

## AVN-Portal Satellite Boxes

AVN-HA1 Headphone Amplifier

AVN-HD1 Headphone Amplifier



Manufacturers of Audio Products for AV,  
Installed Sound, Broadcast Radio & Broadcast TV

**SONIFEX**

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This handbook is for use with the following product:

AVN-HA1 Headphone Amplifier

AVN-HD1 Headphone Amplifier

Stock Code: 30-300

Artwork: AW010922A

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## SONIFEX Register Online for an Extended 2 Year Warranty

Product: \_\_\_\_\_

Serial No: \_\_\_\_\_

### [www.sonifex.co.uk/register](http://www.sonifex.co.uk/register)

#### Product Warranty - 2 Year Extended

As standard, Sonifex products are supplied with a 1 year back to base warranty. In order to register the date of purchase and so that we can keep you informed of any product design improvements or modifications, it is important to complete the warranty registration online. Additionally, if you register the product on the Sonifex website, you can increase your product warranty to 2 years. Go to the Sonifex website at: [www.sonifex.co.uk/register](http://www.sonifex.co.uk/register) to apply for your 2 year warranty.

#### Sonifex Warranty & Liability Terms & Conditions

##### 1. Definitions

'the Company' means Sonifex Ltd and where relevant includes companies within the same group of companies as Sonifex Limited.

'the Goods' means the goods or any part thereof supplied by the Company and where relevant includes: work carried out by the Company on items supplied by the Purchaser; services supplied by the Company; and software supplied by the Company.

'the Purchaser' means the person or organisation who buys or has agreed to buy the Goods.

'the Price' means the Price of the Goods and any other charges incurred by the Company in the supply of the Goods.

'the Warranty Term' is the length of the product warranty which is usually 12 months from the date of despatch; except when the product has been registered at the Sonifex website when the Warranty Term is 24 months from the date of despatch.

'the Contract' means the quotation, these Conditions of Sale and any other document incorporated in a contract between the Company and the Purchaser.

This is the entire Contract between the parties relating to the subject matter hereof and may not be changed or terminated except in writing in accordance with the provisions of this Contract. A reference to the consent, acknowledgement, authority or agreement of the Company means in writing and only by a director of the Company.

##### 2. Warranty

a. The Company agrees to repair or (at its discretion) replace Goods which are found to be defective (fair wear and tear excepted) and which are returned to the Company within the Warranty Term provided that each of the following are satisfied:

- i. notification of any defect is given to the Company immediately upon its becoming apparent to the Purchaser;

- ii. the Goods have only been operated under normal operating conditions and have only been subject to normal use (and in particular the Goods must have been correctly connected and must not have been subject to high voltage or to ionising radiation and must not have been used contrary to the Company's technical recommendations);
- iii. the Goods are returned to the Company's premises at the Purchaser's expense;
- iv. any Goods or parts of Goods replaced shall become the property of the Company;
- v. no work whatsoever (other than normal and proper maintenance) has been carried out to the Goods or any part of the Goods without the Company's prior written consent;
- vi. the defect has not arisen from a design made, furnished or specified by the Purchaser;
- vii. the Goods have been assembled or incorporated into other goods only in accordance with any instructions issued by the Company;
- viii. the defect has not arisen from a design modified by the Purchaser;
- ix. the defect has not arisen from an item manufactured by a person other than the Company. In respect of any item manufactured by a person other than the Company, the Purchaser shall only be entitled to the benefit of any warranty or guarantee provided by such manufacturer to the Company.

b. In respect of computer software supplied by the Company the Company does not warrant that the use of the software will be uninterrupted or error free.

c. The Company accepts liability:

(i) for death or personal injury to the extent that it results from the negligence of the Company, its employees (whilst in the course of their employment) or its agents (in the course of the agency);

(ii) for any breach by the Company of any statutory undertaking as to title, quiet possession and freedom from encumbrance.

d. Subject to conditions (a) and (c) from the time of despatch of the Goods from the Company's premises the Purchaser shall be responsible for any defect in the Goods or loss, damage, nuisance or interference whatsoever consequential economic or otherwise or wastage of material resulting from or caused by or to the Goods. In particular the Company shall not be liable for any loss of profits or other economic losses. The Company accordingly excludes all liability for the same.

