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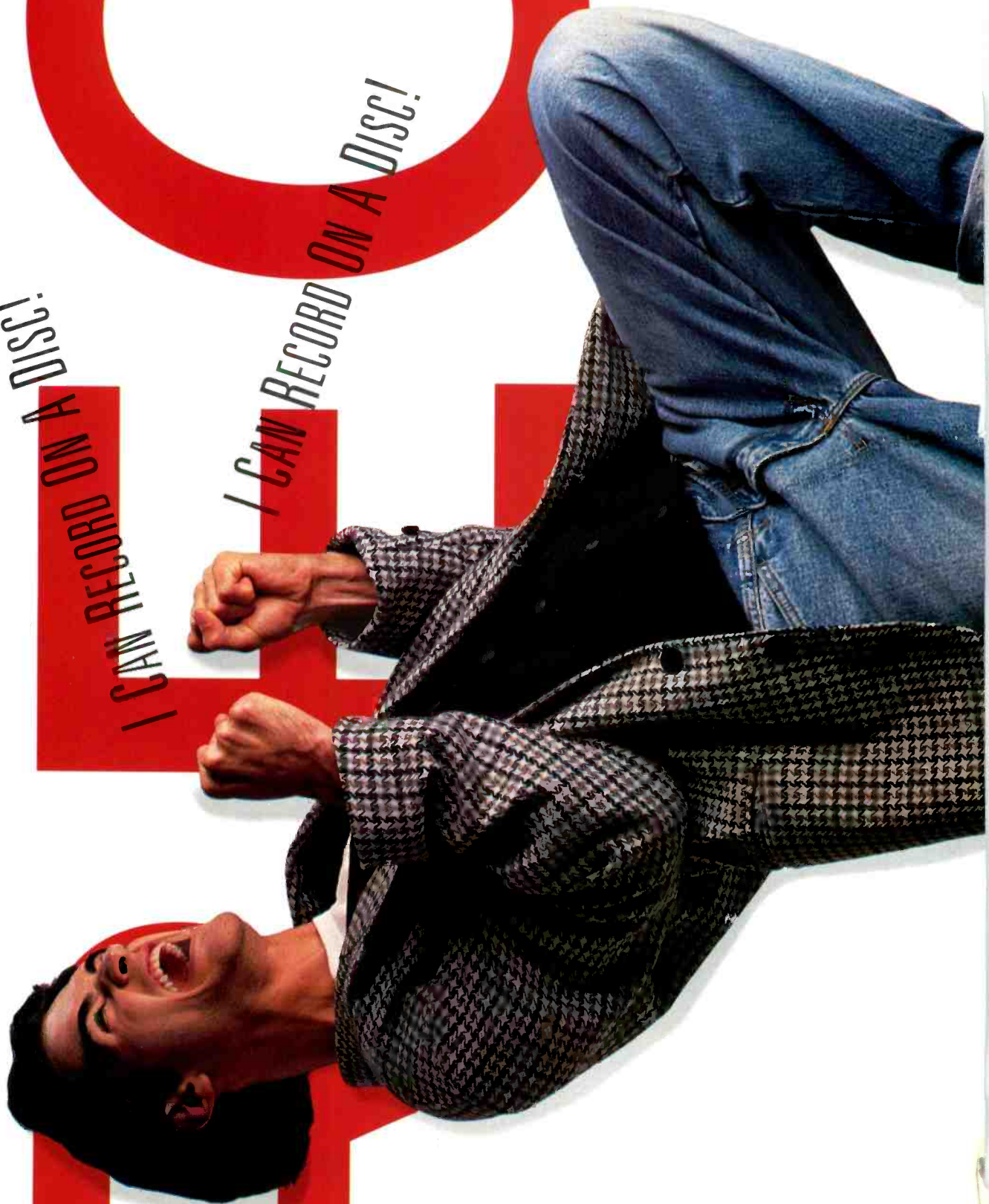


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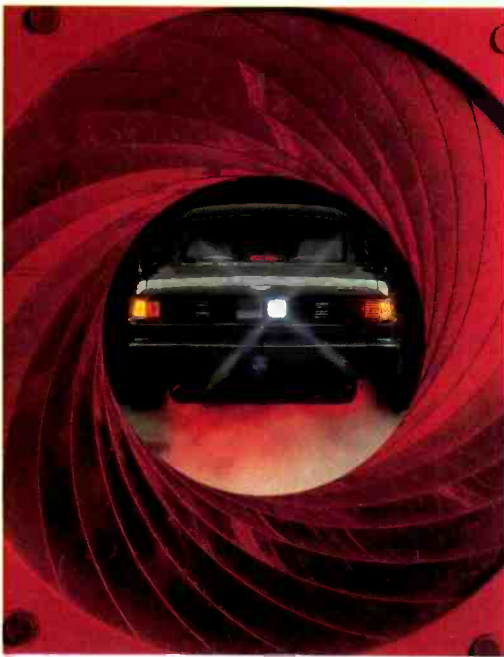
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# AUDIO



Aston Martin Virage,  
page 32

## feature

### COMMANDER BOND, YOUR CAR IS READY

Ivan Berger ..... 32

## equipment profile

### SONY MDX-U1 CAR MINIDISC PLAYER AND TUNER

L. Feldman and I. Berger..... 38

## car stereo directory

MINIDISC PLAYERS .....	49
AMBIENCE & SURROUND SOUND PROCESSORS .....	49
AMPS/EQUALIZERS .....	53
RADIOS/TAPE PLAYERS .....	68
CD CHANGERS & D/A CONVERTERS .....	78
IN-DASH CD PLAYERS .....	82
SPEAKERS .....	87
COMPANY ADDRESSES .....	137

Roadsigns,  
page 22



## departments

FAST FORE-WORD Eugene Pitts III.....	6
SIGNALS & NOISE .....	8
TAPE GUIDE Herman Burstein .....	14
AUDIOCLINIC Joseph Giovanelli .....	19
ROADSIGNS Ivan Berger .....	22
BEHIND THE SCENES Bert Whyte .....	26

Behind the Scenes,  
page 26



The Cover Subject: 1991 Aston Martin Virage  
The Cover Photographer: Bill Ashe

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# Pioneer Rules



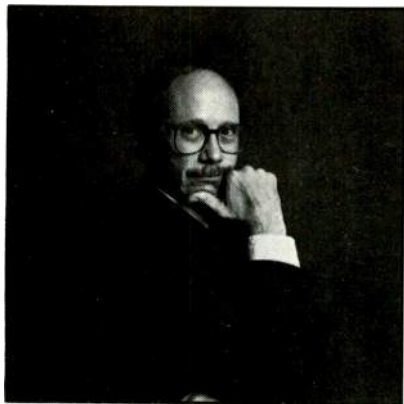
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It is not hard—for those who have worked on them—to believe that this is the 19th annual Car Stereo Directory that *Audio* has published. What is hard for me to believe is that there are still people who do not think that it's possible to have even medium-grade hi-fi sound in a car. They seem to believe that any sound out of a car radio—other than the news or a weather and traffic report—is in some way illegal and immoral as well as being an outright attack on the hearing of all people within 100 yards.

Now, I, too, get annoyed at the rolling boomboxes where all you can hear through the tightly rolled-up windows is a synthesized bass line, but I would be among the first to point out that such is not any sort of hi-fi, not from outside the car. (I keep expecting the drivers and passengers to get out of these vehicles with blood running from their ears.) I think that the “high dB SPL, crank-'em-up” cars are simply this generation's version of the Muscle Cars that were popular during my adolescence.

And that's okay, for after all, one doesn't go to a heavy metal concert to hear hi-fi. Just don't confuse the two, is all I say, because to do so is to throw the baby out with the bath water. It's like the argument that the lovers and promoters of acoustic instruments make: Only acoustic instruments are capable of sounds proper to hi-fi, because only such instruments can have their sound verified live. Excuse me, but that argument just isn't relevant. If all

we might hear were acoustic instruments, as in the days of Bach and Beethoven, it seems very unlikely that any of us would be rich enough or important enough to be the patron of either of these composers and thus hear music on demand, i.e., hi-fi. It is the recording and broadcasting of music that keeps food on the table of most professional musicians as very few are supported by the concert trail. And thus few of us could verify a live sound. And then there's the matter of transferring what was heard from the concert hall to the home listening room. . . .

Further, consider, for example, the case of a blues guitarist. Is not the intonation, i.e., his “sound” as it comes out of the speaker, just as much under his control as the pitch of, say, a bass viol? Now, you may say “I don't like that music!” but don't say “It isn't a verifiable sound” just because there is an electronic element in the chain to your ear.

But enough of these back-of-the-barroom arguments and more about the Car Stereo Directory. This year we have three more pages of speakers, 33, because of 97 additional models; the total is 2,497. That's about 200 more than the total in our home Directory last fall. We have switched the DAT players to MD players, mirroring the market, and there is a new ambience and surround-sound processor category. Several manufacturers asked where the crossover forms were, but the best I could do was allow that adding such a category was a good idea. Maybe next year.

And, finally, thanks and smarmy wet kisses on the cheek to Directory Editor Ken Richardson, new Assistant Editor Gerald McCarthy, Directory Temp Noel Farmer, and Managing Editor Kay Blumenthal, without whom *Audio's* Car Stereo Directory would never get to you.

# AUDIO

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## What the competition will be using for target practice this year.



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**From Radio Came Audio**

Dear Editor:

I want to congratulate you on the long life *Audio* has enjoyed. The "45 Years of *Audio*" supplement in the September 1992 issue brings back many memories.

I recall that your predecessor magazine, *Radio*, was published right here in Santa Barbara. Not only that, I wrote a few squibs for it: "Dynamic Shift, Grid-Bias Modulation" (with F. E. Terman, July 1936), "Plate Modulation, a Recapitulation" (May 1937), and "Graphical Class-C Amplifier Design Using Constant-Current Charts" (July 1937). I was indeed in radio at that time, where all the action was.

You may have heard of J. N. A. Hawkins, who was active with *Radio*. Independently, he conceived the same idea of an efficient grid-bias modulation scheme as Terman (now known as the Father of Silicon Valley), and rather than fight a patent it was decided that both parties would reveal the idea in *Radio*. "Jonny" Hawkins was a main wheel in the sound crew for *Fantasia*, and he worked where I worked, in underwater sound with [future *Audio* editor C. G.] "Charley" McProud.

Even the prenatal history of *Audio* is interesting, no?

F. Alton Everest  
Santa Barbara, Cal.

**Clearing the Air**

Dear Editor:

I would like to respond formally to a review published in December 1992 concerning the Audix SCX-One Studio mike. Here are the facts: The retail prices, according to your review, are \$500 for the Audix preamp, \$399 for the capsule, and \$100 for the 10 dB pad. The Neumann KM 140 set, which includes preamp, capsule, and 10 dB pad, retails for \$795, according to December 1992 pricing.

In Jon Sank's review, the Audix SCX-One Studio microphone was compared to the Neumann KM 140 in terms of equivalent noise: "I determined that the equivalent noise SPL of the Audix was about 10

dB higher than that of the Neumann, a far more expensive mike . . ."

In the conclusion, Sank writes, "The SCX-One . . . [is] comparable to more expensive studio microphones."

The Neumann KM 140 is much less expensive than the Audix and has better specifications and performance, yet the review does not reflect this. One of the most difficult tasks that we try to achieve here at Neumann/USA is to overcome the perception among end-users that Neumann microphones are much more expensive than they really are. This magazine review certainly does not help in this regard. Quite frankly, we were surprised that this error was published, particularly when our KM 140 has been undergoing a review by Mr. Sank and we have spoken by phone on several occasions.

I hope this letter serves to help your readers make a more informed decision regarding a microphone purchase of this category.

J. Alexander  
Product Manager  
Neumann/USA  
Old Lyme, Conn.

*Author's Reply:* I offer the following analysis to support my statement, based on the January 1992 price list, which was the latest received from Neumann.

Condenser microphones are frequently purchased as a system to take advantage of their modular flexibility. Let's assume that I want to own a complete stereo miking system, including all available capsules and accessories: An Audix system consists of two preamps and eight capsules, and costs \$4,192. The Neumann KM 100 system is much more comprehensive than the Audix. The total cost of two preamps and two of each available capsules (total of 10) is \$6,630. Then, if I purchase one or two of each of the many listed accessories, to suit a multitude of two channel or stereo applications, the total comes to \$13,631. This figure does not include any optional power supplies, which are available for use with

# AUDIO

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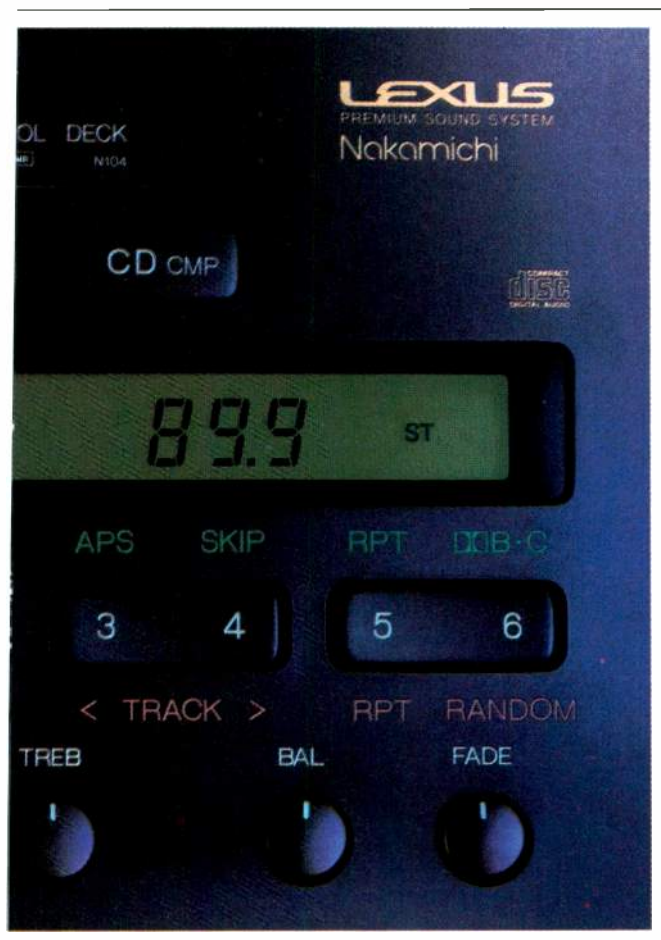
Dare we say, even a living room.

A total of seven speakers occupy the cabin: two tweeters, four extended-range speakers, and a ten-inch subwoofer. Each one placed in a distinct location to enhance sound imaging.

Turn up the volume and the first image that comes to mind is front row seats, thanks to 280 watts\* that, at your discretion, can send a musical note to a place about four inches beneath the sternum. But power is nothing without finesse. That's why active high- and low-pass crossovers feed



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specific frequencies that match the optimized operating range of every speaker. Equalization circuits (we'll spare you the details) are also used to tailor sound reproduction to the interior design of the car.

In English,



this means phenomenal sound quality. "The finest system you can buy in a new car" is how *Car Stereo Review* translated it (*Motor Trend* magazine, on the other hand, took a more direct approach by simply naming the entire car 1992 Import Car of the Year).

Of course, if you ever decide to turn off the stereo, you can always listen to how well the engine carries a tune.



# real Sound Of ders Werent' Enough.

the KM 100 series, and one would be essential when used with a DAT Walkman, for instance.

Thus, it is apparent that a bare bones KM 100 series mike may be had for a price comparable to an Audix, but a complete system is "far more expensive."

In conclusion, I did indeed quote the "better specifications" of the KM 100 with cardioid capsule in the Audix review. The end of the sentence, which Mr. Alexander quoted partially, was "... with a rated noise level of 16 dBA."—J.R.S.

#### The Trouble with Software

Dear Editor:

It was with great interest that I read in "Fast Fore-Word" (December 1992) that the Audio Home Recording Act, S. 1623, calls for a 3% royalty fee on the factory price of blank media and a 2% surcharge on the factory price of digital recorders.

Over the years, I have bought records, open-reel tapes, cassette tapes, and CDs. Many times the purchases overlapped. I have bought the same recordings on records for home listening and on cassette

tapes for use in my car. On several occasions, I bought open-reel tapes only to find the quality so far inferior to that of records that I had to buy the records too.

With each first purchase, I have paid the royalties that the artist is entitled to receive. Why should I have to pay royalties again when I buy the same recording in another format? If the industry wants additional royalties for blank media, I think that we consumers are due a refund when we buy the same recording in another format.

I know my proposition stands little chance of seeing the light of day when one considers that many of the recording companies are profitable only in their reissues. But still, if artists are due royalties to compensate for possible loss of sales, they have been given too much with the royalties on replacement sales.

Murray S. Levine  
Los Angeles, Cal.

#### Expanding Room Modes

Dear Editor:

As a service to *Audio* readers, I am offering the software described in my article "Taking Up Resonance: Finding Room Modes on Your Computer" (April) on floppy disk. On the disk is an enhanced version of the original program, which was too lengthy to appear in the article. It includes graphics to show individual and combined room modes, room frequency spectra and response, frequency space plots, location of resonance peaks and nulls in a room, and the effects of loudspeaker and listener placement.

The program is supplied on a 5¼-inch floppy disk. It runs on IBM-compatible personal computers using MS-DOS 2.1 or later. Video capability of CGA or higher is required for displaying the graphics. The cost is \$15 and is available, postpaid, to the address below.

John Sehring  
46 Valley View Terrace  
Wayne, N.J. 07470

#### Erratum

The computer program in Mr. Sehring's article "Taking Up Resonance" contained an error. Line 120 should have read "120 IF COL = 2 THEN COL = 0: PRINT ELSE PRINT TAB(41);". It will be entirely reprinted in our June issue.

AUDIO/MAY 1993

12

## Like Life



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## Sounds Like Life

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## In Vienna,

where they live and breath music, a survey of 17 D to A converters was conducted by the noted musicologist and audio critic, Dr. Ludwig Flich. Only two converters earned the "Reference Class" status. One of these converters sells for \$13,500. The other, at one seventh the price, is pictured below.

## In Tokyo,

where they live and breath consumer electronics, and where one can purchase anything made by anyone in the world, that same D to A converter was chosen as 1992's Component of the Year.

## Unique in the world,

the Counterpoint DA-10's DACCards let you listen to multibit, Sigma-Delta 64X or BitStream DAC's. Only the DA-10 has two digital-domain tape loops, four digital inputs with coaxial, TOSLINK or AT&T ST-type optical formats, and is a *complete digital studio*. Only the DA-10 has user adjustable DAC trimming. It even uses *zero feedback* in its I to V converter.

*In short, the world's most musical  
D to A converter is also its most advanced.*

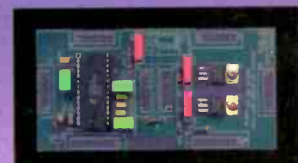
Below, a sampling of available DACCards



UltraAnalog Dual 20-bit Audio DAC



Philips 20-bit Bitstream DAC



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## TAPE GUIDE

HERMAN BURSTEIN

### New Deck, New Questions

**Q.** *I recently acquired a three-head deck and have several questions not answered in the manual: (1) The deck has a "CD Direct" input, allowing the signal to bypass the receiver for supposedly cleaner sound. Does this really improve the recording? (2) Do "audiophile" interconnects improve recording and playback, justifying their cost? (3) So far, metal tape has consistently sounded superior to the other types. Is there any reason for me not to standardize on metal cassettes? (4) The very slight residual hiss resulting from recording without noise reduction seems preferable to the loss of "space" around various instruments and the vertical compression of the sound stage when using Dolby C NR (although width seems unaffected, and depth isn't that great to begin with). Are these trade-offs consistent with your experience, or might there be a problem with my deck or recording procedure? (5) The deck has a sensitivity control to match recording and playback levels for accurate Dolby tracking. If I record without Dolby NR, do I still need to match these levels?—Kenneth Milne, Needham, Mass.*

**A.** (1) On most receivers, the signal from a high-level input (such as CD) travels through little or no active circuitry before it reaches the tape out jack. Therefore, the difference between a CD signal fed directly to the deck and one fed via the receiver tends to be scarcely measurable and probably inaudible.

(2) To my ears, as well as those of a number of persons whose perceptions I trust, exotic interconnects do not justify their cost. Yet there are others who claim to hear worthwhile differences. Try to borrow such interconnects from your audio dealer or a friend to decide for yourself.

(3) I see no reason other than considerably higher price not to stay with metal tape (Type IV).

(4) Whether to use NR is very much a personal judgment, depending on which attributes of the listening experience are the most important to an individual. In my case, I much prefer the reduction in noise

attributable to Dolby C. When I go to a concert, usually sitting at least a dozen rows back, I am not terribly aware of width, depth, and height of the sound source; rather, I am aware of a full and vibrant body of sound, and that's what I like from a sound reproduction system. Let me remind you that it has long been noticed that reduction of noise initially gives some listeners the impression of a loss of treble, which ties in with the feeling of air or space around instruments.

On the other hand, it is possible that there is something slightly wrong with your deck or procedure. Noise-reduction devices tend to exaggerate departures from flat frequency response. If your deck does not maintain flat treble response out to the limits of your hearing, Dolby C NR will somewhat intensify this treble drop, thereby lessening the impression of "space." Or if you are recording at an excessively high level, this may cause tape saturation despite the use of Type IV tape (which is more resistant to saturation than the other types). With saturation comes not only an increase in distortion but also in treble loss.

(5) There is no need to match levels if you record without Dolby NR.

### Can You Convert to Metal Tape?

**Q.** *My cassette deck is set up for Type II tapes. But I would like to use metal tape instead, because of its greater dynamic range for recording live sounds. Is a higher bias setting the only change I need to make? Do recording and playback equalization remain the same? I understand that Type II tapes are more easily erased than Type IV (metal). Is it possible to increase the strength of the erase head sufficiently to erase metal tape?—Ray Housker, Thief River Falls, Minn.*

**A.** Metal tape requires very substantially more bias current than Type II tape, roughly on the order of 25% to 50% more, depending on which Type II and Type IV tapes you are comparing. Playback equalization remains the same for Type IV as for Type II. The treble boost that makes up most of record equalization tends to be a

bit greater in the case of Type IV; again, the optimum treble boost depends on whose metal tape is used. If record equalization is left as is, the effect on frequency response will probably be minor.

Substantially more erase current is required for Type IV than for Type II tapes. There is a question whether the oscillator in your deck can supply sufficient erase current; a deck that was originally intended to accommodate only Type II tapes and Type I tapes (easier to erase than Type II) very likely will not have an oscillator capable of pumping enough current to erase metal tape. There is also a question whether the erase head can accept the necessary current for Type IV without burning out. Further, the record head may have a problem accepting the high bias current needed for metal tape.

All in all, I think that you are better off staying with Type II tape. Today there are some very good Type II formulations, and you might well find that the improvement from going to metal isn't all that great in many or most circumstances.

### The Too-Flat Dolby Blues

**Q.** *I recently bought a tape deck to play prerecorded tapes (I am not yet into CDs). When I play Dolby-encoded tapes with Dolby decoding on, the tapes sound flat. After some experimenting, I got a richer and brighter sound by playing these tapes with Dolby NR off, and by adjusting the treble control of my audio system to reduce tape hiss. Does the Dolby system cause a flat response, and should I be playing Dolby-encoded tapes with the Dolby switch off?—Jack Giannobile, Cranford, N.J.*

**A.** I am not sure what you mean by saying your tapes are "flat." Flat frequency response is usually considered desirable, so I assume you mean your tapes sound dull and lifeless.

If that's the case, do FM and other sources also sound this way? If so, the problem is in your audio system. Usually

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If you have a problem or question on tape recording, write to Mr. Herman Burstein at AUDIO, 1633 Broadway, New York, N.Y. 10019. All letters are answered. In the event that your letter is chosen by Mr. Burstein to appear in Tape Guide, please indicate if your name and/or address should be withheld. Please enclose a stamped, self-addressed envelope.



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the easiest things to improve are the speakers and their placement.

If only your prerecorded tapes sound "flat," the fault may possibly lie in the tapes you've purchased. It is well known that some studio engineers tailor the frequency response of their recordings to suit their ears and/or what they think will sell. Such tailoring or tampering often includes excessive emphasis of the treble range, to produce a "brilliant" sound.

It's also possible that you have a tracking problem in your tape deck's Dolby NR de-

coder. Mistracking occurs when the record and playback levels are improperly matched, so that the noise-reduction system's treble de-emphasis in playback no longer matches the treble emphasis added by the NR system in recording. If your cassette deck isn't tracking properly when the Dolby switch is on, you'll get too much or too little treble in playback—more likely too little, judging from your letter.

The change you hear by using treble cut instead of Dolby NR in playback is because Dolby B NR (the system used on most pre-

recorded tapes) emphasizes the frequencies from about 500 Hz up, particularly at lower signal levels. By not using Dolby B NR in playback, you are emphasizing not only the higher frequencies but also part of the midrange, which lends warmth to music. Since most tone controls are only effective above 2 kHz or so, you leave a somewhat pronounced midrange when you turn the treble down to reduce tape hiss.

In any case, feel free to set your Dolby NR switch and tone controls to produce whatever sounds good to *your* ears.

#### How EQ Affects S/N

**Q.** *I would be very grateful for an in-depth explanation of why Type II playback equalization achieves a higher signal-to-noise ratio than does Type I equalization.*—Chad Walsh, Solana Beach, Cal.

**A.** Without equalization, the record/playback response of a tape deck would have a pronounced hump. At first it would rise almost steadily with frequency, then level out, reaching a maximum in the range of roughly 1 to 2 kHz, and finally fall precipitously as frequency rises further.

Both Type I and Type II equalization consist primarily of a treble boost in recording (to compensate for the way response rolls off with rising frequency above the midrange) and a bass boost in playback (to compensate for the way response rolls off with decreasing frequency below the midrange). There may also be, for technical reasons, a slight boost of the very low bass in recording and of the very high treble in playback, but this doesn't concern us here.

More treble boost is used in recording Type II than Type I tapes, because Type II tape can handle more treble before saturation and distortion set in. As a result, Type II playback equalization will use more bass boost, to compensate.

A bass boost can also be viewed as a treble cut—that is, either as a response that rises as frequency falls or as a response that falls as frequency rises. From that standpoint, we can say that playback equalization for Type II cuts the treble more than Type I playback equalization does. Since most tape noise is hiss, whose level rises with frequency, Type II equalization's effective treble cut reduces noise, and therefore increases S/N, more than Type I equalization does. A

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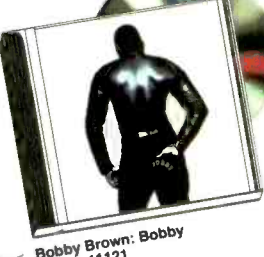
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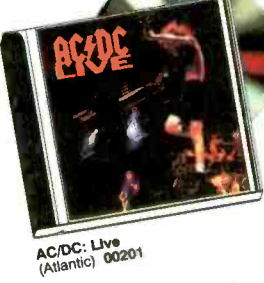
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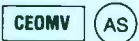
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## Speakers Unshielded? Shield the TV!

In a past issue, you discussed the use of Mumetal or sheet steel to shield TV sets from speakers' magnetic fields. These techniques have not worked for me, but I've found one that does. My woofer's 30-ounce magnet causes noticeable color changes when placed within 4 feet of either of my TV sets, though with critical orientation I can sometimes place the speakers within 2 feet of the sets without a problem. (I've found leaf tweeters cause almost as much magnetic distortion as my woofers do.)

In addition to trying Mumetal and sheet-metal shields, I tried placing another speaker near the first one, in hopes that the two speakers' field would cancel each other, but with no success.

Although I have had uniformly bad luck trying to shield the heads of tape recorders from hum fields, I tried some of your suggestions of using Perfection Mica Mumetal and lightweight sheet metal, with not a trace of improvement in performance of the TV sets. What did work, however, was placing a strip of lightly magnetized sheet metal against the side of the TV's cabinet (the side nearest the loudspeaker). This sheet was an 8 × 12-inch piece of hardware-store utility sheet metal, 30 gauge (0.0125 inch). Even with speakers within a foot of either TV set (which normally messes up the color thoroughly), the picture was fine when I put the magnetized metal against the side of the TV set. I then degaussed the sheet, after which it had no effect as an effective shield.

The degree to which the sheet was magnetized didn't seem critical. I magnetized this sheet by either approaching or actually touching the sheet against the flat back of a 30-ounce loudspeaker magnet structure. It appears that the sheet size I used is about the minimum needed to shield a 32-inch TV.

Also, testing for the effectiveness of the shielding was easiest to observe with a white screen.—D. L. Bonham, Tarzana, Cal.

## Power-Line Problems

**Q.** My home is more than 60 years old—with wiring to match. I have a power amp, a mixer, several tape decks, a turntable, CD players, etc. These devices are connected to the power line via a fused, multi-receptacle extension device. Nothing is grounded.

When any light in the house is turned on or off, I hear it in the system as loud static,

buzzing, and/or clicking. The sound levels are also affected on whatever source I happen to be listening to. The volume drops several decibels, I would guess.

I assume that the surge protectors in my extension device will protect the equipment from line surges. Shouldn't it also protect the equipment from this other distortion? Should I protect my equipment with something else to prevent these symptoms from occurring? Should I ground each piece of equipment, or do you think I should just ground the extension device?—Dick Johnson, Lockport, Ill.

**A.** A surge protector is designed to protect your equipment from power-line surges and nothing more. The symptoms you have presented indicate another cause for much of your difficulties.

You should check the voltage regulation of the outlet you are using. Does the voltage fall significantly when the lights or additional audio components are turned on? If the voltage changes more than 10%, you must find a means by which to stabilize it. I believe that reduced voltage will result in decreased audio volume because the operating conditions for each circuit device are not being fully met.

If you own your own home or if you can otherwise arrange it, have an electrician run a separate line from the fuse box to your listening location using appropriate-gauge wire. Some old house wiring used 14- or 16-gauge wire. Such wire cannot carry the current required by today's numerous appliances. Before running the wire, check that the voltage supplied to the fuse box remains substantially constant regardless of load. I have run into situations in which a single service was shared by more than one house and where the wire size used was totally inadequate for today's needs. In such an event, it's a good idea to have a new service put in, even before running a separate line for audio gear.

Another alternative is to feed all of your audio devices with a constant-voltage transformer. Such a transformer can maintain more or less constant voltage even when the power-line voltage swings con-

## AUDIO CLINIC

JOSEPH GIOVANELLI

siderably higher or lower than nominal. The transformer must be capable of supplying the power to all devices connected to it. If you cannot find a transformer that can supply enough power, you must use two transformers and split the load between them. These transformers are not cheap; the better alternative, in the long run, is to rewire your home as described.

As for grounding, I suggest that you run a ground from your preamplifier or mixer to a suitable radiator or waterpipe. These are probably the best grounds you will find unless you run your own. I doubt that you will need to ground the extension device.

## Inner Groove Distortion

**Q.** Some of my LPs sound okay, and some sound distorted. The distortion gets worse as the stylus approaches the center of the discs. The distortion is what I call crackling highs and very distorted "S" sounds. My turntable does not have adjustments for anti-skating or tracking force; it uses a magnetic cartridge. Are the discs at fault? If the turntable is the problem, what can be done to solve the problem?—Mark D. Mina, Anaheim, Cal.

**A.** There's no way for me to know for sure whether you are playing discs that cannot be tracked, whether there is a problem with your turntable, or a bit of both.

As the playback stylus approaches the center of a disc, it is more and more difficult for the tip to properly trace, or follow, the undulations of the grooves. This is because the groove's circumference decreases as the stylus moves closer to the center of the disc, cramming the recorded wavelengths closer and closer together and making each frequency's recorded wavelength shorter and shorter. Eventually, the high-frequency wavelengths become too small for the stylus tip to follow. The point

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If you have a problem or question about audio, write to Mr. Joseph Giovanelli at AUDIO Magazine, 1633 Broadway, New York, N.Y. 10019. All letters are answered. In the event that your letter is chosen by Mr. Giovanelli to appear in Audioclinic, please indicate if your name and/or address should be withheld. Please enclose a stamped, self-addressed envelope.

at which this happens depends on the frequency, the groove's distance from the record's center, and the size of the stylus tip. The larger the tip's nominal size and the more the tip has been blunted by wear, the closer to the disc's outer edge this will occur and/or the lower the frequencies that will be affected.

Adding to the problem is the tendency of the stylus to be pushed up too far by the vertical component of a recorded stereo signal. This, too, tends to happen more as the stylus nears the center of the disc.

All these complications become worse as the recorded signal level is increased. One reason some, but not all, of your LPs have inner groove distortion might be that these discs were recorded at very high overall levels. The discs may also carry music that gets louder at the end, as many large classical works do. Another reason might be that your troublesome records have suffered too much wear.

Tracking problems can be overcome to some extent by making certain that the cartridge is tracking at the proper force. If the

force is too low, the stylus will not stay in contact with the groove walls, causing both mistracking and increased record wear. Increasing tracking force may improve tracking, but excessive force can also shorten a record's life. The best setting is usually toward the upper end of the manufacturer's recommended range.

True, your turntable does not provide for tracking-force adjustment, but if you can find out what your cartridge's best tracking force is, you may still be able to improve things. Get a stylus-force gauge. If it shows excessive tracking force, tape a coin to the rear of the tonearm as a counterbalance, trying different coins and positions until you get the desired result. If the tracking force is too low, tape a coin slightly in front of the arm's pivot point.

I'm dubious about turntables that have no adjustments. If you have a large record collection, it will pay you to obtain a better turntable, one with the facilities you need to keep it in adjustment, and to get a low-mass, high-compliance cartridge. If you cannot replace all this, at least try a new stylus. If your phonograph used to sound better than it does now, a worn or defective stylus—or one that's been chipped by a drop onto the turntable's hard surfaces—is the most probable cause.

#### An Air of Electricity

**Q.** *I recently purchased a pair of electrostatic loudspeakers. The improvement in sound quality was awesome! I'm not sure if this is all good, however. When I am near to either unit, I sense some kind of electrical field. This worries me slightly. Are such fields harmful to the body or should I just sit back and enjoy this beautiful sound?—Darryl M. Ferguson, New Brunswick, N.J.*

**A.** The fields you have noticed near your electrostatic speakers are static electricity, similar to what you get by running a comb through your hair or walking on certain carpets on a dry day. Your body takes on an electrical charge with respect to objects around you, and you will sense this.

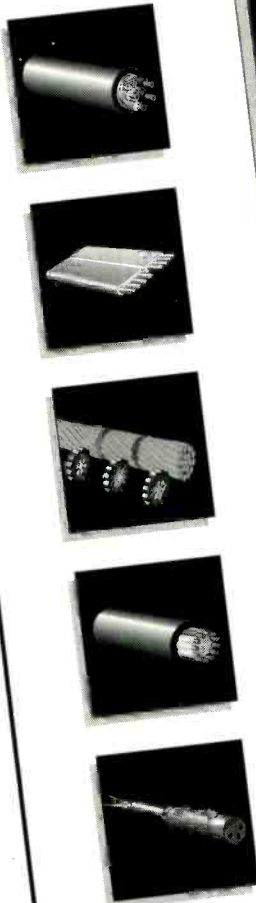
Unlike microwave energy or radio frequency energy at lower frequencies, this is a steady-state, or d.c., field. I can't imagine that such fields can be harmful even over a length of time. Further, most of the time you won't be near enough to the loudspeakers to be charged up. A

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## ROAD SIGNS

IVAN BERGER

# IS THERE A NEW FORMAT IN YOUR FUTURE?



Players for the new media: Top to bottom, Panasonic's DCC model, Sony's MD unit (reviewed this issue), Sanyo's three-MD changer.

**B**oth MiniDisc (MD) and Digital Compact Cassette (DCC) offer digital sound from media you can record at home. And both formats seem to be naturals for car stereo—but mostly not for the same reasons.

I'm more familiar with the MiniDisc's advantages, as I've now had some time with an MD player in my car. The MD jewel box is slightly easier to open with one hand than the CD box is, a real plus when you're driving, and the disc is easier to extract than a CD. But unlike the round CD, the square MD must be loaded with a specific

orientation—which, surprisingly, is with the disc's label upside down; if the label shows a musician, you load him in feet first. The MD seems the best protected format for car use, with its tightly shuttered case and optically scanned surface that cannot wear out.

The sound from the few recordings I've been able to compare seems different from but virtually as good as CD's under normal driving conditions. To my surprise, differences between commercial CDs and MDs are far more audible than those between commercial CDs and MD dubs made directly from them. I've been

told the record companies remix some albums for MD release. MiniDisc players have buffer memories to keep the sound going if a bump or pothole temporarily shakes the playback laser off its track, but then I rarely run into that problem with even unbuffered CD players, so that may make a difference only when the roads are really rough.

The MD is the smallest decent music medium ever, which means you can store a lot of MDs in your car's cassette compartment or your pocket. That small size also makes changer design easy; already, Sanyo has announced a three-disc in-dash MD changer which, unlike Alpine's similar changer for CDs, has no protruding disc magazine. And because the medium is a disc, there's almost instant access to any track—probably faster than with CD, since the distance across the disc is so much smaller.

I like being able to read song titles or other info from a MiniDisc player's display. The amount of information the display can show is limited (12 characters at a time, in the Sony player I've tried) but when you're driving, you can't safely read much more. Both MD and DCC units have such displays, and future models will probably share those displays with built-in RDS tuners. But while you can put track numbers and titles on home-recorded MDs, you cannot do so on DCCs you can tape at home.

The biggest *disadvantage* of DCC for mobile use is the temporary lack of car stereos that can play it. As of this writing, Panasonic has one scheduled for the fall of 1993, but nothing else has been announced as of this writing. The biggest advantage, though, is permanent: If you put a DCC deck in your dash, it will also play that stack of favorite analog cassettes you're already driving around with.

The packaging for DCC is not a jewel box but an open sleeve, so you can zip the cassette out easily with





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## { HOW A CONCEPT CALLED THE STABLE PLATTER TURNED THE CD UPSIDE DOWN. }

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place generating no vibration. The result is sound that is perceptibly superior.

Another problem for conventional CDs is gravity. Spinning above the laser pickup and supported only in the center, the disc sags microscopically.

Which to a laser beam is significant. But on the Elite CD platter, the disc is turned upside down and lies firmly clamped to a solid surface. Meanwhile, the laser pickup reads the disc's digital code from above, where it is immune to dust settling on the laser optics.

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your thumb. Depending on the design of the car player's tape slot, you'll probably load the cassette with its label either facing you or turned a mere 90°. The DCC cassette's protective shutter doesn't lock in place the way the MD's shutter does, and it doesn't seem as dust-tight. This might possibly prove a problem in the grimy car environment, especially as digital tape relies on very good head-to-tape contact. Also, tape is not quite as durable a medium as MD is (assuming that recordable MDs will be as durable as prerecorded ones).

The sound from DCC is, according to most of those who've tried it, indistinguishable from CD, though that

advantage may be less noticeable on the road than at home. Since DCC tape is physically held in contact with the playback head, it probably won't need a buffer memory like MD's to maintain play when the roads are bumpy.

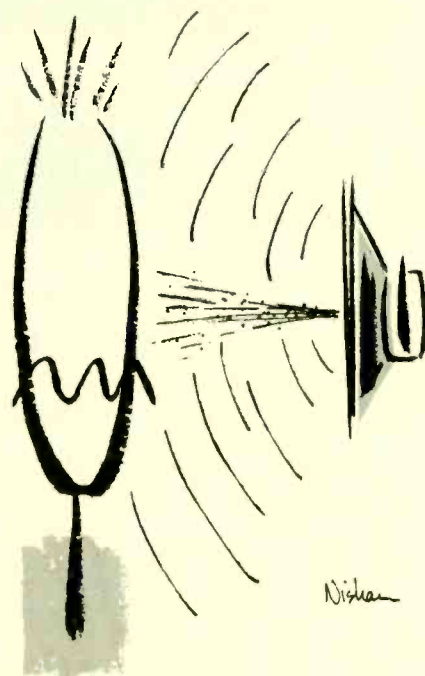
Recordings you buy in either format will cost the same as CDs. This puts both formats on an equal footing, as far as that goes, but hardly encourages people to switch to them from low-priced analog cassette. For now, blank MiniDiscs are also priced about like CDs, at \$14 or so for 60 minutes; DCC blanks are about \$7 to \$10 for a 90-minute tape, under \$8 for a 60-minute version. The prices of MD and DCC blanks should drop, however.

### Funny Coincidents

To save space, most two-way car speakers are coaxial models, with the tweeter mounted on their woofer's axis, usually about 2 inches ahead of the woofer. Such a speaker's directional pattern will start out wide in the bass, narrow as frequency rises, then suddenly widen again when the tweeter cuts in, and resume narrowing thereafter, in a chevron pattern something like this: >>. Also, the time difference (about 0.2 ms) between the arrival of the waves from the woofer and the tweeter can cause interference problems at crossover.

Most home speakers have still larger separations between woofer and tweeter. But at home we can arrange our seating and speaker positions and aim the speakers, so we're sitting pretty much on axis or wherever else our speakers sound best. In the car, where seating and speaker positions are fixed, and off-axis listening is the norm, directionality and time problems can be more noticeable.

Results are better if the woofer and tweeter are not only coaxial but coincident, with the treble originating at the base of the woofer cone. Tannoy has long been building home speakers this way, but its coincident coaxial drivers require too much mounting depth for use in cars. Simple car speakers with "whizzer" cones cemented to the base of the woofer are coincident, and mount in shallow holes. The same is true of Advent's



Inductive Coupling Technology speakers (based on designs by Goodmans, a corporate relative of Tannoy). The ICT design uses a tweeter dome at the woofer's base, but drives it by inductive coupling to the woofer's voice-coil. The KEF Uni-Q home speakers have independently driven tweeters at their woofer bases, a trick made possible by compact, neodymium magnets. Now that trick, too, has shown up in car speakers—not from KEF yet (which surprises me), but from AVI, a Canadian company. There's more to come, I'm sure.

The Radio Broadcast Data System (the radios for which will be labelled "RDS") is certainly this year's big radio news. The more I hear about its capabilities, the more I look forward to having RDS in my car. But it will probably take a few years before the dials fill with RDS transmissions. In the meantime, there are neat ways to get at least some of the station, traffic, and other information that RDS will bring.

For instance, Autotalk, of Santa Clara, Cal., now offers a system that brings in local traffic news (complete with alternate-route information), weather, and soundtracks of TV shows. From a start in Los Angeles, Autotalk plans to expand its sales and trafficcasting service to San Francisco and then to other cities.

Finding your favorite kind of music in a strange city is now most easily done with the ID Logic system. This holds a database of station locations, call signs, and program formats, so you can scan for the type of station that you want without getting lots of stations playing other stuff. ID Logic is offered in a few models by Panasonic and Alpine, now, but in the wake of its inclusion in the RBDS Standard, Clarion, Sanyo, and Sony have licensed the technology (as JVC did, last year.)

The same information in print form is rather less expensive, if not as easy to access while you're driving. (My wife and I use a quaint database retrieval system called "You look it up" when we're in the car together.) If you drive the Interstates a lot, try Paul Rocheleau's *Radio on Wheels*, an \$8.95 Berkley book sold in separate editions for the Eastern and Western U.S. It is organized by Interstate routes and the cities on them (though it doesn't show exit numbers), and indicates not only each station's format and frequency but also relative signal power, whether it carries traffic reports, and when it carries news. (Off the major roads, it's not much help.)

The *Travelers Radio Guides* (Roadway Radio Guides, \$4.95 each) are strip maps with station listings organized by city. The East Coast edition, which I found in a New Jersey bookshop, covers a strip from Houlton, Maine (up by the Canadian

border) down to Key West, following an unlabelled red line that appears to be I-95. Stations are listed in tabular format for each city en route—including format, frequency, call letters, power, and brief comments on such matters as the teams whose games a station carries. (Red Sox games are carried throughout New



England, but Mets and Yankees games seem only to be carried in New York. Hmmm.)

Even less expensive—i.e., free—are the RadioGuides produced for promotional use by RadioGuide People, of Southfield, Mich. One type of guide gives a quick station listing, by format, for a single metro area—including station name, frequency, and location. Avis gives these out in 24 markets. (Save some from your travels, and you'll get quick insights into how musical tastes vary among cities.)

Another RadioGuide gives a country-wide listing of stations carrying a single basic type of programming. My sample covers rock stations, with two-letter codes indicating eight subdivisions of that genre. The rock listing is printed in type about one-third smaller than what you're reading now, so it's no surprise that the guide carries ads for Bausch & Lomb contact lenses and that it includes a warning: "Do not attempt to read while driving!"

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BERT WHYTE

## FRIENDLY FIRE



**T**he battlefields of audio are littered with the bones of music-storage formats. The primitive, fragile 78-rpm records provided music in 4½ to 5 minute segments, were extremely limited in dynamic range and frequency response, produced atrociously high surface noises, and, for their time, were relatively expensive. The early acoustical recordings, and the subsequent electrical 78-rpm recordings, had a thin, pinched, nasal sound. Yet their introduction was heralded by advertisements with testimonials from famous singers proclaiming the “life-like” sound. The 78s were “Indistinguishable from the live voice” and “Like having a famous opera singer in your home.” Obviously, “hype” has a long history!

With all their faults and primitive technology, 78-rpm records were wondrous things as they provided music—music magic—at any time to phonograph owners.

The advent of magnetic tape recording and the LP in the late '40s coincided with what is regarded as the beginning of the hi-fi era. In those early days, RCA pushed its 45-rpm “donut” discs versus Columbia’s 33½-rpm LPs. There might seem to be a parallel here to the Digital Compact Cassette versus MiniDisc battle, but it is only a slight parallel, because the 45 rpm discs soon became a medium for pop music.

Magnetic tape recording was particularly attractive to the newly minted audiophiles pursuing the Holy Grail of high fidelity. A number of open-reel tape decks became available to the consumer, and while there was much experimental personal recording, audiophiles lusted after prerecorded tapes. There were pitifully few tapes available, all mono at the time. (To boost recorder sales for Magnecord, for whom I worked at the time, I arranged a deal with Vox to issue their products on tape as Magnecordings.)

The stereo tape breakthrough came almost by accident, when a number of RCA executives visited Murray Crosby’s laboratory, in 1953, to hear a demonstration of his sum-and-difference FM stereo multiplexing system. I supplied the stereo program material for the demo—tapes I’d made of Benny Goodman, the Chicago Symphony, and other groups. None of the RCA people had ever heard stereo, and they were so impressed that the following year they issued the famous prerecorded tape of Fritz Reiner and the Chicago Symphony performing Richard Strauss’ “Also Sprach Zarathustra.” It was a two-track 7½-ips stereo tape selling for \$14.95, a lot of money in those days. (BMG has reissued this recording on the Living Stereo CD series, RCA Victor 09026-61494-2.) This was followed in short order by the Boston Symphony Orchestra in a performance of Berlioz’s “Symphonie Fantastique,” with Charles Münch, and one of Tchaikovsky’s Symphony No. 6, “Pathétique,” with Pierre Monteux. Many other tapes were issued at regular intervals. Before long, Mercury began issuing prerecorded stereo tapes, then other record companies followed suit. Ampex created United Stereo Tapes, which had a very comprehensive catalog of stereo tapes from London Decca, Deutsche Grammophon, Philips, and many others.

It must be remembered that between 1954 and 1958, if one wanted the thrill of listening to stereophonic music, it was available only on prerecorded open-reel tapes. Ultimately, prerecorded stereo tapes adopted the quarter-track (play in both directions) format, and companies like Barclay-Crocker gladdened the hearts of audiophiles by issuing many fine tapes right up to the demise of the format in 1986.

Stereo LP vinyl discs and FM stereo multiplex arrived simultaneously on the audio scene in 1958. By 1963, stereo discs were well established, and in that year, Philips introduced their Compact Cassettes.

Illustration: Victoria Kann

The Perfect Frozen Asset.



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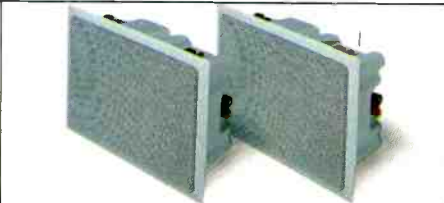
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At the beginning, Philips envisioned their audio cassettes as a medium for speech recording and promoted it as a dictation machine. Inevitably, the cassette was used to record music, and ultimately, there were a number of relatively inexpensive cassette recorders and a limited supply of prerecorded audio cassettes. I well remember the high hiss level of those music cassettes and their excruciating wow and flutter. As he had done for professional magnetic tape recording and prerecorded open-reel consumer tapes, Ray Dolby applied his noise-reduction techniques to the audio cassette. With Dolby B NR and cassette decks with improved motion performance, the audio cassette acquired legitimacy and acceptance as a music storage and playback medium. The rest is history, with audio cassettes outselling the vinyl LP from the late '70s onward. Among other casualties of that era were the Elcaset (king-size cassettes that operated at 3 3/4 ips; it had no prerecorded music support) and the 8-track tape (mostly for automotive use). Then in 1982, the knell sounded for analog audio, with the introduction of the digital Compact Disc.

Of course, this was an inevitable consequence of the emerging digital audio technology. Digital tape mastering was commonplace for a number of years prior to the introduction of CD. In the 11 years since CD was launched, it has succeeded beyond the most ambitious dreams of its developers. From a couple of CD pressing plants in 1982, there are now more than a hundred plants throughout the world. The CD catalog, encompassing pop, rock, classical, and every imaginable kind of music, is immense. From the classical viewpoint, not only has every possible work in the standard repertoire been put on CD, often with a staggering number of competing versions, but even the most exotic and obscure music is routinely available on CD.

Needless to say, the CD has all but driven the vinyl LP off the market, and most record stores no longer stock LPs. The LP has its loyal die-hard advocates and even now, at the very nadir of its existence, there are an astonishing number of new, and very technically advanced turntables, arms, and phono cartridges. This, along with the current popularity of tube preamps and amplifiers, is sort of a techno-

logical "back-lash." Not surprisingly, many of the LP devotees favor tube electronics.

In 1986, Sony and other Japanese audio firms introduced the R-DAT format. The "R" designated the revolving magnetic recording head, similar to that used in VCR recorders, and "DAT" indicated Digital Audio Tape. The DAT machine was essentially a mini VCR deck, with digital rather than analog recording. The R-DAT was a sophisticated and clever design, but as soon as its capabilities became apparent, the record companies set up howls of protest. They contended that R-DAT recorders could be used to make perfect digital "clones" of their CDs, and therefore cost them millions of dollars in lost sales. Their whole posture and arguments were specious at best, but they quickly descended on Congress demanding that no R-DAT machine could be sold in the United States unless it was equipped with an anti-copy chip. This set off a long legal wrangle that, along with the failure to develop high-speed duplicators for prerecorded R-DATs, sealed its doom as a viable consumer format for digital recording.

We now have third generation R-DAT machines listed as low as \$799. These are saddled with Serial Copy Management System (SCMS), which permits a digital copy of a CD, but not subsequent copies of the first clone. Just plain silly. Considering the cost of a blank R-DAT, plus the labor of making copies, who would you sell them to, especially since the buyers would have to own R-DAT machines? But despite its lack of consumer acceptance, R-DAT is widely used in various implementations for professional recording.

As things stand now, for prerecorded media we have the moribund vinyl LP, the audio cassette, and the Compact Disc. Now the DCC and the MD have moved to the point of availability in most world markets. As yet, prerecorded DCCs and MDs are on the scarce side. Both have been examined, tested, and discussed in *Audio*. In spite of this, not enough prerecorded software has been made available so that extended comparisons between them and their CD equivalents could be undertaken.

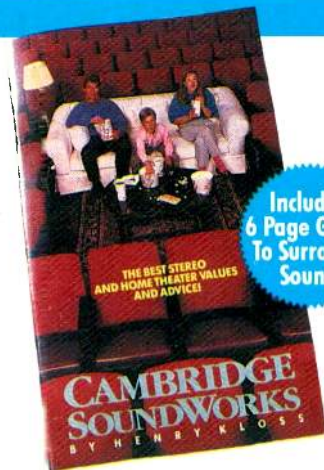
Several important factors must be considered in the launch of new formats like DCC and MD. Apart from the consumer reaction, these formats will need the sup-

port of the record store retailers if they are to succeed. In the present economic climate, most retailers are less than happy about the prospect of having every new release available as an analog cassette, CD, DCC, and MD!

The price of DCC and MD software has also been a particular "hot potato." At first, it was hoped that DCC and MD albums could sell for less than equivalent CDs. This would have been a very powerful sales incentive and might have swayed some people to purchase DCC or MD equipment rather than CD players. Apparently, the lower pricing was not feasible, so then it was hoped the new software would be on a par with CD. This may be a possibility, but to find out what a consumer could expect at present, I checked with several of the major record retailers in New York City; two stores "never heard of DCC," one giant chain had some classical DCC albums available, but no MDs. The price of the DCC was \$16.95! Another store had both DCC and MD albums, both priced at \$15.95! These same stores sell CDs regularly at \$11.99 and \$12.99. If these DCC and MD prices prevail for some time to come, these formats will face serious consumer resistance.

Looking over the album release lists of DCC and MD, it suddenly dawned on me that what was being offered to the prospective buyer of DCC or MD machines was repertoire already available on CD. Most classical music devotees who have CD players already own at least a basic library of works in the standard classical repertoire and probably have expanded their tastes in more venturesome music. Putting aside technical questions about the data compression systems used in DCC and MD, and the quality differentials that may exist between these new formats and CD, why would anyone want to acquire on DCC or MD the repertoire he has already accumulated on CD?

Irrespective of the recording capabilities of DCC and MD, the success and longevity of these formats is based on the availability, desirability, and price of prerecorded software. Considering the derivative nature of what is being offered on Digital Compact Cassette and MiniDisc, and their higher costs, I think their protagonists have a serious problem. A



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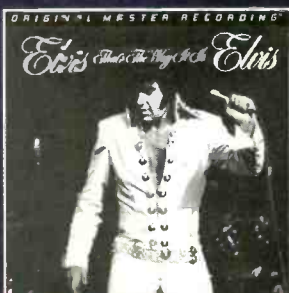
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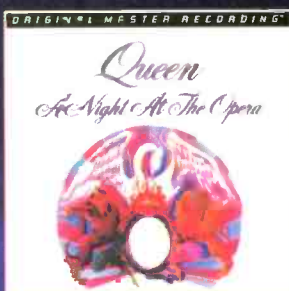
LDCD 565



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UDCD 567



UDCD 538



LDCD 569



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UDCD 571



UDCD 572



UDCD 573



UDCD 574



UDCD 575

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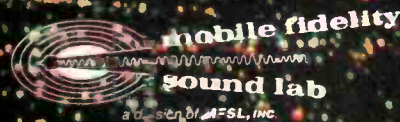
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# Commander Bond,

*your car*



To handle all the electronics added to this Aston Martin Virage, Ultrasmith built a new fuse panel (left), labelled to show which circuit is which.

Like James Bond, the owner of this car appreciates Aston Martins, gadgets, and the good life. Unlike Commander Bond, however, he's not in government service, which doubtless accounts for his ability to pay not only for this 1991 Virage but for about \$70,000 worth of enhancements to it.

Those enhancements, added by Ultrasmith of New York City, include an all-new leather interior (including such details as matching leather up-

PHOTOGRAPHS: © BILL ASHE 1993



*is ready!*

holstery on the cellular phone), a sound system, and some definitely 007-ish devices.

The stealth devices include a concealed rear light to blind pursuers (or to blink at people who won't dim their high beams), a reservoir that can dump oil on the street, and a hopper that can dump small objects such as tacks for puncturing pursuers' tires, or less aggressive objects to provide more sociable distractions.

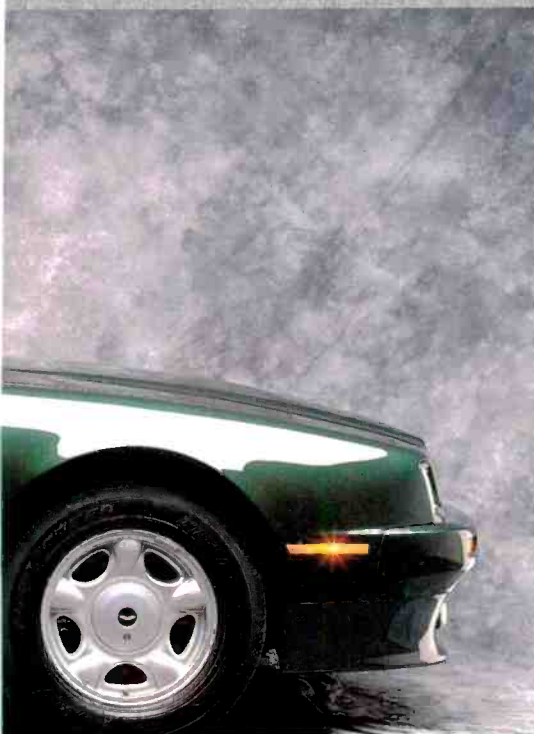
"They're really for show purposes, not for use on public roads," says Ultrasmith's founder, Barry Smith, "but they could also be used for security against kidnapping. And the car is likely to be used in a movie."

"It's quite a feat to find cavities to hide all these components," says Smith. "Modern cars are designed with the aid of computers, so almost all interior space—even in the wheel wells—is accounted for."



The Nakamichi TD-1 cassette/tuner unit, mounted in a slide-out bracket, also controls a CD changer in the trunk. The amplifier and other electronics are also in the trunk.

**The engine (right) is an industrial jewel.**



No, this is not one of those trunks that's been shrunk to half its size by space-hogging subwoofers—the panel between the trunk and rear seat hides the spare tire, and the trunk is about normal size for a sports car, though perhaps a bit plusher since Ultrasmith refinished it. The changer is Nakamichi's 100 CDC/i, with extra isolation against road bounce and bass waves. That's important here because the Virage's design vents the funk into the same wheel wells that the subwoofers vent into. At the left side of the car are an a/d/s/ PH15 amp, delivering 55 watts from each of its six channels, an Audio Control EQQ four-channel equalizer and, out of sight below the EQQ, an Audio Control AXS crossover. The filler neck for the oil-dumper reservoir is just to the right of the amplifier.



Ultrasmith built small, sealed enclosures into the rear-seat headrests to house the OZ-180 midrange drivers. The square panel between the headrests is an Aston Martin service access point.

Ultrasmith retained the original speaker grilles, whose shape echoes that of the Aston Martin front grille. But behind those grilles are Nakamichi SP-65C coaxial speakers, tilted up to face the listeners' ears. Note the plain and perforated leatherwork, done by Ultrasmith, and the original burled walnut trim.

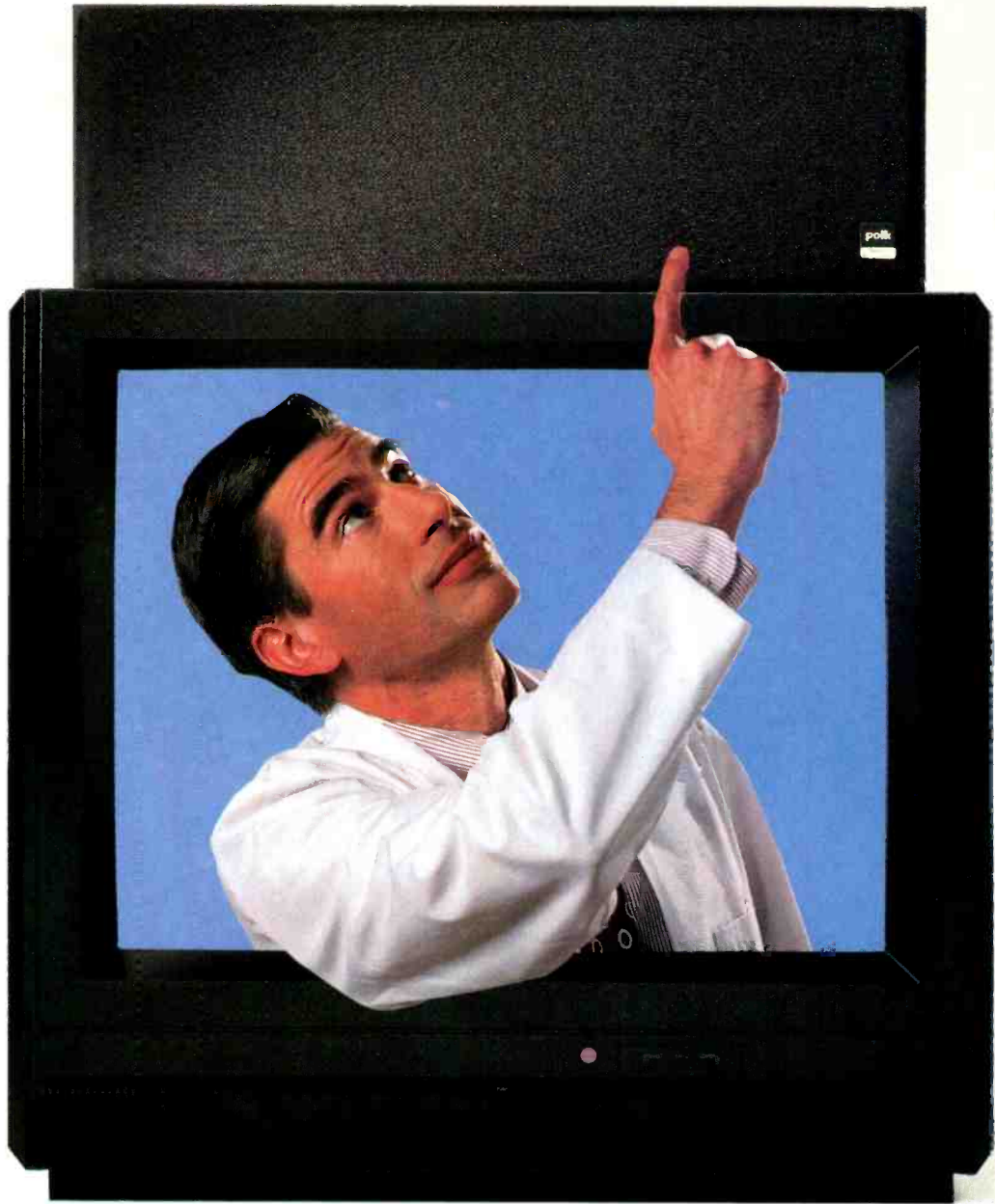


The large speaker near the front of the seat cushion is an 8-inch Oz:200H free-air subwoofer. Since the space behind the woofer is so small, Ultrasmith vented the woofer's backwave into the rear wheel well, creating a true infinite baffle that extends the bass response down to 30 Hz. The angle of the eyeball-mounted Oz-25 soft-dome tweeters near the headrests is optimized for front-seat listening; the back seat of this 2+2 coupe is unlikely to be occupied for long periods. (The small white circle above the armrest is a reading light, also in an eyeball mount.)



