasonic EAB-920

Sound Barrier Phantom-IIIB

Sparkomatic SK-700V

**CL-225**

<table>
<thead>
<tr>
<th>Price</th>
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<tbody>
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<td>Dimensions</td>
<td>4½H x 9½W x 4¾D</td>
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<tr>
<td>Configuration</td>
<td>2-way</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz</td>
</tr>
<tr>
<td>Min power</td>
<td>1 watt (0 dBW)</td>
</tr>
<tr>
<td>Max power</td>
<td>40 watts (16 dBW)</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Mounting</td>
<td>Surface</td>
</tr>
<tr>
<td>Features</td>
<td>Sealed, air suspension</td>
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**CS-15**

<table>
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<tr>
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<tr>
<td>Dimensions</td>
<td>6½H x 9W x 3½D</td>
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<tr>
<td>Configuration</td>
<td>2-way</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz, ±4 dB re 95 dB</td>
</tr>
<tr>
<td>SPL</td>
<td>1 meter at 1 watt</td>
</tr>
<tr>
<td>Min power</td>
<td>2 watts (3 dBW)</td>
</tr>
<tr>
<td>Max power</td>
<td>75 watts (18.75 dBW)</td>
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<tr>
<td>Impedance</td>
<td>4 ohms</td>
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<tr>
<td>Magnet</td>
<td>80 oz.</td>
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<tr>
<td>Mounting</td>
<td>Flush</td>
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<tr>
<td>Features</td>
<td>Rugged construction</td>
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**CS-7**

<table>
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<th>Price</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>6½H x 9½W x 3D</td>
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<tr>
<td>Configuration</td>
<td>2-way</td>
</tr>
<tr>
<td>Response</td>
<td>50 Hz to 16 kHz, ±4 dB re 96 dB</td>
</tr>
<tr>
<td>SPL</td>
<td>1 meter at 1 watt</td>
</tr>
</tbody>
</table>

**CL-12**

Price | $29.95
Dimensions | 6½H x 9W x 3½D
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

**CL-1037**

Min power | 2 watts (3 dBW)
Max power | 40 watts (16 dBW)
Impedance | 4 ohms
Magnet | 26 oz.
Mounting | Flush
Features | High-efficiency

Models also available

**CS-10** | $115/pr

**HITACHI**

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

<table>
<thead>
<tr>
<th>Price</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>11½H x 6¼W x 5¼D</td>
</tr>
<tr>
<td>Configuration</td>
<td>2-way</td>
</tr>
<tr>
<td>Response</td>
<td>65 Hz to 32 kHz, ±2 dB</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>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Driver size</td>
<td>5&quot; Infinity-Watkins dual-drive woofer with propylene cone; EIMT tweeter</td>
</tr>
<tr>
<td>Mounting</td>
<td>Flush/Surface</td>
</tr>
<tr>
<td>Features</td>
<td>Self-contained unit</td>
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</table>

Models also available

**A-30** | $179.95/pr

**INFINITY**

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

<table>
<thead>
<tr>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>7½H x 4½W x 4¼D</td>
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<tr>
<td>Configuration</td>
<td>2-way</td>
</tr>
<tr>
<td>Response</td>
<td>50 Hz to 20 kHz, -15 dB re 85 dB</td>
</tr>
<tr>
<td>SPL</td>
<td>1 meter at 1 watt</td>
</tr>
<tr>
<td>Max power</td>
<td>50 watts (17 dBW)</td>
</tr>
<tr>
<td>Impedance</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Driver size</td>
<td>4&quot; x 1&quot;</td>
</tr>
<tr>
<td>Mounting</td>
<td>Surface</td>
</tr>
<tr>
<td>Features</td>
<td>Super-mini two-way speaker system; 85-dB output and 80-watt power capacity in a tiny cabinet; optional mounting brackets for car installation</td>
</tr>
</tbody>
</table>

Models also available

**A-15** | $179.95/pr

**JENSEN**

Jensen Sound Laboratories
4136 North United Parkway
Schiller Park, Ill. 60176

<table>
<thead>
<tr>
<th>Price</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>4½H x 9½W x 4¾D</td>
</tr>
<tr>
<td>Configuration</td>
<td>2-way</td>
</tr>
<tr>
<td>Response</td>
<td>40 Hz to 20 kHz</td>
</tr>
<tr>
<td>Min power</td>
<td>1 watt (0 dBW)</td>
</tr>
<tr>
<td>Max power</td>
<td>40 watts (16 dBW)</td>
</tr>
<tr>
<td>Impedance</td>
<td>4 ohms</td>
</tr>
<tr>
<td>Mounting</td>
<td>Surface</td>
</tr>
<tr>
<td>Features</td>
<td>Ultra-slim, compact, powerful</td>
</tr>
</tbody>
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Models also available

**A-15** | $179.95/pr
### SERIES II

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Dimensions</th>
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<th>Impedance</th>
<th>Min power</th>
<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-1130 Triax™ II</td>
<td>$139.95</td>
<td>10 9/32 x 4 9/16 x 3 7/32</td>
<td>3-way</td>
<td>65 Hz to 20 kHz</td>
<td>50 watts (17 dBW)</td>
<td>4 ohms</td>
<td>4 ohms</td>
<td>20 oz</td>
<td>20 oz</td>
<td>20 oz</td>
<td>20 oz</td>
<td>Mounting: Flush; Magnet: 20 oz; Driver size: 6&quot; x 9&quot;; Response: 65 Hz to 20 kHz; Impedance: 4 ohms; Max power: 50 watts (17 dBW)</td>
</tr>
<tr>
<td>J-1133 Triax™ II</td>
<td>$139.95</td>
<td>9 1/4 x 6 1/2 x 3 1/4</td>
<td>3-way</td>
<td>45 Hz to 15 kHz</td>
<td>90 watts (19.5 dBW)</td>
<td>4 ohms</td>
<td>4 ohms</td>
<td>20 oz</td>
<td>20 oz</td>
<td>20 oz</td>
<td>20 oz</td>
<td>Mounting: Flush; Magnet: 12 oz; Driver size: 6&quot; x 9&quot;; Response: 65 Hz to 20 kHz; Impedance: 4 ohms; Max power: 90 watts (19.5 dBW)</td>
</tr>
<tr>
<td>J-126 Coax II</td>
<td>$79.95</td>
<td>4 x 2 3/16 x 2 x 13/32</td>
<td>2-way</td>
<td>75 Hz to 15 kHz</td>
<td>50 watts (17 dBW)</td>
<td>4 ohms</td>
<td>4 ohms</td>
<td>10 oz</td>
<td>10 oz</td>
<td>10 oz</td>
<td>10 oz</td>
<td>Mounting: Flush; Magnet: 2 oz (woofer), 3 oz (midrange), 3 oz (tweeter); Response: 75 Hz to 15 kHz; Impedance: 4 ohms; Max power: 50 watts (17 dBW)</td>
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### SERIES I