e. At the request and expense of the Purchaser the Company will test the Goods to ascertain performance levels and provide a report of the results of that test. The report will be accurate at the time of the test, to the best of the belief and knowledge of the Company, and the Company accepts no liability in respect of its accuracy beyond that set out in Condition (a).

f. Subject to Condition (e) no representation, condition, warranty or other term, express or implied (by statute or otherwise) is given by the Company that the Goods are of any particular quality or standard or will enable the Purchaser to attain any particular performance or result, or will be suitable for any particular purpose or use under specific conditions or will provide any particular capacity, notwithstanding that the requirement for such performance, result or capacity or that such particular purpose or conditions may have been known (or ought to have been known) to the Company, its employees or agents.

- g. (i) To the extent that the Company is held legally liable to the Purchaser for any single breach of contract, tort, representation or other act or default, the Company's liability for the same shall not exceed the price of the Goods.  
(ii) The restriction of liability in Condition (g)(i) shall not apply to any liability accepted by the Seller in Condition (c).
- h. Where the Goods are sold under a consumer transaction (as defined by the Consumer Transactions (Restrictions on Statements) Order 1976) the statutory rights of the Purchaser are not affected by these Conditions of Sale.

#### Unpacking Your Product

Each product is shipped in protective packaging and should be inspected for damage before use. If there is any transit damage take pictures of the product packaging and notify the carrier immediately with all the relevant details of the shipment. Packing materials should be kept for inspection and also for if the product needs to be returned.

The product is shipped with the following equipment so please check to ensure that you have all of the items below. If anything is missing, please contact the supplier of your equipment immediately.

Item	Quantity
Product unit	1
A3 Folded Handbook	1

#### Repairs & Returns

Please contact Sonifex or your supplier if you have any problems with your Sonifex product. Email [technical.support@sonifex.co.uk](mailto:technical.support@sonifex.co.uk) for the repair/upgrade/returns procedure, or for support & questions regarding the product operation.

#### CE Conformity


The products in this manual comply with the essential requirements of the relevant European health, safety and environmental protection legislation.

The technical justification file for this product is available at Sonifex Ltd.

The declaration of conformity can be found at:

<https://www.sonifex.co.uk/declarations>

#### WEEE Directive

 The Waste Electrical and Electronic Equipment (WEEE) Directive was agreed on 13 February 2003, along with the related Directive 2002/95/EC on Restrictions of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS). The Waste Electrical and Electronic Equipment Directive (WEEE) aims to minimise the impacts of electrical and electronic equipment on the environment during their life times and when they become waste. All products manufactured by Sonifex Ltd have the WEEE directive label placed on the case. Sonifex Ltd will be happy to give you information about local organisations that can reprocess the product when it reaches its "end of use", or alternatively all products that have reached "end of use" can be returned to Sonifex and will be reprocessed correctly free of charge.

#### Atmosphere/Environment

This apparatus should be installed in an area that is not subject to excessive temperature variation (<0°C, >50°C), moisture, dust or vibration.

This apparatus shall not be exposed to dripping or splashing, and no objects filled with water, such as vases shall be placed on the apparatus.