The stealth devices include the oil-slick dumper (left), the ultra-bright rear light (not shown) and, at right, the tack hopper (also usable for more friendly objects). A key-lock switch in the passenger compartment prevents accidental activation.





*Matthew S Polk*

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## SONY MDX-U1 CAR MINIDISC PLAYER AND TUNER

The Sony MDX-U1 combines a MiniDisc player (the first such player for car use) and an AM/FM tuner in one chassis; it can also be used to control up to 10 Sony CD changers.

A 12-character display shows MD album titles, track titles, or track numbers and elapsed time—not just on commercially available recordings (as is true of Digital Compact Cassette) but on recordings you make yourself with a home or portable recorder. While you cannot record title information on CDs, you can store titles for up to 110 discs in the memory banks of each Sony CD changer you connect to your system and display that information during play. You can also record names or program formats for up to 40 FM and AM stations. In addition, the display can show the current date and time.

Like the portable MZ-1 MiniDisc recorder/player I reviewed

in February, the MDX-U1 employs the ATRAC bit-reduction system, which allows up to 74 minutes of music on a 2½-inch disc.

Its shock-resistant memory uses a 4-megabit chip to store up to 10 seconds of audio data, thereby resisting skipping even on rough roads (and during rough handling in my bench tests).

As for circuitry used in the MiniDisc section of the MDX-U1, it includes a new 64-times oversampling digital filter as well as Sony's one-bit High Density Linear Converter D/A system with four sections operating in complementary push-pull configuration. A digital input allows CD changers with digital outputs to take advantage of the MDX-U1's D/A converter; there is also an analog input.

Other features allow quick location of any track, manual search within a track,



random (shuffle) play, track repeat, and Intro Scan (which plays the first 10 S of each track). These track-selection features operate on all CDs in a changer, if you have one connected. For CD play, the MDX-U1 also allows repeat of the entire disc or magazine.

The Sony unit also allows programmed play of selected tracks from CD. The manual is a bit ambiguous about whether one can program tracks from more than one disc at a time, and how many tracks can be programmed; because of the "rush" nature of this report and due to the fact that I had no Compact Disc changer, I was unable to check. Only those discs whose titles have

The FM tuner section has its share of features too. Perhaps the most important of these is diversity tuning which, by the connection of two separate FM antennas, greatly reduces the multipath problems associated with mobile FM reception by constantly selecting the stronger of two antenna inputs. As many as 18 FM and six AM presets can be "memorized" by the tuner section and a feature called Best Tuning Memory (BTM) can, if you wish, automatically store the strongest local stations into preset memory as you travel.

The MDX-U1 is equipped with four-channel preamp outputs with a fader control for front-rear fade. For anti-theft protection, the MDX-U1 has a detachable faceplate that is easily removed and can be stored in a supplied carrying case. Also supplied with the unit is a wireless remote control with backlit controls. This is especially useful for back-seat passengers who want to make adjustments or change program sources without disturbing the driver.

### Control Layout

With so many features available, it is only logical that many of the pushbutton controls on the removable faceplate perform multiple functions that change with the program source.

**THE OWNER'S MANUAL  
MAKES THE SONY'S  
COMPLEX CONTROLS EASY  
AND PAINLESS TO LEARN.**

been manually entered can be programmed. You program tracks by indicating the ones you want to skip. Pressing the "Bank" button switches between normal and programmed play.



At the upper left of the front panel are the "Off" switch and faceplate "Release" buttons. The "DSPL" button just below them controls the display mode and is used in setting the date and time. The "SCRL/SENS" button activates the display's scroll function (for titles more than 12 characters long) and selects seek-tuning sensitivity.

The MiniDisc slot is at the top center, with the eject button just to its right. Farther to the right are the infrared sensor for the supplied remote control and the "MD" button used when switching from radio or CD to a previously loaded MiniDisc. (You normally begin play as soon as you insert an MD, even if the MDX-U1 is turned off.)

Selector buttons for "FM," "AM," and "CD" are stacked below the "MD" button. Pressing these will also turn the unit on.

The large display panel and six station-preset buttons are halfway down the panel, below the MD slot. During MD (or CD)

**THE 12-CHARACTER  
DISPLAY SHOWS MD  
ALBUM AND TRACK TITLES,  
EVEN ON DISCS YOU'VE  
RECORDED YOURSELF.**

play, buttons 1 through 3 select intro scan, "Repeat" and shuffle play. When a CD changer is connected, button 4 ("Bank") activates the program mode, as described previously.

The "Mute" button, easy to find at the lower left corner of the panel, is a welcome touch—most car stereo units only have this function on their remote controls. The "File" button next to it is used, with other buttons, for storing and editing names for radio stations or CDs. Just to the right is the "AMS/Seek" rocker, used for radio tuning or for jumping from track to track during MD or CD play. The large "+" and "-" buttons at the bottom center of the panel normally raise and lower volume; pressing the "Sel" button between them sequentially changes their function to control of bass, treble, balance, and fader. The "Disc/Preset" rocker is used for searching through an MD or CD track, for scanning through preset stations, or, if it's held down for a half second, for manual tuning. And the last button, "BTM/"M.Scan," is used to store the strongest local stations and to scan the programming of all preset stations for about 5 S each. The Best Tuning Memory function fills not only the currently selected memory bank but all higher numbered banks; if you start it when in the FM1 bank, it will fill all 18 FM station memories, but if you start it when in FM3, it will fill only that bank's six memories.

There are no buttons specifically for setting the time and date or editing radio-station and CD names. Instead, combinations of other buttons are used for these seldom-used functions.

The remote's three main controls are "Seek/AMS" (for track selection and radio tuning), "Preset/Disc" (for shifting between tuner presets, searching through an MD track, or changing CDs), and volume. Buttons are used to select sources, mute the output, turn the system off, and select display modes. Another switch backlights the remote's buttons and rockers for 15 S.

Three other switches are hidden from view in normal use. Like most micro-processor-controlled units, the MDX-U1 has a reset switch that must be pressed with a ball-point pen or similar object when the unit is first set up and if the buttons should stop functioning. Under the chassis are switches to enable FM diversity tuning (if you have two antennas) and a "Power Select" switch. When this is on, the unit's front panel will be illuminated even when the unit isn't playing; in cars whose ignition switches have no "Accessory" position, "Power Select" should be off to prevent battery drain. Other unusual features on the chassis include a connection to mute the MDX-U1 when a mobile phone is in use, an optical digital input, and a cooling fan for the ATRAC decoding circuits.

Admittedly, familiarizing yourself with all of these multiple-function controls will take some time, and attempting to use the controls before becoming thoroughly familiar with them could prove to be a problem while driving. On the positive side, however, the manner in which the controls are highlighted in the owner's manual, and the way each control is labelled with page-number "bullets" where exact descriptions and use of each control can be found, makes the education process far less painful than it might have been.

#### Tuner Measurements

Figure 1 shows the frequency response of the FM tuner section of the MDX-U1. Response is down just over 2 dB at 15 kHz, with tone controls set flat, and both left and right channels exhibited virtually identical response curves. Figure 2 displays the quieting characteristics of the FM tuner section. In mono, 50-dB quieting was reached with only 12.5 dBf of input signal, denoting an extremely sensitive FM front-end. Signal-to-noise ratio for stronger signals measures just short of 70 dB for mono and around 62.5 dB for stereo reception. At

## SPECS

### MiniDisc Section

Frequency Response: 20 Hz to 20 kHz.

S/N Ratio: 90 dB.

Stereo Separation: 90 dB.

THD at 1 kHz: 0.03%

### Tuner Section

FM Usable Sensitivity: 12 dBf.

FM Selectivity: 75 dB at 400 kHz.

FM S/N Ratio: Mono, 70 dB; stereo, 65 dB.

FM THD at 1 kHz: Mono, 0.3%; stereo 0.5%.

FM Separation at 1 kHz: 30 dB.

FM Frequency Response: 30 Hz to 15 kHz.

FM Capture Ratio: 2 dB.

AM Sensitivity: 35  $\mu$ V.

### Preamplifier and

### General Specifications

Tone Control Range: Bass,  $\pm 10$  dB at 100 Hz; treble  $\pm 10$  dB at 10 kHz.

Maximum Output Level: 4.3 volts rms.

Dimensions: 7 in. W  $\times$  2 in. H  $\times$  6 $\frac{1}{16}$  in. D (17.8 cm  $\times$  5.0 cm  $\times$  17.0 cm).

Weight: 2.9 lbs. (1.3 kg).

Price: \$980.

Company Address: Sony Dr., Park Ridge, N.J. 07656.

For literature, circle No. 90.

signal levels below 20 dBf, stereo reception switches fully back to mono (for lower noise), so it is not possible to report a 50-dB quieting point for stereo reception.

Figure 3 shows how harmonic distortion plus noise varied as a function of modulat-

ing frequency in both mono and stereo reception modes. At 1 kHz, THD + N in mono measures 0.43%, while in stereo the reading is just over 0.6%. At 100 Hz, mono THD + N was about at the 0.5% level, while stereo THD + N measured about 1.5%. At 6 kHz, THD + N in stereo measured about 0.55%, slightly less than the mono reading of 0.7%.

Figure 4 shows the results obtained when measuring THD + N for a 1-kHz modulating signal as a function of input signal strength. From this plot I was also able to obtain the mono usable sensitivity, which was 12.5 dBf, a bit better than claimed by Sony. At strong signal levels, THD + N figures correlate closely with the readings shown in Fig. 3. Note how stereo THD + N tends to rise as input signal levels drop but then decreases again when the signal blends to mono, as is common in most car stereo units.

Stereo separation in FM also exceeded Sony's published claims, measuring 34 dB at mid-frequencies and maintaining separation levels well in excess of 30 dB even at the 100-Hz and 10-kHz measurement points and beyond. In fact, separation was 30 dB or greater from 40 Hz to 15 kHz. A spectrum analysis of both channels, with only one channel modulated (not shown), revealed that, as is common in car FM tuners, no attempt was made to suppress the 38-kHz restored subcarrier or its sidebands at 33 and 43 kHz. The latter were only about 20 dB lower than the reference modulating signal, while the subcarrier was down about 40 dB and the 19-kHz pilot tone was attenuated by approximately 45 dB relative to the modulating signal. Other harmonically related components were also clearly visible for both the left and right outputs. Alternate-channel selectivity for this FM tuner section measured precisely 75 dB, as was claimed, while the capture ratio was a bit better than claimed at 1.8 dB.

AM tuner frequency response was rather strange, to say the least, as shown in Fig. 5. If one takes the usual -6 dB cutoff points (28 Hz and 3.9 kHz) as the nominal frequency extremes, overall response is somewhat broader than that of most car or home AM sections, but note the 4-dB dip centered at about 65 Hz.

### MiniDisc Measurements

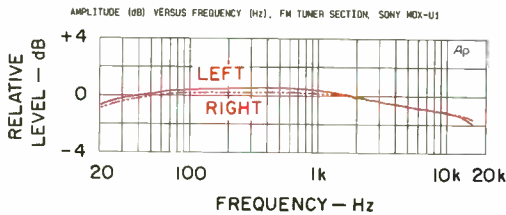
After I tested Sony's MZ-1 portable MD recorder a couple of months ago, I realized I needed a suitable test disc, made by direct digital transfer from a test CD. Since my CD player has no digital output, I had a friend with an MZ-1 and a different CD player copy onto MiniDisc most of the test tones and signals on the CD-1 test disc I use for testing CD players. That copy came in handy here.

Figure 6 shows the frequency response of the MD player section. Response was flat to within less than 0.5 dB, from 20 Hz to 20 kHz, while the difference in level between channels amounted to no more than 0.3 dB. Harmonic distortion plus noise as a function of frequency, with the volume control on the MDX-U1 adjusted to its maximum setting, can be seen in Fig. 7.

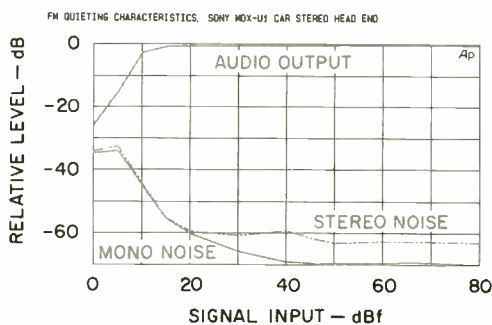
**THE TUNER SECTION'S  
MOST IMPORTANT  
FEATURE MAY BE ITS  
DIVERSITY TUNING.**

Under those conditions, THD + N amounted to roughly 0.06% over most of the audio spectrum. Even by digital standards, this is only a bit high. But plotting THD + N as a function of output level (Fig. 8) shows that the "elevated" readings of Fig. 7 were not functions of the digital circuitry, but probably indicated the beginnings of overload in the analog buffer output stage. Remember, volume was adjusted to maximum for this test—a setting not likely to be used in actual practice in a vehicle, since maximum output (for 0 dB on my test disc) was just above 4.3 volts!

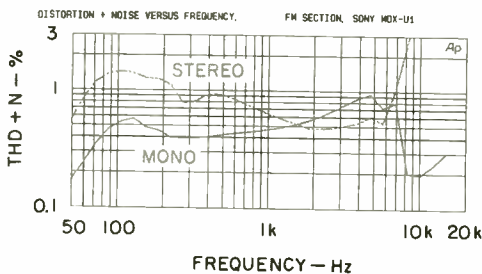
As you can see in Fig. 8, THD + N at 0 dB (maximum) recorded level is around 64 dB below reference level, corresponding to a percentage reading of 0.063%—almost



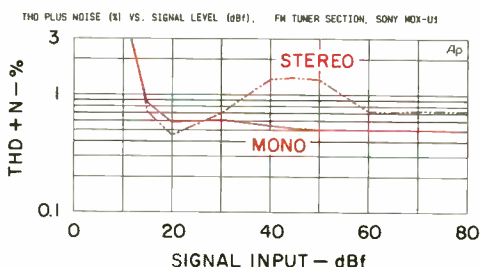
**Fig. 1—FM frequency response.**



**Fig. 2—FM quieting characteristics.**

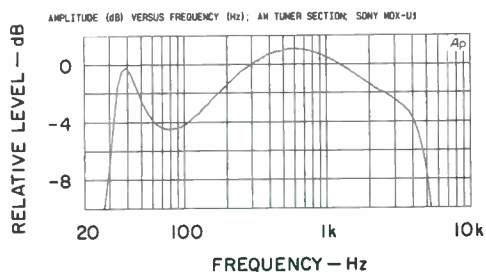


**Fig. 3—FM THD + N vs. frequency.**

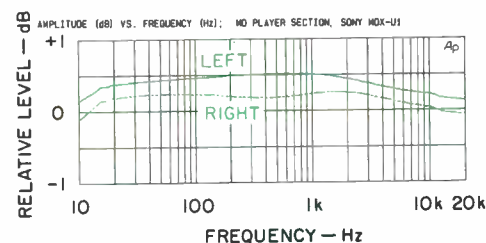


**Fig. 4—FM THD + N vs. signal level.**

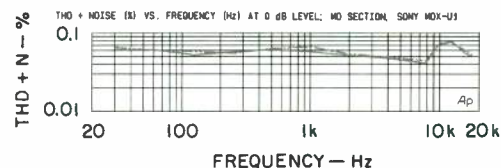
exactly the same reading obtained from the graph of Fig. 7. At levels below -20 dB, however, THD + N quickly sinks to levels of less than -80 dB, which corresponds to a percentage reading of 0.01%, much better than Sony's published claim of 0.03%.



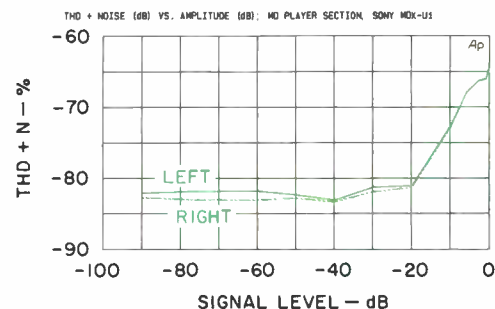
**Fig. 5—AM frequency response.**



**Fig. 6—MD frequency response.**



**Fig. 7—MD section THD + N vs. frequency.**



**Fig. 8—MD section THD + N vs. level; see text.**

Even at maximum level, much of that 0.6% THD + N reading consists of noise rather than actual distortion, as shown by an FFT spectrum analysis of a 1-kHz signal (Fig. 9). This test, again made at full recorded level and with the volume control at its maximum, shows discrete harmonic components at 2 kHz (at about -78 dB), and at 3 and 5 kHz (about -80 dB). Calculating the square root of the sum of the squares of these values yields an overall distortion percentage of only around 0.0189%. (Don't compare this with the spectrum analysis shown in my review of the MZ-1 portable recorder—I used an analog input signal for that test, as I did not yet have the disc used here.)

The A-weighted S/N for the MD player section of the MDX-U1 measured 90.17 dB for the left channel and 90.52 dB for the right channel. A spectrum analysis of the noise content per third octave is shown in Fig. 10. Since the Sony was operated from a d.c. power supply, you would not expect to see (nor did we get) any noise peaks at the 60-Hz power-line frequency or its harmonics. The EIAJ dynamic range measured 85.7 dB for both channels. I measured frequency accuracy of the MD player section to determine the accuracy of the 44.1-kHz sampling clock and found that deviation from perfect accuracy was an insignificant -0.0004%!

Fig. 11 shows how stereo separation varied as a function of frequency. Separation at 1 kHz is 80 dB for left-to-right crosstalk and about 82 dB for right-to-left crosstalk. At 16 kHz, separation decreases to 60 dB from left to right and 64 dB from right to left.

Finally, I measured deviation from perfect linearity of the MD player system using undithered signals over the range from 0 dB (maximum recorded level) to -90 dB. Results, shown in Fig. 12, are superb, exhibiting virtually no deviation from linearity down to -80 dB and only a bit over 1 dB at -90

dB. These results testify to the quality of Sony's 1-bit high-density linear D/A converter system, and are every bit as good as the results I've measured for some of the finest CD players and separate D/A converters available today.

### Use and Listening Tests

Just before the MDX-U1 reached me for test, I was fortunate to receive a set of matched CD, MD, and DCC recordings of classical music from the Capriccio label of Delta Music. All three contained the same musical selections—operatic arias by Han-

**THE SENSITIVE FM SECTION NEEDED ONLY 12.5 dBf OF SIGNAL FOR 50-dB QUIETING.**

del, Gluck, Mozart, Rossini, Donizetti, and Hasse—performed by Jochen Kowalski with the Berlin Radio Symphony Orchestra. This bounty allowed me to compare the sound quality of the CD (Capriccio 10 416) with that of the MiniDisc (80 416).

Did I hear a difference between the CD version and the MD version? Yes—but further experimenting revealed that the differences I was hearing had nothing to do with the ATRAC encoding and decoding systems. Rather, I suspect that in the mixing operation, slightly different EQ settings and perhaps even level settings of the various tracks were used when mastering the MD version than were used for the CD version. I say that because I had retained a CD and my own home-recorded MiniDisc of the CD material made when I tested the first Sony MZ-1 portable. Playing those two pieces of software side by side (as I reported in that earlier test report) revealed no audible differences between the two, at least to my ears and to those of several other listeners who were asked to make the same comparisons.

In the case of the prerecorded Capriccio discs, I felt that orchestral instruments whose fundamental tones were in the audio midrange seemed a bit more “up front” in the MD version, while in the CD version I detected more presence of the vocalist,

You need three front speakers - left, right and center - to achieve realistic home theater, because a stereo pair would place the dialog in the center (where it belongs) from only one listening position. You can't use conventional hi-fi speakers for the center channel, even shielded models, because their dispersion patterns prohibit raising them too high or laying them on their sides.

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Kowalski, than I did in the MD version. I suspect that many mastering engineers will do different mixdowns for MD than for CDs. Whether the results will prove to be more pleasing for the format of choice remains to be seen.

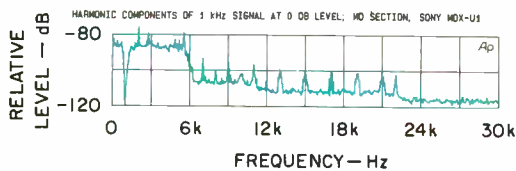


Fig. 9—Spectrum analysis of 1-kHz signal.

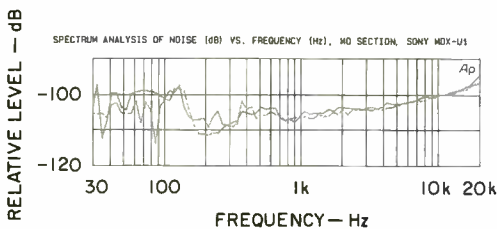


Fig. 10—Spectrum analysis of residual noise when playing "no signal" track of MD test disc.

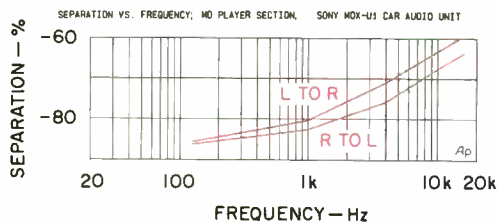


Fig. 11—Separation, MD section.

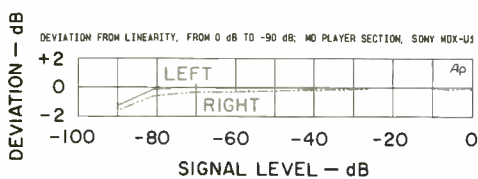


Fig. 12—Deviation from linearity.

Meanwhile, let's hear from Technical Editor Ivan Berger, who has had his sample of the MDX-U1 on the road for some time and will no doubt comment on its physical as well as its musical attributes, not to mention its ergonomics. From my point of view, Sony has accomplished quite a feat in cramming all this technology—the MiniDisc part totally new—into a DIN-sized car audio head unit. This cramming has resulted in many controls having duplicate (and, in some cases, triple) functions that will have to be studied and learned before you "take to the road" with this stunning, high-tech piece of audio equipment.

Leonard Feldman

### Behind the Wheel

The biggest question about MD is "How's it sound?" so let me answer that one first: Darn good. I, too, heard far more differences between commercial CDs and MDs than between my standard musical test CD and an MD copy made directly from it. Comparing versions of Eric Clapton's *Unplugged*, I felt the CD (Duck 45024-2) had a narrower soundstage, with the voice more centered in the car; the soundstage of the MD (45024-8) was wider, with the voice more centered in front of the listener. The MD also sounded slightly warmer, the CD a hair crisper and more open. Comparing versions of *Hush*, with Yo-Yo Ma and Bobby McFerrin, the only comment I felt worth noting was that the cello sounded more natural on the CD (Sony Masterworks SK-48177) than on the MD (SM-48177), with a better balance between the chesty wood tone and the rosin's bite into the string. On my musical test disc, I heard no spatial differences whatever, only slight differences of tonality in the midrange and upper treble, especially a slightly greater sense of "air" on the CD. (According to a Sony spokesperson, "Some commercial discs are optimized in the digital domain for ATRAC during MD mastering. However,

no such optimizing was done on *Hush* or *Unplugged*. So any differences in sound must be due to ATRAC itself.") Overall, I preferred the CD's sound, but by a very narrow margin. Without direct comparisons between the two, I doubt that I could tell with confidence whether a given recording was MiniDisc or Compact Disc, especially under typically noisy driving conditions, though it's conceivable that I could learn to do so. And there was never any question that MD far out-performed analog cassette.

Disc loading seems backward to me, since I had to turn the MD around so that the bottom of the label goes into the slot first. Turning the MD 180° is awkward, and the listener will have to do it every time he loads a disc. That adds up to a lot of wasted effort, which a half minute's thought could have averted before the standard was set. ("But at least we have a standard," a Sony spokesman replied.) On the other hand, loading, ejecting, and changing tracks are lightning fast, even by CD standards. And

**THE BIGGEST QUESTION ABOUT MD IS "HOW DOES IT SOUND?" AND THE ANSWER IS: "DARN GOOD!"**

opening the box and extracting the disc with one hand while you drive is not the challenge that it is with CD.

In addition to the sound of MD, I liked the convenience of its 12-character, scrolling display. It's nice to know what song you're hearing, especially when playing an unfamiliar disc. The display on my sample, was very washed out and hard to read when viewed from the driver's seat, though it was crisp and legible, even in daylight, from the passenger side of the car. I'd guessed that I'd gotten a front panel intended for Japan, where drivers sit on the right side of the car, but the sample Leonard Feldman tested had good contrast from the U.S. driver's side, and Sony assures me that production units now read equally well from either side.

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Perhaps it was to suit both left- and right-side drivers that Sony centered the major controls along the bottom edge of the front panel. That layout is logical but takes some getting used to, especially as the volume control isn't labelled. However, the controls in that bottom row are easy to identify by touch, once you know them. All controls were easy to use, even with gloves on—this proved to be very handy on cold mornings. I especially appreciated Sony's inclusion of a front-panel "Mute" button and a separate "AM" button (so you don't

have to punch your way through three banks of FM memories to hear that band and needn't pass through the AM band to get from "FM3" to "FM1"). I also liked the fact that you can turn the unit on by pressing the button for whatever signal source you want to hear. And the station preset buttons are arranged in a 3 × 2 matrix, the best arrangement I know of. My only nitpick is that the legends above memory buttons 1 to 4, showing what those buttons do in MD and CD play, are tiny and hard to read by day or night. The un-

usually chunky shape of the remote control makes the remote easy to handle and hard to lose amid the car's seat cushions. And I really wish more car stereo remotes were illuminated for night use as the one that came with the Sony is.

The difference in convenience between carrying away the Sony's removable faceplate and lugging away my entire Alpine CD player became more apparent every time I parked my car. The Sony also beeped discreetly for a second or two when I turned the engine off, so I wouldn't forget to take the faceplate with me. Putting the panel back on was tricky, though, especially in the dark.

Since my car does not have separate front and rear antennas, I could not try Sony's diversity reception system. But even without it, FM performance was quite

**THE CONTROLS TAKE  
SOME LEARNING, BUT CAN  
BE IDENTIFIED BY TOUCH  
AND OPERATED WITH  
GLOVES ON.**

good, and a few stations that were marginal on my new Alpine reference unit came in clearly on the MDX-U1. On the other hand, the Sony's FM sounded a bit dull, as if its high end was rolled off just a hair; this was confirmed by the laboratory measurements. "Seek" tuning worked when set to the local mode, stopping only at strong stations; in the normal or mono modes, though, "Seek" stopped uselessly at every frequency, even those where no signals were to be found. Pressing "BTM" quickly filled the memory with frequencies, but one of those was spurious, a sideband of a real station.

There's no question that the MDX-U1 is a good unit, and that MD is a good medium for use in the car. It's compact and convenient, and it sounds good—sparkling and clear, with no haze of hiss or wow and flutter. If MD had come out before CD, it would have blown both LPs and cassettes right off the map. Whether it will supplant cassettes now, though, remains to be seen.

Ivan Berger

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46

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# Stereo Review

# 35

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MANUFACTURER	Model	Price, \$	Player Controls CD Changer?	Frequency Response, Hz to kHz, ±dB	Dynamic Range, dB	THD at 1 kHz for 0-dB Level, %	Repeat Functions: Disc (A), Track (B), Entire Program (C)	Audible Fast Search?	Controls: Volume (V), Balance (B), Fader (F), Tone (T)	Intro Scan?	FM Usable Sensitivity, dB (For -30 dB THD + N)				TUNER		Notes
											Alternate-Channel Selectivity, dB	FM Mono S/N Ratio, -dB	Total Number of Station Presets	Protection: Pull-Down (P), Removable Controls (R), Secret Codes (S)			
SANYO	MD-300	999.99	Yes													R	In-dash three-disc changer.
SONY	MDX-U1	980.00		10-20 ±3	90	0.03	A/B	Yes	V B/F/T	Yes	12.0	75	70	24	R		

## AMBIENCE & SURROUND SOUND PROCESSORS

MANUFACTURER	Model (RI) = Remote Included, (RD) = Remote Optional, (C) = Processor Controls CD Changer	Price, \$	Includes Crossover (C), Equalizer (E)	INPUTS & OUTPUTS				AMBIENCE FUNCTIONS				Notes
				Digital Inputs?	Number of Analog Input Channels	Number and Use of Outputs—See Code	Number of User-Set Acoustic Simulations	Adjustment for Listener Position?	Delay Time, mS	Controls: Volume (V), Balance (B), Fader (F), Center Channel Level (C), Subwoofer Level (S)	S/N Ratio, -dB, A-Weighted	
ALPINE	3681	900.00	C	Yes	4	2F, 2B, SW	Yes	0-30	V B/F/S	102	T	Digital signal processor. As above: nine-band front and nine-band rear graphic EQ. Digital signal processor; 8BE harmonic restoration; 11-band graphic EQ; night illumination.
	3617	520.00		No	2	2F, 2B	No	0-100	V B/F	95	D	
	3362	1200.00	C/E	Yes	2	3F, 2B, 2S, SW	Yes	0-100	V B/F/C/S	102	D/T	
	3342(RI)	530.00	C/E	No	4	2F, 2B, 2S, SW	No	0-100	V B/F/S	100	D/T	

# AMBIENCE & SURROUND SOUND PROCESSORS

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				Includes Crossover (C), Equalizer (E)	Digital Inputs?	Number of Analog Input Channels	Number and Use of Outputs—See Code	Number of Preset Acoustic Simulations	Number of User-Set, Acoustic Simulations	Adjustment for Listener Position?	Delay Time, ms	Control: Volume (V), Balance (B), Fader (F), Center-Channel Level (C), Subwoofer Level (S)	S/N Ratio, -dB, A-Weighted	Mounting: Dash (D), Trunk (T)				
AUDIOCONTROL	ESP-2(RI)	189.00	E	No	2	†											Spatial restoration processor (see also "Amps"); †Two front processed outputs, two unprocessed outputs. Proprietary center-channel processor with spatial restoration (see also "Amps"); †Three front processed outputs, two unprocessed outputs.	
	ESP-3(RI)	299.00	E	No	2	†												
BLAUPUNKT	DSP 01	799.95		No	2	3F, SW	4	4	Yes	Var.	B/F/C/S				D	Digital signal processor; night illumination.		
CARVER/KLW	Image XA-23(RI)	190.00		No	2	†					V						Processes ambient information in source material and adds three-band variable boost to it; for low-mounted door speakers. †Two front processed outputs, two unprocessed outputs. Ambient processing as above; for rear midrange fill. †Two rear processed outputs, two unprocessed outputs.	
	Cathedral XA-24(RI)	250.00	E		2	†				7-20								
CLARION	DSP959E	799.95	E	Yes	2	2F, 2B	8	8	Yes	†	V/B/F				D	Digital signal processor. †Initial delay, † to 100 ms; reverb, 0.3 to 10 S. Digital signal processor; includes head unit (see also "In-Dash CD Players"); crossover expandable to 14 channels and has speaker time compensation; six-band, four-channel parametric EQ. †Front and rear, each low, mid, and high; left and right subwoofer.		
	ADCS-1	3499.95	C/E	Yes	2	†	5	5	Yes		V/B/F/S				D/T			
ECLIPSE	EQS-2000(RD)	900.00	C/E	Yes	2	3F, 2B, SW	5	6	Yes	†	V/B/F/C/S					T	Digital signal processor; speaker- and line-level outputs for ambient center channel; graphic and parametric EQ; spectrum analyzer. †0.05 mS to 5.7 S. Digital signal processor; speaker-level output for ambient center channel. †0.05 mS to 4.7 S. Digital signal processor; speaker- and line-level outputs for ambient center channel; controlled by Model EQZ-304 (see "Radios"), ECE-413 (see "In-Dash CD Players"), or EQF-100 (\$149.00). ††As above. †††Mounts in trunk or under seat.	
	EQS-1000	400.00	C/E	No	2	3F, 2B, SW	4	4	Yes	††	V/F/C/S					D		
	EQS-1001	550.00	C	No	2	3F, 2B, SW	4	6	Yes	††	V/C					†††		
HARMAN KARDON	CSP-1		C/E	No	4	3F, 2B, 3SW			No								T	Processes ambient information in source material; stage width controlled by head unit's fader; includes level controls for each output channel; variable bass boost; remote on/bypass switch; test-signal generator.
HIFONICS	Aurora(RI)	1300.00	C/E	Yes	2	3F, 2B, 2S, SW	3	2	Yes	Var.	V/B/F/C/S	†			D/T	Digital signal processor; crossover has speaker time compensation and selectable slope; parametric and graphic EQ; noise gating. †103 dB, unweighted.		
JBL	GT-P4(RI)	199.00		No	4	2F, 2B			Yes								D/T	Synthesized center image.
JVC	KS-DP100	599.95		No		2F, 2B, SW	4	4	Yes	0.5-2	V/B/F/S						D	Digital signal processor.
LAZER	LA4800	499.00	C		4	3F, 2B, SW	0	3	No	5-35	V/F/S						T	Digital signal processor; center-channel bandpass, 500 Hz to 2.5 kHz.
PANASONIC	CY-DA2000(RIC)	979.00		Yes		3F, 2B, 2SW	8	4	No	1-370	V/C/S						D	Digital signal processor.
PIONEER	DEH-M990DSP(RIC)	950.00	E	Yes	2	2F, 2B, SW	4		Yes		V/B/F/S						D	Digital signal processor built into head unit (see "In-Dash CD Players"); parametric EQ.
PREMIER	DEQ-7500	650.00	E	Yes	2	3F, 2B, SW	5	2	Yes	9-205	V/B/F/C/S	†					D/T	Digital signal processor; seven-band parametric and graphic EQ. †Analog, 90 dB; digital, 96 dB.
SANYO	DSP-01	649.99	C/E		2	3F, 2B, SW	4	6		10-100	V/B/F/C/S						D/T	Digital signal processor; five-band parametric EQ; 16-watt center-channel amp.
SONY MOBILE ES	XES-P1(RIC)	1300.00	E	Yes	2	2F, 2B	10	10	No	1-255	V/B/F/S						D/T	Digital signal processor; six-band parametric EQ; nine-step compression; also controls tuner.
	XDP-U500(RD)	450.00	C/E	Yes	4	2F, 2B, SW	10	10	Yes	1-250	V/B/F/S						T	Digital signal processor; crossover has speaker time compensation.

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MANUFACTURER	Model	Price, \$	Preamp (P), Amp (A), Equalizer (E)	Number of EQ Bands	Boost/Cut Range, ± dB	S/N Ratio, -dB, A-Weighted	Watts Channel into 4 Ohms, Per EIA-490	Full-Power Bandwidth, Hz to kHz	THD at Rated Output, %	Input Level, Preamp (P), Speaker (S)	Feder Control?	Includes Crossover?	RCA Input Jacks?	Dimensions, Inches	Notes
AUDIOCONTROL	EQL Series II	249.00	P/E	13	12	112		0.005	P/S	No	No	Yes	1 1/4 x 6 7/8 x 8 7/8	Level-matching preamp; seven-band bass EQ with half-octave spacing, six-band octave EQ for mids and highs.	
	EQX Series II	349.00	P/E	13	12	112		0.005	P/S	No	†	Yes	1 1/4 x 6 7/8 x 8 7/8	As above. †Programmable crossover with Linkwitz-Riley alignment.	
	EQQ	349.00	P/E	12	12	110		0.005	P/S	No	No	Yes	2 1/4 x 6 3/4 x 9 1/2	Level-matching preamp; independent EQ on four channels.	
	EQT	299.00	P/E	30	12	110		0.005	P/S	No	No	Yes	2 1/4 x 6 3/4 x 9 1/2	Mono; level-matching preamp; 1/3-octave EQ spacing; constant Q.	
	ESP-2	189.00	E	3	Var.	110		0.05	P	No	No	Yes	1 1/4 x 4 1/2 x 5 1/2	Spatial restoration processor (see also "Ambience/Surround"); includes dash-mountable remote control.	
	ESP-3	299.00	E	3	Var.	110		0.05	P	No	Yes	Yes	1 1/4 x 5 1/2 x 7	Proprietary center-channel processor with spatial restoration (see also "Ambience/Surround"); high-pass on center output; includes remote control.	
	The Epicenter	189.00	E	1	15	110		0.005	P	No	No	Yes	1 1/2 x 5 x 6	Proprietary bass restoration circuit; includes dash-mountable remote control. Includes the Epicenter. †Programmable crossover.	
	System 90/Model 20	549.00	A			100	70	10-50	0.09	P/S	No	†	Yes	12 1/2 x 6 1/2 x 2 1/2	Includes the Epicenter. †Two programmable crossovers.
System 90/Model 40	649.00	A			100	40 x 4	10-50	0.05	P/S	No	†	Yes	12 1/2 x 6 1/2 x 2 1/2	Bridgeable; operates into 2 ohms. †Two crossovers.	
System 90/Model 48	699.00	P/A/E	8	12	100	40 x 4	10-50	0.05	P/S	No	†	Yes	12 1/2 x 6 1/2 x 2 1/2		
AUDIOLINK	PowerDriver PD-2	129.95	P			85		0.01	P/S	No	†	Yes	7/8 x 3 3/8 x 2 1/2	†Optional.	
	EQLink 3	109.95	P/E	3	12	80		0.01	P	No	No	Yes	4 x 2 1/2 x 2	For use with model above.	
AUDIOVOX	AMP-520	59.99	A			85	20	30-40	10	P/S	No	Yes	4 x 1 3/4 x 6 1/4		
	AMP-536	89.99	A			85	25	30-40	10	P/S	No	Yes	7 1/8 x 2 3/8 x 7 1/8	Bass and treble boost.	
	AMP-546	149.99	A			85	50	30-40	10	P/S	No	Yes	7 1/8 x 2 3/8 x 8 3/4	As above.	
	AMP-580	175.00	A			90	35	10-40	0.1	P/S	No	Yes	8 x 2 x 8 1/2	Bridgeable.	
	AMP-581	220.00	A			90	60	10-40	0.1	P/S	No	Yes	8 x 2 x 12 1/4	As above.	
	AMP-582	300.00	A			90	120	10-40	0.1	P/S	No	Yes	8 x 2 x 16 1/8	As above.	
	AMP-583	350.00	A			90	60 x 4	10-40	0.1	P/S	No	Yes	15 1/8 x 2 x 8	As above.	
	AMP-772	80.00	A/E	10	12	80	15	50-20	10	S	Yes	No	6 1/2 x 1 1/8 x 4 1/2	CD input.	
	AMP-777A	150.00	A/E	7	12	80	18 x 4	20-30	10	P/S	Yes	No	6 1/4 x 1 3/8 x 6	As above.	
	AMP-785	125.00	A/E	7	12	80	18	20-30	10	S	Yes	No	6 1/4 x 1 3/8 x 5 1/2	As above.	
EQP-1100	125.00	E	7	12	80	18	20-30	10	S	Yes	Yes	6 5/8 x 1 1/8 x 4 9/8	As above.		
AUDISON	LR 3021	135.00	A			86	16	9-60	0.1	P/S	No	Yes	6 7/8 x 2 x 4 1/4	Separate level controls.	
	LR 3031	199.00	A			88	24	7-60	0.09	P/S	No	Yes	6 7/8 x 2 x 5 1/4	As above; operates into 2 ohms.	
	LR 3041	275.00	A			90	40	4-80	0.08	P/S	No	Yes	6 7/8 x 2 x 9 7/8	As above; bridges to 130 watts.	
	LR 3081	229.00	A			91	80 x 1	5-90	0.04	P/S	No	Yes	6 7/8 x 2 x 9 7/8	Monoblock; summing stereo input; operates into 2 ohms.	
	LR 3081 mono	349.00	A			91	80 x 1	5-90	0.04	P	Yes	Yes	6 7/8 x 2 x 9 7/8	Mono subwoofer amp; front and rear high-pass line outputs; operates into 2 ohms.	
	SR 8035	349.00	A			92	35	9-55	0.04	P/S	No	Yes	10 x 2 1/2 x 6 5/8	Bridgeable; operates into 2 ohms; remote muting input; protection circuitry.	
	SR 8055	395.00	A			97	55	9-55	0.04	P/S	No	Yes	10 x 2 1/2 x 7 7/8	As above.	
	SR 8085	475.00	A			100	85	9-55	0.04	P/S	No	Yes	10 x 2 1/2 x 9	As above.	
	VR 203	449.00	A			105	40	3-75	0.06	P	No	Yes	10 1/8 x 2 1/4 x 9	Regulated power supply; operates into 1 ohm.	
	VR 206	549.00	A			105	70	3-75	0.06	P	No	Yes	10 1/8 x 2 1/4 x 10 1/4	As above.	
	VR 209	619.00	A			105	110	3-75	0.06	P	No	Yes	10 1/8 x 2 1/4 x 11 3/8	As above.	
	VR 404	649.00	A			100	40 x 4	3-75	0.06	P	Yes	Yes	10 1/8 x 2 1/4 x 10 1/4	As above but operates into 2 ohms; ambience enhancement; variable crossover frequency, 40 to 200 Hz or 160 to 800 Hz; variable low-pass filter Q.	
	AD-510	69.00	P		18	105				P	No	Yes	3 x 1 1/4 x 3 1/4	Decouples signal ground from car chassis ground.	
	AUTOTEK	Silverado 50	199.95	A			90	25	20-20	0.05	P	No	Yes	1 3/4 x 7 1/2 x 5 3/4	Bridgeable.
Silverado 80		269.95	A			90	40	20-20	0.05	P	No	Yes	1 3/4 x 7 1/2 x 7 1/2	As above.	
Silverado 100		369.95	A			90	25 x 4	20-20	0.05	P	No	Yes	1 3/4 x 7 1/2 x 9 3/4	As above.	
7040BTS		199.95	A	1		105	18	20-20	0.05	P	No	Yes	7 1/2 x 1 3/4 x 4 1/4	Bridgeable; operates into 2 ohms; 18-dB boost at 45 Hz; two-way preamp bypass switch.	
7050BTS		299.95	A	2		105	22	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 4 3/4	Bridgeable; operates into 2 ohms; 18-dB boost at 45 Hz and 12-dB boost at 16 kHz; three-way preamp/EQ bypass switch.	
7100BTS		399.95	A	2		105	50	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 6 1/2	As above.	
7150BTS		549.95	A	2		105	75	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 8 3/4	As above.	
7300BTS		799.95	A	2		105	150	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 14	As above.	
7600BTS		1099.95	A	2		105	300	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 19	As above.	
7054BTS		569.95	A	2		105	22 x 4	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 8 3/4	As above.	
7204BTS		759.95	A	2		105	50 x 4	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 11 3/4	As above.	
7050XX		369.95	A	2		105	22	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 6 1/2	As above but operates into 1 ohm.	
7100XX		469.95	A	2		105	50	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 8 3/4	As above.	
9050BTS		499.95	A	2		90	22	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 6 1/2	Bridgeable; operates into 0.5-ohm load; 18-dB boost at 45 Hz and 12-dB boost at 16 kHz.	
9100BTS		899.95	A	2		90	50	20-20	0.015	P	No	Yes	8 1/4 x 2 1/2 x 8 3/4	As above.	
7005B		349.95	E	15		100			0.04	P	No	Yes	13 x 1 1/2 x 5 1/2	Trunk-mount.	
7005		399.95	E	15		100			0.04	P	No	Yes	13 x 1 1/2 x 5 1/2	As above.	
7006		599.95	E	31	12	101			0.06	P	No	Yes	1 1/2 x 8 x 12 1/2	As above.	
7004	279.95	E	4	12	90			0.04	P	No	Yes	1 x 7 1/2 x 4	Half-DIN size.		
BLADE TECHNOLOGIES	SE 52	449.00	A			105	50	5-20	0.07	P	Yes	Yes	11.4 x 6.9 x 1.4	Bridgeable.	
	SE 54	699.00	A			105	50 x 4	5-20	0.07	P	Yes	Yes	22.5 x 6.9 x 1.4	As above.	
	SE 100	399.00	A			105	100 x 1	5-20	0.07	P	Yes	Yes	5.3 x 6.9 x 1.4	Monoblock.	
	SE 2.2	699.00	A			105	100 x 2	5-20	0.07	P	Yes	Yes	9.9 x 6.9 x 1.4		
	SE 3.3	999.00	A			105	100 x 3	5-20	0.07	P	Yes	Yes	14.5 x 6.9 x 1.4		
(Continued)	SE 4.4	1299.00	A			105	100 x 4	5-20	0.07	P	Yes	Yes	19 x 6.9 x 1.4		



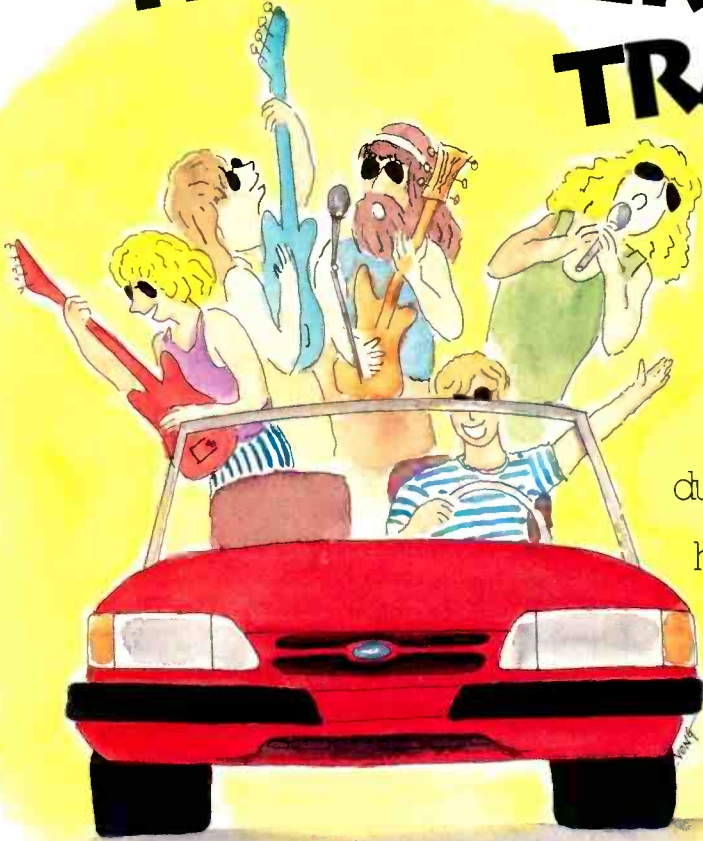
# AMPS/EQUALIZERS

MANUFACTURER	Model	Price, \$	Preamp (P), Amp (A), Equalizer (E)	Number of ED Bands	Boost/Cut Range, ±dB	S/N Ratio, -dB, A-Weighted	Watts/Channel Into 4 Ohms, per IEC-450	Full-Power Bandwidth, Hz to kHz	THD at Rated Output, % per IEC-450	Input Levels Preamp (P), Speaker (S)	Factor Control?	Includes Crossover?	RCA Input Jacks?	Dimensions, inches	Notes	
BLADE TECHNOLOGIES (Continued)	SE 5.5	1599.00	A			105	100 x 5	5-20	0.07	P			Yes	23.6 x 6.9 x 1.4	As above.  Bridgeable. As above. As above. As above. As above. As above. As above. As above. As above. As above. Monoblock.	
	SE 6.6	1899.00	A			105	100 x 6	5-20	0.07	P			Yes	28 x 6.9 x 1.4		
	SE 200	499.00	A			105	200 x 1	5-20	0.07	P			Yes	5.3 x 6.9 x 1.4		
	SE 4.2	899.00	A			105	200 x 2	5-20	0.07	P			Yes	9.9 x 6.9 x 1.4		
	SE 6.3	1299.00	A			105	200 x 3	5-20	0.07	P			Yes	14.5 x 6.9 x 1.4		
	SE 8.4	1699.00	A			105	200 x 4	5-20	0.07	P			Yes	19 x 6.9 x 1.4		
	SE 10.5	1999.00	A			105	200 x 5	5-20	0.07	P			Yes	23.6 x 6.9 x 1.4		
	SE 12.6	2499.00	A			105	200 x 6	5-20	0.07	P			Yes	28 x 6.9 x 1.4		
	M252	299.00	A			100	25	15-20	0.05	0.05	P			Yes		9.6 x 5.5 x 2.9
	M502	399.00	A			100	50	15-20	0.05	0.05	P			Yes		9.6 x 5.5 x 2.9
	M504	699.00	A			100	50 x 4	15-20	0.05	0.05	P	Yes		Yes		12.8 x 5.5 x 2.9
	M1002	599.00	A			100	100	15-20	0.05	0.05	P			Yes		12.8 x 5.5 x 2.9
M1			A			500 x 1	15-20	0.05	0.05	P			Yes			
BLAUPUNKT	BEA 120	149.95	A/E	7	12	90	25 x 4	10-50	0.05	P/S	Yes	No	Yes	7 x 1 1/4 x 5 1/4	Bridgeable. †Five-channel mode, 25 watts x 4 and 50 watts x 1. †Two-, three-, or four-channel operation.	
	BQA 120	129.95	A			90	30 x 4	10-50	0.05	P/S	No	No	Yes	3 1/2 x 6 x 1 1/4		
BOSTWICK	BQA 60	99.95	A			90	30	10-50	0.05	P/S	No	No	Yes	4 1/4 x 6 x 1 1/4	Bridgeable. †Five-channel mode, 25 watts x 4 and 50 watts x 1. †Two-, three-, or four-channel operation.	
	BSX 150	299.95	A			95	50	10-65	0.03	P/S	No	Yes	Yes	6 1/4 x 2 1/4 x 12		
	BMA 200	329.95	A			95	†	10-65	0.03	P/S	No	Yes	Yes	6 1/4 x 2 1/4 x 12		
	BQX 300	429.95	A			100	50 x 4†	10-65	0.03	P/S	No	Yes	Yes	9 1/4 x 2 1/2 x 12		
	BOS-MRA250	399.95	A			105	50	20-20 +0, -2	0.05	P			Yes	2 1/4 x 8 1/2 x 9 1/2		
CANTON	M 50	200.00	A			94	50 x 1	20-20	0.1	P/S		Yes		6 3/4 x 3 1/4 x 1 1/4	Mono amp module for Model MF 3 or MF 5 Mainframe. Model MF 3, holds three amp modules, 1 1/4 x 6 3/4 x 3/4 inches, \$150.00; Model MF 5, holds five modules, 1 1/4 x 6 3/4 x 3/4 inches, \$200.00. Stereo amp module, fits Mainframes as above.	
	S 30	150.00	A			94	15	20-20	0.1	P/S		Yes		6 3/4 x 3 1/4 x 1 1/4		
CARVER/KLW	K MOS 4200	550.00	A				50 x 4	20-20	0.1	P	Yes	Yes	Yes	15 x 3 1/2 x 7 1/2	Bridgeable. As above. As above. As above. Trunk-mount. †Bass-restoration synthesizer/EQ. Includes remote; subsonic filter.	
	K MOS 2200	450.00	A				100	20-20	0.1	P/S	Yes	Yes	Yes	13 x 3 1/2 x 7 1/2		
	K MOS 2150	350.00	A				75	20-20	0.1	P/S	Yes	Yes	Yes	9 3/4 x 3 1/2 x 7 1/2		
	M 2080	250.00	A				40	20-20	0.1	P/S	No	No	Yes	9 1/4 x 3 1/2 x 7 1/2		
	M 2030	100.00	A				15	20-20	0.1	P/S	No	No	Yes	6 1/4 x 2 3/4 x 5		
	XEQ-15	320.00	E	15	12	100			0.02	P		No	No	Yes		
	Phantom XA-22	190.00	†											Yes		
CLARION	201A	79.95	A			94	25	10-60	1	P/S	No	No	Yes	7 x 1 x 5 1/4	Bridgeable. As above. †Two-, three-, or four-channel operation. †As above. †Four-, five-, or six-channel operation; six-channel mode, 70 watts x 4 and 90 watts x 2. Line-level subwoofer output. As above. As above.	
	402A	119.95	A			94	25 x 4	10-60	1	P/S	No	No	Yes	7 x 1 x 5 1/4		
	A500	109.95	A			95	15	10-50	0.1	P		No	Yes	6 1/2 x 1 1/4 x 4 1/4		
	601A	189.95	A			100	50	10-60	0.08	P	No	No	Yes	5 1/2 x 2 x 3 3/4		
	A1002	209.95	A			103	50	10-60	0.08	P		Yes	Yes	7 1/2 x 2 x 3 3/4		
	A1200	349.95	A			102	30 x 4†	5-50	0.08	P		Yes	Yes	1 1/4 x 2 3/4 x 9 5/8		
	A2000	449.95	A			102	50 x 4†	5-50	0.08	P		Yes	Yes	1 1/4 x 2 3/4 x 12 1/2		
	3200A	799.95	A			102	80 x 4	5-50	0.1	P		Yes	Yes	13 1/8 x 2 3/4 x 12 1/2		
	A4600	799.95	A			102	†	5-50	0.08	P		Yes	Yes	11 1/4 x 2 3/4 x 13 1/2		
	100EQ88	79.95	A/E	5	12	90	18 x 4	20-20	1	S	Yes	Yes	Yes	7 x 1 x 4 3/4		
	73EQ	139.95	E	7	15	100				P	Yes	Yes	Yes	7 x 1 x 4 3/4		
90EQ	199.95	E	9	15	100				P	Yes	Yes	Yes	7 x 1 x 4 3/4			
920EQ	399.95	E	9	15	100				P	Yes	Yes	Yes	6 1/4 x 2 x 1 1/4			
CLARK AUDIO	1211	599.00	P			120			0.1	P	No	No	Yes	†	†Trunk unit, 5 x 2 x 4; dash-mount controller, 5 x 1 x 5.	
COMPETITION	C-500	309.99	A/E	2	18	96	25	10-30	0.03	P	No	No	Yes	9 x 2.6 x 8.6	Bridgeable. As above. As above. As above.	
	C-1000	381.99	A/E	1	18	96	50	10-30	0.02	P	No	No	Yes	9 x 2.6 x 10		
	C-2000	505.99	A/E	1	18	96	100	10-30	0.02	P	No	No	Yes	9 x 2.6 x 12		
	C-4000	699.99	A/E	1	18	96	200	10-30	0.02	P	No	No	Yes	9 x 2.6 x 14		
COUSTIC	AMP-660	660.00	A			95	50 x 6†	10-50	0.05	P	No	No	Yes	25 1/2 x 8 1/2 x 2 3/4	†Three-, four-, five-, or six-channel operation. Simultaneous stereo and bridged mono output. As above. As above. ††Two-, three-, or four-channel operation. 6- or 12-dB boost at 45 Hz and 15 kHz; front and rear inputs can be paralleled.	
	AMP-460	359.95	A			95	98	10-55	0.05	P/S	No	No	Yes	16 1/8 x 8 1/8 x 2 3/4		
	AMP-360	289.95	A			92	65	10-50	0.05	P/S	No	No	Yes	13 x 8 1/4 x 2 3/4		
	AMP-260	219.95	A			92	45	10-50	0.05	P/S	No	No	Yes	9 x 8 1/4 x 2 3/4		
	AMP-160	139.95	A			70	30	10-30	0.05	P/S	No	No	Yes	7 1/2 x 8 1/4 x 2 3/4		
	AMP-268	419.95	A			92	100 x 2††	10-30	0.05	P/S	No	Yes	Yes	8 1/4 x 2 3/4 x 16 1/8		
	AMP-108	139.95	A			90	16 x 4	15-25	0.09	P/S	No	No	Yes	5 1/2 x 1 1/4 x 9 1/4		
COUSTIC/DESIGN REFERENCE	AMP-505DR	375.00	A			92	50	10-30	0.05	P			Yes	9 x 12 1/8 x 2 1/4	Simultaneous stereo and bridged mono output; balanced inputs. As above. As above.	
	AMP-510DR	475.00	A			92	100	10-30	0.05	P			Yes	9 x 16 3/8 x 2 1/4		
CRAIG	AMP-514DR	649.00	A			92	50 x 4	10-30	0.05	P			Yes	9 x 20 3/8 x 2 1/4	Bridgeable; operates into 2 ohms. As above.	
	MA2300	156.00	A			90	70	20-20	0.2	P/S		Yes	Yes	8 1/2 x 2 1/2 x 9		
	MA2160	104.00	A			80	35	20-20	0.5	P/S		Yes	Yes	6 1/2 x 2 1/2 x 9		
	MA2080	64.00	A			60	16	20-20	1.0	P/S		Yes	Yes	4 x 2 1/2 x 9		
	ME105	50.00	A/E	10	12	60	18	20-20		S	Yes		Yes	5 1/8 x 1 1/8 x 4 3/4		

# AMPS/EQUALIZERS

MANUFACTURER	Model	Price, \$	Preamp (P), Amp (A), Equalizer (E)	Number of EQ Bands	Bass/Cut Range, ±dB	S/N Ratio, -dB, A-Weighted	Watts (Channel) into 4 Ohms, per IEC-490	Full-Power Bandwidth, Hz to kHz	THD at Rated Output, % per IEC-490	Input Levels	Preamp (P), Speaker (S)	Fader Control?	Includes Crossover?	RCA Input Jacks?	Dimensions, Inches	Notes
CRUNCH	50	299.95	A		95	25	10-30	0.05	P/S	No	No	No	Yes	8 7/8 x 2 1/2 x 6	Accepts filter, crossover, or EQ module; includes eight-gauge power cables; operates into 2 ohms.	
	100	425.95	A		96	50	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 6 3/4	As above.		
	150	549.95	A		97	75	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 9 1/2	As above.		
	250	659.95	A		99	125	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 11 1/8	As above.		
	400	849.95	A		101	200	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 15 3/4	As above.		
	600	1250.00	A		105	300	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 19 1/4	As above.		
	50SHC	799.95	A		95	25	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 15 3/4	As above but operates into 1 ohm.		
	425	599.95	A		92	25 x 4	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 7 1/8	As above but operates into 2 ohms.		
	450	649.95	A		95	50 x 4	10-30	0.05	P/S	No	No	Yes	8 7/8 x 2 1/2 x 11 1/8	As above.		
	CEQ31	699.95	E	†	15				P	No	No	No	Yes		†31 EQ bands per channel. Third-octave spacing.	
DENON	DCA-800	600.00	A		100	40 x 6†	20-20	0.05	P	No	††	Yes	14 1/8 x 2 3/8 x 11	†Three-, four-, five-, or six-channel operation. ††Subwoofer crossover.		
	DCA-600	480.00	A	1	+16	100	40 x 4†	20-20	0.05	P	No	No	Yes	9 7/8 x 2 1/8 x 12 5/8	†Two-, three-, or four-channel operation. Bridgeable.	
	DCA-500	300.00	A	1	+16	100	40	20-20	0.05	P	No	No	Yes	9 7/8 x 2 1/8 x 7 7/8	As above.	
	DCA-400	200.00	A	1	+16	95	30	20-20	0.3	P	No	No	Yes	9 7/8 x 2 1/8 x 6 5/8	As above.	
	DCA-3150	150.00	A		90	12 x 4	20-20	0.5	P	No	No	Yes	9 7/8 x 1 3/4 x 6	As above.		
	DCA-3120	80.00	A		90	12	20-20	0.5	P	No	No	Yes	4 7/8 x 1 3/8 x 3 3/8	As above.		
	DCE-2190	220.00	E	9	12	97		0.005	P	Yes	Yes	Yes	7 x 1 x 5 3/8	Selectable crossover frequency.		
	CAMI	270.00	E	†	12	95		0.008	P	No	No	Yes	††	†12 front EQ bands, 12 rear. ††Supplied by modules below.		
	DCE-250	160.00	P			95		0.008	P/S	No	†	Yes	8 1/2 x 1 7/8 x 5 1/8	Four-channel controller; auto source switch. †Optional.		
	DCL-420	100.00	P			95		0.008	P/S	No	†	Yes	8 1/2 x 1 7/8 x 5 1/8	Four-channel controller. †Optional.		
EARTHQUAKE SOUND	PA-2020	195.00	A		90	40	10-32	0.015	P	No	No	Yes	2 3/4 x 9 x 6	Bridgeable; 18-dB bass boost and 12-dB treble boost.		
	PA-2030	205.00	A		94	45	10-32	0.015	P	No	No	Yes	2 3/4 x 9 x 6	As above.		
	PA-2040	225.00	A		96	52	10-32	0.015	P	No	No	Yes	2 3/4 x 9 x 6	As above.		
	PA-2050	329.00	A		97	75	10-32	0.015	P	No	No	Yes	2 3/4 x 9 x 11	As above.		
	PA-2075	375.00	A		99	104	10-32	0.015	P	No	†	Yes	2 3/4 x 9 x 11	As above. †With crossover, Model PA-2075C, \$434.00.		
	PA-2150	559.00	A		105	210	10-32	0.015	P	No	†	Yes	2 3/4 x 9 x 13	As above. †As above but \$615.00 for PA-2150C.		
	PA-2300	745.00	A		110	380	10-32	0.015	P	No	†	Yes	2 3/4 x 9 x 16	As above. †As above but \$803.00 for PA-2300C.		
	PA-4300	1499.00	A		110	380 x 4	10-32	0.015	P	No	No	Yes	2 3/4 x 9 x 33	Bridges to two channels; 18-dB bass boost and 12-dB treble boost.		
	PA-4030	359.00	A		94	45 x 4	10-32	0.015	P	No	No	Yes	2 3/4 x 9 x 11	As above.		
	PA-4020C	405.00	A		90	40 x 4	10-32	0.015	P	No	No	Yes	2 3/4 x 9 x 11	As above.		
ECLIPSE	EUM-2420	399.00	A		105	50 x 4†	20-20	0.03	P	No	No	Yes	13 3/8 x 2 3/8 x 10	†Two-, three-, or four-channel operation. Dual power supplies.		
	EUM-2410	349.00	A		103	25 x 4	20-20	0.03	P	No	No	Yes	13 3/8 x 2 3/8 x 10			
	EXCESS ELECTRONIX	EX-420	102.00	A		89	210	20-20	0.05	P/S	No	Yes	Yes		Bridgeable.	
	EX-240	67.85	A		89	120	20-20	0.05	P/S	No	No	Yes	Yes	As above.		
	EX-260-4	41.50	A		85	65 x 4	20-20	0.05	P/S	No	No	Yes	Yes			
	EX-260-2	36.00	A		85	130	20-20	0.05	P/S	No	No	Yes	Yes			
	AMP + 400-2	52.00	A		85	200	20-20	0.05	P/S	No	No	Yes	Yes			
	AMP + 400-4	67.85	A		85	100 x 4	20-20	0.05	P/S	No	No	Yes	Yes			
FULTRON	16-0150M	449.95	A		95	150	20-30	0.05	P	No	No	Yes	13 3/4 x 2 x 7 1/2	Bridgeable; operates into 2 ohms.		
	16-0100M	349.95	A		95	100	20-30	0.05	P	No	No	Yes	11 3/4 x 2 x 7 1/2	As above.		
	16-0075M	279.95	A		95	75	20-30	0.05	P	No	No	Yes	10 x 2 x 7 1/2	As above.		
	16-0050M	229.95	A		95	50	20-30	0.05	P	No	No	Yes	7 x 2 x 7 1/2	As above.		
	16-0025M	179.95	A		95	25	20-30	0.05	P	No	No	Yes	7 x 2 x 7 1/2	As above.		
	16-0425M	299.95	A		95	25 x 4	20-30	0.05	P	No	No	Yes	8 x 2 x 7 1/2	As above.		
	16-TW75	199.95	A		93	75	20-27	0.05	P/S	No	No	Yes	9 1/2 x 2 x 9	Bridgeable.		
	16-TW50	169.95	A		93	50	20-27	0.05	P/S	No	No	Yes	7 3/4 x 2 x 9	As above.		
	16-TW35	149.95	A		93	35	20-27	0.05	P/S	No	No	Yes	6 1/2 x 2 x 9	As above.		
	16-TW65S	189.95	A		93	65	20-27	0.05	P/S	No	†	Yes	8 1/4 x 2 x 9	Simultaneous stereo and bridged mono output. †Subwoofer crossover, 80 or 120 Hz.		
	16-0425	99.95	A		75	25 x 4	10-50	0.05	P/S	No	No	Yes	7 1/2 x 2 1/4 x 5 5/8			
	16-0225	59.95	A		69	25	10-50	1	P/S	No	No	Yes	4 x 1 1/2 x 4 3/4			
	16-0740	199.95	A/E	7	12	75	20 x 4	20-35	0.05	P/S	Yes	†	Yes	1 x 6 1/8 x 7	Programmable; includes spectrum analyzer. †Subwoofer crossover.	
	16-0730	79.95	A/E	10	12	65	13 x 4	20-20	1	P/S	Yes	No	Yes	1 x 4 1/2 x 7	Parametric.	
	16-0737	199.95	E	4	18	110		0.005	P	Yes	Yes	Yes	Yes		Quasi-parametric EQ; input selector.	
G & S DESIGNS	PA4Q	409.99	P/E	4	18	101		0.005	P	Yes	No	Yes	1 x 3.6 x 7	Quasi-parametric EQ; input selector.		
HARMAN KARDON	TC600	1300.00	A		100	300	10-100	0.1	P/S	No	No	Yes	16 1/8 x 12 1/8 x 3 1/4	Simultaneous stereo and bridged mono output.		
	TC400Q	1000.00	A		100	100 x 4†	10-100	0.1	P/S	No	No	Yes	16 1/8 x 12 1/8 x 3 1/4	†Two-, three-, or four-channel operation.		
	TC300	800.00	A		100	100	10-100	0.1	P/S	No	No	Yes	14 1/8 x 12 1/8 x 3 1/4	Simultaneous stereo and 300-watt bridged mono output.		
	CA140Q	499.00	A		100	35 x 4†	10-100	0.1	P/S	No	No	Yes	12 5/8 x 9 3/8 x 2 1/4	Simultaneous stereo and bridged mono output.		
	CA70	329.00	A		100	35	10-100	0.1	P/S	No	No	Yes	10 5/8 x 6 3/4 x 2 1/4	As above.		
	CA60Q	319.00	A		100	15 x 4	10-100	0.1	P/S	No	No	Yes	12 3/8 x 6 3/4 x 2			

# THE NEVER-ENDING TRAFFIC JAM.



Like, I'm waitin' at this red light, right? 'N I hear this bass thumpin', an' a five-oh pony slides up next to me. This dude looks over and man, he thinks he's bad. He cranks it up, but it ain't music anymore, it's, like, electronic noise. I'm thinkin', like, what are you usin' to power that thing man, a lawn mower

engine? So I give the dial a twist... pure, sweet metal. I give it another twist, and now I can't hear that dude's static at all. I mean, I'm not just loud, I'm good and loud, 'n it's like he ain't even there. I look over and see he's backin' off, an' I'm watching his lips move. Like, he wants to talk to me now, right? He's real friendly now, right? He says, man, whattya got powerin' that thing? I just look at him, like, sorry man, green light.