<table>
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<tr>
<th>Model</th>
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<th>Min power</th>
<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
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</thead>
<tbody>
<tr>
<td>J-1001 Series I</td>
<td>$179.95</td>
<td>4 x 2 3/8 x 2 1/4</td>
<td>3-way (separate speakers)</td>
<td>35 Hz to 20 kHz (total system)</td>
<td>35 watts (15.5 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), 3 oz (midrange), 3 oz (tweeter); Response: 35 Hz to 20 kHz; Impedance: 8 ohms; Max power: 35 watts (15.5 dBW)</td>
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<tr>
<td>J-1124 Series I Triax™</td>
<td>$119.95</td>
<td>7 1/2 x 9 1/2 x 5 1/8</td>
<td>3-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 20 kHz</td>
<td>50 watts (17 dBW)</td>
<td>4 ohms</td>
<td>4 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 20 kHz; Impedance: 4 ohms; Max power: 50 watts (17 dBW)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>J-1098 Series I Dual Cone</td>
<td>$39</td>
<td>5 1/2</td>
<td>2-way</td>
<td>60 Hz to 14 kHz</td>
<td>40 watts (16 dBW)</td>
<td>4 ohms</td>
<td>4 ohms</td>
<td>10 oz</td>
<td>10 oz</td>
<td>10 oz</td>
<td>Mounting: Flush; Features: Includes pair of speakers only; no grilles, wiring, hardware, or installation instructions</td>
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<tr>
<td>J-1134 Series I Dual Cone Replacement</td>
<td>$34.95</td>
<td>5 oz</td>
<td>2-way</td>
<td>70 Hz to 14 kHz</td>
<td>15 watts (11.75 dBW)</td>
<td>4 ohms</td>
<td>4 ohms</td>
<td>5 oz</td>
<td>5 oz</td>
<td>5 oz</td>
<td>Mounting: Flush; Features: Includes replacement only; no grilles, wiring, hardware, or installation instructions</td>
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### Models Also Available

<table>
<thead>
<tr>
<th>Price</th>
<th>Dimensions</th>
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<th>Max power</th>
<th>Impedance</th>
<th>Min power</th>
<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
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</thead>
<tbody>
<tr>
<td>$190</td>
<td>17 1/2 x 10 1/2 x 9 1/2</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### Initial Stat

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<th>Price</th>
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<th>Response</th>
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<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
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<tbody>
<tr>
<td>$95</td>
<td>17 1/2 x 10 1/2 x 9 1/2</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### KRACO

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<th>Min power</th>
<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
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</thead>
<tbody>
<tr>
<td>$34</td>
<td>8 x 8 x 8</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### LAFAYETTE

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<th>Impedance</th>
<th>Min power</th>
<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
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</thead>
<tbody>
<tr>
<td>$45</td>
<td>7 1/2 x 9 1/2 x 5 1/8</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### Kustom Acoustics

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<th>Min power</th>
<th>Max power</th>
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<tbody>
<tr>
<td>$75</td>
<td>7 x 10 x 7</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### Models Also Available

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<th>Max power</th>
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<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>$190</td>
<td>17 1/2 x 10 1/2 x 9 1/2</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### Initial Stat

<table>
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<th>Configuration</th>
<th>Response</th>
<th>Max power</th>
<th>Impedance</th>
<th>Min power</th>
<th>Max power</th>
<th>Min power</th>
<th>Max power</th>
<th>Max power</th>
<th>Features</th>
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</thead>
<tbody>
<tr>
<td>$95</td>
<td>17 1/2 x 10 1/2 x 9 1/2</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### Triple Play

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<th>Max power</th>
<th>Impedance</th>
<th>Min power</th>
<th>Max power</th>
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<th>Max power</th>
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<th>Features</th>
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<td>$49.99/pc</td>
<td>6 x 9</td>
<td>3-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 20 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 20 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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### KA/KUSTOM ACOUSTICS

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<th>Price</th>
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<th>Impedance</th>
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<td>$74.95</td>
<td>7 1/2 x 9 1/2 x 5 1/8</td>
<td>2-way (separate tweeter and midrange unit)</td>
<td>60 Hz to 14 kHz</td>
<td>30 watts (14.75 dBW)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>2 oz (woofer), surface (tweeter/midrange); Response: 60 Hz to 14 kHz; Impedance: 8 ohms; Max power: 30 watts (14.75 dBW)</td>
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High Fidelity's Buying Guide to Speaker Systems
LS-95
Price $170
Dimensions 8 1/4 x 7 1/4 W x 3 1/2 D
Configuration 2-way
Response 40 Hz to 18 kHz, 60-120 o 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 10 oz.
Mounting Flush or Surface
Features Die-cast aluminum mounting baffle; coax mounted tweeter can be removed for separate mounting, with 12 dB/octave crossover network

Models also available
LS-80, $160

MARANTZ
Marantz Co., Inc.
20525 Nordhoff St.
Chatsworth, Calif. 91311

SS-3537
Price $100/pr
Dimensions 7 1/4 x 5 1/2 W x 3 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 1/4" x 2 1/2"
Magnet 10 oz.
Mounting Flush
Features Front-in-line design with snap-on grille; strontium-type magnet equivalent to 20 oz. ceramic type

