

Crestron **ABAR-1**

Adagio™ Balanced Audio Receiver

Operations Guide



This document was prepared and written by the Technical Documentation department at:



Crestron Electronics, Inc.

15 Volvo Drive

Rockleigh, NJ 07647

1-888-CRESTRON

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Adagio™ Balanced Audio Receiver: ABAR-1

Introduction

Features and Functions

- Converts Category 5 (CAT5) balanced audio to RCA unbalanced audio
- Small compact size
- Powered by included power supply

The Adagio™ Balanced Audio Receiver (ABAR-1) is an active balanced-to-unbalanced audio converter designed to enable the connection of any Crestron Home® Category 5 (CAT5) balanced audio source to a conventional unbalanced stereo line-level input. Connected at the input of an Adagio system or CNX-PAD8A audio distribution processor, the ABAR-1 allows any Crestron Home CAT5 balanced audio source to be installed up to 500 feet from the central equipment location. A single CAT5e type cable* is all that is required between the audio source and the ABAR-1.

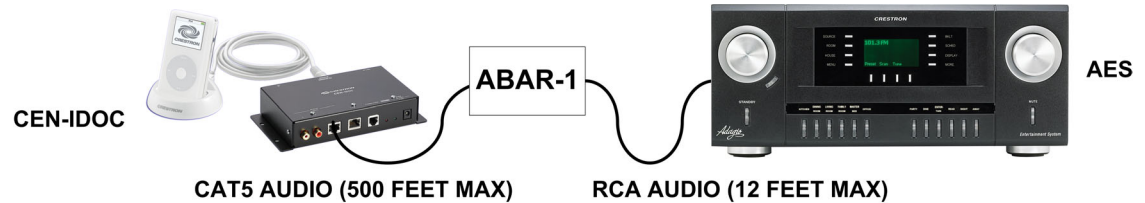
An international version of the ABAR-1, called the ABARI-1 is also available.

* Maximum distance for CAT5 balanced audio is 500 feet using CresCAT®, CresCAT-IM, or quality CAT5e cable.

Applications

The following diagram shows an ABAR-1 in a residential application.

ABAR-1 in a Residential Application



Specifications

Specifications for the ABAR-1 are listed in the following table.

ABAR-1 Specifications

SPECIFICATION	DETAILS
Audio	
Frequency Response	20Hz – 20kHz, ± 0.3 dB
S/N Ratio	95 dB, 20Hz to 20kHz A-weighted
THD+N	0.008%, 20Hz to 20kHz
Power Requirements	
12VDC	6 Watts (0.5 Amps) @ 12 VDC
Power Supply (included)	120 VAC, 60 Hz (ABAR-1) 230 VAC, 50 Hz (ABARI-1)
Environmental	
Temperature	41° to 104°F (5° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Enclosure	Black metal, surface mount box with (2) integral mounting flanges
Dimensions	
Height	0.96 in (2.43 cm)
Width	2.73 in (6.93 cm)
Depth	3.19 in (8.11 cm)
Weight	4.0 oz (114 g)

