



# AudioConnect 4x4™ User Manual

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PN: 8091 Rev 113017  
AUDIOCONNECT 4X4 USER MANUAL  
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Rev 113017

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# Limited Warranty

LISTEN, Inc., a Massachusetts Corporation, having its principal place of business at 580 Harrison Ave, Suite 3W, Boston, MA 02118 ("Manufacturer") warrants its **AudioConnect 4x4** products (the "Products") as follows:

## 1. Limited Warranty.

Manufacturer warrants that the Products sold hereunder will be free from defects in material and workmanship for a period of one (1) year from the date of purchase. If the Products do not conform to this Limited Warranty during the warranty period (as herein above specified), Buyer shall notify Manufacturer in writing of the claimed defects and demonstrate to Manufacturer satisfaction that said defects are covered by this Limited Warranty. If the defects are properly reported to Manufacturer within the warranty period, and the defects are of such type and nature as to be covered by this warranty, Manufacturer shall, at its own expense, furnish, replacement Products or, at Manufacturer's option, replacement parts for the defective Products. Shipping of the replacement Products or replacement parts shall be at Buyer's expense.

## 2. Other Limits.

THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Manufacturer does not warrant against damages or defects arising out of improper or abnormal use of handling of the Products; against defects or damages arising from improper installation (where installation is by persons other than Manufacturer), against defects in products or components not manufactured by Manufacturer, or against damages resulting from such non-Manufacturer made products or components. Manufacturer passes on to Buyer the warranty it received (if any) from the maker thereof of such non-Manufacturer made products or components. This warranty also does not apply to Products upon which repairs have been effected or attempted by persons other than pursuant to written authorization by Manufacturer.

## 3. Exclusive Obligation.

THIS WARRANTY IS EXCLUSIVE. The sole and exclusive obligation of Manufacturer shall be to repair or replace the defective Products in the manner and for the period provided above. Manufacturer shall not have any other obligation with respect to the Products or any part thereof, whether based on contract, tort, strict liability or otherwise. Under no circumstances, whether based on this Limited Warranty or otherwise, shall Manufacturer be liable for incidental, special, or consequential damages.

## 4. Other Statements.

Manufacturer's employees or representatives' ORAL OR OTHER WRITTEN STATEMENTS DO NOT CONSTITUTE WARRANTIES, shall not be relied upon by Buyer, and are not a part of the contract for sale or this limited warranty.

## 5. Entire Obligation.

This Limited Warranty states the entire obligation of Manufacturer with respect to the Products. If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

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# Introduction

AudioConnect 4x4™ is a high precision audio interface offering 4 channels of analog input and output as well as 4 channels of digital I/O. This audio interface offers a high signal to noise ratio and a wide frequency response, making it suitable for the most demanding measurement applications. It supports sample rates up to 192 kHz.

It is specifically designed for simple operation and error-free use in audio and electroacoustic test and measurement. It is supplied fully calibrated, and offers only digital and analog audio in and out channels, USB control, and a power indicator - all other typical audio interface controls not required for audio test applications are eliminated. The 24-bit AES3 digital I/O allows all 4 digital in/out channels to be transmitted via a DB25 balanced cable set.

It is ruggedly constructed for use in production environments and is rack-mountable. Firmware updates may be loaded via a computer and USB connection, ensuring future compatibility with new operating systems.



## Features

- 4 channels of Analog-to-Digital and Digital-to-Analog conversion (on DB25 connectors)
- 4 channels of AES/EBU digital I/O on a DB25 connector
- Allows 44.1, 48, 88.2, 96, 176.4 and 192 kHz sample rates
- Rugged rack-mountable construction
- Firmware update via USB connection to computer
- 2 analog DB25 cable sets included

## Nomenclature used in this manual

The following typographic conventions are used in this manual:

- Text in quotation marks indicates a parameter selection value or menu option (i.e. "EXT").
- Phrases, such as: Start > Programs > Listen, Inc. use the greater than symbol (">") to indicate multiple menu options or mouse selections within a software control context.

## In the Box

The following items are included in your AudioConnect 4x4 carton:

- AC Power Cord
- USB Cable
- AudioConnect 4x4 Driver Disk (Drivers can also be found at [www.listeninc.com](http://www.listeninc.com))
- AudioConnect 4x4 User's Manual
- 2) 4 channel, 1/4" TRS to dB25 audio cables

If any items are missing or damaged, please contact Listen, Inc.: [sales@listeninc.com](mailto:sales@listeninc.com).