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# AMPS/EQUALIZERS


MANUFACTURER	Model	Price, \$	Preamplifier (P), Amp (A), Equalizer (E)	Number of EQ Bands	Boost/Cut Range, ± dB	S/N Ratio, -dB, A-Weighted	Watts Channel into 4 Ohms, per EIA-490	Full-Power Bandwidth, Hz to kHz	THD at Rated Output, %	Input Level, Preamplifier (P), Speaker (S)	Fader Control?	Includes Crossover?	RCA Input Jacks?	Dimensions, Inches	Notes
HIFONICS	Xenon	1300.00	A		85	35	30-20	0.5	P	No	No	Yes	4 7/8 x 14 3/4 x 7 1/2	Tube amp.	
	Cupid VIII	225.00	A		98	22	20-20	0.05	P	No	No	Yes	1 7/8 x 7 1/2 x 5 1/8	Bridgeable; MOS-FET; accepts up to 13-V signals.	
	Pluto VIII	300.00	A		107	35	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 4	As above but accepts up to 9-V signals.	
	Vulcan VIII	390.00	A		110	50	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 6 1/8	As above.	
	Odin VIII	475.00	A		112	75	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 6 1/8	As above.	
	Thor VIII	640.00	A		114	125	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 7 3/4	As above.	
	Boltar VIII	825.00	A		116	200	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 11 3/8	As above.	
	Zeus VIII	980.00	A		118	300	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 15 1/2	As above.	
	Colossus VIII	2000.00	A		116	600	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 26 1/2	As above.	
	Juno VIII	345.00	A		98	22 x 4	20-20	0.05	P	No	No	Yes	1 7/8 x 7 1/2 x 10 1/4	Bridgeable; MOS-FET; accepts up to 13-V signals.	
	Jupiter VIII	440.00	A		107	35 x 4	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 7 3/4	As above but accepts up to 9-V signals.	
	Europa VIII	525.00	A		107	35 x 4	20-20	0.02	P	No	Yes	Yes	2 1/2 x 8 3/4 x 7 3/4	As above; crossover variable from 50 Hz to 5 kHz.	
	Gemini VIII	700.00	A		109	50 x 4	20-20	0.02	P	No	Yes	Yes	2 1/2 x 8 3/4 x 11 3/8	As above.	
	Olympus VIII	995.00	A		114	110 x 4	20-20	0.02	P	No	Yes	Yes	2 1/2 x 8 3/4 x 15 1/2	As above.	
	Aphrodite VIII	1100.00	A		98	50 x 6	20-20	0.02	P	No	†	Yes	2 1/2 x 8 3/4 x 17 3/8	†Three-way crossover, variable from 45 Hz to 5 kHz. Bridgeable; MOS-FET; accepts up to 9-V signals.	
	Cyclops VIII	425.00	A		113		20-20	0.02	P	No	Yes	Yes	2 1/2 x 8 3/4 x 6 1/8	Monoblock; crossover variable from 43 to 550 Hz; MOS-FET; accepts up to 9-V signals.	
	Hercules VIII	600.00	A		116		20-20	0.02	P	No	Yes	Yes	2 1/2 x 8 3/4 x 11 3/8	As above.	
	Atlas VIII	845.00	A		119		20-20	0.02	P	No	Yes	Yes	2 1/2 x 8 3/4 x 17 3/8	As above.	
	Ulysses VIII	630.00	A		106	25	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 11 3/8	Bridgeable; MOS-FET; accepts up to 9-V signals; operates into 0.5-ohm load.	
	Isis VIII	999.00	A		110	50	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 17 3/8	As above.	
	Eros VIII	415.00	A		107	35	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 6 1/8	As above but operates into 1 ohm.	
	Titan VIII	499.00	A		110	50	20-20	0.02	P	No	No	Yes	2 1/2 x 8 3/4 x 7 3/4	As above.	
Cleo VIII	125.00	E	3	12	103		0.02	P	No	No	Yes	1 x 7 x 3 1/2	Quasi-parametric; variable center frequencies; separate left and right EQ controls; with Cupid VIII amp, \$289.00; with Pluto VIII, \$389.00; with Odin VIII, \$545.00.		
Plato VIII	245.00	E	10	12	103		0.02	P	No	No	Yes	1 x 8 3/4 x 4 7/8	Quasi-parametric; variable center frequencies; separate left and right EQ controls.		
Epsilon VIII	270.00	P/E	4	12	103		0.02	P	Yes	No	Yes	1 x 7 3/8 x 4 1/8	Half-DIN size; backlit.		
Vesta	125.00	P	18	103			0.02	P	Yes	No	Yes	1 3/8 x 3 1/2 x 6 3/8	Remote control for volume or fade.		
HOLLYWOOD SOUND LABS	RS-A-50E	477.65	A		97	25	20-20	0.009	P	No	No	Yes		Bridges to 100 watts; simultaneous stereo and bridged mono output; operates into 2 ohms; 18-dB boost at 45 Hz, 12-dB boost at 16 kHz; protection circuitry.	
	RS-A-25E	391.55	A		93	12.5	20-20	0.009	P	No	No	Yes		As above but bridges to 50 watts.	
	HSL-A-100X	393.65	A		92	50	20-20	0.05	P/S	No	†	Yes		Bridges to 200 watts; operates into 2 ohms; protection circuitry. †Subwoofer crossover, 80 or 150 Hz or full-range.	
HSL-A-50X	311.65	A		85	25	20-20	0.05	P/S	No	†	Yes		As above but bridges to 100 watts.		
IMPACT	AX-100.2	239.95	A	1	+12	95	50 x 1	15-500 Hz	0.05	P/S	No	†	Yes	7 1/2 x 2 x 8	Mono bass amp. †Low-pass filter, adjustable from 50 to 500 Hz.
	AX-160.2	319.95	A	1	+12	95	80 x 1	15-500 Hz	0.05	P/S	No	††	Yes	7 1/2 x 2 x 10	As above. ††Mono low-pass and stereo high-pass filters, adjustable from 50 to 500 Hz.
	AX-300	679.95	A	1	+12	95	150 x 1	15-500 Hz	0.05	P/S	No	††	Yes	7 1/2 x 2 x 20	As above; operates into 1 ohm.
	A-225	239.95	A			95	25	20-20	0.05	P/S	No	No	Yes	7 1/2 x 2 x 8	Bridgeable.
	A-250	329.95	A			95	50	20-20	0.05	P/S	No	No	Yes	7 1/2 x 2 x 10	As above.
A-2100	479.95	A			95	100	20-20	0.05	P/S	No	No	Yes	7 1/2 x 2 x 15	As above.	
INFINITY	DPA250	599.95	A			50	20-20	0.2	P	No	No	Yes	5 3/4 x 3 1/4 x 8 3/4		
	DPA275	649.95	A	1	†	75	20-20	0.2	P	No	No	Yes	6 3/8 x 3 1/4 x 8 3/4	Simultaneous stereo and bridged mono output. †±11 dB at 40 Hz.	
	DPA2300	999.95	A			300	20-500 Hz	0.2	P	No	No	Yes	13 x 3 1/4 x 8 3/4	Bass amp; bridgeable.	
JBL	GTQ400	549.00	A			100	200 x 2†	10-40	0.05	P	No	Yes	Yes	17 1/8 x 8 3/8 x 2 3/8	†Two-, three-, or four-channel operation. Simultaneous stereo and bridged mono output; biamp capable.
	GTQ200	399.00	A			100	100 x 2†	10-40	0.05	P	No	Yes	Yes	14 1/8 x 8 3/8 x 2 3/8	As above.
	GTQ100	179.00	A			95	18 x 4	10-35	0.5	P/S	No	Yes	Yes	11 1/8 x 4 1/4 x 2 3/8	Biamp capable.
	GTS150	289.00	A			100	50	10-30	0.05	P	No	No	Yes	11 1/8 x 8 3/8 x 2 3/8	Bridges to 150 watts; simultaneous stereo and bridged mono output.
	GTS50	119.00	A			95	18	10-35	0.5	P/S	No	No	Yes	8 1/8 x 4 1/4 x 2 3/8	
JENSEN	A222HX	219.00	A			85	50	20-20	0.5	P/S	†	Yes	3 x 9 1/4 x 8	Bridgeable. †High-pass filter.	
	A322HX	299.00	A			85	75	20-20	0.5	P/S	†	Yes	3 x 9 1/4 x 10	As above. †Low-pass filter.	
	A4320	339.00	A			85	125 x 2††	20-20	0.5	P/S	No	Yes	16 3/4 x 2 3/8 x 9 3/8	††Two-, three-, or four-channel operation. Simultaneous stereo and bridged mono output; operates into 2 ohms.	
	A432BBE	369.00	A			85	125 x 2††		0.5	P/S	No	Yes	16 3/4 x 2 3/8 x 9 3/8	Includes BBE harmonic-restoration processing; operates into 2 ohms.	
	A82	70.00	A			85	18	1	1	P/S	No	Yes	5 5/8 x 1 3/4 x 5 3/4	Floating ground.	
	A84	130.00	A			85	18 x 4	1	1	P/S	No	Yes	5 5/8 x 1 3/4 x 5 3/4	As above.	
	EQA78	109.00	A/E	7	12	85	18 x 4	0.5	P/S	Yes	No	Yes	7 x 1 x 5 1/2	Half-DIN size; illumination.	
	EQA111	139.00	A/E	10	12	85	18 x 4	0.5	P/S	Yes	No	Yes	7 x 1 x 5 1/2	As above.	
PEQ70X	139.00	P/E	7		85		0.5	P	Yes	Yes	Yes	5 x 1 1/4 x 5 1/2	Switchable subwoofer output.		
JVC	KS-AG404GD	549.95	A			90	60 x 4	20-20	0.04	P	No	No	Yes	11 7/8 x 2 1/4 x 12 1/4	Bridgeable.
	KS-AG214GD	499.95	A			100	40 x 4	20-20	0.04	P	No	No	Yes	11 7/8 x 2 1/4 x 10 3/4	As above.
	KS-AG112GD	279.95	A			100	45	20-20	0.04	P	No	No	Yes	11 7/8 x 2 1/4 x 5 3/8	As above.
	KS-A202	349.95	A			90	60	40-30	0.04	P	No	No	Yes	10 7/8 x 2 x 7	As above.
	KS-A152	289.95	A			90	45	40-30	0.04	P	No	No	Yes	9 x 1 1/8 x 5 3/4	As above.
KS-A102	179.95	A			90	30	40-20	0.08	P	No	No	Yes	6 x 1 1/4 x 3 1/4	As above.	
(Continued)															

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\*Panasonic developed the world's first MASH-type DAC. MASH technology was invented by NTT (LSI Labs). MASH is a trademark of NTT.

\*\*EPA output 9W per channel into 4 ohms, 20 to 30,000 Hz, at 1% THD.



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# AMPS/EQUALIZERS

MANUFACTURER	Model	Price, \$	Preamp (P)	Amp (A)	Equalizer (E)	Number of EQ Bands	Boost/Cut Range, ±dB	S/N Ratio, dB, A-Weighted	Watts/Channel Into 4 Ohms, per EIA-490	Full-Power Bandwidth, Hz to kHz	THD at Rated Output, Hz to kHz per EIA-490	Input Levels: Preamp (P), Speaker (S)	Fader Control?	Includes Crossover?	RCA Input Jacks?	Dimensions, inches	Notes
JVC (Continued)	KS-ES100	299.95	E	9	12	90					P	Yes	No	Yes	7 1/8 x 2 x 6 1/8	†Five front EQ bands, seven rear.	
	KS-E75	249.95	E	†	12	90					P	Yes	No	Yes	7 1/8 x 1 x 6		
	KS-E35	149.95	E	7	12	90					P	Yes	No	Yes	7 1/8 x 1 x 6		
	KS-EA400	229.95	A/E	7	12	90	12 x 4		40-20	0.8	P	Yes	No	Yes	7 1/8 x 1 x 6		
KS-EA200	179.95	A/E	7	12	90					P	Yes	No	Yes	7 1/8 x 1 x 6			
KAWASAKI	KE-410	180.00	A/E	10	12	92	25		20-20	0.08	P/S	Yes	Yes	Yes	7 x 1 1/8 x 6	Bridgeable.	
KENWOOD	KAC-1023	899.00	A			105	200		2-100	0.3	P/S	No	Yes	Yes	11 7/8 x 2 1/4 x 15 3/4	Simultaneous stereo and bridged mono output. As above. †Three-channel mode, 50 watts x 2 and 130 watts x 1. Simultaneous stereo and bridged mono output. As above. As above. †Two-, three-, or four-channel operation. Mono bass amp. †Low-pass crossover, variable from 30 to 200 Hz. †Two-, three-, or four-channel operation. Simultaneous stereo and bridged mono output; switchable to bridged or summed mono output. Simultaneous stereo and bridged mono output. Ground isolation circuit. Half-DIN size; switchable illumination. †Nine graphic and two parametric EQ bands in stereo operation, nine graphic for rear and two parametric for front in four-channel operation. Half-DIN size; subwoofer output. Subwoofer output; switchable illumination. †Line- and speaker-level fader.	
	KAC-943	499.00	A			105	50 x 4†		20-20	0.3	P	No	Yes	Yes	10 3/4 x 2 1/4 x 10 5/8		
	KAC-923	449.00	A			105	100		2-100	0.3	P/S	No	Yes	Yes	10 3/4 x 2 1/4 x 9 7/8		
	KAC-823	349.95	A			105	70		2-100	0.3	P/S	No	Yes	Yes	10 3/4 x 2 1/4 x 8 3/4		
	KAC-723	239.95	A			105	40		2-70	0.5	P/S	No	Yes	Yes	10 3/4 x 2 1/4 x 6 3/4		
	KAC-744	299.95	A			100	40 x 4†		20-20	0.8	P	No	Yes	Yes	11 x 2 x 9 1/8		
	KAC-714	199.95	A			100	100 x 1		20-20	0.08	P/S	No	†	Yes	11 x 2 x 6 3/4		
	KAC-644	199.95	A			100	†		20-20	0.8	P	No	No	Yes	8 1/8 x 1 7/8 x 7 7/8		
	KAC-624	149.95	A			100			20-20	0.8	P	No	No	Yes	8 1/8 x 1 7/8 x 5 7/8		
	KAC-424	79.95	A			95			20-20	1	P	No	No	Yes	5 1/2 x 1 1/4 x 3 3/8		
KGC-9042	369.95	P/E	9	12	100				0.01	P	Yes	Yes	Yes	7 1/8 x 1 x 5 1/8			
KGC-6042A	239.95	P/E	†	12	100					P	Yes	Yes	Yes	7 x 1 x 5 1/8			
KGC-4042A	149.95	P/E	5	12	100					P	Yes	Yes	Yes	3 1/2 x 1 x 4 3/4			
KGC-4032	179.95	A/E	9	12	100	40		10-60	0.01	P/S	†	No	Yes	7 x 1 x 6 1/8			
KICKER	50sI	329.00	A	†	†	100	25		10-28	0.01	P/S	No	†	Yes	9 x 1 3/4 x 6 1/8	Simultaneous stereo and bridged mono output. †Optional EQ and crossover plug-in modules. As above. As above. As above.	
	100sI	479.00	A	†	†	100	50		10-28	0.01	P/S	No	†	Yes	12 1/8 x 1 3/4 x 6 1/8		
	200sI	639.00	A	†	†	100	100		10-28	0.01	P/S	No	†	Yes	12 1/8 x 2 1/8 x 6 1/8		
	500sI	1099.00	A	†	†	100	250		10-28	0.01	P/S	No	†	Yes	18 x 3 x 7		
LANZAR SOUND	LXR 50 Series II	249.95	A			90	25		10-35	0.03	P	No	No	Yes	8 3/4 x 2 x 7	Bridgeable. As above. As above. As above. As above. As above. As above. As above. As above. As above.	
	LXR 100 Series II	299.95	A			90	50		10-35	0.03	P	No	No	Yes	8 3/4 x 2 x 9		
	LXR 200 Series II	399.95	A			90	100		10-35	0.03	P	No	No	Yes	8 3/4 x 2 x 12		
	Optidrive Plus 50	309.95	A/E	1	+18	100	25		8-85	0.01	P	No	Yes	Yes	9 x 2 3/8 x 10		
	Optidrive Plus 100	399.95	A/E	1	+18	100	50		8-85	0.01	P	No	Yes	Yes	9 x 2 3/8 x 12		
	Optidrive Plus 150	599.95	A/E	1	+18	100	75		8-85	0.01	P	No	Yes	Yes	9 x 2 3/8 x 13		
	Optidrive Plus 200	729.95	A/E	1	+18	100	100		8-85	0.01	P	No	Yes	Yes	9 x 2 3/8 x 14		
	Optidrive Plus 500	1079.95	A/E	1	+18	100	250		8-85	0.01	P	No	Yes	Yes	9 x 2 3/8 x 18		
	Optidrive Plus 160 EQ 50	629.95	A/E	1	+18	100	40 x 4		8-85	0.01	P	No	Yes	Yes	9 x 2 3/8 x 13		
	EQ 50	339.95	P/E	5	12	100				0.01	P	Yes	No	Yes	7 1/2 x 1 x 4 1/2		
L.A. SOUND	Catalina Classic	699.00	A			88	125		9-40	0.05	P		No	Yes	9 1/8 x 2 1/2 x 18	Simultaneous stereo and bridged mono output; operates into 1 ohm. As above but operates into 2 ohms. Bridgeable; separate front and rear tone controls; operates into 2 ohms. Bridgeable; operates into 2 ohms. As above. †Subwoofer crossover. As above. Operates into 2 ohms. As above. Half-DIN mounting sleeve. As above. Third-octave spacing. Bass EQ; 1/2-octave spacing. Dual source inputs. CD input; night illumination.	
	Balboa	499.00	A	2		87	150		9-40	0.05	P		No	Yes	9 1/8 x 2 1/2 x 18		
	Ventura 200BT	349.00	A	2	12	86	50 x 4		9-50	0.05	S	No	Yes	Yes	2 3/8 x 9 1/8 x 16 1/8		
	Laguna 190	299.00	A			86	75 x 2, 20 x 2		9-50	0.05	P/S		Yes	Yes	2 3/8 x 9 1/8 x 14 3/4		
	Hermosa 150S	249.00	A			86	75		9-50	0.05	P/S		†	Yes	2 3/8 x 9 1/8 x 12 3/8		
	Malibu 100	189.00	A			88	50		9-50	0.025	P/S		Yes	Yes	2 3/8 x 9 1/8 x 9 1/8		
	Redondo 80	139.00	A			80	20 x 4		10-20	0.09	P/S		No	Yes	2 3/8 x 9 1/8 x 6 1/2		
	Zuma 40	89.00	A			80	20		10-20	0.09	P/S		No	Yes	2 3/8 x 9 1/8 x 3 1/2		
	LE 518X	189.00	P/E	5	12	100				0.02	P	Yes	Yes	Yes	1 x 4 1/2 x 7		
	LEF 512	139.00	P/E	5	12	100				0.02	P	Yes	No	Yes	1 x 4 1/2 x 7		
LEQ 1030	299.00	P/E	30	12	100				0.01	P	No	No	Yes	1 1/4 x 6 5/8 x 8 1/8			
LEQ 1026	229.00	P/E	13	12	100				0.01	P	No	No	Yes	1 1/4 x 6 5/8 x 8 1/8			
LEP 512	119.00	P/E	5	12	100				0.05	P	No	No	Yes	Half DIN			
LE 45p	99.00	P/E	7	12	90				0.5	P	Yes	Yes	Yes	Half DIN			
LAZER	LA2025	219.00	A			100	25		20-20	0.05	P/S	Yes	Yes	Yes	8 1/4 x 1 7/8 x 10	Bridgeable; operates into 2 ohms. As above. As above. As above. As above. Bridges to 800 watts into 0.5-ohm load; MOS-FET. Simultaneous stereo and bridged mono output; operates into 2 ohms. †Two-, three-, four-, five-, or six-channel operation. Operates into 2 ohms. Operates into 2 ohms; MOS-FET.	
	LA2030	249.00	A			100	30		20-20	0.05	P/S	Yes	Yes	Yes	8 1/4 x 1 7/8 x 10		
	LA2050	319.00	A			100	50		20-20	0.05	P/S	Yes	Yes	Yes	8 1/4 x 1 7/8 x 11 1/2		
	LA4050	439.00	A			100	50 x 4		20-20	0.05	P	Yes	Yes	Yes	8 1/4 x 1 7/8 x 17		
	LA252 HCD	1100.00	A			110	25		20-20	0.005	P	No	Yes	Yes	8 x 2 x 16		
	LA202	249.00	A			100	20		20-20	0.02	P		No	Yes	8 x 2 x 4		
	LA203	299.00	A			100	20 x 3		20-20	0.02	P	No	No	Yes	8 x 2 x 7		
	LA204	369.00	A			100	20 x 4†		20-20	0.02	P	No	No	Yes	8 x 2 x 7		
	LA752	499.00	A			110	75		20-20	0.005	P	No	No	Yes	8 x 2 x 16		







# AMPS/EQUALIZERS

MANUFACTURER	Model	Price, \$	Preamp (P)	Number of EQ Bands	Boost/Cut Range, ±dB	S/N Ratio, dB	Watts (Channel into 4 Ohms)	Freq. Power Bandwidth, Hz to kHz	THD at Rated Output, %	Input Levels: Preamp (P), Speaker (S)	Fader Control?	Includes Crossover?	RCA Input Jack?	Dimensions, inches	Notes
PHILLIPS SOUND LABS (Continued)	A475	299.95	A			90	75 x 4†	20-20	0.05	P/S	No	Yes	Yes	13½ x 2 x 10	As above. †Two-, three-, or four-channel operation. Simultaneous stereo and bridged mono output; operates into 2 ohms; protection circuitry. Parametric EQ.
	A500	269.95	A			90	150	20-20	0.1	P/S	No	No	Yes	9½ x 2 x 10	
	PAR-7	149.95	P/E	7	18	70			0.1	P/S	Yes	No	Yes	7 x 6½ x 1	
PHOENIX GOLD	MPH-6300	50,000.	A/E	9		110	75 x 6		0.007			Yes		15 x 5½ x 48	Bridgeable; parametric EQ; operates into 0.5-ohm load; 190-ampere alternator supplied. †Six-channel mode, 30 watts x 4 and 125 watts x 2. Bridgeable. ‡Six-channel mode, 40 watts x 4 and 25 watts x 2. Bridgeable. Simultaneous stereo and bridged mono output; operates into 0.5-ohm load. As above. Bridgeable. Simultaneous stereo and bridged mono output; operates into 2 ohms. As above. Bridgeable. Simultaneous stereo and bridged mono output; operates into 2 ohms. Converts unbalanced signals to balanced; accepts up to 9-V signals; trunk-mount. Two-thirds octave spacing. As above; AUX outputs can be summed and bandpassed to feed front and rear center channels. Two-thirds octave spacing.
	Frank Amp Stein	2200.00	A/E	12		100	†	20-20	0.007	P	Yes	Yes	Yes	28½ x 2½ x 11½	
	Son of Frank Amp Stein	2100.00	A/E	12		100	75 x 2, 125 x 2	20-20	0.007	P	Yes	Yes	Yes	26 x 2½ x 11½	
	Route 66	1066.00	A	12		100	†	20-20	0.007	P	Yes	Yes	Yes	26¼ x 2 x 10½	
	MPS-2500	899.00	A			102	50		0.01					11¾ x 2¾ x 23	
	MPS-2240	529.00	A			102	24		0.01					11¾ x 2¾ x 8½	
	MS-2250	1099.00	A	12		100	250	20-20	0.007	P		Yes		18 x 2½ x 11½	
	MS-2125	799.00	A			102	125		0.01					11¾ x 2¾ x 17	
	MS-275	479.00	A			102	75		0.01					11¾ x 2¾ x 8½	
	MQ-430	599.00	A			102	30 x 4		0.01					11¾ x 2¾ x 11	
	M-44	619.99	A	12		100	40 x 4	20-20	0.007	P	Yes	No	Yes	17 x 2 x 10½	
	M-50	399.00	A	18		100	50	20-20	0.007	P			Yes	18 x 2 x 10½	
	M-25	300.00	A			102	25		0.01			No		8¼ x 2¼ x 9¼	
TBA-1	200.00	P													
EQ-215	219.00	E	15	12				0.01	P				Yes	11¼ x 8 x 1½	
EQ-215X	319.00	E	15	12				0.01	P		Yes		Yes	11¼ x 8 x 1½	
EQ-230		E	15	12				0.01	P			Yes	Yes	11¼ x 12 x 17½	
PIONEER	GM-H200	625.00	A			105	100	20-20 +0,-1	0.05	P			Yes	18¾ x 2¼ x 13¾	Bridges to 300 watts; simultaneous stereo and bridged mono output. †Two-, three-, four-, five-, or six-channel operation. Bridges to 160 watts; simultaneous stereo and bridged mono output. As above but bridges to 80 watts. Bridgeable. Simultaneous stereo and bridged mono output. Operates into 2 ohms. As above; bridgeable. Operates into 2 ohms. ‡Subwoofer low-pass frequency variable from 40 to 120 Hz; crossover follows EQ. Illumination.
	GM-H120	425.00	A			100	30 x 4†	20-20 +0,-1	0.05	P			Yes	10¾ x 2 x 13¾	
	GM-H100	300.00	A	1	+12	100	50	20-20 +0,-1	0.05	P		No	Yes	10¾ x 2¼ x 10¼	
	GM-H50	235.00	A	1	+12	100	25	20-20 +0,-1	0.05	P		No	Yes	10¾ x 2 x 7	
	GM-H44	320.00	A			100	25 x 4	10-50	0.05	P	No	Yes	Yes	12¼ x 1½ x 8¾	
	GM-H22	170.00	A			100	25	10-50	0.003	P	No	No	Yes	9 x 1½ x 7½	
	GM-900	140.00	A			94	25	10-50	0.015	P	No	No	Yes	7½ x 1¼ x 5½	
	GM-840	140.00	A			94	15 x 4	10-50	0.025	P	No	Yes	Yes	7½ x 1¼ x 5½	
	GM-600	80.00	A			94	18	20-20 +0,-1	0.015	P	No	No	Yes	5½ x 1½ x 4	
	BP-880	200.00	A/E	7	12	85	8 x 4	50-15	5	P/S	Yes		Yes	7 x 1 x 5½	
	BP-650	155.00	A/E	7	12	85	12	50-15	5	P/S	Yes		Yes	7 x 1 x 5½	
	EQ-6500	260.00	E	9	12	101			0.05	P	Yes	†	Yes	7 x 1 x 4¾	
	EQ-4500	175.00	E	9	12	101			0.05	P	Yes	No	Yes	7 x 1 x 4¾	
POWER ACOUSTIK	PWR-260	369.00	A/E	4		86	65 x 4	9-50	0.05	P/S	No	No	Yes	2½ x 10¾ x 17	Bridgeable; operates into 2 ohms. As above. As above. As above. Operates into 2 ohms. Quasi-parametric; subwoofer output. Parametric. As above.
	PWR-250	299.00	A			86	90 x 2, 35 x 2	9-50	0.05	P/S	No	Yes	Yes	2½ x 10¾ x 14¾	
	PWR-240	279.00	A			90	60 x 4	9-50	0.05	P/S	No	No	Yes	2½ x 10¾ x 15¾	
	PWR-180	219.00	A			90	90	9-50	0.03	P/S	No	No	Yes	2½ x 10¾ x 11¾	
	PWR-120	179.00	A			80	60	9-50	0.02	P/S	No	Yes	Yes	2½ x 10¾ x 9¾	
	PWR-70	89.00	A			70	35	20-30	0.1	P/S	No	No	Yes	2½ x 10¾ x 4	
	PWR-60	69.00	A			70	30	20-30	0.1	P/S	No	No	Yes	2½ x 10¾ x 4	
	PEQ-25	84.00	E	5	12	75			0.05	P	Yes	No	Yes	7¾ x 1½ x 4¼	
	PEQ-5PM	99.00	E	5	18	70			0.05	P	Yes	No	Yes	7¾ x 1½ x 5¼	
	PEQ-7PM	119.00	E	7	18	70			0.05	P	Yes	No	Yes	7¾ x 1½ x 5¼	
PRECISION POWER	A 100	279.00	A			102	25	10-50	0.02	P		No	Yes	9¼ x 2 x 6	Regulated power supply. As above.
	A 200	379.00	A			102	50	10-50	0.02	P		No	Yes	9¼ x 2 x 8½	
	A 300	499.00	A			102	75	10-50	0.02	P		No	Yes	9¼ x 2 x 10½	
	A 600	649.00	A			102	150	10-50	0.02	P		Yes	Yes	9¼ x 2 x 12	
	A 1200		A			102	300	10-50	0.02	P		Yes	Yes	9¼ x 2 x 24	
	2350 DM	1869.00	A			102	350	10-50	0.02	P		Yes	Yes	8½ x 3¾ x 23	
	A 204	429.00	A			102	25 x 4	10-50	0.02	P		No	Yes	9¼ x 2 x 10	
	A 404	549.00	A			102	50 x 4	10-50	0.02	P		No	Yes	9¼ x 2 x 13	
	AX 400	699.00	A			102	50 x 4	10-50	0.02	P	Yes	Yes	Yes	9¼ x 2 x 15	
	5075 DX	899.00	A			102	50 x 2, 75 x 2	10-50	0.02	P	Yes	Yes	Yes	8 x 2½ x 19¼	
	PRO MOS 12	349.00	A			102	12.5	10-50	0.02	P		No	Yes	8 x 2½ x 6	
	PRO MOS 25	499.00	A			102	25	10-50	0.02	P		No	Yes	8 x 2½ x 9	
	PRO MOS 50	649.00	A			102	50	10-50	0.02	P		No	Yes	8 x 2½ x 12	
	PRO MOS 425	699.00	A			102	25 x 4	10-50	0.02	P		No	Yes	8 x 2½ x 18	
	PRO MOS 450	899.00	A			102	50 x 4	10-50	0.02	P		No	Yes	8 x 2½ x 24	
	APA 50	199.00	A			93	25	10-50	0.08	P		No	Yes	8½ x 2½ x 5½	
	APA 100	299.00	A			93	50	10-50	0.08	P	Yes	Yes	Yes	8½ x 2½ x 7½	
	APA 200	399.00	A			93	100	10-50	0.08	P	Yes	Yes	Yes	8½ x 2½ x 9¾	
	APA 430IX	369.00	A			93	30 x 4	10-50	0.08	P	Yes	Yes	Yes	8½ x 2½ x 10½	
	APA 630IX	549.00	A			93	30 x 6	10-50	0.08	P	Yes	Yes	Yes	8½ x 2½ x 14¾	
	PAR 225	499.00	P/E	5	18	110			0.002	P	Yes	No	Yes	6¼ x 1 x 4¾	

(Continued)



# AMPS/EQUALIZERS

MANUFACTURER	Model	Price, \$		Preamplifier (P), Amp (A), Equalizer (E)	Number of EQ Bands	Boost/Cut Range, ±dB	S/N Ratio, -dB, A-Weighted	Watts Channel 1 into 4 Ohms, Per EIA-400	Full-Power Bandwidth, Hz to kHz	THD at Rated Output, % Per EIA-400	Input Level, Preamp (P), Speaker (S)	Fader Control?	Includes Crossover?	RCA Input Jacks?	Dimensions, Inches	Notes
RODEK (Continued)	650I	879.95	A				89	50 x 6††	20-20	0.02	P		No	Yes	2½ x 9½ x 14¼	††Three-, four-, five-, or six-channel operation. Protection circuitry. Monoblock; protection circuitry. ††High-pass section.
	1125I	449.95	A				96	125 x 1	20-20	0.02	P		††	Yes	2½ x 9½ x 6½	
SANYO	BPA-1502	279.99	A				100	75	20-20	0.04	P/S		No		9.9 x 2.2 x 9.2	Bridgeable. As above. As above. Mono subwoofer output; ground isolation circuit.
	BPA-1002	239.99	A				100	50	20-20	0.04	P/S		No		8 x 2.2 x 9.2	
	BPA-702	199.99	A				100	35	20-20	0.04	P/S		No		6 x 2.2 x 9.2	
	EQMS	149.95	E	7	12		95			0.007	P	Yes		Yes	7 x 1 x 5.9	
SENTREK	SPA 120	59.95	A				80	18	20-20 ±3	0.01	P/S	No	No	Yes	1½ x 7 x 4½	Selectable high-pass crossover frequency. As above. Bridgeable. †Two- or three-channel operation. †As above. MOS-FET. †Two-, three-, or four-channel operation. MOS-FET. †Three-, four-, five-, or six-channel operation. MOS-FET. Subwoofer line outputs. †Low-pass filter, 80 or 150 Hz. Includes spectrum analyzer; CD input. Four EQ presets; includes pink-noise generator. Includes spectrum analyzer. †Five front EQ bands, seven rear. Subwoofer level control.
	SPA 138	84.95	A				78	16	20-20 ±3	0.01	P/S	No	Yes	Yes	2½ x 7½ x 3	
	SPA 145	79.95	A				80	18 x 4	20-20 ±3	0.01	P/S	No	No	Yes	1½ x 7 x 4½	
	SPA 188	134.95	A				80	30	20-20 ±3	0.01	P/S	No	Yes	Yes	2½ x 8½ x 5½	
	SPA 338	224.95	A				84	65	20-20 ±1	0.005	P/S	No	Yes	Yes	2½ x 8½ x 7½	
	SPA 458	349.95	A				86	100 x 2†	20-25 ±1	0.005	P/S	Nc	Yes	Yes	2¾ x 14 x 8¾	
	SPA 600	629.95	A				90	200 x 2†	20-40 ±1	0.005	P/S	Nc	No	Yes	3 x 17 x 12	
	SPA 840	229.95	A				90	100 x 2†	20-25 ±1	0.005	P/S	No	Yes	Yes	2 x 13 x 6	
	SPA 860	419.95	A				90	50 x 6†	20-25 ±3	0.005	P/S	No	Yes	Yes	2 x 17 x 6	
	SAQ 1430	59.95	A/E	7	12		75	14	20-20 ±1.5	0.003	S	Yes	No	No	1 x 7 x 4	
	SAQ 1459	74.95	A/E	10	12		80	14	20-20 ±1.5	0.01	S	Yes	No	No	1 x 7 x 4	
	SAQ 2410	109.95	P/A/E	7	12		80	18	20-20 ±3	0.01	P/S	Yes	†	Yes	1 x 7 x 4	
	SAQ 2500	119.95	A/E	7	12		84	14	20-20 ±3	0.01	P/S	Yes	No	Yes	1 x 7 x 4¾	
	SAQ 4000	169.95	A/E	7	12			15 x 2, 28 x 2	20-20 ±3	0.01	P/S	Yes	No	Yes	2 x 7¾ x 7	
	SAQ 7400	199.95	A/E	7	12		84	14 x 2, 35 x 2	20-20 ±3	0.01	P/S	Yes	No	Yes	2 x 7¼ x 7	
	SEQ 740	59.95	P/E	7	12		90				P/S	Yes	No	Yes	1 x 7 x 4	
SEQ 750	69.95	P/E	10	12		90				P/S	Yes	No	Yes	1 x 7 x 4		
SEQ 820	89.95	P/E	7	12		90				P/S	Yes	Yes	Yes	1 x 7 x 4		
SEQ 920	149.95	P/E	†	12		90				P/S	Yes	Yes	Yes	1 x 7 x 4		
SHERWOOD	XAT-440Q	800.00	A				107	110 x 4	20-20	0.05	P			Yes	19½ x 2½ x 12½	Bridges to 275 watts x 2; simultaneous stereo and bridged mono output; operates into 1 ohm. As above but bridges to 200 watts x 2. As above but bridges to 150 watts x 2. As above but bridges to 150 watts. †Low-pass filter. As above but bridges to 85 watts. Selectable crossover frequency; CD input.
	XAT-340Q	675.00	A				107	85 x 4	20-20	0.05	P			Yes	18½ x 2½ x 12½	
	XAT-240Q	525.00	A				102	60 x 4	20-20	0.1	P/S		Yes	Yes	13½ x 2½ x 12½	
	XAT-120	370.00	A				102	60	20-20	0.1	P/S		Yes	Yes	10¼ x 2 x 10¾	
	XA-70	300.00	A				102	35	20-20	0.1	P/S		†	Yes	9 x 2 x 10¾	
	XA-1141	125.00	A				92	18 x 4	50-20	0.5	P/S			Yes	9 x 1¾ x 6½	
	XA-1140	90.00	A				92	18	50-20	0.5	P/S			Yes	5½ x 1¾ x 6½	
	XQ-1102	125.00	P/E	7	10		95			0.05	P	Yes	Yes	Yes	Half DIN	
SONY	XE-90 MkII	220.00	E	9	12		105			0.005	P	Yes	Yes	Yes	7½ x 1 x 5¾	Operates into 2 ohms. As above. Bridgeable. As above. †Two-, three-, or four-channel operation. Bridgeable. †Two-, three-, or four-channel operation. Bridgeable. †Five- or six-channel operation. ††Two- or three-way crossover. †As above; six-channel mode, 40 watts x 4 and 70 watts x 2. ††As above.
	XE-8 MkII	330.00	E	7	12		105			0.005	P	Yes	Yes	Yes	7½ x 1 x 5¾	
	XE-700	550.00	E	10	12		105			0.008	P	Yes	No	Yes	7½ x 2 x 5½	
	XM-2020	80.00	A				95	20	20-20	0.5	P			Yes	5½ x 1½ x 3¼	
	XM-2040	150.00	A				95	20 x 4	20-20	0.5	P			Yes	5½ x 1½ x 4¾	
	XM-3021	145.00	A				105	30	8-100	0.04	P		No	Yes	8½ x 1¾ x 4¾	
	XM-4520	200.00	A				108	45	8-100	0.04	P		No	Yes	9¾ x 1¾ x 6	
	XM-2540	250.00	A				105	25 x 4†	5-100	0.04	P		No	Yes	8½ x 1¾ x 6½	
	XM-6020	270.00	A				105	60	8-100	0.08	P		No	Yes	12½ x 2½ x 7	
	XM-4040	330.00	A				105	40 x 4†	8-100	0.08	P		No	Yes	12½ x 2½ x 8½	
	XM-10020	450.00	A				105	100	8-100	0.08	P		No	Yes	12½ x 2½ x 8½	
	XM-C2000	450.00	A				105	30 x 6†	8-100	0.08	P		††	Yes	11¾ x 2 x 8¼	
	XM-C6000	980.00	A				105	†	8-100	0.08	P		††	Yes	23¼ x 2¾ x 11	
SOUNDSTREAM	Reference Class A 6.0	649.00	A		+9		100	50	20-20	0.1	P/S			Yes	12 x 2¼ x 9½	Simultaneous stereo and bridged mono output; operates into 0.5-ohm load; subsonic/boost filter, adjustable from 30 to 60 Hz. Simultaneous stereo and bridged mono output; operates into 0.5-ohm load. As above but operates into 1 ohm; subsonic/boost filter, adjustable from 30 to 60 Hz. Simultaneous stereo and bridged mono output; operates into 1 ohm. As above. Bridges to 100 watts; simultaneous stereo and bridged mono output. As above but bridges to 100 watts x 2. †Two-, three-, or four-channel operation. As above but bridges to 100 watts x 3. †Three-, four-, five-, or six-channel operation.
	Reference Class A 3.0	429.00	A				100	25	20-20	0.1	P/S			Yes	8½ x 2¼ x 9½	
	Reference 500	599.00	A		+9		100	125	20-20	0.1	P/S			Yes	12 x 2¼ x 9½	
	Reference 300	399.00	A				100	75	20-20	0.1	P/S			Yes	8½ x 2¼ x 9½	
	Reference 200	279.00	A				100	25	20-20	0.1	P/S			Yes	5¾ x 2¼ x 9½	
	Granite 60.2	179.00	A				90	30	10-30	0.1	P/S		No	Yes	7 x 2¼ x 8¼	
	Granite 120.4	329.00	A				90	30 x 4†	10-30	0.1	P/S		Yes	Yes	9¾ x 2¼ x 8¼	
Granite 180.6	449.00	A				90	30 x 6†	10-30	0.1	P/S		Yes	Yes	12 x 2¼ x 8¼		



# Design Reference

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Coustic's DA-55, an advanced Digital to Analog Processor, created especially for the car audio environment to provide the highest quality performance in digital sound reproduction. Now, car audio enthusiasts can really hear what they've been missing.



**DM-2 Balanced Line Driver**

Coustic's exclusive Balanced-Differential Interface™ (BDI) technology, a balanced/differential signal interface circuitry, is incorporated in our DM-2 Balanced Line Driver and all Design Reference™ electronic products to provide maximum musical fidelity with minimum noise interference.

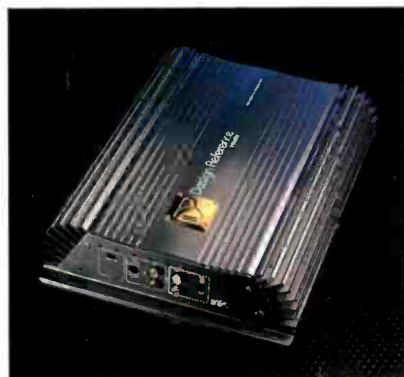


**DX-28 Electronic Crossover**

DX-28 Mobile Electronic Crossover features a class "A", all discrete, Optimized Transient Response (OTR) balanced input and *true* balanced output circuitry. The very first product that is capable of driving the DR amplifiers in true balanced mode.

Once confined exclusively to high end home and studio components, DR amplifiers make available an all discrete, class "A", Optimized Transient Response, balanced input circuitry for the first time in the automobile. This circuit is ideal for the noisy environment because of its high noise rejection and low transient distortion characteristics.

The high-quality construction of these DR amplifiers allows them to drive systems accurately and with sufficient headroom to meet the critical demands of contemporary recordings. All components used are carefully selected to ensure quality, reliability and performance.



**AMP-505DR Power Amplifier**

Solid Core Acoustic Technology (SCAT) internal wiring reduces the "skin" and "modulation" effects caused by the interactions of multi-stranded wire, thus minimizing sonic degradation. SCAT exhibits superior phase coherency and sonic accuracy resulting in superb musical clarity with tremendous bass.



**BassPump™ Subwoofer System**

Representing a major breakthrough in advanced subwoofer system design, Coustic's BassPump™ subwoofer systems are engineered with our exclusive Critical Pressure Loading (CPL) technique to produce exceptional bass performance in a "free air" environment.

Creatively designed for maximum flexibility and versatility, our DR tweeters can be surface mounted or flush mounted with either a snap-on housing or a special mounting plate.



**DR-300/DR-301 Neodymium Tweeters**

Sophisticated computer modeling and simulation techniques were employed to develop our innovative series of high fidelity speaker systems.

Combining the latest technology and materials available, unique features were created enabling the DR speakers to produce crisp but warm high frequency response, sumptuous mid-bass, tight and distortion-free low bass, superb power handling and precise stereo imaging.



**6.5", 8", 10", 12" and 15" Woofers**

Coustic's serious dedication to quality and performance assures that Design Reference™ components will set new standards for excellence.



**COUSTIC**

4260 Charter Street  
Vernon, CA 90058-2596, USA  
Phone: 213-582-2832  
Fax: 213-582-4328

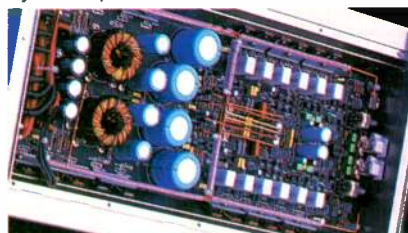
# RADIOS/TAPE PLAYERS

MANUFACTURER	Model (R) = Remote Included, (RG) = Remote Optional, (C) = Head Unit Controls CD Changer	Price, \$	Average Watts Channel, per EIA-490	THD at Rated Output, per EIA-490	AMPLIFIER										TUNER					TAPE				
					P/S	2	16	30	50	24	C	A	No	50-20	No	80	Yes	No	C	P	Yes			
																						Output Level, Preamp (P), % per EIA-490	Number of Speaker (S)	FM Mono Usable Sensitivity, dBm (For -30 dB THD + N)
ADVANCED LINEAR POWER SYSTEMS	HU-840	199.00	25	10	P/S	2	16	30	50	24	C	A	No	50-20	No	80	Yes	No	C	P	Yes			
AIWA	CT-X95(RIC) CT-X55M(C) CT-X35 CT-X15	550.00 400.00 350.00 300.00	20 x 4 20 x 4 20 x 4 15 x 4	0.005 0.005 0.005 0.008	P/S P/S S S	2 2 2 2	14.2 14.2 14.2 17.2	70 70 70 65	65 65 65 63	24 24 24 24	A A A A	M M M M	No No No No	20-20 ± 3 20-16 ± 3 20-16 ± 3 20-16 ± 3	B B B B	64 64 54 54	Yes Yes Yes Yes	No No No No	C C C C	R R R R	Out Out Out Out			
ALPINE	7521(C) 7517(C) 7514(C) 7513(C) 7400 7401 7502 7618(RIC) 7525 7524	450.00 400.00 350.00 300.00 200.00 240.00 280.00 600.00 600.00 550.00	25 x 4 25 x 4 25 x 4 25 x 4 6 6 16 10 x 4 10 x 4	0.8 0.8	P/S P/S P/S S S P/S P/S P P/S P/S	2 2 2 2 2 2 2 2 2 2	13.5 13.5 13.5 13.5 16.3 16.3 16.3 16.3 9.3 9.3	80 80 80 80 80 80 80 80 80 80	65 65 65 65 60 60 60 60 60 65	24 24 24 24 18 18 18 18 18 24	C C C C A A A A C A A	M M M M M M M M M/A M/A	No No No No No No No No No No	30-20 30-20 30-20 30-20 40-18 ± 3 40-18 ± 3 40-18 ± 3 40-18 ± 3 20-22 ± 3 20-22 ± 3 20-22	B B B B B B B/C B/C	68 68 68 68 60 55 64 64 72 67 75	Yes Yes Yes Yes Yes No Yes Yes Yes Yes Yes	No No No No No No No No No No	C C C C C D D D D C C	R R R R R D D D D R R	Yes Yes Yes Yes Out Out Out Out Out Out Out			
AUDIOVOX	AV-218 AV-220 AV-228 AV-238 AV-245 AV-400 AV-410 AV-420 AV-430 AV-440 AV-933 AV-949 AV-954 AV-958 AV-959 AV-982 AV-985 AV-3000	250.00 275.00 299.95 379.00 399.95 225.00 250.00 399.95 425.00 450.00 199.95 199.95 225.00 250.00 299.95 175.00 169.95 99.95	5 5 20 20 10 5 5 5 x 2, 20 x 2 10 10 5 5 5 20 20 20 5	10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10	S S P/S P/S P/S S S P/S P/S P/S S S S P/S S S S	1 1 2 5 5 1 1 2 2 2 1 1 1 2 3 3 1	15 15 15 13 13 15 15 13 13 13 60 60 60 65 65 65 60 60	60 60 60 65 65 60 60 60 65 65 60 60 60 65 65 65 60 60	24 24 24 24 24 18 18 18 24 24 0 18 18 18 18 18 0 0	C C C C C C C C C C C C C C C C C C	A A A A A M M M M M A A A A A A M M	No No No No No No No No No No No No No No No No No No	50-10 50-10 50-10 50-12 50-12 50-10 50-10 50-10 50-10 50-12 50-10 50-10 50-10 50-12 50-10 50-10 50-10	B B B B B B B/C B/C	50 50 50 60 60 60 50 50 60 60 50 50 50 50 50 50 50	No No No No No No No No No No Yes Yes Yes Yes Yes Yes No	No No No No No No No No No No No No No No No No No	C C C C C C C C C C D D D D D D D D	P P P P P R R R R R D D D D D D D D	No Out Out Out No No No No No No No No No No No No No				
BLAUPUNKT	Las Vegas CM43 Santa Fe DCM42 Cheyenne CM42 Daytona CR42 Malibu CR42 Tacoma CR23	1495.00 399.95 339.95 269.95 219.95 199.95	25 x 2, 10 x 4 25 x 2, 7.5 x 4 25 x 2, 7.5 x 4 25 x 2, 7.5 x 4 25 x 2, 7.5 x 4 7.5		P/S P/S P/S P/S S S	2 2 2 2 2 2	12 12 12 12 12 12	85 85 85 85 85 85	70 70 70 70 70 70	24 24 24 24 24 24	C C C C C B	A A A A A A	No No No No No No	35-16 35-14 35-14 35-14 40-14 40-14	B/C B/C B O O	70 70 65 60 60 58	Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes No No	C C C C C C	P P P P S	Yes Yes Yes Yes No No			
CLARION	5790(RIC) 5760(ROC) 5750(C) 3771RC(C) 5740(C) 3680RC(C) 9773RT 4670 9671RT 4660 4650 8470R 9702RT 8404RT 8430R 8204R 1400RT 1700RT 2001RT 2002RT	549.95 449.95 349.95 349.95 299.95 299.95 289.95 289.95 259.95 259.95 199.95 179.95 199.95 139.95 159.95 129.95 149.95 199.95 239.95 319.95	30 x 4 30 x 4 18 x 4 30 x 4 30 x 4 30 x 4 20 x 4 20 x 4 20 x 4 20 x 4 5 x 4 5 x 4 18 x 4 5 x 4 5 x 4 5 x 4 5 x 4 3.2 12 x 2, 6 x 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	P P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	9 9 9 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	75 75 75 70 75 75 75 70 75 70 70 70 70 70 70 70 70 70 70	24 24 24 20 24 24 24 24 24 24 24 24 24 24 24 24 24 24 24	C C C C C C C C C C C C C C C C C C C	A A A A A A A A A A A A A A A A A A A	No No No No No No No No No No No No No No No No No No No	20-22 30-18 30-18 30-16 30-18 30-18 30-18 30-16 30-16 30-16 40-16 30-18 30-18 40-16 40-14 40-14 40-14 30-16 30-16 30-16	B/C B B B B B B B B B B B B B B B B B B	74 67 67 66 66 66 66 66 56 56 53 53 58 58 53 53 56 56 56	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	No No No No No No No No No No No No No No No No No No No	C C C C C C C C C C C C C C C C C C C	R R R R R R R R P P P P P P P P P P P	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes				
COUSTIC	RX-739 RX-737 RX-730 RX-713 RX-712 RX-703	279.95 249.95 199.95 199.95 179.95 149.95	15 x 2, 5 x 4 15 x 2, 5 x 4 15 15	0.09 0.09 0.09 0.09 0.09 0.09	P/S P/S P/S P/S P/S P/S	2 2 2 2 2 2	17 17 17 17 17 17	70 70 70 70 70 70	60 60 60 60 60 60	30 30 30 30 30 30	A C A A A A	A A A A A A	No No No No No No	30-18 ± 5 35-16 ± 5 35-16 ± 5 30-18 ± 5 35-16 ± 5 35-16 ± 5	B B B	60 50 50 60 50 50	Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes	C C C D D D	P P	Yes Out Out Yes Yes			
CRAIG	AR8841 AG6830 AG6840 AG6820 AG6810	164.00 122.00 148.00 124.00 103.00	12 4 4 4 4	5 5 5 5 5	P/S S P/S S S	2 1 2 2 1	22.1 22.1 22.1 24.3 24.3	60 60 60 60 60	60 60 60 50 50	18 18 18 18 0	C C C M M	A A A M M	No No No No No	63-10 63-10 63-10 100-8 100-8		55 50 50 50 50	No Yes No No No	No No No No No	C C C C C	P P	Out No Out No No			

# Design Excellence

Coustic introduces an innovative series of Design Reference automotive power amplifiers, creatively designed and handcrafted in the U.S.A.

The Design Reference amplifiers' unique HEXFET® PWM (Pulse Width Modulated) power supply utilizes ultra high-speed switching diodes and an oversized 10,000 uF capacitor per channel, bypassed with polystyrene film capacitors to provide an amazingly stable, continuous current while maintaining constant rail voltages even under heavy dynamic loads. The result is very refined sound quality with the dynamic power we all strive for!



*Solid Core Acoustic Technology (SCAT)*

Once confined exclusively to high end home and studio components, Design Reference amplifiers make available an all discrete, class "A", balanced input circuitry for the first time in the automobile. This circuit is ideal for the noisy environment because of its high noise rejection and low transient distortion characteristics.

All Design Reference amplifiers have an exclusive, patented "Hysteresis Distortion" cancelling circuit built-in. Hysteresis distortion, caused by nonlinearities inherent in all electronic components, is what makes even the most well-designed amplifiers sound hard and unmusical. This patented circuitry simply creates a model of the input signal's inherent distortion and then cancels it electronically, leaving the original signal untouched and with unsurpassed sonic quality.

A unique Solid Core Acoustic Technology (SCAT) internal wiring scheme is used throughout to preserve the sonic purity and integrity of the audio signal. Calibrated with precision, solid core wire reduces the "skin" and "modulation" effects caused by the interactions of multi-stranded wire, thus minimizing sonic degradation. A very thin layer of low absorption enamel coating and air is used to insulate the solid core wire, avoiding unwanted

non-linear dielectric absorption. SCAT exhibits distortion free transmission characteristics, superior phase coherency and sonic accuracy resulting in superb musical clarity with tremendous bass response.

The output section features a new unconventional, completely symmetrical design using all N-channel HEXFET® transistors. The advantage of this design is superb linearity and reliability without the need for matching N- and P-channel devices. With the FET's high thermal efficiency, SOA protection circuitry (which produces distortion) is not required. FETs retain a high input impedance even under heavy loads, and are therefore able to deliver high peak output currents without placing heavy demands on their drive circuits. FET devices offer excellent high frequency response characteristics and are praised by audiophiles for their open, smooth, and detailed sound quality.