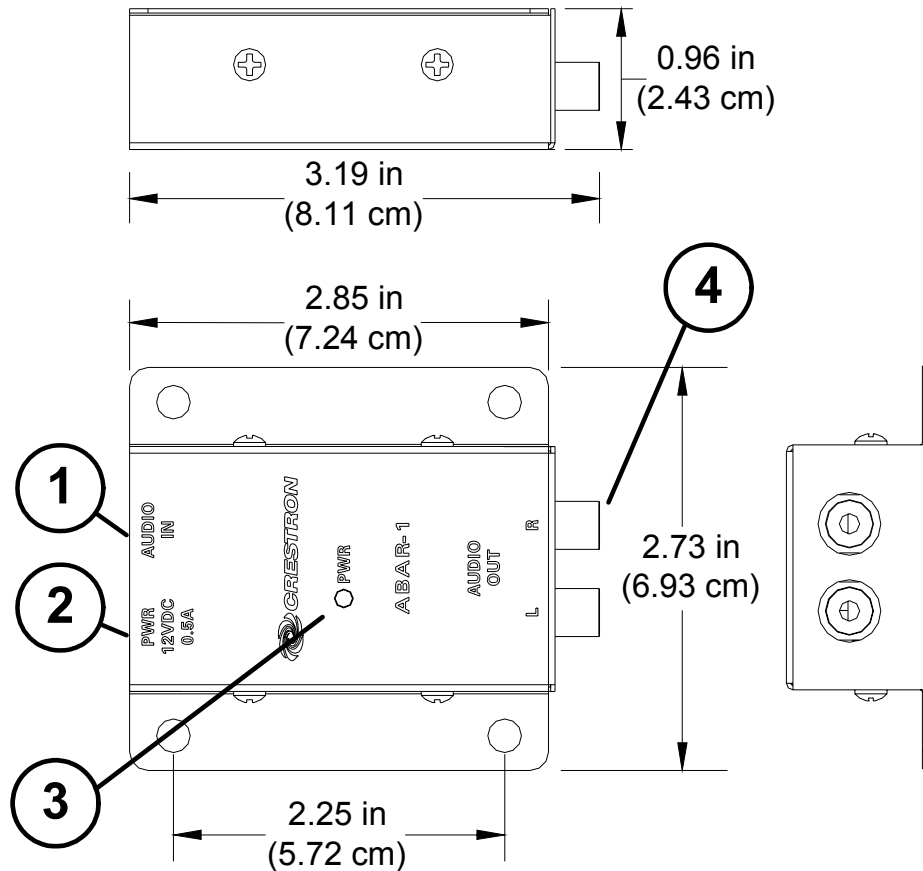
Physical Description

This section provides information on the connections, controls and indicators available on your ABAR-1.

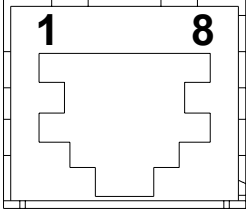
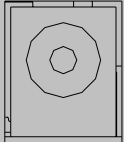
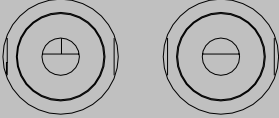
ABAR-1 Physical View



ABAR-1 Overall Dimensions



Connectors, Controls & Indicators

#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION
1	AUDIO IN AUDIO IN 	(1) 8-pin RJ-45 female, shielded; CAT5 balanced audio input port; Maximum Input Level: 4 V _{rms} ; Input Impedance: 20k ohms; Connects to “CH” CAT5 audio output (or bidirectional) port*
2	PWR 12 VDC, 0.5A PWR 12VDC 0.5A 	(1) 2.5mm barrel DC power jack; 12 Volt DC power input PW-1205 power supply included with ABAR-1; PW-1210-RU included with ABARI-1
3	PWR LED	(1) green LED, indicates 12 Volts DC power supplied from power supply
4	OUTPUT (L & R) AUDIO OUT L R 	(2) RCA female; Unbalanced stereo line-level audio output; Maximum Output Level: 2 V _{rms} ; Output Impedance: 22 ohms

* This eight-pin RJ-45 port receives audio output signals from Crestron Home (CH) products such as the CNXRMCLV, CEN-IDOC, and CNX-BIPAD8 (as well as others). This port uses CAT5 wiring. Refer to the following table for connector pinouts.

PIN	WIRE COLORS (568B)	AUDIO I/O
1	WHITE/ORANGE	+ Audio Left In
2	ORANGE	- Audio Left In
3	WHITE/GREEN	+ Audio Right In
4	BLUE	N/A
5	WHITE/BLUE	N/A
6	GREEN	- Audio Right In
7	WHITE/BROWN	N/A
8	BROWN	N/A

Industry Compliance

As of the date of manufacture the ABAR-1 has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



NOTE: 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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
-

Setup

CAT5 Wiring

CAT5 wiring is a twisted pair cable designed for Ethernet networks. These networks operate at speeds of up to 100 Megabits per second (Mbps) using the 100BaseT standard. Crestron takes advantage of this specification for a variety of audio and video applications.

Crestron recommends using CresCAT-IM (or D) wire for transmitting audio signals from the audio source to the ABAR-1.

When using a Creston wiring solution, the CresCAT-IM (or D) wire can carry audio signals up to 500 feet (observe distance limitations based upon power consumption for the device in use).

For more information, refer to the latest version of the Crestron CAT5 Wiring Reference Guide (Doc. 6137), which is available for download from the Crestron website (www.crestron.com/manuals).

Installation

The ABAR-1 can be mounted in a rack or to any surface using the integral mounting flanges. Mounting hardware is not provided.

