

MODEL
AB-2D



AB-2D

SPEAKER A,B OR A+B SELECTOR



NILES®

INSTALLATION & OPERATION GUIDE

AB-2D

Speaker/Amplifier Selector

TABLE OF CONTENTS

Introduction	1
Features and Benefits	1
Installation Considerations	3
Installation	8
Operation	10
Specifications	10



NILES®

Introduction

The AB-2D is a wall-mount, Decora® style A, B or A+B speaker selector. The unit has one amplifier input and two speaker pair outputs. With the AB-2D, you can select an amplifier to play into either pair of loudspeakers (A or B), or both pairs simultaneously (A+B).

Features and Benefits

The AB-2D offers a number of improvements over other A-B selectors.

- Interchangeable Decora inserts for fast, easy color change. Inserts and buttons (sold separately) are available in a variety of colors.
- Self-cleaning, silver-plated switch contacts assure many years of trouble-free use.
- Printed circuit board design uses no hand wiring, assuring high reliability.
- The circuit board connectors can accommodate up to 14 gauge wire, making the AB-2D compatible with most “high definition” speaker cables.

S P E A K E R / A M P L I F I E R S E L E C T O R

- 100% tested, electronically and acoustically, for frequency response, distortion and power handling.
- Isolated left and right channel grounds make it safe for use with any amplifier.
- May be used with 4, 6, or 8 ohm speaker systems.
- Ideal for both home and commercial sound installations.
- Only screwdriver and wire stripper required for installation.
- Power handling: 600 watts/channel continuous power (RMS).
- Frequency response: Flat from 20 Hz to 20 kHz.
- Available colors: White, Bone, Almond, or Black.
- Ten year parts and labor warranty.
- Proudly made in the USA.

Installation Considerations

TOOLS REQUIRED

- No. 2 Phillips Screwdriver
- 1/8" Standard Slotted Screwdriver
- 1/4" Standard Slotted Screwdriver
- Wire Stripper

"TECH TIP"

Verify that the impedance presented to the amplifier when both speaker pairs are selected is above the minimum recommended by the amplifier manufacturer.

The AB-2D is a Decora-style module and is designed to use standard Decora-style cover plates and mounting hardware. Decora cover plates (up to 6-gang) with color-matched plate screws are available from your Niles dealer.

Amplifier Impedance Load

When both pairs of speakers are selected on the AB-2D, they are connected to the amplifier in parallel. This will lower the overall impedance load presented to the amplifier. For example, if two pairs of 8 ohm speakers are selected on the AB-2D, their parallel impedance will be 4 ohms; 2 pairs of 4 ohm speakers in parallel become 2 ohms, and so on. The AB-2D does not provide impedance protection for the amplifier. Consult your Niles dealer if you are unsure about your amplifier's low impedance drive capability. A Niles impedance protection device may be required.

P-Rings and Electrical Boxes

The mounting depth of the AB-2D is 2 1/2". When installed, the unit extends 2" behind the sheetrock wall (assuming 1/2" sheetrock). For installation, you must choose between a standard light switch plaster ring (p-ring) or a standard 18 cu. in. (or larger) electrical box. Suitable p-rings and electrical boxes are available from your Niles dealer or local electrical supply company. Using the p-ring is best because it gives you unobstructed access to the full depth of the wall. In some instances,

the use of a p-ring may be inappropriate, such as in a retro-fit (existing) installation, or when building codes require that wall devices be enclosed in electrical boxes. Contact your local building code and inspection department if unsure.

Type of Speaker Wire

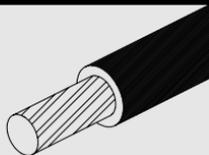
For most applications, we recommend you use 16 or 18 gauge, stranded copper speaker wire for the AB-2D connections. For wiring runs longer than 80 feet, 14 gauge wire is recommended. Using speaker wire larger than 14 gauge for the AB-2D connections is not recommended—the wire may not fit into the connectors. Never use solid-core, aluminum, or "Romex" type wire with the AB-2D. When running speaker wires inside walls, most states and municipalities in the U.S. specify that you must use a special type of speaker wire. Usually, the requirement is that the wire has a specific "CL" fire rating, such as "CL-2" or "CL-3". Consult your Niles dealer, building contractor, or local building and inspection department if unsure about which type of wire is best for your application.

AB-2D Mounting Location

Convenient mounting locations for the AB-2D are:

- Near entry-ways or exits
- Near a desk
- At your bedside
- Close to a telephone

"TECH TIP"



Wire size is expressed by its AWG (American Wire Gauge) number. The lower the AWG number, the larger the wire, i.e., 12 AWG wire is physically larger than 14 AWG.

- Near other wall controls (see caution below)

DO NOT INSTALL THE AB-2D INTO ELECTRICAL BOXES WITH 110 VOLT DEVICES.