## Power and Safety Information

To prevent fire or shock hazard, do not expose this equipment to rain or moisture. Do not block any of the ventilation openings. Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. Protect the power cord from being walked on or pinched, particularly at the plugs, convenience receptacles, and the point where they connect to the AudioConnect 4x4. Unplug this device during lightning storms or when unused for long periods of time.

Please note that the AudioConnect 4x4 comes factory-configured for a specific voltage range, and cannot be changed in the field. The acceptable voltage range of the AudioConnect 4x4 is printed on the label affixed to the top cover of the AudioConnect 4x4 just above the AC power inlet. Failure to connect the AudioConnect 4x4 to an AC power source that conforms to the requirements printed on the label may damage the AudioConnect 4x4 and require it to be returned to the factory for non-warranty repair.



# Installation

## Input/Output

The AudioConnect 4x4's analog I/O can be used with balanced or unbalanced line level devices operating at a nominal trim level of +4 dBu. The analog outputs are capable of delivering +20 dBu signal levels. It is important to verify that connected equipment is capable of handling these signal levels to prevent clipping or possible damage.

The AudioConnect 4x4 supports AES/EBU for the digital inputs and outputs, and can be used with any AES/EBU device that supports standard sample rates between 44.1 kHz and 192 kHz.

Please refer to [Cable Connections on page 10](#) for more information about available cable sets.

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**Note:** *Before installing the drivers, make sure AudioConnect 4x4 is connected to your computer via USB.*

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## Rack-Mounting

The AudioConnect 4x4 can be mounted in standard 19" equipment racks. Please note that high performance, high resolution AD and DA converters generate substantial heat. For optimal performance and product longevity, it is necessary to leave an empty rack space above and below the AudioConnect 4x4.

## Windows Driver Installation

Refer to our **Hardware Compatibility List** for installation and operation issues related to operating systems and computer components. Available at [www.listeninc.com](http://www.listeninc.com).

1. AudioConnect 4x4 must be connected to the system via USB, plugged in and powered on.
2. Insert the Installation CD into your computer's disk drive. Locate the AudioConnect Driver folder on the CD. Double-click the **AudioConnect 4x4 Driver Setup v###.exe** file
3. Follow the prompts, accepting the default location for the driver files.
4. You may receive a warning that the driver has not been digitally signed by Microsoft. It is safe to disregard this warning and select "**Continue Anyway**."
5. Click Finish to close the driver installation. Open SoundCheck and proceed to [Hardware Setup in SoundCheck on page 4](#).



## Mac Installation

AudioConnect 4x4 uses the native Core Audio drivers. The setup file, available on the SoundCheck Install DVD and on the Listen website, contains general setup instructions along with the default HAR file for Core Audio use.

Proceed to [SoundCheck Hardware Editor - Mac OS on page 7](#).

# Hardware Setup in SoundCheck

## SoundCheck Hardware Editor

- **Automatic Startup Configuration** - Allows SoundCheck to automatically detect the presence of AudioConnect 4x4 and load the default interface settings for the four analog input and output channels. Please refer **Automatic Startup Configuration** in the SoundCheck Manual. (Auto Mode is not supported in Mac OS prior to SoundCheck 16)
  - When changing the sample rate the Latency value must be updated. See [Latency Changes on page 6](#).
  - Auto Mode does not update Digital Hardware Channels for AudioConnect 4x4. Those should be entered manually.
- **Channel Name** - Default naming is Input 1 to 4, Output 1 to 4 as shown in [Figure 2-1](#)
- **Driver** - ASIO
- **Device Name** - ASIO AudioConnect 4x4
- **Select Ch** - Analog 1-4 or Digital 1-4 (Digital Channels routed to the back panel AES I/O channels)
- **Latency:**

The default buffer size of the AudioConnect 4x4 driver at 44.1 kHz and corresponding Hardware Editor Latency is shown in [Figure 2-5](#). Use this chart as a guide when changing to other sample rates. Changing USB Streaming and ASIO buffer values will require changes to latency. You can verify that the latency is correct by following the steps in [Latency Changes on page 6](#).

A default AudioConnect 4x4 hardware file is included with the SoundCheck installation. This file can be imported into your Hardware Editor. Select Import in the Hardware Editor and navigate to: **C:\SoundCheck x.x\Steps\Hardware\Windows 7 (or 10)** and select AudioConnect 4x4.Har.

