



**OWNERS MANUAL ■ HI-RES SERIES ■ ARS500 ■ ARS300**

Check your system carefully. If it has been damaged in transit, report the damage immediately by calling your Acoustic Research dealer and/or the trucking firm that delivered it. Observe all warnings and cautions.

**WARNING**



To prevent fire or shock hazard, **DO NOT EXPOSE** this speaker system to rain or excessive moisture.

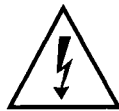
We recommend that you not operate your speakers with the bass, treble and loudness controls set to full boost. This will place undue strain on the electronics and speakers and could damage them.

The volume control setting on your receiver is not a specific indication of the overall loudness level of the speakers. The only important consideration is the loudness level at which the system can be played, regardless of where the volume control is set.

Whenever changing cables, pulling plugs, etc., **ALWAYS TURN OFF ALL EQUIPMENT** including the speaker. This prevents transients from entering the speakers and prevents electrical energy from reaching you. Keep all connections out of the reach of children.

To avoid electrical shock, **DO NOT OPEN THE SPEAKER!** There are no user serviceable parts inside.

	<b>CAUTION</b>	
<b>RISK OF ELECTRICAL SHOCK DO NOT OPEN</b>		
<b>WARNING: SHOCK HAZARD - DO NOT OPEN AVIS: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR.</b>		
<b>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</b>		



*The lightning flash with arrow-head symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.*



*The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.*

# IMPORTANT SAFETY PRECAUTIONS

## ATTENTION:

Please read these instructions thoroughly before attempting to operate your Acoustic Research speaker system. Be sure to save this manual for future reference. Also save your bill of sale, as it may be required for warranty service.

## CAUTION:

Please ensure that the correct plug is used on your AC outlet.

**CLEANING** - Unplug the Acoustic Research speaker from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

**WATER AND MOISTURE** - Do not use the Acoustic Research speaker near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

**ACCESSORIES** - Do not place the Acoustic Research speaker on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with cart, stand, tripod, bracket, or table recommended by Acoustic Research, or sold with the Acoustic Research speaker. Any mounting of the speakers should follow Acoustic Research's instructions and should use a mounting accessory recommended by Acoustic Research.

**VENTILATION** - Slots and openings in the Acoustic Research speaker are provided for ventilation, to ensure reliable operation and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa rug, or other similar surface. The Acoustic Research speaker should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or Acoustic Research's instructions have been adhered to.

**POWER SOURCES** - The Acoustic Research speaker should be operated only from the type of power source indicated on the marking label. If you are not sure of power supply to your home, consult your Acoustic Research dealer or local power company.

**GROUNDING OR POLARIZATION** - The Acoustic Research speaker may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug is still unable to fit, contact your electrician to replace your obsolete outlet.

**POWER-CORD PROTECTION** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the speaker.

**LIGHTNING** - For added protection for the Acoustic Research speaker during a lightning storm, or when left unattended and unused for long periods of time, unplug

it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the Acoustic Research speaker due to a lightning and power-line surges.

**OVERLOADING** - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

**OBJECT AND LIQUID ENTRY** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the Acoustic Research speaker.

**SERVICING** - Do not attempt to service the Acoustic Research speaker yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified Acoustic Research service personnel.

**DAMAGE REQUIRING SERVICE** - Unplug the Acoustic Research speaker from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- A** When the power-supply cord or plug is damaged
- B** If liquid has been spilled, or objects have fallen into the product
- C** If the product has been exposed to rain or water
- D** If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the Acoustic Research speaker to its normal operation.
- E** If the Acoustic Research speaker has been dropped or damaged in any way
- F** When the product exhibits a distinct change in performance - this indicates need for service

**REPLACEMENT PARTS** - When replacement parts are required, be sure the service technician has used replacement parts specified by Acoustic Research or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

**SAFETY CHECK** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

**HEAT** - The Acoustic Research speaker should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

## WE WOULD LIKE TO THANK YOU FOR CHOOSING ACOUSTIC RESEARCH

At Acoustic Research we are dedicated to the technology of sound. Our goal is to provide you with high quality products that bring you closer than ever to the live performance.