SS-825
Price $90/pr
Dimensions 6 x 3 1/2 D
Configuration 3-way
Response 90 Hz to 20 kHz
Max power 25 watts (14 dBW)
Impedance 8 ohms
Driver size 6 1/4" x 1 1/2"
Magnet 20 oz.
Mounting Flush

SS-269
Price $70/pr
Dimensions 9 x 6 1/4 W x 3 1/2 D
Configuration 2-way
Response 40 Hz to 15 kHz
Max power 30 watts (14.75 dBW)
Impedance 4 ohms
Driver size 6" x 3 1/4"
Magnet 10 oz.
Mounting Flush

SS-140
Price $60/pr
Dimensions 4 x 3 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
SS-5000, SS-3410, SS-469, SS-3269, SS-725, SS-70, SS-169, $160/pr

MATRECs
Matrecs Industries
805 Woodman Ave.
Rockford, Ill. 61101

MA-0410-20CP
Price $96.04
Configuration 2-way
Response 70 Hz to 20 kHz
Max power 25 watts (14 dBW)
Impedance 4 ohms
Driver size 4" x 10"
Magnet 20 oz.
Mounting Flush
Features Includes 2 speakers, grilles, wiring, and hardware, ferrofluid in voice-coil gap

MA-0410-020P
Price $63.70
Configuration Dual cone
Response 70 Hz to 16 kHz
Max power 25 watts (14 dBW)
Impedance 4 to 8 ohms
Driver size 4" x 10"
Magnet 20 oz.
Mounting Flush

Features Also 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 6" x 9"
Magnet 5 oz.
Mounting Flush
Features Also available as MA-0525-005P, which includes 2 speakers, grilles, wiring, and hardware, ferrofluid in voice-coil gap

Models also available

MESA
Mesa Electronics Sales, Ltd.
2940 Malmo Drive
Arlington Heights, Ill. 60005
ORDER TOLL FREE (800) 221-8180
33 PARK ROW, DEPT. HF, NEW YORK, N.Y. 10038
orders outside U.S.). N.Y.S. resident add tax. No C 0.0.'s.

Time mid 13.50 per order for shipping & handling.

RECORDS

Mini-Mesa 50
Price $200/pr.
Dimensions: 91/4 H x 6 1/4 W x 4 1/8 D
Configuration: 3-way
Response: 50 Hz to 25 kHz
Min power: 10 watts (10 dBW)
Max power: 80 watts (19 dBW)
Impedance: 4 to 8 ohms
Driver size: 5" foam-suspension woofer; 3" midrange, tweeter
Mounting: Self-contained, designed for home use as well
Features: None

Mini-Mesa 30
Price $236/pr.
Dimensions: 7 1/4 H x 4 1/4 W x 4 1/4 D
Configuration: 2-way
Response: 60 Hz to 25 kHz
Min power: 10 watts (10 dBW)
Max power: 50 watts (17 dBW)
Impedance: 4 to 8 ohms
Driver size: 4" woofer; 2 1/4" hard-dome tweeter with 1" voice coil
Features: None

MB-5
Price $54.95 (kit)
Dimensions: 7 1/4 H x 4 1/4 W x 4 1/4 D
Configuration: 1-way dual cone
Response: 100 Hz to 12 kHz, ±3 dB
Min power: 15 watts (11.75 dBW) (nominal)
Max power: 200 watts (13 dBW)
Impedance: 4 ohms
Driver size: 5 1/2" woofer
Magnet: 5 oz.
Mounting: Flush
Features: None

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

SX-30SA
Price $149.95
Configuration: 2-way
Response: 80 Hz to 20 kHz, ±2 dB re 86 dB
Min power: 50 watts
Max power: 200 watts
Impedance: 4 ohms
Driver size: 5" x 4"
Magnet: 6 oz.
Mounting: Surface
Features: Tweeter attenuator control; aluminum die-casting baffle board enclosure

MOTOROLA
Motorola, Inc.
Automotive Products Div.
1299 E. Algonquin Rd.
Schaumburg, Ill. 60196

M41-20T
Price $134.95
Dimensions: 10 H x 4 W x 3 1/4 D
Configuration: 3-way
Response: 55 Hz to 16 kHz
Max power: 25 watts (14 dBW)
Impedance: 4 ohms
Driver size: 4" x 10"
Magnet: 20 oz.
Mounting: Flush
Features: 1 voice coil, one-piece ceramic magnet

SG-69QA
Price $119.95
Configuration: 4-way
Response: 65 Hz to 18 kHz, ±3 dB re 91 dB
Min power: 20 watts
Max power: 600 watts
Impedance: 4 ohms
Driver size: 6" x 9"
Magnet: 20 oz.
Mounting: Flush

SG-20CA
Price $99.95
Configuration: 2-way
Response: 60 Hz to 17 kHz, ±3 dB re 91 dB
Min power: 20 watts
Max power: 600 watts
Impedance: 4 ohms
Driver size: 8" x 8"

SG-16CA
Price $69.95
Configuration: 2-way
Response: 60 Hz to 20 kHz, ±3 dB
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 6 1/4" x 6 1/4"
Magnet: 6.5 oz.
Mounting: Flush
Features: Three-position tweeter level

SG-40WA
Price $59.95/pr.
Configuration: 1-way dual cone
Response: 50 Hz to 20 kHz, ±3 dB
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 4" x 10"
Magnet: 10 oz.
Mounting: Flush

SG-10WA
Price $39.95/pr.
Configuration: 1-way dual cone
Response: 100 Hz to 17 kHz, ±3 dB
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 4"
Magnet: 5.3 oz.
Mounting: Flush

Models also available:
SG-10BA, $129.95, SG-69TA, $99.95; SG-40CA, $99.95; SG-40AC, $69.95, SG-69WA, $49.95; SG-13WA, $49.95; SB-2SA, $39.95

