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AD 34972  
10/01

# Wireless Surround Sound Headphones

with Dolby® Digital technology

Model AW791



## Installation and Operation Manual



Recoton® Accessories, Inc.  
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**MADE IN CHINA**

Covered by one or more of the following US patents and Patents Pending: 5,272,525; 5,410,735; 5,666,658; and 6,215,981.

U.S. Patent Nos. 5,371,799; 5,436,975; 5,809,149 and various foreign counterparts. Copyright QSound Labs, Inc. 1996-2001.

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## Introduction

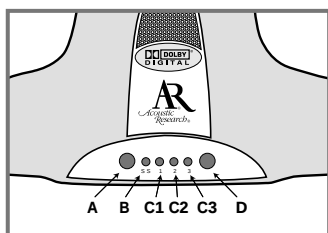
Acoustic Research/AR Surround Sound Headphones expand and enhance the enjoyment of your home theater equipment. Today's movies and concert DVDs are recorded with five-channel audio positioning to provide the most realistic atmosphere for a completely immersive movie or music experience. Surround Sound places the listener in the middle of the action while watching a movie, or in front of the stage while listening to a concert. AR's Surround Sound Headphones provide an acoustic environment that is virtually identical to that of a movie theater or a live musical performance. AR's Surround Sound Headphones are compatible with most digital and analog audio/video equipment, i.e., DVD players, TVs, VCRs, and home theater receivers.

This manual covers various connection options and detailed operating procedures for making the AR Surround Sound Headphones a valuable part of your home entertainment system. To ensure proper operation and prevent damage, please read this manual carefully before using this equipment. If, after having reviewed the instructions, you have any questions, please contact our Customer Service Department at 1-800-732-6866.

# I

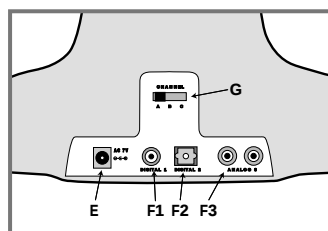
## Location of Functions

### Transmitter Front View:



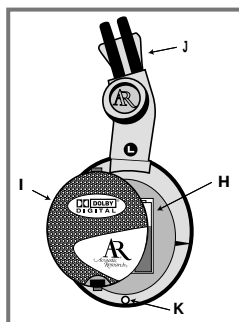
- A. Surround Sound ON/OFF Switch
- B. Surround Sound ON/OFF Light
- C. Input Indicator Lights
  - 1. Digital Coaxial
  - 2. Digital Optical
  - 3. Analog
- D. Input Select Switch

### Transmitter Back View:

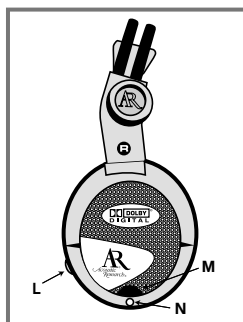


- E. AC Input Jack
- F. Input Connectors
  - 1. RCA-type Digital Coaxial Connector
  - 2. Toslink® Digital Optical Connector
  - 3. RCA-type Analog Left/Right Connectors
- G. Channel Select Switch

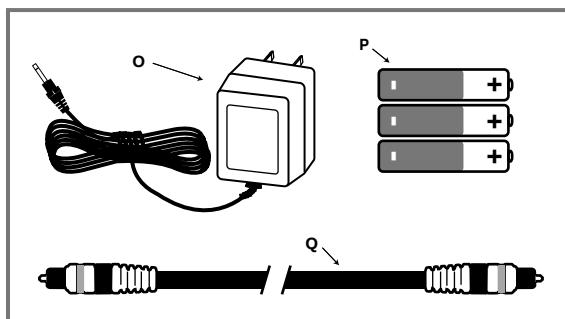
### Headphones:



- H. Battery Compartment
- I. Battery Compartment Cover
- J. Self-adjusting Headband
- K. Power Indicator Light
- L. Volume Control
- M. ON/OFF/Tuning Control
- N. Stereo Tuning Indicator Light



### Accessories:



- O. Transmitter AC Power Supply - 7V AC 1.4A
- P. Rechargeable Batteries 3 AAA Ni-MH
- Q. 3 ft. Toslink® Digital Optical Cable

# II

## Connecting the Headphone System

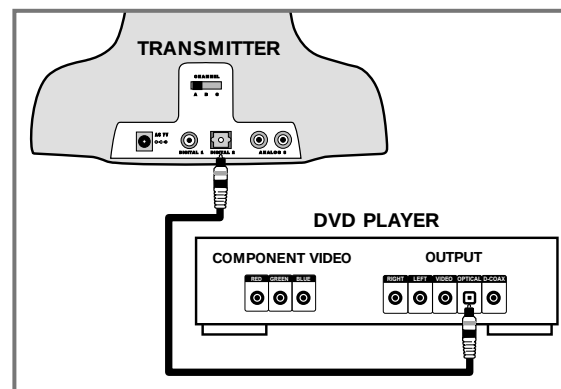
### i. Setup:

Place the Transmitter in a location with enough clearance so that you can store the Headphones on the Transmitter. This is important, because the Transmitter charges the Rechargeable Batteries (P) inside the headphones so they are always ready for use. See **Charging the Batteries** on page 5.

You can use the Surround Sound Headphones with up to three different audio/video components. The three inputs on the transmitter – two digital and one analog – allow quick and easy connections for maximum versatility.

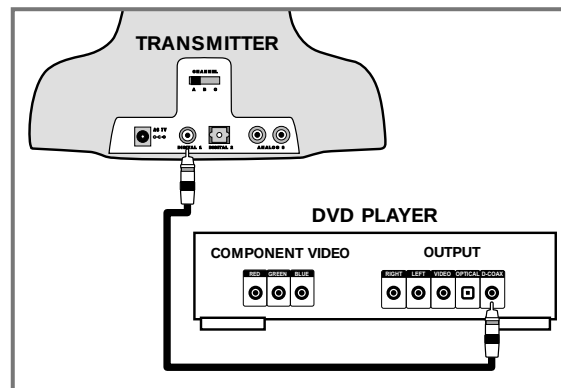
### ii. Connecting to Digital Components:

#### a. Connecting Using the Supplied Toslink® Digital Optical Cable:



1. Connect one end of the Toslink® Digital Optical Cable (Q) to the DIGITAL OPTICAL OUTPUT of your audio/video equipment.
2. Connect the other end of the Toslink® Digital Optical Cable (Q) to the Toslink® Digital Optical Connector (F2) on the transmitter marked "Digital 2".

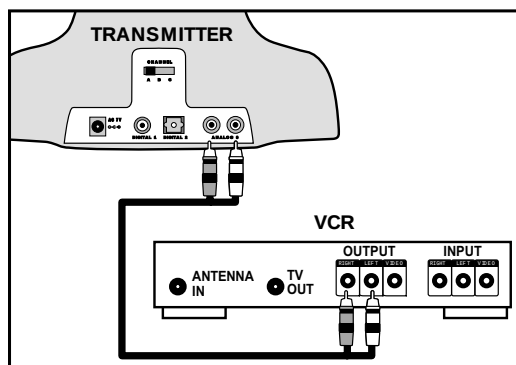
#### b. Connecting Using a Digital Coaxial Cable:



1. Connect one end of the Digital Coaxial Cable (not included) to the DIGITAL COAXIAL OUTPUT of your audio/video equipment.
2. Connect the other end of the Digital Coaxial Cable to the RCA-type Digital Coaxial Connector (F1) on the transmitter marked "Digital 1".

