HOW TO HOOK UP AND ENJOY YOUR OCTAVE™

AudioControl™

Congratulations on having the good taste to buy the world's finest octave equalizer.

Now you can improve the performance of your speakers, adjust the sound of records, make killer car tapes and even improve the tinny sound of video soundtracks.

All that and lots of lights to boot!

MAKING FRIENDS WITH YOUR NEW OCTAVE.

The OCTAVE is a fairly complex, high performance add-on with lots of buttons, knobs and sockets including some not found on any other equalizer, so face the blackboard and we'll run you through each control, hole and protuberance on the OCTAVE.

[1] POWER SWITCH.

Self explanatory. It allows the OCTAVE to nourish its circuits from the vast dynamos and generators of your local monopolistic power company. Don't worry about using a splitter socket if you're short of outlets: The OCTAVE draws less current than an electric clock and will pose no overload hazzards when added to your current tangle of plugs.

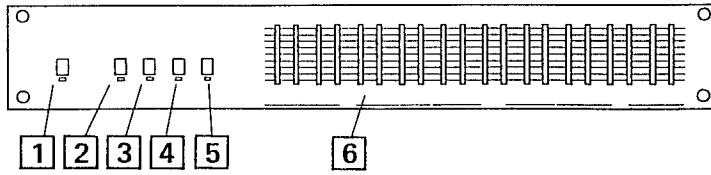
[2] TAPE MONITOR.

This is a "loop" just like the one controlled by the Tape Monitor on your receiver. When pushed in, the OCTAVE is receiving signals from the tape decks. Note that if the deck is not playing and the TAPE MON button is pushed in, deafening silence will occur. Our service department "fixes" a lot of OCTAVE's this way because the customer mistakenly pushed the TAPE MON.

Since the TAPE MON is a loop which goes out of the OCTAVE through a tape deck or other device and back in, it is where you'd plug any other sound enhancing devices such as ambiance generators, noise reducers, expanders, etc. If such a device is installed, pushing the TAPE MON button IN will activate this device. See the hook-up details if this is getting hazy. If you don't own any other outboard add-ons, don't worry about it further.

[3] PROGRAM/TAPE.

This switch determines whether you're equalizing your program source (record, FM etc.) onto tape or not. In the OUT position, your program source is simply being equalized and played through your speakers. The IN setting transfers all the equalization to your tape deck. Just about all cassette and open reel recordings can benefit by equalization which we'll cover farther on.



4 SUBSONIC FILTER.

Subsonics are inaudible ultra-low frequency oscillations caused by turntable/speaker feedback, floor vibration, record warps and other nefarious enemies of your speakers. They manifest themselves in a visible flopping of speaker woofer cones. Distorting and destructive, subsonics are chopped off below 20Hz by this special filter circuit. Don't confuse it with the lousy "Low Cut" filter on your receiver or integrated which also robs audible low bass. The SUBOSONIC filter on the OCTAVE should be left IN at all times with no audible loss of bass and a whole lot of positive speaker protection.

5 EQ SWITCH.

Think of this as a comparison switch. IN, you're hearing the effect of the OCTAVE. Out, you're hearing things as they were before the OCTAVE was installed. When you use the OCTAVE to change the tone of a record or beef up speaker range, just pop the EQ switch in and out to make frequency comparisons. The only time we'd suggest leaving this switch out is on certain digital material where the dynamic range and frequency response can overtax some speakers.

6 Next we come to the 20 sliders that make up the equalization portion of the OCTAVE. The sound spectrum — from lowest to highest — is divided up into ten EQUAL ranges, called octaves. don't worry about the fact that the frequency numbers don't jump up in orderly tenths but instead approximately double. Just think of them as ten equal bands of sound. Each has its purposes and contributes different experiences to your enjoyment of music. While reading this section, note the chart of instruments which will help you understand the relationships of instruments to frequency bands.