### THINGS YOU ARE GOING TO NEED

Your AR Hi-Res Subwoofer delivers the powerful, deep bass that makes the difference between ordinary sound and a real, life-like sonic experience. It's easy to connect and use. Just follow the simple directions and pay special attention to the suggestions in the margins, these will help you get the best sound from your system.

Whether you're going to use your AR Hi-Res Subwoofer in a stereo music system or a Home Theater surround sound system, the connections and operation are the same. The AR Subwoofer has its own built-in amplifier, so it will work with any sound system.

The Subwoofer includes a crossover network that sends the bass information to the Subwoofers internal amplifier. The Subwoofer augments the bass output of your other speakers. For convenience, the Subwoofer has speaker wire terminal inputs and outputs that loop through the Subwoofer, so that you can easily connect your Amplifier, the Subwoofer and your Front speakers. The Subwoofer picks-up its signal from the loop-through speaker signals, leaving them unchanged.

**IMPORTANT!** Your AR Subwoofer must sit on the floor to work properly. The floor is actually a part of the Subwoofers acoustical design.

**Speaker wire** Speaker wire is actually two separate insulated wires, with insulating jackets that are molded or joined together. We recommend that you use 16-gauge or smaller number gauge speaker wire for connecting your Amplifier to the Subwoofer, and the Subwoofer to your Front speakers. Do not use speaker wire smaller (larger gauge numbers) than 16-gauge.

Speaker wire is relatively tough and can go under carpets, behind cabinets, along baseboards and around doorframes, as needed. If you use fasteners or staples to hold the wire in place, don't let them short the wires two conductors together.

**Wire stripper** You need to remove the insulation from the ends of speaker wires before using them. Strip the insulation back about 3/8" from the end of each conductor to expose the bare wire.

**Audio cables** If you are connecting the Subwoofer into a system made up of separate components (pre-amplifier/power amplifier), you may choose to use the low-level inputs provided on the Subwoofer amplifier panel. If so, you will need audio cables long enough to reach the Subwoofer from the pre-amplifier or else you'll have to place the Subwoofer within the cables reach from the pre-amp.

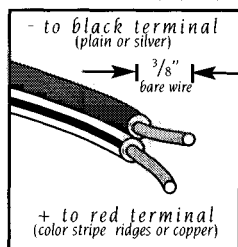
The other audio cables you may need are "Y" adapters, with one male phono plug and two female phono jacks, which enable your pre-amp outputs to connect to both your power amp and the

Subwoofer at the same time.

### SUBWOOFER CONNECTION OPTIONS

(You can use either Option 1 or Option 2, but not both.)

Your only connections are to the Subwoofers Audio Input jacks. Do not try to use the Subwoofers Output to Speakers terminals. If your pre-amp or processor has a Subwoofer or Mono Output jack that is controlled by the master volume control, use a single audio cable to connect that output to the Subwoofers Left Audio In jack. This connection is preferred due to improved signal isolation and reduced cable effects, but otherwise will give results identical to the connections described above.



### POLARITY

All speakers in a system have to be connected with the same polarity. Speaker wire is marked for polarity so that at each end, you can tell which wire in the pair is which. Polarity is shown by a color stripe on

the insulation of one conductor, by ridges molded into the insulation of one conductor, by different insulation colors, or by the colors of the wires, one copper and one silver.

**IMPORTANT!** When you connect your equipment using speaker wires, always connect the red (+) terminal on a speaker to the red (+) terminal on the Subwoofer, and the black (-) terminal on a speaker to the black (-) terminal on the Subwoofer. The same is true for connecting the Subwoofer to the Amplifier, red (+) to red (+), and black (-) to black (-).

When you make connections, make sure that the power switches of all components, including the Subwoofer, are set to OFF.

