



# INSTRUCTION MANUAL

## AS2 and AS2/S INDUSTRY UPGRADE

### AUTOMATIC SECONDARY SPEAKER SOURCE SELECTOR

## INTRODUCTION

Thank you for purchasing the AS2 — AS2/S Automatic Speaker Source Selector. The AS2 and AS2/S automatically switch a single pair of speakers between two speaker-level stereo sources: a main source connected to the *Input A* terminals and a remote source connected to the *Input B* terminals.

When the AS2 senses a remote source signal present at the *Input B* terminals, that source signal is automatically switched-through to the output terminals. When the remote source signal is no longer present on *Input B*, after a short (installer-adjustable) time delay the AS2 and AS2/S automatically switch the outputs to the main source connected to the *Input A* terminals.

The time it takes the AS2 and AS2/S to switch back to Input A from Input B can be adjusted to suit the different types of audio sources being used, or the preferences of the listeners. The sensitivity of the detection/switching circuitry is also adjustable to work with a variety of audio source equipment.

## AS2 and AS2/S NEW FEATURES

The AS2 and AS2/S incorporate several new features that improve their performance and installability:

- The AS2 operates on a single-output 12V DC power supply, and can also be powered directly by 12V sources in cars, boats or RV installations. The AS2 power inputs have reverse polarity protection.
- The AS2 features *DC In* and *DC Out* connections that allow multiple *Industry Upgrade* units to share a single power supply.
- The AS2 and AS2/S *Input*, *Output* and *Control* connectors are removable quick-toggle RIA connectors.
- The AS2 and AS2/S chassis have recessed mounting holes that allow them to easily be wall-mounted using two screws.
- The AS2 and AS2/S chassis' are compatible with 3" TK-series SnapTrack® from Augat.

## APPLICATIONS

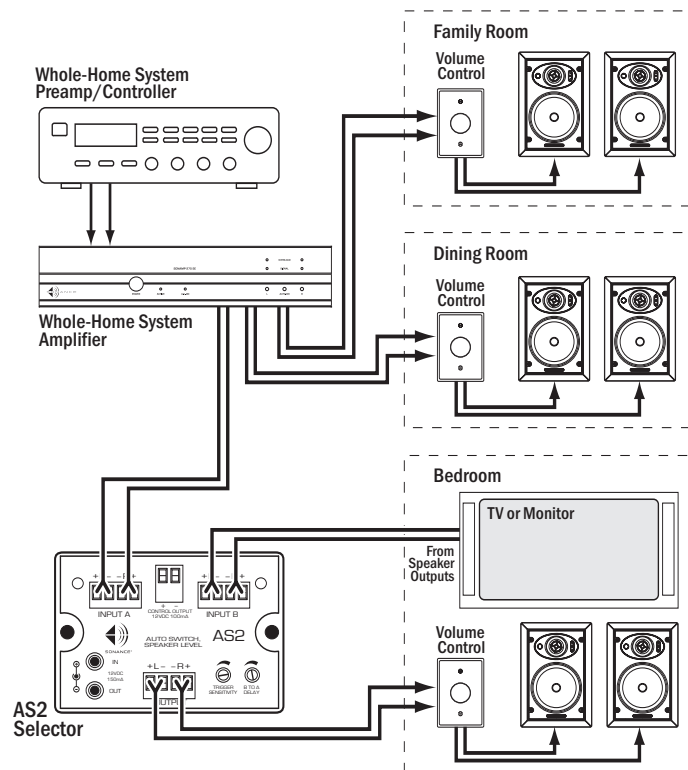
Here are three examples of how the AS2 and AS2/S can be used in different system configurations:

### Switching Between Speaker-Level Sources (see *Illustration 1*)

The AS2 can automatically switch two speaker-level sources, such as a whole-home audio system and a local TV set, to a single pair of speakers.