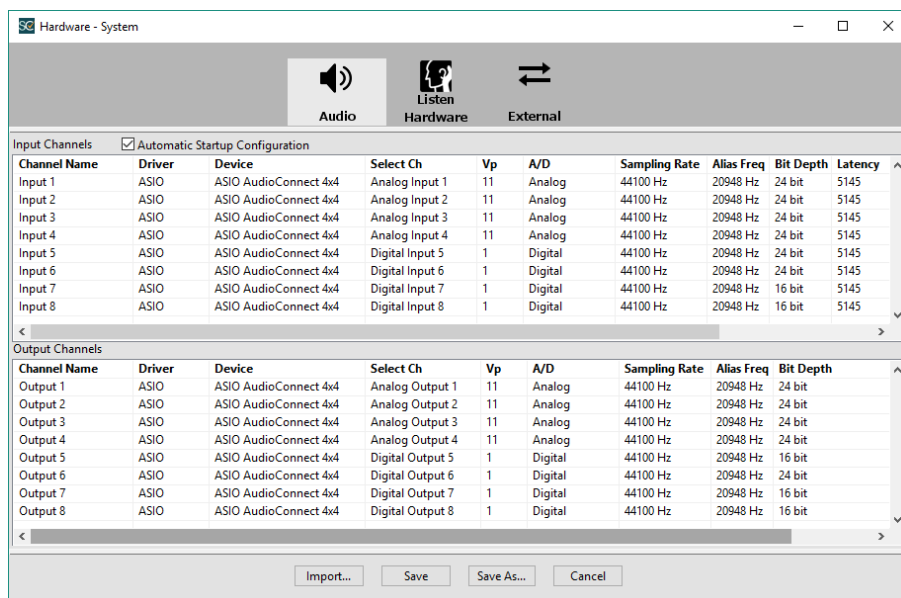


Figure 2-1: Windows Hardware Editor

The Hardware Editor in [Figure 2-1](#) shows the general settings for the Input and Output Vp values. ASIO buffer and USB Streaming mode are set in the ASIO Control Panel which is launched by Right Clicking on a channel name and selecting **ASIO Control Panel**.

## ASIO Control Panel

(does not apply to Core Audio)

### Buffer Settings

The default settings are:

- **USB Streaming Mode** - Safe
- **ASIO Buffer Size** - 2048 samples

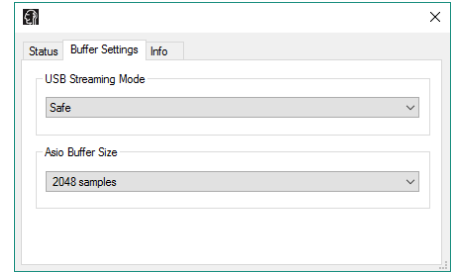


Figure 2-2: ASIO Control Panel

The default ASIO buffer allows 4 simultaneous channels of acquisition in SoundCheck at sample rates up to 192 kHz. The number of channels can be dependent on computer performance. Low performance computers may not support high sample rate, multichannel acquisition. Please refer to the Hardware Compatibility List in the SoundCheck manual or on our website for more information on computer selection issues.

### Status

- Confirms the connected device and serial number
- Shows the Current Sample Rate

The sample rate of AudioConnect 4x4 will automatically update to the rate set in the SoundCheck Hardware Editor (see [Figure 2-1](#)).

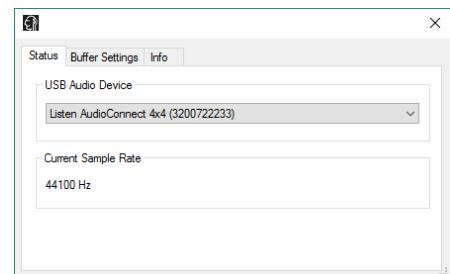


Figure 2-3: ASIO Status

### Info

#### Device Info

- Manufacturer
- Product Name
- VID/PID
- \*Revision: Firmware rev number
- \*Serial No

#### Driver Info

- \*Version Number
- \*Release Build Number

\* indicates required when requesting service

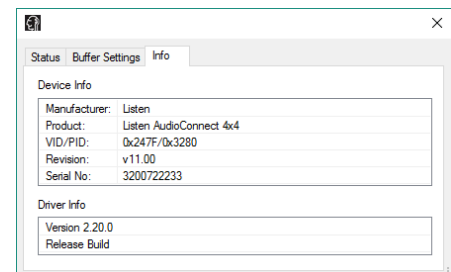


Figure 2-4: ASIO Info

## Latency Changes

When you change the **ASIO Buffer Size** or **USB Streaming Mode** of an audio interface, or the Sampling Rate of the SoundCheck Hardware Editor you will need to change the **Latency Value** in the **Hardware Editor**.