31.5 Hz, 63 Hz, 125 Hz, 250Hz:
THE SLIDERS THAT SHOOK THE WORLD!

The four bottom sliders on your OCTAVE roughly correspond to the bass control on your amp or receiver — or rather we should say that your receiver's bass tone control is what's rough.

31.5 Hz. Truly a piece of the rock. This lowest of lows is what you've always wanted more of. It's the frequency that you *feel*

as well as hear. The frequency that kicks you at live concerts.

Unfortunately, the whole signal chain conspires to remove it. Even $1000 microphones are flat that low; studio recorders roll off in this area. It's hard to master onto vinyl. Tough to pick up with most styli, and pretty near impossible for most speaker woofers to reproduce.

So, even if you run the 31.5Hz slider up to +12dB, your speakers will probably be 5dB or more down at this gutrocking frequency.

Lay it on thick, if you have the amp power to handle it.

63Hz. Here's the bass you were after when you used to turn on the loudness or bass tone control. It's the deep, tight, strong bass that makes rock solid and disco kick. It's also where most speaker systems start giving out, as you probably saw when you response-analyzed your speakers and room. But, if it didn't take a lot to flatten the response of your system, feel free to add some more.

Most studio producers and engineers actually *cut down* on this frequency to compensate for teeny, tiny AM radios and bubblegummers' cheap compact stereos, so adding some 63Hz is not "gonna be no sin," as B.B. King put it.

It's the slider that makes the bass drums and floor toms "bigger" and broadens bass guitar parts. And, even does surprising things to operatic basso voices. (Forget it on Neil Young's, though.)

125Hz. This is the bass that juke boxes and cheap stereos specialize in. It has a boom quality that can get very tiresome to the ears after a while.

That's not to knock it. Push the 125Hz slider to MINUS 5dB and you'll find a lot of what you might have *thought* was bass will be gone.

You see, if 31.5Hz and 63Hz were the flour and eggs of a cake, the 125Hz band is the vanilla extract and sugar — the flavoring of bass. Boosting it too high is like guzzling straight extract and sugar syrup. Use 125Hz sparingly, as a seasoning, the way producers do.

Maybe +3 to pump up a vocal or a bass guitar part. A bit more if you're a drum freak. Also good for acoustic bass, virtually all symphonic music and your Aunt Tillie's goiter.

250hz. This is on the upper fringes of bass. Fiddle with it and you'll see it has relatively little to do with bass guitar or kick drum. It does have a lot to do with voices and lead guitar solos, though. Without it they lack body. Add 250Hz to "flesh out" thin vocals or older records with narrower dynamic ranges.

BRINGING THEM FORWARD AND MOVING THEM BACK: 500, 1000,2000,4000.

These sliders control the core of music. Melody instruments, vocals, midrange percussion — almost everything we associate with music. With care, you can substantially change the sound of most melody instruments as well as vocals. Each cut and album will be different, so experiment.

In our experience the 1000 slider does most for all-around human voice presence. 500 is great for male voices and jazz

tenor saxes. Some solo piano benefits by a little boost here, too.

In practice, folks seem to cut down the 2000 and 4000 as much as they boost them. There seems to be plenty of these frequencies in most contemporary pop cuts. The question is, is there too much? Particularly at high sound pressure levels. Try it for yourself.

GETTING VERY HIGH: 8000 AND 16000.

Oddly enough, neither of these frequencies is as ear-piercing as you might think. What you thought was tinny treble is really lower down at 2000 and 4000. Up at 2000 you'll be surprised how few instruments are actually affected. The tips of womens' vocals, snare drums, some synthesizer and higher brass and woodwinds. But you can use more of it than you might first suppose by its classification as "treble."

As for the 16KHz, well, it's the icing on that audio cake we were describing earlier. The crisp sizzling of cymbals, the high harmonic overtones that bring music to life . . . they're all here.