To ensure maximum fidelity, a total of 4 FETs, carefully hand selected and matched, are used for each channel even though only one is required, allowing all transistors to operate in their most linear region. This, combined with low feedback, results in very little transient distortion at high current, yielding superior definition and smoothness even at very low impedances.

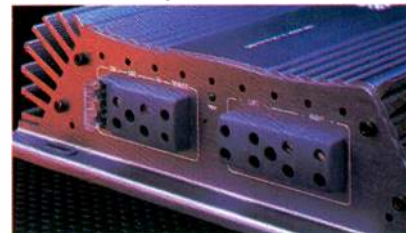


*AMP-505DR*

An exclusive "energy management system" is built in to electronically map and review the entire active circuitry during power on/off. Once stabilized, the system will then open the audio signal path, eliminating the annoying and potentially dangerous "popping" or "thumping" normally associated with system power on/off. It also monitors the circuitry for any indication of a

thermal condition that could damage the system. If indicated, the system will briefly cut or mute the audio signal, rather than shutting down the amplifier, preventing a surge that could damage other system components.

All Design Reference amplifiers have individual sensitivity adjustment and peak level indicators for each stereo channel which makes system balance virtually distortion free.



*Custom molded terminal blocks*

Computer aided design of heat sink and end plates ensures maximum heat dissipation and very efficient thermal convection with functional ergonomics. Custom molded speaker and power terminal block promotes high performance and simple installation.

The high-quality construction of these Design Reference amplifiers allows them to drive systems accurately and with sufficient headroom to meet the critical demands of contemporary recordings. All components used are carefully selected to ensure quality, reliability and performance — Mil-Spec glass epoxy printed circuit board with heavy-duty copper-clad traces, power supply capacitors by Cornell-Dubilier or Philips, WIMA or Roederstein bypass capacitors, HEXFET® by International Rectifier, 1% metal film resistors, and gold-plated RCA connectors.

Design Reference amplifiers include the AMP-505DR (2 x 50 watts), the AMP-510DR (2 x 100 watts) and the AMP-514DR (4 x 50 watts).

Coustic's serious dedication to quality and performance assures that Design Reference amplifiers will set new standards for excellence.



**COUSTIC®**

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Vernon, CA 90058-2596, USA  
Phone: 213-582-2832  
Fax: 213-582-4328





# RADIOS/TAPE PLAYERS

NR Code A = dbx B = Dolby B C = Dolby C D = DNR O = Other	MANUFACTURER	Model (RD) = Remote Included (RR) = Remote Optional (C) = Head Unit Controls CD Changer	Price \$	AMPLIFIER								TUNER						TAPE					
				Average Width Channel, per EIA-400	THD at Rated Output, % per EIA-400	Output Levels: Preamp (P), Speaker (S)	Number of Tone or EQ Controls	FM Mono Usable Sensitivity, dBμV (For -30 dB THD + N)	Alternate-Channel Selectivity, dBμV	FM Mono S/N Ratio, -dB	Total Number of Station Presets	Local Display Control: Manual (M), Automatic (A)	AM Stereo Capable?	Frequency Response, Hz to kHz, ±dB	Noise-Reduction Circuit?	Type N Ratio, High-Awakeener (With NR Applicable)	Auto Reverse?	Program Search?	FM Stereo	DIN ISO (C), Dual-Speed (D)	Their Production Full-Size (F), Remote Control (R), Secret Code (S)	RCA In-Car Jack?	
	KENWOOD (Continued)	KRC-660 KRC-560 KRC-460 KRC-440 KRC-360 KRC-260 KRC-160 KRC-300S KRC-200S KRC-100S	349.95 299.95 299.95 279.95 259.95 229.95 179.95 229.95 169.95 149.95	15       15 15 4	1       1 1 1	P/S       P/S S S	2       2 2 2	12 12 12 12 12 12 12 13.2 13.2 13.2	100 100 100 100 100 100 100 75 75 75	73 73 73 73 73 73 73 70 70 70	24 24 18 24 18 18 18 18 18 18	A A A A A A A A A A	A A A A A A A A A A	No No No No No No No No No No	30-15 ±3 30-15 ±3 30-15 ±3 30-16 ±4.5 30-16 ±4.5 30-15 ±4.5 30-15 ±4.5 30-15 30-14	B No B B B No No B	63 54 63 63 63 54 54 63 54 54	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	No No No No No No No No No No	C C C C C C C D D D	R R R R R R R D D D	Out Out Out Out Out Out Out Out Out Out	
	KRACO	KEC-1818 KF-1106 KF-1102 KF-1109 KF-1105 KF-1104 KWE-646 KWE-545 ETR-1080 ETR-1079 LED-500 KID-588 KGE-601 KID-581	369.95 221.95 219.95 299.95 270.95 246.95 246.95 221.95 189.95 169.95 129.95 116.95 92.95 69.95	25 x 2, 7.5 x 2 25 15 15 15 15 15 5 5 5 5 5 5	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	P/S S S P/S S S S S S S S S S	2 2 1 2 3 2 1 1 3 3 3 3 3 1	9 9 9 9 9 9 10 10 9 10 9 10 10 10	55 53 53 55 53 53 53 53 53 53 50 50 50	60 60 60 30 24 30 30 30 30 30 30 30 30 30	C C C C C C C C C C M M M	M M M M M M M M M M M M M	No No No No No No No No No No No No No	50-15 ±3 60-15 ±3 60-15 ±3 60-15 ±3 60-15 ±3 50-15 ±3 70-15 ±3 70-15 ±3 70-15 ±3 70-15 ±3 70-15 ±3 70-12 ±3 70-12 ±3 70-12 ±3	B       B        B	60 60 60 60 60 55 55 55 60 55 55 55 50 50	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes No Yes No No No No No No No No No No No	C C C C C C D D D D D D D D	R P P P P P D D D D D D D	Out In No Yes No No No No No No No No No No		
	L.A. SOUND	LA 850DTC(C) LA 820DTC(C) LA 770DT LA 720DT LA 620DT LA 600DT LA 545 LA 445 LA 525 LA 228 LA 218	299.00 269.00 279.00 239.00 269.00 229.00 189.00 149.00 219.00 149.00 109.00	25 x 2, 10 x 2 25 x 2, 10 x 2 25 x 4 25 x 4 20 x 4 20 x 4 14 14 14 7 7	       1 1 1 1 1	P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S S	2 2 2 2 2 2 2 2 3 2 1	10  13 13 60 60 55 55 55 55 55	70 70 70 70 60 60 30 30 18 18 18	30 30 30 30 C C A A A A A	M M M M M M M M M M M	No No No No No No No No No No No	30-13 30-13 50-13 50-13 50-13 30-15 ±3 30-15 ±3 30-15 ±3 30-15 ±3 30-15 ±3	B  B      B	60 52 60 51 58 50 50 50 50 50 50	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes No Yes No No No No No No No No	C C C C C C C C C C D	R/S R/S R R R R R R R R R	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes No			
	MAJESTIC	MCR9135 MCR9153 MCR9040 MCR9139 MCR1700AN MCR3700AN MCR1100 MCR1100F MCR1500BT MCR84-400 MCR4100HP MCR4650HP MCR90-101  MCR90-202HP MCR90-303HP  MCR3400 MCR3500 MCR3900A MCR3600 MCR90-404HP  MCR90-630 MCR90-707HP MCR90-909HP	150.00 160.00 160.00 180.00 129.95 179.95 79.95 89.95 129.95 139.95 179.95 189.95 219.95  249.95 229.95  149.95 149.95 169.95 169.95 259.95  229.95 279.95 299.95	5 x 4 5 x 4 5 x 4 5 x 4 6 6 6 12 6 6 6 15 5.5 x 2, 4 x 4 15 x 2, 9 x 4 15 x 2, 9 x 4 6 6 6 6 15 x 2, 9 x 4 4.5 x 2, 3.5 x 4 15 x 2, 9 x 4 15 x 2, 9 x 4	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5  0.5 0.5  0.5 0.5 0.5 0.5 0.5  0.5 0.5 0.5	P/S P/S P/S P/S S S S S S P/S P/S P/S P/S  P/S P/S  P/S P/S P/S P/S P/S  P/S P/S P/S	3 3 3 3 1 2 1 1 2 2 2 5 2  2 2  1 1 1 2 2  2 5 2	10 10 10 10 10 10 10 10 10 10 10 10 14  14 16  6 10 6 6 16  16 16 16 16 16	60 60 60 60 60 60 60 60 60 60 55 55 65  65 50  60 60 60 60 50  50 50 50 50 50	18 18 18 18 10 10 0 0 0 0 12 12 24  24 24  18 12 12 18 24  18 18 18 18 18	C C C C C M M M M M M C C C C C C C C C C C C C C C C	A A A A A M	No No No No No No No No No No No No No  No No  No No No No No No No No No	60-12 60-12 60-12 60-12 50-10 50-10 50-10 50-10 50-10 50-10 50-10 50-13 50-14  50-14 50-14  50-10 50-10 50-10 50-10 50-14  50-14 50-14 50-14	B       B        B	50 50 50 50 50 50 50 50 50 50 55 55 55  60 50  55 55 55 55 60  50 50 50 50 50	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes  Yes Yes  Yes Yes Yes Yes Yes Yes Yes Yes Yes	No No No No No No No No No No No No No  No No  No No No No No No No No No	O D C D D D D D D D D D D  D D  D D D D D D D D D D	P       P        P	Yes Yes Yes Yes No No No No No No Yes Yes Yes  Yes Yes  Yes Yes Yes Yes Yes Yes Yes Yes Yes		
	MEI	CX2840 CX2775  CX2725  CX2875 CX2830 CX2825 CX2810 CX2625 CX2175 CX2770 CX2425 CX2225 CX2125 CX1425 CX1225	229.95 299.95  269.95  229.95 199.95 184.95 189.95 169.95 124.95 199.95 149.95 129.95 109.95 79.95 49.95	12.5 3 x 2, 12.5 x 2 3 x 2, 12.5 x 2 12.5 12.5 12.5 12.5 12.5 2.7 12.5 12.5 2.7 2.7 2.7 2.7	0.8 0.8  0.8  0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	P/S P/S  P/S  P/S P/S P/S P/S P/S S S S S S S	2 2  2  2 2 2 2 2 1 2 2 2 2 2 1	16 16  16  16 16 16 16 16 15.5 15.5 15.5 15.5 15.5 50 40	60 30  24  30 24 24 24 24 24 24 24 18 18 18 60 40	C C  C  C C C C C C C C C C C M	A A  A  M M M M M M M M M M M	No No  No  No No No No No No No No No No No	60-12 ±3 60-12 ±3  60-12 ±3  30-17 ±3 25-15 ±3 60-12 ±3 30-12 ±3 30-12 ±3 60-15 ±3 30-16 ±3 60-15 ±3 60-15 ±3 60-12 ±3 120-10 ±3 80-8 ±3	B   B       B     O O	55 55  55  54 60 50 55 55 45 45 45 45 45 40	Yes Yes  Yes  Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes  Yes  Yes No No No No No No No No No	C C  C  C C C C C C C C C C C	R R  R  P P P P P D D D D D	Out Out  4 Out  Out Out Out Out Out Out Out Out Out Out No No			



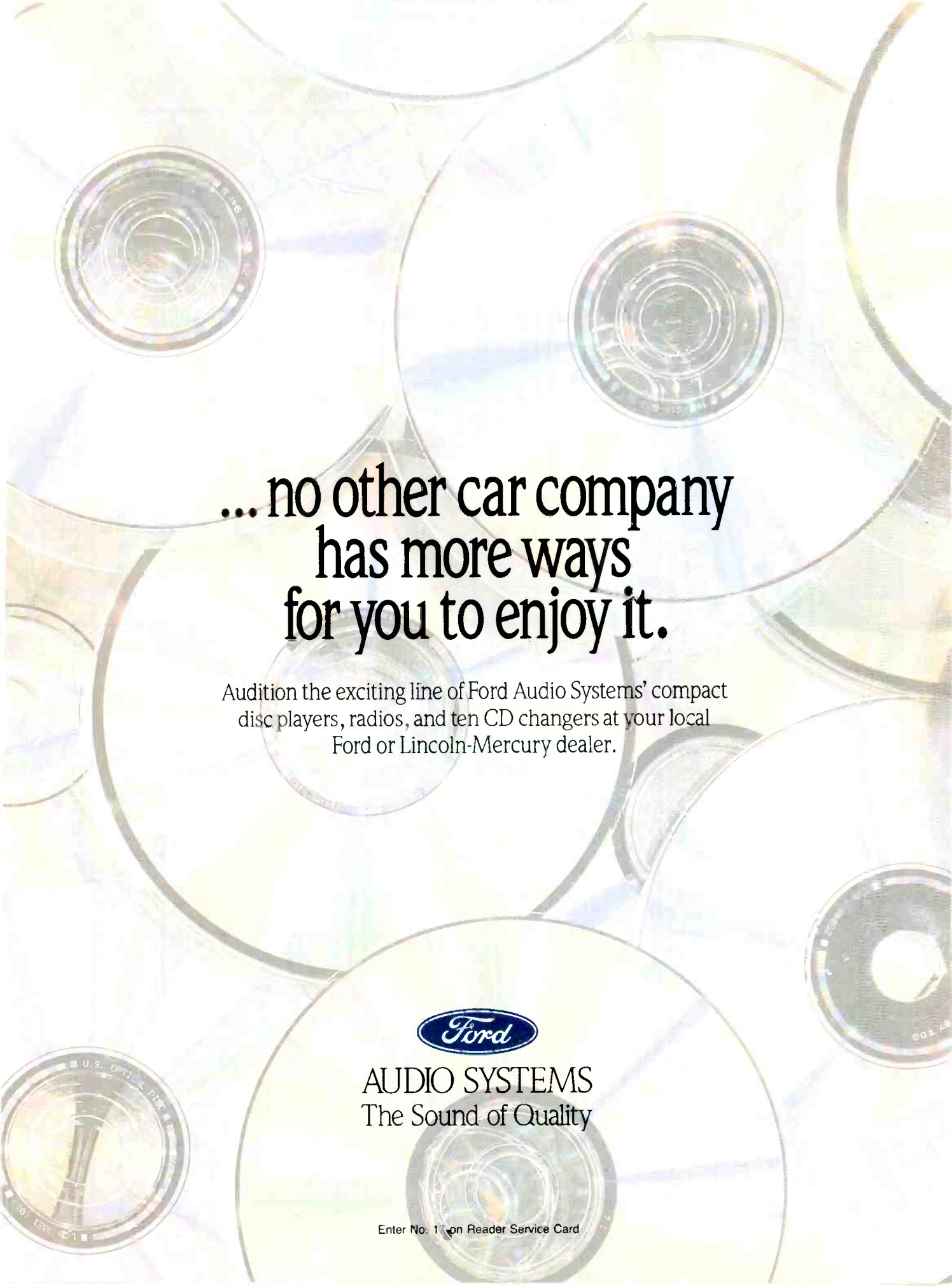
AUDIO SYSTEMS  
The Sound of Quality



Compact Disc  
Player

Compact Disc  
Radio

10 CD Changer



**... no other car company  
has more ways  
for you to enjoy it.**

Audition the exciting line of Ford Audio Systems' compact disc players, radios, and ten CD changers at your local Ford or Lincoln-Mercury dealer.



**AUDIO SYSTEMS**  
The Sound of Quality

Enter No. 1 on Reader Service Card

# RADIOS/TAPE PLAYERS

MANUFACTURER	Model (R) = Remote Included, (RD) = Remote Optional, (C) = Head Unit Controls CD Changer	Price, \$	AMPLIFIER					TUNER					TAPE											
			Average Watts Channel, per EIA-480	THD at Rated Output, % per EIA-480	Digital Levels: Preamp (P), Speaker (S)	Number of Taps or EQ Controls	FM Mono Usable Sensitivity, dB (For -30 dB THD + M)	Alternate-Channel Selectivity, dB	FM Mono S/N Ratio, -dB	Total Number of Station Presets	Tuning: Seek (A), Scan (B), Both (C)	Local/Offset Control: Manual (M), Automatic (A)	AM Stereo Capable?	Frequency Response, Hz to kHz, ±dB	Noise-Reduction Circuit? See Code	Tape S/N Ratio, dB, A-W weighted (With MP/I, Adjustable)	Auto Reverse?	Program Search?	Fit: GM Vehicles (A), GM/Chevy (B), DIN (SD) (C), Dual-Shaft (D)	The Product's Full-Set (P), Remote Control (R), Secret Code (S)	RCA In-Dot Jacks?			
MOBILE AUTHORITY	70-52x 66-52x 642x 622x 542x 502x 892x 752x 78-52x 79-52x 77-52x TA3300 TE7100 TE7150	159.95 124.95 89.95 74.95 69.95 39.95 250.00 189.95 169.95 139.95 109.95 59.95 99.95 124.95	15 15 10 10 10 10 25 25 25 15 15 10 12 12	0.05 0.05 0.5 0.5 0.5 0.5 0.05 0.05 0.05 0.5 0.5 0.5 0.05 0.05	P/S P/S S S S S P/S P/S P/S P/S S S S S	2 2 1 1 1 1 2 2 2 2 2 1 1 1	16 16 14 14 10 10 16 16 16 14 14 10 16 16	60 60 54 54 50 50 60 60 60 54 54 50 60 60	80 80 75 75 68 68 80 80 80 75 75 68 80 80	18 18 0 0 0 0 24 18 12 0 0 0 0 0	C C A A A A C C C M M M M C	A A A A A M M M M M M M M M	No No No No No No No No No No No No No No	20-30 ±0.3 20-30 ±0.3 30-30 ±0.3 30-30 ±0.3 30-30 ±0.3 30-30 ±0.3 20-30 ±0.3 20-30 ±0.3 20-30 ±0.3 20-30 ±0.3 20-30 ±0.3 30-30 ±0.3 20-30 ±0.3 20-30 ±0.3	D D D D D D D D D D D D D D D	80 80 65 65 60 60 80 80 80 65 65 60 60 80	Yes No Yes No No No Yes Yes Yes No No No No Yes	Yes Yes No No No No Yes Yes Yes No No No No Yes	D D D D D D D D D D D D D D D				Yes Yes No No No No Yes Yes Yes No No No No No	
MOPAR	5269287	540.00	15.8 x 4	3	S	5	13.8	65	58	20	C	A	Yes	31.5-14 ±3	B	62	Yes	Yes	B			No		
MXC CROWN	CA-120 CA-150 CA-170 CA-190  CA-4200 CA-5200  CA-6200  CA-7200(C)	19.95 49.95 79.95 129.95  179.95 249.95  269.95  299.95	6 7 7 25 x 2, 7 x 4  25 7 x 2, 25 x 2  7 x 2, 25 x 2  7 x 2, 25 x 2	S S S S  P/S P/S  P/S  P/S	S S S S  2 2  2  2	0 0 0 24  18 24  24  24	0 0 0 C  C M  C  M	0 0 0 M  M M  M  M	0 0 0 0  0 0  0  0	0 0 0 0  0 0  0  0	M M M M  M M  M  M	No No Yes Yes  Yes Yes  Yes  Yes	100-10 125-8 125-8 50-8  60-8 60-8 ±3  60-8 ±3  60-8 ±3											No No Yes Yes  Yes Yes  Yes  Yes
NAKAMICHI	Mobile Tuner Deck 1 (RIC) (†See 'Amps')	830.00	†	†	†	2	17		60	18	A	A	No	20-20 ±3	B/C	70	Yes	Yes	C	R		Yes		
OPTIMUS	12-1991 12-1992 12-1944	199.95 179.95 199.95	15 13 22		S S S	3 3 3			30 30 30	30 30 30	C C A	A A A	No	50-15 20-25 60-14	B	60 50 52	Yes Yes Yes	No No No	C C C			Yes Yes No		
PANASONIC	CQ-R75 CQ-R65 CQ-J11  CQ-J05  CQ-D70  CQ-O55  CQ-O50  CQ-J01 CQ-ID60 CQ-V10 CQ-B530 CQ-B520 CQ-B510	529.00 429.00 209.00  209.00  319.00  309.00  239.00  174.00 429.00 329.00 219.00 179.00 164.00	25 x 4 25 x 4 25 x 2, 15 x 4  7.5 x 2, 5 x 4  25 x 2, 15 x 4  25 x 2, 15 x 4  25 x 2, 15 x 4  7.5 22 x 4 22 x 4 20 7.5 7.5		2 2 2  2  2  2  2 2 2 2 2 2	13.2 13.2 13.2  13.2  13.2  15.2  15.2  15.2 13.2 13.2 15.2 15.2 15.2	75 75 75  75  75  75  75 75 75 75 75 75	70 70 70  70  70  70  70 70 70 70 70 70	24 24 18  18  24  24  24 24 24 24 24 24	C C A  A  C  C  C A A A A A	A A A  A  A  A  A A A A A A	No No No  No  No  No  No A A A A A	35-17 35-17 35-17  35-17  35-17  30-15 ±3  30-15 ±3  30-15 ±3 35-20 ±3 35-17 ±3 35-16 ±3 35-12.5 ±3 35-12.5 ±3	B B B  B  B  B  B B B B B B	62 62 52  52  52  52  52 62 62 52 52 52	Yes Yes Yes  Yes  Yes  Yes  Yes Yes Yes Yes Yes Yes	Yes Yes No  No  No  No  No Yes Yes Yes Yes No	C C C  C  C  C C C C C C C C	R R R  P  P  P P P P P P		Yes Yes No  No  Yes  Yes  Yes Yes Yes Yes No			
PHILIPS	DC 741(C) DC 521(C)  DC 520 DC 777 (with AM, FM, and Shortwave) OC 630 DC 640	510.00 360.00  245.00 500.00  300.00 340.00	30 x 4 30 x 2, 12 x 4  8 x 4 25 x 2, 8 x 4  25 25 x 4		P/S P/S  P/S P/S  P/S S	2 2  2 2  2 2			30 30  30 30  15 15	C M  B A  A A	M M  A A  A A	No No  No No  No No	30-20 ±0.1 30-20 ±0.1  40-14 ±0.1 40-14 ±0.1  40-16 ±0.1 30-18 ±0.1	B No  No No  B B	50 50  50 50  58 58	Yes Yes  Yes Yes  Yes Yes	No No  No No  No Yes	C C  C C  C C	R/S R  P P/S  P P		Out Out  Out Out  Out No			
PIONEER	KEH-2500 KE-1818 KEH-3500 KEH-M6500(C) KEH-M7500(C) KEH-M8500(RIC) KEH-M5500(C) KEH-M4500(C) KEH-M7300TR(C) KEH-2200QR KEH-6969 KEH-4949  (Continued) KEH-M8200(RIC)	270.00 185.00 310.00 380.00 430.00 600.00 360.00 330.00 460.00 250.00 280.00 235.00  520.00	25 x 2, 15 x 4 8.5 x 2, 7 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4 25 x 2, 15 x 4  25		P/S S P/S P/S P/S P/S P/S P/S P/S P/S P/S  P/S	2 1 2 3 3 3 2 2 2 2 2 2  3	11 11 11 11 11 8 11 11 11 11 11 11  11	70 70 70 70 70 70 70 70 70 70 70 70  70	24 24 24 24 24 24 24 24 24 24 24 24  24	C C C C C C C C C C C  C	A M A A A A M M M M M M  A	No No No No No No No No No No No  No	40-14 ±3 50-14 ±3 40-17 ±3 40-14 ±3 40-17 ±3 30-19 ±3 40-17 ±3 40-14 ±3 40-17 ±3 40-14 ±3 40-17 ±3  40-14 ±3	B B B B B B/C B B B B B  C	52 52 63 52 63 73 52 63 63 52 63 52  71	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes  Yes	No No Yes No Yes Yes Yes No Yes No No  No	C D C C C C C C C C C  C	R D R R R R R R R R R  R		Yes No Yes Yes Yes Yes Yes Yes Yes Yes Yes  Yes			



# RADIOS/TAPE PLAYERS

MANUFACTURER	Model (R) = Remote Included, (RD) = Remote Optional, (C) = Head Unit Controls CD Changer	Price, \$	AMPLIFIER												TUNER												TAPE					
			Average Watts Channel, per EIA-490	THD at Rated Output, % per EIA-490	Output Levels: Preamp (P), Speaker (S)		Number of Tone or EQ Controls	FM Mono Usable Sensitivity, dB (For -30 dB THD + N) dB1	Alternate Channel Selectivity, dB1	FM Mono S/W Ratio, -dB	Total Number of Station Presets	Tuning: Seek (A), Scan (B), Both (C)	Local-Divisor Control: Manual (M), Automatic (A)	AM Stereo Capable?	Frequency Response, Hz to kHz, ±dB	Noise-Reduction Circuit? See Code	Tape S/W Ratio, dB: A-weighted (With NR 17 Available)	Auto Reverse?	Program Search?	Fit: GM Vehicles (A), GM Chrysler (B), DIN (S) (C), Dual-Shaft (D)	The Promotional Pull-Out (P), Remote Control (R), Secret Code (S)	RCA In-Disk Jacks?										
					7 x 4	15 x 4																	4 x 4	S	S	18	C	A	No	50-10	70	No
REALISTIC (Continued)	12-1942 12-1940 12-1948	149.95 149.95 119.95	7 x 4 15 x 4 4 x 4	S S S	3 3 3				18 30 30	C C C	A A A	No No No	50-10 50-10 125-12.5		Yes No No	No No No	C C C			No No No												
ROADMASTER	RS 1200 RS 1600C RS 2040C	90.00 150.00 150.00	5 5 5	1 1 1	S S S	13 13 13	55 60 60					No No No	30-18 30-18 25-19	70 70 70	No No No	No No No	D D D			No No No												
SANYO	MAC-4080(RIC) MAC-3080(C) MAC-3030(C) MAR-2280 MAR-2180 MAR-2080 MAR-1980 MAR-1280 MAR-1080 MAR-2200A MAR-2000A MAR-1000	399.99 349.99 279.99 239.99 229.99 219.99 189.99 199.99 149.99 249.99 189.99 129.99	9.5 x 4 9.5 9.5 9.5 x 4 7.5 9.5 9.5 9.5 3 3 3 3	1 1 1 1 1 1 1 1 1 1 1 1	P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S P/S S	2 2 2 2 2 2 2 2 2 2 2 1	25 25 25 65 65 65 65 65 17 17 17 65	60 60 60 24 24 24 24 24 24 24 24 24	30 30 30 24 24 24 24 24 24 24 24 24	C C C M M M M M M M M M	A A A M M M M M M M M M	No No No No No No No No Yes Yes Yes Yes	50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 40-18 ± 0.3 50-14 ± 0.3 50-14 ± 0.3 50-14 ± 0.3	B B B B B B B B B B B B B	62 52 52 62 62 52 52 62 52 60 50 50	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	C C C C C C C C C D D D D	R R P P P P P P P P P P P	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes No												
SENTREK	SCR 1802 SCR 1910 SCR 1991 SCR 1993 SCR 1995 SCR 097 SCR 147 SCR 563 SCR 715 SCR 767 SCR 1985	169.95 199.95 249.95 279.95 299.95 64.95 104.95 139.95 159.95 184.95 249.95	7 25 7 x 4 7 x 2, 25 x 2 7 x 2, 25 x 2 4 4 4 4 4 14	0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02	S P/S P/S P/S P/S S S S S P/S P/S	2 3 2 2 2 1 1 1 1 2 2	20.8 20.8 20.8 20.8 20.8 17 17 60 60 60 65	80 85 85 85 85 60 60 60 60 60 65 65	18 30 30 30 30 18 18 18 18 18 24	C B C C C C C C C C C C	A A A A A M M M M M M M	No No No No No No No No No No No No	40-16 40-16 40-16 40-16 40-16 50-12 ± 3 50-14 ± 3 40-14 ± 3 40-16 ± 3 40-16 ± 3 40-16 ± 3 40-16 ± 3	No No No No No B B B B B B B	40 40 40 40 40 40 40 40 40 40 40 40 40	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	C C C C C D D D D D D D	P P R R R R R R R R R R R	No Yes Yes Yes Yes No No No No No No No No												
SHERWOOD	XRM-3844(C) XRM-3824 XR-4814(C) XR-4437 XR-4127 XR-3147 XR-2137 XR-3144P XR-3164P	330.00 270.00 360.00 270.00 230.00 190.00 150.00 240.00 270.00	14 x 4 14 x 2, 5 x 4 14 x 4 14 x 2, 4 x 4 14 x 2, 4 x 4 4 4 4 4 14 x 2, 4 x 4	0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	P/S P/S P/S P/S P/S P/S P/S P/S P/S	2 2 2 2 2 2 2 2 2	12.4 12.4 11.2 11.2 12.4 12.4 12.8 12.4 12.4	80 80 70 70 70 78 78 78 80	30 30 20 30 30 30 30 30 30	C A A C C M/A M/A M/A C	A A A A A M/A M/A M/A M/A	No No No No No No No No No	30-18 ± 3 30-18 ± 3 30-18 ± 3 20-20 ± 3 20-20 ± 3 20-20 ± 3 20-20 ± 3 20-20 ± 3 20-20 ± 3	B B B B B B B B B	55 55 62 62 55 54 54 55 55	Yes Yes Yes Yes Yes No No Yes Yes	Yes Yes Yes Yes Yes No No Yes Yes	C C C D D D D D D	R R R R R P P P P	Yes Yes Yes Yes Yes No No Yes Yes												
SONY	XR-2300 XR-2600 XR-2900 XR-3050 XR-4400 XR-5600 XR-U110(C) XR-U220(C) XR-U330(C) XR-U660(ROC) XR-U770(ROC)	145.00 170.00 230.00 200.00 230.00 280.00 280.00 350.00 400.00 450.00 670.00	4 10 10 9 9 x 4 9 x 4 9 x 4 10 x 4 10 x 4 10 x 4 10 x 4	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	S P/S P/S S P/S P/S P/S P/S P/S P/S P	2 2 2 2 2 2 2 2 2 2 2	13.0 13.0 13.0 13.0 12.0 12.0 12.0 12.0 12.0 12.0 8.0	70 70 70 70 75 75 75 75 75 75 75	68 68 68 24 30 30 30 24 24 24 30	C A A C C C C C C C C	M M M M M M M M M M M	No No No No No No No No No No No	30-15 30-15 30-15 30-15 30-15 30-15 30-16 30-18 30-18 30-20 30-20	B B B B B B B/C B/C B/C	55 55 66 53 55 66 55 55 66 76 76	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	D D D D D D C C C C C	R R R R R R R R R R R	No Yes Yes No No Yes Yes Yes Yes Yes Yes												
SONY EXPRESS	EXR-10 EXR-12 EXR-14 EXR-20 EXR-25	120.00 160.00 180.00 250.00 270.00	4 4 9 9 10	1.0 1.0 1.0 1.0 1.0	S S S S P/S	1 2 2 2 2	13.0 13.0 13.0 15.0 13.0	70 70 70 75 70	68 68 68 18 24	A A A A M	M M M M M	No No No No No	40-15 40-15 40-15 30-15 30-16	B B B B B	55 55 55 55 66	Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes	D D D D C	P P P P P	Yes Yes Yes Yes Yes												
SONY MOBILE ES	XR-U500(ROC) XR-U700(RIC) XR-U800(RIC)	470.00 550.00 670.00	9 x 4 12 x 4 12 x 4	1.0 1.0 1.0	P/S P/S P	2 2 2	8.0 8.0 8.0	75 75 75	30 30 30	C C C	M M M	No No No	30-20 30-20 30-22	B/C B/C B/C	77 77 77	Yes Yes Yes	Yes Yes Yes	C C C	R R R	Yes Yes Yes												
SOUNDSTREAM	TC303 TC306	299.00 369.00	11 x 2, 4.5 x 4	0.8	P/S P	3 4	17 65	70 67	12 12	B C	A M	No No	30-20 ± 5 30-20 ± 3	B/C B/C	68 70	Yes Yes	Yes Yes	C C	P P	Yes Yes												
SPARKOMATIC	SR4500 SR59 SR57 SR55 SR339 SR359 SR3200 SR37 SR35 SR39	199.99 89.99 79.99 69.99 109.99 149.99 159.99 69.99 54.99 79.99	5 5 5 5 5 5 12 5 5 5	1 1 1 1 1 1 1 1 1 1	S S S S S S S S S S	1 3 1 1 1 1 3 3 1 1	20.8 18 20 20 20 55 50 18 45 20 20.8	67 60 50 50 50 50 60 18 60 50 67	24 18 18 18 18 18 24 24 24 24	C M M M M C C C C C	M M M M M A A A A M	No No No No No No No No No No	80-20 ± 3 75-10 ± 3 75-10 ± 3 75-10 ± 3 80-10 ± 3 80-10 ± 3 75-10 ± 3 100-9 ± 3 75-10 ± 3		55 35 35 35 50 50 35 35 35 55	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	O D D D D D D D D D	R R R R R R R P R R	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes												
TOSHIBA	TX103 TX203 TX303 TX403 TX503 TX513(C)	149.99 169.99 179.99 139.99 239.99 299.99	15 15 15 15 15 x 2, 4 x 2 15 x 2, 4 x 2		P/S P/S P/S P/S P/S P/S	1 2 1 1 2 2		18 18 18 12 24 30		A A C A A C	M M M A A M	No No No No No No		No No No No No B	No No No No No Yes	No No No No No Yes	Yes Yes Yes Yes Yes Yes	C C C C C C	R R R R R R	Yes Yes Yes Yes Yes Yes												

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# CD CHANGERS & D/A CONVERTERS

MANUFACTURER	Model (RI) = Remote included, (RO) = Remote Optional	Price, \$	Number of Magazines	Number of Discs per Magazine	Frequency Response, Hz to KHz, ±dB	Dynamic Range, dB	THD at 1 kHz for 0-dB Level, %	Number of Programmable Selections	Repeat Functions: Entire Disc (D), Track (T), Entire Program (E)	Audible Fast Search?	Auto Scan: Disc (D), Tuner (T)	FM Usable Sensitivity, dB (For -30 dB THD + N)	Alternate Channel Selectivity, dB	FM Mono, S.M., -dB	TUNER			
															Total Number of Station Presets	Digital Out Jacks?	RCA Out Jacks?	
AIWA	ADC-M22 Changer ARC-M11 Controller ARF-M11 FM Modulator	500.00 150.00 100.00	1	10	5-20	85	0.01		D/T D/T/E	Yes D					No	No	Yes	
ALPINE	3900 D/A Converter 7980 In-Dash Changer/Tuner	1200.00 700.00	1	3	5-22 5-20 +0,-1	95	0.006	0	D/T	Yes D		16.3	80	65	24			
	5957S Changer	580.00	1	6	5-20 +0,-1	103	0.005								Yes	Yes		
	1310 Controller/Tuner (with ID Logic) 5952V Changer	650.00 480.00	1	6	5-20 +0,-1	95	0.03	60	D/T	Yes D		9.3	80	65	12	Yes No	Yes Yes	
	5959S Changer	880.00	1	6	5-20 +0,-1	114	0.0025								Yes	Yes		
	5956 Changer 1203 Controller 1201 Controller	580.00 280.00 180.00	1	6	5-20 +0,-1			20 20	D/T D/T D/T	Yes Yes D	D/T D D				No No No	No No Yes	Yes Yes	
AUDIOVIX	ACC-50 Changer	699.95	1	10	5-20 ±1	95	0.008	0	D/T	Yes D					No	No		
BLAUPUNKT	CDC A02 Changer	449.95	1	10	20-20	95	0.05		E	Yes D					No	Yes		
	CDC A02 RF Changer/Wireless Re- mote/Display Unit/FM Modulator	599.95	1	10	20-20	95	0.05		E	Yes D					No	Yes		
CLARION	2060 Changer	499.95	1	6	5-20 ±0.5	95	0.005		D/T/E	Yes D					Yes No	No		
	6201CD Changer	399.95	1	6	5-20	93			D/T/E	Yes					No	No		
	FMC304 Controller	119.95															Yes	
	FMC404(RI) Controller 1060(RI) Controller	169.95 169.95							D/T/E	Yes D							Yes	
COUSTIC	CC-55 Changer	599.95	1	10	5-20 ±0.5	90	0.008		D/T	Yes D					Yes	Yes		
COUSTIC/ DESIGN REFERENCE	DA-55 D/A Converter	499.00			20-20 ±0.001	97	0.002								No	Bal- anced		
CRAIG	AP9500(RI) Changer/FM Modulator	510.00	1	6	5-20 +0,-3	90	0.01	32	D/T	Yes D							Yes	
DENON	DCH-700 Changer	750.00	1	5	5-20 ±1	100	0.003		D/T	Yes D					Yes No	No No		
	DCH-501(RI) Changer/FM Modulator	650.00	1	10	5-20 ±3	90	0.005		D/T	Yes D					No No	No No		
	DCH-500 Changer	500.00	1	10	5-20 ±3	90	0.005		D/T	Yes D					No No	No No		
	DCX-70 Controller DCX-60 FM Modulator	140.00 85.00							No	No D					No No	No Yes		
ECLIPSE	ESD-430 Changer	500.00	1	12	5-20	92	0.01		D/T/E	Yes D							Yes	
	ESD-431 Changer	600.00	1	12	5-20	92	0.01		D/T/E	Yes D							Yes	
	ESD-530 Changer	700.00	1	12	5-20	92	0.01		D/T/E	Yes D					Yes	Yes		
FULTRON	16-9900(RI) Changer/FM Modulator	599.95	1	10	20-20 ±1	95	0.001	0	D/T	Yes D					No	Dpt.		
JVC	XL-MG1800(RO) Changer	729.95	3	6	5-20	98	0.004			D					No	No		
	XL-MG800RF(RI) Changer/Controller/ FM Modulator	639.95	1	6	5-20	98	0.004		D/T	Yes D					No	Yes		
	XL-MG700RF(RI) Changer/Controller/ FM Modulator	579.95	1	6	5-20	98	0.004		D/T	Yes D					No	No		
	XL-MK500(RO) Changer	479.95	1	6	5-20	98	0.015			Yes D					No	No		
	KS-IF100 FM Modulator	99.95													No	No		
	KS-RF1 Controller/FM Modulator (for one XL-MK500 or up to six MG-1800s) KS-RM18 Controller (for use as above)	179.95 259.95							50	D/T	Yes D				No	Yes		
KENWOOD	KDC-C800 Changer	540.00	1	10				20	D/T	Yes D/T					No	No		
	KDC-C601 Changer	430.00	1	10	5-20 ±1	94	0.005	20	D/T	Yes D/T					No	No		
	KDC-C601 FM Changer/Controller/ FM Modulator	530.00	1	10	5-20 ±1	94	0.005	20	D/T	Yes D/T					No	No		
	KCA-R20(RI) Controller	100.00							D/T	Yes D/T					No	No		
L.A. SOUND	LA 1060CD Changer	499.00	1	6	20-20	90	0.01	32	D/T/E	No D					No	Yes		
MILBERT	IDAC D/A Converter (with tube audio stage)	1250.00			20-20	144	0.001								No	Yes		
MOPAR	4465101(RI) Changer	800.00	1	6	20-20 ±1	95	0.008		D/T	Yes						No		
MXC CROWN	CDC-4510 Changer	539.95	1	10	20-20 ±1	89			D/T	D								
NAKAMICHI	MC-101 Controller 100 CDC Changer 100 CDC i Changer DAC-101 D/A Converter	200.00 2200.00 3000.00 500.00	1 1	10 10	5-20 5-20 ±0.5	100 98	0.004 0.002								Only Yes	Yes	Yes	





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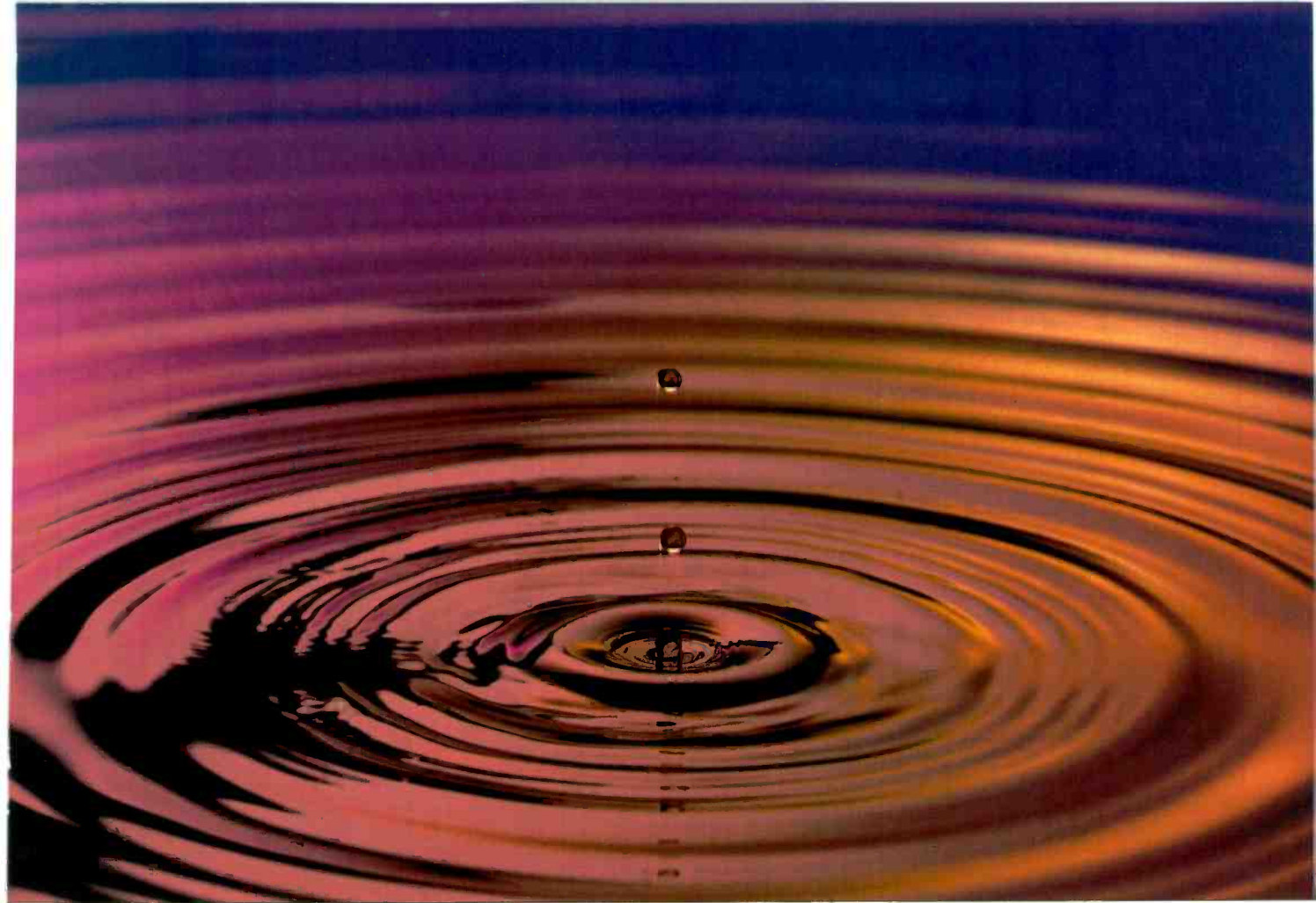
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# CD CHANGERS & D/A CONVERTERS

MANUFACTURER	Model (RI) = Remote Included, (RO) = Remote Optional	Price, \$	Number of Magazines		Frequency Response, Hz to kHz, $\pm$ dB	Dynamic Range, dB	TRFD at 1 kHz for 0-dB Level, %	Repeat Functions: Entire Disc (D), Track (T), Entire Program (E)			Able to Fast Search?	FM Usable Disc (D), Tuner (T)	Alternate Channel Selectivity, dB	FM Mono S.W. -dB	Total Number of Station Presets	Digital Out Jacks?	RCA Out Jacks?	TUNER		
PANASONIC	CX-DP2000 Changer	659.00	1	6																
	CX-DP60 Changer	479.00	1	6	5-20 $\pm$ 1	0.01		D/T	Yes	D									Yes	
	CY-RM60 Wireless Remote/Display Unit/FM Modulator	179.00																		
	CX-DPFM60 Changer/Wireless Remote/Display Unit/FM Modulator	600.00	1	6	5-20 $\pm$ 1	0.01		D/T	Yes	D										Yes
	CY-RM15 Controller (with amp) CY-RM16 Controller CY-RM5 Controller	299.00 249.00 129.00						35 35												Yes Yes Yes
PHILIPS	DC 082 Changer	599.00	1	6	30-20 $\pm$ 0.3			D		D									Yes	
PIONEER	CDX-M30 Changer	460.00	1	6	5-20 $\pm$ 1	94		512	D/T/E	Yes	D								Yes	No
	CDX-FM38(RI) Changer/FM Modulator	670.00	1	6	5-20 $\pm$ 1			512	D/T/E	Yes	D								No	No
	CDX-FM35 Changer/FM Modulator	570.00	1	6	5-20 $\pm$ 1			512	D/T/E	Yes	D								No	No
	DEX-M400(RIC) Controller	240.00						512	D/T	Yes	T								No	Yes
	GEX-T70 Tuner CD-M1 Remote	230.00 120.00			30-15 $\pm$ 3			512	D/T	Yes	T D	7	70	70	24					
POWER ACOUSTIK	PACD-6C(RI) Changer	449.00	1	6	10-20 $\pm$ 0.5	90	0.001	72	D/T/E	Yes	D								No	Yes
	CD-923C Changer	409.00	1	6	10-20 $\pm$ 0.5	90	0.001	72	D/T/E	Yes	D								No	No
	FMM-6C FM Modulator	85.00																	No	Yes
PREMIER	CDX-M33 Changer	460.00	1	6	5-20 $\pm$ 1	94		512	D/T/E	Yes	D							Yes	No	
PRESTIGE	P-165(RO) Changer	549.00	1	6	5-20 $\pm$ 1	95	0.008	0	D/T	Yes	D								No	No
	P-185(RO) Changer	549.00	1	10	5-20 $\pm$ 1	95	0.008	0	C/T	Yes	D								No	No
PROFILE	CDC500 Changer	650.00	1	10	5-20 $\pm$ 0.5	90	0.002		E	Yes	D								No	Yes
SANYO	MAX-8000 Changer	529.99	1	10	5-20 $\pm$ 3	95	0.008													
	MAX-6600 Changer	529.99	1	6	5-20 $\pm$ 3	95	0.008													
	AX-800 Changer	529.99	1	10	5-20 $\pm$ 3	95	0.008													
	AX-600 Changer	529.99																		
	FTP-1S Controller CM-R100 Remote/FM Modulator	79.99 139.99								D/T		D								
SENTEK	SCD 2000(RI) Changer/Controller/ FM Modulator	499.95	1	10	17-20	95	0.008	0	D/T	Yes	D									
SHERWOOD	XM-7050 Changer/Controller/ FM Modulator	700.00	1	6	5-20 $\pm$ 0.5	93		32	D/T	Yes	D								No	Yes
	XM-710 Changer	600.00	1	6	5-20 $\pm$ 0.5	93	0.002	32	D/T/E	Yes	D								No	
	XM-7100 Changer/Controller	650.00	1	6	5-20 $\pm$ 0.5	91	0.02	30	D/T/E	Yes	D								No	Yes
SONY	CDX-A35RF(RI) Changer/Controller/ FM Modulator	510.00	1	10	10-20 $\pm$ 3	85	0.01			No									No	No
	CDX-A55RF(RI) Changer/Controller/ FM Modulator	570.00	1	10	10-20 $\pm$ 3	85	0.01		D/T	Yes	D								No	No
	CDX-A303RF(RI) Changer/Controller/ FM Modulator	670.00	1	10	10-20 $\pm$ 3	85	0.01	110	D/T	Yes	D								No	Yes
	RM-X14(RI) Controller/FM Modulator	250.00						110	D/T	Yes	D								No	Yes
	XMC-U150(RI) Controller/Amplifier	350.00						110	D/T	Yes	D								No	Yes
	CDX-U70 Changer	430.00	1	10	10-20 $\pm$ 3	85	0.01												No	Yes
	CDX-U303 Changer	450.00	1	10	10-20 $\pm$ 3	85	0.01												No	Yes
	CDX-U404 Changer	570.00	1	10	10-20 $\pm$ 3	90	0.008												No	Yes
	CDX-U400D Changer	550.00	1	10	10-20 $\pm$ 3														Yes	No
SONY MOBILE ES	CDX-U606 Changer	700.00	1	10	6-20 $\pm$ 3	98	0.0025												Yes	Yes
	XES-C1 Changer	900.00	1	10	3-20 +0,-0.5	105	0.003												Yes	Yes
SOUNDSTREAM	DC1000 Changer/Remote	759.00	1	10	5-20 $\pm$ 1	90	0.05												Yes	Yes
	DTA1 D/A Converter	595.00			5-20 $\pm$ 0.25	96	0.03													Yes
TECHNICS	CX-DP3000 Changer	979.00	1	12	5-20 $\pm$ 1	96	0.005		D/T	Yes	D									
TOSHIBA	TX963(RO) Changer	479.99	1	6					D/T	Yes	D								No	No
	TX963FM(RI) Changer/Controller/ FM Modulator	529.99	1	6					D/T	Yes	D								No	No
	TX962FM(RI) Changer/Controller/ FM Modulator	499.99	1	6					D/T	Yes	D								No	No
	TX973(RO) Changer	529.99	1	10					D/T	Yes	D								No	No
	TX973FM(RI) Changer/Controller/ FM Modulator	599.99	1	10					D/T	Yes	D								No	No



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# IN-DASH CD PLAYERS

MANUFACTURER	Model (RI) = Remote Included, (RD) = Remote Optional, (C) = Player Controls CD Changer	Price, \$	Frequency Response, Hz to kHz, ±dB	Dynamic Range, dB	THD, %, at 1 kHz for 0-dB Level	Filtering: Digital + Analog (A), Digital (B)	Number of Programmable Selections	AUX Input?	Repeat Functions: Entire Disc (D), Track (T), Entire Program (E), Audible Fast Search?	Auto Scan: Disc (D), Tuner (T)	TUNER							
											F.M. Usable Selectivity, dB (For -30 dB THD + N)	Alternate-Channel Selectivity, dB	F.M. Mono S/N Ratio, -dB	Total Number of Station Presets (if applicable)	Built-in Amp Power: Watts/Channel (if applicable)	Then Protection: Pull, Sleep, Control (R), Secret Codes (S), RCA In/Out Jacks?		
PREMIER	DEX-M88(RIC)	900.00	5-20 ±1	92	D	D	512	Yes	D/T/E	Yes	D/T	7	70	70	24	30 x 4	R	Yes
	DEH-M77(RIC)	700.00	5-20 ±1	90	D	D	512	No	D/T	Yes	D/T	8	70	24	30	R	Yes	
	DEH-M66(RIC)	550.00	5-20 ±1	90	D	D		No	D/T	Yes	D/T	11	70	24	25 x 2, 15 x 4	R	Yes	
	DEH-44	500.00	5-20 ±1	90	0.05	D	D		No	D/T	Yes	D/T	11	70	24	Max.	R	Yes
PRDFILE	CD220	420.00	20-20 ±0.5	90	0.02	D	16	No	E/T	Yes	T	16	50	60	24	25	P	Yes
	CD210	450.00	20-22 ±0.5	90	0.02	D		No	D/T	Yes	D/T	16	60	65	25	P	Out	
SANYD	ECD-8580	379.99	5-20 ±3	95	0.05	D	16	No	D/T	No	D/T	12	65	60	30	25 x 2, 20 x 4	P	
SENTREK	SCD 1000	349.95	20-20 ±5	95	0.05	D	0	No	D/T/E	Yes	D/T	17	80	60	30	14	P	Yes
SHERWOOD	XCM-6830R(RIC)	720.00	5-20 ±3	93		D			D/T/E	Yes	D	11.2	80		30	25 x 4	R	4 Out
	XCM-6820(C)	575.00	5-20 ±3	93		D			D/T/E	Yes	D	11.2	80		30	25 x 4	R	4 Out
	XCM-6815(C)	460.00	5-20 ±3	93		D			D/T/E	Yes	D	11.2	80		30	25	R	2 Out
SONY	CDX-5060	340.00	10-20 ±0.5	90	0.008	D			D/T	Yes	D/T	8.0	75	70	24	4 x 4	R	Yes
	CDX-5260	400.00	10-20 ±0.5	90	0.008	D			D/T	Yes	D/T	8.0	75	70	24	9 x 4	R	Yes
	CDX-5460(RD)	450.00	10-20 ±0.5	90	0.008	D			D/T	Yes	D/T	8.0	75	70	24	9 x 4	R	Yes
	CDX-U6260(RDC)	500.00	10-20 ±0.5	90	0.008	D			D/T	Yes	D/T	8.0	75	70	24	9 x 4	R	Yes
	CDX-U8000(ROC)	670.00	5-20 ±0.5	100	0.008	D		Yes	D/T	Yes	D/T	12.0	75	70	30		R	Yes
SONY EXPRESS	EXCD-40	340.00	10-20 ±1	90	0.05	D		Yes	D/T	Yes	D/T	12.0	75	70	24	10		
SONY MOBILE ES	CDX-U900(RIC)	670.00	10-20 ±0.5	100	0.005	D		Yes	D/T	Yes	D/T	8.0	75	70	30		R	Yes
TOSHIBA	TX903	449.99				D		No	D/T	Yes	D/T				24	15	R	Yes
	TX923(C)	549.99				D		No	D/T	Yes	D/T				30	15 x 2, 4 x 2	R	Yes

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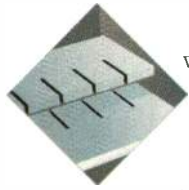
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# SPEAKERS

MANUFACTURER	Model	Price \$ (If Sold Individually)	Price \$ (If Sold in Pairs)	Recommended Maximum Power:				Frequency Response, Hz to kHz, ±dB	DRIVERS										Notes
				Watts (channel)	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Surround Only (S)		Woofer Only (W)	Midrange Only (M)	Tweeter Only (T)	Woofer Size, Inches	Whizzer (W) 2-Way (2), 3-Way (3), 4-Way (4)	Applied Tweeters = A, Removable Tweeters = P	Separately Mountable Drivers?	Flush Mount (F), Surface Mount (S), Convertible (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproof?	
ADI	CW-800	322.00	150	89	4	30-1 ± 3	S	(2)8									No	Fourth-order compound enclosure. As above.	
	CW-1000	422.00	200	90	4	29-800 Hz ± 3	S	(2)10									No		
	CW-1200	482.00	250	91.5	4	32-500 Hz ± 3	S	(2)12									No		
	CX-800	322.00	200	95	2	41-800 Hz ± 3	S	(2)8									No		
	CX-1000	422.00	240	96	2	39-800 Hz ± 3	S	(2)10									No		
	CX-1200	482.00	280	97	2	40-600 Hz ± 3	S	(2)12									No		
	PD-15947	159.95	200	95.6	8	30-1 ± 3	W	15								5 7/8	No		
A/D/S/	AL-4	299.95	100	91	4	55-22		4	2	P	Yes	F	1 1/2	Yes	Tweeter level control. As above.				
	AL-5	349.95	100	91	4	45-22		5 1/4	2	P	Yes	F	2 1/2	Yes					
	AL-6	399.95	100	91	4	38-22		6 1/2	2	P	Yes	F	3	Yes					
	320T	250.00	50	93	4	2.5k-20k ± 3	T					F	3/4	Yes					
	300T	120.00	50	92	4	2k-20k ± 3	T					F	3/4	Yes					
	220W	120.00	80	89	4	120-3 ± 3	W	4				F	2	Yes					
	310W	140.00	100	92	4	50-3 ± 3	W	5 1/4				F	2 1/2	Yes					
	320W	300.00	100	91	4	50-2.5 ± 3	W	5 1/4				F	1 1/2	Yes					
	420W	160.00	150	92	4	42-2.5 ± 3	W	6 1/2				F	2 1/2	Yes					
	\$10.2	200	91	4	18-200 Hz ± 3	S	10					F	5	Yes					
	\$10.2S	280.00	200	4		S	10					F	5	Yes					
	300I/s	360.00	100	92	4	50-20 ± 3		5 1/4	2			F, P	1 1/2	Yes					
	320I/s	570.00	100	91	4	50-20 ± 3		5 1/4	2	P	Yes	F	1 1/2	Yes					
325I/s	200I	599.95	100	91	4	45-22		5 1/4	2	P	Yes	F	2	Yes					
	200I	260.00	80	88	4	120-20 ± 3		4	2		No	P	1 1/2	Yes					
L200e		400.00	60	88	4	85-20 ± 3		4	2		No	S		Yes					
	L300e	510.00	80	90	4	68-20 ± 3		5 1/4	2		No	S		Yes					
	\$6.2I	170.00	100	92	4	30-85 Hz ± 3	S	(2)6 1/2				F, P	2 1/2	Yes					
	\$810	470.00	400	90	4	20-85 Hz ± 3	S	(2)10				S		Yes					
\$8s	140.00	120	91	4	28-85 Hz ± 3	S	8					F	3 5/8	Yes					
ADVANCED COMPOSITE AUDIO	SW160	250.00	100	96	4	30-100 Hz	S	6 1/2									Bandpass enclosure; includes crossover; overload protection. As above.		
	SW320	350.00	200	98	4	24-100 Hz	S	(2)6 1/2											
	EQ250	400.00	200	97	4	12-100 Hz	S	10											
EQ300	450.00	300	99	4	9-100 Hz	S	12										Equalization for car acoustics; box enclosure; overload protection. As above.		
ADVANCED LINEAR POWER SYSTEMS	SX-6931	99.00	200	90	4	50-20		6 x 9	3	P	No	S		No					
	SX-6531	79.00	100	90	4	100-18		6 1/2	3	P	No	S		No					
ADVENT	AM5200	349.00	150	89	4/8	60-22		5 1/4		P	Yes	C, P	2 1/2	No	‡2, 4, or 8 ohms. Pyramid enclosure. †Dual voice-coils: 92 dB at 4 ohms, 90 dB at 8 ohms. †As above but 90 and 88 dB. †As above but 88 and 86 dB. †As above but 89 and 87 dB.				
	AM4200	299.00	100	88	4/8	65-22		4		P	Yes	C, P	1 1/4	No					
	ISO10	449.00	750	92	†	38-1	S	(2)10						No					
	AM1248	129.00	400	†	4/8	30-2	S	12					5 1/2	No					
	AM1048	99.00	375	†	4/8	30-2	S	10					4 1/2	No					
	AM848	79.00	250	†	4/8	35-2	S	8					4 3/8	No					
	AM648	99.00	185	†	4/8	50-4	S	6 1/2					2 1/2	No					
	4.6I	119.00	60	89	4	60-23		4 x 6	2		No	F	1 1/2	No					
	5.2I	119.00	90	90	4	60-23		5 1/4	2		No	F	1 1/4	No					
	5.7I	139.00	90	91	4	45-23		5 1/2 x 7 1/2	2		No	F	2 3/8	No					
	4.0I	99.00	75	89	4	65-23		4	2		No	F	1 1/4	No					
	3.5	45.00	50	88	4	110-18		3 1/2	W			F	1 1/2	No					
	6.9I	149.00	150	91	4	40-23		6 x 9	2		No	F	3 1/2	No					
6.5I	139.00	125	91	4	45-23		6 1/2	2		No	F	2 1/4	No						
ALPHASONIK	W-1030	49.50	200	97	4	30-4	W	10					3 3/4	Yes	For enclosure of 2.2 to 2.9 cubic feet. As above but 2.3 to 3.3 cubic feet.				
	W-1230	57.50	200	97	4	25-3.5	W	12					4 1/4	Yes					
ALPINE	6022GX	180.00	150	89	4	1k-20k	T			A/P			3/4	No	For marine use.				
	6062GO	200.00	180	89	4	50-6	W	6 1/2						No					
	6052GO	180.00	150	89	4	80-8	W	5 1/4						No					
	6042GO	160.00	150	89	4	100-10	W	4						No					
	6666GW	100.00	100	91	4	60-22		6 1/2			No	F		Yes					
	6106GX	100.00	100	91	4	35-3	S	10				C	4 1/4	No					
	6086GX	80.00	100	87.5	4	44-3	S	8				C	3 3/4	No					
	6126GX	120.00	100	90.5	4	26-2	S	12				F	5	No					
	6066EX	240.00	120	90	4	50-22		6 1/2		A	Yes	F	2 1/2	No					
	6492GX	420.00	100	102	4	24-150 Hz	S					C		No					
	6663	200.00	150	88	4	47-22		6 1/2	2			F, S	3						
	6563	180.00	105	86	4	70-22		5 1/4	2			F, S	2 1/2						
	6562	360.00	150	87	4	50-22		5 1/4	2			F, S	2 1/2						
	6081	120.00	300	89	4	45-2		8				S							
	6366CX	190.00	120	91	4	50-22		6 1/2	3			F, S	2 1/2						
6223CT	90.00	45	90	4	70-21	W	4	2			S	1 1/4							
6017EX	60.00	90	87	4	5k-20k	T					S								
6259EU	500.00	120	89	4	50-24		6 1/2	2			Yes	1 1/4							
6045CX	130.00	100	91	4	70-23		4	2			P	1 1/2							
6015CX	400.00	400	94	4	21-1	S	15				No	5 1/2							

