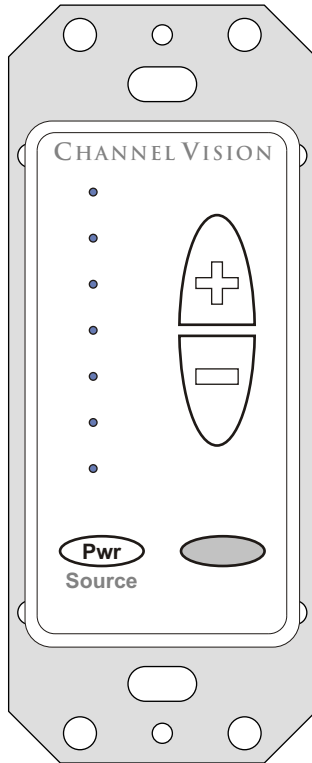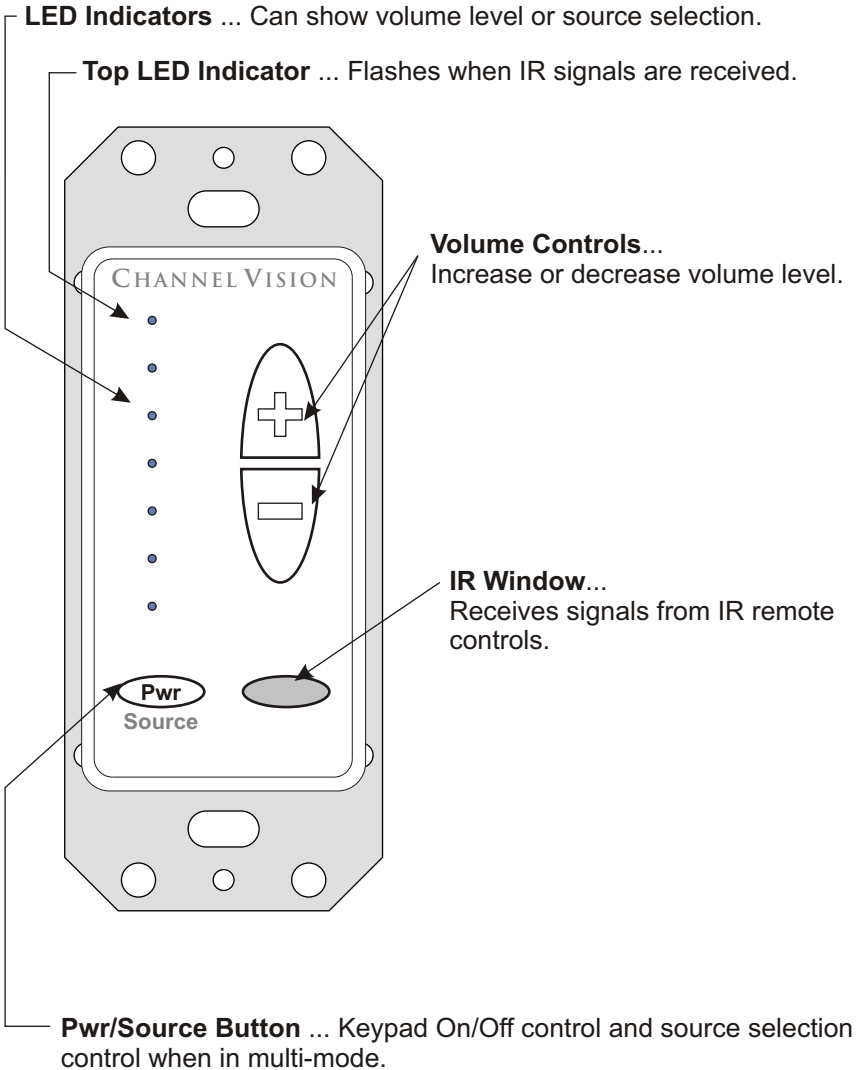# AB-124
Multi-Source Amplified Keypad

CHANNEL VISION™

The **AB-124** is an amplified keypad for Channel Vision's single-source and multi-source CAT5 audio systems. It provides convenient volume control and source selection capabilities, while its elegant decorator styling blends seamlessly with other wall switch devices.