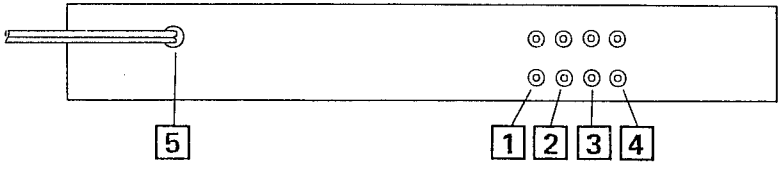
Unfortunately, this is also a frequency which involves (dare we bring it up?) *your age*. From young adolescence on we start to lose the high end of our hearing. It's the ultimate finito frequency roll-off and there's little that can be done about it. Not that we're saying you are getting deaf when you reach 30. But you can hear less 16K than you could ten years ago. That's all.

Boosting this band 3-5dB can "flatten" your hearing curve again and bring a lot out. Just don't get vain and leave it at 0dB.

THE OCTAVE'S NETHER PARTS.

In the anodized back-end of the OCTAVE are the corresponding socket connections for the buttons out front.

1. The MAIN OUT runs back to your receiver. Everything that goes into the OCTAVE (FM, records, tape, TV etc.)...all return to your amp or receiver through these two RCA-type sockets.
2. TAPE OUT is the outbond segment of the tape loop we confused you with before. Signals outbound from the OCTAVE are routed to your tape deck or to any other add-ons through this outlet.
3. TAPE IN returns all signals from the tape deck or assorted black boxes.
4. MAIN IN accepts all signals from those sound sources which are hooked to or part of your receiver: FM and records.
5. The POWER cord. If this isn't self explanatory we'll give up and get out of the manual writing business.



If you're still with us after all that, a few pieces of sage advice.

A. Save your Owner's Manual and box. You may get more toys to hook up with the OCTAVE later. And need to review instructions. The box is important for warranty repair work (perish the thought) and for moving.

B. SAVE YOUR SALES SLIP OR RECEIPT. The whole foundation of our warranty system is based on proof of purchase. Very necesary. Also great for insurance purposes if you live in a high crime rate area and find your whole system gone someday.

C. Provide your speakers with enough power. Low bass boost sounds super but makes severe demands on wimpy 20-40 watt receivers. If you like Led Zeppelin at shock volume through big speakers, get the power to match or the OCTAVE may just kick the speakers off the brink into clipping.

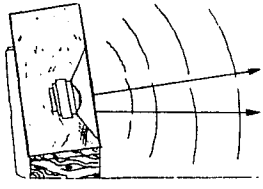
D. Be willing to experiment. Every modern recording has been equalized at least half a dozen times before you get it. There is no such thing as "flat". Let your ears be the judge.

MAKING YOUR SPEAKERS SPEAK MORE CLEARLY.

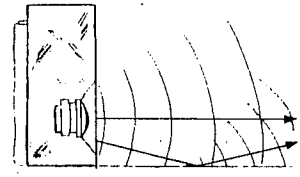
Where your speakers are and how they are set, can affect their sound long before you begin to adjust them with your new OCTAVE. Boosting highs or lows by correcting the positioning of your speakers is a lot easier on your electronics than forcing them to pump out more or less of a frequency.

If you're getting too much bass, get your speakers out of the corners of the room and up off the floor. Raising a speaker even 12", or moving it three feet out of a corner, lowers bass.

There are a number of stands you can buy as accessories which do this fairly well. Some are unobtrusive frameworks; some are glitzy plex and chrome numbers. All of them help eliminate a doubling of bass by preventing the bass wave from "bouncing" off the floor and arriving a little bit late at your ear. Also many new speakers are tilted slightly or place their woofers fairly high in the enclosure to get around this.