1. Change the ASIO Buffer/USB Streaming mode for the Audio Interface and/or change the Sample Rate in the SoundCheck Hardware Editor.
2. Set the Hardware Latency to 0 (zero) and run the Self Test sequence from the Calibration folder in SoundCheck. This will give you the Latency for the new Buffer size or Sample Rate.
3. Enter this value in the Latency fields of the Hardware Editor. All channels, analog or digital, must have the same latency value for that audio interface, if they are used simultaneously in a sequence.
4. You can click Save As in the Hardware Editor to save different hardware configurations so that they can easily be recalled.

## Hardware Editor Sample Rate Reference Chart for Windows

Note that the Hardware Editor must be updated when changing any of the buffer settings or sample rate as noted above. You can use the chart in [Figure 2-5](#) to create new Hardware Editor settings for the sample rates you typically use.

Latency in Samples for Typical Sample Rate and Buffer Values				
USB Connection	44.1 kHz	48 kHz	96 kHz	192 kHz
ASIO/USB Buffer	2048 / Safe	2048 / Safe	2048 / Safe	2048 / Safe
Samples	5145	5212	6160	8084

Enter the **Samples** value in the Hardware Editor Latency field for the selected Sample Rate.

**Figure 2-5: Latency in Samples**

You can use the procedure in [Latency Changes on page 6](#) to verify the Latency settings after making changes to the Hardware Editor.

(Some computers may require that you lower the ASIO buffer size due to performance issues.)

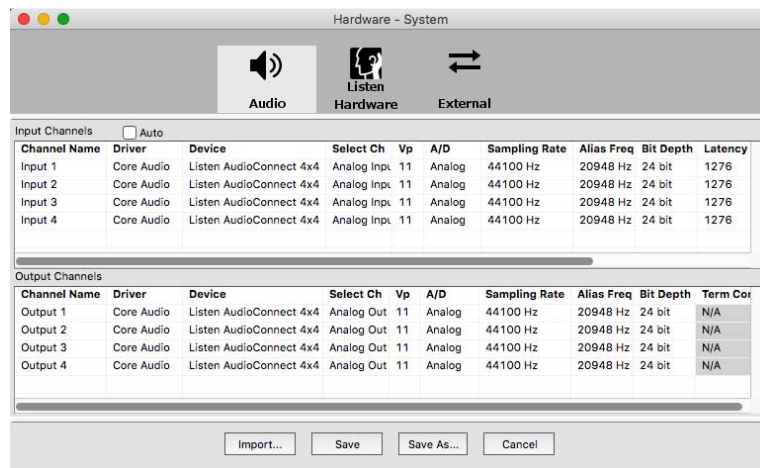
## SoundCheck Hardware Editor - Mac OS

The default AudioConnect 4x4 Core Audio.Har file is included with the SoundCheck installation. This file can be imported into your Hardware Editor.

[Figure 2-6](#) shows the default hardware values for use with a Mac.

- **Mac Driver** - Core Audio
- **Device Name** - Listen AudioConnect 4x4
- **Select Ch** - Analog 1-4 or Digital 1-4  
Digital Channels are routed to the AES I/O channels 1-4 (See back panel)
- **Latency** - 1276

This depends on the sample rate selected, 44.1 kHz. See [Latency Changes on page 6](#).



**Figure 2-6: Mac Hardware Editor**

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# Operation

## Front Panel



## POWER

- Green LED indicator shows when power is on
- To completely power down the AudioConnect 4x4, it must be unplugged from the AC power source

## Back Panel Connections

AudioConnect 4x4 has been designed for maximum flexibility to integrate smoothly into today's engineering environment. Following is a guide to the physical connectors on the AudioConnect 4x4 back panel.



Figure 3-1: Back Panel

### ANALOG IN (1-4)

25-pin D-Sub connector provides access to Analog Inputs 1-4.

Please refer to [Cable Connections on page 10](#) for more information about compatible cable sets.

### ANALOG OUT (1-4)

25-pin D-Sub connector provides access to Analog Outputs 1-4

### AES I/O 1-4 (PORT A)

25-pin D-Sub connector provides access to AES/EBU Digital Inputs and Outputs 1-4. Please refer to [Cable Connections on page 10](#) for more information about compatible cable sets.

### LSLOT USB EXPANSION PORT

Port for installation of LSlot USB card which is used to connect AudioConnect 4x4 to the SoundCheck computer USB port.