Features:
- Compatible with all Channel Vision CAT5 audio systems
- Supports IR control: compatible with the A0501 remote control
- LEDs show volume level or source selection

LED Indicators ... Can show volume level or source selection.

Top LED Indicator ... Flashes when IR signals are received.

Volume Controls... Increase or decrease volume level.

CHANNEL VISION

IR Window... Receives signals from IR remote controls.

Pwr
Source

Pwr/Source Button ... Keypad On/Off control and source selection control when in multi-mode.

Compatibility

The AB-124 adheres to the same protocols as Channel Vision's other CAT5 audio hubs to ensure maximum compatibility. However, when using the AB-124 in a multi-source system, we recommend using Channel Vision's multi-source CAT5 audio matrix (model P-1044). Multi-source CAT5 audio products from other manufacturers may not (and typically will not) use the same control codes for advanced features such as source selection.

How it Works

The AB-124 can be used in two different modes: 1) single source mode, 2) multi-source mode. Mode selection is controlled by a jumper setting prior to installation. When using the AB-124 with a single-source CAT5 audio hub, it should be set for the single-source mode. In this mode, the unit provides basic controls: volume up, volume down, and power on/off. When using it with a multi-source CAT5 aduio matrix, it should be set for multi-source mode. In this mode, any zone can independently select and listen to any source at any time. Source selection can be done either from the AB-124 amplified keypad or by using the A0501 remote control.

Basic Operation

**Using the AB-124 Amplified keypad...**
The Pwr (power) button located at the lower left of the keypad is used for source selection and to turn the unit on or off. When in single-source mode, press and release the Pwr button to toggle the keypad on or off. When in multi-source mode, if the keypad is off, press and release Pwr to turn it on. Press Pwr again to see the current source selection and press repeatedly to scroll through the 4 sources. Press and hold the power button to turn the keypad off. While the keypad is off, press and hold the power button again to turn off the zone output of the P-1044.

As you change sources when in multi-mode, you'll notice that the top 4 LEDs illuminate corresponding to the source you have selected. When source one is selected, the first LED is illuminated, when source two is selected, the second LED is illuminated, and so on.

After a source is selected the LED will stay lit for 5 seconds, then it will return to showing the current volume level.
Volume adjustments can be made using the up/down buttons to the right hand side of the keypad. The keypad can be controlled from the A0501 remote control (see the section titled: Using the A0501 remote control for more details).

- These four LEDs illuminate to indicate which source input is selected.
- The Pwr button is used for source selection.
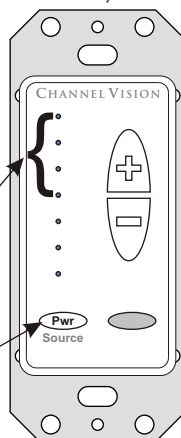
Jumper Settings

Jumper settings determine how the AB-124 will react under various circumstances. These jumpers should be set to the desired configuration before the AB-124 is installed. If you need to make changes to the jumper settings, the AB-124 MUST BE DISCONNECTED from the system first.
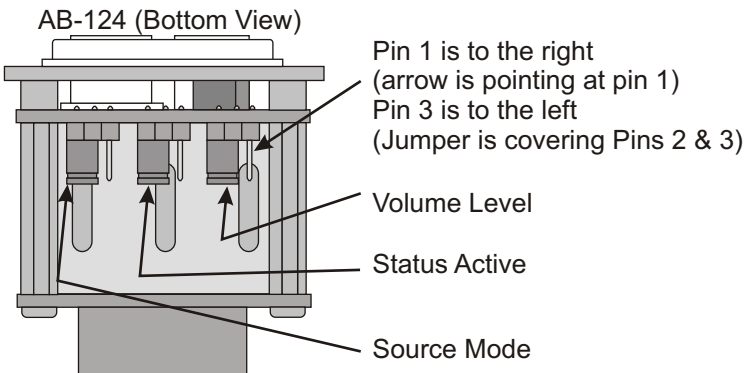
Jumper setting functions explained:
Volume Preset - This jumper determines how loud the keypad will be when it is turned on. If the jumper is on pins 1 & 2, the volume will always be set at the default level when the AB-124 is turned on. If the jumper is on pins 2 & 3, the volume will be at the same level as it was before the AB-124 was turned off.

Status is active when the zone is on and audio is present. Status will go dormant when audio is not present.