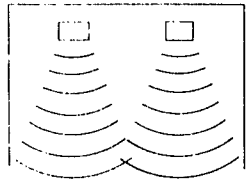
Lesso basso reduce-o



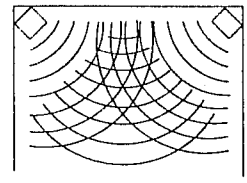
Mondo basso profundo

If your speakers sound "bonky", like a juke box, try getting them off the ground this way. Just a trial wherein you prop your speakers up on some beer bottles will give you an idea of the effect.

More likely, you're not getting enough bass. Even though you bought your OCTAVE to rectify that situation, first start trying corner and floor snuggling. This is the best way to boost bass because it does not require more amplifier power. You can always add even more chest-stomp'n bass later.



At least three feet away from corners cuts bass addition



Corners act as horns to increase bass

WHY SPEAKERS HAVE SPEECH IMPEDIMENTS.

The improvement of your speaker's performance is one of the best uses for the OCTAVE. That's not a slur on those Zonkophone 8000, pride-and-joy speakers you bought last year, just an observation that no-one's invented the perfect loudspeaker yet.

First, many speaker elements...the woofers, tweeters, and midranges...arren't as good as they could be to start with. They may have peaks within their frequencies at the same sound level, or they may not be able to reproduce their whole assigned total tonal range as well as they could.

The enclosure, too, can be less than optimal. Its composition, volume, inside damping materials and actual proportions all add to or subtract from a speaker's performance.

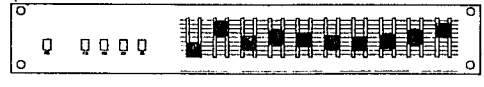
What we're saying is that most speakers can stand a little improvement. Even the best of them. And that inexpensive speakers can stand a LOT of equalization.

Because, in the signal chain from phono cartridge to speakers, the speaker is the weakest link. Distortion that averages less than 1% in the cartridge and amp can be as much as 30% in a speaker system. It's just a lot easier to design distortion-free, wide frequency range electronics than it is electro-mechanical speakers with magnets and cardboard cones and wire and surfaces that have to flex back and forth.

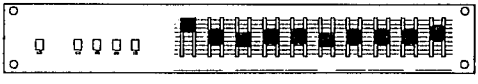
STARTING POINTS.

The following diagrams are starting points for adjusting your speakers' performance, based on years of experience helping customers make hi-fi's sound better. After that there are some other useful settings. Treat each as a starting point, using the EQ button to compare "before and after".

Improving bookshelf speakers



Making killer car-fi cassette tapes



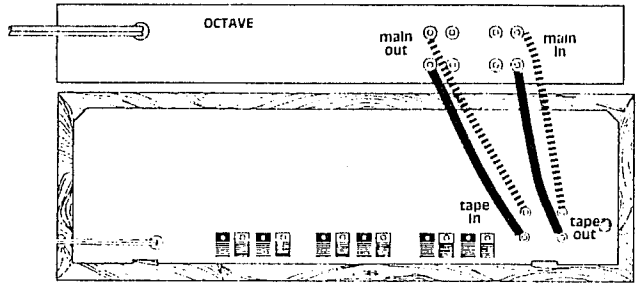
Improving larger floor-standing speakers

Cutting hiss from FM and noisy tapes

Improving two-way home speakers

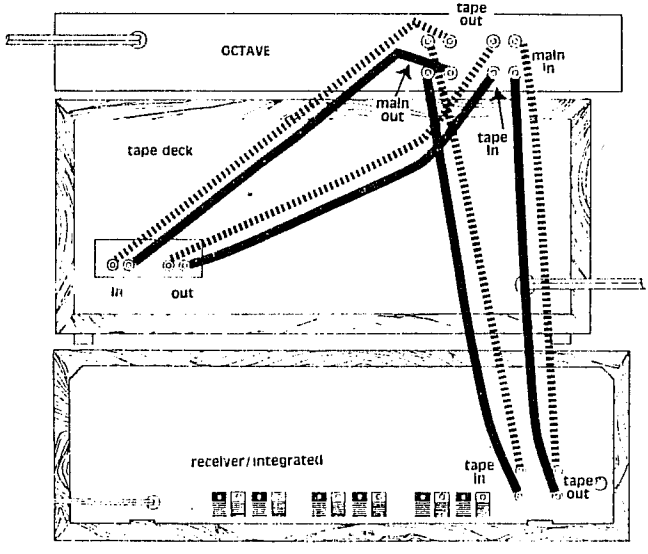
HOOKING UP THE OCTAVE AND A RECEIVER.