# SPEAKERS

MANUFACTURER	Model	DRIVERS														Notes			
		Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, $\pm$ dB	Subwoofer Only (S), Woofer Only (W), Midrange Only (M), Tweeter Only (T)?	Woofer Size, Inches	Woofer (W), 2-Way (2), 3-Way (3), 4-Way (4) <sup>1</sup>	Angled Tweeters? = A, A = P	Separately Mountable Drivers?	Fltn Mount (F), Surface Mount (S), Convertible (C), Plate (P)?	Maximum Required Mounting Depth, Inches	Weatherproofed?				
ALPINE (Continued)	6012CX	400.00	400	92	4	26-1.2	S	12											
	6002CX	150.00	200	90	4	24-300 Hz	S	12											
	6019EX	220.00	150	89	4	44-22	T	6 x 9	2		No				4 1/2				
	6046ED	110.00	120	91	4	2.5k-22k				A	Yes	S			6 1/2				
	6056ED	200.00	90	89	4	75-22				A	Yes	F, S			3 3/8				
	6066EX	220.00	120	90	4	60-22		5 1/4	2	A	Yes	F, S			2 1/8				
	6247GD	240.00	120	91	4	50-22		6 1/2	2	A	Yes	F, S			2 1/8				
	6257GD	75.00	90	90	4	70-21		4	2	A	No				1 3/4				
	6257GD	85.00						5 1/4	2		No								
	6256GD	120.00	90	90	4			5 1/4	2		No								
	6397GX	135.00	90	92	4	48-22		6 x 9	3		No								
	6367GX	125.00	90	91	4	55-21		6 1/2	3		No								
	6137AX	48.00	30	88	4	80-20		3 1/2	W						1 1/2				
	6147AD	58.00	30	89	4	70-20		4	W						1 5/8				
	6204	100.00	60	90	4	75-21		4 x 6	2		No				1 7/8				
	6210	145.00	90	90	4	50-22		4 x 10	2		No				2 5/8				
	6267GX	85.00	90	91	4	55-20		6 1/2	2		No				1 7/8				
	6366CX	190.00	120	89	4	50-21		6 1/2	3		No				2 5/8				
	6297GX	105.00	90	92	4	48-21		6 x 9	2		No				2 5/8				
	6396	210.00	150	93	4	45-21		6 x 9	3		No				3 1/2				
	6482	260.00	150	89	4	40-20		8	2		No								
	6011CX	160.00	150	88	4	2k-22k					C				5/8				Box enclosure.
	6041ED	140.00	180	87	4	100-17	T				F				1 7/8				
	6051ED	140.00	180	87	4	75-15	M				F				2 1/8				
	6061ED	140.00	180	87	4	50-8	M				F				2 1/8				
	6013EX	150.00	200	89	4	22-1.2	W	6 1/2			F				2 7/8				
							S	10			F				4 3/8				
	ALTEC LANSING	ASW100	499.00	100 Inc.	93	4	20-180 Hz	S	(2) 6 x 9				S						Powered, enclosed subwoofer.
		ALS10.1	250.00	300	91	4	35-250 Hz	S	10				C		4 1/8	Yes			
		ALS12.1	300.00	300	92	4	30-250 Hz	S	12				C		4 7/8	Yes			
		M400	140.00	60	90	4	90-8 $\pm$ 3	W	4				F		1 3/8	Yes			
		M514	170.00	100	90	4	60-8 $\pm$ 3	W	5 1/4				F		1 5/8	Yes			
		M615	200.00	100	91	4	55-8 $\pm$ 3	W	6 1/2				F		2 1/2	Yes			
M41		50.00	50	89	4	80-8 $\pm$ 3	W	4				F		1 7/8	Yes				
M50		70.00	60	90	4	60-8 $\pm$ 3	W	5				F		1 7/8	Yes				
M65		100.00	80	90	4	55-8 $\pm$ 3	W	6 1/2				F		2 1/4	Yes				
TW2		150.00	100	90	4	3.5k-22k	T			A		F, S							
TW1		50.00	80	90	4	3.5k-20k	T					S							
ALS525.1		325.00	100	+	4	60-22 $\pm$ 3		5 1/4	2	A/P	Yes	F, S		1 5/8	Yes	+	Woofer, 89 dB; tweeter, 91 dB.		
ALS62.1		220.00	70	91	4	60-22 $\pm$ 3		6 1/2	2		No	S			Yes				
ALS52.1		200.00	60	90	4	80-22 $\pm$ 3		5 1/4	2		No	S			Yes				
ALS40.1		150.00	50	90	4	100-20 $\pm$ 3		4	2		No	S			Yes				
ALS46		110.00	50	90	4	80-20 $\pm$ 3		3 1/2	2		No	P		1 3/8	Yes		Fits 4 x 6-inch hole.		
ALS6.5		150.00	80	91	4	45-20 $\pm$ 3		6 1/2	2		No	F, S		2 1/4	Yes				
ALS6.9		180.00	80	93	4	35-21 $\pm$ 3		6 x 9	3		No	S		3 3/4	Yes				
ALS5		100.00	60	91	4	60-20 $\pm$ 3		5	2		No	S			Yes				
ALS4		70.00	40	90	4	80-20 $\pm$ 3		4	2		No	S			Yes				
ALS693		300.00	120	93	4	50-22 $\pm$ 3		6 x 9	3		No	C		3 1/2	Yes		Biampl capable.		
ALS692		260.00	120	93	4	50-22 $\pm$ 3		6 x 9	2		No	C		3 1/2	Yes		As above.		
ALS500	260.00	100	89	4	60-22 $\pm$ 3		5 1/4	2		P				Yes			4 x 6-inch adaptor plate supplied.		
ALS35	70.00	30	88	4	90-22 $\pm$ 3		3 1/2	W			F		1 1/2	Yes					
ALS8	200.00	150	90	4	45-3 $\pm$ 3	S	8			Yes	F, S		2 1/8	Yes			Cabinet enclosure.		
55	250.00	80	85	4	95-20 $\pm$ 3	S	4	2		Yes	S			Yes					
ANNIHILATOR	A-625	40.00	100	91	4	40-2.5	W	6				F		3 1/4	No				
	A-848	52.00	180	94	4	30-1.5	S	8				F		4	No				
	A-1048	54.00	180	95	4	25-1.5	S	10				F		4 1/4	No				
	A-1065	70.00	300	96	4	20-1.5	S	10				F		4 1/4	No				
	A-12110 CAST	112.00	300	98	4	20-1.5	S	12				F		5 1/2	No				
	A-1248	56.00	180	96	4	20-1.5	S	12				F		4 1/4	No				
	A-1265	74.00	300	97	4	20-2.5	S	12				F		4 1/4	No				
	A-15110	126.00	360	98	4	20-1.5	S	15				F		6 1/4	No				
	A-1548	64.00	220	98	4	20-1.5	S	15				F		6	No				
	A-1565	80.00	300	98	4	18-1.5	S	15				F		6 1/4	No				
	A-18120	150.00	360	102	4	18-1.5	S	18				F		7 1/4	No				
	ATOMIC LOUDSPEAKERS	1570	183.00	400	88	4	20-800 Hz	S	15				F		6	No	Requires box enclosure.		
		1270	155.00	300	89	4	25-1	S	12				F		5	No	As above.		
		1070	144.00	250	90	4	30-1.5	S	10				F		4 3/4	No	As above.		
		1550	138.00	300	90	4		S	15				F		No	No	As above.		
1250		111.00	250	91	4		S	12				F		No	No	As above.			
1252		122.00	250	92	2	28-1.5	S	12				F		No	No	As above.			
1254 Free Air		125.00	250	90	4	40-2	S	12				F		No	No	As above.			
1254		125.00	250	90	4	28-1	S	12				F		No	No	As above; dual voice-coils.			
Dual Voicecoil												F		No	No				
1050		105.00	200	95.8		30-1.5	W	10				F		No	No	Requires box enclosure.			
0850		94.00	100	95.5		40-2.5	W	8				F		No	No	As above.			
1030		86.00	100	91	4		W	10				F		No	No	As above.			
830		77.00	100	96	4		W	8				F		No	No				
630		69.00	75	97	4		W	8	2		Yes	F		No	No				
0525		98.00	75	97	4		M					F		No	No				
0456		71.00	75	96	4		M					F		No	No				
0206		71.00	75	96	4		T					F		No	No				
0306		55.00	75	97	4		T					F		No	No				
HP1594		275.00	600	600	4	16-800 Hz	S	15				F		No	No				
HP1294		239.00	600	600	4	22-1	S	12				F		No	No				
HP1094		141.00	400	400	4	25-1.5	S	10				F		No	No				

# SPEAKERS

MANUFACTURER	Model						DRIVERS										Notes
		Price \$ (if Sold Individually)	Price \$ (if Sold in Pairs)	Recommended Maximum Power Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Subwoofer Only (S), Tweeter Only (W), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Woofer (W), 2-Way (2), 3-Way (3), 4-Way (4)	Apex Tweeter(s) = A, Pointable Tweeter(s) = P	Separately Mountable Drivers?	Flush Mount (F), Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?		
AUDAX	VE100F0	50.00	100.00	10	90	4	167-10	W	4			F	1 5/8	Yes	†Dual voice-coils, 50 watts and 4 ohms per coil. Vented pole piece. As above. Replaceable voice-coil.		
	VE130F4	60.00	120.00	50	89	4	79-8	W	5 1/4		F	2 1/4	Yes				
	VE170F8	70.00	140.00	50	90	4	57-6	W	6 1/2		F	2 1/2	Yes				
	PR240T0	150.00	300.00	80	96	4	84-3	W	10		F	3 7/8	No				
	PR300T2	160.00	320.00	100	96	4	48-3	W	12		F	4 1/4	No				
	PR300T4	170.00	340.00	†	98	†	43-3	W	12		F	4 1/4	No				
	PR330T2	200.00	400.00	150	96	4	47-1	W	13		F	4 1/4	No				
	PR380T2	300.00	600.00	150	98	4	48-1.5	W	15		F	4 1/4	No				
	PR380T6	325.00	650.00	350	100	4	49-1.5	W	15		F	4 1/4	No				
	TW025V2	40.00	80.00	70	87	4	3.5k-20k	T			F	1 3/8	No				
	TW014B5	25.00	50.00	45	95	4	4.8k-20k	T			F	5/8	No				
	TW010P1	15.00	30.00	25	88	4	6k-20k	T			F	5/8	No				
	VE4X6A2-4	25.00	50.00	15	90	4	180-18		4 x 6		F	1 7/8	No				
	VE100A4	20.00	40.00	10	90	4	207-20		4		F	1 3/4	No				
AUIOPHILE	2.5	399.95		100	90	4	70-20		5 1/4	2	A/P	Yes	†	2 3/8	Yes	†Flush-mount woofer, surface-mount tweeter.	
	2.6	449.95		150	90	4	60-20		6 1/2	2	A/P	Yes	†	3	Yes	†As above.	
	3.6	699.95		150	90	4	60-20		6 1/2	3	A/P	Yes	†	3	No	†Flush-mount woofer and midrange, surface-mount tweeter.	
	.75		199.95	50	90	4	4k-20k	T			A/P	C	3/4	Yes			
	1.1		179.95	50	90	4	3k-20k	T			A/P	S		Yes			
	4.1		149.95	50	89	4	200-6	M				F	1 7/8	No			
	5.1		179.95	75	90	4	90-4	W	5 1/4			F	2 3/8	Yes			
	6.1		199.95	80	90	4	60-3.5	W	6 1/2			F	3 1/8	Yes			
	8.1	99.95		150	88	4	40-1.2	S	8			F	3 3/8	Yes			
	10.1	149.94		150	89	4	30-1	S	10			F	4 3/8	Yes			
12.1	179.95		200	89	4	20-1	S	12			F	5 1/8	Yes				
AUDIOSOURCE	LS One		199.95	40		4	100-20		4			No	S		Box enclosure. As above.		
	LS Two/A		249.95	50		4	60-20		5			No	S				
	LS Six		219.95		4		100-20		4			No	S				
AUDIOVOX	SC-1		25.00	30		4/8	120-15		5	W		F		No			
	SW-50		70.00	60		4/8	100-18		5	2		C		No			
	COMP-200		125.00	100		4/8	100-20		4	3		S		No			
	CX-2		40.00	50		4/8	70-10		5	2		F		No			
	CX-60		50.00	60		4/8	100-20		5	2		F		No			
	CX-15		50.00	60		4/8	100-18		6	2		F		No			
	TRY-32		60.00	60		4/8	70-18		6 x 9	3		F		No			
	TRY-36		50.00	60		4/8	80-18		6	3		F		No			
	SL-10		50.00	60		4/8	120-17		4	2		F		Yes			
	SL-20		75.00	100		4/8	90-18		6	2		F		Yes			
	SL-30		100.00	100		4/8	70-18		6 x 9	2		F		Yes			
	SL-40		100.00	150		4/8	70-20		6	3		F		Yes			
	SL-50		125.00	150		4/8	40-20		6 x 9	3		F		Yes			
AVI	BP-170	350.00		150	91.5	4	38-150 Hz ±3	S	6 1/2			S		No	Bandpass enclosure.		
	BP-200	420.00		150	92.5	4	35-140 Hz ±3	S	8			S		No	As above.		
	BP-250	520.00		250	94.3	4	30-140 Hz ±3	S	10			S		No	As above.		
	BP-300	555.00		250	93.3	4	25-400 Hz ±3	S	12			S		No	Ported enclosure.		
	BP-911	775.00		†	90	†	32-24 ±3		10	3		No	S	No	†Dual voice-coils, 100 watts and 4 ohms per coil.		
	SL-170	130.00		150	89.5	4	42-1.6 ±3	W	6 1/2			F	3 3/8	No			
	SL-200	185.00		150	90.5	4	35-1 ±3	S	8			F	3 7/8	No			
	SL-250	240.00		250	91.5	4	30-800 Hz ±3	S	10			F	4 1/4	No			
	SL-300	305.00		250	93	4	28-700 Hz ±3	S	12			F	5	No			
	SL-380	375.00		250		4	25-600 Hz ±3	S	15			F	5 7/8	No			
	SL-500	195.00		†	89.5	†	32-200 Hz ±3	S	10			F	3 1/2	No	†Dual voice-coils, 85 watts and 4 ohms per coil.		
	CS-130		425.00	110	91	4	48-22 ±3		5 1/4	2		No	F	2 1/2	No	Coincident source coaxial.	
	CS-160		475.00	120	91.5	4	42-22 ±3		6 1/2	2		No	F	2 5/8	No	As above.	
	MX-90T		230.00	75	88	4	150-12 ±3	M				F	1 1/2	No			
	MX-100		160.00	80	90	4	125-6 ±3	M				F	2	No			
	MX-130		200.00	100	92	4	75-6.2 ±3	M				F	2 3/8	No			
MX-160		250.00	125	93	4	60-5.2 ±3	M				F	2 1/2	No				
LX-130		200.00	120	90	4	50-4 ±3	W	5 1/4			F	2 3/8	No				
LX-160		250.00	140	91	4	42-4 ±3	W	6 1/2			F	2 1/2	No				
HF-25V		150.00	240	93	4	2.4k-22k ±3	T			A	C	3/4	No	Crossover optional.			
HF-25S		125.00	240	93	4	2.4k-22k ±3	T				C	3/4	No	As above.			
HF-13N		60.00	120	95	4	5k-24k ±3	T			A	S		No	Includes 12-dB filters.			
B & G MOBILE CONCEPTS	Speaker Panels		370.00	200	97	3.2	100-21 ±3			2				Yes	Requires Model 2525 Audidoors (replaces doors of Jeep CJ-7, CJ-8, and Wrangler), \$1110.00 per pair, or Model 2013 Satellite (rear enclosure), \$290.00 each; also requires Connections Kit (wiring, connectors, and tweeter gain control), \$160.00. Enclosed subwoofer; for Jeep CJ-7, CJ-8, and Wrangler.		
	2012		930.00	600	98	6.3	30-100 Hz ±3	S	(2)12					Yes			

# NEW

# SP

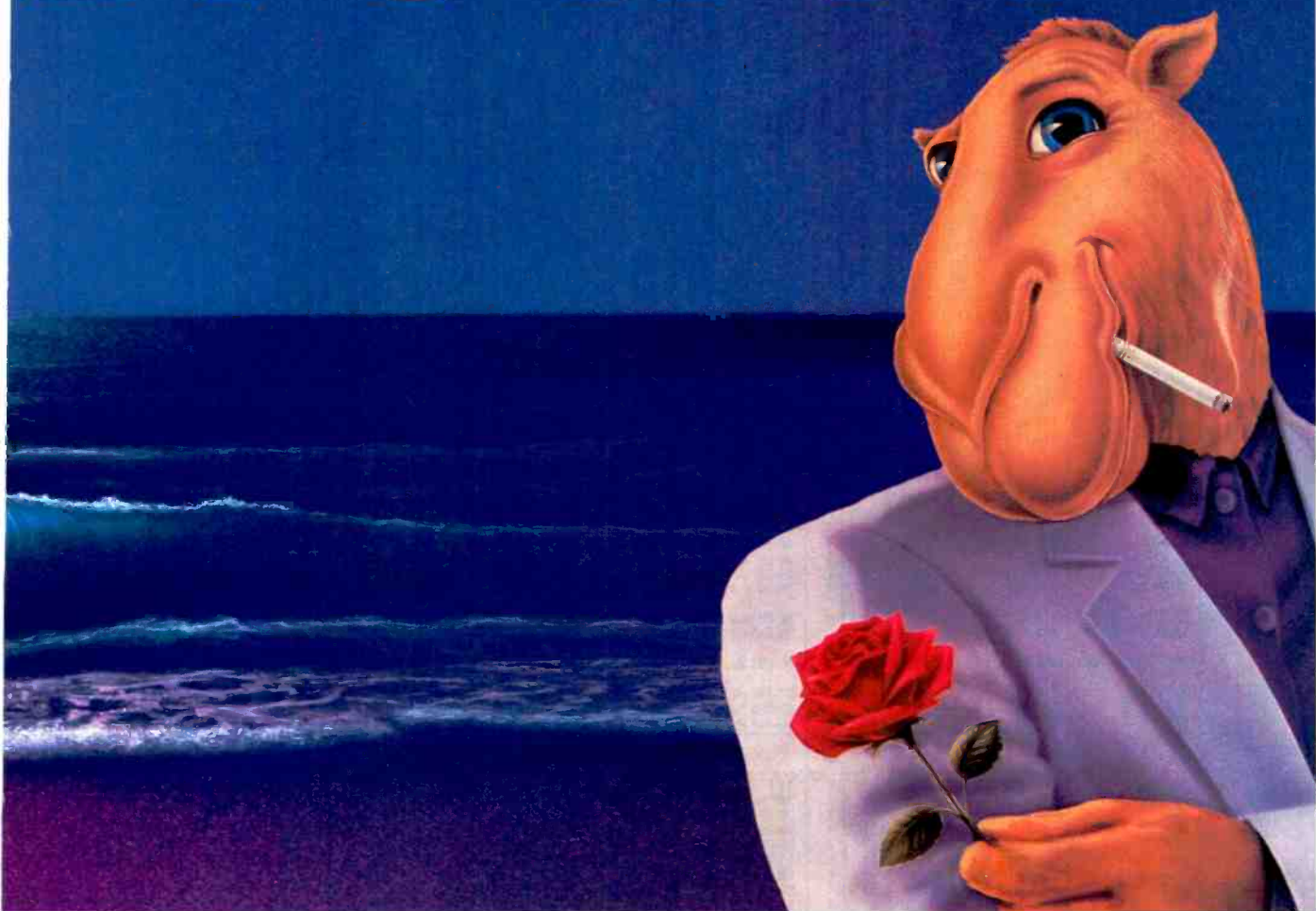
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SURGEON GENERAL'S WARNING: Cigarette  
Smoke Contains Carbon Monoxide.

SPECIAL LIGHTS: 11 mg. "tar", 0.8 mg. nicotine,  
SPECIAL LIGHTS 100'S: 11 mg. "tar", 0.9 mg. nicotine av.  
per cigarette by FTC method.

# PECIAL LIGHTS



*Taste Camel  
In a Whole New Light*



# NOW YOU CAN GET THIS KIND OF BASS!

**OUT OF THIS KIND OF SPACE**

Our Stealth woofers are meant to be heard. And not seen. You can hide one away in your trunk, your hatchback or your rear deck. And get up to 120 decibels of



THE STEALTH WOOFERS COME IN 8", 10", 12" AND 15" QUICK-INSTALLATION MODELS. JUST 4 SCREWS, 2 WIRES, AND A FEW MINUTES. AND YOU BE TRAFFIC JAMMIN'.

yank-me, crank-me bass. How? It all starts with the speaker cabinet. There isn't one. You see, the Stealth

is a free air woofer that actually employs your trunk as the cabinet. As a result, your trunk won't be filled

with boxes and tubes. Just thousands of wide open cubic inches.

Of course, your car's cabin space will be loaded. With loud, clean,

Cerwin-Vega bass. And you thought you didn't have room for improvement.



# SPEAKERS

MANUFACTURER	Model	Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS								Notes
								Speaker Only (S) / Woofer Only (W) / Midrange Only (M) / Tweeter Only (T)	Woofer Size, Inches	Woofer (W) / 2-Way (2) / 3-Way (3) / 4-Way (4)	Angle Tweeters (A) / Composite Tweeters (C)	Separately Mountable Drivers?	Phase Mount (F) / Surface Mount (S) / Conventional (C) / Pole (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?	
BOSTWICK	BOS-M404	24.50		120	4	150-6 ±3	M					F	2	Yes		
	BOS-M5254	32.50		120	4	80-5 ±3	M					F	2	Yes		
	BOS-CX350		89.95	50	88	4	100-21		3½			F	1½	Yes		
	BOS-CX400		99.95	80	88	4	80-21		4	2		F	1½	Yes		
	BOS-CX460		119.95	80	88	4	70-21		4 x 6	2		F	1¾	Yes		
	BOS-CX525		119.95	100	90	4	60-21		5¼	2		F	2½	Yes		
	BOS-CX650		129.95	120	91	4	50-21		6½	2		F	2½	Yes		
	BOS-CX690		179.95	180	93	4	30-22		6 x 9	2		F	3	Yes		
	BOS-654/658	69.50		100	91.8	4/8	55-4.5	W	6½			F	3	No		
	BOS-824/828	79.50		100	90.1	4/8	40-1.2	S	8			F	3½	No		
	BOS-844/848	99.50		125	91.4	4/8	35-2.5	S	8			F	3½	No		
	BOS-1024/1028	99.50		100	91.8	4/8	35-2	S	10			F	4	No		
	BOS-1044/1048	109.50		125	92.3	4/8	38-3	S	10			F	4½	No		
	BOS-1224/1228	119.50		100	91.4	4/8	37-3.5	S	12			F	4½	No		
	BOS-1244/1248	129.50		125	92.7	4/8	37-3.5	S	12			F	5	No		
	BOS-1544/1548	149.50		125	93.7	4/8	25-1	S	15			F	6½	No		
	BOS-1564/1568	194.50		250	94.8	4/8	28-800 Hz	S	15			F	6½	No		
	BOS-354/358	38.50		50	86.3	4/8	250-11	M				F	1½	No		
	BOS-404/408	43.50		75	87.8	4/8	150-8	M				F	2½	No		
	BOS-5254/5258	59.50		100	90.2	4/8	100-5	W	5¼			F	2½	No		
	BOS-SD14/SD18	54.95	35	90	90	4/8	3k-20k	T				F	7/8	No		
	BOS-SD04/SD08	59.95	50	91	91	4/8	3k-20k	T				F	7/8	No		
	BOS-HD14/HD18	39.95	25	88	88	4/8	6k-18k	T				F	5/8	No		
BOS-HD24/HD28	39.95	25	88	88	4/8	6k-18k	T				F	5/8	No			
CALRAD	20-318	35.00	50	4	50-18	4						4¾				
	20-319		55	4	50-18	4					7¼	Box enclosure; in white, \$36.00 each.				
	20-315		15	4	60-18	4					2¼	Box enclosure.				
CANTON	AM T25	200.00	100	4	3k-30k ±3	T			P		F	¼	Yes			
	AM W130	150.00	80	4	48-3	W	5½				F	2½	Yes			
	AM W165	175.00	100	4	40-3	W	6½				F	2½	Yes			
	AM 130CX	250.00	80	4/8	48-20		5½	2		No	F	2½	Yes			
	AM 165CX	300.00	100	4/8	40-20		6½	2		No	F	2½	Yes			
	VW Golf 3/Vento	350.00	100	4/8	40-30 ±3		6½	2	P	Yes	C	2½	Yes			
	AM S1325	350.00	80	4/8	48-30 ±3		5½	2	P	Yes	F	2½	Yes			
	AM S1625	400.00	100	4/8	40-30 ±3		6½	2	P	Yes	F	2½	Yes			
	W 280-4DV	250.00	130	4/8	18-250 Hz ±3	S	10				F	3¼	Yes			
	BMW 5/7	350.00	80	4/8	4/8		5½	2	P	Yes	C	2½	Yes			
	VW Golf II	400.00	80	4/8	4/8		5½	2	P	Yes	C	2½	Yes			
	HC100	300.00	60	87.2	4/8	48-30 ±3	4	2	A	No	S	No	No			
	Pullman		80	89.7	4/8	45-30 ±3	(2)4	3	A	No	S	No	No			
	Set 1000	350.00	70	89.4	4/8		4	2	P	Yes	F	1¾	Yes			
	Set 2000	400.00	90	89.9	4/8		5	2	P	Yes	F	2¼	Yes			
	Set 3000	450.00	100	89.9	4/8		(2)4	2	P	Yes	F	1¾	Yes			
Set 4000	500.00	120	92.1	4/8		7	2	P	Yes	F	2½	Yes				
Set 5000	700.00	130	93.4	4/8		7	3	P	Yes	F	2½	Yes				
Sub 300	350.00	130	130	4/8	18-250 Hz ±3	S	10			F	3	Yes				
CELESTION	AD-18H	599.00	1.5k	95	4	30-500 Hz ±3	S	18			C	8¼	Yes			
	AD-15H	499.00	1.2k	96	4	30-500 Hz ±3	S	15			C	6¾	Yes			
	AO-15	339.00	600	97	4	30-500 Hz ±3	S	15			C	6¾	Yes			
	AD-12	279.00	600	95	4	30-500 Hz ±3	S	12			C	5¾	Yes			
	AD-12L	229.00	500	93	4	30-500 Hz ±3	S	12			C	5¾	Yes			
	AP-15	189.00	400	4	30-1 ±3	S	15				C	6	Yes			
	AP-12	159.00	400	4	40-1 ±3	S	12				C	5	Yes			
	AP-10	139.00	400	4	50-1 ±3	S	10				C	4½	Yes			
AP-8	99.00	200	4	50-3 ±3	S	8				C	3¾	Yes				
CERWIN-VEGA	S-8 Free Air	100.00	150	92	8	30-800 Hz ±3	S	8			F	3½	Yes			
	S-10 Free Air	110.00	150	94	8	30-800 Hz ±3	S	10			F	3½	Yes			
	S-12 Free Air	120.00	250	98	8	20-500 Hz ±3	S	12			F	4½	Yes			
	S-15 Free Air	150.00	250	101	8	20-400 Hz ±3	S	15			F	14	Yes			
	CS-9		150	94	4	40-20 ±3		6 x 9	2		Yes	F, S	2½	H.f. overload protected. As above.		
	CS-6		80	94	4	60-20 ±3		8	2		Yes	F, S	2½	Yes		
	MW-6		80	92	4	60-4 ±3	M	6½			Yes	C, F	2½	Yes		
	XL8S	119.00	150	4	40-800 Hz ±3	S	8					F	3½	Yes		
	XL80	119.00	†	†	40-800 Hz ±3	S	8					F	3½	Yes		
	XL10S	139.00	250	94	4	30-800 Hz ±3	S	10				F	4½	Yes		
	XL10D	139.00	†	94	†	30-800 Hz ±3	S	10				F	4½	Yes		
	XL12S	149.00	250	98	4	20-500 Hz ±3	S	12				F	5½	Yes		
	XL12D	149.00	†	98	†	20-500 Hz ±3	S	12				F	5½	Yes		
	XL15S	199.00	300	101	4	20-400 Hz ±3	S	15				F	6¼	Yes		
	XL15D	199.00	†	101	†	20-400 Hz ±3	S	15				F	6¼	Yes		
	XL18S	399.00	103	4	18-250 Hz ±3	S	18					F	7½	Yes		
CMT-5	199.95	100	92	4	40-20 ±3		6½	2		Yes	S		Yes			







# HYPER-BALANCED

Hyper-Balanced Re-Defines State-of-the-Art

**Hyper-**(hi'pər) || <Gr *hyper* || *prefix* over, above, beyond, surpassing

**Balance(d)** (bal'əns) || <LL *bilanx*||

- 1 general harmony between the parts of anything, springing from the observance of just proportion and relationship; esp. in the Arts of Design
- 2 stability or steadiness due to the equilibrium prevailing between all the forces of any system

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**Hyper-Balanced** (hi'pər-bal'ənsd) || <Am.Eng. ||

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- 2 quite simply, the finest audio interconnects available

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# SPEAKERS

MANUFACTURER	Model	DRIVERS										Notes				
		Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, $\pm$ dB	Subwoofer Only (S), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Wizzer (W) 2-Way (2), 3-Way (3), 4-Way (4)	Applied Tweeter(s) = A, Planar Tweeter(s) = P		Separately Mountable Drivers?	Fish Mount (F), Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?
EARTHQUAKE SOUND {Continued}	EQ-6	65.00		100	91	4	40-2.5	W	6			F	3/4	No	Eight-ohm version available.	
	EQ-69	85.00		100	92	4	45-2.5	W	6 x 9			F	3/4	No		
	EQ-8	85.00		180	94	4	30-1.5	W	8			F	4	No		
	EQ-10	92.00		180	96	4	20-1.5	S	8			F	4 1/4	No		
	EQ-1065	104.00		300	96	4	20-1.5	S	10			F	4 1/4	No		
	EQ-12	104.00		180	97	4	20-1.5	S	12			F	5	No		
	EQ-1265	113.00		300	97	4	18-1.5	S	12			F	5	No		
	EQ-127	113.00		180	97	+	20-1.5	S	12			F	5	No		
	EQ-12D	132.00		300	98	+	18-800 Hz	S	15			F	3 1/4	No		
	EQ-15	140.00		300	98	+	18-800 Hz	S	15			F	6 1/4	No		
	EQ-15D	179.00		300	98	+	20-1.5	S	12			F	5 1/2	No		
	EQ-12XLT	168.00		300	99	4	30-1.5	S	12			F	5 1/2	No		
	EQ-12C.C.	206.00		360	98	4	25-2	S	12			F	5 1/2	No		
	EQ-12CPDS															
	EQ-15XLT	215.00		360	98	4	20-1.5	S	15			F	6 1/4	No		
	EQ-15C.C.	206.00		360	99	4	25-1.5	S	15			F	6	No		
	EQ-15CPDS	245.00		400	98	4	26-2	S	15			F	6 1/4	No		
	EQ-18C.C.XLT	255.00		360	102	4	18-1.5	S	18			F	7 1/4	No		
	PL-46		72.00	40	98	4	600-22	M		2	Yes	P	1 1/4	No		Double spiders.
	XL-4	48.00		60	90	4	150-6	M				F	2 1/4	No		Midrange and tweeter.
	MD-4	29.00		50	100	8	600-7	M				F	2 1/4	No		
	YL-5	66.00		100	90	8	75-5	M				F	2 1/4	No		Long throw.
	MD-5	39.00		50	101	8	400-7	M				F	2 1/2	No		Sealed back.
	MD-5 Open	39.00		80	91	4	250-6	M				F	2 1/2	No		
	MD-5 Cast	48.00		80	91	4	200-6	M				F	2	No		
	MD-6 Cast	75.00		80	94	8	50-5	M				F	2 3/4	No		
	TW-101	29.00		80	99	8	6k-20k	T				F	1 1/4	No		
TW-102	39.00		80	101	8	5k-22k	T				F	1 1/4	No			
TW-103SMT		122.00	50	101	4	5k-24k	T				S		No	Titanium version, \$53.00 each.		
TW-105SMR		59.00	30	99	4	4.5k-20k	T				S		No	Includes crossover.		
EQ-693		175.00	150	91	4	35-23	T	6 x 9	3	Yes	S	3 3/4	No	As above.		
ESG-4000		129.95	30	4	4	50-25		4	2		F	1 3/4	No	Ambient center-channel speaker for use with EQS-1000, EQS-1001, or EQS-2000 digital sound processors (see "Ambience/Surround"). $\uparrow$ Mounts on rear-view mirror.		
ESG-6950		279.95	70	4	4	30-28	T	6 x 9	3		F	3 3/8	No			
ESG-1000		109.95	60	4	4	2k-23k	M				C	7/8	No			
ESG-5000		109.95	90	4	4	100-12	W				F	1 3/8	No			
ESG-6000		119.95	150	4	4	45-3	M	6 1/2			F	2 1/8	No			
ESG-8000		199.95	200	4	4	25-5	S	8			F	3 3/8	No			
ESG-3000	159.95		13				S	3			F	3	No			
ESG-3000											F	1	No			
EMINENT TECHNOLOGY	LFT-10	180.00		150	86	5	400-20		5 x 7			C	3/4	Yes	Planar magnetic speaker; rectangular.	
EXCALIBUR	EX-6913	39.95	150	4	4			6 x 9	3			F			Yes	
	PP-6923	49.95	150	4	4			6 x 9	3			F				
	EX-4102	39.95	100	4	4			4 x 10	2			F				
	EX-501	29.95	80	4	4			5 1/4	W			F	1 3/4			
	EX-502	39.95	100	4	4			5 1/4	2			F	1 3/4			
	EX-512	49.95	100	4	4			5 1/4	2			F	1 3/4			
	PP-522	59.95	100	4	4			5 1/4	2			F	1 3/4	Yes		
	EX-401	39.95	60	4	4			4	W			F	1 3/4			
	EX-402	49.95	80	4	4			4	2			F	1 3/4			
	PP-422	59.95	80	4	4			4	2			F	1 3/4	Yes		
	EX-4612	49.95	60	4	4			4 x 6	2			F	1 3/4			
	EX-301	39.95	50	4	4			3 1/2	W			F	1 7/8			
	EX-2001	59.95	80	4	4			(2)3				F	1 1/2			
	EX-3001	69.95	100	4	4			(2)4				S				
	PP-621	39.95	100	8	8			M				S		Yes		
	PP-821	59.95	150	8	8			W	8			F		Yes		
	PP-1021	79.95	150	8	8			W	10			F		Yes		
PP-1221	99.95	150	8	8			W	12			F		Yes			
TW-1	39.95	50	4	4			T				F		Yes			
TW-4	39.95	100	4	4			T				F		Yes			
EXCESS ELECTRONIXX	EX-48	28.75	180	92	4	20-1 $\pm$ 3	S	8				F, S		Yes		
	EX-410	36.80	220	93	4	15-1 $\pm$ 3	S	10				F, S		Yes		
	EX-412	43.70	280	96	4	10-1 $\pm$ 3	S	12				F, S		Yes		
	EX-415	48.30	340	98	4	10-1 $\pm$ 3	S	15				F, S		Yes		
	EX-418	94.30	420	98	4	10-1 $\pm$ 3	S	18				F, S		Yes		
	EX-418															
FIVE STAR	CS2 100	299.95	80	90	4	55-25			2		Yes	F, S		No		
	CS2 130	329.95	110	90	4	50-25			2		Yes	C		No		
	CS2 160	399.95	110	90	4	40-25			2		Yes	C		No		
	CAL 75	149.95		4	4	3.2k-25k	T			A		C	3/8	No		
	CAL 25	149.95		4	4	3.2k-25k	T			A		C	3/4	No		
	FLAG 10	129.95	200	93	4	30-900 Hz	S	10				F		No		
	FLAG 12	139.95	250	94	4	29-1.7	S	12				F		No		
	FLAG 15	159.95	300	95	4	25-1.2	S	15				F		No		
	PHANTOM 10	119.95	150	89	4	22-1.1	S	10				F		No		
	PHANTOM 12	139.95	175	90	4	20-900 Hz	S	12				F		No		
	PHANTOM 15	159.95	250	93	4	20-1.5	S	15				F		No		
	MAP 10	99.95	150	92	4	30-900 Hz	S	10				F		No		
	MAP 12	119.95	175	92	4	25-2	S	12				F		No		
	MAP 15	139.95	250	93	4	20-1.3	S	15				F		No		
	FRONT STAGE	FS-2	139.95	50 $\uparrow$	92	4/8	5k-25k	T			P		S		No	Three-panel rear-view mirror with tweeter at each end; includes crossover. $\uparrow$ Watts rms.

# SPEAKERS

MANUFACTURER	Model											DRIVERS								Notes
		Price, \$ (if Sold Individually)	Price, \$ (if Sold in Pairs)	Recommended Maximum Power, Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Subwoofer Only (S), Tweeter Only (W), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Woofer (W), 2-Way (2), 3-Way (3), 4-Way (4)	Angled Tweeter (A), Horn Tweeter (H), Polyphase Tweeter (P)	Separately Mountable Drivers?	Flush Mount (F), Surface Mount (S), Conceivable (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproof?					
FULTRON	15-9793	99.95	120	88	4	30-20		6 x 9	3		No	F	3 1/2	Yes						
	15-9763	79.95	100	86	4	50-20		6 1/2	3		No	F	3	Yes						
	15-9762	69.95	100	86	4	50-20		6 1/2	2		No	F	2 5/8	Yes						
	15-9750	59.95	60	85	4	80-20		5 1/4	2		No	F	2 1/8	Yes						
	15-9746	69.95	60	85	4	80-20		4 x 6	2		No	F	2 1/8	Yes						
	15-9741	99.95						4 x 10	2											
	15-9740	49.95	40	85	4	80-20		4	2		No	F	2 1/4	Yes						
	15-9735	29.95						3 1/2	W											
	15-8560	79.95	140	86	4	55-4	W	6 1/2				F		Yes						
	15-8550	59.95	100	88	4	80-8	M					F	2	Yes						
	15-8540	49.95	60	95	4	80-8	M					F	2	Yes						
	15-8250	89.95	80	88	4	1.5k-20k	T					F		Yes						
	15-CS60	199.95								2										
	15-CS50	189.95								2										
	15-CS40	179.95								2										
	15-8230	89.95																		
	15-8220	29.95																		
	15-8210	29.95																		
	15-9015	79.95	100	86	4	3k-20k	T					C		Yes						
	15-9012	54.95	80	90	4	21-3.5	W	15				F	6 1/2	Yes						
	15-9010	49.95	80	88	4	30-3	W	12				F	5	Eight-ohm version available.						
	15-9108	55.95	100	94	4	35-2.5 ± 3	W	10				F	4 1/2	As above.						
15-9110	79.95	140	95	4	30-1.7 ± 3	W	10				F	4 5/8	As above.							
15-9112	99.95	140	93	4	30-1.5 ± 3	W	12				F		As above.							
15-9115	119.95	160	93	4	25-1.5 ± 3	W	15				F		As above.							
GOLD SOUND	GS1280	184.00	368.00	300	94	25-5 ± 3	S	12			F	4	Yes							
	GS1248	89.00	178.00	150	92	20-2 ± 3	S	12			F	4	Yes							
	GS1048	84.00	168.00	150	93	20-2 ± 3	S	10			F	4	Yes							
	GS848	79.00	158.00	150	92	32-2 ± 3	S	8			F	3 3/8	Yes							
	GS828	55.00	110.00	100	92	32-2 ± 3	S	8			F	3 3/8	Yes							
	GS6x9W	59.00	118.00	100	92	45-5	W	6 x 9			F	3 3/8	Yes							
	GS628	55.00	110.00	100	92	55-5 ± 3	W	6 1/2			F	3 3/8	As above.							
	GS612	39.00	78.00	60	91	45-5 ± 3	W	6 1/2			F	3	Yes							
	GS524	54.00	108.00	100	92	70-5 ± 3	W	5 1/4			F	3	Yes							
	GS512	36.00	72.00	60	91	70-5 ± 3	W	5 1/4			F	3	Yes							
	GS8AC	109.00	218.00	100	92	39-20 ± 3		8		2		F	3 1/2	Yes						
	GS8C	78.00	156.00	70	92	49-25 ± 3		8				F	3 1/2	Yes						
	GS6x9AC	98.00	196.00	100	93	35-20 ± 3		6 x 9		2		F	3 3/4	Yes						
	GS6x9C	72.00	144.00	70	92	50-25 ± 3		6 x 9				F	3 3/4	Yes						
	GS6.5AC	98.00	196.00	100	93	45-25 ± 3		6 1/2		2		F	3 3/4	Yes						
	GS6.5C	78.00	156.00	70	92	50-25 ± 3		6 1/2		2		F	2 3/4	Yes						
	GS5x7C	66.00	132.00	50	92	55-25 ± 3		5 x 7		2		F	2 1/2	Yes						
	GS5.2C	59.50	119.00	50	90	70-25 ± 3		5 1/4		2		F		Yes						
	GS5.2SC	54.50	109.00	30	92	78-30 ± 3		5 1/4		2		F	1 3/4	Yes						
	GS4x10C	69.50	139.00	50	92	48-30 ± 3		4 x 10		2		F	2 1/2	Yes						
	GS4x6C	59.00	118.00	40	90	85-25 ± 3		4 x 6		2		F	2 1/2	Yes						
GS4SC	44.00	88.00	30	92	4		4				F	1 3/4	Yes							
GS405	33.00	66.00	50	90	4/8	80-6	W	4			F	1 3/4	Yes							
HECO	CAC130	320.00	640.00	50	89	4	50-32 ± 3		(2)5 1/4	2	P	Yes	C	1 7/8	Yes					
	CAC160	340.00	680.00	60	89	4	45-32 ± 3		(2)6 1/2	2	P	Yes	C	2 1/8	Yes					
	CAC200	400.00	800.00	60	89	4	40-32 ± 3		(4)	2	P	Yes	C	1 3/4	Yes					
	CAC220	350.00	700.00	100	92	4	30-2 ± 3	S	(2)8 1/2				C	3 1/8	Yes					
	CPT100	140.00	280.00	40	89	4	40-2.8 ± 3	S	4				C	1 3/4	Yes					
	CAX160G	220.00	440.00	50	89	4	45-25 ± 3	W	6 1/2			No	C		Yes					
	CAX130G	200.00	400.00	50	89	4	50-25 ± 3	W	5 1/4			No	S		Yes					
	CAD100G	90.00	180.00	40	89	4	70-25 ± 3		4				S		No					
	CAS100	450.00	900.00	50	87	4	80-32 ± 3		4	W		No	S		Yes					
	CPT230A	125.00	250.00	160	94	8	27-4 ± 3	S	9	2			S		Yes					
	CPT260A	160.00	320.00	180	94	8	22-3 ± 3	S	10 1/4				F		Yes					
HIFONICS	CX1		189.00	60	88	4	40-22		5 1/4	2	No	F	2 3/4	No						
	CX2		260.00	70	88	4	35-22		6 1/2	2	No	F	2 3/4	No						
	HK4		230.00	100	92	4	300-22		4	2	No	F	1 7/8	No						
	HK5		269.00	100	92	4	150-22		5 1/4	2	Yes	F	2 3/8	No						
	HT2	40.00		80	88	4	12k-25k	T				F	7/8							
	HT3	55.00		100	89	4	11k-25k	T				F	1 1/2							
	NT1	55.00		100	92	8	17k-25k	T				F	5/8							
	NT3	60.00		100	92	8	17k-22k	T			P	S		No						
	NT4		140.00	80	90	4	4k-25k	T			A/P	S		No						
	MR1	50.00		70	90	4	70-4	M				F	2 3/8							
	MR2	65.00		70	88	4	650-1	M				F	7/8							
	MR3	75.00		100	88	4	500-12	M				F	1							
	DL064/068	55.00		80	89	4	90-13	W	5			F	2 1/8							
	DL084/088	55.00		120	92	4/8	40-3	S	6 1/2			F	3							
	DL104/108	65.00		120	93	4/8	40-3	S	8			F	3							
	DL124/128	95.00		250	93	4/8	30-2	S	10			F	4 1/4							
	DL154/158	100.00		250	93	4/8	25-1	S	12			F	5							
	WP064/068	125.00		275	93	4/8	20-800 Hz	S	15			F	6							
	WP084/088	65.00		150	92	4/8	40-3	S	6			F	3							
	WP104	70.00		150	93	4/8	40-3	S	8			F	3							
	WP1028D	125.00		275	94	4	30-2	S	10			F	4 3/8							
	WP124	130.00		300	90	†	30-1	S	10			F	4 3/8							
	(Continued)			300	93	4	25-1	S	12			F	5 1/4							

†Dual 4-ohm voice-coils.

# SPEAKERS

MANUFACTURER	Model	DRIVERS																			
		Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended, Maximum Power, Watts (channel)				Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Subwoofer Only (S) Woofer Only (W) Midrange Only (M) Tweeter Only (T)		Woofer Size, inches	Woofer (W) 2-Way (2) 3-Way (3), 4-Way (4)		Agreed Tweeter(s) = A, Passable Tweeter(s) = P	Separately Mountable Drivers?	Flush Mount (F) Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, inches	Weatherproofed?	Notes
				90	†	25-1	S				12	W		3	2						
HIFONICS (Continued)	WP1228D	135.00		300	90	†	25-1	S	12						F	5 1/4					
	WP154	158.00		300	93	†	20-800 Hz	S	15						F	6 1/8					
	WP1528D	158.00		300	91	†	20-800 Hz	S	15						F	6 1/8					
	WP184	210.00		400	96	†	20-800 Hz	S	18						F	7 3/8					
HOLLYWOOD SOUND LABS	RS-0854	119.00		100	94	4	30-1.5	W	8						F	3 1/8	No			For sealed enclosure.	
	RS-1054	129.00		300	93	4	20-1.5	S	10						F	3 1/2				As above.	
	RS-1254	149.00		350	92	4	20-1.5	S	12						F	4 1/4				As above.	
	RS-1554	179.00		350	92	4	20-1.5	S	15						F	6 1/8				As above.	
	ED-1051	119.00		250	92.5	†	25-1	S	10						F	3 3/4				†Dual 2-ohm voice-coils.	
	ED-1251	129.00		300	93	†	20-1	S	12						F	4 1/2				†As above.	
	ED-1551	165.00		350	92	†	16-800 Hz	S	15						F	5 3/4				†As above.	
	HSL-0634	48.00		100	94	4	45-3	W	6						F	3				With dual 4-ohm voice-coils, \$51.00 each.	
	HSL-0834	52.00		150	96	4	30-1.5	W	8						F	3 1/4				As above but \$54.00 each.	
	HSL-1054	76.00		200	95	4	20-1.5	S	10						F	3 1/2				For ported enclosure, with dual 4-ohm voice-coils, \$83.00 each.	
	HSL-1254	82.00		250	94	4	20-1.5	S	12						F	5 1/8				As above but \$89.00 each.	
	HSL-1554	107.00		300	92	4	20-1	S	15						F	6 1/8				As above but \$116.00 each.	
	HSL-1574	152.00		400	92	4	20-1	S	15						F	6 1/8				For ported enclosure.	
	HSL-86	112.00		100	98	†	20-1.5	S	6						S					Tube enclosure. †Dual 4-ohm voice-coils.	
	HSL-88	134.00		200	100	†	20-1.5	S	8						S					Tube enclosure. †As above.	
	HSL-810	179.00		225	102	†	20-1.5	S	10						S					Tube enclosure. †As above.	
	HSL-812	249.00		250	104	†	20-1.5	S	12						S					Tube enclosure. †As above.	
	RS-1NDT	61.00		80	93	4	2k-20k	T					A		S					No	Tube enclosure. †As above.
	RS-MR4	52.96		80	92	4	100-6	M							S		2 1/4				
	RS-M85	69.00		80	92	4	250-4.5	M							F		2 1/2				
	RS-M86	45.00		80	96	4	250-5	M							F		1 3/4				
	ED-75DT	32.00		75	93	4	4k-30k	T							F		3/4				
	ED-1DT	41.00		75	94	4	3k-25k	T							F		1				
	ED-3DM	65.00		100	93	4	150-4	M							F		3/4				
	HSL-693X		165.00	100	94	4	40-27		6 x 9	3				No	F		3/4				
	HSL-M85X		65.00	75	93.5	4	75-27		5 1/4	2				No	F		3/4				
	HSL-1DT		25.00	25	93	4	2k-20k	T					A		F		2				
	RSK-0041		265.95	80	92	4	100-20						A	Yes	†		2 1/4				†Flush-mount midrange, surface-mount tweeter.
	RSK-0051		283.95	80	92	4	85-20		5 1/4	2			A	Yes	†		2 1/2				†As above.
	RSK-0851		250.00	250	90	4	35-20		(2)8	3			A	Yes	†		3 1/8				†Flush-mount woofers and midrange, surface-mount tweeter.
	RSK-1051		585.00	300	90	4	25-20		(2)10	3			A	Yes	†		3 1/2				†As above.
	RSK-1251		620.00	300	90	4	20-20		(2)12	3			A	Yes	†		4 1/2				†As above.
HOT BOX	6TL	189.90	75	94	4	34-22		6	3			Yes				No				Enclosure.	
	6TL-B	129.90	60	92	4	34-2	W	6				Yes				No				As above.	
	8TL-S	229.90	100	96	4	29-22		8	3			Yes				No				As above.	
	8TL-SB	149.90	75	94	4	25-2	W	8				Yes				No				As above.	
	8TL-L	249.90	100	97	4	25-22		8	3			Yes				No				As above.	
	10TL-LB	199.90	120	97	4	21-2	S	10				Yes				No				As above.	
	10TL-S	269.90	150	97	4	24-22		10	3			Yes				No				As above.	
	10TL-SB	189.90	120	96	4	24-2	S	10				Yes				No				As above.	
	10TL-L	279.90	150	98	4	21-22		10	3			Yes				No				As above.	
	12TL	299.90	175	98	4	18-22		12	3			Yes				No				As above.	
	12TL-B	229.90	150	97	4	18-2	S	12				Yes				No				As above.	
	8HL	249.90	100	96	4	25-22		8	3			Yes				No				As above.	
	8HL-B	169.90	75	94	4	25-2	S	8				Yes				No				As above.	
	10HL	289.90	150	97	4	22-22		10	3			Yes				No				As above.	
	10HL-B	209.90	130	96	4	20-2	S	10				Yes				No				As above.	
12HL	319.90	150	98	4	20-22		12	3			Yes				No				As above.		
12HL-B	219.90	130	97	4	18-2	S	12				Yes				No				As above.		
IMPACT	M-108.2	269.95	150	95	4	40-20 ±3		8	2			No	S							Wedge enclosure; for mini-trucks.	
	M-110.2	329.95	250	95	4	37-20 ±3		10	-2			No	S							As above.	
	M-112.2	429.95	300	94	4	34-20 ±3		12	2			No	S							As above but for medium-sized trucks.	
	M-508.2	329.95	150	95	4	37-20 ±3		(2)8	2			No	S							For hatchbacks.	
	M-510.2	379.95	250	95	4	30-20 ±3		(2)10	2			No	S							As above.	
	M-512.2	459.95	300	94	4	30-20 ±3		(2)12	2			No	S							As above.	
	SCM-B.2		150	95	4	40-20 ±3		8	2			No	S							As above.	
	BB-208	199.95	150	95	4	42-500 Hz	S	(2)8				No	S							Enclosure.	
	BB-210	259.95	250	95	4	30-500 Hz	S	(2)10					S							As above.	
	BB-212	329.95	300	95	4	30-500 Hz	S	(2)12					S							As above.	
	BB-215	429.95	500	95	4	20-400 Hz	S	(2)15					S							As above.	
	TS-210	369.95	300	95	4	16-100 Hz	S	(2)10					S								
	TS-212	429.95	350	95	4	14-100 Hz	S	(2)12					S								
	BB-T208.2	329.95	200	92	4	40-116 Hz	S	(2)8					S								Bandpass enclosure; for trucks.
	BB-T210.2	409.95	300	92	4	37-113 Hz	S	(2)10					S								As above.
	BB-T212.2	499.95	350	92	4	32-104 Hz	S	(2)12					S								As above.
BB-A8	309.95		100	92	4	30-500 Hz	S	8				S								Powered subwoofer; for trunks and hatchbacks.	
BB-A10	369.95		100	92	4	25-500 Hz	S	10				S								As above.	
BB-A12	429.95		100	92	4	20-500 Hz	S	12				S								As above.	
BB-A15	489.95		100	92	4	20-500 Hz	S	15				S								As above.	

(Continued)

# SPEAKERS

MANUFACTURER	Model	Price \$ (If Sold Individually)	Price \$ (If Sold in Pairs)	Recommended Maximum Power, Watts Channel	Sensitivity, dB SPL (1 Watt, 1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS										Notes
								Subwoofer Only (S), Woofer Only (W), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Woofer (W) 2-Way (2), 3-Way (3), 4-Way (4)	Applied Tweeter(s) = A, Portable Tweeter(s) = P	Separately Mountable Drivers?	Fish Mount (F), Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?			
IMPACT (Continued)	BB-A10T	389.95		100	92	4	35-500 Hz ±3	S	10				S					Powered bandpass subwoofer, for trucks. For enclosure of 0.25 to 0.5 cubic feet; 8-ohm version available. As above but 0.5 to 1 cubic foot. As above but 0.75 to 1.2 cubic feet. As above but 1.5 to 2.5 cubic feet. As above but 0.25 to 0.75 cubic feet. As above but 0.5 to 1 cubic foot. As above but 0.75 to 1.5 cubic feet. As above but 1.5 to 3 cubic feet. Eight-ohm version available. As above. As above.
	Md2-8.4	59.95		75	92	4	20-2.5±3	S	8				F		3 3/8			
	Md2-10.4	79.95		125	92	4	20-2.5±3	S	10				F		4 3/8			
	Md2-12.4	109.95		150	92	4	20-2.5±3	S	12				F		5			
	Md2-15.4	139.95		200	92	4	20-2±3	S	15				F		6			
	MFC-8.4	79.95		200	92	4	20-2.5±3	S	8				F		3 3/8			
	MFC-10.4	119.95		300	92	4	20-2.5±3	S	10				F		4 3/8			
	MFC-12.4	139.95		400	92	4	20-2.5±3	S	12				F		5			
	MFC-15.4	199.95		500	92	4	20-2±3	S	15				F		6			
	MFS-8.4	139.95		150	91	4	40-1.5±3	S	8				F		4			
	MFS-10.4	189.95		250	91	4	37-1.5±3	S	10				F		5			
	MFS-12.4	239.95		300	91	4	32-1.5±3	S	12				F		6			
INFINITY	Kappa CS-4 MKII	299.95	90	88	4	80-22 ±3		4	2	No	Yes	†	2	Yes	†	Convertible tweeter.		
	Kappa CS-5 MKII	329.00	100	88	4	60-22 ±3		5 1/4	2	No	Yes	†	2 1/4	Yes				
	Kappa CS-6 MKII	349.95	100	88	4	50-22 ±3		6	2	No	Yes	†	2 1/2	Yes				
	RS-402 MKII	89.95	25	88	4	100-16 ±3		4	2	No	No	F	1 3/8	Yes				
	RS-502 MKII	119.95	30	90	4	80-20 ±3		5 1/4	2	No	No	F	2	Yes				
	RS-602 MKII	119.95	50	91	4	60-20 ±3		6	2	No	No	F	2 1/4	Yes				
	RS-6902 MKII	169.95	80	93	4	60-20 ±3		6 x 9	2	No	No	F	3	Yes				
	RS-6903 MKII	209.95	90	92	4	60-22 ±3		6 x 9	3	No	No	F	3	Yes				
	KCS-65MB	79.00	125	87	4		W	6 1/2				F	3 1/4					
	KCS-80IB	110.00	150	91	4		W	8				F	3 3/4					
	KCS-80BR	110.00	175	91	4		W	8				F	3 3/4		For vented enclosures.			
	KCS-100IB	140.00	175	93	4		S	10				F	4 3/8					
	KCS-100BR	140.00	200	93	4		S	10				F	4 3/8		As above.			
	KCS-120IB	170.00	200	94	4		S	12				F	5 1/4					
	KCS-120BR	170.00	250	94	4		S	12				F	5 1/4		As above.			
	100-Kappa DIN	109.95	70	88	4	75-20		4	2		No		F	1 3/8		As above. DIN snap-in for European cars.		
	120-Kappa DIN	119.95	80	88	4	65-20		4 3/4	2		No		F	1 3/4		As above.		
	130-Kappa DIN	129.95	80	88	4	60-20		5 1/8	2		No		F	1 3/4		Four-tab mounting for European cars.		
	150-Kappa DIN	89.95	70	88	4	70-20		5 1/8 x 3 3/8	2		No		F	1 3/8		As above.		
	693-Kappa	249.95	100	90	4	34-45		6 x 9	3			F, S	2 1/8	Yes				
	63-Kappa	199.95	55	88	4	58-45		6 1/2	3			F	2 3/8	Yes				
	692-Kappa	189.95	75	90	4	34-22		6 x 9	2			F		Yes				
62-Kappa	149.95	55	88	4	58-22		6 1/2	2			F	2 3/8	Yes					
52-Kappa	144.95	30	88	4	63-22		5 1/4				F	1 3/8	Yes					
42-Kappa	99.95	25	87	4	98-16		4				F	1 3/8	Yes					
CS-1A Kappa	439.95	200	89	4	34-45		6 x 9			Yes	F, S		Yes					
Kappa Polycell	125.00	40	94	4	3.5k-45k ±3	T				A			Yes					
Emit-N Kappa	189.95	50	93	4	3.5k-45k ±3	T				A		S		Yes				
RS-400	199.95	60	89	4	90-20 ±3		4	2		Yes		F						
RS-500	219.95	89	89	4	80-20 ±3		5 1/4	2		Yes		F						
RS-600	229.95	89	89	4	60-20 ±3		6	2		Yes		F						
462-K	54.95	25	86	4	98-16		4 x 6	W				F	1 3/4	Yes				
32-K	49.95	18	86	4	112-16		3 1/2	W				F	1 3/8	Yes				
JBL	GT4203	199.00	80	91	4	70-25		4	2		Yes	S	1 1/8	Yes	Two pieces.			
	GT5203	229.00	90	91	4	60-25		5 1/4	2		Yes	S	2	Yes	As above.			
	GT6203	249.00	110	91	4	50-25		6 1/2	2		Yes	S	2 1/8	Yes	As above.			
	GT152D	129.00	300	97	†	20-2	S	15				S	6 1/4	Yes	‡ 2, 4, or 8 ohms; dual voice-coils.			
	GT122D	109.00	280	95	†	25-3	S	12				C	5 1/4	Yes				
	GT102D	99.00	260	94	†	30-3.5	S	10				C	4 3/8	Yes				
	GT82D	79.00	200	93	†	35-5	S	8				C	3 7/8	Yes				
	GT07	119.00	120	88	4	2k-30k	T				A		S		Yes			
	GT623	139.00	100	91	4	50-25		6 1/2	2		No		S	2 1/8				
	GT-B10	399.00	200	90	4	35-20		10	3				C			Two-channel enclosure.		
	GT-B12	449.00	240	90	4	30-25		12	3				C			As above.		
	GT-B21D	429.00	200	90	4	40-20		10	3				C			Mirror-image enclosures.		
	GT-M80	199.00	200	90	4	40-2	S	8					C			Tube enclosure.		
	GT-M100	249.00	240	90	4	35-1.5	S	18					C			As above.		
	1800GT1	499.00	1k	95	4	20-300 Hz	S	18					F, S	6 7/8	Yes	For enclosure of 3.5 cubic feet; Venturi venting.		
	1500GT1	369.00	1k	94	4	20-300 Hz	S	15					F, S	5 1/4	Yes	As above but 2.5 cubic feet.		
	1200GT1	329.00	1k	93	4	20-300 Hz	S	12					F, S	4 1/4	Yes	For enclosure of 1.75 cubic feet.		
	GT152	119.00	300	97	4	20-2	S	15					F, S	6 1/4	Yes	With dual voice-coils, \$129.00 each.		
	GT122	99.00	280	95	4	25-3	S	12					F, S	5 1/4	Yes	As above but \$109.00 each.		
	GT102	89.00	260	94	4	30-3.5	S	10					F, S	4 3/8	Yes	As above but \$99.00 each.		
	GT82	69.00	200	93	4	35-5	S	8					F, S	3 7/8	Yes	As above but \$79.00 each.		
	T120	269.00	300	91	4	40-1.2	S	12					F, S	5 1/4	Yes			
	T100	179.00	200	91	4	35-2.5	S	10					F, S	4 3/8	Yes			
	T104	159.00	300	91	4	35-2.5	S	10					F, S	4 3/8	Yes			
	T84	129.00	250	91	4	40-3	S	8					F, S	3 1/2	Yes			
	T06	145.00	150	92	4	2.5k-26k	T						F, S	1 1/4	Yes			
	GT03	79.00	90	90	4	4k-23k	T						F, S		Yes	Includes crossover.		
	T030	349.00	200	92	4	500-8	M						F, S	2	Yes			
	GT965	199.00	160	93	4	40-23		6 x 9	4		No		C	3 3/8	Yes			
	GT963	169.00	140	92	4	45-21		6 x 9	3		No		C	3 7/8	Yes			
	GT962	149.00	120	92	4	50-20		6 x 9	3		No		C	3 1/8	Yes			
	GT961	119.00	105	92	4	45-22		6 x 9	3		No		C	3 1/8	Yes			
T545	349.00	150	92	4	40-18		6 x 9	3		No		S	3 3/8	Yes				
GT622	139.00	100	91	4	55-20		6 1/2	2		No		F	1 7/8	Yes				
GT621	99.00	90	91	4	55-20		6 1/2	2		No		F	1 7/8	Yes				
GT522	119.00	90	91	4	60-20		5 1/4	2		No		C	2	Yes	For Fords and Hondas.			