Status Active - This jumper determines what happens when the status becomes active. Typically, when status becomes dormant, Channel Vision amplified keypads go into a 'sleep' mode which mutes the amplified keypad. If the jumper is on pins 1 & 2 when status becomes active, the AB-124 will remain off until the power button is pressed. If the jumper is on pins 2 & 3 when the status becomes active, the AB-124 will return to its previous state (either on or off).
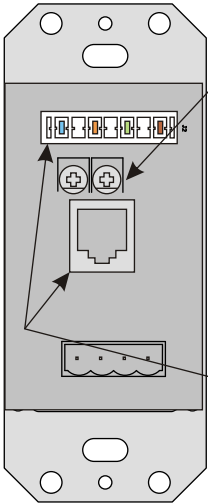
Source Mode - This jumper determines if the AB-124 will be used as a multi-source keypad or a single-source keypad. If you are using the keypad in a single source system, set the jumper on pins 1 & 2. If you are using the keypad in a multi-source system, set the jumper on pins 2 & 3.

Jumper Function	Jumper on Pins 1 & 2	Jumper on Pins 2 & 3
Volume Level	Default volume level	Previous volume level
Status Active	Off until Pwr is pressed	Previous state
Source Mode	Single-Source	Multi-Source

AB-124 (Bottom View)

Pin 1 is to the right
(arrow is pointing at pin 1)
Pin 3 is to the left
(Jumper is covering Pins 2 & 3)

Volume Level

Status Active
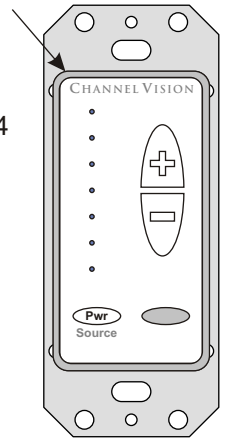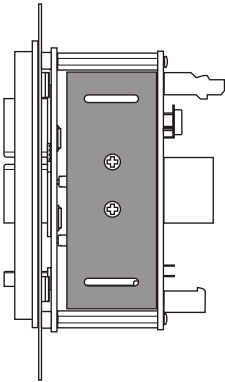
Source Mode

Installation

AB-124 (Rear View)

Balance ... The two potentiometers on the AB-124 adjust the volume levels of each speaker channel. Use these to adjust the speaker balance in this zone.