1. Locate the four sockets marked TAPE on the back of your receiver, pre-amp or integrated amplifier. Two will be marked IN or PLAY, and two will be marked OUT or RECORD.
2. Run a set of connection cords from the receiver's TAPE OUT to the OCTAVE's MAIN IN.
3. Run a set of cords from the receiver TAPE IN to the OCTAVE's MAIN OUT sockets. Got that? IN to OUT and OUT to IN.



HOOKING UP THE OCTAVE WITH A TAPE DECK AND RECEIVER

1. Locate the four sockets marked TAPE on the back of your receiver, pre-amp or integrated amplifier. Two will be marked IN or PLAY and two will say OUT or RECORD.
2. Run a set of connection cords from the receiver's TAPE OUT to the OCTAVE's MAIN IN.
3. Run a set of cords from the receiver TAPE IN to the OCTAVE's MAIN OUT sockets. Got that? IN to OUT and OUT to IN.
4. Run a set of patchcords from the OCTAVE's TAPE OUT to the tape deck's IN sockets.
5. Now run a set of cords from the OCTAVE's TAPE IN to the tape deck's TAPE OUT. Again, it's IN to OUT and OUT to IN. And Left to Left, Right to Right.



HOOKING UP A "BLACK BOX", CASSETTE DECK AND THE OCTAVE

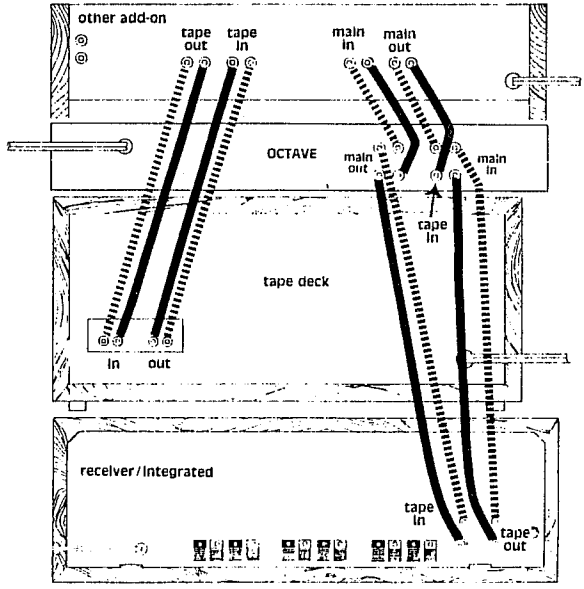
"Black boxes" include other equalizers, expanders, Bose Active equalizers, noise reduction units, etc. Also called outboard signal processing devices.

1. Locate the four sockets marked TAPE on the back of your receiver, pre-amp or integrated amplifier. Two will be marked IN or PLAY, and two will be marked OUT or RECORD.
2. Run a set of connection cords from the receiver's TAPE OUT to the OCTAVE's MAIN IN.
3. Run a set of cords from the receiver TAPE IN to the OCTAVE's MAIN OUT sockets. Got that? IN to OUT and OUT to IN.
4. Run a set of patchcords from the OCTAVE's TAPE OUT to the additional unit's IN sockets.
5. Run a set of patch cords from the OCTAVE's TAPE IN to the black box's OUT sockets.
6. Now locate another set of sockets on the black box titled TAPE OUT and TAPE IN. Run a set of patchcords from the black box's TAPE OUT sockets to your cassette deck's IN sockets.
7. Now run a set of patchcords from the black box's TAPE IN sockets to your cassette deck's OUT sockets.
8. Enjoy.

