# System 270 High Performance Home Theater Loudspeaker System



Covers Models 271 LR, 273 C, and 274 SR

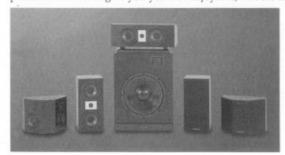
Atlantic Technology

343 Vanderbilt Avenue Norwood, MA 02062 (781) 762-6300 www.atlantictechnology.com



# High Performance Home Theater Loudspeaker System

Thank you for choosing Atlantic Technology home theater products. Your new speaker system is precision crafted to give you years of enjoyable, trouble free service. This manual covers the Atlantic



Technology System 270 series of speakers for home theater. It will show you how to incorporate the following System 270 components into your present setup, as well as how to assemble a complete system. The Model 272 PBM Subwoofer is covered in detail in a separate manual. The entire 270 system has been optimized for use with any surround sound format including Dolby Surround, Dolby Pro-Logic, Dolby Digital and DTS digital surround formats.

#### Model 271 LR Front Channel Speaker

The **Model 271 LR Front Channel Speakers** are two-way systems intended for use with a quality subwoofer, such as the Atlantic Technology Model 272 PBM. Each speaker contains two 5 1/4" IMG (injection-molded graphite) long-throw woofers, and a 1" ferrofluid cooled silk dome tweeter with a neodymium magnet in an acoustically inert MDF cabinet.

#### Model 273 C Center Channel Speaker

The **Model 273 C Multi-Stage Timbre Adjusting Center Channel Speaker** contains the same two 5 1/4" IMG long-throw woofers and a 1" ferrofluid cooled tweeter as the 271 LR front channel speakers. It is vital to the accurate reproduction of a multichannel soundtrack that these three front speakers have the same sonic signature. The 273 C is designed for use in home theater systems that use a dedicated center channel speaker. This speaker incorporates unique compensation controls that allows the speaker to be placed virtually anywhere near the screen and still provide accurate reproduction. Since approximately 70% of a movie soundtrack is reproduced through the center channel speaker, it is important that its sound be accurate and timbre-matched to the other speakers in the system. These unique controls allow virtually perfect matching.

To further optimize the performance of the three front channels, the 1" dome tweeter in the 271 LR's and 273 C is mounted to a solid machined aluminum baffle. This mounting system eliminates undesirable resonances and controls the tweeter's dispersion to provide precise image placement and wide dispersion.

#### Model 274 SR Surround Speaker

The **Model 274 SR On-Wall/In-Wall Surround Speaker** is intended for use in audio/video sound systems with dedicated surround channel speakers. Each speaker has two 4 1/2" IMG woofers, as well as two 3/4" fabric dome tweeters which are angled and phased to produce ambience without localization. Its wide bandwidth and unique construction makes it especially suitable for Dolby Digital and DTS applications. Please note that there is a dedicated LEFT and RIGHT model 274 SR. It is clearly marked on the back of each speaker. Although the speakers in the Atlantic Technology System 270 are acoustically and cosmetically matched to each other, they may also be used with a wide variety of other speaker systems from other manufacturers with satisfying results.

**Note:** The 274 SR is not intended for use as a regular right and left front channel stereo speaker or satellite. Its spatial performance characteristics are not designed for this purpose. In the Atlantic Technology 270 Series of components, the Model 271 LR fills this role.

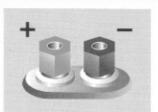
#### Connection

We recommend that you connect your new System 270 speaker components using high quality stranded wire of 18 gauge or larger for lengths up to 25 feet. Use 16 gauge or larger for longer runs of wire. Contact your local audio/video specialist for specific cable recommendations.

**Warning:** To prevent risk of electrical shock or damage to your equipment, always switch off the amplifier or receiver when making connections to the speaker.

You can connect your System 270 speakers by using a variety of audio connectors, or by removing 1/2° of insulation from each wire end, twisting the strands of wire together, placing the wire through one of the post holes and screwing down the nut tightly. We recommend that you check your local electrical codes to make sure that you are not using an improper connector.

Figure 1: Gold plated 5-way binding posts. Accepts up to 10 guage bare wire

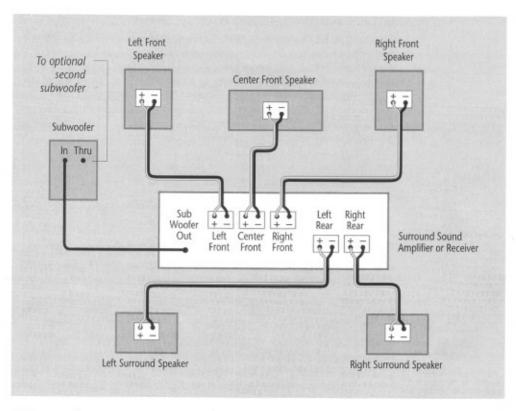


It is important to observe polarity while making speaker connections: red (+) terminals on the amplifier to red (+) on the speaker, black (-) on the amplifier to black (-) on the speaker. Look carefully at the wires you are using and note that one of the wires in each pair is marked by either a different color, printing, ridges, or a thread intertwined with the wire strands. By convention, the marked wire is connected to the red (+) terminal.