(Continued)

# SPEAKERS

MANUFACTURER	Model	Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS												Notes
								Subwoofer Only (S) Midrange Only (M) Tweeter Only (T) Woofer Size, Inches	Woofer (W) 2-Way (2) 3-Way (3), 4-Way (4)	Applied Tweeter(s) = A, Pamphlet Tweeter(s) = P	Separately Mountable Drivers?	Finish Material (F), Surface Mount (S), Convenient (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?	Mounting		Connections			
															Mounting	Connections	Mounting	Connections		
JBL (Continued)	GT521	89.00	60	90	4	60-20		5 1/4	2		No	F	C	2 1 3/8	No	DIN basket. Tabs removable for European round mounting. DIN basket. For Mercedes. For U.S. cars; for European cars, Model GT462M.				
	GT422	99.00	80	91	4	70-20		4	2		No	F	C	1 1/2	No					
	GT421	69.00	50	90	4	70-20		4	2		No	F	F, P	1 3/4	No					
	T454	119.00	60	90	4	100-20		3 1/2	2		No	F	F, P	1 1/8	No					
	GT462	59.00	60	92	4	70-20		4 x 6	2		No	F	F, P	1 1/8	No					
	TL410	125.00	80	92	4	55-20		4 x 10	2		No	F	F	3 1/8	Yes					
JENSEN	TL350	49.00	15	87	4	115-15		3 1/2	W		Yes	F	F	1 1/2	Yes					
	T75	269.00	100	85	4	75-26		5 1/4	2		Yes	F	F	1 3/8	Yes					
	JCX2262	64.00	80	90	4	60-20		6 1/2	2			F	F	1 1/2	No	For marine use.				
	JFX1242	39.00	70	90	4	75-20		4	W			F	F	1 1/2	No					
	JFX1235	34.00	50	90	4	70-20		3 1/2	W			F	F	1 1/2	No					
	JFX1246	39.00	50	90	4	70-20		4 x 6	W			F	F	1 1/2	No					
	JCX2240	84.00	120	91	4	40-20		4 x 10	2				F	F	3		No			
	J5254	169.95	150	90	4	50-20 ± 3		5 1/4	2		P	Yes	F	F	3		No			
	JTX3669	149.00	250	93	4	30-26	± 3	6 x 9	3			No	F	F	3		No			
	JCX2462	79.00	100	90	4	60-20		6 1/2	2			No	F	F	1 3/8		No			
	JCX2442	69.00	85	90	4	61-20		4	2			No	F	F	1 1/2		No			
	JFX1442	44.00	80	90	4	70-20		4	W				F	F	1 1/2		No			
	JSM303	99.00	150	88	4	70-20		4	3				S	S	1 1/2		No			
	JTX3652	99.00	120	91	4	58-20		6 1/2	3				F	F	1 7/8		No			
	JCX2252	79.00	80	90	4	60-20		5 1/4	2				F	F	1 3/4		No			
	JFX125	54.00	65	90	4	60-20		5 1/4	W				F	F	1 1/2		No			
	JCX2257	99.00	100	91	4	60-20		5 x 7	2				F	F	2 1/8		No			
	JFX1269	69.00	120	91	4	35-20		6 x 9	W				F	F	2 3/4		No			
	JP1200	99.00	375	92	4/8	30-3.5		S	12				F	F	5 7/8		No	Dual voice-coils. As above.		
	JP1000	89.00	325	90	4/8	35-2.5		S	10				F	F	4 7/8		No			
	JP800	79.00	225	88	4/8	38-3		S	8				F	F	4 3/8		No			
	JT25	69.00	50	90	6	4.5k-32k		T			P		F	F			No	As above.		
	JTS100	119.00	375	94	4	36-200 Hz		S	10				F	F		No				
	JM33	129.00	140	91	4	40-23		6 x 9				No	F	F	4	Yes				
	JM26	79.00	80	89	4	62-19		6 1/2				No	F	F	1 7/8	Yes	As above.			
	JM156	80.00	100	89	4	45-20		6 1/2	W				F	F		Yes				
	JTE1300	299.00	300	97	4	53-22		(2)10	3			No	F	F		No	Enclosure; for hatchbacks. Dual voice-coils.			
	JW101	179.00	375	89	4	36-200 Hz		S	10				F	F		No				
	JTX3469	129.00	190	92	4	30-26		6 x 9	3			No	F	F	3 1/2	No	For marine use.			
	JCX2469	90.00	160	91	4	35-23		6 x 9	2			No	F	F	3 1/4	No				
	JTX3269	109.00	160	91	4	30-22		6 x 9	3			No	F	F	3 1/2	No				
JCX2269	89.00	140	91	4	35-20		6 x 9	2			No	F	F	3 1/4	No					
JW804	65.00	200	88	4	25-3		S	8				F	F	4 1/8	No					
JXL653	119.95	135	91	4	58-23		6 1/2	3			No	F	F	1 7/8	No					
JXL693	139.95	175	93	4	40-26		6 x 9	3			No	F	F	1 1/4	No					
JXL522	94.95	100	91	4	58-20 ± 3		5 1/4	2			No	F	F	1 3/4	No					
JFX1652	52.95	75	90	4	60-20 ± 3		6 1/2	W			No	F	F	1 7/8	Yes					
J5252	199.95	150	88	4	50-21 ± 3		5 1/4	2		Yes		F	F		No					
JW1004	74.95	250	94	4	25-2.1 ± 3		S	10				F	F		No					
JW1204	84.95	325	94	4	20-2.5 ± 3		S	12				F	F		No					
JW1500	109.95	350	94	4	18-4 ± 3		S	15				F	F		No					
JTE630	199.95	150	91	4	75-25 ± 3		6 1/2	2			No	S	S	6 5/8	No					
JTE830	249.95	200	94	4	60-25 ± 3		8	2			No	S	S		No	Carpeted enclosure; for smaller pickups and vans. Carpeted, bottom-loaded, ported enclosure; for smaller pickups and vans.				
JTE1030	299.95	250	95	4	65-25 ± 3		10				No	S	S		No					
JM1600	64.95	170	88	4	50-22 ± 3		6 1/2	2			No	F	F	1 7/8	Yes	For marine use. As above; cabinet enclosure.				
JM1610	69.95	170	88	4	50-22 ± 3		6 1/2	2			No	S	S		Yes					
JL AUDIO	CT-1	54.95	50	94	4	5k-20k ± 3	T			A		C	F	3/4	Yes	For sealed enclosures of 0.25 to 0.5 cubic foot or ported enclosures of 0.6 to 1.0 cubic foot. For ported enclosures of 1.0 to 1.75 cubic feet; 8-ohm version available. For ported enclosures of 1.0 to 1.5 cubic feet. For sealed enclosures of 0.3 to 0.5 cubic foot or ported enclosures of 0.4 to 0.9 cubic foot. †Dual 6-ohm voice-coils. For sealed enclosures of 0.6 to 1.0 cubic foot or ported enclosures of 1.0 to 2.0 cubic feet; 8-ohm version available. For ported enclosures of 1.0 to 1.75 cubic feet. †Dual 4- or 8-ohm voice-coils. For sealed enclosures of 0.5 to 1.0 cubic foot or ported enclosures of 0.8 to 1.5 cubic feet. †Dual 6-ohm voice-coils.				
	4CW-1	79.95	30	87	4	100-5 ± 3	W	4				F	F	1 1/8	Yes					
	5CW-1	89.95	50	88	4	75-6 ± 3	W	5 1/4				F	F	2 1/2	Yes					
	6CW-1	118.95	50	88	4	55-5 ± 3	W	6 1/2				F	F	2 7/8	Yes					
	6W1	60	89	4	50-3 ± 3	W	6 1/2					F	F	3	Yes					
	5CX-1	118.95	40	88	4	70-19 ± 4	W	5 1/4	2		No	F	F	2 1/2	Yes					
	6CX-1	149.95	40	88	4	60-19 ± 4	W	6 1/2			No	F	F	2 1/2	Yes					
	4CS-1	149.95	30	87	4	100-20 ± 3	W	5 1/4	2		A	Yes	F	F	1 1/8		Yes			
	5CS-1	169.95	50	88	4	75-20 ± 3	W	5 1/4	2		Yes	Yes	F	F	2 1/2		Yes			
	6CS-1	219.95	50	88	4	55-20 ± 3	W	5 1/4	2		Yes	Yes	F	F	2 7/8		Yes			
	8W1	79.95	100	94	4	24-250 Hz ± 3	S	8					F	F	3 3/4		Yes			
	8W2	66.95	75	94	4	24-2.5 ± 3	W	8					F	F	3 1/2		Yes			
	8W3	88.95	125	94	4	23-250 Hz ± 3	S	8					F	F	3 1/2		Yes			
	8W6	119.95	200	94	4	22-250 Hz ± 3	S	8					F	F	4 3/8		Yes			
10W1	99.95	125	94	4	23-180 Hz ± 3	S	10					F	F	4 1/2	Yes					
10W5	164.95	250	94	4	21-250 Hz ± 3	S	10					F	F	4 1/4	Yes					
10W6	199.95	300	94	4	20-250 Hz ± 3	S	10					F	F	5 1/2	Yes					

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# SPEAKERS

MANUFACTURER	Model	Price \$ (If Sold Individually)	Price \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS										Notes
								Subwoofer Only (S), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Woofer (W), 2-Way (2), 3-Way (3), 4-Way (4)	Applied Tweeter(s) = A, Pinnable Tweeter(s) = P	Separately Mountable Drivers?	Flush Mount (F), Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, Inches	Weather-protected?			
JL AUDIO (Continued)	12W1	112.95	125	4	23-180 Hz ±3	S	12					F	5/4	Yes	For sealed enclosures of 1.25 to 2.0 cubic feet or ported enclosures of 2.0 to 3.0 cubic feet; 8-ohm version available. Enclosures as above. †Dual 4- or 8-ohm voice-coils. For sealed enclosures of 0.75 to 2.0 cubic feet or ported enclosures of 1.5 to 2.5 cubic feet. †Dual 6-ohm voice-coils. For sealed enclosures of 1.5 to 4.0 cubic feet or ported enclosures of 3.5 to 6.0 cubic feet; 8-ohm version available. For sealed enclosures of 2.25 to 7.0 cubic feet or ported enclosures of 4.0 to 6.0 cubic feet. †Dual 8-ohm voice-coils. For sealed enclosures of 1.75 to 4.0 cubic feet or ported enclosures of 2.5 to 5.0 cubic feet. †Dual 6-ohm voice-coils. Bandpass enclosure. As above. As above. As above. As above. Fits in spare tire well of 1979 to 1993 Ford Mustangs. Fiberglass enclosure; fits Mazda standard-cab trucks. As above but Toyota. As above but Nissan. Fiberglass enclosure; fits GM full-size standard-cab trucks.			
	12W5	186.95	250	†	21-250 Hz ±3	S	12				F	5	Yes					
	12W6	219.95	300	†	19-250 Hz ±3	S	12				F	5 3/4	Yes					
	12IB4	109.95	125	93	8	32-2.5 ±3	W	12				F	5 1/2	No				
	15W1	148.95	150	4	4	21-180 Hz ±3	S	15				F	6 3/8	No				
	15W5	208.95	250	†	20-250 Hz ±3	S	15					F	5 3/4	Yes				
	15W6	249.95	300	†	18-250 Hz ±3	S	15					F	6 1/2	Yes				
	8-A1	229.95	60	4	4	44-135 Hz ±3	S	8				S		No				
	8-PT2	399.95	100	4	4	42-120 Hz ±3	S	8				S		No				
	10-A1	329.95	125	4	4	42-100 Hz ±3	S	10				S		No				
	10-PT2	499.95	250	4	4	42-100 Hz ±3	S	10				S		No				
	12-PT1	399.95	125	4	4	38-100 Hz ±3	S	12				S		No				
	Mustang Stealthbox	599.95	200	4	4	32-120 Hz ±3	S	10				F		Yes				
	Mazda Smartbox	850.00	300	4	4	34-180 Hz ±3	S					S		Yes				
	Toyota Smartbox	850.00	300	4	4	35-180 Hz ±3	S					S		Yes				
	Nissan Smartbox	850.00	250	4	4	35-180 Hz ±3	S					S		Yes				
GM Smartbox	935.00	450	5.3	4	30-180 Hz ±3	S					S		Yes					
J&R SPEAKER	CT10		99.00	80	91	4	500-21	T				C			For sealed enclosure. As above. As above. As above.			
	CMR453		109.00	120	91	4	200-15	M				F	1 5/8					
	CMR510		119.00	120	90	4	100-15	M				F	2 3/8					
	CX410		89.00	100	90	4	80-21		4	2	No	F	1 5/8					
	CX464		99.00	80	90	4	70-21		4 x 6	2	No	F	1 7/8					
	CX510		129.00	100	90	4	60-21		5 1/4	2	No	F	2 3/8					
	CX615		149.00	120	91	4	60-21		6 1/2	2	No	F	2 1/4					
	CX693		179.00	200	91	4	50-21		6 x 9	3	No	F	3 1/4					
	LT8	89.00	200	89	4/8	35-1.7	S	8				F	3 1/4					
	LT10	109.00	300	90	4/8	32-1.5	S	10				F	4 1/4					
	LT12	119.00	400	90	4/8	30-1.5	S	12				F	5					
LT15	149.00	500	92	4/8	26-1.5	S	15				F	6						
JVC	CS-T11	159.95	150	88	4	1k-30k	T					C	5/8	No	†Dual voice-coils, 50 watts and 4 ohms per coil. Box enclosure.			
	CS-M04	99.95	150	88	4	45-7	M					F	1 3/4	No				
	CS-M05	89.95	150	88	4	45-7	M					F	2 1/4	No				
	CS-F08	169.95	200	89	4	30-2	S	8				F	3 3/8	No				
	CS-F10	199.95	300	89	4	20-1	S	10				F	4 3/8	No				
	CS-F300	249.95	†	86	†	20-2	S	6				S		No				
	CS-XG6938	269.95	150	90	4	25-30		6 x 9	3	No	F	3 1/8	No					
	CS-XG638	229.95	100	89	4	30-30		6 1/2	3	No	F	2 7/8	No					
	CS-X6936	159.95	135	92	4	30-20		6 x 9	3	No	F	3	No					
	CS-X6926	119.95	100	92	4	30-20		6 x 9	3	No	F	2 3/4	No					
	CS-X626	89.95	100	91	4	40-20		6 1/2	2	No	F	1 7/8	Yes					
	CS-X616	69.95	75	91	4	40-20		6 1/2	2	No	F	1 7/8	Yes					
	CS-X426	79.95	45	88	4	50-20		4	W	No	F	1 3/4	Yes					
	CS-X416	69.95	45	88	4	50-20		4	W	No	F	1 3/4	Yes					
	CS-6937	119.95	120	93	4	30-27		6 x 9	3	No	F	1 3/4	Yes					
	CS-6927	99.95	100	92	4	30-24		6 x 9	3	No	F	2 1/8	No					
	CS-6917	89.95	75	92	4	30-15		6 x 9	2	No	F	2 3/8	No					
	CS-627	74.95	100	90	4	40-20		6 x 9	2	No	F	2 3/8	No					
	CS-526	69.95	60	90	4	50-20		6 1/2	2	No	F	1 7/8	No					
	CS-516	59.95	60	90	4	50-20		5 1/4	2	No	F	1 3/4	No					
	CS-427	49.95	45	86	4	50-20		5 1/4	2	No	F	1 3/4	No					
	CS-417	39.95	45	87	4	50-20		4	W	No	F	1 3/4	No					
	CS-5724	129.95	60	91	4	40-20		5 x 7	2	No	F	1 3/4	No					
	CS-4624	89.95	45	89	4	50-20		4 x 6	2	No	F	2 1/2	No					
	CS-304	34.95	30	87	4	80-15		3 1/2	2	No	F	1 1/8	No					
	CS-617	59.95	60	90	4	40-19		6 1/2	2	No	F	1 5/8	No					
	CS-103	229.95	60	88	4	40-25		4	W	No	F	1 3/4	No					
	CS-867	169.95	100	90	4	45-30		4	W	No	S	1	No					
	CS-B1	129.95	70	90	4	60-20		4 1/2	2	No	S		No					
	CS-8007	169.95	70	90	4	50-20		4	2	No	S		No					
	CS-MR626	89.95	100	91	4	50-20		6 1/2	2	No	S		No					
	CS-MR616	69.95	75	91	4	40-20		6 1/2	2	No	F	1 7/8	Yes					



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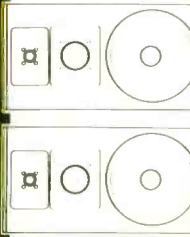
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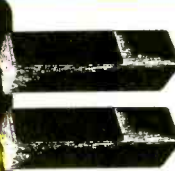
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5 YEAR LUXMAN WARRANTY  
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4X oversampling w/remote
- JVC XL-Z1050** **LOW**  
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- NAD 5170** Orig \$550 \$299  
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# SPEAKERS

MANUFACTURER	Model	DRIVERS											Notes			
		Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Subwoofer Only (S)   Woofer Only (W)   Midrange Only (M)   Tweeter Only (T)	Woolfer Size, inches	woofers (W)   2-Way (2)   3-Way (3)   4-Way (4)	Amplified Tweeters (A)   Tunable Tweeters (T) = P	Separately Mountable Drivers?		Flush Mount (F)   Surface Mount (S)   Convertible (C)   Plate (P)	Maximum Required Mounting Depth, inches	Weatherproofed?
KAWASAKI	KS-36	109.00	60	88	4	55-16 ±3		6 1/2	W			C	3	Yes	Ported enclosure; dual voice-coils; selectable impedance.	
	KS-39	115.00	70	88	4	55-16 ±3		6 x 9	W			C	3 1/8	Yes		
	KS-360	180.00	100	90	4	70-20 ±3		6 1/2	3		No	C	2 9/8	Yes		
	KS-390	180.00	120	92	4	40-20 ±3		6 x 9	3		No	C	3/4	Yes		
	KS-301	285.00	180	94	4.8	110-20 ±3		5	2		No	S	3/4	Yes		
KEF	GT-100	250.00	50	90	4	50-20 ±3		4 1/2	2		No	P	1 3/4	Yes	1 1/4 inches for satellites, 12 inches for enclosed subwoofers. External crossover required.	
	GT-200	575.00	100	90	4	30-20 ±3		8	3		Yes	P	†	Yes		
	KAR-19S	120.00	70	90	4	2.5k-22k ±3	T					S		Yes		
	KAR-19F	120.00	70	90	4	2.5k-22k ±3	T					F	1 1/2	Yes		
	KAR-33A	120.00	100	90	4	2.5k-20k	T			A/P		S	1 3/4	Yes		
	KAR-33F	120.00	100	90	4	2.5k-20k	T					F	2 1/8	Yes		
KAR-110	120.00	100	90	4	50-5	W/M/S	4 1/2				F	2 1/8	Yes			
KAR-200SW	350.00	100	90	4	30-250 Hz		8				F	12	Yes	As above; enclosed subwoofer.		
KENWOOD	KFC-HQ690	200.00	200	92	4	28-30		6 x 9	3		No	F	3 1/2	Yes	Fits 6 x 9-inch holes.	
	KFC-HQ162	170.00	160	91	4	35-30		6 1/2	3	A	No	F	2 1/4	Yes		
	KFC-HQ160	140.00	150	90	4	35-22		6 1/2	3		No	F	2 3/8	Yes		
	KFC-HQ132	130.00	90	91	4	45-30		5	2		No	F	2 1/4	Yes		
	KFC-HQ102	110.00	60	89	4	55-22		4	2		A	No	F	1 3/4		Yes
	KFC-HQ570	139.95	120	91	4	40-30		5 x 7	2		A	No	F	2 1/8		Yes
	KFC-HQ450	129.95	55	89	4	45-30		4 x 6	2		A	No	F	1 3/4		Yes
	KFC-7180	239.95	240	92	4	26-26		7 x 10	3		A	No	F	3 1/2		Yes
	KFC-6983	159.00	150	92	4	30-26		6 x 9	3		No	F	3 1/8	Yes		
	KFC-6973	129.00	105	91	4	35-25		6 x 9	3		No	F	3 1/8	Yes		
	KFC-6963	99.00	100	91	4	35-22		6 x 9	2		No	F	2 7/8	Yes		
	KFC-1684	110.00	150	90	4	45-21		6 1/2	3		No	F	2 1/8	Yes		
	KFC-1674	80.00	100	92	4	50-20		6 1/2	2		No	F	1 3/4	Yes		
	KFC-1664	60.00	60	91	4	50-20		6 1/2	2		No	F	1 3/4	Yes		
	KFC-1663	50.00	60	92	4	55-20		6 1/2	2	W		F	1 3/4	Yes		
	KFC-1374	80.00	80	91	4	50-20		5	2		No	F	1 7/8	Yes		
	KFC-1363	50.00	50	91	4	60-20		5	2	W		F	1 3/4	Yes		
	KFC-1074	60.00	50	90	4	60-21		4	2		No	F	1 3/4	Yes		
	KFC-1053	49.00	40	90	4	60-20		4	2	W		F	1 3/8	Yes		
	KFC-4671	89.95						4 x 6	2		No	F	1 3/8	Yes		
	KFC-467C	70.00	45	91	4	60-20		4 x 6	2		No	F	1 3/8	Yes		
	KFC-463V	70.00	45	88	4	70-20		4 x 6	2		No	F	1 3/8	Yes		
	KFC-830G	40.00	30	89	4	96-20		3 1/2	2	W		F	1 7/8	Yes		
	KFC-W212	119.95	300	90	4	30-3	S	12				F				
	KFC-W210	170.00	300	92	4	30-3	S	10				F				
	KFC-W208	130.00	300	92	4	45-2	S	8				F	3 1/4	Yes		
	KFC-W312	119.95	300	89	4	25-2	S	12				F	4 3/4			
	KFC-W310	169.95	300	88	4	30-1	S	10				F	4 1/4			
	KFC-W308	130.00	300	91	4	35-2	S	8				F	3 1/4	Yes		
	KFC-W106	110.00	150	89	4	45-8	W	6 1/2				F	1 7/8	Yes		
	KFC-M205	89.95	150	89	4	45-9	M					F	2 1/4	Yes		
	KFC-M204	79.95	120	88	4	45-10	M					F	1 3/4	Yes		
	KFC-T301	119.00	150	89	4	2k-25k	T					C		Yes		
KFC-T201	89.95	150	89	4	2k-23k	T					C		Yes			
KFC-P206	160.00	150	90	4	50-20		6	2		Yes	F, S	1 3/4	Yes			
KFC-P205	150.00	150	90	4	60-20		5	2		Yes	F, S	2 1/8	Yes			
KFC-P204	140.00	150	89	4	65-20		4	2		Yes	F, S	1 7/8	Yes			
KSC-7702	259.95	200	90	4	30-20		10	3		No	S		Yes			
KSC-9902	249.95	200	90	4	40-20		10	3		No	S		Yes			
KSC-8802	199.95	150	90	4	50-20		8	2		No	S		Yes			
KSC-W800	139.95	200	84	4		S	8			A	No	S		Yes		
KICKER	Resolution ND25	249.00	100	95	4	3.5k-20k ±3	T			A		C	1 1/4		Overload protection; includes crossover; Zobel impedance compensation.	
	Resolution D14X	75.00	65	94	4	4.5k-20k ±3	T					C	3/4		As above.	
	Resolution D20X	85.00	75	93	6	4.5k-20k ±3	T					F	3/4		As above; round version, Model GRD20X, \$99.00 per pair.	
	SS15	649.00	300	93.5	4	28-21 ±3		(2)15	3		No	S		Yes	Box enclosure; vents can be sealed to change bass contour; for hatchbacks, vans, and sport utility vehicles.	
	SS12	529.00	250	93.5	4	30-21 ±3		(2)12	3		No	S		Yes	As above.	
	SS10	200	92.5	4	38-21 ±3		(2)10	3			No	S		Yes	As above.	
	SS8	349.00	150	92.5	4	38-21 ±3		(2)8	2		No	S		Yes	As above.	
	SS6	179.00	75	4	55-21 ±3		6 1/2	2			No	S		Yes	As above.	
	SSCTF	469.00	200	92.5	4	25-21 ±3		(2)10	3		No	S		Yes	Sealed enclosure.	
	SS2x10	349.00	200	92.5	4	33-150 Hz ±3	S	(2)10				S			Yes	Box enclosure; vents can be sealed to change bass contour; for Camaros and Firebirds.
	Compact Sub Stations	229.00	75	88.9	4	40-1 ±3	W	(2)5				S			Yes	As above but for hatchbacks or mounting in trunks behind rear seat.
	KS60-4 Substations	249.00	100	4	29-1 ±3	W	(2)8					S			Yes	For under-seat mounting. Carpeted, sealed enclosure; 8-ohm version available.
KS80-4 Substations	349.00	150	4	32-1 ±3	W	(2)6 1/2					S			Yes	As above.	
SK12	529.00	250	93.5	4	35-21 ±3		(2)12	3		No	S		Yes	Box enclosure; vents can be sealed to change bass contour; for pickups, vans, and 4 x 4 vehicles.		
SK10	429.00	200	92.5	4	38-21 ±3		(2)10	3		No	S		Yes	As above.		
SK10-2	349.00	150	90.5	4	40-21 ±3		(2)10	2		No	S		Yes	As above.		
SK8-2	269.00	125	89.5	4	42-21 ±3		(2)8	2		No	S		Yes	Ported enclosure; for pickups, vans, and 4 x 4 vehicles.		

(Continued)

# SPEAKERS

MANUFACTURER	Model	Price, \$ (if Sold Individually)	DRIVERS								Notes						
			Price, \$ (if Sold in Pairs)	Recommended Maximum Power, Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to Hz, ±dB	Subwoofer Only (S), Woofer Only (W), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Woofer (W) 2-Way (2), 3-Way (3), 4-Way (4)		Amplifier Tweeters = A, Pointable Tweeters = P	Separately Mountable Drivers?	Flange Mount (F), Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, Inches	Weatherproof?	
KICKER (Continued)	Solo-Baric S8a-4	169.00		300	86.9	4	28-100 Hz ±3	S	8				F	3 7/8		For sealed enclosure; 8-ohm version available.	
	Solo-Baric S10a-4	249.00		450	87.9	4	24-100 Hz ±3	S	10				F	4 3/4		As above.	
	Solo-Baric S12a-4	299.00		600	90	4	20-100 Hz ±3	S	12				F	5 3/8		As above.	
	FX46		199.00	70	85	4	55-21 ±3		4 x 6	2		Yes	F	2 1/8		Blamp capable; tweeter overload protection.	
	FX5.25	229.00	90	86	4	50-21 ±3	M	5 1/4	2		Yes	F	2 3/8		As above.		
	FX65	239.00	150	86.8	4	30-21 ±3	M	6 1/2	2		Yes	F	2 7/8		As above.		
	FX69	249.00	160	87.8	4	30-21 ±3	M	6 x 9	2		Yes	F	3 5/8		As above.		
	Competition C18a-4	429.00	1k	91.8	4	20-800 Hz ±3	S	18					F	7 1/2		For sealed enclosure; 8-ohm version available.	
	Competition C15a-4	199.00	500	90.6	4	25-2 ±3	S	15					F	6		As above.	
	Competition C12a-4	169.00	400	89.6	4	25-2 ±3	S	12					F	3 7/8		As above.	
	Competition C10a-4	139.00	300	89.8	4	25-2 ±3	S	10					F	4 3/8		Eight-ohm version available.	
	Competition C8a-4	89.00	200	88.6	4	30-3 ±3	W	8					F	3 3/8		As above.	
	Competition C6.5a-4	79.00	150	87.3	4	30-3.5 ±3	W	6 1/2					F	2 7/8		As above.	
	Freeair F3.5-4	39.00	90	82.1	4	50-5 ±3	M						F	1 3/8		As above.	
	Freeair F4-4	49.00	90	85.8	4	50-5 ±3	M						F	2 1/8		As above.	
	Freeair F5.25-4	59.00	90	86.7	4	50-5 ±3	M						F	2 1/2		As above.	
Freeair F6.5a-4	79.00	150	87	4	30-3.5 ±3	W	6 1/2					F	2 3/8		As above.		
Freeair F6x9a-4	79.00	200	87.3	4	30-3.5 ±3	W	6 x 9					F	3 5/8		As above.		
Freeair F8a-4	89.00	200	88.3	4	30-3 ±3	W	8					F	3 3/8		As above; for ported enclosure or free-air use.		
Freeair F10a-4	139.00	300	89.8	4	30-3 ±3	S	10					F	4 3/8		As above.		
Freeair F12a-4	169.00	400	88.7	4	25-2 ±3	S	12					F	5		As above.		
KING SOUND	RF		220.00	120	94	4	25-20 ±3		(2)10	2	A	No	S		Yes	Enclosure.	
KRACO	FX-93	119.95	100	96	4	40-20		6 x 9	3	A	No	F	3 7/8	No			
	FX-95	209.95	100	96	4	20-20		6	2	A	Yes	S	No	No		Box enclosure.	
	FX-98	219.95	200	96	4	20-20 ±3		6	2		No	S	No	No		As above.	
	FX-99	159.95	200	96	4	30-150 Hz ±3	S	10					S	No		Tube enclosure.	
	TRI-500	109.95	50	86	4	85-20		4	3	A	No	S	No	No			
	CX-300	59.95	25	85	4	150-16		3 1/2	2	A	No	S	No	No			
	TRI-369	79.95	50	89	4	60-17		6 x 9	3		No	F	3 1/2	No			
	CX-269	54.95	40	86	4	65-16		6 x 9	2		No	F	3 1/2	No			
	CX-120	54.95	40	86	4	90-16		6 1/2	2		No	F	2 1/2	No			
	CX-2-20	59.95	40	86	4	90-16		5 1/4	2		No	F	2 1/4	No			
	THP-3	44.95	25	86	4	150-20		3 1/2	2		No	F	1 1/4	No			
	CX-240	54.95	40	89	4	90-16		4	2		No	F	1 1/4	No			
LANZAR SOUND	XR HB 8 LXR	199.95		80	94	4	40-20		8	2	P	No	S	No		Carpeted box enclosure.	
	XR SP 10 LXR		279.95	100	96	4	40-20		10	2	P	No	S	No		As above.	
	XR HB 10 LXR	279.95	100	96	4	40-20		10	2	P	No	S	No			As above.	
	XR HB 12 LXR	319.95	120	98	4	40-20		12	2	P	No	S	No			As above.	
	HF 6800	389.95	150	98	4	30-22		10	3	P	No	S	No			As above.	
	Sledgehammer HF 7500	424.95	200	99	4	30-22		12	3	P	No	S	No			As above.	
	Sledgehammer MT 3100	389.95	150	98	4	30-22		10	3	P	No	S	No			As above.	
	Jackhammer MT 3300	459.95	200	99	4	30-22		12	3	P	No	S	No			As above.	
	Jackhammer																
	HM-1 The Hammer	159.95	150	101	4	30-150 Hz	S	6 1/2					S	No		Carpeted tube enclosure.	
	HM-2 The Hammer	249.95	200	101	4	30-150 Hz	S	10					S	No		As above.	
	PST	49.95	50	98	4	3k-22k	T			A/P			C	Yes			
	RDT	75.95	70	96	4	4k-22k	T			P			F	Yes		Replaceable voice-coll.	
	TWS	149.95	100	98	4	4k-22k	T			A/P			C	Yes		As above.	
	TXS	109.95	60	98	4	4k-22k	T			A/P			C	Yes			
	MD4	64.95	80	98	4/8	100-5	M						F	Yes			
	HXC 4	99.95	60	93	4	100-20		4	2	P	Yes	F	1 7/8				
	HXC 5	109.95	80	93	4	100-20		5	2	P	Yes	F	2 1/2				
	HXC 6.5	199.95	150	93	4	30-20		6 1/2	2	P	Yes	F	3 1/2	Yes		For ported enclosure.	
	HXC 6x9	219.95	150	93	4	30-20		6 x 9	2	P	Yes	F	3 7/8	Yes		As above.	
	DCR 3.5	59.95	60	93	4	100-18		3 1/2		W		F	1 3/8				
	MWS 5	79.95	80	96	4/8	100-5	W	5				F	2 1/2	Yes			
	MWS 6.5	134.95	150	98	4	40-4	W	6 1/2				F	3 1/2	Yes			
	LXR 8	59.95	80	95	4	30-12		8				F	3 1/2	Yes			
	LXR 10	68.95	100	96	4	30-12		10				F	4 1/2	Yes			
LXR 12	84.95	120	97	4	30-12		12				F	5 1/2	Yes				
LXR 15	119.95	150	98	4	20-12		15				F	6 1/2	Yes				
ZR8S	79.95	100	96	4/8	39-4	S	8				F	3 1/2	Yes				
ZR10S	94.95	100	96	4/8	35-4	S	10				F	4	Yes				
ZR12S	119.95	150	98	4/8	32-4	S	12				F	5 1/2	Yes				
ZR15S	149.95	200	99	4/8	30-4	S	15				F	6 1/2	Yes				
0A8	84.95	100	96	4/8	39-4	S	8				F	3 3/4	Yes		For small vented enclosure or free-air use.		
0A10	104.95	120	96	4/8	35-4	S	10				F	4 3/4	Yes		As above.		
0A12	124.95	150	98	4/8	32-4	S	12				F	5 1/2	Yes		As above.		
0A15	159.95	200	99	4/8	30-4	S	15				F	6 3/4	Yes		As above.		
LP8S Pro	129.95	200	96	4/8	32-4	S	8				F	4 1/4	Yes				
LP80 Pro	149.95	200	96	†	32-4	S	8				F	4 1/4	Yes		†Dual 4-ohm voice-coils.		
LP10S Pro	145.95	250	96	4/8	29-4	S	10				F	4 3/4	Yes				
LP100 Pro	165.95	250	96	†	29-4	S	10				F	4 3/4	Yes				
LP12S Pro	199.95	350	98	4/8	25-4	S	12				F	5 3/4	Yes				
LP120 Pro	219.95	350	98	†	25-4	S	12				F	5 3/4	Yes				

# SPEAKERS

MANUFACTURER	Model	Price \$ (if Sold Individually)	Price \$ (if Sold in Pairs)	Recommended Maximum Power, Watts (Channel)	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, $\pm$ dB	DRIVERS												Notes
								Subwoofer only (S) Midrange only (M) Tweeter only (T)	Woofer Size, Inches	Whizzer (W), 2-Way (2) 3-Way (3), 4-Way (4)	Agood Tweeter(s) = A Pinnacle Tweeters = P	Separately Mountable Drivers?	Flush Mount (F) Surface Mount (FS) Convertible (C) Pinle (P)	Maximum Required Mounting Depth, Inches	Weatherproof?					
LANZAR SOUND (Continued)	LP15S Pro	265.95		500	98	4/8	22-4	S	15						F	6 $\frac{3}{4}$	Yes			
	LP15D Pro	285.95		500	98	†	22-4	S	15						F	6 $\frac{3}{4}$	Yes			
	LC18S4	299.95		400	98	4	30-4	S	18						F	7 $\frac{1}{2}$	Yes			
L.A. SOUND	LS P15	129.00		200	92	4	25-1.2	S	15						F	5 $\frac{3}{4}$	No			
	LS TFA8	69.00		100	89	4	38-2	S	8						F	3 $\frac{3}{4}$	No			
	LS TFA10	99.00		200	89	4	32-1.8	S	10						F	4 $\frac{1}{4}$	No			
	LS TFA12	119.00		250	90	4	25-1.2	S	12						F	5 $\frac{1}{2}$	No			
	LS T1		89.00	40†	90	4	3.5k-23k	T							F		No	†Watts rms.		
	LS P6	39.00		50	90	4	50-3	W	6						F	2 $\frac{3}{8}$	No			
	LS P8	59.00		80	90	4	45-2.5	W	8						F	3	No			
	LS P10	69.00		100	91	4	38-2	W	10						F	4	No			
	LS P12S	79.00		120	95	4	30-2	W	12						F	4 $\frac{1}{2}$	No			
	LS P12	109.00		160	94	4	30-2	W	12						F	4 $\frac{3}{4}$	No			
	LS 800	279.00		150			38-150 Hz	S	(2)8	No					S		No	†2, 4, or 8 ohms. Bandpass enclosure.		
	LS 1000	299.00		150			30-145 Hz	S	(2)10	No					S		No	†As above. Bandpass enclosure.		
	LX 8.2		149.00	100			40-18		8						S		No	Box enclosure; for trucks.		
	LX 10.2		179.00	150			40-18		10		2				S		No	As above.		
	LS 4CF		119.00	50	89	4	60-7	M							F	2 $\frac{1}{2}$	No			
	LS 5CF		149.00	50	90	4	50-6	M							F	2 $\frac{1}{2}$	No			
	LS T2		79.00	40†	90	4	3.5k-23k	T							S		No	†Watts rms.		
	LS TW15		25.00	40†	92	4	3k-19.5k	T							C		No	†As above.		
	LS TW17		45.00	40†	91	4	3k-21k	T							C		No	†As above.		
	LS 600T	279.00		120†		††	40-160 Hz	S	(2)6	No					S		No	†As above. ††2, 4, or 8 ohms.		
	LS 600	269.00		120†		††	40-160 Hz	S	(2)6	No					S		No	Bandpass enclosure. †As above. ††As above. Bandpass enclosure.		
	LS 6903H		99.00	100	93	4	50-26		6 x 9	No					F	3 $\frac{3}{8}$	Yes			
	LS 6902H		89.00	100	92	4	55-21		6 x 9	No					F	3 $\frac{3}{8}$	Yes			
	LS 6002H		69.00	60	91	4	70-20		6 $\frac{1}{2}$	No					F	2	Yes			
	LS 5002H		59.00	60	91	4	80-20		5 $\frac{1}{4}$	No					F	1 $\frac{7}{8}$	Yes			
	LS 4002H		49.00	50	90	4	90-20		4	No					F	1 $\frac{3}{4}$	Yes			
	LS 4001H		39.00	50	90	4	90-18		4	No					F	1 $\frac{3}{4}$	Yes			
	LS 3001HR		29.00	20	90	4	100-18		3 $\frac{1}{2}$	No					F	1 $\frac{3}{4}$	Yes			
	LS 693		49.00	100	91	4	70-20		6 x 9	No					F	1 $\frac{3}{8}$	No	Replacement for 4 x 6-inch speakers.		
	LS 692		39.00	50	91	4	70-20		6 x 9	No					F	3 $\frac{3}{8}$	No			
	LS 602		34.00	50	91	4	90-20		6 $\frac{1}{2}$	No					F	3 $\frac{3}{8}$	No			
	LS 601		24.00	30	91	4	90-20		6 $\frac{1}{2}$	No					F	2	No			
	LS 401		19.00	25	89	4	100-20		4	No					F	2	No			
	LX 15-400	329.00		200	108	4	30-20		15	No					F	1 $\frac{1}{2}$	No	Box enclosure.		
	LX 12-300	239.00		150	108	4	35-20		12	No					S		Yes	As above.		
	LX 10-200	199.00		100	104	4	38-20		10	No					S		Yes	As above.		
	LX 8-100	169.00		75	100	4	42-20		8	No					S		Yes	As above.		
	LS FA15	199.00		250	88	4	20-1	S	15	No					F	7	Yes	Vented pole piece.		
	LS FA12	169.00		250	91	4	21-1.5	S	12	No					F	6 $\frac{1}{2}$	Yes	As above.		
	LS FA10	109.00		150	95	4	35-2.5	W	10	No					F	5 $\frac{1}{2}$	Yes	As above.		
	LS FA8	99.00		100	95	4	35-3	W	8	No					F	5	Yes	As above.		
	LS 15AS	159.00		200	89	4	24-1	S	15	No					F	7	Yes	As above.		
	LS 12AS	129.00		200	91	4	24-1.5	S	12	No					F	6 $\frac{1}{2}$	Yes	As above.		
	LS 10AS	89.00		80	91	4	43-2.5	W	10	No					F	5 $\frac{1}{2}$	Yes	As above.		
LS 8AS	69.00		80	96	4	56-3	W	8	No					F	5	Yes	As above.			
LS 6AS	59.00		60	97	4	44-3	W	6 $\frac{1}{2}$	No					F	5	Yes	As above.			
LS 5AS	59.00		50	84	4	80-4	W	5 $\frac{1}{4}$	No					F	4	Yes	As above.			
LS 4AS	39.00		50	89	4	80-8	M		No					F	4	Yes	As above.			
LS 1AS	29.00		100	91	4	4k-20k	T		No					F	1 $\frac{3}{4}$	Yes	As above.			
LAZER	LA20		25.00	60	89	4	800-20	T						F	1 $\frac{1}{2}$					
	LA50		35.00	40	92	6	500-21	T						F	1 $\frac{1}{2}$					
	LA75		39.00	50	90	6	500-20	T						F	1 $\frac{1}{2}$					
	LA100			80			500-22	T						F	1 $\frac{3}{8}$					
	LA350		49.00	60	89	4	400-8	M						F	1 $\frac{3}{4}$					
	LA400		59.00	80	97	4	50-10	M						F	2					
	LA500		59.00	100	95	4	400-7	M						F	2 $\frac{1}{4}$					
	LA525		69.00	100	97	4	50-8	M						F	3					
	LA648			80	89	4	40-7	W	6 $\frac{1}{2}$					F	4					
	LA848		70.00	100	94	4	20-1.5	W	8					F	4					
	LA1048		90.00	160	96.4	4	20-1.5	S	10					F	5					
	LA1248		110.00	160	97.5	4	19-900 Hz	S	12					F	5					
	LA1548		130.00	160	95.7	4	17-800 Hz	S	15					F	6					
	LA850		60.00	100	92	4	20-2	S	8					F	3 $\frac{1}{2}$					
	LA1050		80.00	200	95	4	20-1.5	W	10					F	4					
	LA1250		100.00	200	96	4	20-1.5	W	12					F	5					
	LA1550		120.00	250	96	4	20-1.5	W	15					F	6					
	SPK208		225.00	100	92	4	20-20		8					S						
	SPK210		275.00	200	95	4	20-20		10					S						
	SPK212		350.00	200	96	4	20-20		12					S						
	SPK215		400.00	250	96	4	20-20		15					S						
	LAZERONI	Vette Up-Grade	1299.00		60 Inc.	91	4	30-21		10		A	No		S				Powered; plugs into Bose systems in 1990 and later Corvettes.	
MADISOUND	23		25.00	40	93	4	4.5k-22k	T						S				Square-shaped wedge; includes crossover; round version, Model 25.		
	4502/AV		34.00	40	88	4	150-20		4 $\frac{1}{2}$	2		No		F	2 $\frac{1}{8}$			For sealed enclosure or free-air use.		
	5402/AV		35.00	40	89	4	100-20		5 $\frac{1}{4}$	2		No		F	2 $\frac{1}{4}$			As above.		
	6102/AV		36.00	40	90	4	70-20		6 $\frac{1}{2}$	2		No		F	2 $\frac{3}{8}$			As above.		
	8 COAX		49.00	75	90	4	45-20		8	2		No		F	3 $\frac{3}{8}$					
	6102-4		24.00	50	88	4	40-5	W	6 $\frac{1}{2}$	2		No		F	2 $\frac{3}{8}$					
	81524		31.00	75	89	4	35-3	W	8					F	3 $\frac{3}{8}$			For vented enclosure.		
	81524DVC		34.00	†	87.5	†	30-2	W	8					F	3 $\frac{3}{8}$			†Dual voice-coils, 40 watts and 4 ohms per coil. For vented enclosure.		
10204DVC		49.00	†	90.7	†	35-1	W	10					F	4 $\frac{1}{2}$			†As above but 100 watts. For vented enclosure.			
12204DVC		53.00	†	90.3	†	28-1	W	12					F	5			†As above. For sealed enclosure.			
6x9153		33.00	75	91	3	45-8	W	6 x 9												



# SPEAKERS

MANUFACTURER	Model	DRIVERS														Notes		
		Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts (channel)	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz = dB	Speaker Only (S), Woofer Only (W), Midrange Only (M), Tweeter Only (T)			Woofer Size, Inches		Applied Tweeter(s) = A, Mountable Tweeter(s) = P	Separately Mountable Drivers?	Flange Mount (F), Convertible (C), Flange Mount (S)		Maximum Required Mounting Depth, Inches	Weatherproofed?
								Speaker Only (S)	Woofer Only (W)	Midrange Only (M)	Tweeter Only (T)	Whizzer (W), 2-Way (2), 3-Way (3), 4-Way (4)						
MAJESTIC	MAX8	70.00	100	96	4	40-3	S	8										
	MAX10	90.00	100	96	4	38-3	S	10										
	MAX12	100.00	100	96	4	36-3	S	12										
	MAX15	120.00	100	96	4	28-3	S	15										
	MS46P	70.00	40	88	4	100-20					2	No	P		1 1/2	Yes		
	MS410	40.00	25	89	4	80-20		4		W		No	F		1 1/2			
	MS450	50.00	25	89	4	80-20		4		W		No	F		1 3/4			
	MS525	55.00	30	90	4	60-20		5 1/4		2		No	F		1 1/2			
	MS610	60.00	40	90	4	50-20		6		2		No	F		2 1/4			
	MS930	80.00	60	92	4	45-20		6 x 9		3		No	F		3 1/4			
	MCS3A	39.95	60	88	4	4k-20k	T								1 1/2			
	MCS4	39.95	150	92	4	3k-20k	T								1 1/2			
	MCS5A	49.95	100	90	4	500-10	M								2 3/4			
	MCS6A	49.95	100	92	4	60-10	W	6 1/2							3 1/4			
	MCS8A	100	92	4	20-2.5	W	8								3 1/2			
	MPS42SL	59.95	60	92	4	60-20	W	4		2		No	F		1 1/2	Yes		
	MPS25SL	59.95	60	92	4	60-20		5 1/4		2		No	F		1 3/4	Yes		
	MPS62SL	69.95	60	92	4	50-20		6		2		No	F		1 3/4	Yes		
	MPS692	89.95	125	92	4	40-20		6 x 9		2		No	F		4 1/4	Yes		
	MPS69	99.95	150	92	4	40-22		6 x 9		3		No	F		4 1/4	Yes		
	MS6510	39.95	30	90	4	40-20		6		W					1 5/8	No		
	MS6516	49.95	30	90	4	30-20		6		2		No	F		1 5/8	No		
	MS4123	49.95	35	90	4	50-20		4 x 10		3		No	F		2 3/8	No		
	MS265HE	24.95	20	98	4	60-18		6 1/2		W					2	No		
	MS269HE	49.95	25	98	4	60-18		6 x 9		W					3	No		
	MS4010	29.95	20	88	4	100-16		4		W					1 1/2	No		
	MS4012	29.95	30	88	4	50-18		4		2		No	F		1 7/8	No		
	MS355	19.95	10	88	4	120-16		3 1/2		W					1 1/2	No		
	MS4620	39.95	30	88	4	60-18		4 x 6		2		No	F		1 7/8	No		
	MS69120W	79.95	60	90	4	45-20		6 x 9		3		No	F		3 1/8	No		
	MS6566	79.95	40	88	4	45-20		6 x 9		3		No	F		3	No		
	MS530	49.95	50	90	4	80-21		3 1/2		3		No	S		No	Bass-reflex enclosure.		
	MS540	69.95	60	90	4	80-21		4		3		No	S		No	As above.		
MS560	99.95	100	90	4	60-20		4		3		No	S		No	As above; honeycomb woofer.			
MS590	149.95	150	90	4	60-24		4		4		No	S		No	As above.			
MS5100	49.95	25	88	4	80-18		3		3		No	S		No	Cabinet enclosure.			
MS5600	99.95	100	92	4	60-20		4		3		No	S		No	As above.			
MS5650WP	119.95	100	92	4	50-20		4		3		No	S		Yes				
MS570	129.95	125	92	4	65-20		5 1/4		4		No	S		No	For pickup trucks, vans, and hatchbacks.			
MB QUART	QM 100KN-S	219.00	40	90		62-32		4			No	F		2	Yes			
	QM 130KN-S	239.00	50			49-32		5 1/4			No	F		2 3/8	Yes			
	QM 160KN-S	269.00	70			38-32		6 1/2			No	F		2 5/8	Yes			
	QM 19NX	199.00	80	90	4	4.2k-32k	T					F, S			Yes			
	QM 160.90	259.00	100	89	8	40-35	S	6 1/2				F, S			Yes			
	QM 200.90	279.00	100	89	8	35-300 Hz	S	8				F, S			Yes			
	QM 250.91	329.00	150	89	8	26-200 Hz	S	10				F, S			Yes			
	QM 120KX	219.00	60	90	4	49-20		6 1/2			No	F, S			2 5/8	Yes		
	QM 130KX	249.00	50	90	4	49-32		5 1/4			No	F, S			2 3/8	Yes		
	QM 160KX	279.00	70	90	4	38-32		6 1/2			No	F, S			2 1/2	Yes		
	QM 210KX	479.00	90	90	4	35-32		8			No	F, S			3 1/4	Yes		
	QM 19HC	149.00	80	90	4	2.7k-32k	T					F, S			3/4	Yes		
	QM 25HC	299.00	100	90	4	2.6k-32k	T					F, S			3/8	Yes		
	QM 210TC	100	90	4	35-200 Hz	S	8					F, S			3 1/4	Yes		
	QM 250SUB	140	90	4	26-200 Hz	S	10					F, S			4 3/4	Yes		
	QM 215CX	319.00	50	90	4	49-32		5 1/4		2	Yes	F, S			2 5/8	Yes		
	QM 120CX	249.00	80	90	4	49-20		6 1/2		2	Yes	F, S			2 5/8	Yes		
	QM 214 Universal	259.00	40			62-32		4		2	Yes	F, S			2 1/4	Yes		
	QM 215 Universal	319.00	50	90	4	45-32		5 1/4		2	Yes	F, S			2 5/8	Yes	For BMW 5 series (1986 and newer) and 7 series (1987 and newer).	
	QM 218 Universal	379.00	70	90	4	40-32		6 1/2		2	Yes	F, S			2 3/4	Yes		
	QM 215 Passat	319.00	50	90	4	48-32		5 1/4		2	Yes	F, S			2 1/2	Yes	For Volkswagen Passat.	
QM 218CX	379.00	90	90	4	38-32		6 1/2		2	Yes	F, S			2 1/2	Yes			
QM 325CX	499.00	60	90	4	49-32		5 1/4		3	Yes	F, S			2 3/8	Yes			
QM 328CX	549.00	80	90	4	38-32		6 1/2		3	Yes	F, S			2 1/2	Yes			
QM 335CX	779.00	100	90	4	30-32		8		3	Yes	F, S			2 1/2	Yes			
QM 215 Golf	319.00	50	90	4	49-32		5 1/4		2	Yes	F, S			3 1/4	Yes	For 1988 and newer Volkswagen Golf, GTI, and Jetta.		
QM 218.21 Golf	399.00	70	89	4	38-32		6 1/2		2	Yes	F, S			Yes	For 1993 Volkswagen Jetta II.			
QM 328.20 Golf	559.00	80	89	4	38-32		6 1/2		2	Yes	F, S			Yes	As above.			
QM 325.20	569.00	110	89	4	35-32		8		2	Yes	F, S			Yes	For BMW 3 E-36 series.			
MDS	ST-30	79.00	50	91	4	5k-20k	T				A				Yes			
	ST-35	89.00	50	91	4	5k-20k	T				P				Yes			
	ST-45	99.00	50	91	4	5k-20k	T				A				Yes			
	CSX-430	189.00	40	90	4	95-20		4			Yes	F			Yes			
	CSX-435	199.00	40	90	4	95-20		4			Yes	S			Yes			
	CSX-445	209.00	40	90	4	95-20		4			Yes	S			Yes			
	CSX-530	219.00	50	90	4	90-20		5 1/4			Yes	S			Yes			
	CSX-535	229.00	50	90	4	90-20		5 1/4			Yes	S			Yes			
	CSX-545	239.00	50	90	4	90-20		5 1/4			Yes	S			Yes			
	CSX-630	239.00	65	89	4	80-20		6 1/2			Yes	S			Yes			
	CSX-635	249.00	65	89	4	80-20		6 1/2			Yes	S			Yes			
	CSX-645	259.00	65	89	4	80-20		6 1/2			Yes	S			Yes			
	CSW-590	199.00	50	90	4	90-20		5 1/4			P				Yes			
	CSW-690	219.00	65	89	4	80-20		6 1/2			P				Yes			
	SAT-50	199.00	40	90	4	80-20		4			P				Yes			
	PA-60	159.00	40	90	4	75-20		4			P				Yes			
TU-600	125.00	75	90	4	50-800 Hz	S	6 1/2							Yes				
TU-800	149.00	100	92	4	45-600 Hz	S	8							Yes				
TU-1000	199.00	150	93	4	40-400 Hz	S	10							Yes				
TU-1200	239.00	200	90	4	25-250 Hz	S	12							Yes				



# SPEAKERS

MANUFACTURER	Model	Price \$ (If sold individually)	Price \$ (If sold in Pairs)	Recommended Maximum Power			Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Speaker Only (S) Midrange Only (M) Woofer Only (W) Woofer Only (S), Tweeter Only (T)	DRIVERS				Maximum Required Mounting Depth, Inches	Weatherproofed?	Notes
				Watts Channel	Channels	dB					Woofer Size, Inches	Woofer (W), 2-Way (2) 3-Way (3), 4-Way (4)	Applied Tweeters (A), Removable Tweeters (R)	Separately Mountable Drivers?			
MONSTER BASS (Continued)	MB-10.04			92	4				S	10				S		Yes	As above.
	MB-12.04			94	4				S	12				S		Yes	As above.
	MB-10.06			93	4				S	10				S		Yes	As above.
	MB-12.06			96	4				S	12				S		Yes	As above.
	MB-15.06			94	4				S	15				S		Yes	As above.
	MB-12.10			94	4				S	15				S		Yes	As above.
	MB-15.10			92	4				S	15				S		Yes	As above.
	MB-18.104			97	4				S	18				S		Yes	As above; 8-ohm version available.
MOREL ACOUSTICS	MDT-101S	149.00	200	91	6.4	1.8k-25k ±3		T			P		F	1½			
	MDT-107H	149.00	200	95	6.4	1.2k-25k		T			P		F	2			
	MOT-105S	159.00	200	91	6.4	1.5k-25k		T			P		F	2			
	MDT-106	289.00	200	92	6.4	1.8k-25k ±2		T			P		F	2½			
	MDT-104	127.00	80	90	6.4	2k-20k		T			P		F	1¼			
	57.04	119.00	80	89	6	2.5k-25k		T			A		F	¾			
	57.05	139.00	120	90	6	2.5k-25k		T			A		F	¾			
	57.06	149.00	160	91	6	2k-25k		T			A		F	¾			
	CDM-75	119.00	100	91	4/6	400-5 ±3		M				Yes	F	2¼		Yes	Dual voice-coils and magnets.
	MW-113C	219.00	150	87	4/8	60-6 ±3		W	4½ x 2¾			Yes	F	2¼		Yes	
	MW-114C	81.00	150	89	4/8	11-7 ±3		W	12 x 3¾			Yes	F	2 3¼		Yes	
	MW-1275	309.00	250	90	8	20-1.2 ±3		W	5				S	2			As above.
	CW-5	213.00	100	88	4	45-5		W	6				S	2			
	CW-6	239.00	100	90	4	35-5		W	8				F	2¼			
	CW-8	269.00	120	91	4	30-3.8		W	10				F	2¾			
	CW-10	299.00	150	92	4	30-3.3		W	12				F	4¼			
	CW-12	329.00	150	93	4	25-3.3		W	6				F	2¼			
	Coax-162	239.00	60	89	4	45-20			2			No	F	2¼			
	Integra 6	275.00	100	91	4	45-25			2			No	F	2¼			
	Integra 8	329.00	120	92	4	35-25			2			No	F	2¼			
	Integra 10	419.00	150	92	4	30-25			2			No	F	2¼			
CR-7 System	550.00	150	4	4	40-20 ±3			2			No	F	2		Yes	Wedge-shaped cabinet.	
142-M System	319.00	150	90	4	48-20 ±3			2			Yes	F	2				
166-M System	329.00	120	89	4	45-20			2		P	Yes	F	2¼				
226-M System	329.00	150	90	4	35-20			2		P	Yes	F	2¼				
228-M System	499.00	150	90	4	35-20			3		P	Yes	F	2¼				
MTX/ BLUE THUNDER	BT6	199.95	80	92	4	70-20			(2)6½	2		No	S		No	Enclosure.	
	BT8	259.95	100	91	4	66-20			(2)8	2		No	S		No	As above.	
	BT10	339.95	150	91	4	58-20			(2)10	3		No	S		No	As above.	
	BT12	399.95	175	92	4	54-20			(2)12	3		No	S		No	As above.	
	BT10W	379.95	150	92	4	35-20			(2)10	3		No	S		No	As above.	
	BT12W	439.95	200	93	4	32-20			(2)12	3		No	S		No	As above.	
	BPE10	339.95	125	89	4	47-110 Hz		S	(2)10	3		No	S		No	As above.	
	BTT6	259.95	100	90	4	47-1.8		S	(2)6½			No	S		No	Bandpass enclosure. Tube enclosure.	
	BTT16	49.95	100	92.5	6	5k-20k		T			P		F	1½		No	Includes crossover.
	BTT1	119.95	50	91	4	3.5k-20k		T					F	2¼		No	
	BTM44	59.95	70	88	4	58-5		M					F	2		No	
	BTM54	69.95	100	88	4	52-5.1		M					F	2½		No	Sealed-back midrange.
	BTM55	47.95	100	91.5	8	890-4		M	6½				F	3¾		No	
	BTM64	89.95	120	88	4	35-3		W					F	3¾		No	Eight-ohm version available.
	BTW834	99.95	70	88	4	38-2.5		S					F	4¾		No	As above but with 92 dB SPL.
BTW1044	114.95	100	89	4	24-2.5		S					F	4¾		No	Eight-ohm version available.	
BTW1244	129.95	150	88	4	22-2		S	12				F	5½		No		
MTX/COAXIALS	3501	49.95	30	92	4	130-19			3½	W		No	F	1½	No		
	4002	89.95	45	91	4	60-20			4	2		No	F	1¾	No		
	4602	129.95	45	95	4	60-20			4 x 6	2		No	F	1¾	No		
	5202	99.95	60	94	4	45-20			5¼	2		No	F	2	No		
	6502	109.95	75	95	4	40-20			6½	2		No	F	1¾	No		
	6902	159.95	120	96	4	35-19			6 x 9	2		No	F	3	No		
	6903	189.95	150	96	4	32-20			6 x 9	3		No	F	3½	No		
MTX/ELIMINATOR	ESW84	69.95	100	90	4	60-4		S	8			F	3¾		No	Eight-ohm version available with response from 46 Hz to 3.4 kHz.	
	ESW104	99.95	150	91	4	27-4		S	10			F	4¾	No	Eight-ohm version available.		
	ESW124	119.95	150	91.5	4	28-2.3		S	12			F	5¾	No	As above.		
	ESW154	139.95	150	93	4	20-1.8		S	15			F	6¼	No	As above.		
MTX/ ROAD THUNDER PRO	MNT1	109.95	50	91	4	3.5k-20k		T			P		S		No	Includes crossover.	
	RTP16	49.95	100	92.5	6	5k-20k		T				F	1½	No			
	RTP34	39.95	30	88	4	160-7		M				F	1¼	No			
	RTP44	47.95	70	90	4	95-5		M				F	2½	No			
	RTP462	89.95	30	89	4	100-20		M		2		No	P	1½	No	Eight-ohm version available. 4 x 6-inch plate; for GM vehicles.	
	RTP54	59.95	100	90	4	70-5		M				F	2¾	No		Eight-ohm version available.	
	RTP64	84.95	120	91	4	65-3.4		W	6½			F	3¾	No		As above.	
	RTP74	89.95	120	92	4	45-3.4		W	7			F	3½	No		As above.	
	RTP84	99.95	150	91	4	40-3		S	8			F	3¾	No		As above.	
	RTP104	129.95	175	93	4	30-3		S	10			F	4¾	No		As above.	
	RTP124	159.95	200	94	4	26-3		S	12			F	5½	No		As above.	
RTP154	179.95	250	93	4	22-1.8		S	15			F	6½	No		As above.		
MTX/ ROAD THUNDER TWO	SBX6	139.95	80	91	4	110-22			(2)6½	2		No	S		No	Enclosure.	
	SBX8	159.95	200	95	4	60-22			(2)8	3		No	S		No	As above.	
	SBX10	299.95	300	95	4	52-22			(2)10	3		No	S		No	As above.	
	SBX10	259.95	300	96	4	50-22			(2)10	2		No	S		No	As above.	
	HBX12	339.95	400	99	4	40-22			(2)12	2		No	S		No	As above.	
	HBX15	399.95	500	99	4	42-22			(2)15			No	S		No	As above.	
	BPX6	299.95	80	89	4	61-300 Hz		S	(2)6			No	S		No	Bandpass enclosure.	
	BPX8	339.95	100	91	4	50-300 Hz		S	(2)8			No	S		No	As above.	
	BPX10	379.95	125	94	4	40-300 Hz		S	(2)10			No	S		No	As above.	
	STX60	219.95	80	89	4	50-2.2		S	(2)6½			No	S		No	Tube enclosure.	
	CFX12	329.95	100	92	4	39-22		S	(2)12		2		No	P		No	For Camaros and Firebirds.