### iii. Connecting to Analog Components:

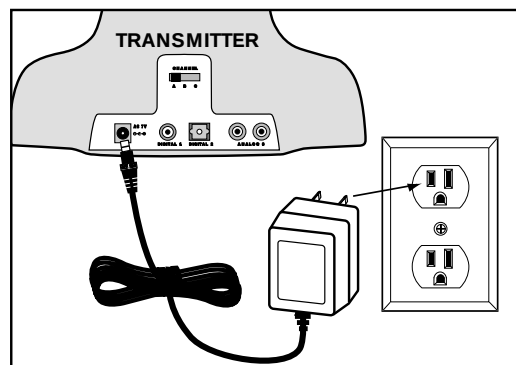
You can connect the headphones to an analog device and listen to Dolby Pro Logic recordings and compact discs.



1. Connect one end of the Analog Audio Cable (not included) to the RCA-TYPE ANALOG AUDIO OUTPUT of your audio/video equipment.
2. Connect the other end of the Analog Audio Cable to the RCA-type Analog Left/Right Connectors (F3) on the transmitter marked "Analog 3".

**Note:** When using a device with a variable analog output, make sure the volume level is set to 1/2 to 2/3 volume. When using a variable level output, noise may occur if the signal level is too weak or too strong. Adjust the volume to eliminate the noise.

### iv. Connecting the Power Supply:



1. Insert the 2.5mm barrel connector from the AC Power Supply (O) into the AC Input Jack (E).
2. Plug the AC Power Supply (O) into a standard electrical wall outlet.

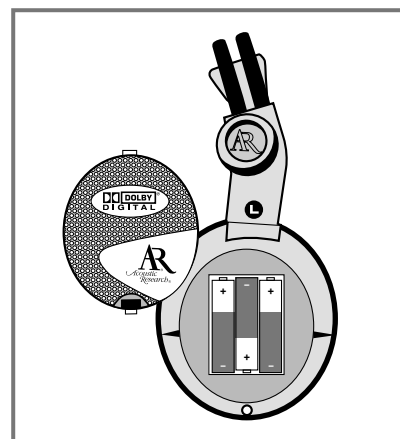
**Note:** Make sure the electrical outlet is not a switched outlet - usually designed to control a lamp - and remains ON at all times. This is important, as the transmitter base charges the headphones when not in use.

## III

## Charging the Batteries

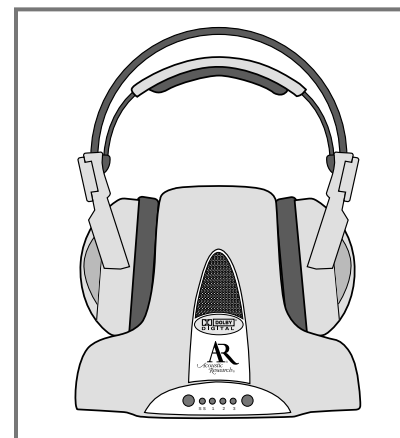
**Note:** The rechargeable batteries included with this product must be charged for 10 hours before use.

### i. Inserting the Batteries into the Headphones:



1. Remove the Battery Compartment Cover (I) by simultaneously depressing the tab and pulling up on the cover.
2. Pull the cloth strip across the Battery Compartment (H) so the Rechargeable Batteries (P) can be inserted over the strip.
3. Insert the Rechargeable Batteries (P) observing the polarity ("+" and "-") as diagrammed inside the Battery Compartment (H).
4. Replace the Battery Compartment Cover (I).

### ii. Charging the Batteries within the Headphones:



1. Place the headphones onto the Transmitter, making sure the charging contact on the left earcup is sitting properly on the charging post of the transmitter.
2. Allow the Rechargeable Batteries (P) to fully charge for 10 hours before using for the first time.
3. Place the headphones on the transmitter when not in use. This will ensure the batteries are always fully charged for hours of entertainment. The Rechargeable Batteries (P) use high-capacity Ni-MH cells that allow recharging without the memory effect of Ni-CD cells.