Gasket ... The AB-124 is shipped with a gasket. This allows you to adjust the height and fit of a decorator trim plate. Leave the gasket as is for a flush fit. Remove the gasket to have the AB-124 stand above the plate.
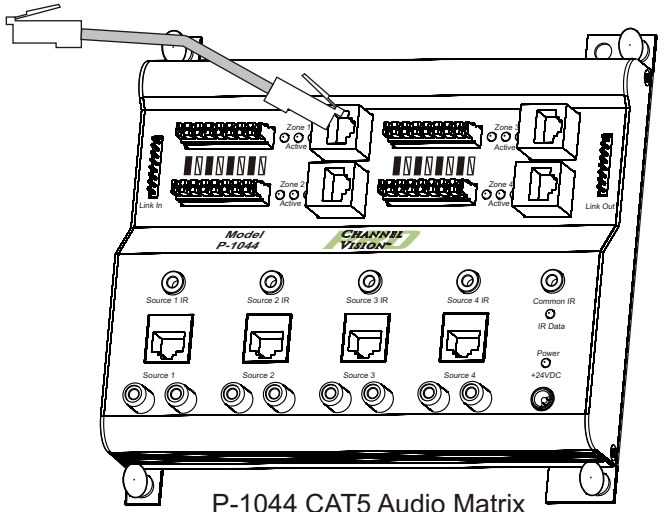
Connectors ... To simplify installation, the AB-124 has both 110 and RJ-45 inputs. Only one of the inputs should be used at a time.
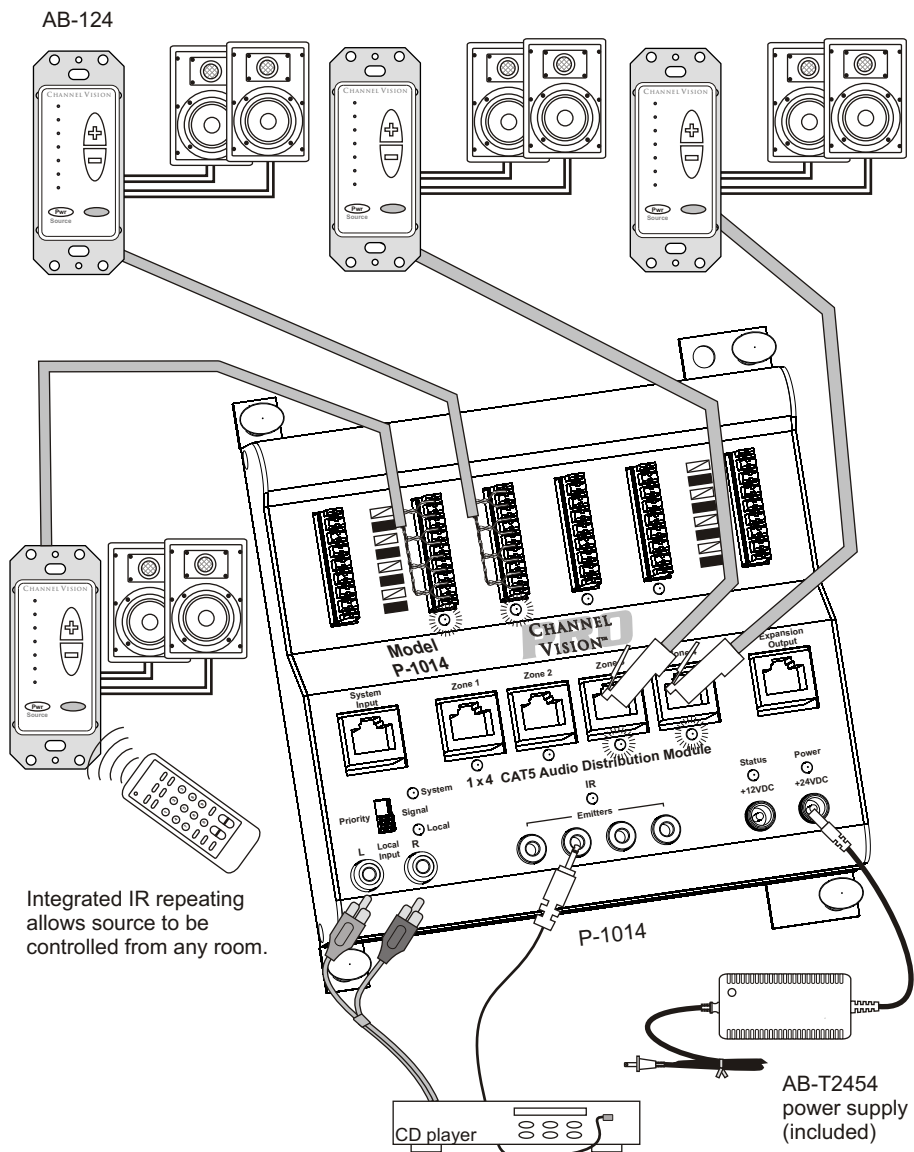
CHANNEL VISION

Pwr
Source

AB-124 (Side View)

Connect the AB-124 as shown.