With the whole-home system amplifier connected to the AS2's *Input A* and the local zone TV's speaker outputs connected to the AS2's *Input B*, the whole-home system would be the speakers' main source and would remain automatically selected by the AS2 whenever the TV was turned OFF. When the TV is ON it sends an audio signal to the AS2, which would then automatically select the TV as the active source and send its signal to the speakers.

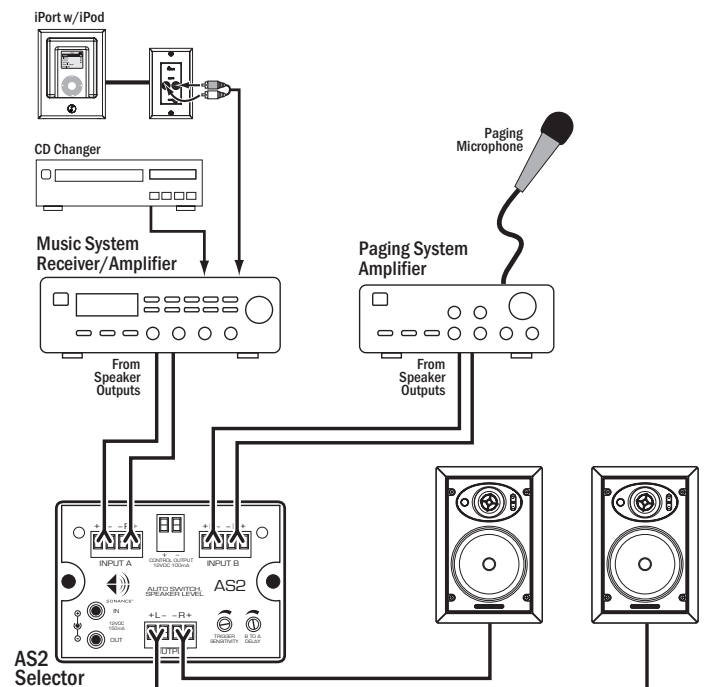
*Illustration 1: Switching Between Speaker-Level Sources*



### As a Paging System "Break-In" Device (see *Illustration 2*)

The AS2 can serve as a "Break-In" device for paging applications. The continuous music source would be connected to the AS2's *Input A*, the paging system amplifier would connect to the AS2's *Input B*, and the AS2's *Outputs* would connect to the local speakers. When the paging amplifier is activated the AS2 would switch to *Input B* to reproduce the page; after the page had ended it would revert back to the music signal connected to *Input A*.