# SPEAKERS

MANUFACTURER	Model	Price, \$				Recommended Maximum Power, Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS							Notes
		(if Sold Individually)	(if Sold in Pairs)							Subwoofer Only (S), Woofer Only (W), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Whizzer (W), 2-Way (2), 3-Way (3), 4-Way (4)	Angle Tweeter(s) = A, Adjustable Tweeter(s) = P	Separately Mountable Drivers?	Flush Mount (F), Surface Mount (S), Conveinic (C), Plate (P)	Maximum Required Mounting Depth, Inches	
MTX/ ROAD THUNDER TWO (Continued)	CFX15	399.95		150	92	4	34-22		T		(2)15	2	No	P		No	As above.
	RT25	17.95		75	92	4	3.8k-40k		T					F	2 1/8	No	
	RT3	14.95		75	92	4	3.8k-27k		T					F	2 1/8	No	
	RTT1	24.95		70	91	6	5k-20k		T					F	3/4	No	
	QT2		59.95	30	91	4	5k-20k		T					F	No	No	Includes crossover.
	RT234	19.95		30	89	4	180-7.6		M			A		F	No	No	
	RT244	29.95		60	85	4	110-4.2		M					F	1 1/8	No	
	RT246	49.95		30	86	4	180-20		M					F	2 1/8	No	4 x 6-inch plate; for GM vehicles.
	RT254	39.95		40	88	4	74-5.5		M	4	2	No		F	2 1/8	No	
	RT264	49.95		60	88	4	35-3.5		W	6 1/2				F	2 1/8	No	Eight-ohm version available.
	RT284	69.95		100	89	4	37-3		S	8				F	3 3/8	No	As above.
RT2104	79.95		125	92	4	28-2.8		S	10				F	3 3/4	No	As above.	
RT2124	89.95		125	92	4	20-2.2		S	12				F	4 1/2	No	As above but with 92 dB SPL.	
RT2154	99.95		150	89	4	21-1.8		S	15				F	5	No		
									S	8				F	6 1/4	No	
MTX/TERMINATOR	MTW84	94.95		70	90	4	45-2		S	8				F	3 3/8	No	Eight-ohm version available.
	MTW104	99.95		100	89	4	23-2		S	10				F	4 1/8	No	As above.
	MTW124	109.95		150	92	4	23-2.1		S	12				F	5 1/8	No	As above.
	MTW154	134.95		150	91	4	21-2		S	15				F	6 1/4	No	As above.
MUSCLE MAGNET	UES-32	60.00	120.00	175	95	8	25-3		W	10				F	4		For sealed enclosure.
	UES-53	45.00	90.00	120	94	8	50-5		W	10				F	4		As above.
	UES-72	125.00	250.00	400	98	8	40-4.5		W	12				F	5 1/2		As above.
	UES-746	80.00	160.00	175	97	8	52-5		W	12				F	5 1/2		As above.
	UES-10	160.00	320.00	400	95	8	30-4		W	15				F	6 1/2		As above.
	UES-2	110.00	220.00	250	98	8	30-4		W	15				F	6 1/2		As above.
	UES-89	190.00	380.00	400	95	8	26-3.5		W	18				F	7		As above.
MXC CRDWN	CAS1090		19.95	100	91	4	100-16			4	2			F	1 1/8	Yes	
	CAS1390		21.95	120	91	4	80-18			5 1/4	2			F	1 1/8	Yes	
	CAS1660		29.95	150	91	4	60-20			6 1/2	2			F	2 1/8	Yes	
	CAS1670		37.95	175	91	4	60-20			6 1/2	3			F	2 1/8	Yes	
	CAS6904			200	93	4	50-20			6 x 9	2			F	3 1/8	Yes	
	CAS6905		69.95	200	93	4	50-20			6 x 9	3			F	3 1/8	Yes	
NAKAMICHI	SP-60		250.00	80	86	4	45-5		W	6				F	2 1/8	Yes	
	SP-15		250.00	40	87	4	1k-10k		M					F	1 1/8	Yes	
	SP-5		200.00	40	86	4	5k-22k		T					F	1 1/8	Yes	
	SP-55C		250.00	80	86	4	50-22			5 1/2	2	A	No	F	2 3/8	Yes	
	SP-46		100.00	20	87	4	90-20		S	4 x 6	W			F	1 1/4	Yes	
	SP-1010		200.00	90	86	4	25-4			9 7/8				F	4 1/8	Yes	
	SP-65C		330.00	80	86	4	45-22			6 1/2		†	††	F	2 1/8	Yes	†Optional angle mount, Model MK-1. ††Detachable tweeter.
	SP-35		80.00	20	87	4	90-20			3 1/2	W		No	F	1 3/8	Yes	
	SP-200		300.00	80	86	4	50-20		S	5 1/8	W			F	1 3/8	Yes	
	SP-80		300.00	160	92	4	30-1		W	7 7/8				F	3 3/8	Yes	
	SP-50		190.00	80	87	4	50-6		W	5 1/4				F	1 1/2	Yes	External crossover required.
	SP-40		130.00	40	88	4	75-20		T	4				F	1 1/2	Yes	
	SP-10		200.00	40	86	4	2.5k-22k						†	F	1 1/2	Yes	As above.
N.E.A.R.	AES-1.1	159.00		100	90	4	65-16 ± 3			5 1/4				S		Yes	Box enclosure.
	AES-1.2	179.00		100	90	4	65-20 ± 3							S		Yes	As above.
	AES-1.4	199.00		150	91	4	55-23				2			S		Yes	As above.
	CS-2.2	74.95		50	90	8	2k-25k		M					F		Yes	
	CS-4.0	89.95		100	94	8	200-4		T					F	1	Yes	
	CS-5.25	99.00		100	90	4	48-10		W	5 1/4				F	2	Yes	
	CS-8.25	189.95		150	91	8	26-4		W	8				F	2 3/4	Yes	
ORION	XTR1	45.00	90.00	120	90.5	8	2.8k-20k		T					F	1	No	
	XTR1s	42.00	84.00	100	89	8	2.1k-20k		T					F	3/4	No	
	XTR4	67.50	135.00	80	88	4	100-4		M					F	1 1/4	No	
	XTR5	89.50	179.00	60	88.5	4	89-4		M					F	2 1/4	No	
	XTR6.5	116.00	232.00	400	90.8	4	54-2.5		W	6 1/2				F	3 1/2	No	
	XTR8	121.00	242.00	400	91.1	4	41.5-2		W	8				F	4	No	
	XTR8DVC	128.00	256.00	400	†	†	36-2		W	8				F	4	No	†Dual voice-coils: 95.9 dB at 2 ohms, 90.17 dB at 8 ohms.
	XTR10	151.00	302.00	800	90.2	4	41-1.5		W	10				F	4 3/8	No	
	XTR10DVC	159.00	318.00	800	†	†	39-1.5		W	10				F	4 3/8	No	†As above but 93.4 and 88.5 dB.
	XTR12	189.00	378.00	800	92.5	4	29-1.4		W	12				F	5 3/8	No	
	XTR12DVC	199.00	398.00	800	†	†	27-1.4		W	12				F	5 3/8	No	†As above but 95 and 90 dB.
	XTR15	227.00	454.00	800	94	4	34-1		W	15				F	6 3/4	No	
	XTR15DVC	246.00	492.00	800	†	†	29-1		W	15				F	6 3/4	No	†As above but 98 and 93.2 dB.
	XTR8I8	142.00	284.00	200	92.1	4	45-2		W	8				F	4	No	
	XTR8I8DVC	150.00	300.00	200	†	†	40-2		W	8				F	4	No	†As above but 93.8 and 88.2 dB.
	XTR10I8	170.00	340.00	200	92.6	4	43-1.5		W	10				F	4 3/8	No	†As above but 95.1 and 90.1 dB.
	XTR10I8DVC	178.00	356.00	200	†	†	42-1.5		W	10				F	4 3/8	No	†As above but 96 and 91 dB.
	XTR12I8	205.00	410.00	200	93.5	4	34-1.4		W	12				F	5 3/8	No	
	XTR12I8DVC	216.00	432.00	200	†	†	32-1.4		W	12				F	5 3/8	No	
	CO6.5	84.00	168.00	200	88.2	4	44-2.5		W	6 1/2				F	3 1/2	No	
	CO8	93.00	186.00	200	91.6	4	40-2		W	8				F	4	No	†As above but 93.4 and 88.2 dB.
	CO8DVC	93.00	186.00	200	†	†	38-2		W	8				F	4	No	
	CO10	112.50	225.00	400	90.8	4	36-1.5		W	10				F	4 3/8	No	†As above but 93.2 and 87.7 dB.
	CO10DVC	118.00	236.00	400	†	†	35-1.5		W	10				F	4 3/8	No	
	CO12	123.50	247.00	400	91.2	4	30-1.4		W	12				F	5 3/8	No	†As above but 94.1 and 89.3 dB.
	CO12DVC	129.00	258.00	400	†	†	27-1.4		W	12				F	5 3/8	No	
	CO15	171.00	342.00	400	94	4	33-1		W	15				F	6 3/4	No	
	CO15DVC	176.00	352.00	400	†	†	29.5-1		W	15				F	6 3/4	No	†As above but 98 and 93.1 dB.
OWI	M-4F	49.00	98.00	30	90	4	70-18 ± 3			4	2	No		F	1	Yes	For vans and trucks.
	M-5CX	74.00	148.00	40	94	4	50-20 ± 3			5 1/4				S	1 1/2	Yes	As above.
	202		159.00	80	92	8	90-20							S		Yes	As above.
	203		179.00	100	92	8	90-20							S		Yes	As above.
	2301		299.00	60	90	6	65-20										

# SPEAKERS

MANUFACTURER	Model	DRIVERS													Notes				
		Price, \$ (If Sold Individually)		Price, \$ (If Sold in Pairs)		Recommended Maximum Power, Watts/channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Subwoofer Only (S) Woofers Only (W) Midrange Only (M) Tweeter Only (T)	Woofer Size, Inches	Woofer (W) 2-Way (2) 3-Way (3), 4-Way (4)	Amplified Tweeters (A) Phimmable Tweeters (P)	Separately Mountable Drivers?		Flush Mount (F) Slotless Mount (S)	Converline (C) Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?
		Price, \$	Price, \$	Power	Watts														
		Price, \$	Price, \$	Power	Watts	W	W	W	W	W	W	W	W	W		W	W	W	W
OZ AUDIO (Continued)	Oz-100	169.00	60	89	4	80-6.5 ± 1.5	M						F	1 3/4	Yes				
	Oz-130	195.00	80	91	4	60-5 ± 2	W	5 1/4					F	2 5/8	Yes				
	Oz-180	220.00	100	90	4	35-5 ± 2	W	6 1/2					F	3 1/2	Yes				
	Oz-200H	159.00	120	92	4	45-2 ± 2	W	8					F	3 3/8	Yes				
	Oz-200L	129.00	120	92	4	25-2 ± 2	W	8					F	3 3/8	Yes				
	Oz-250H	190.00	150	92	4	35-1.2 ± 2	S	10					F	4 1/8	Yes				
	Oz-250L	190.00	150	92	4	18-1.2 ± 2	S	10					F	4 1/8	Yes				
	Oz-300H	249.00	180	92	4	32-1 ± 2	S	12					F	5	Yes				
	Oz-300L	249.00	180	92	4	18-1 ± 2	S	12					F	5	Yes				
	Oz-8P8	269.00	200	94	4	35-100 Hz ± 2	S	8					S		Yes		Bandpass enclosure.		
Oz-8P10	369.00	300	96	4	30-90 Hz ± 2	S	10					S		Yes		As above.			
PANASONIC	EAB-H55	95.00	100	92	4	40-22 +0, -10		5 1/4	W	A				2 1/4	Yes				
	EAB-A63	55.00	60	92	4	40-20 +0, -10		6 1/2	2		No			1 7/8	Yes				
	EAB-A45	55.00	40	91	4	50-22 +0, -10		4	W	A				1 3/4	Yes				
	EAB-A43	39.00	40	91	4	50-20 +0, -10		4	2		No			1 3/4	Yes				
	EAB-T3	140.00	150	90	4	2k-25k +0, -10	T							5/8					
	EAB-M10	130.00	150	90	4	500-10 +0, -10	M							1 7/8					
	EAB-W16	160.00	150	89	4	40-7 +0, -10	W	6 1/2						1					
	EAB-820	80.00	45	82	4	400-10 +0, -10	M											Center-channel speaker.	
	EAB-ST1	71.00	100	92	4	5k-25k	T				P			5/8	Yes				
	EAB-W25	159.00	300	92	4	25-5	S	10					C	4 3/8	Yes				
	EAB-H65	95.00	100	92	4	35-22		6 1/2	2	A	A		F	1 7/8	Yes				
	EAB-H45	95.00	60	92	4	50-22		4	2	A	A		F	1 3/4	Yes				
	EAB-H98	195.00	200	94	4	30-22		6 x 9	3	A	A		F	3	Yes				
	EAB-H97	145.00	120	94	4	30-22		6 x 9	3	A	A		F	3	Yes				
	EAB-H95	109.00	100	93	4	40-20		6 x 9	2	A	A		F	2 3/4	Yes				
	EAB-H93	85.00	80	93	4	40-20		6 x 9	2	A	A		F	2 3/4	Yes				
	EAB-S33	39.00	40	90	4	100-20		3 1/2	W				F	1 3/8					
	EAB-051A	45.00	40	93	4	50-15		5					F	1 3/8					
EAB-T501	56.00	40	89	4	50-16 ± 3		5	W				F	3 1/8	Yes					
EAB-T651	89.00	50	92	4	40-22 ± 3		6 1/2	2	A	No	No	F	1 1/2	Yes					
EAB-466	69.00	50	90	4	60-22 ± 3		4 x 6	2		No	No	F	1 3/8	Yes					
PARASOUND	AWM380	345.00	80	88	8	48-20 ± 3		5 1/4	2	No	No	S	S		Yes		Enclosure.		
	AWS280	265.00	70	88	8	55-20 ± 3		5 1/4	2	No	No	S	S		Yes		As above.		
	AWM360	155.00	60	88	8	65-20 ± 3		4	2	No	No	S	S		Yes		As above.		
PETRAS	HDT-1	20.00	40.00	60	98	8	5k-25k	T					F	7/8	No				
	SMT-1	49.00	98.00	100	95	4	5k-25k	T					C	1/2	No				
	100DT4	39.00	78.00	100	95	4	3k-22k	T					F	1 1/8	No			Eight-ohm version available.	
	GW44	39.00	78.00	60	98	4	500-8	M					F	1 1/8	No				
	CP48	35.00	70.00	80	89	8	80-8	M					F	2	Yes				
	CP58	49.00	98.00	80	91	8	500-6	M					F	2 1/4	Yes			Sealed-back midrange.	
	G54	49.00	98.00	80	91	4	80-5	M					F	2 1/2	No			Eight-ohm version available.	
	GA64	75.00	150.00	150	91	4	40-3	W	6 1/2				F	3	No			As above.	
	GA84	85.00	170.00	150	93	4	35-3	W	8				F	3 1/2	No			As above.	
	CX104	76.00	152.00	200	93	4	25-2.5	W	10				F	4 1/8	Yes			As above.	
	CX124	100.00	200.00	200	93	4	25-2.5	W	12				F	5	Yes			As above.	
	SW158D	199.00	398.00	400	95	8	20-800 Hz	S	15				F	5 7/8	Yes			Dual voice-coils. For sealed enclosure; with dual voice-coils, \$109.00 each or \$218.00 per pair.	
	HS104	99.00	198.00	300	93	4	30-2	S	10				F	3 7/8	Yes			As above but \$129.00/\$258.00.	
	FX104	110.00	220.00	300	93	4	25-1	S	12				F	4 3/8	Yes			As above but \$149.00/\$298.00.	
	HS124	119.00	238.00	300	93	4	25-1	S	12				F	5 1/8	Yes			For sealed enclosure.	
	FX124	130.00	260.00	300	93	4	25-1	S	12				F	5 5/8	Yes			Eight-ohm version available.	
	HS154	139.00	278.00	300	94	4	20-800 Hz	S	15				F	7 1/2	Yes			As above but \$155.00 each.	
	HS184	349.00	698.00	600	96	4	20-800 Hz	S	18				F	7 7/2	Yes			As above; with dual 4-ohm voice-coils, \$180.00 each.	
	PG64	85.00	170.00	200	91	4	40-3	W	6 1/2				F	3	No			As above.	
	PG84	95.00	190.00	200	93	4	35-3	W	8				F	3 3/8	No			As above.	
	PR104	140.00	280.00	350	94	4	28-2	W	10				F	4 3/8	Yes			With dual voice-coils, \$145.00 each.	
	PR124	150.00	300.00	350	94	4	24-1	W	12				F	5 1/4	Yes			As above but \$155.00 each.	
	PZ104	165.00	330.00	350	95	4	28-2	W	10				F	4 1/2	Yes			Eight-ohm version available.	
PZ124	175.00	350.00	350	95	4	24-1	W	12				F	5 1/4	Yes			As above; with dual 4-ohm voice-coils, \$180.00 each.		
PZ154	195.00	390.00	350	96	4	20-800 Hz	S	15				F	5 7/8	Yes			As above but \$200.00 each.		
PHASE LINEAR	PL1352	60.00	70	88	4	110-22 ± 3		3 1/2	W				F	1 1/2	No				
	PL2520	149.00	90	88	4	64-20 ± 3		5 1/4	2			No	F	1 3/4	No				
	PL4801	89.00	70	88	4	65-22		4	W				F	1 3/4	No				
	PL4602	129.00	80	91	4	65-22		4	2			No	P	1 3/4	No			4 x 6-inch plate.	
	PL6502	169.00	120	90	4	55-21		6 1/2	2			No	F	1 7/8	No				
	PL6903	199.00	180	90	4	34-21		6 x 9	3			No	F	3	No				
	PLC400/48	99.00	75	†	4/8	65-8 ± 3	M						F	1 3/4	Yes			†Dual voice-coils: 89 dB at 4 ohms, 87 dB at 8 ohms.	
	PLC525/48	119.00	120	†	4/8	58-6.5 ± 3	M						F	2 1/8	Yes			†As above.	
	PLC2525	300.00	120	89	4	40-30 ± 3		5 1/4					C	2 1/4	No				
	PLS800/48	99.00	200	†	4/8	25-3 ± 3	S	8					F	4 1/4	Yes			†As above but 88 and 86 dB.	
	PLS1000/48	129.00	250	†	4/8	20-2.5 ± 3	S	10					F	4 3/8	Yes			†As above but 90 and 88 dB.	
	PLS1200/48	169.00	330	†	4/8	20-3.5 ± 3	S	12					F	5 1/8	Yes			†As above but 92 and 90 dB.	
	PT5	119.00	120	90	6	4.5k-32k ± 3	T					P	C	1 3/8	Yes				
	PT75	150.00	150	90	4	4k-32k ± 3	T					P	C	1 3/8	Yes				
PT100	140.00	150	90	4	4k-20k	T					P	C, P	1 3/8	Yes					

# SPEAKERS

MANUFACTURER	Model	DRIVERS										Notes					
		Price \$ (if Sold Individually)	Price \$ (if Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to KHz, ±dB	Subwoofer Only (S) Woofer Only (W), Midrange Only (M), Tweeter Only (T)					Applied Tweeter(s) = A, Fullrange Tweeter(s) = P Separately Mountable Drivers?	Flush Mount (F), Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?	
								Woofer Size, Inches	Woofer (W), 2-Way (S), 3-Way (C), 4-Way (P)	Applied Tweeter(s) = A, Fullrange Tweeter(s) = P	Separately Mountable Drivers?						Flush Mount (F), Surface Mount (S), Convertible (C), Pole (P)
PHILIPS	GTP 623		110.00	60	91	4	45-22		6 1/2	2		No	F	1 1/2			
	GTP 523		90.00	50	91	4	50-22		5 1/4	2		No	F	1 1/2			
	GTP 423		80.00	40	91	4	70-22		4	2		No	F	1 1/2			
	GTP 613		80.00	60	91	4	45-20		6 1/2	W		No	F	1 1/2			
	GTP 513		70.00	50	90	4	50-27		5 1/4	W		No	F	1 1/2			
	GTP 413		50.00	40	92	4	70-20		4	W		No	F	1 1/2			
	SUB 100	135.00 180.00		100	91	4	25-3	S	10				F	4 1/2			
	SUB 200			200	92	4	18-2	S	12				F	5			
	PRS 002		150.00	120	91	4	5k-25k	T					F				
	GTM 420		100.00	80	90	4	45-25		4	2			F	1 1/4			
	GTM 520		130.00	100	90	4	45-25		5 1/4	2			F	2			
	GTM 620		150.00	100	90	4	30-25		6 1/2	2			F	2 1/2			
	GTM 630		170.00	120	91	4	30-25		6 1/2	3			F	2 1/2			
	GTM 830		200.00	200	91	4	28-25		8	3			F	3 1/2			
	GTM 639		220.00	200	91	4	28-25		6 x 9	3			F	3 1/4			
	PRS 502		320.00	80	87	4	40-25		5 1/4	3		Yes	F, S	3			
PRS 602		370.00	150	88	4	34-25		6 1/2	2		Yes	F, S	3 1/2				
PRS 802		400.00	200	89	4	30-25		8	2		Yes	F, S	3 3/4				
PHILLIPS SOUND LABS	PSL1270	79.98		300	95	4		W	12				S		No	Box enclosure.	
	PSL1050	74.98		240	94	4		W	10				S		No	As above.	
	PSL840	69.98		200	94	4		W	8				S		No	As above.	
	PSL101		59.98	40	90	4		T			A/P		C		No		
	PSL102		84.98	50	90	4		T			A/P		C		No		
PHOENIX GOLD	ZPD1	90.00	180.00	100	93	4	3k-22k	T			A/P		C	3/4	Yes		
	ZPD16	100.00	200.00	150	91	4	40-6	W	6				C	3 3/4	Yes		
	ZPD13	85.00	170.00	100	91	4	70-6	M					C	2 1/2	Yes		
PIONEER	TS-C1301		201.00	150	90	4	40-25		5 1/4	2	P	Yes	F, S	2	Yes	Separate carpeted enclosure for each channel.	
	TS-C1001		186.00	150	90	4	55-25		4	2	P	Yes	F, S	2	Yes		
	TS-TRX1000		421.00	250	94	4	45-23		4	3		Yes	F, S	2	Yes		
	TS-TRX800	108.00 93.00 78.00 450.00	291.00	200	91	4	50-22		8	2		Yes	S		Yes		As above.
	TSW-3018C			400	93	8	18-3.5 ± 3	S	12					5 1/4	Yes		For sealed enclosure.
	TSW-2518C			300	91	8	18-4 ± 3	S	10					4 1/2	Yes		As above.
	TSW-2018C			250	91	8	20-6 ± 3	S	8					3 3/4	Yes	As above.	
	TS-LX100		80	94	4	35-150 Hz ± 0.15	S	7						Yes	Powered, enclosed subwoofer.		
	TS-M133	106.00 106.00 91.00 281.00 66.00 66.00 165.00 306.00	106.00	150	88	4	38-11	M					F, F, F, S	2 1/2	Yes	Includes 4 x 6-inch mount.	
	TS-M101			150	90	4	55-20	M					F, F, F, S	2	Yes		
	TS-M871			150	90	4	60-20	M					F, F, F, S	1 1/4	Yes		
	TS-T31			150	88	4	2.5k-35k	T			P			1	Yes		Includes crossover.
	TS-T11			100	90	4	2k-25k	T			P			1 1/4	Yes		Biamp capable.
	TS-M5			80	89	4	2.5k-30k	T			P			1 1/2	Yes		
	TS-P461			150	90	4	60-25		3 1/2	2		A	No	F	3 3/4	Yes	
	TS-A6990			200	94	4	28-32		6 x 9	3		A	No	F	3 1/2	Yes	
	TS-A6980		231.00	200	93	4	28-30		6 x 9	4	A		No	F	3 3/4	Yes	
	TS-A6970		171.00	160	93	4	28-27		6 x 9	4	A		No	F	3 1/4	Yes	
	TS-A6950	145.00	120	93	4	+ 0.15		6 x 9	3	A		No	F	2 3/4	Yes		
	TS-A6940	105.00	100	92	4	30-25		6 x 9	2	A		No	F	2 1/2	Yes		
	TS-A6930	75.00	80	92	4	+ 0.15		6 x 9	W				F	2 1/2	Yes		
	TS-T21	111.00	150	90	4	2.4k-26k	T			A			F, S	1	Yes	For trucks.	
	TS-TRX60	301.00	150	91	4	55-24		6 1/2	2	A		No	S		Yes		As above.
	TS-TRX50	231.00	120	90	4	65-23		5 1/4	2	A		No	S		Yes	As above.	
	TS-TRX40	170.00	100	90	4	75-23		5	2	A		No	S		Yes	As above.	
	TS-X200	140.00	80	89	4	65-30		4	3	A		No	S		Yes	As above.	
	TS-X100	108.00	60	89	4	80-20		4	2	A		No	S		Yes		
	TS-66	50.00	40	90	4	180-18		5 1/4		A		No	S		Yes		
	TS-44	40.00	40	88	4	180-18		4		A		No	S		Yes		
	TS-879	67.00	40	88		90-20		3 1/2	2	A		No	F	1 1/2		For GM, Ford, Chrysler, and VW cars.	
	TS-877	44.00	40	88		90-20		3 1/2	2	A		No	F	1 1/2			As above.
	TS-1018	67.00	40	88	4	50-20		4	2	A		No	F	1 1/2			For Toyotas, Mitsubishis, and Plymouths.
	TS-A1250	85.00	50	91	4	60-20		5	2	A		No	F	2 1/8	Yes		
	TS-A1395	110.00	100	90	4	45-30		5 1/4	2	A		No	F		Yes		
	TS-A1390	90.00	100	90	4	+ 0.15		5 1/4	2	A		No	F		Yes	For GM and VW cars.	
	TS-469	85.00	40	89	4	50-20		4 x 6	3	A		No	F	1 1/2		As above.	
TS-468	75.00	40	89	4	50-20		4 x 6	2	A		No	F	1 1/2		As above.		
TS-467	52.00	40	89	4	60-20		4 x 6	2	A		No	F	1 1/2		As above.		
TS-A5705	125.00	120	90	4	40-24		5 x 7	3	A		No	F		Yes	Fits 6 x 8-inch hole.		
TS-A5703	105.00	100	90	4	40-23		5 x 7	2	A		No	F		Yes	As above.		
TS-MR165	201.00	120	90	4	35-21		6 1/2	2	A		No	F	4	Yes	For marine use.		
TS-MR163	151.00	100	90	4	38-20		6 1/2		A		No	F	3 1/2	Yes	As above.		
TS-MR161	81.00	80	90	4	40-20		6 1/2	W			No	F	1 3/4	Yes	As above.		
TS-W301C	108.00	400	93	4	+ 0.15	S	12						5 1/4		For sealed enclosure; version for free-air use available.		
TS-W251C	93.00	300	91	4	18-4 ± 3	S	10						4 1/2			As above.	
TS-W201C	78.00	250	91	4	20-6 ± 3	S	8						3 1/4				As above.
TS-W161	131.00	150	91	4	30-6 ± 3	M							2 1/2				
TS-A1680	165.00	150	91	4	35-30 ± 3		6 1/2	3	A		No	F	2 1/2	Yes			
TS-A1675	136.00	120	91	4	35-30		6 1/2	3	A		No	F	2 1/4	Yes			
TS-A1660	110.00	150	91	4	+ 0.15		6 1/2	2	A		No	F	2 1/8	Yes			
TS-A1645	96.00	100	91	4	35-25 ± 3		6 1/2	2	A		No	F	1 1/2	Yes			

(Continued)

# SPEAKERS

MANUFACTURER	Model	Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt 1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS									Notes
								Subwoofer Only (S) Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Wizzer (W) 2-Way (2), 3-Way (3), 4-Way (4)	Applet Tweeters = A, Pointed Tweeters = P	Separately Mountable Drivers?	Fitch Mount (F), Surface Mount (S), Convertible (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?		
PIONEER (Continued)	TS-G1633	75.00	80	92	4	35-25 +0, -15	6 1/2	2	A	No	F	1 3/4	Yes				
	TS-G1630	55.00	80	92	4	35-20 +0, -15	6 1/2	W			F	1 3/4	Yes				
	TS-A4105	140.00	120	92	4	38-25 ±3	4 x 10	3	A	No	F	3	Yes				
	TS-A4103	120.00	120	91	4	38-23	4 x 10	2	A	No	F	3	Yes				
	TS-A4605	125.00	50	89	4	45-30 ±3	4 x 6	2	A	No	F	1 7/8	Yes				
	TS-G1033	67.00	50	91	4	45-20	4	2		No	F	1 3/4	Yes				
	TS-G1030	45.00	50	90	4	+0, -15 45-20	4	W			F	1 3/4	Yes				
TS-A1090	88.00	50	90	4	+0, -15 50-24	4	2	A	No	F	1 3/4	Yes					
POLK	C4	349.95	200	94	↑	35-150 Hz	S (4)			No	S		Yes	†2, 4, or 8 ohms. Compound isobaric, bandpass enclosure.			
	MM 1225	199.00	300	90	4/8	20-750 Hz	S	6 x 9			F	4 5/8	Yes				
	MM 1200		75	92	4	3.5k-20k ±3	T	12		P	S						
	MM 2200	119.90	75	92	4	1.75k-20k ±3			2	A/P	Yes	F, S	1	Yes	Midrange and tweeter module.		
	MM 3000	179.90	100	92	4	2k-26k ±3	T			A/P		F, S	1 1/8	Yes			
	MM 300	159.90	100	90	4	150-20 ±3		3 1/2	2			P	1 3/4	Yes			
	MM 3500	54.90	50	89	4	120-17 ±3		3 1/2	W			F	1 1/2	Yes			
	MM 4500	89.90	50	89	4	80-18 ±3		4 1/2	W			F, S	1 5/8	Yes			
	MM 4510	99.90	50	88	4	60-3 ±3	W	4 1/2				F, S	1 3/4	Yes			
	MM 4600	69.90	50	89	4	75-15 ±3		4 x 6	W			F, S	2	Yes	Fits GM vehicles. Fits 4 x 6-inch hole.		
	MM 4620	119.90	50	90	4	120-20 ±3		3 1/2	2			F, S	1 5/8	Yes			
	MM 5000	99.90	75	87	4	50-15 ±3		5 1/4	W			F, S	1 7/8	Yes			
	MM 5510	119.90	100	89	4	40-3 ±3	W	5 1/4				F, S	2 1/2	Yes			
	MM 5520	139.90	75	89	4	40-20 ±3		5 1/4	2			F, S	2 1/2	Yes			
	MM 6510	139.90	100	90	4	35-2 ±3	W	6 1/2				F, S	2 5/8	Yes			
	MM 6520	179.90	100	90	4	35-20 ±3		6 1/2	2			F, S	2 5/8	Yes			
	MM 6930	229.90	100	89	4	34-20 ±3		6 x 9	3			F, S	3	Yes			
	MM 8002	79.90 129.90	150	90	4	30-1.5 ±3	S	8									
	MM 1025		200	90	4	20-1 ±3	S	10									
	MM 1245	179.95	50	88	4	60-20 ±3		4 1/2	2	A/P	Yes	F, S	1 3/4	Yes	Tweeter level control.		
MM 1255	199.95	100	89	4	40-20 ±3		5 1/4	2	A/P	Yes	F, S	2 1/2	Yes	As above.			
MM 2255	249.90	100	89	4	40-22 ±3		5 1/4	3	A/P	Yes	F, S	2 1/2	Yes	As above.			
MM 2265	269.90	100	90	4	35-2 ±3		6 1/2	3	A/P	Yes	F, S	2 5/8	Yes	As above.			
MM 3045	319.90	50	88	4	60-26 ±3		4 1/2	2	A/P	Yes	F, S	1 3/4	Yes	External crossover with tweeter level control.			
MM 3055	349.95	100	89	4	40-26 ±3		5 1/4	2	A/P	Yes	F, S	2 1/2	Yes	As above.			
MM 3065	369.95	100	90	4	35-26 ±3		6 1/2	2	A/P	Yes	F, S	2 5/8	Yes	As above.			
MM 3080	499.90	150	89	4	30-26 ±3		8	2	A/P	Yes	F, S	3 1/4	Yes	As above.			
POWER ACOUSTIK	SPA-1060	75.00	150	91	4	30-4	W	10			F	4	Yes				
	SPA-850	48.00	125	90	4	35-5	W	8			F	3 7/8	Yes				
	SPA-6530	34.00	85	90	4	45-5	W	6 1/2			F	3 1/4	Yes				
	SPA-6950	48.00	125	90	4	35-3	W	6 x 9			F	3 1/4	Yes				
	SPA-31	29.00	30	89	4	90-18		3	W		F	1 1/2	Yes				
	SPA-4102	94.00	100	91	4	65-18		4 x 10	3	P	No	F	2 3/4	Yes			
	SPA-571	25.00	60	91	4	65-18		5 x 7	W		F	2 1/2	Yes				
	SPA-462	25.00	40	90	4	75-20		4 x 6	2	P	No	F	1 3/4	Yes			
	SPA-461	18.00	40	90	4	75-18		4 x 6	W		F	1 3/4	Yes				
	SPA-653	69.00	80	89	4	60-20		6 1/2	3	P	No	F	2 3/4	Yes			
	SPA-652	54.00	70	91	4	70-20		6 1/2	2	P	No	F	2 1/8	Yes			
	SPA-52	49.00	60	90	4	65-20		5 1/4	2	P	No	F	2 1/8	Yes			
	SPA-42	44.00	50	90	4	90-20		4	2	P	No	F	1 3/4	Yes			
	SPA-41	39.00	40	90	4	90-18		4	W		F	1 3/4	Yes				
	SPA-105	18.00	60	92	4	150-10	M				F	2	Yes				
	SPA-104	16.00	60	92	4	450-10	M				F	2 1/4	Yes				
	SPA-102	16.00	60	94	4	1.5k-20k	T			P	F	2 1/4	Yes				
	SPA-101	9.00	40	94	4	10k-20k	T			P	C	5/8	Yes				
	SPA-1270	85.00	175	91	4	25-3	W	12			F	5	Yes				
SPA-696	119.00	160	90	4	35-20		6 x 9	3	P	No	F	3 3/8	Yes				
SPA-693	99.00	120	91	4	45-20		6 x 9	3	P	No	F	3 1/4	Yes				
SPA-692	89.00	120	91	4	45-18		6 x 9	2	P	No	F	3 1/4	Yes				
SPA-691	79.00	100	92	4	50-20		6 x 9	3	P	No	F	2 3/4	Yes				
SPA-690	69.00	100	92	4	50-20		6 x 9	2	P	No	F	2 3/4	Yes				
PREDATOR	PCX-400	127.99	40	88	4	90-20		4	2		No	F	2 3/8	Yes			
	PCX-500	134.99	55	89	4	60-20		5 1/4	2		No	F	2 5/8	Yes			
	PCX-600	149.99	75	90	4	45-20		6 1/2	2		No	F	3	Yes			
	PFA-64	62.99	75	89	4	45-500 Hz	W	6 1/2			F	3	Yes				
	PFA-84	78.99	85	90	4	40-500 Hz	W	8			F	4	Yes				
	PFA-104	93.99	100	90	4	40-500 Hz	W	10			F	4	Yes				
	PFA-124	109.99	125	91	4	40-500 Hz	W	12			F	4 7/8	Yes				
PFA-154	138.99	150	93	4	35-500 Hz	S	15			F	6 3/8	Yes					
PREMIER	TS-930	145.00	120	93	4	30-26 +0, -15		6 x 9	3	A	No	F	2 3/4	Yes			
	TS-920	105.00	100	92	4	30-25 +0, -15		6 x 9	2	A	No	F	2 5/8	Yes			
	TS-630	136.00	120	91	4	35-30 +0, -15		6 1/2	3	A	No	F	2 1/4	Yes			
	TS-620	96.00	100	91	4	35-25 +0, -15		6 1/2	2	A	No	F	1 5/8	Yes			
PRESTIGE	PS-400	75.00	50	88	4	80-20		4	2		No	F	1 3/4	Yes			
	PS-551	75.00	75	89	4	60-20		5 1/4	2		No	F	1 3/4	Yes			
	PS-650	75.00	50	89	4	60-20		6 1/2	2		No	F	1 3/4	Yes			
	PS-651	95.00	100	89	4	50-20		6 1/2	2		No	F	2	Yes			
	PS-6950	120.00	100	92	4	45-20		6 x 9	2		No	F	3 1/2	Yes			
	PS-6951	140.00	150	92	4	35-20		6 x 9	2		No	F	3 3/4	Yes			
	PS-6952	130.00	100	92	4	40-20		6 x 9	3		No	F	4	Yes			

# SPEAKERS

MANUFACTURER	Model	DRIVERS											Notes			
		Price \$ (If Sold Individually)	Price \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Subwoofer Only (S), Water Only (W), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Whizzer (W), 2-Way (2), 3-Way (3), 4-Way (4)	Applied Tweeters = A, Remountable Tweeters = P	Separately Mountable Drivers?		Flux Mount (F), Surface Mount (S), Converting (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weather/Proofed?
PROFILE	W1230	78.00		200	91	4	20-1.5	W	12			F				
	W1030	74.00		200	92	4	20-1.5	W	10			F				
	W830	45.00		150	92	4	30-2	W	8			F				
	W620	39.00		100	92	4	30-2	W	6			F				
	W515		54.00	120	92	4	40-3	M				F				
	W200		34.00	200	92	8	1k-40k	T				F				
	S310		19.95	20	89	4	100-18		3 1/2	W	2		F	Yes		
	S4620		29.95	30	90	4	60-20		4 x 6	W	2		F	Yes		
	S410		24.95	30	89	4	80-18		4	W	2		F	Yes		
	S420		29.95	30	89	4	80-20		4	W	2		F	Yes		
	S510		24.95	30	90	4	80-18		5	W	W		F	Yes		
	S6510		34.95	30	91	4	60-18		6 1/2	W	W		F	Yes		
	S6520		47.95	40	91	4	60-20		6 1/2	W	2		F	Yes		
	S6522		70.00	100	94	4	40-20		6 1/2	2	2	No	F	Yes		
	S6530		54.95	50	91	4	60-20		6 1/2	3	3		F	Yes		
	S6910		52.95	40	92	4	40-18		6 x 9	W	W		F	Yes		
	S6920		69.95	50	92	4	40-20		6 x 9	2	2	No	F	Yes		
	S6922		120.00	150	95	4	40-20		6 x 9	2	2		F	Yes		
	S6930		74.95	60	92	4	40-20		6 x 9	3	3		F	Yes		
	PRO1550		112.95	300	100	4	30-2	W	15				F	No		
	PRO1250		99.95	300	97	4	32-3	W	12				F	No		
	PRO1050		87.95	250	96	4	36-3	W	10				F	No		
	PRO840		74.95	150	93	4	38-4	W	8				F	No		
PRO630		68.00	100	90	4	30-2	W	6				F	No			
PRO525		50.00	50	90	4	40-3	M					F	No			
PRO415		29.95	80	93	4	400-4	M					F	Yes			
TW1A		59.95	100	93	4	2k-20k	T					F	Yes			
TW2		39.95	50	93	4	2k-22k	T					F	Yes			
TW3		24.95	40	92	4	2k-20k	T		P			F, S	Yes			
PYLE	PW860/4	119.95		280	93	4	46-2.8 ±3	S	8			F	4	Yes	Eight-ohm version available.	
	PW1070/4	169.95		400	93	4	37-2.3 ±3	S	10			F	4 3/4	Yes	As above.	
	PW1270/4	189.95		420	94	4	43-2.5 ±3	S	12			F	5 3/4	Yes	As above.	
	PW1570/4	205.95		450	95	4	47-2.5 ±3	S	15			F	6 1/2	Yes	As above.	
	PW1870/4	239.95		500	96	4	40-2 ±3	S	18			F	7 7/8	Yes	As above.	
	PW1070D	174.95		400	93	4	60-2.5 ±3	S	10			F	4 3/4	Yes	As above.	
	PW1270D	195.95		420	94	4	41-2 ±3	S	12			F	5 3/4	Yes	Dual voice-coils.	
	PW1570D	214.95		450	95	4	45-2.3 ±3	S	15			F	6 1/2	Yes	As above.	
	PW870/4	149.95		350	93	4	40-2.5 ±3	S	8			F	4	Yes	As above.	
	PW1080/4	229.95		450	93	4	39-2.4 ±3	S	10			F	4 3/8	Yes	As above.	
	PW12100/4	265.95		500	94	4	41-2 ±3	S	12			F	5 1/4	Yes	As above.	
	PW15100/4	282.95		550	95	4	47-2.2 ±3	S	15			F	6 7/8	Yes	As above.	
	PW18100/4	374.95		600	96	4	44-2 ±3	S	18			F	7 7/8	Yes	As above.	
	DW5210/4	39.95		120	90	4	75-8.5 ±3	W	5 1/4			F	2 3/8	Yes	Eight-ohm version available.	
	DW6516/4	48.95		160	90	4	63-4 ±3	W	6 1/2			F	2 3/4	Yes	As above.	
	DW6920/4	59.95		200	91	4	67-5 ±3	W	6 x 9			F	3 3/4	Yes	As above.	
	DW820/4	61.95		200	91	4	52-3 ±3	S	8			F	4	Yes	As above.	
	DW1020/4	70.95		220	91	4	50-3.8 ±3	S	10			F	4 5/8	Yes	As above.	
	DW1220/4	77.95		240	94	4	47-3.5 ±3	S	12			F	5 1/2	Yes	As above.	
	DW1540/4	108.95		280	94	4	44-3 ±3	S	15			F	6 3/4	Yes	As above.	
	DW5216/4	47.95		140	90	4	75-8.5 ±3	W	5 1/4			F	2 3/8	Yes	As above.	
	DW6520/4	58.95		180	90	4	55-3.5 ±3	W	6 1/2			F	3 1/4	Yes	As above.	
	DW840/4	83.95		240	91	4	44-2.8 ±3	S	8			F	4 1/4	Yes	As above.	
	DW1040/4	90.95		260	91	4	44-2.7 ±3	S	10			F	4 3/4	Yes	As above.	
	DW1240/4	99.95		280	92	4	49-2.5 ±3	S	12			F	5 1/2	Yes	As above.	
	DW1560/4	129.95		300	94	4	46-2.7 ±3	S	15			F	6 3/4	Yes	As above.	
	ST820S		359.95	240	93	4	35-20 ±3	(2)8	2			Yes	S		Yes	Box enclosure.
	ST1020S		429.95	260	94	4	25-20 ±3	(2)10		A/P		Yes	S		Yes	Single enclosure stereo version, Model ST1020, \$399.95.
	ST1030S		459.95	260	94	4	25-20 ±3	(2)10, (2)5	3			Yes	S		Yes	Box enclosure.
	ST1220S		499.95	320	95	4	20-20 ±3	(2)12	2			Yes	S		Yes	As above.
	HB820		359.95	240	94	4	30-20 ±3	(2)8	2			Yes	S		Yes	As above.
	HB1030		449.95	260	94	4	25-20 ±3	(2)10, (2)5	3			Yes	S		Yes	As above.
	HB1230		499.95	320	95	4	20-20 ±3	(2)12, (2)5	3			Yes	S		Yes	Dual enclosure version, Model HB1230S, \$539.95.
	HB1530		599.95	380	96	4	20-20 ±3	(2)15, (2)5	3			Yes	S		Yes	Dual enclosure version, Model HB1530S, \$639.95.
	HB1000		329.95	260	94	4	25-500 Hz ±3	(2)10				S			Yes	Box enclosure.
	HB1200		399.95	320	95	4	20-500 Hz ±3	(2)12				S			Yes	As above.
	CP1230		429.95	320	95	4	20-20 ±3	(2)12, (2)5	3			Yes	S		Yes	Pre-cut sound board for Camaros.
	CP1200		299.95	320	95	4	20-500 Hz ±3	(2)12				S			Yes	As above.
	RP650		124.95	180	90	4	50-2.5 ±3	W	6 1/2			S			Yes	Tube enclosure; with dual voice-coils, 100 watts maximum, \$132.95 each.
	RP800		164.95	200	90	4	40-2 ±3	W	8			S			Yes	As above but 120 watts, \$172.95 each.
	RP1000A		214.95	240	90	4	35-1.5 ±3	W	10			S			Yes	As above but 140 watts, \$229.95 each.
	RP650A		299.95	80 Inc.	80		50-400 Hz	S	6 1/2			S			Yes	Powered tube enclosure; dual voice-coils; includes crossover.
	RP800A		349.95	80 Inc.	80		40-400 Hz	S	8			S			Yes	As above.
	RP1000A		395.95	80 Inc.	80		35-400 Hz	S	10			S			Yes	As above.
	NW830/4		89.95	250	91	4	48-2.4 ±3	S	8			F	4 1/8	Yes		
	NW1040/4		99.95	300	91	4	46-2.4 ±3	S	10			F	4 3/4	Yes		
	NW1240/4		115.95	300	92	4	50-2.5 ±3	S	12			F	5 1/2	Yes		
NW1540/4		135.95	300	94	4	43-2.5 ±3	S	15			F	6 3/4	Yes			
NW102		99.95	80	91	4	65-20 ±3	S	4	2	No	F		Yes			

(Continued)



# SPEAKERS

MANUFACTURER	Model	DRIVERS							Notes						
		Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to KHz, ±dB	Subwoofer Only (S), Woofer Only (W), Midrange Only (M), Tweeter Only (T)		Woofer Size, Inches	Woofer (W) 2-Way (2), 3-Way (3), 4-Way (4), Possible Tweeters = A	Applicable Tweeters = P	Separately Mountable Drivers?	Fitch Mount (F), Surface Mount (S), Convertible (C), Pole (P)	Maximum Required Mounting Depth, Inches
<b>PYLE</b> (Continued)	NW132		109.95	90	92	4	55-20 ±3		5 1/2		2	No	F		Yes
	NW162		119.95	100	93	4	55-20 ±3		6		2	No	F		Yes
	NW692		139.95	120	93	4	45-20 ±3		6 x 9		2	No	F		Yes
	NW693		159.95	130	93	4	45-21		6 x 9		3	No	F		Yes
	DM102	47.95	109.95	90	92	4	65-22 ±3		4		2	No	F		Yes
	DM132	51.95	119.95	100	93	4	55-22 ±3		5 1/4		2	No	F		Yes
	DM133	56.95	129.95	100	93	4	55-22 ±3		5 1/4		3	No	F		Yes
	DM162	56.95	129.95	110	93	4	55-22 ±3		6		2	No	F		Yes
	DM163	62.95	139.95	110	93	4	55-22 ±3		6		3	No	F		Yes
	DM692	89.95	199.95	170	94	4	40-22 ±3		6 x 9		2	No	S		Yes
	DM6940	107.95	239.95	220	94	4	40-22		6 x 9		2	No	S		Yes
	DR351		52.95	50	89	4	90-18		3 1/2	W		No	S		Yes
	DR352		79.95	90	90	4	90-21		3 1/2	W		No	S		Yes
	DR461		59.95	60	90	4	65-18 ±3		4 x 6	W		No	S		Yes
	DR462		89.95	60	91	4	65-22 ±3		4 x 6	W		No	F		Yes
	DR412		119.95	110	93	4	50-20 ±3		4 x 10		2	No	F		Yes
	DR572		109.95	90	92	4	55-22 ±3		5 x 7		2	No	F		Yes
	DR682		109.95	100	92	4	55-22 ±3		6 x 8		2	No	F		Yes
	DC100/2		199.95	90	92	4	65-20 ±3		(2)4		2	Yes	†		
	DC130/2		210.95	100	93	4	55-22 ±3		(2)5 1/4		2	Yes	†		
	DC160/2		219.95	110	93	4	55-22 ±3		(2)6		2	Yes	†		
	F810W	35.95		90	93	8	40-18 ±3		8		W	P	No	2 7/8	No
	F820T	85.95		130	94	8	30-20 ±3		8			P	No	3 3/8	No
	PR8	17.95					25-500 Hz	W					F	2 1/8	No
	PR10	23.95					20-500 Hz	W					F	2 7/8	No
	PR12	32.95					15-580 Hz	W					F	3 1/2	No
	M5H	47.95		90	92	8	300-8 ±3	M					F	4	Yes
	M510	34.95		90	92	8	500-10 ±3	M					F	2 1/8	Yes
	M516	39.95		100	94	8	500-10 ±3	M					F	2 1/8	Yes
	M516C	41.95		100	94	8	500-14 ±3	M					F	2 1/8	Yes
	MP516	43.95		100	94	8	500-10 ±3	M					F	2 1/8	Yes
	K-D210		36.95	60	90	8	4k-20k ±3	T					F	5 3/8	Yes
	K-D2210		37.95	60	90	8	4k-20k ±3	T					F	5 3/8	Yes
	K-D2215H		62.95	60	90	8	4k-20k ±3	T		P			S	5 3/8	Yes
	K-D3580		64.95	80	94	8	4k-20k ±3	T					F	1 3/8	Yes
	K-D480		64.95	80	94	8	4k-20k ±3	T					F	1 1/2	Yes
	K-D4580		64.95	80	94	8	4k-20k ±3	T					F	1 1/2	Yes
	K-DS480		65.95	80	90	8	4k-20k ±3	T					F	1 3/8	Yes
	K-DS4580		65.95	80	90	8	4k-20k ±3	T					F	1 3/8	Yes
	K-R4580		99.95	120	92	8	4k-20k ±3	T					F	1 1/4	Yes
	K-T324		54.95	100	94	8	4k-20k ±3	T					F	1 1/2	Yes
	K-TP3S		23.95	140	90		5k-40k ±3	T					F	1	Yes
	K-TP375S		33.95	140	89		3k-20k ±3	T					F	1 1/8	Yes
	K-TP3546		79.95	80	94	8	4k-20k ±3	T		P		Yes	F, P	1	Yes
	K-MTP46		119.95	60	90	4	200-20 ±3	T	3 1/2	P	2	Yes	F	1 1/2	Yes
K-HP523A		219.95	80	92	4	45-20 ±3	T	5 1/4	P	2	Yes	F, P	1 1/8	Yes	
H3910	47.95		80	102	8	2k-15k ±3	T					F	7 1/2	Yes	
H3910E	48.95		80	102	8	2k-18k ±3	T					F	7 1/2	Yes	
H2610	45.95		80	101	8	4k-20k ±3	T					F	4 1/2	Yes	
HTP35	23.95		140	94		4k-30k ±3	T					F	2 3/4	Yes	
HTP26	32.95		140	92		2k-40k ±3	T					F	4 1/4	Yes	
<b>REALISTIC</b>	12-1718	99.95				4		S	8			S		Yes	Powered subwoofer; selectable crossover frequency, 120 or 150 Hz.
	12-1719		99.95			4	60-20 ±3			3	No	F		Yes	Box enclosure.  As above.
	12-1712		189.95		93	4	20-20			2		F		Yes	
	12-1859		99.95		90	4	20-20			2		F		Yes	
	12-1715		39.95		40	95	4	75-20			2	F		Yes	
	12-1711		69.95		40	88	4	70-20			3	P		Yes	
	12-1713		79.95		50	95	4				4	A		Yes	
	12-1717		49.95		60	90	4	70-20				A		Yes	
	12-1716		59.95		40	92	4					A		Yes	
	12-1707		39.95		15	90	4					A		Yes	
	12-1704		19.95		20	86	4	80-20				A		Yes	
	12-1714		22.95		15	88	4	100-20				A		Yes	
	40-1348	41.95		100	86	4	40-1	S		3			F	Yes	
	40-1350	61.95		120	89	4	26-2.7	S		8			F	Yes	
	40-2030	49.95		40	86	4	120-20	S		12			F	Yes	
40-2054	79.95		60	86	4	50-20	S		4			F	Yes		
<b>REDLINE PERFORMANCE</b>	TCA-1		52.99	50	91	8	3k-20k	T				F	3/4	Yes	
	MR-10		56.99	50	90	8	3k-20k	T				F	3/4	Yes	
	SR-10		64.99	60	92	8	2k-20k	T				F	7/8	Yes	
	SAT 1.0		184.99	50	90	8	4k-20k	T				F	1/2	Yes	
	SAT 1C		144.99	50	91	4	5k-20k	T				C	7/8	Yes	
	SAT 1M		144.99	50	91	4	5k-20k	T				C	7/8	Yes	
	MT-1		26.99	30	91	4	6k-20k	T				C	3/8	Yes	
	GE-350		48.99	50	88	8	200-20	M				F	1 3/8	Yes	
	GE-1045		76.99	40	89	8	200-5	M				F	2	Yes	
	GE-550		51.99	50	90	8	800-8	M				F	2 1/4	No	
	GE-1050		84.99	50	90	8	500-7	M				F	2 1/2	Yes	
	GE-1053		80.99	50	90	8	200-5	M				F	2 3/8	Yes	
	GE-165		105.99	65	90	4	80-1	W	5 3/8			F	2 1/8	Yes	
	GE-206		123.99	65	92	4/8	60-2	W	6 1/2			F	3	Yes	
	GE-308	84.99		80	90	4/8	50-2	W	8			F	3	Yes	
	GE-4010	87.99		100	91	4/8	30-2	S	10			F	4	Yes	
	GE-7010	131.99		150	95	4/8	30-2	S	10			F	4 3/8	Yes	
	GE-5012	110.99		125	93	4/8	30-2	S	12			F	4 3/4	Yes	
GE-7012	150.99		175	96	4/8	30-2	S	12			F	5 1/2	Yes		
GE-7015	159.99		175	94	4/8	25-2	S	15			F	6 1/4	Yes		
8-SW	92.99		75	89	4/8	30-500 Hz	S	8			F	3 3/8	Yes		
10-SW	103.99		90	91	4/8	30-500 Hz	S	10			F	4 1/2	Yes		
12-SW	127.99		125	93	4/8	30-500 Hz	S	12			F	4 7/8	Yes		

# SPEAKERS

MANUFACTURER	Model	DRIVERS																
		Price, \$ (if Sold Individually)	Price, \$ (if Sold in Pairs)	Recommended Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	Woofer Size, Inches			High Tweeter			Separately Mountable Drivers?	Fish Mount (F), Convential (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproof?	Notes
								Subwoofer Only (S)	Midrange Only (M)	Tweeter Only (T)	Whizzer (W), 2-Way (2)	3-Way (3)	4-Way (4)					
REDLINE PERFORMANCE (Continued)	RPF-60	64.99		60	90	4	50-20	W	6½						F	3	Yes	
	RPF-80	80.99		80	90	4	40-2	W	8					F	3½	Yes		
	RPF-100	94.99		100	91	4	35-2	W	10					F	4½	Yes		
	RPF-120	118.99		120	92	4	30-2	W	12					F	4½	Yes		
	RPF-150	140.99		150	93	4	30-2	W	15					F	6¼	Yes		
	OD-KD		253.99	100	95	8	1k-20k	T	M					F	1	Yes		
	OD-PMR		543.99	120	98	8	250-4	T	M					F	1½	Yes		
	OD-8	129.99		100	89	4	40-500 Hz	S	S	8				F	3½	Yes		
	OD-10	165.99		200	90	4	35-500 Hz	S	S	10				F	4½	Yes		
	OD-12	219.99		300	92	4	30-500 Hz	S	S	12				F	5½	Yes		
	OD-15	273.99		400	94	4	25-500 Hz	S	S	15				F	6½	Yes		
	GSR-52	289.99		70	90	4	50-20			5¼		A/P	Yes	C	1½	Yes		
	GSR-62	309.99		90	92	4	40-20			6½		A/P	Yes	C	1½	Yes		
	RPCS-46	111.99		50	88	8	300-20			3½			Yes	+	1½	Yes		†4 x 6-inch plate.
ROADMASTER	RS500N3	50.00	20†	93	4	70-15 ±3			5¼	W			S	S		Yes	†Watts rms.	
	RS520N3	80.00	25†	92	4	70-20 ±3			5¼			No	S	S		Yes		
	RS630N3	80.00	65	93	4	80-20 ±3			5¼			No	C	C		No		
	RS800N3	50.00	37.5	93	4	70-15 ±3			6 x 9	W			No	C	C		No	
	RS900N3	80.00	80	93	4	40-20 ±3			6 x 9				No	C	C		No	
	RS1690N3	150.00	90	93	4	40-20 ±3			6½				No	C	C		Yes	
	RS1990N3	150.00	100	93	4	30-20 ±3			6 x 9				No	C	C		Yes	
	RS6010N3	50.00	25	93	4	200-20 ±3			3	W			No	S	S		Yes	
	RS6035N3	80.00	60	93	4	100-15 ±3			3				No	S	S		No	Box enclosure. As above.
	RS6065N3	150.00	75	90	4	150-20 ±3			3½				No	S	S		No	
ROCKFORD FOSGATE	RFA-44	109.95	30	86	4	94-7	M	M					C	C	2	Yes		
	RFA-54	119.95	50	86	4	44-6	M	M					C	C	2½	Yes		
	RFA-64	179.95	80	89	4	39-6	M	M					C	C	3	Yes		
	SP-64TW	157.00	70	89	4/8	90-20					2		No	C	C	2¼	Yes	Midrange and tweeter. As above.
	SP-464TW	157.00	50	90	4/8	100-20					2		No	C	C	2	Yes	
	S1-184/188	199.00	150	92	4/8	28-2.5	S							C	C	7¼	Yes	
	S1-3	49.99	25	86	4	150-15			18	3½	W			C	C	1½	Yes	
	S1-4	59.99	30	86	4	100-15			4		W			C	C	1½	Yes	
	S1-5	99.99	50	89	4	92-20			5¼				No	C	C	2	Yes	
	S1-6	109.99	50	92	4	88-20			6½				No	C	C	2	Yes	
	S1-46	159.99	30	89	4	100-15			4 x 6		W			C	C	1¾	Yes	
	S1-692	129.99	50	94	4	65-20			6 x 9				No	C	C	3	Yes	
	S1-693	169.99	80	93	4	60-20			6 x 9				No	C	C	3	Yes	
	BP-600	159.95	70	85	4	46-123 Hz	S	S	6½					C			Yes	Tube enclosure. As above.
	BP-690	170.00	100	90	4	56-118 Hz	S	S	6 x 9					C			Yes	As above.
	BP-1000	249.95	100	92	4	54-126 Hz	S	S	10					C		1	Yes	As above.
	ND-4/8		135.00	50	91	4/8	3k-20k	T						C			Yes	Includes crossover.
	R208	300.00	200	93	4	60-20			8					C			Yes	Separate enclosure for each channel. As above.
	R308	360.00	200	93	4	55-20			8				No	C			Yes	As above.
	R310	420.00	200	93	4	55-20			10				No	C			Yes	As above.
	R312	520.00	350	93	4	45-20			12				No	C			Yes	Enclosure. As above.
	R315	600.00	350	93	4	40-20			15				No	C			Yes	As above.
	SP-34TW		136.00	50	84	4/8	213-20							C		1¾	Yes	Midrange and tweeter.
	SP-44TW		146.00	50	88	4/8	84-20							C		2¼	Yes	As above.
	SP-54TW		157.00	80	91	4/8	95-20							C		2¼	Yes	As above.
	SP-694TW		167.00	80	94	4/8	59-20			6 x 9			No	C		4	Yes	As above.
	PCH-84/88	104.00	150	89.7	4/8	40-4.2			8					C		4	Yes	
	SP-694/698	87.00	100	94	4/8	50-6			6 x 9					C		3¼	Yes	
	SP-64/68	87.00	100	89	4/8	44-4			6½					C		3¼	Yes	
	SP-54/58		104.00	100	89	4/8	96-6.2							C		2¼	Yes	
	SP-44/48		93.00	50	88	4/8	85-12							C		2¼	Yes	
	SP-34/38		83.00	50	86	4/8	205-20							C		1¾	Yes	
	SPT-4/8	32.00	50	91.3	4/8	3k-20k	T							C		½	Yes	
	The Plate 4/8	89.50			4/8	275-20 ±3					2		No	C			Yes	Includes Model TX-184/188 crossover. Midrange, tweeter, and crossover on 4 x 6-inch plate. Includes crossover.
	SPT-14RX/18RX		104.00	50		4/8	2.5k-20k	T						C		½	Yes	
	S1-154/158	129.00	150	93	4/8	25-2.5			15					C		6½	Yes	
	S1-124/128	109.00	100	93	4/8	29-2.5			12					C		5	Yes	
	S1-104/108	79.00	100	91	4/8	35-3			10					C		4	Yes	
	S1-84/88	69.00	100	90	4/8	40-2			8					C		4	Yes	
	PRO-184/188	555.00	400	95.4	4/8	27-2.5			18					C		7¾	Yes	
PRO-154/158	408.00	400	93.5	4/8	30-3.5			15					C		6¼	Yes		
PRO-124/128	387.00	400	92.5	4/8	31-2.5			12					C		5¼	Yes		
PRO-104/108	252.00	200	92	4/8				10					C		4¾	Yes		
PRO-84/88	205.00	200	90	4/8				8					C		4	Yes		
PCH-184/188	272.00	200	94	4/8	22-3			18					C		7¼	Yes		
PCH-154/158	188.00	200	92.4	4/8	25-2			15					C		6¼	Yes		
PCH-124/128	167.00	200	90	4/8	32-4			12					C		5	Yes		
PCH-104/108	135.00	150	92	4/8	38-4			10					C		4¼	Yes		
SANYC	HD451	29.99	60	89	4	50-20			4	W			F	F	1¾	Yes		
	HD452A	39.99	60	90	4	50-20			4			No	F	F	1¾	Yes		
	HD651	39.99	60	91	4	45-20			6½		W		F	F	1¾	Yes		
	HD953	89.99	150	93	4	40-20			6 x 9			No	F	F	3¾	Yes		
	HD152	99.99	75	90	4	70-20			5			No	S	S		Yes		
	HD652	54.99	100	92	4	45-20			6½			No	S	S		Yes	Bass-reflex enclosure.	
SAS/BAZOOKA	T52		209.00	50	97	4	39-5 ±3	S	5				S	S		Yes	Bass Tube.	
	T16	239.00	100	100	4/8	39-1.5	S	6½					S	S		Yes	As above.	
	T62	329.00	100	100	4/8	39-1.5	S	6½					S	S		Yes	As above.	
	T16		150	102	4/8	39-1.5 ±3	S	8					S	S		Yes	As above.	
	T82		150	102	4/8	39-1.5 ±3	S	8					S	S		Yes	As above.	
	T62A	339.00	40	100	4	39-250 Hz ±3	S	6½					S	S		Yes	Powered mono subwoofer; variable crossover frequency; bass-reflex enclosure.	
	T62S	129.00	100	100	4	39-1.5	S	6½					S	S		Yes	Slave unit for model above.	
	T82A	379.00	40	102	4	39-250 Hz ±3	S	8					S	S		Yes	Powered mono subwoofer; variable crossover frequency; bass-reflex enclosure.	