MOTOROLA
Motorola, Inc.
Automotive Products Div.
1299 E. Algonquin Rd.
Schaumburg, Ill. 60196

M41-20T
Price $134.95
Dimensions: 10 H x 4 W x 3 1/4 D
Configuration: 3-way
Response: 55 Hz to 16 kHz
Max power: 25 watts (14 dBW)
Impedance: 4 ohms
Driver size: 4" x 10"
Magnet: 20 oz.
Mounting: Flush
Features: 1 voice coil, one-piece ceramic magnet

SG-69QA
Price $119.95
Configuration: 4-way
Response: 65 Hz to 18 kHz, ±3 dB re 91 dB
Min power: 20 watts
Max power: 600 watts
Impedance: 4 ohms
Driver size: 6" x 9"
Magnet: 20 oz.
Mounting: Flush

SG-20CA
Price $99.95
Configuration: 2-way
Response: 60 Hz to 17 kHz, ±3 dB re 91 dB
Min power: 20 watts
Max power: 600 watts
Impedance: 4 ohms
Driver size: 8" x 8"

SG-16CA
Price $69.95
Configuration: 2-way
Response: 60 Hz to 20 kHz, ±3 dB
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 6 1/4" x 6 1/4"
Magnet: 6.5 oz.
Mounting: Flush
Features: Three-position tweeter level

SG-40WA
Price $59.95/pr.
Configuration: 1-way dual cone
Response: 50 Hz to 20 kHz, ±3 dB
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 4" x 10"
Magnet: 10 oz.
Mounting: Flush

SG-10WA
Price $39.95/pr.
Configuration: 1-way dual cone
Response: 100 Hz to 17 kHz, ±3 dB
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 4"
Magnet: 5.3 oz.
Mounting: Flush

Models also available:
SG-10BA, $129.95, SG-69TA, $99.95; SG-40CA, $99.95; SG-40AC, $69.95, SG-69WA, $49.95; SG-13WA, $49.95; SB-2SA, $39.95
The Legend Continues.

The New Dynaco A150 & A250 priced from $150.

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.

OVOXO
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; ½" beryllium voice coil

Continued on page 102
It sounds like music.

Interface: C
Series II
is the fulfillment of our six-year association with optimally vented speakers based on the theories of A.N. Thiele — speaker designs first introduced by Electro-Voice in 1973. The Interface: C offers you a unique combination of high efficiency and high power capacity — the only way to accurately reproduce the 120 + dB peak sound pressure levels found in some types of live music.

The SuperDome™ tweeter, an E-V exclusive, and the VMRTM vented midrange driver, the first to apply optimally vented design to mid frequencies, ensure your music is reproduced without the coloration normally found in other high-efficiency drivers. An honest 30 Hz low end totally eliminates the need for expensive subwoofer assemblies.

When you spend $1,000 for a speaker system, get your money’s worth. audition the Interface: C Series II at your nearest Interface dealer. If you want a speaker that sounds like music, the Interface: C Series II is the one you’ll buy.

**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.

**baffle** Panel on which a loudspeaker is mounted.

**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 frequencies below and above it are sepa-rated. A crossover or dividing network, for instance, separates the highs and lows in a woofer/tweeter speaker system.

**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.

**driver** A speaker’s tendency to distort by producing harmonics of bass tones.

**frequency** 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 capacitive 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 termination 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 labrynth 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.
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
Rearward radiation of sound can either be absorbed, as in an acoustic suspension system, or put to work, as in a vented system (shown). Vented systems hold up to a somewhat lower frequency than do sealed systems, but roll off more quickly below the cutoff frequency.

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 electrostatics 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 base-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 103dB with only 1 watt input. You get studio listening levels in excess of 120dB 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.
The basic parameters—size, efficiency, and response—are traded off to get the desired compromise.

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-à-vis efficiency, size, and response, albeit with the added complexity of the electronic equalizer.

Now, certainly, we have gotten something for nothing. Not quite.
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 out 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
Panel speaker systems (right) tend to be phase coherent since all radiating surfaces are in the same plane, and are less influenced by room acoustics than are cabinet loudspeakers (left).

case. To produce adequate bass response and power, the woofer must be large and massive. These attributes become detriments 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 15-3/16" W x 14-3/4" D and has a typical frequency response of 30 - 18,000Hz ± 3dB. The E70 is 32" x 13-1/2" x 14" with frequency response from 35 - 18,000Hz ± 3dB. The E50 measures 25" x 13-1/2" x 13-1/2" with a frequency response of 40 - 18,000Hz ± 3dB. The new E30 is 22-3/4" x 13-3/16" x 10-5/16" with a frequency response of 45 - 18,000Hz ± 3dB. Efficiency is 94dB at 1 watt and 1 meter for the E30, and 95dB for the other models.

RANK Hi Fi Inc., 20 Bushes Lane, Elmwood Park, New Jersey 07407 (201) 791-7888

CIRCLE 29 ON READER-SERVICE CARD
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 modest 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.
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!

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**CIRCLE 36 ON READER-SERVICE CARD**

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**District Sound inc.**

**Sound Reproduction inc.**

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**MW-122**
Price: $163.50/pr.
Configuration: 2-way
Response: 25 Hz to 22 kHz
Max power: 80 watts (19 dBW)
Impedance: 8 ohms
Driver size: 6" x 9"
Magnet: 30 oz.
Mounting: Surface
Features: Separate piezolectric tweeters in mini grilles, 11/8" aluminum voice coil.

**M-110**
Price: $153/pr.
Configuration: 2-way
Response: 30 Hz to 22 kHz
Max power: 75 watts (18.75 dBW)
Impedance: 8 ohms
Driver size: 5 1/4"
Magnet: 30 oz.
Features: Separate piezolectric tweeters mounted in mini grilles, 11/8" aluminum voice coil.