Zone 1
Active

Zone 2
Active

Zone 3
Active

Zone 4
Active

Link In

Link Out

Model
P-1044

CHANNEL VISION

Source 1 IR   Source 2 IR   Source 3 IR   Source 4 IR   Common IR

IR Data

Power

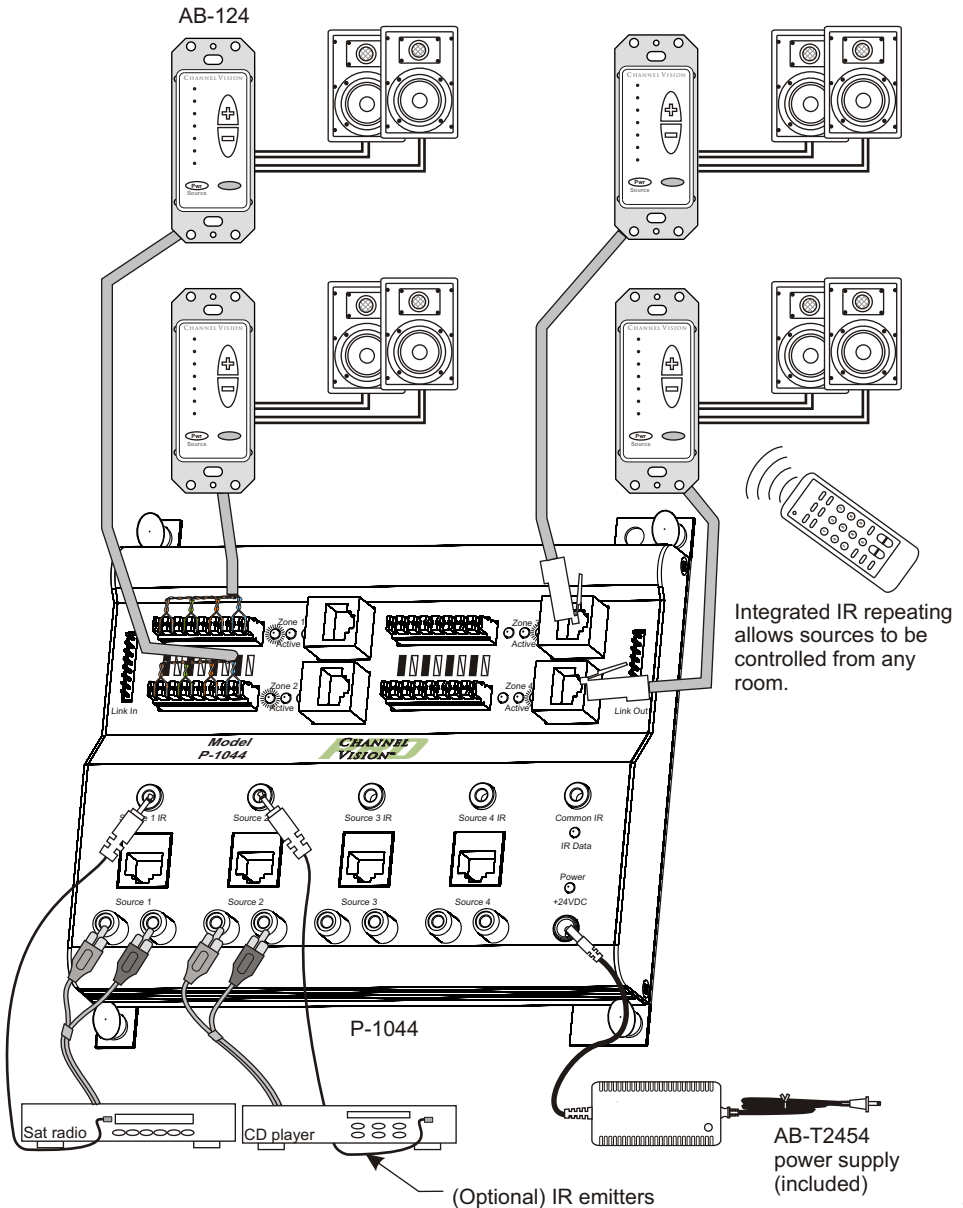Source 1   Source 2   Source 3   Source 4   +24VDC

P-1044 CAT5 Audio Matrix

5

Single-Source System

When using the AB-124 with single-source CAT5 audio hubs, the source mode jumper should be set for single-source. In this mode, the source selection features are not available. Pressing the Pwr button will turn off the keypad, but other keypads will continue to play.

AB-124

Integrated IR repeating allows source to be controlled from any room.