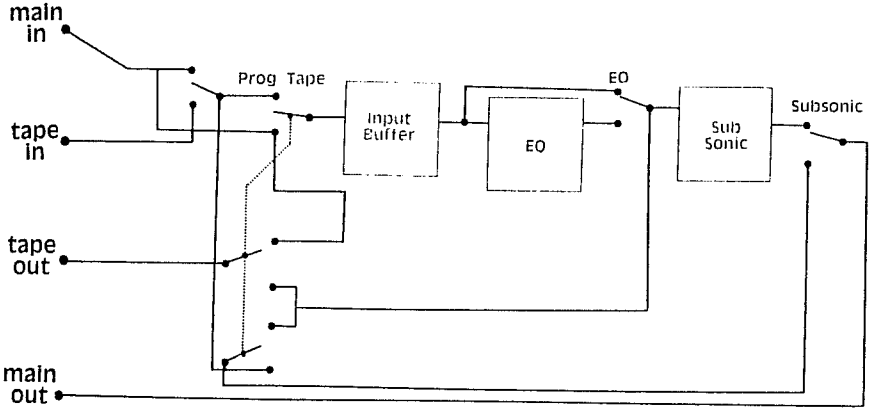
With this set-up, input from your tape deck is controlled by the "black box's" tape monitor circuit. Leave the OCTAVE's TAPE MONITOR and the receiver's TAPE MONITOR circuit IN at all times if you want both the OCTAVE and the additional add-on to be operating at all times.

FM and phono impulses go from the receiver to the OCTAVE, out of the OCTAVE into the black box, out of the black box into the cassette deck for recording if you wish, back into the black box from the tape deck, out of the black box into the OCTAVE and finally from the OCTAVE into the receiver again. So you can hear the whole mess. It's like links of a chain: If you have more than one add-on, they simply go between the OCTAVE and the tape deck. Remember that not turning one of the "links" on, or not pushing its tape monitor button, will break the chain.

Note: If your receiver doesn't have a tape monitor loop system (Yamaha comes to mind), call us at (206) 775-8461 Pacific time and we'll explain how to handle things.



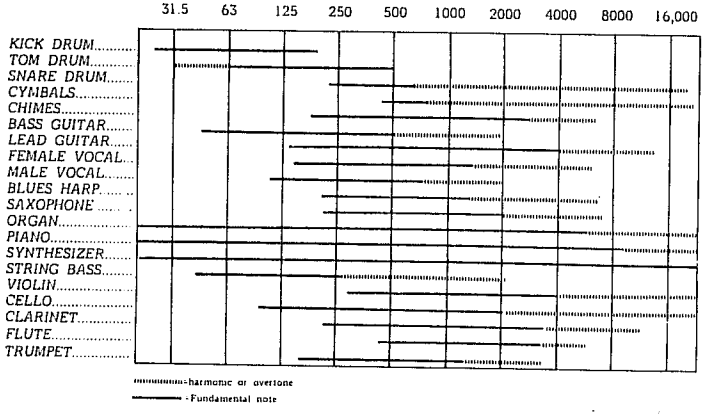
Flowchart of Operation



Specifications

Distortion: .008%THD; Frequency response: 3Hz to 100kHz ± 1dB; Input impedance: 100,000 ohms; Output impedance: 150 ohms; Subsonic filter: 18dB/octave @20Hz; Signal to noise: −118dB; Dimensions: 17" (w), 2.5" (h), 6" (d).

Chart of Instruments & Equalizer Bands.



The Audio Control OCTAVE Limited Warranty.

People are scared of warranties. Lots of fine print. Lots of non-cooperation. Months of waiting around.