**OPTION 1** - Subwoofer connection with Speaker Level inputs

**NOTE:** This is usually the easiest way to connect your Subwoofer.

Connect speaker wires from the Amplifiers Front left and Right speaker outputs to the Subwoofers "Speaker Inputs from Amplifier" terminals. Connect Left channel to Left, and Right channel to Right. Be sure to observe polarity!

Connect speaker wires from the Subwoofers "Output To Speakers" terminals to each Front speaker. Connect Left channel to Left, and Right channel to Right, again, observe polarity!

**OPTION 2** - Subwoofer connection with RCA type audio cables

**NOTE:** This connection usually provides the highest possible sound quality.

For simplicity, we call your Home Theater systems or music systems main speakers the Front speakers. We call your A/V receiver, stereo receiver, or integrated amplifier the Amplifier.

The Left channel speakers, Front or Rear, are the ones to your left side as you face the Front speakers. Connect Left channel outputs to Left channel speakers, Right channel outputs to Right channel speakers, and the Center channel output to the Center speaker.

Your Subwoofer will deliver more bass output when it is close to a wall and even more when it is close to an inside corner.

## STEREO SYSTEMS (two channel)

Using RCA type audio cables for your connection means that you will have to use "Y" adapters to feed the output signals from your pre-amp to the Subwoofer and to the power amplifier at the same time. Connect a pair of audio cables from the pre-amps output jacks (if necessary, through "Y" adapters) to the Subwoofers "Normal Input" jacks. Connect Left channel to Left, and Right channel to Right.

## SURROUND SOUND SYSTEMS

Most newer surround sound amplifiers and virtually all Dolby Digital/AC3® amplifier/processors have dedicated Subwoofer outputs. If this is the case with your system, please do the following:

Use a single RCA type cable and connect one end to the surround amplifier/processors "Sub Out" connector and attach the other end to the Subwoofers "LFE Direct" input. This connection will use the internal crossover circuitry in the surround amplifier/processor. You may also use the "Normal Input". You should experiment with both connections and determine which produces the best sound from your system. It is not necessary to use both the Left and Right inputs for this type of application, as the signal from the surround amplifier/processor is mono. You may use a "Y" adapter at the Subwoofer input to feed both the Left and Right inputs to increase input sensitivity if desired.

## LOCATION OF YOUR SOUND SYSTEM COMPONENTS

We recommend that you put the Subwoofer near both your Amplifier and your Front speakers, to keep wire and cable lengths short.

**Power cord** Plug the detachable, computer-type power cord into the Subwoofers IEC power jack and into a grounded AC wall outlet or other grounded outlet capable of supplying at least 600 Watts.

**NOTE:** The power cord not supplied with export unit. Please see your Acoustic Research distributor or retailer for the appropriate cord.

## CONTROLS AND INDICATORS FRONT PANEL

**Subwoofer Level Control** This slider control balances the loudness of the Subwoofer relative to the Front speakers and compensates for room and placement effects on the Subwoofer output.

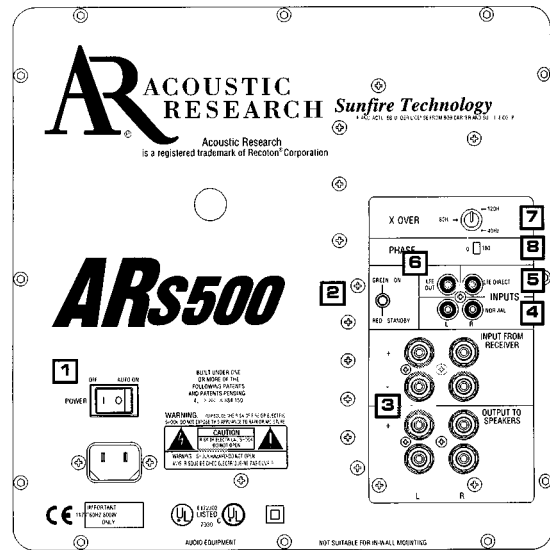
**A/V contour switch** The "Audio" position provides a flat, fully extended low frequency response. This position is intended for music listening.