Hardware Hookup

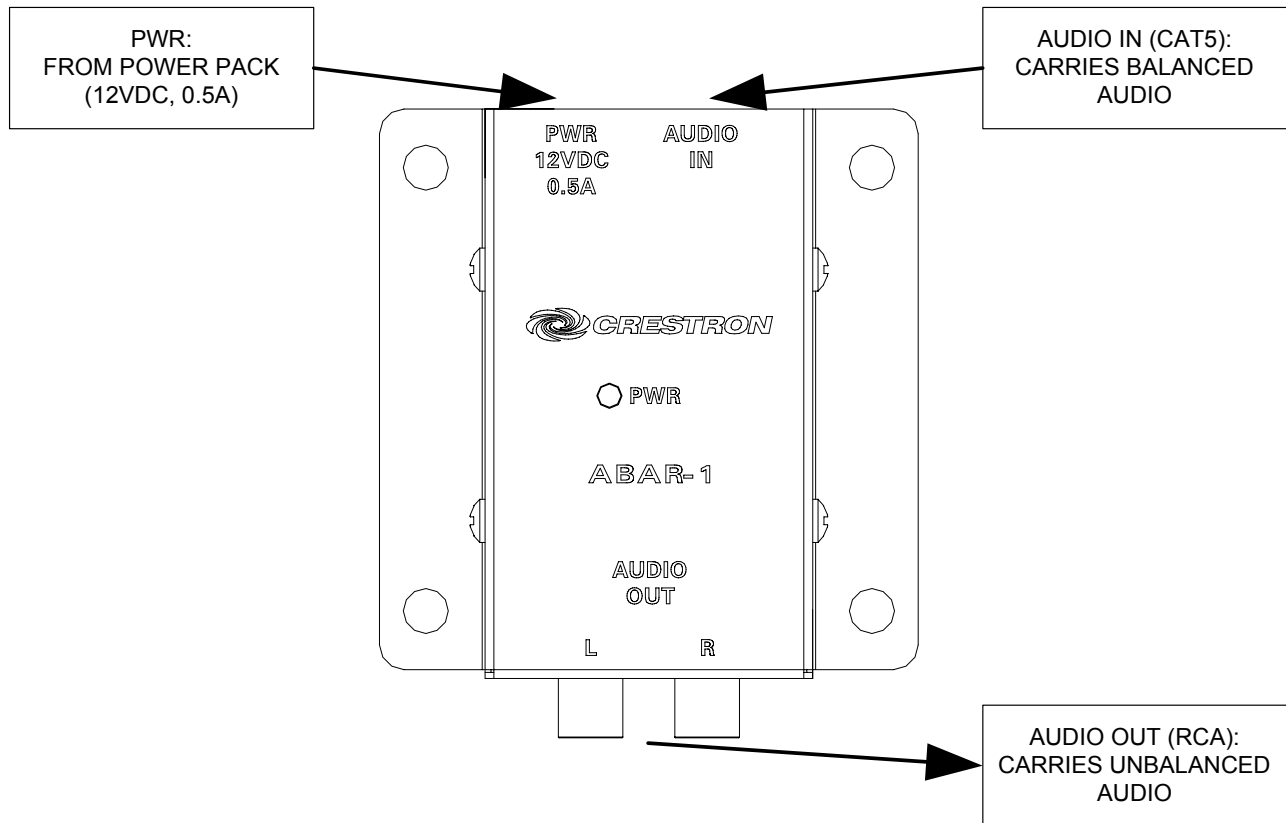
Make the necessary connections as called out in the illustration that follows this paragraph.

The CAT5 connection between the audio source and ABAR-1 only carries audio signals. Additional connections and wiring may be required to support communications for control of the source device. Refer to the product manuals for each component involved for complete requirements.

Apply power after all connections have been made.

When making connections to the ABAR-1, consider the following:

- Use Crestron power supplies for Crestron equipment.
- Maximum CAT5 audio cable length is 500 feet.
- Maximum RCA audio cable length is 12 feet.

Hardware Connections for the ABAR-1

NOTE: For CAT5 wire, use Crestron Certified Wire.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

ABAR-1 Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Device does not function.	Device is not receiving power from a Crestron power source.	Use the provided Crestron power source. Verify connections.
	Device is not wired correctly.	Verify wiring from source to ABAR-1 and from ABAR-1 to amplifier.
	Source or destination device is not operating.	Verify source and destination devices are operating.
LED does not illuminate.	Device is not receiving power from a Crestron power source.	Use the provided Crestron power source. Verify connections.

Use the Right Wire

In order to ensure optimum performance over the full range of your installation topology, Crestron Certified Wire and only Crestron Certified Wire may be used. Failure to do so may incur additional charges if support is required to identify performance deficiencies because of using improper wire.

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling the Crestron corporate headquarters at 1-888-CRESTRON [1-888-273-7876]. For assistance in your local time zone, refer to the Crestron website (<http://www.crestron.com/offices>) for a listing of Crestron worldwide offices.

You can also log onto the online help section of the Crestron website (<http://www.crestron.com/onlinehelp>) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the ABAR-1, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact an authorized CRESTRON dealer. Only authorized CRESTRON dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
2. Products may be returned for credit, exchange or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from CRESTRON, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touchscreen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from CRESTRON or an authorized CRESTRON dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

CRESTRON shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON is not liable for any claim made by a third party or made by the purchaser for a third party.

CRESTRON shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, CRESTRON makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

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Crestron Electronics, Inc.
15 Volvo Drive Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
www.crestron.com

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