Well, don't be scared of this warranty. It's designed to make you rave about us to your friends. It's a warranty that looks out for you and helps you resist the temptation to have your friend "who's good with electronics" try to repair your Audio Control OCTAVE.

Also, warranties help us keep track of our customers so we can let you know of any modifications, dangers or improvement. The old factory recall thing. Now, that doesn't mean you are going to get put on a mailing list, and get weird Aztec porno or free deodorant samples. Your name and address on the warranty are strictly confidential to Audio Control.

So, go ahead and read through your warranty, then enjoy your equalizer for a few days before sending in the warranty and any comments.

"Conditional" doesn't mean anything ominous.

The Federal Trade Commission tells all manufacturers to use the term to indicate certain conditions you have to meet before they'll honor the warranty.

If you honor these conditions, we will warrant all materials and workmanship on your OCTAVE for **Five Years** from the date you bought it, and will fix or replace it during that time.

Here are the conditions that make this warranty conditional:

1. You have to fill out the warranty card and send it to us within 15 days after you have purchased your OCTAVE.
2. You must keep your sales slip or receipt so you have proof of when, and from whom, you bought your equalizer. We're not the only company to require this, so it is a good habit to get into with any hi-fi purchase.
3. Your OCTAVE has to have been originally purchased from an authorized Audio Control dealer. You do have to be the original owner to take advantage of the one-year warranty, but the date of purchase is still important so be sure to get the sales slip from the original owner.
4. You can't let anybody who isn't (a) an authorized Audio Control service center; (b) the Audio Control factory; or (c) someone authorized in writing by us, work on your Audio Control OCTAVE. If anyone other than (a), (b), or (c) messes with it, that voids the warranty.
5. the warranty is also NOT in effect if the serial number has been altered or removed, or if the Audio Control OCTAVE is used improperly. Now, that sounds like a big loophole, but here's all we mean by it. Unwarranted abuse is (a) physical damage (our consumer products are not meant to prop up bookcases or gat hauled around in tool cases, etc. This is a HOME hi-fi unit, not a bash-it-about utility equalizer, so if you crunch it, we can't be responsible); (b) improper connection, patch the phono jacks into a line socket or hook it to the speaker terminals on your power amp and we aren't responsible . . . high input signals could fry the innards; (c) sadistic things you shouldn't do to any electronics, such as get them wet, too hot, dirty, etc.

Assuming you conform to numbers 1 - 5, and it isn't all that hard, we get the option of deciding whether to fix your old unit or give you a new one. (See "What to do if you need service.")

LEGALESE SECTION.

This is the only warranty given by Audio Control. This warranty gives you specific legal rights, and you may also have rights which vary from state to state. Promises of how well your OCTAVE will work are not implied by this warranty. Other than what we've covered in this warranty, we have no obligation, express or implied. Also, we will not be obligated for direct or indirect consequential damage to your system caused by hooking up the Audio Control OCTAVE.

Failure to send in the properly completed warranty card negates any service claims.

WHAT TO DO IF YOU NEED SERVICE.

First, contact Audio Control. In writing,.at: P.O. Box 3199, Lynnwood, Washington 98036 (Attention: Service Dept.). Or phone us at: (206) 775-8461.

We'll help you make arrangements to have the unit sent back to the factory for service. That means recommending shipping methods and working with you to see if it really IS broken.

In either case, proof of purchase MUST be included with the unit (that sales slip or receipt we've been harping about). And send a brief note telling us what's wrong with the unit. (You'd be surprised how many folks forget this.)

The normal service time at the factory is less than ONE day! The rest is shipping time.

You're responsible for freight or postage when sending your unit to the factory. Actually, we recommend UPS (United Parcel Service) emphatically over the Pony Express Postal Service. UPS is more reliable and faster, too.

We'll pay return freight, and practice what we preach about using UPS on the return.

AudioControl™

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