**M-142**
Price: $143.60/pr.
Configuration: Coaxial
Driver size: 6" x 9"
Features: Piezolectric tweeters.

**M-132/pr.**
Price: $135/pr.
Configuration: Coaxial
Driver size: 5 1/4"
Features: Biamp capabilities.

**Atlas Series**

**A-38**
Price: $118.80/set
Configuration: 3-way
Max power: 50 watts (17 dBW)
Impedance: 4 to 8 ohms
Driver size: 6" x 9" woofers
Magnet: 20 oz.
Mounting: Flush/surface
Features: Separate grilles with combined piezolectric tweeter and midrange, available with 10-oz. magnet as A-39 for $103.80/set.

**A-36**
Price: $95/set
Configuration: 2-way
Max power: 50 watts (17 dBW)
Impedance: 4 to 8 ohms
Driver size: 6" x 9" woofers
Magnet: 20 oz.

**A-23**
Price: $87.75/set
Configuration: 2-way coaxial
Max power: 40 watts (16 dBW)
Impedance: 4 to 8 ohms
Driver size: 5 1/4"
Magnet: 20 oz.

**A-20**
Price: $88.75/set
Configuration: 2-way dual cone
Max power: 35 watts (15.5 dBW)
Impedance: 4 to 8 ohms
Driver size: 5 1/4"
Magnet: 20 oz.
Features: Includes wire and hardware, available with 10-oz. magnet as A-21 for $49.50/set.

**A-46**
Price: $40.80
Configuration: Coaxial
Driver size: 5 1/4"
Magnet: 20 oz.

**A-50**
Price: $28.80
Driver size: 6" x 9" woofer
Magnet: 20 oz.
Features: Available with 10-oz. magnet as A-41 for $21.90.

**200 SERIES**

**S-210**
Price: $75/pr.
Mounting: Flush/surface
Features: Combined piezolectric tweeter/midrange.

**S-201**
Price: $49.50/pr.
Driver size: 2" x 5" piezolectric horn tweeters.

**S-220**
Price: $37/pr.
Mounting: Surface
Features: Piezolectric tweeter in mini grille.

Models also available:
- M-112, $179.80/pr.; M-120, $159.25,
- M-101, $139/pr.; M-140, $119.60/pr.; M-130, $115/pr.; A-28, $105/set; A-33, $91/set; A-25, $89.40/set; A-30, $63.80/set; A-56, $45.80; A-53, $49.50; A-51, $40.80; M-101, $139/pr.; M-140, $127; S-207, $53/pr.; S-202, $49.50; S-206, $39.80/pr.

**PANASONIC**
Panasonic Auto Products
One Panasonic Way
Secaucus, N.J. 07094

**EAB-752 Sound Pump II**
Price: $79.55/pr.
Configuration: 2-way coaxial
Max power: 20 watts (13 dBW)
Impedance: 4 ohms
Driver size: 6" x 9"
Magnet: 20 oz.
Mounting: Flush
Features: High power, high compliance coaxials; lightweight aluminum voice coil; designed to provide excellent tone quality in a car's harsh acoustic environment.

**EAB-911 Thin Series**
Price: $34.95/pr.
Response: 70 Hz to 15 kHz
Min power: 10 watts (10 dBW) sustained
At least not in the showroom. Chances are they've already heard them—or at least heard all about them. From a friend, from a consumer magazine, or perhaps from an audiophile publication. When you've sold over 1/2 million, the word gets around.

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.

These are some of the reasons why the EPI 100 has become the industry standard for bookshelf loudspeakers.

And rest assured, while oftentimes people may not bother to listen to them in the showroom, they more than make up for it when they get them home.

EPI 100

Most people who buy EPI 100's don't even ask to listen to them.
### Models also available

- **EAB-905 Hi-Power Sound Pump II**, $77.95 pr.; **EAB-920 Sound Pump**, $100, $159.95 pr.; **EAB-774 Sound Pump**, $59.95 pr.

### Pioneer Electronics of America
1925 E. Dominguez St.
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 size**: 3½” woofers, 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**: 40 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 size**: 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**: 2” tweeter
- **Magnet**: 10 oz.
- **Mounting**: Door
- **Features**: Tweeter horn built into grille; high-compliance woofer

### Designs

- **TS-692**
  - **Price**: $73.95
  - **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

---

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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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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 ambiance of the live performance is returned to the music in a way not possible with ordinary stereo reproduction.

Stereo gave us left and right imaging—Audio Pulse gives us the realism of depth and spatial perception by digitally processing, delaying and recirculating program material through a secondary set of rear speakers. The apparent size and acoustic treatment of that area can be adjusted by simple front-panel functions.

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.
### Mounting Features

- **Flush**
- 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

### Models also available

- AS-2T, $59.95
- AS-67, $44.95

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###配置1：

- **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"
- **Mounting**: Flush

### Features

- Instant-mount retainer rings

### 配置2：

- **Price**: $49.95
- **Configuration**: 2-way
- **Min power**: 10 watts (10 dBW)
- **Max power**: 60 watts (17.75 dBW)
- **Impedance**: 8 ohms
- **Driver size**: 5 1/4" woofer, 2 1/2" midrange, 2" tweeter
- **Magnet**: 5.7 oz.
- **Mounting**: Surface

### Models also available

- 12-1853, $59.95/pr.
- 12-1855, $27.95/pr.

---

### ROAD SOUNDS

#### Suntron

- **Address**: 425 7th St. N.W.
- **City**: 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

---

### ROYAL SOUND

#### Royal Sound Co., Inc.

- **Address**: 248 Buffalo Ave.
- **City**: Freeport, N.Y. 11520

#### RS-6100

- **Price**: $300/pr.
- **Dimensions**: 6 1/8H x 4 3/4W x 5 1/8D
- **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 CONSORT speakers by Unitronex. The best speakers this side of Heaven.

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Unitronex: 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 ensure 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 3½W 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 ensure full fidelity sound at full power output; screw-type speaker terminals for ease of mounting

SANYO
Sanyo Electric Co.
1200 West Artesia Blvd.
Compton, Calif. 90220

SP-795
Price  $99.95/pr.
Dimensions  4½H x 7½W x 4¼D
Configuration  2-way
Response  100 Hz to 20 kHz

SP-410
Price  $89.95
Dimensions  4+H 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

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

Models also available
SP-777, $100; SP-780, $89.95; SP-770, $80; SP-768, $69.95; SP-731, $44.95; SP-733, $59.95/pr.