The "Video" position introduces a moderate low frequency boost and limits the ultrasonic low frequency response of the Subwoofer. This position is ideal for recreating the powerful sounding low frequency effects found on movie soundtracks.

**Signal LED** This blue light is activated when the Subwoofer automatically turns on after sensing an input signal.

## CONTROLS AND INDICATORS REAR PANEL

**1. Main Power Switch** Turns the AC supply completely OFF or sets the Subwoofer to AUTO operation. In AUTO, the Subwoofer is in standby mode until it detects audio signal input, then the power switches ON automatically. Several minutes after the audio input signal



ceases the Subwoofer automatically returns to standby mode.

**2. Power On/Standby indicator** This LED is dark when the AC power switch is OFF. It glows red when the Subwoofer is in standby mode and green when the Subwoofer is ON.

**3. Speaker Inputs from Receiver terminals and Output to Speaker terminals** (See Connection Option 1)

These terminals are for connections with speaker wire. This option is the easiest to connect and use. If you use this option, do not use Option 2.

**4. Left and Right Normal Input Jacks** (See Connection Option 2)

These jacks are for Subwoofer input connections using RCA type audio cables. If you use this option, do not use Option 1.

**5. LFE Direct Input Jack** Allows direct connection from an amplifier/processor with an internal low pass filter. This connection bypasses the Subwoofer's internal crossover circuitry. Use only with appropriate Surround Sound processor/amplifiers.

**6. LFE Output Jack** This connector is connected internally to the LFE input jack and allows you to loop the LFE input signal out to another LFE input on an AR powered loudspeaker or subwoofer.

**7. Subwoofer Crossover Frequency Control** Adjusts the upper frequency cut-off point for audio signals coming through the Subwoofer.

**8. Phase Switch** Allows you to change the relative phase of the Subwoofer to match the other speakers used in the system. See Adjustment and Use for information about setting the switch.

## OPERATION AND USE

Now that you have connected the AR Subwoofer to your Amplifier, you are ready to adjust the system for proper operation and for the sound quality that you want. Some controls must be set in a particular way in order for the system to work correctly. Some controls let you adjust the sound for the quality or effect that you like.

### Subwoofer Initial Control Settings

Set the rear panel subwoofer CROSSOVER FREQUENCY control to its center position.

Set the front panel subwoofer LEVEL control to its minimum (left-hand) position, you'll reset this control after you make other adjustments

Set the A/V switch to the "V" position

Set the rear panel PHASE switch to 0 degrees

## ADJUSTING THE SUBWOOFER CONTROLS

Now you can tune-in or play a program on your system. Use the Pro-Logic® or Dolby Digital® surround mode and select a movie that has a Dolby Surround soundtrack with lots of music, or play music CD for the following adjustments

Increase the front slide SUBWOOFER OUTPUT LEVEL control setting to the middle position, so that you hear the deep bass. If necessary, adjust the control for a natural musical balance that has plenty of deep bass sound when it's actually present in the music

Listen carefully to male voices and, if needed, adjust the SUBWOOFER CROSSOVER FREQUENCY control so that they sound natural. Setting the control too high will make deep voices sound excessively chesty or resonant and will give the upper bass in music a "one-note" quality. Setting the control too low will make deep voices sound a little thin and will give music a lack of warmth. Make fine adjustments until the program has satisfying and natural sound quality on both bass voices and music

**Setting the Phase Switch** The PHASE switch controls the phase of the Subwoofers output relative to that of the Front speakers. In many installations, it will be difficult to tell which switch setting is the correct one. Listen carefully to the sound quality while someone else toggles the switch between its two positions. The position that produces the fullest deep bass and the warmest bass and mid-bass sound is the correct one. You may need to readjust the SUBWOOFER OUT LEVEL and SUBWOOFER CROSSOVER FREQUENCY controls after setting this switch