P-1014

CD player

(Optional) IR emitters

AB-T2454 power supply (included)
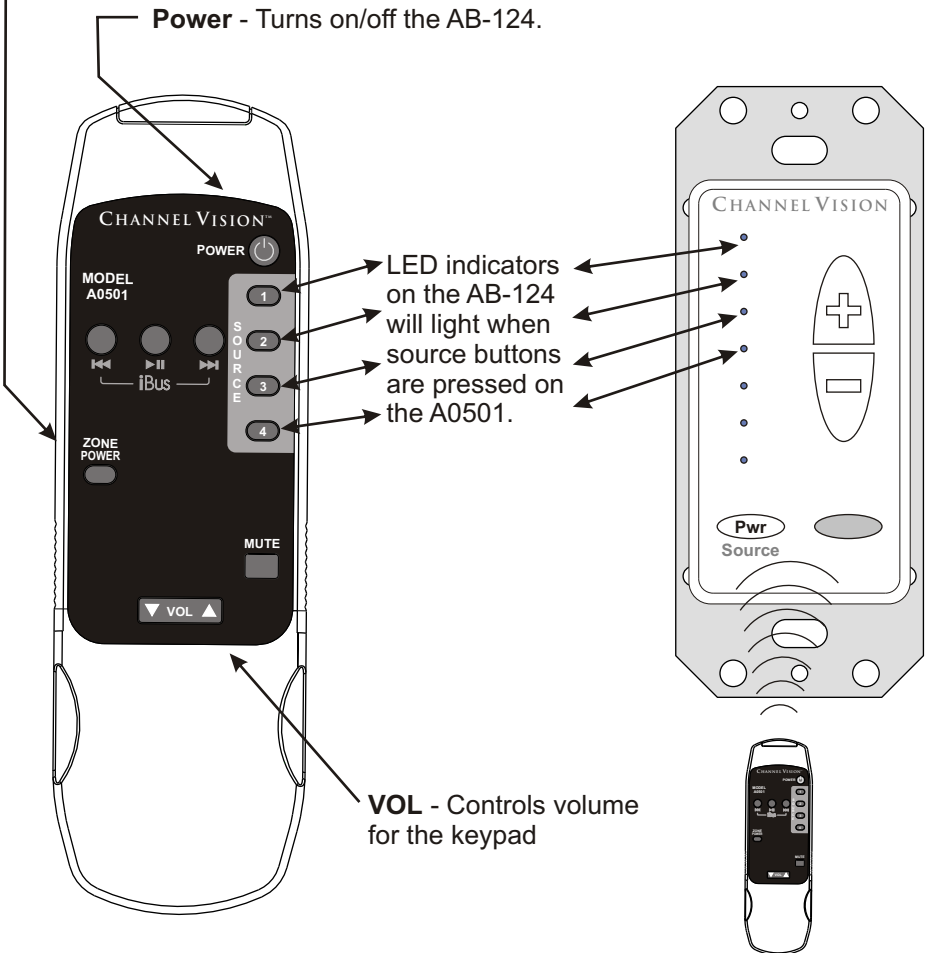
Multi-Source Application

When using the AB-124 in a multi-source system with the P-1044, the source mode jumper should be set for multi-source. In this mode, the source selection features are enabled allowing any zone to independently select and listen to any source at any time.

AB-124

Integrated IR repeating allows sources to be controlled from any room.

Model P-1044

CHANNEL VISION™

P-1044

Sat radio

CD player

(Optional) IR emitters

AB-T2454 power supply (included)

Using the A0501 remote control

The A0501 is designed to allow you to control your P-1044 without having to touch the buttons on the AB-124. Simply point the A0501 remote control at the IR sensor located at the bottom of the AB-124 and press the desired button.

Zone Power - Turns on/off the zone output of the P-1044.

Power - Turns on/off the AB-124.

LED indicators on the AB-124 will light when source buttons are pressed on the A0501.

VOL - Controls volume for the keypad

Downloading IR commands...

If you don't have access to the A0501 remote and you need to program a learning remote, you can download the IR codes from the internet. IR codes compatible with the Philips Pronto remote controls can be downloaded from the following websites:

www.channelvision.com (codes in Hex format)
**www.remotecentral.com** (codes in Pronto format)

Creating sub-zones

The system below integrates a single-source CAT5 audio hub (model P-1014) together with the multi-source CAT5 audio matrix (model P-1044). The keypads connected to the P-1014 will act as sub-zones to the P-1044. These sub-zones will all play the same audio which is perfect for common areas such as hallways, bathrooms, kitchen, or dinning room. For this kind of system, all of the AB-124 keypads should be configured for multi-mode.