*Illustration 2: As a Paging System "Break-In" Device*





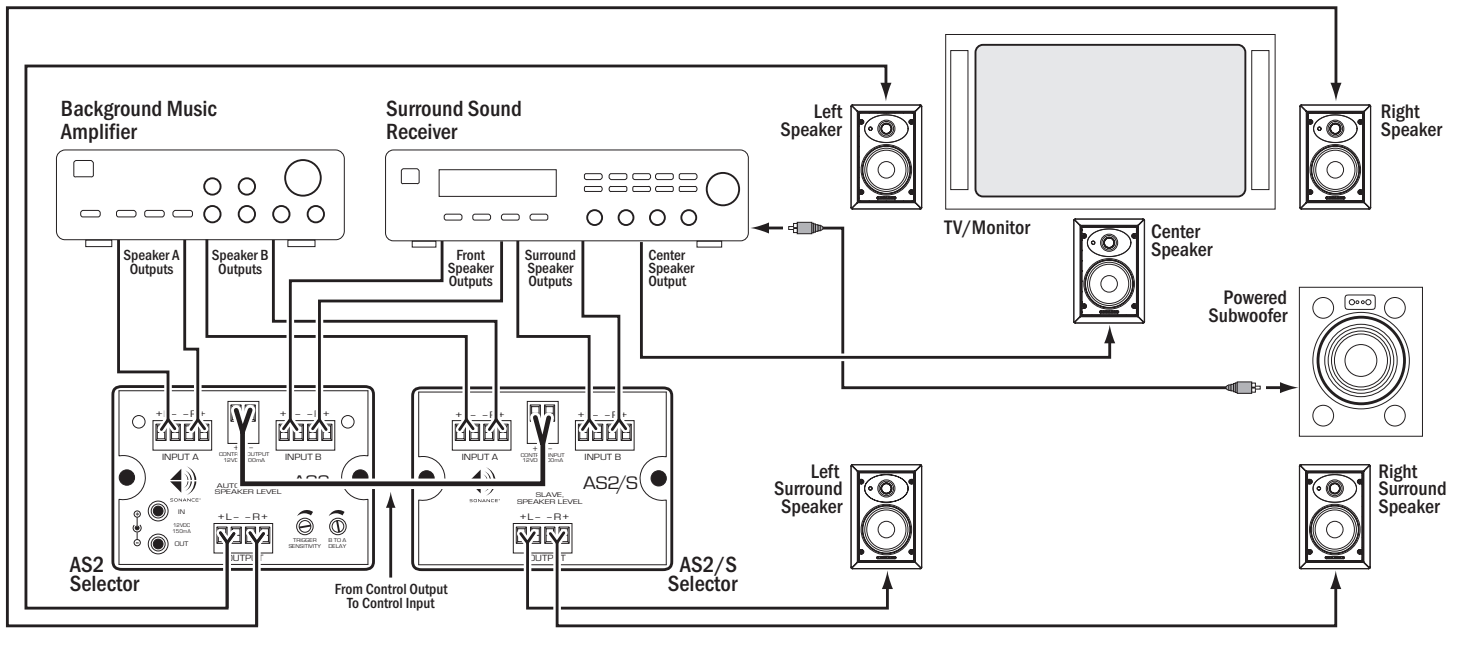
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### In a Home Theater (see Illustration 3)

The AS2 and AS2/S can be used to switch speakers in a home theater system between background music reproduction and dedicated home theater duties. In the example below, an AS2 is used to switch the front left & right speakers from background music to home theater application, while an AS2/S slave unit switches the surround speakers from background music to home theater surround channel application. The background music amplifier is the main input (*Input A*), while the surround sound receiver is the remote input (*Input B*) — when it outputs a signal the AS2 and AS2/S send its signal to the speakers.

Illustration 3: Switching Speakers in a Home Theater System

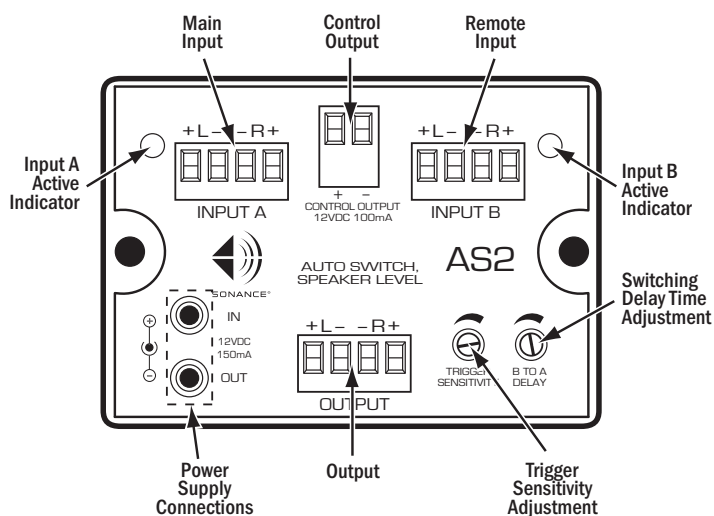


### CONNECTING THE AS2 (see Illustration 4)

**IMPORTANT:** Make sure all source components and power amplifiers are turned OFF before making any connections.

Do not plug the AS2 power supply into a wall outlet until all connections have been made.