#### For customers in the USA and CANADA

##### RECYCLING NICKEL METAL-HYDRIDE BATTERIES

Nickel Metal-Hydride (Ni-MH) batteries are recyclable. Acoustic Research asks you to help preserve our environment and recycle any unwanted Ni-MH batteries at your nearest recycling facility for proper disposal.

Acoustic Research participates in the Rechargeable Battery Recycling Corporation (RBRC) program. If you need advise on proper disposal of the included Ni-MH batteries, please call 1-800-822-8837 (US and CANADA ONLY).

**Caution:** Do not handle damaged or leaking batteries.

## IV

## Listening to the Headphones

1. Turn on the component you wish to listen to (DVD player, VCR, TV, or another audio/video product).
2. Press the Input Select Switch (D) to choose the device you wish to listen to, i.e., Digital 1, Digital 2, or Analog 3.
3. Press the Surround Sound ON/OFF Switch (A) to turn the effect ON or OFF depending on the source material you wish to listen to. The virtual Surround Sound should be on for all Dolby Digital or Dolby Pro Logic encoded source material. All stereo music CDs, cassette tapes, or AM/FM radio should be experienced with the virtual Surround Sound OFF. See **Processing Modes** below.
4. Turn the headphones ON by pressing the ON/OFF/Tuning Control (M). The headphones may take a few seconds to tune.
5. Put the headphones on your head.
6. Adjust the volume (L) to a comfortable listening level.
7. When finished, power down the headphones by depressing the ON/OFF/Tuning Control (M) until the Power Indicator Light (K) is OFF.

**Note:** The headphones must be OFF for the batteries to charge properly. Make sure the Power Indicator Light (K) is OFF before charging.

## V

## Processing Modes

1. For multi-channel inputs (Dolby Digital inputs), the "virtual mode" processing uses 5.1 channel Dolby Digital decoding then virtual processing to create a 2 channel 3-D room equivalent output.
2. For multi-channel inputs (Dolby Digital inputs), the "stereo mode" processing uses 5.1 channel Dolby Digital decoding/processing for any number of channels to create a 2 channel equivalent output. If the multi-channel input is stereo, then the 2 channel output is stereo (i.e., Dolby Digital Stereo).
3. For Analog or PCM inputs, the "virtual mode" processing uses Dolby Pro Logic decoding then virtual processing to create a 2 channel 3-D room equivalent output.
4. For Analog or PCM inputs, the "stereo mode" processing uses direct stereo decoding to create a 2 channel stereo output.

**Note:** This product does not decode DTS 5.1 encoded digital signals.

## VI

## Troubleshooting

The following troubleshooting guide takes you through some of the most common issues and solutions associated with the installation and/or operation of the Wireless Surround Sound headphones.

### Issue

### Cause and Solution

#### No Sound

- Check that the AC Power Supply (O) is fully inserted into the wall outlet and the barrel connector from the AC Power Supply (O) is firmly connected to AC Input Jack (E). When the AC Power Supply (O) is properly connected and providing power, the Surround Sound ON/OFF Light (B) and Analog Input Indicator Light (C3) should be ON prior to making any selections.
- Check that the headphones are turned "ON" and the red Power Indicator Light (K) is brightly lit.
- Check that the Rechargeable Batteries (P) are firmly seated in the Battery Compartment (H) following the polarity markings in the Battery Compartment (H).
- Check that the audio source (DVD player, TV, VCR) is turned "ON" and providing sound as it normally should.
- Check that the headphone Volume Control (L) is turned up.
- If the Surround Sound LED (B) is blinking, this indicates that the input is DTS encoded. This product does not decode DTS 5.1 encoded digital signals. Refer to your DVD, Satellite, or other manual to change the audio mode from DTS output to Dolby Digital or PCM output.  
**Note:** Usually you can select among PCM, Dolby Digital and DTS output formats on DVD players and satellite receivers.
- Check that the component's digital sampling rate output is 48K samples/second or lower. This product does not support 96K samples/second. Refer to the component's manual to change the audio sampling rate output.