# Sonifex AVN-Portal Satellite Boxes

## 1. Introduction

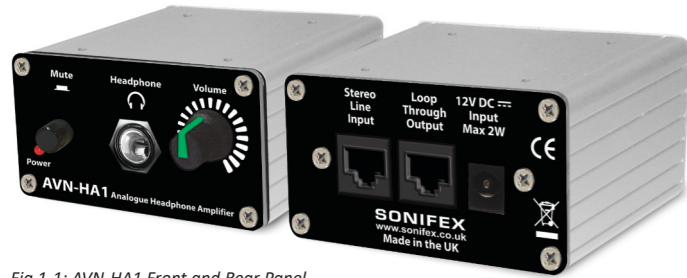


Fig 1-1: AVN-HA1 Front and Rear Panel

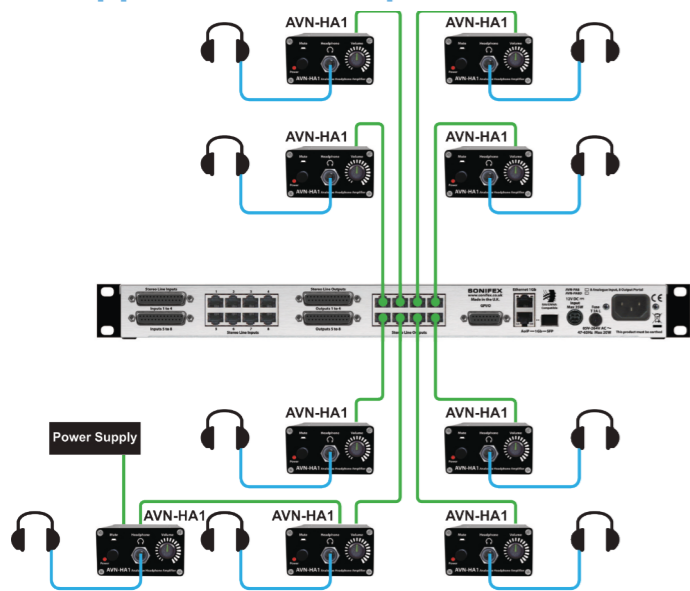


Fig 1-2: AVN-HD1 Front and Rear Panel

The AVN-HA1 and AVN-HD1 are headphone amplifiers which can be combined with AVN-Portal units to provide a headphone distribution system. The units can be powered via their connection to an AVN-Portal or alternatively via a DC power connector located on the rear panel of the unit. On the front panel a 6.35 mm (1/4") headphone socket is available along with a volume control knob. A 'Mute' button is also provided that controls a GPO which can trigger an AVN-Portal to perform functions such as muting an input stream or an output stream. A power status indicator LED is located on the front panel of the device. This will illuminate red when power is available. On both units, a loop through audio output is available. This allows the headphone amplifiers to be daisy chained, or to be quickly and easily inserted in-line between two other pieces of equipment, allowing monitoring of the audio feed.

The AVN-HA1 is compatible with the AVN-PA8/D and the AVN-PM8/D Portals. The AVN-HD1 is compatible with the AVN-PD8/D Portal.

## 2. Application Example



N.B.  
An equivalent system can be created using AVN-HD1s with an AVN-PD8/D portal. It is recommended to daisy chain a connection a maximum of once. A maximum cable length of 20m should be used.

Fig 2-1: AVN-HA1 Use Case Diagram Example

## 3. Front Panel



Fig 3-1: AVN-HA1 Front Panel



Fig 3-2: AVN-HD1 Front Panel

### Power Status LED

The power status LED illuminates red when a power source is available. Power can be supplied via the input ethernet connection located on the rear panel of the unit by connecting the unit to an AVN-Portal or by the 12V DC (Max 2W) connection on the rear panel of the unit.

### Mute/GPO Button

The mute/GPO button is a push switch that controls a general-purpose output which is connected to an AVN-Portal via the portal RJ45 connection on the rear panel of the unit. The mute/GPO button can be set as a momentary or latching switch by inserting/removing an internal pin (set as momentary by default. Contact Sonifex for more information). The action can then be set up via the AVN-Portals web server in order to provide functionality such as muting/unmuting I/O, controlling LEDs, and controlling relays. See the relevant AVN Portal handbook for more information.

### Headphone Socket

The 6.35 mm (1/4") headphone socket can be used to connect headphones to the unit. The high-quality output can be used to drive 150 mW of power into headphones with an impedance from 32Ω to 600Ω. The headphone socket has the following pinout;

Tip: Headphone Left  
Ring: Headphone Right  
Sleeve: Ground

### Volume Control Knob

The volume control knob can be used to control the level of audio supplied to the user headphones from -60dB to +6dB.