## TROUBLESHOOTING

### Subwoofer Power Indicator LED Does Not Light

- Check that the Subwoofers POWER Switch is in the AUTO or ON position  
If the POWER Switch is in the AUTO or ON position, check the AC outlet the Subwoofer is plugged into to be sure that it is live. You can use a tester or plug-in a lamp to check it.
- If the AC outlet is live, either the power cord or Subwoofer has a problem. Try another power cord, if this doesn't help, take the Subwoofer to your Acoustic Research dealer for service - THERE ARE NO USER SERVICEABLE PARTS INSIDE

### No Sound from the Front speakers

- Be sure the Amplifier and Subwoofer POWER Switches are in the On (or Auto) positions
- Check the amplifier Volume control setting - if it is all the way down, there won't be any sound
- Check that the amplifiers Input Selector is set to an active source of audio signals and that a Tape Monitor Loop is not engaged
- Be sure that the amplifier Speaker Selector switch is turned on to the terminals (A or B, 1 or 2) that you have your Front speakers connected to. If the Amplifier

has a headphone jack, you can use headphones to check the Amplifier for output. Check the Subwoofer speaker wire connections

- First check that wires connect from the amplifiers Front Speaker Output terminals to the Subwoofers SPEAKER INPUTS FROM AMPLIFIER terminals, then check that a second set of speaker wires connect the Subwoofers OUTPUT TO SPEAKERS terminals to the Front speakers
- Try eliminating the Subwoofer from the system and re-connecting your Front speakers to the Amplifier. If there still is no sound, take the Amplifier to your dealer for service

### No Sound from the Subwoofer

- First, be sure there is sound from the Front speakers or that the Amplifier is working correctly as outlined above
- Is the green light lit on the rear panel? Check the Subwoofer SUBWOOFER OUTPUT LEVEL control. If it is all the way to left, there may be no sound
- The Subwoofer only reproduces deep bass sound. If the program has no deep bass, the Subwoofer will not make any sound. Play a program with plenty of bass sound, such as jazz or rock music, or an action movie
- If everything else checks OK, take the Subwoofer to your Acoustic Research dealer for service

## SPECIFICATIONS ARS500

### Dimensions(HXWXD)

18<sup>1</sup>/<sub>4</sub>" x 17<sup>3</sup>/<sub>4</sub>" x 24"

### Driver Complement

High power handling 15" Woofer (110oz magnet)  
Magnetically Shielded

### Frequency Response

18Hz-120Hz ± 2dB

### Crossover Frequency

50Hz-120Hz(36dB/Oct.) Continuously Variable

### Amplifier Power

500 Watts RMS

### Pre-Amplifier

Low-Level IN, LFE IN/OUT, High-Level IN/OUT, Phase and Gain

### Finish

Black ash

### Weight

63 lbs

## SPECIFICATIONS ARS300

### Dimensions(HXWXD)

16<sup>1</sup>/<sub>4</sub>" x 15" x 21"

### Driver Complement

High power handling 12" Woofer (90oz magnet)  
Magnetically Shielded

### Frequency Response:

20Hz-120Hz ± 2dB

### Crossover Frequency

50Hz-120Hz(36dB/Oct.) Continuously Variable

### Amplifier Power

300 Watts RMS

### Pre-Amplifier

Low-Level IN, LFE IN/OUT, High-Level IN/OUT, Phase and Gain

### Finish

Black ash

### Weight

54 lbs



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# CAUTION

PLEASE USE EXTRA CAUTION  
WHILE UNPACKING AND SETTING  
UP YOUR NEW ARS300 / ARS500  
SUBWOOFER.

Acoustic Research has placed a small piece of Purple adhesive tape on the tips of the cone shaped stand-offs attached to the legs of these units. This tape is for packing purposes and should be removed prior to final room placement. Some cones can have sharp tip ends. When removing tape, please handle with care to avoid possible injury.

Please complete and return within 10 days!

CONSUMER REGISTRATION CARD



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