#### Distortion/Static

- Check that the headphone Tuning Indicator Light (N) is illuminated. If not, push the ON/OFF/Tuning Control (M) to manually search for the channel. If it does not lock quickly, change the Channel Select Switch (G) to one of the other two channels.
- Check the batteries - they may be weakening.
- Confirm the batteries are "good." When batteries begin to weaken, there can be static breakup. If necessary, recharge the batteries.
- Change the physical location of the transmitter. Locate it as high and free of obstruction as possible. Avoid placing the transmitter directly on top of a TV.
- Check that the Digital Coaxial Output from the DVD, satellite, etc., is not connected to the Analog Audio Inputs (F3).

#### Sound from One Earpiece Only

- Check the left/right balance control on the audio source.
- Check that the Tuning Indicator Light (N) is illuminated.
- Check the batteries - they may be weakening.
- Check that both Analog Audio Input Connectors (F3) are properly connected, and that the audio source (VCR, TV, etc.) is equipped with Stereo Analog Audio Output.

## VII

## Specifications

### Headphones:

Push-button tuning  
40mm titanium-impregnated elements with neodymium magnets  
Frequency response: 20Hz – 20kHz

### Transmitter:

Signal-to-Noise ratio: >70dB  
Stereo separation: >35dB  
Dolby Digital processor  
Virtual Surround Sound headphone technology  
Effective transmitting range: 300 feet\*  
Three separate transmission channels  
20 bit ADC/DAC  
Optical input connector conforms to EIAJ standard CP-1201  
Compatible digital audio sampling rates: 32K, 44.1K, 48K samples/second  
Dolby Digital in IEC 1937 format (formerly IEC 958 Annex B) as specified in  
ATSC A/52 Annex B  
PCM in AES/EBU format

### Included Inside:

3-foot premium digital optical cable with Toslink® connectors  
7V AC 1.4A UL Listed power supply  
Three AAA Nickel Metal Hydride (Ni-MH) rechargeable batteries

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference and 2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the users authority to operate the equipment.

Features and specifications subject to change without notice.

\* Range may vary according to environment.

## VIII

## Warranty

### ONE YEAR WARRANTY

Recoton Corporation ("Company") warrants to the original retail purchaser of this product that should the product or any part thereof be proven defective in material or workmanship within one year from the date of original purchase, such defects will be repaired or replaced, at the Company's option, without charge for parts or labor.

To obtain replacement within the terms of this warranty, the product should be delivered, transportation prepaid, to the Dealer where purchased or to the Company, along with proof of date of purchase. Call 1-800-RECOTON to obtain information regarding the procedure for proper return of your product, if your Dealer does not honor the warranty. This warranty is valid in the USA and Canada only.

THIS WARRANTY DOES NOT APPLY TO ANY PRODUCT OR PART THEREOF WHICH HAS BEEN DAMAGED THROUGH ALTERATION, MISHANDLING, MISUSE, NEGLIGENCE, ACCIDENT, IMPROPER INSTALLATION OR UNAUTHORIZED REPAIR.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ANY OBLIGATION, LIABILITY, RIGHT, CLAIM OR REMEDY IN CONTRACT OR TORT, WHETHER OR NOT ARISING FROM THE COMPANY'S NEGLIGENCE, ACTUAL OR IMPUTED. NO PERSON OR REPRESENTATIVE IS AUTHORIZED TO ASSUME FOR THE COMPANY ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS PRODUCT. IN NO EVENT SHALL COMPANY BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state/province to province, so some of the above limitations or exclusions may not apply to you.

### NON-WARRANTY SERVICE

If non-warranty service is required, the product may be sent to the Company for repair/replacement, transportation prepaid, by calling 1-800-RECOTON for details, complete instructions, and service fee charges.