SOUND BARRIER
Sound Barrier Corp.
1050 E. Dominguez, Unit P
Carson, Calif. 90746

SP-757
Price  $54.95
Dimensions  5H x 7W
Configuration  2-way convertible coaxial
Response  80 Hz to 15 kHz
Max power  18 watts (12.75 dBW)
Impedance  4 or 8 ohms
Driver size  5" x 7"
Magnet  15 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

SP-737
Price  $89.95/pr.
Dimensions  6¼H x 6½W x 2D
Configuration  3-way
Response  45 Hz to 20 kHz
Max power  24 watts (14 dBW)
Impedance  4 or 8 ohms
Driver size  6½"
Magnet  20 oz. (woofer); 2.2 oz. (midrange); 0.6 oz. (tweeter)
Mounting  Flush
Features  Attractive metal mesh grille; removable crossover for conventional or biamp systems

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.

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Unitronex: State-of-the-art speakers you won’t have to sell your soul to afford.
<table>
<thead>
<tr>
<th>Phantom 3B</th>
<th>Price</th>
<th>$399.80</th>
<th>Dimensions</th>
<th>5H x 8½W x 7½D</th>
<th>Response</th>
<th>50 Hz to 20 kHz, ±7.5 dB re 70, SPL at 1 meter at 1 watt</th>
<th>Min power</th>
<th>1 watt (0 dBW)</th>
<th>Max power</th>
<th>100 watts (20 dBW)</th>
<th>Impedance</th>
<th>4 to 8 ohms</th>
<th>Driver size</th>
<th>4&quot;</th>
<th>Magnet</th>
<th>10 oz.</th>
<th>Mounting</th>
<th>Surface</th>
<th>Features</th>
<th>Built-in amplifier with 7-band graphic equalizer control box, die-cast aluminum frames</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phantom 3</td>
<td>Price</td>
<td>$229.95</td>
<td>Dimensions</td>
<td>5H x 8½W x 7½D</td>
<td>Response</td>
<td>50 Hz to 22 kHz, ±8 dB re 75, SPL at 1 meter at 1 watt</td>
<td>Min power</td>
<td>1 watt (0 dBW)</td>
<td>Max power</td>
<td>100 watts (20 dBW)</td>
<td>Impedance</td>
<td>4 to 8 ohms</td>
<td>Driver size</td>
<td>4&quot;</td>
<td>Magnet</td>
<td>10 oz.</td>
<td>Mounting</td>
<td>Surface</td>
<td>Features</td>
<td>Enclosure type high performance with aluminum die-cast frame; may be used as a bookshelf speaker at home</td>
</tr>
<tr>
<td>787</td>
<td>Price</td>
<td>$129.95</td>
<td>Dimensions</td>
<td>9½H x 6¼W x 3¼D</td>
<td>Response</td>
<td>80 Hz to 20 kHz, ±10 dB re 75, SPL at 1 meter at 1 watt</td>
<td>Min power</td>
<td>1 watt (0 dBW)</td>
<td>Max power</td>
<td>200 watts (23 dBW)</td>
<td>Impedance</td>
<td>4 to 8 ohms</td>
<td>Driver size</td>
<td>6½&quot; x 9&quot;</td>
<td>Magnet</td>
<td>20 oz.</td>
<td>Mounting</td>
<td>Flush/Surface</td>
<td>Features</td>
<td>1½&quot; voice coil</td>
</tr>
<tr>
<td>Falcon 20</td>
<td>Price</td>
<td>$69.95</td>
<td>Dimensions</td>
<td>½H x 5½W</td>
<td>Configuration</td>
<td>2-way</td>
<td>Driver size</td>
<td>½&quot; tweeter with samarium cobalt magnet</td>
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<tr>
<td>Models also available</td>
<td>757, $249.95; 767 Compo Kit, $159.95; 777R, $115.95; Bonanza 35, $54.95; DC-8R, $37.95</td>
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**SOURCE**

**Sound Source**

1435 Jacqueline Drive

Columbus, Ga. 31907

**UD-1**

<table>
<thead>
<tr>
<th>Price</th>
<th>$185/pr.</th>
<th>Dimensions</th>
<th>3½H x 11½W x 7D</th>
<th>Response</th>
<th>40 Hz to 20 kHz, ±3 dB</th>
<th>Min power</th>
<th>12.5 watts (11 dBW)</th>
<th>Max power</th>
<th>100 watts (20 dBW)</th>
<th>Impedance</th>
<th>8 ohms</th>
<th>Driver size</th>
<th>6½&quot; woofer/midrange, 1&quot; cloth dome tweeter, two phenolic-ring crossovers</th>
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<td>Features</td>
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**SPARKOMATIC**

**Sparkomatic**

Routes 6 and 209

Milford, Pa. 18337

**SK-6950**

<table>
<thead>
<tr>
<th>Price</th>
<th>N/A</th>
<th>Configuration</th>
<th>4-way</th>
<th>Response</th>
<th>50 Hz to 20 kHz</th>
<th>Max power</th>
<th>100 watts (20 dBW)</th>
<th>Impedance</th>
<th>4 ohms</th>
<th>Driver size</th>
<th>6½&quot; x 9&quot;</th>
<th>Magnet</th>
<th>20 oz.</th>
<th>Mounting</th>
<th>Deck</th>
<th>Features</th>
<th>Special magnet design with hole in center allows air cooling and directs magnetic energy to where required; 1½&quot; 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</th>
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**SK-600**

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<tr>
<th>Price</th>
<th>N/A</th>
<th>Dimensions</th>
<th>1½D</th>
<th>Configuration</th>
<th>2-way coaxial</th>
<th>Response</th>
<th>70 Hz to 15 kHz</th>
<th>Min power</th>
<th>15 watts (11.75 dBW)</th>
<th>Max power</th>
<th>30 watts (14.75 dBW)</th>
<th>Impedance</th>
<th>4 to 8 ohms</th>
<th>Mounting</th>
<th>Door</th>
<th>Features</th>
<th>Slim enough to fit all door applications regardless of size, snap-on grille designed so it will clear all window cranks; new high-energy strontium cobalt magnet with heavy magnetic structure; cone has treated edge to assure long life, new bridge design, resonance-free performance</th>
</tr>
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</table>