Some states or municipalities allow devices such as the AB-2D to be installed into the same electrical box as 110 volt devices, provided a "low-voltage partition" is used between the devices. We do not recommend this. Speaker wires can act as an "antenna" for electrical noise. Locating speaker wires too close to a light switch or dimmer may cause a "popping" or "buzzing" sound to be heard through the speakers. If you must locate the AB-2D near electrical devices, install it in a separate metal electrical box, ground the box to the electrical system ground, and route the speaker wires several feet away from the electrical wiring.

Changing the Color of the AB-2D

The Decora insert and buttons on the AB-2D are removable, allowing fast and easy color changes as needed. Inserts and buttons are available in a variety of colors.

If you need to change the color of the AB-2D:

1. Obtain the AB-2D Decora insert and buttons in the desired color from your Niles dealer.
2. Holding the AB-2D as shown in **(Figure 1)**, locate the two plastic mounting tabs at the top rear of the Decora insert. Using two fingers, simultaneously press both tabs down (towards the center of the insert) and forward (away from

you) until the insert pops free from its mounting slots.

3. Hold the AB-2D as shown in **(Figure 2)**. Remove both buttons from the switches using your fingers. **DO NOT** use pliers or other tools as these may damage the buttons.

4. Locate the new Decora insert. Hold the AB-2D so that it is facing you. Insert the two bottom tabs into the bottom slots first, followed by the two tabs on the top. Snap the insert into place by carefully pressing on the front of the insert.

5. Locate the new buttons. Secure the buttons to the switches by gently pressing them into place.

"TECH TIP"

Do not exert
excessive pressure
on the plastic
mounting tabs.

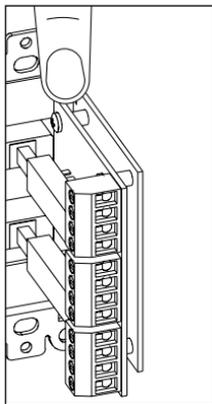


Figure 1
Removing the
Decora-style Insert

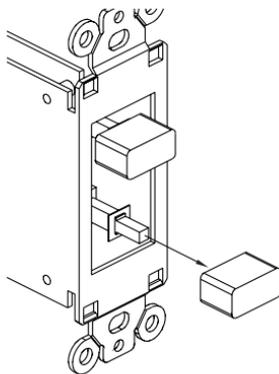
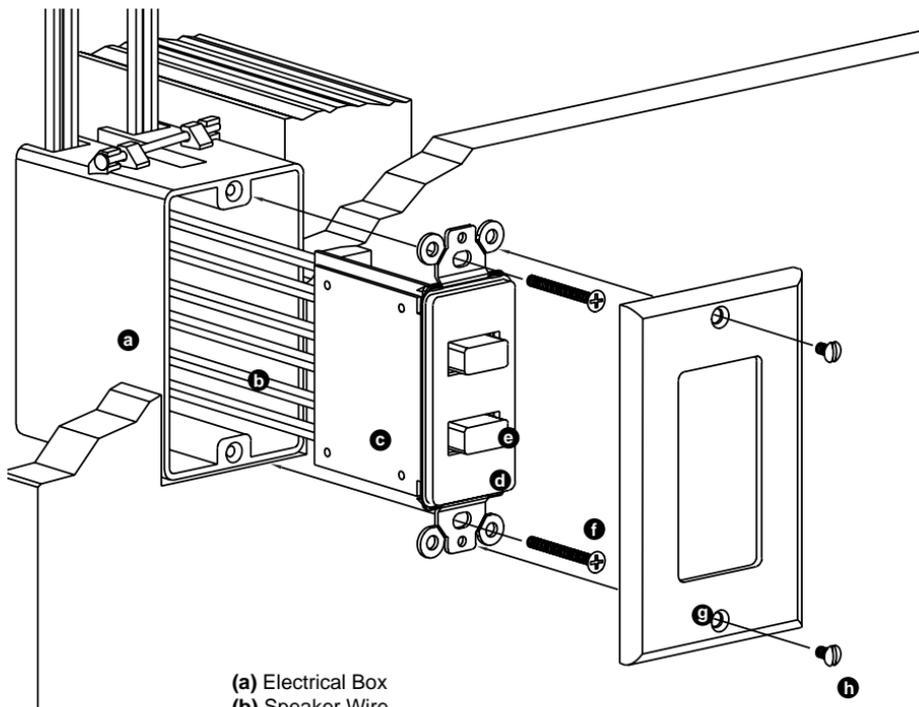


Figure 2
Removing the
Button

S P E A K E R / A M P L I F I E R S E L E C T O R



- (a) Electrical Box
- (b) Speaker Wire
- (c) AB-2D Speaker Selector (supplied)
- (d) Snap-on Color Insert (supplied)
- (e) Buttons (2 supplied)
- (f) Device Screws (2 supplied)
- (g) Decora Faceplate (supplied)
- (h) Faceplate Screws (2 supplied)

Installation

If you are installing the AB-2D into an existing wall, take time to consider any possible obstructions which may be hidden inside the wall, such as wood and metal studs; electrical, telephone or other types of wiring; plumbing; conduit; old wall safes; etc.