Hallway   Bathroom   Dining Room   Kitchen
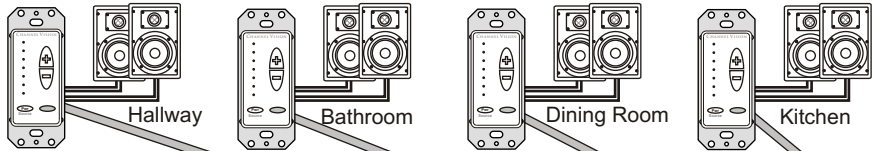
AB-124

All of the AB-124 keypads connected to the P-1014 will be able to select any of the 4 input sources. However, if the source selection is changed in one sub-zone it will also be changed for all of the other sub-zones connected to the P-1014.
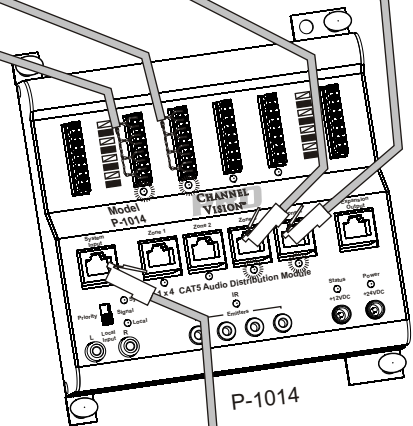
P-1014

All of the AB-124 keypads connected to the P-1044 will be able to independently select and listen to any source at any time.

P-1044

Bedroom 2

Bedroom 1

Bedroom 3

Sat radio
DVD player
CD player
AM/FM radio

9
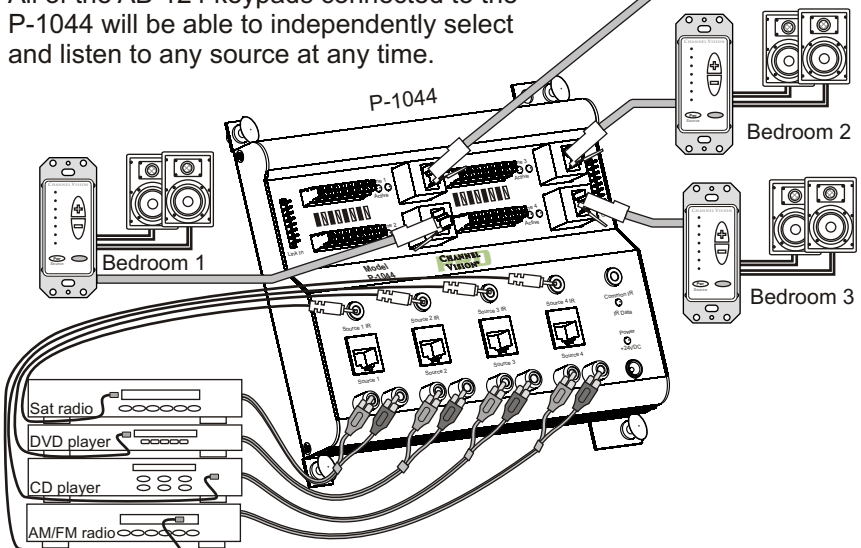
Connection Tips and Troubleshooting

1) Be sure you have connected the CAT5 cable correctly. Follow the TIA-568A standard at both ends. Mis-wiring can cause distorted sound or prevent the system from working at all!

2) Be sure you have connected the speakers in phase. Follow the label on the product. Out of phase speakers can rob the system of its bass, especially when driving dual-voice-coil speakers.

3) Trouble with IR control?

   a. Make sure you are using the correct remote control. The AB-124 will respond to IR signals from the A0501 and the AB-500 remotes produced by Channel Vision. The A0501 can provide both volume control and source selection commands, but the AB-500 is only pre-programmed with the volume control commands. Other 3rd party remote controls that are capable of learning the IR codes from the A0501 can also be used.

   b. The top LED on the AB-124 acts as an IR receiver feedback LED that flashes whenever IR signals are received. Check to make sure the LED flashes whenever you press buttons on your remote control. If you don't see the feedback LED, try replacing the batteries in your remote control.

   c. Make sure your IR emitters are placed directly over the sensor on the device you are trying to control.

4) If no audio is heard, check to make sure that the audio source is playing, then press the power button on the AB-124 to make sure it is turned on.

   a. Note, if the status jumper is on pins 1 & 2, the AB-124 will turn off if there is no audio present for more than 2 minutes. For most applications, it will be desirable to place the status jumper on pins 2 & 3 so that the AB-124 will revert back to its previous condition (either on or off) when music is played after a long pause.

   b. There may be something wrong with the CAT5 audio hub. Some Channel Vision audio hubs provide LED indicators to show which zones are connected and active. Review these LEDs and refer to the instruction manual for your specific audio hub.