Illustration 4: AS2 Connections and Controls



1. Determine which amplifier will be the main (default) amplifier and which is the remote (sensing/switching) amplifier. In most cases the Main amplifier will have program that is continuous or active most of the time, such as a whole-home audio system amplifier. The Remote amplifier will have program material the user will be watching or listening to for a relatively short time, such as a paging system amplifier or a local TV set's speaker outputs.

2. Connect the left & right speaker outputs of the main amplifier to the AS2's *Input A* terminals; connect the left & right speaker outputs of the remote amplifier to the AS2's *Input B* terminals.

**Note:** The AS2 can be used with amplifiers up to 100 watts RMS/channel.

3. Connect the AS2's left & right *Outputs* to the local zone speakers.
4. Connect the included PS-1 power supply to the AS2's 12V DC jack and plug it into a *non-switched* AC outlet that supplies continuous current.

- If you're using more than one Sonance *Industry Upgrade* component you can power it from the AS2's power supply by connecting a cable with standard 2.1mm internal diameter connectors between the AS2's *Loop* jack and the other component's 12V DC jack.

5. The amount of time it takes for the AS2 to revert back to *Input A* after the signal to *Input B* has stopped is user-adjustable by the *B To A Delay Adjust* control. Turning the control clockwise increases the delay time.

- The minimum delay time is 3 seconds; the maximum is 3 minutes.

6. The amount of *Input B* voltage required to switch the AS2 from *Input A* to *Input B* is user-adjustable by the *Trigger Sensitivity* control. Turning the control clockwise increases the trigger sensitivity (requires less voltage to trigger the inputs to change).

- The minimum voltage required for triggering is 5mV; the maximum is 4.5V.



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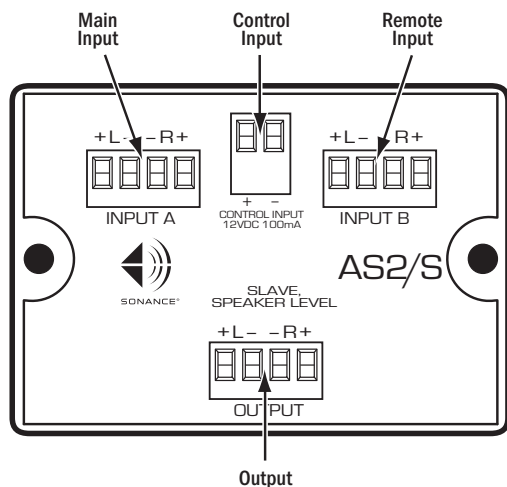
## AS2 and AS2/S INDUSTRY UPGRADE AUTOMATIC SECONDARY SPEAKER SOURCE SELECTOR

### Using the AS2 Control Output with Multiple Slave Units

The AS2's Control Output can supply up to 200mA of current. This allows it to be daisy-chained with up to two (2) AS2/S slave units (or up to five (5) AL2/S slave units).

### CONNECTING THE AS2/S (see Illustration 5)

Illustration 5: AS2/S Connections and Controls



The AS2/S is a 'slave' unit that operates similar to the AS2, except that its input switching is controlled by an external voltage source. In most systems the control voltage will be supplied by the Control Output connector of an AS2 unit, but any 12V DC source (with a minimum of 80mA of current) that switches on and off can be used as a control trigger.

1. Connect the left & right speaker outputs of the main (default) amplifier to the AS2/S' Input A terminals; connect the left & right speaker outputs of the remote amplifier to the AS2/S' Input B terminals (see Step 1 of Connecting The AS2).

**Note: The AS2/S can be used with amplifiers up to 100 watts RMS/channel.**

2. Connect the AS2/S' left & right Outputs to the local zone speakers.
3. Connect the switching 12V source to the AS2/S' Control Input connector.
  - You can use any 2-conductor wire (16ga ~ 22ga) to connect the AS2/S Control Input terminals to the Control Output terminals of an AS2.