Whether your are connecting a complete System 270, or adding one speaker component to your present system, the wiring should look like the diagram in Figure 2. Before turning on the amplifier, be certain that no stray wire strands are touching across the two terminals as this might damage your amplifier.

Finally, check the polarity of your front speakers by listening to some music. If the sound seems hollow, spread out or has weak bass, recheck your connections for proper polarity and reverse the connections if necessary. Only one speaker wired out of phase is usually the culprit.

Figure 2: Typical wiring diagram for speakers in a home theater.



## **Placement and Operation**

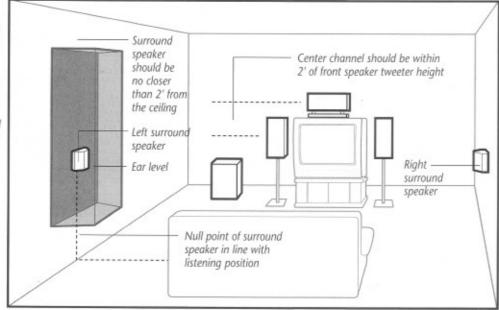
The design of the System 270 provides you with maximum flexibility while creating a large, seamless, acoustically accurate soundfield for your home theater or music system. The best placement of the various components will vary from system to system. Use the following placement guidelines and Figure 3 as a starting point. Feel free to experiment.

#### **Home Theater**

For a home theater system, place your Model 271 LR speakers on either side of the television. The three front channel speakers (271 LR's and 273 C) are magnetically shielded so that they will not interfere with your television picture. The left front and right front speakers should be far enough apart that you get a good stereo image, but not so far apart that the sound seems to come directly from the speakers, distracting you from the picture. If you are using a center channel speaker, a wider separation of the left and right front speakers is usually possible.

The Model 273 C should be placed directly on or under your television, but it is important that the speaker is centered above or below the screen, not off to the side. Place the speaker base so that the foot cutouts are facing forward. Then, pivot the speaker on its base and tilt the speaker so that it points directly at the listener.

Figure 3:
Typical arrangement for speakers in a home theater. For best results, place the surround speakers within the shaded areas. Note that the surround speakers are marked Left and Right. It is important that the speakers be placed correctly for proper imaging.



#### Operation of the Multi-Stage Timbre Controls

The HI FREQ LEVEL control will give you more or less high frequency output from the speaker, working similarly to the treble tone control on a conventional preamp, amp or receiver. This will allow you to compensate for overly bright soundtracks or punch up a dull sounding soundtrack. Turning this

Figure 4: Multi-Stage Timbre Control on rear panel of 273 C.



control clockwise increases the high frequency level; turning it counterclockwise reduces the high frequency level.

The MIDRANGE PRESENCE control compensates for the tendency of acoustically "dead" rooms to soften dialog and midrange detail. Overstuffed furniture, thick carpeting and heavy drapes all absorb sound, and the midrange frequencies are absorbed the most efficiently. The result is hard-to-understand dialog and a dull sounding midrange response. Turning the MIDRANGE PRESENCE switch on compensates for these "soft" room acoustics. The in-room frequency response of

the speaker will be flatter and dialog will become much more intelligible as a result.

The BOUNDARY EFFECT switch flattens the midrange "hump" in the frequency response that arises when the center channel speaker is placed on top of the TV. The sound that reflects off of the TV screen causes a "hump" in the frequency response that increases bass and muffles the midrange reproduction of the speaker.

Turning this switch on removes this bass hump and allows much more accurate midrange response. If the 273 C is mounted "free air," away from a boundary, set this switch in the "off" position. This will provide flat frequency response.



We strongly recommend that the BOUNDARY EFFECT switch be in the "on" position whenever the 273 C is placed on top of a TV.

The 274 SR's size and shape allows greater flexibility in placement than most conventional surround loudspeakers. Due to their spatial characteristics, it is possible to place the speakers virtually anywhere, but usually the best location is nearly straight out to the sides of or slightly behind the primary listening area, approximately 1-2 feet above ear level.

**Note:** The orientation of the 274 is important to the proper generation of the surround soundfield. Mount each speaker on the wall or shelf so that the "direct" soundfield is directed toward the front of the room, and the "ambient" soundfield is directed toward the rear. To insure this orientation, make sure that the RIGHT speaker is on the right side wall of the room, and the LEFT speaker is on the left side wall of the room.

#### Music Only System (Model 271 LR only)

If you are setting up a music only system, begin with these general guidelines:

- The distance between your speakers should be about one-half their distance from your favorite listening position.
- The front of the speakers should point straight at you.
- The distance from each speaker to its three closest room surfaces should be different.
- In most rooms, you should not place your speakers in the corners.