1. Install the electrical box or p-ring in the usual manner.
2. Run all the necessary wiring to the AB-2D. Label the wires for future reference.
3. Make the connections to the AB-2D. Strip 1/4" of insulation from the end of each wire. Tightly twist the end of each wire until there are no frayed ends. Insert each wire into the appropriate hole on the connector blocks; secure the wiring to the connectors by tightening the small connector screws. Be certain that proper phasing is observed—connect the positive terminals on the AB-2D to the positive terminals on the amplifier and speakers and the negative terminals on the AB-2D to the negative terminals on the amplifier and speakers. See (Figure 3).

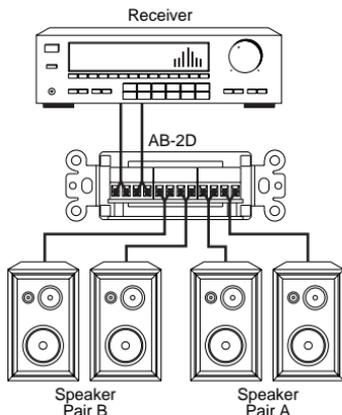


Figure 3
Wiring Diagram

The input of the AB-2D is the connector labeled "AMP". The outputs are the connectors labeled "A" and "B". Be sure not to reverse any of these connections or the AB-2D will not function properly.

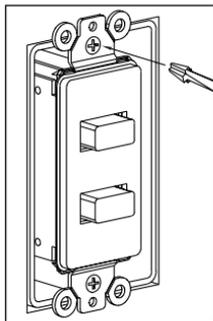


Figure 4
Loosening the Screws
for a Flush Fit

4. Secure the AB-2D to the electrical box or p-ring. Insert the 1 1/4" long device screws into the oblong-shaped screw holes on the top and bottom of the AB-2D. Note that the oblong shape of the screw holes allow you to position the AB-2D so that it is vertical. Position the AB-2D so that the screws are aligned with the threaded holes in the electrical box or p-ring. Tighten the screws using a phillips screwdriver. **DO NOT OVER-TIGHTEN.** In some instances, you may need to loosen these screws several turns to allow the AB-2D to fit flush with the Decora cover plate. See **(Figure 4)**.

5. Use the shorter plate screws to fasten the Decora cover plate to the AB-2D. **DO NOT OVER-TIGHTEN THE PLATE SCREWS OR YOU MAY DAMAGE THE COVER PLATE.** Line up all the screws in the same direction for a finished look.

NOTE: Certain "old work" or "retro-fit" boxes, such as the Carlon B225R, have a plastic "lip" which interferes with the Decora plate screws. This lip prevents you from being able to tighten these screws completely. To make the clearance necessary for these screws, you must remove the parts of the lip causing the interference. There are two ways to accomplish this:

1. Drill through the lip of the box at the screw points.
2. Cut notches into the lip with a pair of diagonal cutters.

Operation

1. Make sure the amplifier or receiver power is OFF and set the volume to minimum.
 2. Set both selector buttons on the AB-2D to the OFF position (buttons out).
 3. If you are using a Niles speaker selection system in conjunction with the AB-2D, locate the ON/OFF button which corresponds to the AB-2D. Set it to the ON position.
 4. Turn on the amplifier or receiver and select a source, such as the tuner or CD player.
 5. Using the selector buttons on the AB-2D, select the speaker pairs you wish to play.
 6. Slowly turn up the amplifier or receiver volume and set it to a comfortable (not maximum) listening level. Be careful not to overdrive or "clip" your amplifier. If the sound becomes muddy or distorted, you have reached the limit of your amplifier's volume capability and should quickly reduce the volume to avoid damaging your speakers.
- Note:** If the speaker pairs connected to the AB-2D are equipped with Niles volume controls, adjust the volume of the speakers to the desired listening level using the Niles controls. If all the speaker pairs in your system are equipped with Niles volume controls, you can leave the amplifier or receiver volume set at one position and use the Niles controls exclusively.
7. You can turn off the speakers by simply pressing the ON/OFF buttons on the AB-2D you wish to play.

SPECIFICATIONS

Audio Power Handling

600 Watts/channel
continuous power
(RMS)

Mounting

In-wall, requires single-gang electrical box at least 3" deep, Decora-style face plate

Wiring Requirements

Individual runs of 2-conductor speaker wire, 14-22 gauge

Unit Dimensions

1 1/8" wide x 2 5/8" high

Face Plate Dimensions

Decora wall plate;
2 3/4" wide x 4 1/2" high

Depth Behind Plate

2 1/2"



Niles Audio
Corporation

www.nilesaudio.com

12331 S.W. 130 Street
Miami, Florida 33186
Tel: (305) 238-4373
Fax: (305) 238-0185

©1999 Niles Audio Corporation
DS00104A