5) Observe wiring distance specifications. The maximum recommended wire length between the audio hub output and AB-124 is 150 feet. Although the AB-124 can work at greater distances, such extreme distances are not recommended because erratic performance may result due to the power loss caused by the CAT5 wire.

6) If you need additional help troubleshooting the AB-124 please contact Channel Vision technical support (1-800-840-0288) or check our website for more details: www.channelvision.com.
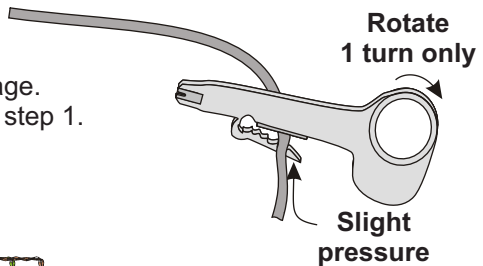
Stripping and Connecting CAT5 Wire

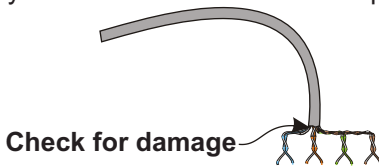CAT5 cable should be stripped with a proper stripping tool, such as Channel Vision's J-110 tool.

1. Place the CAT5 between the blade and the first notch of the J-110 tool.

Blade

Cat5
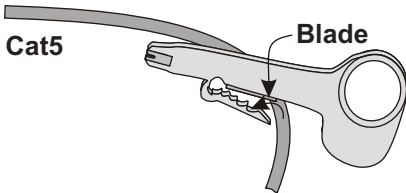
2. Rotate the tool only once. Multiple turns will cause you to cut into the inner wires.

**Rotate
1 turn only**

3. Inspect the inner wires for damage. If any wires are cut start over at step 1.

**Slight
pressure**

Check for damage

TIA-568A RJ-45 Modular Plug

Side view:

Top view:

Green/White
Green
Orange/White
Blue
Blue/White
Orange
Brown/White
Brown
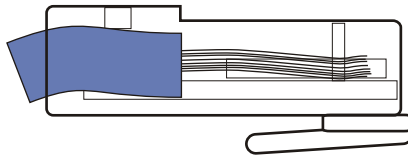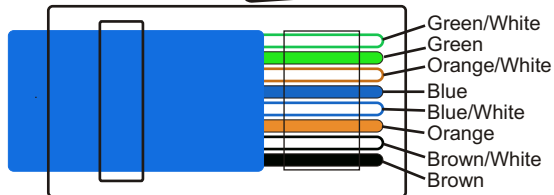
Specifications: (typical @25º C)

Operating Voltage :	24VDC
Cable requirements:	CAT5 or better
Speaker impedance:	6-8 ohm
IR repeating:	30-60kHz
IR sensor range:	40'@40kHz, 25'@56kHz
Operating Temperature:	-10ºC to +50ºC

Specifications subject to change without notice.

CHANNEL VISION™
1 Year Limited Warranty

Channel Vision Technology will repair or replace any defect in material or workmanship which occurs during normal use of this product with new or rebuilt parts, free of charge in the USA, for one year from the date of original purchase. This is a no hassle warranty with no mail in warranty card needed. This warranty does not cover damages in shipment, failures caused by other products not supplied by Channel Vision Technology, or failures due to accident, misuse, abuse, or alteration of the equipment. This warranty is extended only to the original purchaser, and a purchase receipt, invoice, or other proof of original purchase date will be required before warranty repairs are provided.

Mail in service can be obtained during the warranty period by calling (800) 840-0288 toll free. A Return Authorization number must be obtained in advance and can be marked on the outside of the shipping carton.

This warranty gives you specific legal rights and you may have other rights (which vary from state to state). If a problem with this product develops during or after the warranty period, please contact Channel Vision Technology, your dealer or any factory-authorized service center.

Channel Vision products are not intended for use in medical, lifesaving, life sustaining or critical environment applications. Channel Vision customers using or selling Channel Vision products for use in such applications do so at their own risk and agree to fully indemnify Channel Vision for any damages resulting from such improper use or sale.

CHANNEL VISION™
channelvision.com

234 Fischer Avenue, Costa Mesa, California 92626
(714)424-6500 • (800)840-0288 • (714)424-6510 fax