## 4. Rear Panel

### AVN-HA1



Fig 4-1: AVN-HA1 Back Panel

### Stereo Line Input

The stereo line input provides connections for stereo analogue audio, power, and the general-purpose output. It is an RJ45 port with the following pinout;

Pin 1: Input Left + (Phase)  
Pin 2: Input Left - (Non-phase)  
Pin 3: Input Right + (Phase)  
Pin 4: Ground  
Pin 5: Cough/Mute (Active low)  
Pin 6: Input Right - (Non-phase)  
Pin 7: No connection  
Pin 8: +12V

### Loop Through Output

The loop through output is used to pass on the stereo audio being routed to the unit. It is an RJ45 type port with the following pinout;

Pin 1: Output Left + (Phase)  
Pin 2: Output Left - (Non-phase)  
Pin 3: Output Right + (Phase)  
Pin 4: Ground  
Pin 5: No connection  
Pin 6: Output Right - (Non-phase)  
Pin 7: No connection  
Pin 8: No connection

The audio connections are compatible with any other analogue products using the StudioHub+™ pinout.

### 12V DC Input Max 2W

It can either be used as a second power supply (for redundancy) or used to power the AVN-HA1 if not being used in conjunction with an AVN-PA8 IO.

### AVN-HD1



Fig 4-2: AVN-HD1 Back Panel

### Stereo Digital Input

The stereo digital input provides connections for stereo digital audio, power, and the general-purpose output. It is an RJ45 port with the following pinout;

Pin 1: Input AES + (Phase)  
Pin 2: Input AES - (Non-phase)  
Pin 3: No connection  
Pin 4: Ground  
Pin 5: Cough/Mute (Active low)  
Pin 6: No connection  
Pin 7: No connection  
Pin 8: +12V

### Stereo Digital Output

The stereo digital output is used to pass on the stereo audio being routed to the unit. It is an RJ45 port with the following pinout;

Pin 1: Output AES + (Phase)  
Pin 2: Output - (Non-phase)  
Pin 3: No connection  
Pin 4: Ground  
Pin 5: No connection  
Pin 6: No connection  
Pin 7: No connection  
Pin 8: No connection

The audio connections are compatible with any other digital products using the StudioHub+™ pinout.

### 12V DC Input Max 2W

The 12V DC Input (Max 2W) connection is located on the rear panel of the unit. It can either be used as a second power supply (for redundancy) or used to power the AVN-HD1 if not being used in conjunction with an AVN-PD8 IO.

## 5. Technical Specification

Parameter	AVN-HA1 Specification	AVN-HD1 Specification
Output Impedance:	Drives 150mW into 32Ω to 600Ω headphones.	
Max Input Level:	+24dBu	N/A
D to A Line-up:	N/A	-6dBFS = +18dBu
Max Output Level:	+18dBu	
Frequency Response:	20Hz to 20kHz, +0/-0.2dB	
THD+N:	<-90dBu, -12dBu, 20Hz to 20kHz, unity gain, 20kHz BW	<-90dBu, -30dBFS, 20Hz to 20kHz, unity gain, 20kHz BW
Noise:	-92dBu, A weighted	
Crosstalk:	-90dB, 1kHz, +4dBu	-90dB, 1kHz, +14dBFS
Common Mode:	-40dB, 1kHz	N/A
Cable:	Cat5/Cat5e/Cat6, Maximum length of 20m between Portal and AVN-HA1/AVN-HD1 if no external PSU is used	

Equipment Type	
AVN-HA1:	Analogue Headphone Amp for AVN-PA8/D & AVN-PM8/D Portals
AVN-HD1:	Digital Headphone Amp for AVN-PD8/D Portal

Physical Specification for AVN-HA1 & AVN-HD1	
Dimensions: (Raw)	7.7cm (W) x 8.3cm (D) x 4.2cm (H) 3.0" (W) x 3.3" (D) x 1.7" (H)
Dimensions (Boxed):	12.7cm (W) x 22.9cm (D) x 7.6cm (H) 5" (W) x 9" (D) x 3" (H)
Weight:	Nett: 0.22kg Gross: 0.33kg Nett: 0.49lbs Gross: 0.73lbs

Accessories	
CM-MNTI	Desk Mount Panel