### WORD CLOCK IN and WORD CLOCK OUT BNC connectors

WORD CLOCK OUT - Allows external devices to synchronize to the AudioConnect 4x4 sample clock generator. AudioConnect 4x4 will pass clock out this port. It is set as clock master.

WORD CLOCK IN - Not used. AudioConnect 4x4 is always set as Master.

## AC POWER INLET

For connection of AC power to the AudioConnect 4x4. Please note that the AudioConnect 4x4 comes factory-configured for a specific voltage range, and cannot be changed in the field. Available voltages are: 115, 230 and 100 VAC. The acceptable voltage range of the AudioConnect 4x4 is printed on the label affixed to the top cover of the AudioConnect 4x4 just above the AC power inlet. Failure to connect the AudioConnect 4x4 to an AC power source that conforms to the requirements printed on the label may damage the AudioConnect 4x4 and require it to be returned to the factory for non-warranty repair.

## Cable Connections

Compatible cables for the AudioConnect 4x4 analog and digital I/O ports are available directly through Listen, Inc. The 25-pin D-Sub connectors on AudioConnect 4x4 conform to industry-standard pin configurations, so that off-the shelf cable solutions are available from third party suppliers should custom lengths or connector types be required.

Cable PN	AC 4x4 Port	Connectors	Connectors	Length	Use
501-4051-01-01	Analog I/O	DB25	1/4" TRS Male X 4	9.9' (3M)	4-Channels Balanced Analog In/Out
CBL-DIGY85	Digital I/O	DB25	XLR Male X 4, XLR Female X 4	16.4' (5M)	8-Channels AES/EBU In/Out (only channels 1 thru 4 available)



## Connector Pin Outs

### Analog

For third-party cable solutions, Analog cables should conform to the Tascam DA-88 Analog I/O pinout:

Signal	Analog Channels				
	1	2	3	4	
Pin	Hot	24	10	21	7
	Cold	12	23	9	20
	GND	25	11	22	8

Unused Pins: 1 thru 6 and 13 thru 19

### Digital

For third-party cable solutions, Digital cables should adhere to the Yamaha MY8AE96 YGDAI Digital I/O pinout:

Signal	Digital Input Channels		Digital Output Channels		
	1-2	3-4	1-2	3-4	
Pin	Hot	1	2	5	6
	Cold	14	15	18	19

GND: 10, 12, 13, 22, 23, 24, 25 (Any of these can be used as ground.)

Unused Pins: 3, 4, 7 to 9, 11, 16, 17, 20 to 22

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**Note:** Only Digital channels 1 - 4 are available.

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## Clock Settings and Connections

In any system with more than one digital device, there can be only one master clock providing synchronization to all connected devices. AudioConnect 4x4 is set to be clock master, thereby slaving all other devices to the AudioConnect 4x4. It is important that only a single device act as clock master, to prevent the occurrence of audible digital errors.

Only one clock source can be used at a time for both the analog and digital I/O.

### AudioConnect 4x4 as Clock Master

This allows AudioConnect 4x4 to generate a sample clock from its internal low-jitter crystal oscillator. In this state, the analog-to-digital and digital-to-analog converters in the AudioConnect 4x4 will derive clock from the internal clock generator, as will any external devices connected to the AudioConnect 4x4's digital outputs or word clock output.