**Caution: Do not short the '+' and '-' terminals together on the AS2 or AS2/S Control Outputs/Inputs.**

### SPECIFICATIONS

Power Consumption (AS2):	120mA ±5% @ 12VDC
Power Consumption (AS2/S):	75mA ±5% @ 12VDC
Dimensions (W x H x D):	4" x 2" x 3" (102mm x 51mm x 76mm)

### OTHER SONANCE INDUSTRY UPGRADE COMPONENTS

#### AVL1 Automatic Audio/Video Source Selector

The AVL1 provides automatic stereo line-level audio and composite video switching between two audio/video sources (such as a VCR, cable TV tuner or DVD player). Features and operation are otherwise identical to the AS2.

#### AL2 and AL2/S Automatic Secondary Source Selector (Line-Level)

The AL2 and AL2/S function identically to the AS2 and AS2/S except that they switch line-level audio signals instead of speaker-level audio signals. Typical applications would be switching between two different inputs in a whole-home audio system or home theater system, or combining two different audio systems. Features and operation are identical to the AS2 and AS2/S, except that the AL2 and AL2/S operate at line level.

#### LS2 and LR2 Balanced Audio Sender and Receiver

The LS2 and LR2 are the most efficient and highest-quality way to distribute audio throughout a residential or commercial system. The LS2 converts typical line-level audio signals to balanced configuration, allowing them to be sent long distances and in close proximity to sources of noise interference without inducing noise or high-frequency roll-off.

As a general rule of thumb, a balanced signal should be used for all but short lengths of audio cable (under 20 feet) and wherever the possibility of signal interference is likely. This includes where the audio signal passes near dimmers, transformers, fluorescent and neon lights, or along the same pathways as house current.

Active circuitry in the LS2 sends the balanced signal to the LR2, which converts it back to an unbalanced line level signal that can be connected to the audio component. The LS2 and LR2 must always be used with each other unless the audio equipment has balanced inputs or outputs (such as professional sound or recording equipment). In this situation the LS2 could be used as an unbalanced-to-balanced converter and the LR2 could be used as a balanced-to-unbalanced converter. The LS2 can also be used with the 275 SE and ASAP2 SAT amplifiers with an LR1 SAT module (part# 91815) installed.

#### VT1 Video Trigger

The VT1 provides a 12V DC signal when a video sync pulse is detected (picture or blue screen). This can be useful in triggering any component requiring a 12V signal. An LED indicates when the unit is active. A detachable 12V DC power supply is included.

#### RFGI1 Radio-Frequency Ground Loop Isolator

A passive device, the RFGI 1 is used to break a ground loop that can occur when using a cable TV or antenna feed along with AC system grounding. The RFGI1 blocks low frequency and DC by capacitor-coupling the shield and the center conductor of any RF cable connected through it. This prevents the occurrence of low-frequency humming and TV screen hum bars. The RFGI1 connects between the main cable TV feed and the cable distribution box, RF amplifier, cable converter, VCR or TV. F-connections are used on each side for a secure and reliable termination. Because it does not allow any RF leakage, the RFGI1 is a superior termination compared to a 75-to-300-to-75 ohm balanced connection.

#### OP3 Output Pad

Attenuates a stereo speaker-level signal to a stereo line-level signal. Can be used to create an additional preamp signal from any amplifier or receiver speaker terminals. Can also be used to add line-level output capability to a TV with only external speaker leads. Use in conjunction with a 2-female to 1-male Y-cord to sum left and right channels for monaural applications.