**SK-700V**

| Price | $89.95 | Dimensions | 2½H x 8W x 8D | Configuration | 2-way | Response | 50 Hz to 15 kHz, ±3 dB | Min power | 25 watts (2½ tweeters) | Max power | 50 watts (17 dBW) | Impedance | 4 to 8 ohms | Driver size | 6½" woofer, 4½" midrange/tweeter (Alnico V magnets) | Magnet | 10 oz. | Mounting | Surface | Features | Designed exclusively for vans and RVs |
|-------|--------|------------|---------------|--------------|-------|----------------|----------------|-----------|-----------------|-----------|-----------------|-----------|-------------|---------|----------------|--------|---------|----------|----------------|
|       |        |            |               |              |       |                 |               |          |                 |           |                 |          |             |         |               |        |         |          |----------------|

**SK-6922T**

| Price | $69.95 | Dimensions | 6¼H x 9¼W x 4D | 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 | 6" x 9" foam-edge air-suspension woofers, direct-radiating midrange speakers; dome horn-loaded tweeters; crossover networks; Thermotone grille and housing; new bridge design |
|-------|--------|------------|----------------|--------------|-------|----------------|----------------|-----------|-----------------|-----------|-----------------|-----------|-------------|---------|----------------|--------|---------|----------|----------------|
|       |        |            |                |              |       |                 |                |          |                 |           |                 |          |             |         |               |        |         |          |----------------|

**SK-6920C**

| Price | $47.95 | Dimensions | 6¼H x 9¼W x 3½D | 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 | 6" x 9" foam-edge air-suspension woofers; built-in coaxial 2" tweeters; Thermotone grille and housing; new bridge design; crossover networks |
|-------|--------|------------|----------------|--------------|-------|----------------|----------------|-----------|-----------------|-----------|-----------------|-----------|-------------|---------|----------------|--------|---------|----------|----------------|
|       |        |            |                |              |       |                 |                |          |                 |           |                 |          |             |         |               |        |         |          |----------------|

circle 27 on reader-service card

The handcrafted Speakerlaboratories featuring the patented Nested Woofer System are unlike any speakers you've ever heard. Find out what Speakerlab's innovative speakers, kits, and raw speakers can do for you when you build them yourself.

FOR INFORMATION OR QUOTE

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High Fidelity's Buying Guide to Speaker Systems
Models also available
SK-6900, $89.95; SK-525, $89.95; SK-522T, $59.95; SK-622T, $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 7/16"H x 4 7/16"W x 4 1/4"D
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 40 watts (16 dBW)
Max power 60 watts (17.75 dBW)
Impedance 8 ohms
Driver size 5 1/4"
Magnet 9.3 oz.
Mounting Flush
Features Hi-lo 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. Woofer-tweeter 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.

Another generalization: The better-baffled any woofer or full-range model is, the better the sound. Flush-mounts, which use car interior paneling as a baffle, are therefore preferable to surface mounts (unless the speaker system in question is a fully enclosed acoustic suspension model). Flush-mounts also look better.

Are all-in-one units (woofer and tweeter on a single chassis or plate, coaxials and triaxials) better-sounding than full-range single-cone speakers? Given intelligent mounting, that’s almost always the case.

You should also be certain that your new speakers are compatible with your car stereo’s amplifier in terms of power capacity. While many of the new breed of component-type loudspeakers are capable of handling 50 watts (17 dBW), some of the cheaper replacement speakers used prior to 1978 distort or fall apart when fed more than 5 watts (7 dBW). Conversely, if the amp section of your receiver/tape deck delivers only 1½ watts (1¼ dBW), don’t waste your money on a good acoustic suspension speaker: There’s insufficient power to deliver really good sound, the chief reason for buying an acoustic suspension speaker or system.

If you’re unsure of your receiver’s power output, copy down the model number and check it with your dealer before buying speakers. Generally, if it was made before 1978 and wasn’t sold to you as a custom unit, it probably can’t produce more than 1½ watts. With a separate power booster, you could increase the output 10 to 20 times.

Does the amplifier know the difference between a $5 and a $150 speaker, a single full-range model or separate components, a one-cone unit or a plate containing woofer, tweeter, and midrange? No, provided that the system is matched. If you have any doubts, consult your dealer.

As a last step prior to buying your speakers ask yourself this important question: Who will install them? If you’re handy with tools, you can do the job yourself and save a bundle. The necessary technical expertise can
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
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.

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. **HF**
Response 120 Hz to 17 kHz, ± 5 dB re 90 dB
SPL at 1 meter at 1 watt
Min power 20 watts (13 dBW)
Max power 50 watts (17 dBW)
Impedance 4 or 8 ohms
Driver size 5 1/4"
Magnet 20 oz.
Mounting Flush
Features Wire mesh grilles

Models also available
CPS-69E0, N/A; TCM-6920T, $110.95; TCM-690EM, $64.95; CO-6930RM, $79.95; TM-620C, $74.95

TRIFLEX
Orovox Sound
11545 Tuxford Ave.
Sun Valley, Calif. 91352

TR-9001
Price $63.80
Dimensions 7 1/4 x 9 x 6 1/2
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 5 1/4"
Magnet 20 oz.
Mounting Surface
Features Chromed cast frame; 1 1/2" voice coil; biampable; waterproof construction; 5-year warranty; hardware included

K-6941
Price $120
Dimensions 9 x 6 2/5 x 4 1/5
Configuration 2-way
Response 25 Hz to 2 kHz, ±3 dB re 97 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 6 x 9"

K-6923
Price $150
Dimensions 9 x 6 2/5 x 3 4/5
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; 1 1/2" voice coil; biampable; waterproof construction; 5-year warranty; hardware included