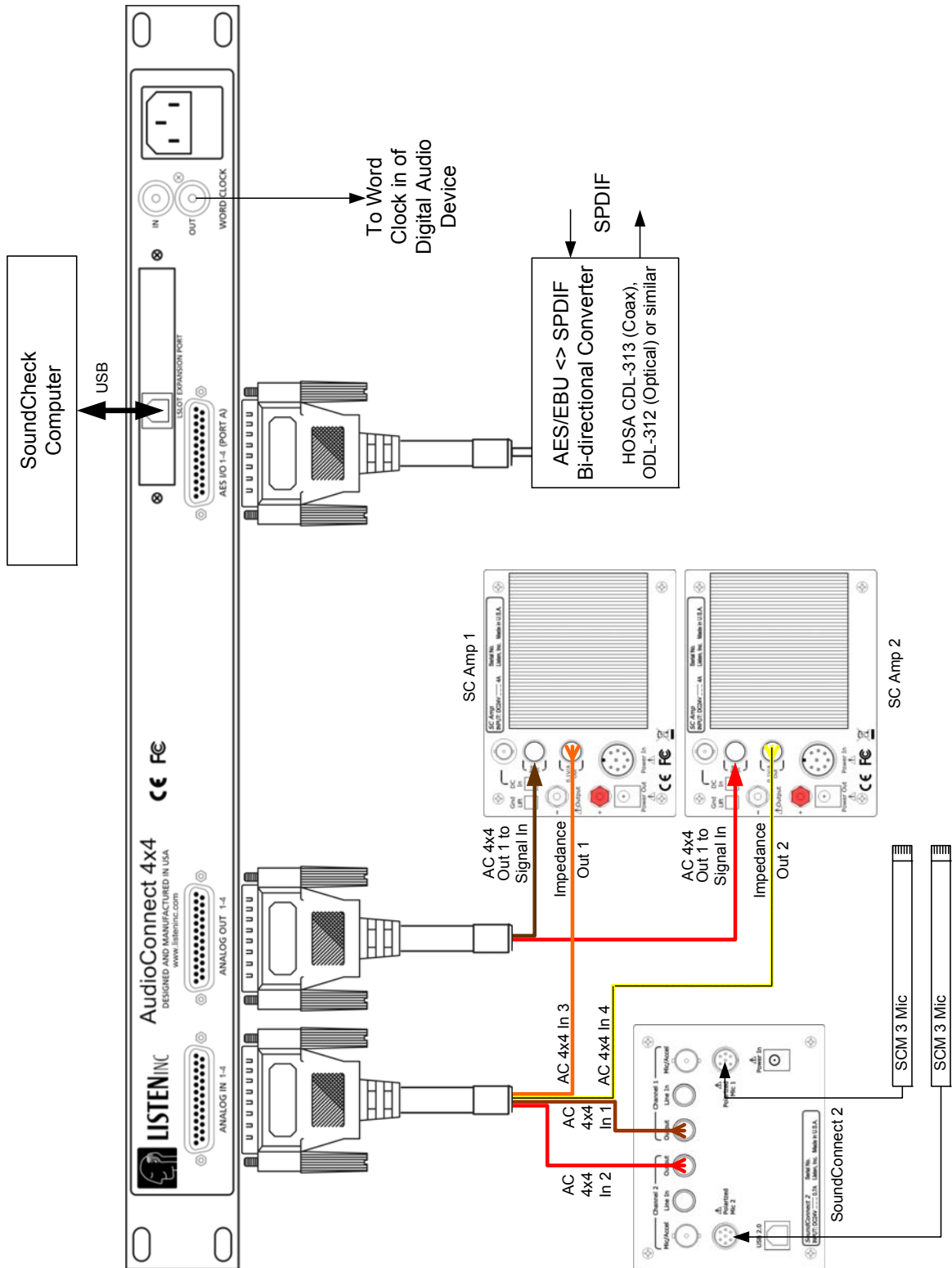
When using the internal clock it is necessary to choose the appropriate sample rate. AudioConnect 4x4 supports sample rates of 44.1, 48, 88.2, 96, 176.4 and 192 kHz.

External devices can slave to the AudioConnect 4x4 clock via the DIGITAL outputs or WORD CLOCK output.

The WORD CLOCK out provides a 75-ohm TTL level signal at a frequency that tracks the sample clock rate of the AudioConnect 4x4. Connect this output to the word clock input of an external device using a 75-ohm cable with BNC connectors. Consult the documentation for the slave device to determine how to set it to receive sample clock from its digital input or word clock input.

# Connection Diagram

The figure below shows only one of the many possible configurations using AudioConnect 4x4.



## Balanced vs Single Ended Connections

AudioConnect 4x4 accepts both Balanced and Single Ended (Unbalanced) connections when using the supplied 1/4" TRS male phone connectors.

When AudioConnect 4x4 is connected to a single ended connection it automatically compensates for the 6 dB difference in signal level as long as the Ring (-) is connected to the Shield as shown in [Figure 4-1](#). There is no need to change the Hardware Editor Vp values.

Some instances may arise that require a single ended connection using a BNC or RCA connector or adapter. The following diagrams show the preferred wiring methods using these connectors.

- BNC and RCA connections are typically considered single ended

### Example 1

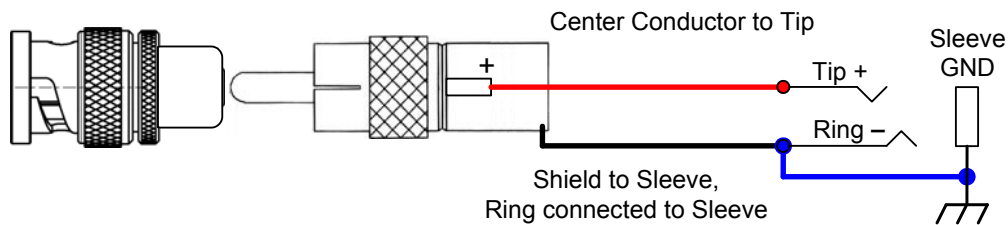


Figure 4-1: Example 1

When the **Ring** is connected to the **Sleeve**, as shown in [Figure 4-1](#), AudioConnect 4x4 detects the change and compensates for the signal level difference.