## TECHNICAL ASSISTANCE AND SERVICE

*If you any have questions about the operation or installation of this product, please call our Technical Assistance Department on any business day at (800) 582-0772 or (949) 492-7777; from 7 a.m. to 5 p.m., Pacific Time.*

If your product should need repair or service, contact your Sonance Authorized Dealer for help, or use the following procedure:

1. Prior to calling Sonance, note the product's model number, serial number, purchase date, and the name and address of the dealer where you purchased the product.
2. Contact our Technical Assistance Department at the above number(s) and describe the problem the unit is experiencing. If they determine that the product requires service, they will transfer you to our Customer Service Department, who will issue you a Return Authorization (RA) Number.
3. If you're directed to return the unit to Sonance for repair, pack the unit in its original shipping carton. If needed, you can obtain replacement packaging from us for a small charge. Note: it is best if you place the box into an additional outer "overcarton" before shipment to minimize a chance of theft in shipment. Please include a copy of the original bill of sale inside the package.
4. Contact a package delivery service such as United Parcel Service or Federal Express to arrange prepaid (not collect) shipping. Do not use the U.S. Postal Service.

**IMPORTANT: FREIGHT COLLECT SHIPMENTS WILL BE REFUSED.**

**5. Write the RA Number on the outside of the shipping carton.**

6. Ship the packaged unit to:  
Quality Assurance Department  
Sonance  
212 Avenida Fabricante  
San Clemente, CA 92672-7531

## LIMITED WARRANTY COVERAGE (U.S. ONLY)

**Sonance warrants to the original retail purchaser only that this Sonance product will be free from defects in materials and workmanship for a period of five (5) years, provided the product was purchased from a Sonance Authorized Dealer.**

Defective products must be shipped, together with proof of purchase, prepaid insured to the Authorized Sonance Dealer from whom they were purchased, or to the Sonance factory at the address listed on this instruction manual. Freight collect shipments will be refused. It is preferable to ship this product in the original shipping container to lessen the chance of transit damage. In any case, the risk or loss or damage in transit is to be borne by the purchaser. If, upon examination at the factory or Authorized Sonance Dealer, it is determined that the unit was defective in materials or workmanship at any time during this warranty period, Sonance or the Authorized Sonance Dealer will, at its option, repair or replace this product at no additional charge, except as set forth below.

If this model is no longer available and can not be repaired effectively, Sonance, at its sole option, may replace the unit with a current model of equal or greater value. In some cases where a new model is substituted, a

modification to the mounting surface may be required. If mounting surface modification is required, Sonance assumes no responsibility or liability for such modification. All replaced parts and product become the property of Sonance. Products replaced or repaired under this warranty will be returned to the original retail purchaser, within a reasonable time, freight prepaid.

This Warranty does not include service or parts to repair damage caused by accident, disaster, misuse, abuse, negligence, inadequate packing or shipping procedures, commercial use, voltage inputs in excess of the rated maximum of the unit, or service, repair or modification of the product which has not been authorized or approved by Sonance. This Warranty also excludes normal cosmetic deterioration caused by environmental conditions. This Warranty is in lieu of all other expressed warranties. If the product is defective in materials or workmanship as warranted above, the purchaser's sole remedy shall be repair or replacement as provided above. In no event will Sonance be liable for any incidental or consequential damages arising out of the use or inability to use the product, even if Sonance or a Authorized Sonance Dealer has been advised of the possibility of such damages, or for any claim by any other party.

Some states do not allow the exclusion or limitation of consequential damages, so the above limitation and exclusion may not apply. All implied warranties on the product are limited to the duration of this expressed Warranty. Some states do not allow limitation on the length of an implied warranty. If the original retail purchaser resides in such a state, this limitation does not apply.

## EXCLUSIONS AND LIMITATIONS

The warranty set forth above is in lieu of all other warranties, express or implied, of merchantability, fitness for a particular purpose, or otherwise. The warranty is limited to Sonance products registered herein and specifically excludes any damage to loudspeakers and other allied or associated equipment which may result for any reason from use with this product. Sonance shall, in no event, be liable for incidental or consequential damages arising from any breach of this warranty or otherwise. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.



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