Next, be creative! Try placing your speakers along the long wall instead of the short one. Toe the speakers in or point them straight ahead. Pull them away from the wall or push them close. Don't be timid. You'll find that moving your speakers, even a few inches, can dramatically change their sound.

**Note:** Some surround sound decoders and receivers offer a choice of "normal" or "wide-band" modes for the center channel. The Model 273 C was designed to be used in the "normal" mode.

#### Mounting

The 271 LR and the 274 SR speakers can be mounted in a variety of ways:

**On speaker stands.** Atlantic Technology speaker stands provide an ideal height (29" above the floor) for most rooms. They are available in black or white. Speaker stands from other manufacturers may be used, but should be of approximately the same height (29").

**On the wall.** To mount your speakers on a wall, we have installed metal key-hole brackets on the back of the 271 LR and 274 SR speakers. Simply place the bracket opening over the oval recess on the rear of the speaker and fasten it using the enclosed #6 x 1" screws. Pilot holes are provided.

For greatest flexibility, use pivoting ball-and-socket wall brackets of suitable weight rating (e.g., Omnimount 50 Series, Vogel, etc.) usually available from your local audio/video retailer.

For safety, please use suitably secured wall anchors (such as molly-bolts), or screws driven into wall studs.

On a bookshelf. Adhesive rubber feet are included.

In the wall. The Atlantic Technology 274 IN-RF in-wall kit includes all the necessary hardware and trim to install a pair of 274 SR speakers.

# Listening Levels and Power Handling-IMPORTANT!

The power recommendation for these speaker components assumes that you will not operate your amplifier/receiver in a way that produces distortion. Even rugged speakers like System 270 can be damaged by a moderately powered system driven beyond its intended capacity. The harsh amplifier clipping that occurs in this situation will cause damage to the speaker system that is not covered by the warranty.

The System 270 will play very loudly when provided with enough power to do so. Again, consult your dealer or Atlantic Technology for additional information.

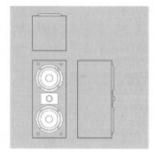
### Care of your Speakers

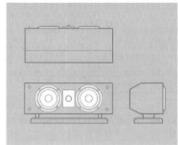
Clean your speaker cabinets using a soft cloth moistened with a mild, non-abrasive glass cleaner being careful not to wet the individual drivers or the edges of the cabinet. After carefully removing the grilles from the speakers, clean them with a quick pass from a vacuum cleaner with a brush attachment. This should remove any dust accumulation.

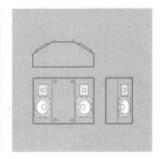
Avoid placing your speakers in direct sunlight or near a source of heat that may, over time, damage the finish.

**Important: Save Your Boxes!** If you can do so, save the cartons, packing pieces, and plastic bags that came with your speakers. They will be useful in case you move or have to ship your loudspeakers for any reason. In any case, save all packing materials until you are certain that the systems have suffered no damage in shipment. If you find such damage, either visible or internal, contact your dealer immediately for the proper return procedure.

# **System 270 Specifications**







#### Type

#### Drivers

(2) 5-1/4" IMG woofers

(1) 1" silk dome tweeter

80Hz - 20kHz

 $8\Omega$ 

2.5kHz

90dB

Yes

10 - 150WRMS

6.85 x 14.4 x 7.9in

# Response (±3dB)

Nominal

Frequency

Impedance Crossover

Frequency

Sensitivity Recommended

**Amplifier Power** 

Magnetic Shielding

Size (WxHxD)

174 x 366 x 200mm

Weight (ea., unpacked) 13lbs; 5.9kg

271 LR

Sealed-box, 2-way

273 C Sealed-box, 2-way, multi-stage

timbre control (2) 5-1/4" IMG woofers

(1) 1" silk dome tweeter

80Hz - 20kHz

 $\Omega$ 8

2.5kHz

90dB

10 - 150WRMS

17.7 x 7.75 x 7.9in with base 450 x 197 x 200mm with base

15lbs; 6.81kg with base

274 SR

Segled-box, spatially-enhanced surround speaker

(2) 4-1/2" IMG woofers (2) 3/4" silk dome tweeters

80Hz - 20kHz

 $\Omega$ 8

3kHz

90dB

10 - 150WRMS

11.8 x 9.0 x 7.3in 300 x 230 x 185mm

10.5lbs; 4.76kg

Specifications are those in effect at the time of printing. Atlantic Technology reserves the right to change specifications or appearance at any time without natice. Dalby Digital, AC-3, Dolby Stereo and Dolby Pro Logic are trademarks of Dalby Laboratories Licensing Corporation. DTS is a registered trademark of DTS Technology.

#### For Future Reference

Record your speaker(s) serial number(s) and date of purchase here:

	Serial Number	Date of Purchase
Model Number	Serial Number	Date of Purchase
Model Number	Serial Number	Date of Purchase

The serial number is found on the back of the speaker near the connecting terminals.