### Example 2

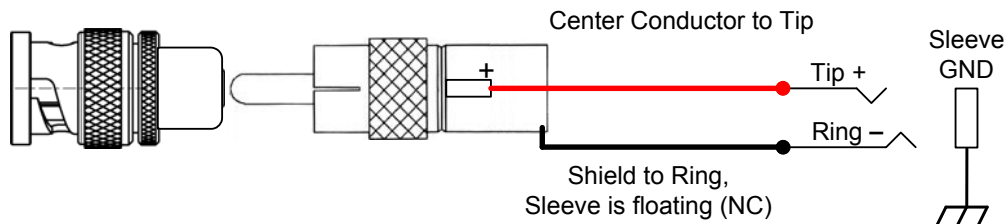


Figure 4-2: Example 2

[Figure 4-2](#) shows the **Tip and Ring** of the AudioConnect 4x4 wired to the **Tip and Shield** of the RCA/BNC connector. With this wiring method there is no loss in signal level.

This wiring method should be used when connecting DC Connect (Control In and/or Monitor Out) to AudioConnect 4x4.

Following these wiring guidelines will yield proper signal level and help reduce ground loop noise.

# Troubleshooting

## Unit will not turn on:

Check the following:

- Is the AC Power Cord securely connected to the AC port on the AudioConnect 4x4, and is it securely connected to a valid, grounded AC Outlet?
- Check the label by the AC adapter on the back of the AudioConnect 4x4 to insure that you are using the correct version for your electrical system. The AudioConnect 4x4 is available in 100 VAC, 115 VAC and 230 VAC configurations.

## Clicking, popping or crackling noises in your audio:

Check clock master settings. In any digital audio configuration, there can be one, and only one master clock, or else you will likely experience audible clock errors. All other digital audio devices must be configured as slaves to the designated master clock. AudioConnect 4x4 should be used as the master clock in your digital audio system.

## Audio plays back at a faster or slower rate than expected:

This is usually the result of mismatched clock rates and/or multiple clock masters. For example, if you are playing back audio recorded at 44.1 kHz, but you have set the clock for 48 kHz, the audio will play back faster and at a higher pitch than expected. Make certain you have set only one device as clock master, and that the selected sample rate matches the audio source.

## No audio to analog outputs:

Check the following elements.

- Insure that the Cable connected to the appropriate analog output port is the cable supplied by Listen, Inc. or adheres to the Tascam DA-88 Analog I/O pin configuration.
- Verify that your monitoring equipment is turned on and the levels are turned up to a safe listening level.

## No audio to digital outputs:

Check the following elements.

- Insure that the Cable connected to the appropriate digital I/O port is the cable supplied by Listen, Inc. or adheres to the Yamaha MY8AE96 YGDAI Digital I/O pin-out configuration.
- Verify that your digital signal destination is configured to receive signals from its AES/EBU input, and that the levels are turned up to a safe listening level.

## **Support**

We are devoted to making your experience with the AudioConnect 4x4 trouble-free and productive. If the troubleshooting and operational sections of this manual did not help resolve your questions, several support options are available to you:

### **Listen, Inc. Website Support Resources**

Logging on to <http://www.Listeninc.com/> will provide several options for resolving your support issues:

### **Driver and Firmware Downloads**

A library of current firmware and driver files are available for download and installation from our website:

[www.listeninc.com](http://www.listeninc.com)

Check back regularly to insure that your AudioConnect 4x4 is up-to-date.

### **Telephone Support**

Telephone support is available by calling +1 617-556-4104 from 9AM to 5PM EST, Monday through Friday, excluding United States Holidays.

### **Return Policy**

If you have a unit that you suspect is defective or is malfunctioning contact Listen, Inc. technical support via one of the means described above for diagnosis. If the technician determines that the unit is faulty, they will issue an RMA number so you can send the unit in for repair. Units received without a valid RMA number will be refused. All RMA numbers are valid for 30 days from the date of issue.