# SPEAKERS

MANUFACTURER	Model	DRIVERS										Notes						
		Price \$ (If Sold Individually)	Price \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, $\pm$ dB	Subwoofer Only (S), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Whizzer (W), 3-Way (3), 4-Way (4)	Applied Tweeter(s) = A, Pinnable Tweeter(s) = P		Separately Mountable Drivers?	Facet Mount (F), Surface Mount (S), Conceivable (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?		
SAS/BAZOOKA (Continued)	T82S	169.00		150	102	4	39-1.5 $\pm$ 3	S	8						Yes	Slave unit for model above. Powered mono subwoofer; variable crossover frequency; bass-reflex enclosure. Bass Tube; usable as slave unit for model above.		
	T102A	449.00		40 Inc.	104	4	39-250 Hz	S	10					Yes				
	T102	229.00		200	104	4/8	39-1 $\pm$ 3	S	10					Yes				
SAS/ EUPHONIC SERIES	400R		329.00			4								Yes				
	650R		379.00			4							Yes					
	525R		349.00	100	87	4	70-20 $\pm$ 3		4 6 1/2 5 1/4	2 2 2	A/P A/P A/P	Yes Yes Yes	C C C	2		Yes Yes Yes		
SAVARD	Awesome Band Pass Single	529.95		250	†	4		S	(2)12						No	†110 dB at 2 watts/1 meter. Bandpass enclosure. Bandpass enclosure.  Box enclosure. Separate enclosure for each channel; for trucks. Bass tubes; includes crossover. As above. †Watts rms. †As above. †As above. Sealed-back midrange. †As above. †As above. †As above. †As above. †As above. †As above. †As above. †As above. For off-axis use.		
	Band Pass 6 x 9 TriAX	329.95		250	101	4		S	12						No			
	Hi-Q 12	179.95		120	98	4	45-22 $\pm$ 3			3		No	F	5 1/4	No			
	Hi-Q 15	130.95		250	88.1	4	22-800 Hz	S	12					F	5 1/2		No	
	Hatchback 1204	160.95		250	95	4	22-800 Hz	S	15					F	7		No	
	Split	499.95		300	99	4	30-30 $\pm$ 3		(2)12	3		No		F				
	Street Beat 1005		459.95	200	99	4	36-30 $\pm$ 3		(2)12	2		No		F				
	Dual 3" Coupler	329.95		200	98	4	38-350 Hz	W	(2)8					C				
	Dual 12" Coupler	399.95		400	99	4	30-350 Hz	W	(2)12					C				
	HF 20 Kit		89.95	85†	98	4	3k-23k $\pm$ 3	T			P			F	3 3/4			
	HF 25		89.95	95†	94	4	3k-23k $\pm$ 3	T						F	3 1/2			
	MR 4		89.95	90†	94	4	600-6 $\pm$ 3	M						F	2 1/4			
	MB 5		59.95	40†	90	4	60-5 $\pm$ 3	M						F	2 1/4			
	MB 6	69.95		100†	96	4	40-5 $\pm$ 3	M						F	2 1/4			
	MB 10	99.95		250†	99	4	35-4 $\pm$ 3	M						F	4 1/2			
	COAX 4		139.95	45†	90	4	55-20 $\pm$ 3			4	Yes			F	1 1/2			
	COAX 5		159.95	50†	92	4	48-20 $\pm$ 3			5 1/4	Yes			F	3 1/2			
	MST 10		39.95	150†	95	4		T						F	3 1/2			
	RAP 8"	89.95		240	90	4/8	37-1.3 $\pm$ 3	W	8					F	4			
	RAP 8"	99.95		340	91	4/8	32-1.3 $\pm$ 3	W	10					F	4			
	RAP 10"	129.95		400	92	4/8	28-1.2 $\pm$ 3	W	12					F	4 1/2			
	RAP 12"	149.95		500	92	4/8	25-1 $\pm$ 3	W	15					F	6			
	RAP 15"			500	92	4/8		W	18					F	6			
	RAP 18"			500	98	4/8		W	8					F	3 1/2			
	PRO 8"	89.95		300	98	4/8	30-3 $\pm$ 3	W	8					F	3 1/2			
	PRO 10"	109.95		500	99	4/8	27-3 $\pm$ 3	W	10					F	4 1/2			
	PRO 12"	119.95		500	99	4/8	25-3 $\pm$ 3	W	12					F	5			
	PRO 15"	149.95		500	98	4/8	25-3 $\pm$ 3	W	15					F	6 1/2			
	PRO 18"	279.95		1k	98	4/8	20-400 Hz $\pm$ 3	S	18					F	8			
	SENNET CONCEPTS	SC4		80.00	80	89	4	80-21 $\pm$ 3		4	2		No	S			Yes	Enclosure.  Powered subwoofer; tube enclosure; includes frequency-adjustable crossover. As above.  Tube enclosure; dual voice-coils.
		SC46		60.00	60	89	4	85-20 $\pm$ 3		3 1/2			No	P			Yes	
		SC940		60.00	80	89	4	70-21 $\pm$ 3		4	2		No	F, S	1 1/2		Yes	
SC950			75.00	100	90	4	50-21 $\pm$ 3		5			No	F, S	1 1/2	Yes			
SC969			125.00	100	92	4	35-21 $\pm$ 3		6 x 9	3		No	F, S	2 1/2	Yes			
SC80		120.00		100 Inc.	95	4	20-250 Hz $\pm$ 3	S	8			No	S		Yes			
SC65		90.00		80 Inc.	91		35-250 Hz $\pm$ 3	S	6 1/2				S		Yes			
SC8		80.00		100	92	4	20-250 Hz $\pm$ 3	S	8				S		Yes			
SENTREK		SBT 650	99.95		50 Inc.	90	4	50-250 Hz	S	6 1/4						No	Powered mono subwoofer; tube enclosure; low-pass filter adjustable from 100 to 350 Hz. Powered stereo subwoofer; tube enclosure; low-pass filter adjustable from 50 to 250 Hz. Dual-impedance voice-coil. As above. As above. As above. As above. As above.  Midrange and tweeter. Midrange and tweeter on 4 x 6-inch plate.  †Woofer, 90 dB; tweeter, 92 dB.  Box enclosure. As above.  For trucks.	
	SBT 810	129.95		(2) 50 Inc.	90	4	25-250 Hz	S	8						No			
	SW 150	89.95		300	95	4/8	25-3	S	15					F	6	No		
	SW 120	69.95		250	93	4/8	25-3	S	12					F	5	No		
	SW 100	49.95		200	92	4/8	30-3	S	10					F	4	No		
	SW 80	39.95		150	92	4/8	35-3	S	8					F	4	No		
	SW 60	29.95		100	92	4/8	55-10	W	6 1/2					F	2 3/4	No		
	SW 50	19.95		80	90	4/8	65-12	M						F	2	No		
	SH 22		49.95	60	90	4	800-22			2	A			F, S		No		
	SH 18		69.95	100	89	4	400-22			2		Yes		P	1 1/2	No		
	SH 17		54.95	80	92	4	1.5k-23k	T			A/P			S		No		
	SH 16		44.95	80	91	4	3k-20k	T			A/P			S		No		
	SH 12		42.95	75	90	4	2k-22k	T			P			S		No		
	SH 8	9.95		60	91	4	6k-22k	T						S		No		
	SHF 65	139.95		150	†	4	50-20		(2)6 1/2	2	A/P	Yes		F, S	1 1/2	No		
	SHF 55	129.95		120	†	4	65-20		(2)5 1/4	2	A/P	Yes		F, S	2 1/2	No		
	SHF 45	119.95		100	†	4	75-20		4 1/2	2	A/P	Yes		F, S	2	No		
	SC 486	79.95		100	89	4	40-20		4	3		No		S		No		
	SC 386	54.95		60	88	4	50-20		3	3		No		S		No		
	SC 200	64.95		80	88	4	50-20 $\pm$ 3		4	3		No		S		No		
	SR 699	69.95		100	93	4	40-20 $\pm$ 3		6 x 9	3		No		F	3	No		
	SR 624	54.95		60	91	4	60-20 $\pm$ 3		6 1/2	3		No		F	2	No		
	SR 623	44.95		60	91	4	60-19 $\pm$ 3		6 1/2	2		No		F	2	No		
	SR 622	29.95		60	89	4	60-16		6 1/2	2		No		F	2	No		
	SR 107	69.95		100	92	4	50-20 $\pm$ 3		4 x 10	3		No		F	2 1/2	No		
	SR 519	42.95		60	90	4	60-18 $\pm$ 3		5 1/4	2		No		F	1 1/2	No		
	SR 468	39.95		40	90	4	65-18 $\pm$ 3		4 x 6	2		No		F	1 1/2	No		
	SR 421	39.95		40	90	4	70-18 $\pm$ 3		4	2		No		F	1 1/2	No		
	SR 420	24.95		40	88	4	70-16 $\pm$ 3		4	2		No		F	1 1/2	No		
	SR 315	19.95		40	88	4	90-15 $\pm$ 3		3 1/2	W		No		F	1 1/2	No		
	STS 35	134.95		125	90	4	65-20 $\pm$ 3		5 1/4	3		No		S		No		

# SPEAKERS

MANUFACTURER	Model	Price \$ (If Sold Individually)	Price \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS											Notes
								Subwoofer Only (S), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Woofer (W) 2-Way (2), 3-Way (3), 4-Way (4)	Alnico Tweeter(s) = A, Polyimide Tweeter(s) = P	Separately Mountable Drivers?	Floor Mount (F), Space Mount (S), Convertible (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?				
SHERWOOD	SX-6M		110.00	110	89	4	35-10	M	6 1/2				F	1 3/4					
	SX-5M		90.00	85	90	4	40-12	T				F	1 7/8						
	SX-2T		100.00	100	93	4	1.5k-23k	T				F, S	2 1/8						
	SX-1T		80.00	60	93	4	3k-23k					S	2 1/4						
	SX-30		45.00	45	91	4	65-20		3 1/2	W		S	2 1/8	Yes					
	SX-41		70.00	50	92	4	50-20		4	W		S	2	Yes					
	SX-42		75.00	80	91	4	50-22		4	W		S	2	Yes	Blamp capable.				
	SX-52		85.00	100	91	4	45-22		5	W		S	2	Yes	As above.				
	SX-62		100.00	120	92	4	40-22		6	W		S	2	Yes	As above.				
	SX-63		125.00	130	92	4	40-22		6 1/2	W		S	2 1/2	Yes	As above.				
	SX-93		150.00	150	93	4	35-22		6 x 9	W		S	2 1/2	Yes	As above.				
	SX-10S	180.00		450	95	4	25-3	S	10			S	2 1/2	Yes	Requires sealed or ported enclosure.				
	SX-12S	250.00		500	96	4	20-3	S	12			S	4	Yes	As above.				
	SX-108S	105.00		200	94	4	28-3	S	8			F	4 1/2						
	SX-110S	135.00		250	91	4	25-3	S	10			F	5 1/2						
	SX-112S	165.00		325	92	4	20-3	S	12			F	5 1/2						
SONY	XS-1012		60.00	50	89	4	50-20 ±10		4 1/2	W		F	1 3/4						
	XS-3012		60.00	60	90	4	40-20 ±10		5 1/4	W		F	1 7/8						
	XS-6012		65.00	60	90	4	40-20 ±10		6 1/2	W		F	2						
	XS-6912		75.00	60	91	4	30-20 ±10		6 x 9	W		F	2 1/4						
	XS-1022		100.00	60	90	4	50-24 ±10		4 1/2	2		F	1 7/8						
	XS-3022		110.00	75	90	4	45-24 ±10		5 1/4	2		F	1 1/2						
	XS-6024Mk2		110.00	120	91	4	40-22 ±10		6 1/2	2		F	1 5/8						
	XS-6025		120.00	160	91	4	40-22 ±10		6 1/2	2		F	2 1/8						
	XS-6031		130.00	160	91	4	35-26 ±10		6 1/2	3		F	2 1/8						
	XS-6920Mk2		100.00	100	91	4	35-20 ±10		6 x 9	2		F	2 3/8						
	XS-6933		130.00	160	92	4	30-26 ±10		6 x 9	3		F	2 1/8						
	XS-1051		155.00	60	88	4	45-25 ±10		4 1/2	2		F	1 3/4	Yes					
	XS-3051		170.00	75	88	4	38-25 ±10		5 1/4	2		F	1 1/2	Yes					
	XS-6051		190.00	130	88	4	35-25 ±10		6 1/2	2		F	2 1/4	Yes					
	XS-6951		240.00	140	90	4	28-25 ±10		6 x 9	3		F	3	Yes	Blamp capable.				
	XS-HL25		145.00	100	90	4	45-21 ±10		5 1/4	2	A/P	F, S	1 7/8	Yes	As above.				
	XS-HL26		175.00	120	90	4	40-21 ±10		6 1/2	2	A/P	F, S	2 1/2	Yes					
	XS-HL35		215.00	120	88	4	35-25 ±10		5 1/4	2	A/P	F, S	2 1/2	Yes					
	XS-HL36		230.00	120	89	4	30-25 ±10		6 1/2	2	A/P	F, S	2 1/8	Yes					
	XS-HL45		280.00	120	89	4	35-25 ±10		5 1/4	2	A/P	F, S	2 1/4	Yes					
	XS-PL45		220.00	120	88	4	35-25 ±10		5 1/4	2	A/P	F	2	Yes					
	XS-33		45.00	35	88	4	70-20 ±10		3 1/2	W		P	1 1/2	Yes					
	XS-44		110.00	35	88	4	55-20 ±10		4	W		F	1 5/8						
		XS-4622		110.00	45	89	4	50-20 ±10		4 x 6	2		F	1 3/4					
		XS-PL46		155.00	80	91	4	50-22 ±10		4	2		P	1 3/4					
		XS-628		120.00	80	89	4	40-21 ±10		6 1/2	2		F	1 3/4					
		XS-616		100.00	60	90	4	40-20 ±10		6 1/2	W		F	2	Yes				
		XS-H05		120.00	140	89	4	5k-30k ±10	T			A/P	C	1 1/2	Yes				
		XS-H4		110.00	120	89	4	3k-25k ±10	T			A/P	C	7/8					
		XS-H6		170.00	150	88	4	3k-30k ±10	T			A/P	C	7/8					
		XS-R1		250.00	100	88	4	5k-40k ±10	T			A/P	C	3/8					
	XS-M4Mk2		130.00	120	87	4	80-10 ±10	M				F	1 3/4	No					
	XS-L5Mk2		140.00	120	87	4	40-8 ±10	M				F	2 1/4	No					
	XS-L6Mk2		160.00	120	87	4	35-7 ±10	W	6 1/2			F	2 3/4	No					
	XS-L80C	90.00		250	92	4	25-2 ±10	S	8			F	3 7/8	No					
	XS-L100C	145.00		300	92	4	20-2 ±10	S	10			F	4 3/8	No					
	XS-L120C	170.00		350	92	4	18-1.5 ±10	S	12			F	5 1/8	No					
	XS-L300	340.00		300	92	4	18-3 ±10	S	12			F	5 3/8	No					
	XS-B80	300.00		250	89	4	26-250 Hz ±10	S	8			S	6	No	Fifth-order box enclosure; extendable port; for under-dash mount.				
SONY EXPRESS	EXS-53		55.00	60	88	4	40-20 ±10		5 1/4	2		F	1 3/8						
	EXS-63		70.00	60	90	4	35-20 ±10		6 1/2	2		F	1 3/8						
	EXS-93		80.00	90	91	4	35-20 ±10		6 x 9	2		F	2 3/8						
SOUNDSTREAM	Granite Studio P51		219.00	100	90	4	60-20 ±3		5 1/4	2	A	Yes	F, S	2 3/8	Yes				
	Granite Pro B52		139.00	100	90	4	60-20 ±3		5 1/4	2			F, S	2 3/8	Yes	Blamp capable.			
	Granite Pro B65		159.00	120	90	4	55-20 ±3		6 1/2	2			F, S	2 5/8	Yes	As above.			
	Granite Pro B69		179.00	150	90	4	35-20 ±3		6 x 9	2			F, S	3 1/4	Yes	As above.			
	SS510 mkII		319.00	140	90	4	55-20 ±3		5 1/4	2	A	Yes	F, S	2 1/8	Yes				
	SS4.0		115.00	100	90	4	70-18 ±3		4	W			F, S	2 1/8	Yes	Extended cone excursion.			
	Granite Pro 8	105.00		100	90	4	40-500 Hz ±3	S	8				C	3 7/8	Yes	As above.			
	Granite Pro 10	155.00		200	93	4	37-500 Hz ±3	S	10				C	4 1/2	Yes	As above.			
	Granite Pro 12	200.00		250	96	4	33-500 Hz ±3	S	12				C	5 1/8	Yes	As above.			
	Granite Pro 15	250.00		300	92	4	20-500 Hz ±3	S	15				C	6 5/8	Yes	As above.			
	SS18	795.00		2k	97	8	20-500 Hz ±3	S	18				C	8	Yes	As above.			
	SS10R	230.00		250	91	4	30-500 Hz ±3	S	10				C	4 7/8	Yes	As above.			
	SS12R	290.00		300	93	4	22-500 Hz ±3	S	12				C	5 1/4	Yes	As above.			
	SS8	150.00		200	90	4	37-500 Hz ±3	S	8				C	3 1/2	Yes	As above.			
	SS511 NT1		419.00	140	89	4	50-20 ±3	T	5 1/4	2		Yes	F, S	2 1/8	Yes				
			190.00	140	90	4	2.5k-20k ±3	T				C	1/2	Yes					

# SPEAKERS

MANUFACTURER	Model	Price, \$ (if Sold Individually)	Price, \$ (if Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS								Notes
								Subwoofer Only (S) Midrange Only (M) Woofer Only (W) Tweeter Only (T)	Woofer Size, Inches	Woofer (W), 2-Way (2) 3-Way (3), 4-Way (4) Pointable Tweeter(s) = A	Separately Mountable Drivers?	Flush Mount (F) Conceivable (C) Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproof?		
SOUTHEAST ACOUSTIC	CX4	82.00	100	86.1	4	68-20		4	2	P	No	F	2 1/8	Yes		
	CX5	88.95	120	89	4	65-20		5 1/4	2	P	No	F	2 1/8	Yes		
	CX46	85.95	80	85.9	4	65-20		4 x 6	2	P	No	F	1 3/8	No		
	CX65	122.97	120	90	4	38-20		6 1/2	2	P	No	F	3 3/8	Yes		
	CX69	127.97	120	90.5	4	38-20		6 x 9	2	P	No	F	3 3/8	Yes		
	CX8	125.90	200	88.9	8	38-20		8	2	P	No	F	3 3/8	No		
	CX12	269.00	350	86	8	28-20		12	2	P	No	F	5 3/4	Yes		
	MR4	52.95	120	85	4	100-6	M				F	F	2 1/8	Yes		
	MR5	57.95	120	87.1	4	70-5	M				F	F	2 3/8	Yes		
	MB5	73.95	160	88.5	4	60-2	W	5 1/4			F	F	2 3/8	Yes		
	MB6	77.90	160	86	4	45-5	W	6 1/2			F	F	3 3/4	Yes		
	SC10	129.95	300	92.8	4	30-2	S	10			F	F	4 1/4	No		
	SC12	149.95	300	92.3	4	20-2	S	12			F	F	5	No		
	SC15	169.95	300	91	4	20-1.2	S	15			F	F	5 1/2	No		
	SD8	119.95	200	90.3	4	36-2	W	8			F	F	3 1/2	Yes		
	SD10	189.95	400	85.3	4	28-2	S	10			F	F	4 3/8	Yes		
	SD12	219.95	400	88.7	4	20-2	S	12			F	F	5	Yes		
	SD15	249.95	400	90.5	4	25-1	S	15			F	F	5 3/4	Yes		
	ST12	369.95	500	93.8	4	30-1	S	12			F	F	4 7/8	Yes		
	ST15	389.95	500	93.1	4	30-1	S	15			F	F	5 1/8	Yes		
	ST18	429.95	500	94.1	4	24-800 Hz	S	18			F	F	7 7/8	Yes		
	801730	19.50	50	88.5	8	3.5k-20k	T			P			3/4	No		
	811545	30.97	50	92	4	3.5k-20k	T			P			1 3/8	No		
	811546	30.97	50	92	8	3.5k-20k	T			P			1 3/8	No		
	811581	25.97	45	92	4	3.5k-20k	T			P			3/4	No		
	811582	25.97	45	89	8	3.5k-20k	T			P			3/4	No		
811687	43.97	65	91.6	8	3.5k-20k	T			P			1	No			
811815	33.97	50	93	8	3.5k-20k	T			P			1 1/8	No			
SPARKOMATIC	7969	14.99	50	92	4	60-17 ±3		6 x 9	W			F				
	7950	11.99	40	90	4	80-15 ±3		5 1/4	W			F				
	7946	12.99	40	90	4	70-15 ±3		3 1/2	W			F				
	7940	11.99	40	90	4	90-15 ±3		4	W			F				
	7935	9.99	40	90	4	90-15 ±3		3 1/2	W			F				
	SK42	49.99	50	89	4	80-20 ±3		4	2	No		+		Yes		
	8525	39.99	50	90	4	50-21 ±3		5 1/4	2	No		F	1 3/4	Yes		
	STW800	79.99	Inc.	92		30-250 Hz ±3	S	8		No		S		Yes	Powered subwoofer; tube enclosure.	
	9440	89.99	40	90	4	60-20 ±3		4	3	No		S		Yes	Enclosure.	
	8690	57.99	70	93	4	40-20 ±3		6 x 9	3	No		F	3 3/4	Yes		
	8650	44.99	60	91	4	60-20 ±3		6 1/2	2	No		F	2 1/4	Yes		
	8400	29.99	40	89	4	80-20 ±3		5	2	No		F	1 3/4	Yes		
	SK693	34.99	160	95.3	4	30-17 ±3		6 x 9	2	No		F	3 1/2	Yes		
	SK692	27.99	100	96.6	4	30-15 ±3		6 x 9	3	No		F	1 3/4	Yes		
	SK63	32.99	120	90	4	60-16 ±3		6	3	No		F	2 3/8	Yes		
	SK415	34.99	80	86	8	90-15 ±3		4	W			S		Yes	For pickup trucks, vans, and RVs.	
	SK410	29.99	80	86	4	90-15 ±3		4	W			S		Yes		
SK400	27.99	80	86	4	90-15 ±3		4	W			F	1 3/4	Yes			
9690	89.99	80	92	4	35-21 ±3		6 x 9	3	No		F	3	Yes			
9525	44.99	80	90	4	50-21 ±3		5	2	No		F	1 1/2	Yes			
SPECO	G850PW	37.70	150	94	8	34-4.5	W	8				C	8	Yes		
	G1070GPW	43.99	200	95	8	30-4.5	W	10				C	9	Yes		
	G1275PW	56.50	250	96	8	25-4.5	W	12				C	12	Yes		
	W5CF3	19.95	10	90	4	75-10		5		No		S		No	Wedge kit.	
SYMPHONY	Baritone SY12	191.00	200	93	4/8	18-1	S	12						Yes		
	Baritone SY10	173.00	200	93	4/8	25-1	S	10						Yes		
	Tenor SY6.5	102.00	70	90	4	25-4	W	6 1/2						Yes		
	Tenor SY5.2	95.00	60	94	4	50-4	W	5 1/4						Yes		
Alto SY4.5	139.00	60	92	4	150-16	M							Yes			
THE HOTT SET-UP	TH1	45.00	120	90.5	8	2.8k-20k	T					F	1	No		
	TH1S	41.00	100	89	8	2.1k-20k	T					F	3/4	No		
	TM4	86.00	80	88	4	100-4	M					F	1 3/4	No		
	TM5	99.00	60	88.6	4	89-3.5	M					F	2 1/4	No		
	TL6	90.00	200	89.7	4	44-2.5	W	6				F	3 1/2	No		
	TL8	99.00	200	90	4	40-2	W	8				F	3 3/4	No		
	TL8DVC	99.00	200	↑	↑	38-2	W	8				F	3 3/4	No	↑Dual voice-coils: 91 dB at 2 ohms, 85.9 dB at 8 ohms.	
	TL10	118.00	400	88.7	4	36-1.5	W	10				F	4 1/4	No		
	TL10DVC	124.00	400	↑	↑	35-1.5	W	10				F	4 1/4	No	↑As above but 91.6 and 86.6 dB.	
	TL12	128.00	400	93	4	30-1.4	W	12				F	5	No		
TL12DVC	134.00	400	↑	↑	27-1.4	W	12				F	5	No	↑As above but 95 and 89.8 dB.		
TL15	176.00	400	95.4	4	33-1	W	15				F	6 3/4	No			
TL15DVC	182.00	400	↑	↑	29.5-1	W	15				F	6 3/4	No	↑As above but 97.9 and 92.8 dB.		
TM RUSH	6 1/2"	75.00	150	90	6	38-2.3	W	6 1/2				C	3 1/4	Yes		
	8"	65.00	150	94	4	38-2.6	W	8				C	3 1/2	Yes		
	10"	75.00	200	95	4	38-2.4	W	10				C	4 1/4	Yes	For ported enclosure or free-air use.	
	12"	85.00	200	97	4	36-2.4	S	12				C	5 1/4	Yes		
	15"	95.00	225	99	6	34-2	S	15				C	6	Yes		
	18"	249.00	300	101	6	28-1.8	S	18				C	7 1/2	Yes		
	6" Dynamo	260.00	150	93	6	38-2	W	6 1/2				C		Yes	Tube enclosure; requires corner loading.	
	8" Mini Rush	299.00	180	98	4	34-2	W	8						Yes	As above.	
	10" Power Rush	350.00	280	102	4	30-2	W	10						Yes	As above.	
	12" Maxi Rush	429.00	300	103	4	30-2	S	12						Yes	As above.	
	15" Ultimate Rush	295.00	350	104	6	28-2	S	15						Yes	As above.	
18" Extreme Rush	419.00	819.00	375	104	6	26-1.6	S	18					Yes	As above.		

# SPEAKERS

MANUFACTURER	Model	Price \$ (If Sold Individually)	Price \$ (If Sold In Pairs)	Recommended Maximum Power. Watts/Channel	Sensitivity, dB SPL (1 W/1m) (Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ± dB	DRIVERS											Notes
								Subwoofer Only (S) Midrange Only (M) Tweeter Only (T)	Woofer Size, Inches	Woofer (W), 3-Way (3), 4-Way (4)	Agood Tweeter(s) = A Pollable Tweeter(s) = P	Separately Mountable Drivers?	High Mount (H) Convertible (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?				
TOBY	Ranger	440.00		240	99	4	47-110 Hz	S	(2)10						No		Dual voice-coils.		
	Sheriff	240.00		120	94	4	47-110 Hz	S	10						No		As above.		
	Constable	240.00		120	93	4	50-140 Hz	S	10						No		As above.		
	Pistol	215.00		100	91	4	45-110 Hz	S	8						No		As above.		
LOWMAN	LowMan	275.00		120	90	4	34-85 Hz	S	10						No		As above.		
TOMAHAWK	S8D	80.00		150	97	4	40-2.5	S	8					F			Dual voice-coils.		
	S10D	105.00		200	96	4	30-1.5	S	10					F			As above.		
	S12D	120.00		250	95	4	20-1.5	S	12					F			As above.		
	S15D	140.00		250	94	4	20-1	S	15					F			As above.		
TOP SOURCE	Jeep Wrangler SoundBar	399.00		50	90	8	80-16		(2)4	W				S		Yes	Overhead enclosure; price includes dealer installation; for Jeep Wrangler.		
	Jeep Cherokee O.S.S.	399.00		80	90	4	80-22		(2)5 1/4	2	No	No	S		No	As above but matches headliner of Jeep Cherokee.			
	Jeep Grand Cherokee O.S.S.	499.00		100	90	4	80-20		(2)5 1/4	2	No	No	S		No	As above but for Jeep Grand Cherokee.			
	GM 2000	249.00		45	91	4	30-18			2	No	No	S		No	As above but for GM sport utility vehicles.			
TOSHIBA	GM 7000	299.00		100	97	4	50-20		(2)4	2	No	No	S		No	As above.			
	TS541		49.00	25	86	4	100-18							F					
	TS562		69.00	40	88	4								F					
TOSHIBA	TS592		99.00	80	90	4								F					
	TS593		129.00	80	90	4								F					
														F					
TOSHIBA														F					
ULTIMATE SOUND	CS-42	98.00		100	92	4	45-20							F, S			Yes		
	CS-52	120.00		120	93	4	40-20							F, S			Yes		
	CS-62	210.00		170	94	4	30-20							F, T, S, S			Yes		
	CS-852	300.00		300	94	4	20-20							F, T, S, S, S			Yes		
	CS-1052	300.00		300	94	4	20-20							F, T, S, S, S			Yes		
	TSS-1	260.00		70	95	4	45-22	(2)4	3	2	A	No	No	F, S, T, S, S			Yes		
	TCS-852	300.00		300	95	4	30-21							F, S			Yes		
	U-6920TX	100.00	150	94	4	40-23		6 x 9	3	No	No	No	No	F, T, S	3 1/4	Yes	Enclosure; mounts overhead. Tube-enclosed subwoofer with separate midranges and tweeters.		
	U-6920CX	90.00	150	94	4	40-20		6 x 9	2	No	No	No	No	F, T, S	3 1/4	Yes			
	U-6510TX	84.00	80	93	4	45-23		6 1/2	3	No	No	No	No	F, T, S	2 1/4	Yes			
	U-6510CX	75.00	80	93	4	45-20		6 1/2	2	No	No	No	No	F, T, S	2 1/4	Yes			
	U-5710CX	75.00	80	91	4	45-20		5 x 7	2	No	No	No	No	F, T, S	2 1/4	Yes			
	U-5006CX	75.00	65	92	4	45-20		5	2	No	No	No	No	F, T, S	1 3/4	Yes			
	U-4110CX	65.00	80	91	4	45-20		4 x 10	2	No	No	No	No	F, T, S	2 1/4	Yes			
	U-4806CX	57.00	45	91	4	55-20		4 x 6	2	No	No	No	No	F, T, S	1 3/4	Yes			
	U-4006CX	55.00	45	91	4	60-20		4	2	No	No	No	No	F, T, S	1 3/4	Yes			
	U-4006W	53.00	45	91	4	60-18		4	2	No	No	No	No	F, T, S	1 3/4	Yes			
	U-3506W	42.00	30	90	4	80-14		3 1/2	W					F, T, S	1 3/4	Yes			
	SPD-202	120.00	100	92	4	45-20		4 x 7	2	No	No	No	No	S, S, P				Box enclosure.	
	PT-69	140.00	75	93	4	40-23		6 x 9	2	No	No	No	No	S, P, P	1 3/8	Yes			
	PT-57	110.00	60	92	4	45-23		5 x 7	2	No	No	No	No	S, P, P	1 3/8	Yes			
	PT-46	80.00	50	90	4	60-22		4 x 6	2	No	No	No	No	S, P, P	2 1/4	Yes			
	Reflex-Pro KL-8035DX	260.00	240	95	4	20-22		8	2	No	No	No	No	F	3	Yes		Vented pole piece.	
	Reflex-Pro KL-6935DX		260.00	200	95	4	20-22		6 x 9	2	No	No	No	F	3	Yes		As above.	
	Reflex-Pro KL-6525	175.00	200	93	4	20-22		6 1/2	2	No	No	No	No	F	3	Yes		As above.	
	Reflex-Pro KL-4510	85.00	200	93	4	40-20		4 1/2	2	No	No	No	No	F	3	Yes		For sealed enclosure or free-air use.	
	Reflex-Pro KL-1580	230.00	1k	97	4/8	20-600 Hz	S	15						F	6 1/2	Yes		Vented pole piece.	
	Reflex-Pro KL-1280	200.00	1k	96	4/8	25-600 Hz	S	12						F	5 1/2	Yes		As above.	
	Reflex-Pro KL-1050	140.00	700	95	4/8	30-800 Hz	S	10						F	4 3/4	Yes		As above.	
	Reflex-Pro KL-8050	120.00	700	93	4/8	35-800 Hz	S	8						F	4 1/8	Yes		As above.	
	Reflex-Pro KL-6935	95.00	200	93	4	35-3	W	6 x 9						F	4	Yes		As above.	
	IPT-10	370.00	140	Inc.		20-150 Hz	S	10						S				Powered tube enclosure.	
	IPT-8	260.00	140	Inc.		20-150 Hz	S	8						S				As above.	
	IPB-10	410.00	140	Inc.		20-150 Hz	S	10						S				Powered box enclosure.	
	BoomTube T-12	230.00	140	Inc.	250	102	4	20-150 Hz	S	12				S		Yes		Tube enclosure; with crossover and dual voice-coils, \$250.00 each.	
	BoomTube T-8	150.00	200	101	4	30-150 Hz	S	8						S	Yes	Tube enclosure; with crossover and dual voice-coils, \$170.00 each.			
	BoomTube T-6	120.00	150	100	4	35-150 Hz	S	6						S	Yes	Tube enclosure.			
	Pro-Kevlar Bandpass I	330.00	450	97	4	20-100 Hz	S	10						S				Sixth-order bandpass enclosure.	
	Pro-Kevlar Bandpass II	390.00	600	97	4	20-100 Hz	S	12						S				As above.	
	Competition Sub Bass I	260.00	300	96	4	20-150 Hz	S	(2)10						S				Fourth-order box enclosure.	
	Competition Sub Bass II	330.00	400	97	4	20-150 Hz	S	(2)12						S				As above.	
	Competition PW-1550	140.00	300	97	4/8	25-600 Hz	S	15						F	6	Yes			
	Competition PW-1250	120.00	250	96	4/8	30-600 Hz	S	12						F	5 1/4	Yes			
	Competition PW-1035	80.00	225	95	4/8	35-1	W	10						F	4 5/8	Yes			

(Continued)

# SPEAKERS

MANUFACTURER	Model	Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Watts Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS										Notes
								Subwoofer Only (S) Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Whizzer (W) 2-way (2), 3-way (3), 4-way (4)	Applied Tweeters = A, Pinnable Tweeters = P	Separately Mountable Drivers?	First Mount (F), Surface Mount (S), Convenient (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproofed?			
ULTIMATE SOUND (Continued)	Competition PW-8035	80.00	200	94	4/8	40-1	W	8					F	4	Yes	Vented pole piece.		
	Competition PM-6525	45.00	85	92	4	30-10	W	6½					F	3	Yes			
	Competition PM-5210	28.00	55	91	4	40-10	W	5¼					F	2½	Yes			
	Competition PM-4010	25.00	45	91	4	50-10	M						F	2½	Yes			
	Pro-Mids KM-6525	60.00	150	93.7	4	30-10	W	6½					F	2¾	Yes			
	Pro-Mids KM-5210	40.00	100	93.2	4	40-10	W	5¼					F	2¼	Yes			
	Pro-Mids KM-4010	35.00	75	90.2	4	50-10	M						F	2½	Yes			
	RT-1		90.00	150	92	4	2k-22k	T						F	Yes			
	RT-2		80.00	150	92	4	2k-22k	T						C	Yes			
	RT-3		40.00	130	93	4	2.5k-25k	T						C	Yes			
	Neo-Titan		80.00	240	95	4	3k-25k	T						C	Yes			
	UT-746P		36.00	120	95	4	5k-21k	T						C	Yes			
	UT-810		50.00	60	96	8	3k-23k	T						C	Yes			
	SST-1		30.00	120	97	4	5k-25k	T						S	Yes			
	U.S. BLACK MAGIC	BM-3500B	15.00	30	90	4	120-18		3½	W				F	1¾		No	Midrange and tweeter.
BM-4000B		20.00	40	89	4	90-18		4	W				F	1¾	No			
BM-4200			48.00	50	90	4	80-22		4	W		No	F	1¾	No			
BM-5250			49.95	60	90	4	65-20		5¼	W		No	F	2	No			
BM-5720			55.00	70	90	4	65-19		5 x 7	W		No	F	2¾	No			
BM-6400B			25.00	60	91	4	65-18		6½	W			F	1¾	No			
BM-6420			65.00	70	91	4	65-20		6½	W		No	F	1¾	No			
BM-6430			75.00	90	91	4	55-22		6½	W		No	F	2½	No			
BM-6920			89.00	120	92	4	38-20		6 x 9	W		No	F	3¾	No			
BM-6930			105.00	130	92	4	38-24		6 x 9	W		No	F	3¾	No			
BM-6921			73.00	100	93	4	50-20		6 x 9	W		No	F	2½	No			
BM-6931			85.00	120	93	4	50-22		6 x 9	W		No	F	2½	No			
BM-6520R		48.00	160	89	4	44-5	W	6½					F	2½	No			
BM-8030R		60.00	200	91	4	31-2.5	S	8					F	3¾	No			
BM-1042R		77.00	260	91	4	28-2.5	S	10					F	4¼	No			
1250R		85.00	300	92	4	20-2	S	12					F	4¾	No			
BMI-652			159.00	160	90	4	50-18		6½	W		No	F	2¾	No			
BMI-653			151.00	180	90	4	50-20		6½	W		No	F	2¾	No			
BMI-692			179.00	200	90	4	45-18		6 x 9	W		No	F	3¼	No			
BMI-693			207.00	220	90	4	45-20		6 x 9	W		No	F	3¼	No			
BMI-300			90.00	60	92	4	1k-20k				P		F	1¾	No			
BMI-410B			50.00	60	91	4	100-10	M					F	1¾	No			
BMI-460			104.00	60	90	4	90-20		4 x 6			No	F	1½	No			
BMI-65		64.95	200	90	4	45-6	S	6½					F	3	No			
BMI-690		100.00	240	90	4	35-4.5	S	6 x 9					F	3¾	No			
BMI-80		89.00	240	90	4	20-3	S	8					F	3¾	No			
BMI-10		155.00	300	91	4	20-3	S	10					F, S	4¾	No			
BMI-12		183.00	400	91	4	20-3	S	12					F, S	4¾	No			
BMI-290			110.00	120	91	4	2k-22k	S					F, S	4¾	No			
BMI-692A			224.00	200	90	4	30-22		6 x 9	W		No	F, S	3¾	No			
BMA-0420			68.00	50	90	4	75-20		4	W		No	F	1¾	No			
BMA-0525			90.95	60	90	4	65-20		5¼	W		No	F	2	No			
BMA-0642			93.00	70	91	4	60-20		6½	W		No	F	1¾	No			
BMA-0643			111.00	90	91	4	50-20		6½	W		No	F	2½	No			
BMA-0690			115.00	100	90	4	35-18		6 x 9	W		No	F	2½	No			
BMA-0691			143.00	120	90	4	35-20		6 x 9	W		No	F	2½	No			
BMA-0692			152.00	150	91	4	30-18		6 x 9	W		No	F	3¼	No			
BMA-0693			170.00	160	91	4	30-20		6 x 9	W		No	F	3¼	No			
BMA-8F		83.00	240	89	4	45-3	S	8					F, S	3¾	No			
BMA-10F		129.00	300	90	4	35-2.5	S	10					F, S	4¾	No			
BMA-12F	157.00	400	91	4	30-2	S	12					F, S	4¾	No				
USD	WaveGuide		1500.00	100	110	8	600-20 ±3						S		No	2½ x 18-inch midrange/tweeter driver; 10-inch-deep enclosure for under-dash mounting.		
	15pro	450.00	400	105	4/8	20-3 ±3	S	15					F	5	No			
	12pro	400.00	300	100	4/8	20-3 ±3	S	12					F	4	No			
	10pro	330.00	300	100	4/8	40-5 ±3	W	10					F	4	No			
	820	100.00	100	91	4/8	30-5 ±3	W	8					F	3	No			
	8pro	280.00	150	89.5	4/8	35-1.8	W	8					F	4	Yes			
	6pro	220.00	150	90		42-3.5	W	6½					F					
	1040	120.00	150	91.5	4/8	20-3 ±3	S	10					F	4	No			
	1060	160.00	200	93.3	6	20-3	S	10					F	4	No			
	1260	190.00	200	94.7	6	20-3	S	12					F	4	No			
	28mm	190.00	150	91		2k-30k	T						F	1½				
	11	50.00	30	89		3k-20k	T						F	1½				
4	90.00	30	86		60-7	M						F						
1p	500.00	150	90		350-20							P	4		Midrange and tweeter.			
VERTEK/XTC	XT4108	275.00	125	90.2	4	35-125 Hz ±3	S	8					S			Transmission-line enclosure; dual voice-coils; includes crossovers; stereo pair version, Model XT4028, \$425.00.		
	XT4212		425.00	150	91.5	4	25-120 Hz ±3	S	12				S			Slot-loaded enclosure; includes crossover.		
	XT4122		360.00	150	92	4	28-120 Hz ±3	S	10				S			As above.		

# SPEAKERS

MANUFACTURER	Model	Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, db SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±db	DRIVERS										Notes
								Subwoofer Only (S), Woofer Only (W), Midrange Only (M), Tweeter Only (T)	Woofer Size, Inches	Woofer (W), 2-Way (2), 3-Way (3), 4-Way (4)	Angular Tweeter(s) = A, Pointable Tweeter(s) = P	Separately Mountable Drivers?	Flush Mount (F), Surface Mount (S), Convex (C), Plate (P)	Maximum Required Mounting Depth, Inches	Weatherproof?			
VOLCANO	SA-401		69.95	40	89	4	75-20 ±3		4				No	F	2			
	SA-501		85.95	50	91	4	65-20 ±3		5 1/4				No	F	2 1/2			
	SA-622B		85.95	50	91	4	78-20 ±3		6				No	F	2 1/4			
	SA-601		95.95	80	90	4	60-20 ±3		6 1/2				No	F	2 3/8			
	MLT-210	829.95	400	96	2		30-250 Hz ±3	S	(2)10				No				Yes	Box enclosure.
	MLT-212	915.95	600	98	2		30-250 Hz ±3	S	(2)12				No				Yes	As above.
	MLT-215	998.98	600	98	2		30-250 Hz ±3	S	(2)15				No				Yes	As above.
	I28	349.95	150	92	2		38-250 Hz ±3	S	(2)8				No				Yes	As above.
	I210	499.95	250	96	2		32-250 Hz ±3	S	(2)10				No				Yes	As above.
	I212	599.95	300	97	2		32-250 Hz ±3	S	(2)12				No				Yes	As above.
	18CS00DS	419.95	500	95	4/8		24-900 Hz ±3	S	18				F	12	No			
	18C400	359.95	400	95	4/8		22-900 Hz ±3	S	18				F	12	No			
	15C300	239.95	300	94	4/8		23-1 ±3	S	15				F	6 1/8	No			
	15S200	159.95	200	93	4/8		27-2.5 ±3	S	15				F	6 3/8	No			
	12C300DS	269.95	300	94	4/8		31-2 ±3	S	12				F	6 1/2	No			
	12C300	219.95	300	93	4/8		35-2 ±3	S	12				F	6 1/2	No			
	12S200	125.95	200	93	4/8		31-2.5 ±3	S	12				F	6 1/2	No			
	10C200	149.95	200	93	4/8		32-3 ±3	S	10				F	6 1/2	No			
	10S150	109.95	150	93	4/8		33-3 ±3	S	10				F	6 1/2	No			
	8S100	69.95	100	92	4/8		34-3.2 ±3	S	8				F	6 1/2	No			
	65C100		129.95	100	98	4/8	65-3.5 ±3	M					F	3	No			
	65C50M		109.95	50	98	4/8	85-10 ±3	M					F	3	No			
	65S50		59.95	50	90	8	75-10 ±3	M					F	3	No			
	5S50M		45.95	50	89	4	160-10 ±3	M					F	3	No			
	4C50M		75.95	50	97	4/8	200-1.7 ±3	M					F	1 7/8	No			
	4C25M		49.95	25	95	4/8	250-10 ±3	M					F	1 7/8	No			
	4S25M		32.95	25	91	8	200-10 ±3	M					F	2 1/8	No			
	3S20M		24.95	20	89	8	200-8 ±3	M					F	1 1/2	No			
	SDT-25B40		55.95	40	96	8	3.5k-20k ±3	T					F	1 1/4	No			
	AMTP-46		79.95	20	92	4	200-22 ±3		3	2		No	F	1 5/8	No			Fits 4 x 6-inch hole in GM and Mercedes vehicles. As above.
	ATP-46		69.95	40	96	8	3.5k-20k ±3	T					F	1 1/4	No			
	TNT-25B50		89.95	50	100	8	4.2k-20k ±3	T					C	1/2	No			
	TNT-25B60		99.95	50	100	8	4.2k-20k ±3	T					C	1/2	No			
	MT-15		16.95	30	92	8	4.5k-20k ±3	T					F	1/2	No			
	AST-15		44.95	20	93	8	3k-20k ±3	T					C	1/2	No			
AST-17		39.95	20	93	8	2k-20k ±3	T					C	1/2	No				
4S30BR		35.95	30	85	8	85-9 ±3	M					C	2 1/8	No				
5S40BR		45.95	40	89	4	40-8 ±3	M					F	2 5/8	No				
6S50BR		65.95	50	90	4	37-7 ±3	M					F	2 7/8	No				
8S75BR		59.95	75	89	8	24-4 ±3	W					F	3 1/2	No				
DSP-5T		299.95	40	93	4	40-22 ±3		8			Yes	C	2 1/2	No				
DSP-6.5T		315.95	50	93	4	40-22 ±3		6 1/2	2		Yes	C	2 3/4	No				
WAVE	5 1/4" Full		104.00	45	94	4	80-18 ±3					C	2 1/4	Yes				
	6 1/2" Full		156.00	80	94	4	50-20 ±4					C	2 7/8	Yes				
	8" Full		166.00	80	95	4	40-18 ±3					C	3 3/8	Yes				
	10" Full		196.00	80	96	4	30-20 ±3					C	4 1/4	Yes				
	6x9" Full		174.00	80	95	4	40-18 ±3					C	3 1/2	Yes				
	6 1/2" Sep		144.00	80	96	4	50-5 ±3	M				C	2 7/8	Yes				
	8" Sep		148.00	80	97	4	40-5 ±3	M				C	3 3/8	Yes				
	8" Sub		154.00	125	96	4	30-2 ±3	S				C	3 3/8	Yes				
10" Sub		194.00	150	96	4	20-2 ±3	S				C	4 1/8	Yes					
Z-BOX	Cherokee F3		500.00	100	89	4	70-21		6 1/2	3	A	No	S					Enclosures; mount in place of front-door grilles in 1993 Jeep Cherokee. Cross-image satellites; mount on rear headliner in 1993 Jeep Cherokee. For rear passenger-side storage area of 1993 Jeep Cherokee.
	Cherokee R2		425.00	60	89	4	150-21			2	A	No	S					
	Cherokee SW		500.00	100	89	4	30-150 Hz	S	10				S					
	Chevy C-1500-F4		700.00	100	89	4	70-21		(2)6 1/2	3	A	No	S					For lower front doors of 1992 and 1993 Chevrolet C-1500 pickups. Mounts behind seat of 1992 and 1993 Chevrolet C-1500 pickups.
	Chevy C-1500-SW		500.00	100	89	4	30-150 Hz	S	10				S					
	Ford F-150-D2		500.00	100	89	4	50-200 Hz	W	(2)6 1/2			No	S					Mounts over map pocket of 1992 and 1993 Ford F-150 XLT trucks. Mounts behind bench seat of 1992 and 1993 Ford F-150 XLT; fits most other full-size trucks.
	Ford F-150-SW3	600.00	200	89	4	30-150 Hz	S	(3)10				No	S					
	C4/911-UDF2		800.00	150	89	4	150-21			2	†	No	S					Replaces upper door panels of Porsche Carrera C2 and C4 and Porsche 911. †Angled midrange and tweeter. Replaces rear side panels of Porsche Carrera C2 and C4 and Porsche 911. Replaces rear seating of Porsche Carrera C2 and C4 and Porsche 911.
C4-CSW		800.00	300	89	4	40-200 Hz	S	8				S						
C4-SW-2	1050.	400	90	4	30-200 Hz	S	10					S						

(Continued)



# SPEAKERS

MANUFACTURER	Model	Price, \$ (If Sold Individually)	Price, \$ (If Sold in Pairs)	Recommended Maximum Power, Watts/Channel	Sensitivity, dB SPL (1 Watt/1 Meter)	Impedance, Ohms	Frequency Response, Hz to kHz, ±dB	DRIVERS						Notes			
								Subwoofer Only (W)	Midrange Only (M)	Woofer Only (W)	Tweeter Only (T)	Woofer Size, Inches	Woofer (W) 2-Way (2) 3-Way (3), 4-Way (4)		Angular Tweeter(s) = A, Pointable Tweeter(s) = P	Separately Mountable Drivers?	Fish Mount (F), Surface Mount (S), Conceivable (C), Plate (P)
Z-BOX (Continued)	911C-R3(A)	1250.		500	89	4	40-21		8	3	†	No	S			Enclosure; replaces rear deck of Porsche 911. †Angled midrange and tweeter.	
	928-S4-SW	650.00		300	89	4	40-200 Hz	S	8				S			Enclosed subwoofer; replaces rear wall panel of Porsche 928 and 928S4. For upper door panels of Porsche 928. †Angled midrange and tweeter.	
	928-F2		450.00	150	89	4	150-21			2	†	No	S			Enclosure for rear side panels of Porsche 928. †Angled midrange and tweeter.	
	928-R2		525.00	150	89	4	150-21			2	†	No	S			Enclosure for rear side panels of Porsche 928. †Angled midrange and tweeter.	
	512-F1		400.00	50	89	4	400-5	M				†		S			Enclosure for front door of Ferrari 512 tr. †Angled midrange.
	512-SW	550.00		100	89	4	50-200 Hz	S	(2)6½					S			Enclosed subwoofer for passenger footwell of Ferrari 512 tr.
	MON-UDF2		750.00	150	89	4	150-21			2	†	No	S				Replaces upper door panels of Ferrari Mondial. †Angled midrange and tweeter.
	MON-SW		750.00	300	89	4	50-200 Hz	S	8					S			Enclosed subwoofer for Ferrari Mondial console.
	348-F2		750.00	150	89	4	150-21			2	†	No	S				Replaces upper door panels of Ferrari 348. †Angled midrange and tweeter.
	348-R2		425.00	100	89	4	200-21			2	†	No	S				Enclosure for rear deck of Ferrari 348. †Angled midrange and tweeter.
	348-SW	500.00		300	88	4	60-200 Hz	S	6				F				Enclosed subwoofer for Ferrari 348 console.
	348-SW-2	1000.		600	89	4	40-200 Hz	S	6					S			Enclosed subwoofer for rear storage shelf of Ferrari 348.
	SL-500-SW	1000.		800	95	4	30-100 Hz	S	10					S			Enclosed subwoofer; replaces rear storage compartment of Mercedes SL-500.
	300E-R3	1300.		500	89	4	50-21		8	3	†	No	S				Enclosure; replaces rear deck of Mercedes 300E. †Angled midrange and tweeter.
	300CE-R3	1300.		500	89	4	50-21		8	3	†	No	S				Enclosure; replaces rear deck of Mercedes 300CE. †Angled midrange and tweeter.
	325-F2/91		475.00	60	89	4	100-21			2	A	No	S				Enclosure for lower doors of pre-1992 BMW 325.
	325-F2/92		425.00	60	89	4	150-21			2	A	No	S				Fits over factory midrange location of 1992 and 1993 BMW 325 sedan.
	325-MP2		500.00	100	89	4	50-200 Hz	W	(2)6½			No	S				Mounts over map pocket of 1992 and 1993 BMW 325 sedan.
	325-R2		475.00	60	89	4	100-21			2	A	No	S				Enclosure; fits over rear deck of pre-1992 BMW 325.
	325-SW2	525.00		100	89	4	40-200 Hz	S	(2)8			No	S				Box enclosure; fits below rear parcel shelf of BMW 325; separate designs for pre-1992 and for 1992 and 1993.
	M5-F3		750.00	500	89	4	60-21		6	3	†	No	S				For front doors of BMW M5. †Angled woofer, midrange, and tweeter.
	635-UDF2		750.00	150	89	4	150-21			2	†	No	S				Replaces upper door panels of BMW 635. †Angled midrange and tweeter.
	635-R3	1200.		500	89	4	40-21		8	3	†	No	S				Enclosure; replaces rear deck of BMW 635. †Angled midrange and tweeter.
	VET-R4	1100.		1.2k	90	4	30-21		10	4	†	No	S				Enclosure for rear hatch of Corvette; amp rack space provided. †Angled subwoofer, woofer, midrange, and tweeter.
	VET-F2		425.00	150	89	4	150-21			2	†	No	S				For upper door panels of Corvette. †Angled midrange and tweeter.
	TA-SW-2	750.		800	90	4	35-200 Hz	S	15					S			Enclosed subwoofer for rear storage compartment of Camaro and Firebird.
	T-Bird F-3	800.00		100	90	4	150-21			3	A	No	S				Enclosure; overlays front half of Thunderbird doors.
	T-Bird R-2	475.00		60	90	4	150-21			2	†	No	S				For rear seat back of Thunderbirds. †Angled midrange and tweeter.
	Mustang F-3	550.00		100	90	4	150-21		6	3	†	No	S				Enclosure for Mustang doors. †Angled midrange and tweeter.
	Mustang SW-2	550.00		300	90	4	30-200 Hz	S	(2)8					S			Wraps around Mustang rear cargo area.
TA-F3	450.00		60	89	4	150-21			3	†	No	S				For Trans Am doors. †Angled woofer, midrange, and tweeter.	
300ZX-F3	550.00		100	90	4	150-21		6	3	†	No	S				For doors of Nissan 300ZX. †Angled midrange and tweeter.	
300ZX-R2	400.00		60	89	4	150-21			2	†	No	S				Replaces panel behind front seat of Nissan 300ZX. †Angled midrange and tweeter.	
300ZX-SW2	550.00		300	90	4	30-200 Hz	S	(2)8					S			Separate enclosure for each channel; for corners of Nissan 300ZX cargo area.	
2000-LDU	450.00		800	89	4	80-21		5	2	†	No	S				Enclosure for lower doors. †Angled woofer and tweeter.	
628-LDU	400.00		400	89	4	80-21		6	2	†	No	S				As above. †Angled woofer and tweeter.	

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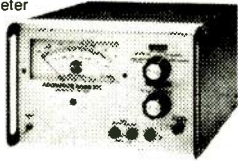
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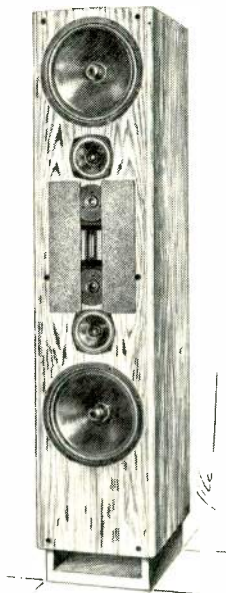
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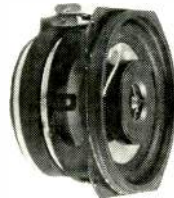
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**AD INDEX**

Firm (Reader Service No.)	Page
Adcom (1)	57
Advent	86
Allison Acoustics (2)	12
Alpine (3)	48
American Express/Optima	2 & 3
Audio Research (4)	21
AudioQuest	20, 103, Cover IV
BMG	17 & 18
Brystonvermont (5)	45
Camel	90 & 91
Cambridge Soundworks (6, 7)	28, 29
Celestion (8, 9)	9, 51
Cerwin-Vega (10)	93
Counterpoint (11)	13
Courvoisier	Cover III
Coastic (12, 13)	67, 69
Crutchfield	25
Digital Phase (14)	59
Eclipse (15)	83
Esoteric Audio (16)	97
Ford Electronics (17)	72 & 73
KEF (18)	42 & 43
Lexus (19)	10 & 11
Martin-Logan	15
Mobile Fidelity (20)	30 & 31
MTX	52
Panasonic (30)	85
Paradigm (22)	77
Parasound	81
Phase Linear	79
Pioneer (23, 24)	5, 23
Polk (25)	36 & 37
Rockford-Fosgate (26)	16
Shure Brothers (27)	84
Sony	Cover II & 1
Sony Music	105
Sound City (28)	106 & 107
Tanqueray	23
Vandersteen (29)	27
WTDT	47
Yamaha	46

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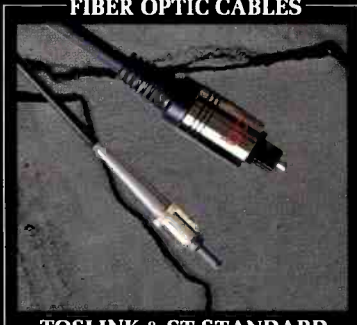


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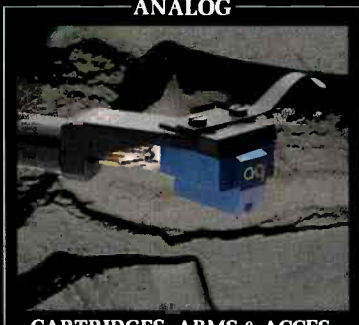
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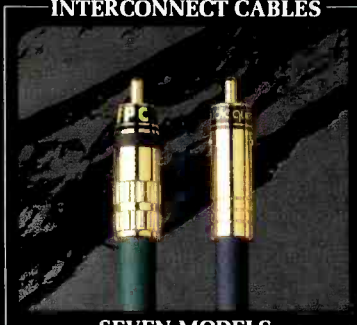
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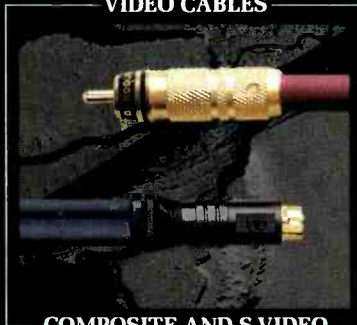


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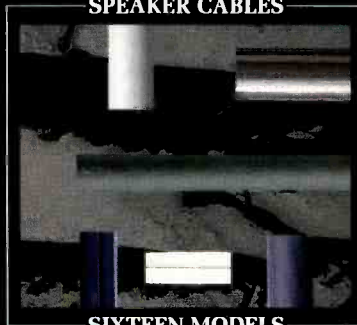
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