K-6942
Price $145
Dimensions 9 x 6 2/5 x 4 1/5
Configuration 2-way
Response 25 Hz to 25 kHz, ±4 dB re 96 dB
SPL at 1 meter at 1 watt
Min power 3 watts (4.75 dBW)

TRUSONIC
Trusonic
10530 Lawson River Ave.
Fountain Valley, Calif. 92708

K-6943
Price $175
Dimensions 9 x 6 2/5 x 4 1/5
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 8 ohms
Driver size 6 x 9"
Magnet 40 oz.
Mounting Flush/Surface
Features Chromed cast frame; 1 1/2" voice coil; biampable, waterproof construction; 5-year warranty; hardware included

K-6922
Price $120
Dimensions 9 x 6 2/5 x 3 4/5
Configuration 2-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 x 9"
Magnet 20 oz.
Mounting Flush/Surface
Features Chromed cast frame, 1 1/2" voice coil, waterproof construction, 5-year warranty; hardware included

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 Blampilled 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 Neitl, June 1979 Issue of Australian Hi-Fi.

Hear the no compromise sound of Audio Pro equipment at dealers nationwide.

Call TOLL FREE 800-638-0228 for name and address of Audio Pro dealers in your area; Maryland residents call collect 301-459-3292. Or, if you like, write directly to: Audio Pro, 4720-Q Boston Way, Lanham, MD 20706.

1980 Edition
K-6022
Price $100
Dimensions 6¼H x 6½W x 2½D
Configuration 2-way
Response 40 Hz to 25 kHz, +4 dB re 94 dB
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; biamplable; waterproof construction; 5-year warranty; hardware included

K-5722
Price $100
Dimensions 7¼H x 5½W x 3½D
Configuration 2-way
Response 40 Hz to 25 kHz, +4 dB re 94 dB
Min power 3 watts (4.75 dBW)
Max power 80 watts (19 dBW)
Impedance 4 ohms
Driver size 5 x 7
Magnet 20 oz
Mounting Flush/Surface
Features Chromed cast frame; 1½" voice coil; biamplable; 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
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 for LED power indicators; built-in crossover; biamplable; 5-year warranty; hardware included

M-12
Price $149.95
Dimensions 7½H x 5¼W x 4½D
Configuration 2-way
Response 53 Hz to 18 kHz
Min power 3 watts (4.75 dBW)
Max power 40 watts (16 dBW)
Impedance 4 to 8 ohms
Driver size 4½ x 2½"
Magnet 24 oz

VERIT
Wald 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
Min power 5 watts (5.4 dBW)
Max power 60 watts (14.5 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

VISONIK DAVID
Visonik 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 6½H x 4½W x 4½D
Configuration 2-way
Response 50 Hz to 15 kHz, +8 dB in automobile
Min power 10 watts (10 dBW)
Max power 50 watts (17 DBW)
Impedance 4 ohms
Driver size 4 x 1"
Mounting Surface
Features Recommended for use with A-301 auto amplifier or AS-1 autobus system

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 53 Hz to 20 kHz
Min power 5 watts (7 dBW)
Max power 50 watts (17 dBW)

Models also available
K-6042, $125

High Fidelity's Buying Guide to Speaker Systems
Introducing the Avid Model 110 Minimum Diffraction Loudspeaker.


Utilizing the innovative design techniques which have made our revolutionary line of loudspeakers so popular, Avid introduces a compact Minimum Diffraction Loudspeaker™ for less than $150.

Its performance characteristics are so superior for the price, that the Model 110 establishes a reference standard that challenges comparison.

Overall system response (48 Hz to 20 kHz ± 3 dB) is truly exceptional for a speaker in this price range, and few loudspeakers in its class offer 88 dB efficiency along with 100-watt power handling capability.

Avid builds its own drivers to meet the specific design objectives of each system, and the Model 110 is no exception.

Power handling of the 1-inch soft dome tweeter is achieved with a design incorporating magnetic fluids and a high-temperature voice coil. Avid's proprietary cone treatment techniques enable the 8-inch woofer to roll off mechanically, eliminating the need for an electronic crossover.

The Model 110 is a totally integrated design yielding a level of performance usually found only in the most expensive loudspeaker systems.

For complete technical information on the new Model 110, write Avid Corporation, 10 Tripps Lane, East Providence, RI 02914.

Unboxed Sound. Reduced.
Feedback Causes:

Feedback Cure:

DISCWASHER®

Hi-Technology
Turntable Isolation System

- Works in combination with existing feet for dramatic reduction of feedback.
- Isolates better than original or "replacement" feet.

Home environments can "upset" a turntable by feeding back both speaker and footfall vibrations. Acoustic isolation of a turntable involves the complex variables of turntable weight, room/floor conditions and audio system placement. The Discwasher DiscFoot has been specifically designed to successfully isolate most turntables in the home environment.

The "Material" Solution
The major components of the Discwasher DiscFoot System are new, "totally engineered" chemical complexes that behave radically different than other plastic, rubber or spring systems. These proprietary compounds are durable and precise in behavior, although difficult and expensive to synthesize. Laboratory and real-world tests justify the use of these unusual materials in the DiscFoot System.

The Telling Test
The oscilloscope photo shows the output of two identical audio systems on the same shelf with their styli contacting the platters. The shelf is being struck by a rubber mallet. The top trace shows a turntable with absorptive "replacement" feet. The lower trace shows a DiscFoot System operating in conjunction with the existing turntable feet. Note the dramatic (tenfold) improvement in shock and feedback isolation.

The DiscFoot System contains four isolation feet, four platform caps, four furniture-protecting sheets and four special damping pads (to adapt DiscFoot units to certain turntables.) Additional single DiscFoot units are available for turntables weighing over 22 lbs. The system costs $22.

Discwasher DiscFoot can be found at audio dealers interested in preserving your music.

discwasher, inc.
1407 N. Providence Rd.
Columbia, Missouri 65201
CIRCLE 11 ON READER-SERVICE CARD