# EMC Certifications

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## FCC DECLARATION OF CONFORMITY

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TRADE NAME: A/D and D/A Converter  
MODEL NUMBER: Aurora 8, Aurora 16  
COMPLIANCE TEST REPORT NUMBER: Covered by European Standards Report # B50929A1  
COMPLIANCE TEST REPORT DATE: October 14, 2005  
RESPONSIBLE PARTY (IN USA): Lynx Studio Technology, Inc.  
ADDRESS: 190 McCormick Avenue, Costa Mesa, CA 92626  
TELEPHONE: (714) 545-4700

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 the unit does cause harmful interference to radio or television reception, please refer to your user's manual for instructions on correcting the problem.

I the undersigned, hereby declare that the equipment specified above conforms to the above requirements.

Costa Mesa, California  
October 14, 2005



Robert Bauman  
Compliance Engineer

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## CE EMC DECLARATION OF CONFORMITY

---

MANUFACTURERS NAME: Lynx Studio Technology, Inc.  
MANUFACTURER ADDRESS: 190 McCormick Avenue  
Costa Mesa, CA 92626, U.S.A.  
COMPLIANCE TEST REPORT NUMBER: B50929W1  
COMPLIANCE TEST REPORT DATE: October 14, 2005  
TYPE OF EQUIPMENT: Audio apparatus for professional use  
EQUIPMENT CLASS: Residential, Commercial and Light Industry  
MODEL NUMBER: Aurora 8, Aurora 16  
CONFORMS TO THESE STANDARDS: EN 55103-1, EN 55103-2  
YEAR OF MANUFACTURE: 2005

I the undersigned, hereby declare that the equipment specified above conforms to the above directives and standards.

Costa Mesa, California  
October 14, 2005



Robert Bauman  
Compliance Engineer

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## CE SAFETY DECLARATION OF CONFORMITY

---

MANUFACTURERS NAME: Lynx Studio Technology, Inc.  
MANUFACTURER ADDRESS: 190 McCormick Avenue  
Costa Mesa, CA 92626, U.S.A.  
COMPLIANCE TEST REPORT NUMBER: D50504S1  
COMPLIANCE TEST REPORT DATE: October 14, 2005  
TYPE OF EQUIPMENT: Audio apparatus for professional use  
EQUIPMENT CLASS: Residential, Commercial and Light Industry  
MODEL NUMBER: Aurora 8, Aurora 16  
CONFORMS TO THESE STANDARDS: EN 60065:2002  
YEAR OF MANUFACTURE: 2005

I the undersigned, hereby declare that the equipment specified above conforms to the above directives and standards.

Costa Mesa, California  
October 14, 2005



Robert Bauman  
Compliance Engineer



# Specifications

<b>Analog I/O</b>	
Number	4 inputs, 4 outputs
Type	Balanced or unbalanced
Level	11 Vp In / 11 Vp Out
Input Impedance	Balanced: 24 k $\Omega$ ; Unbalanced: 12 k $\Omega$
Output Impedance	Balanced: 100 $\Omega$ ; Unbalanced: 50 $\Omega$
<b>Analog In Performance</b>	
Flatness 20 Hz - 20 kHz	+0/-0.1 dB
Frequency Response	-3.0 dB, < 5 Hz to > 75 kHz
Crosstalk	-120 dB max, 1 kHz signal, -1 dBFS
THD / THD+N	< -107 dB (0.00045%) @ -1 dBFS < -106 dB (0.00050%) @ -6 dBFS 1 kHz signal, 22 Hz - 22 kHz BW
<b>Analog Out Performance</b>	
Flatness 20 Hz - 20 kHz	+0/-0.1 dB
Frequency Response	-3.0 dB, < 5 Hz to > 75 kHz
Crosstalk	-120 dB max, 1 kHz signal, -1 dBFS
THD+N	< -107 dB (0.00045%) @ -1 dBFS < -106 dB (0.00050%) @ -6 dBFS 1 kHz signal, 22 Hz - 22 kHz BW
<b>Digital I/O</b>	
Number	4 inputs, 4 outputs
Type	24 bit AES/EBU format
A/D - D/A supported sample rates	44.1, 48, 88.2, 96, 176.4 and 192 kHz
<b>Connections</b>	
Digital I/O ports	25-pin female D-sub connectors. Yamaha pinout
Analog I/O ports	25-pin female D-sub connectors. Tascam pinout
<b>Physical</b>	
Dimensions	1.75" H (44.5mm) x 19" W (483mm) x 9" D (229mm)
Weight	9 lbs (4.1 kg)
AC Power	110 / 115 / 230 VAC, 70 watts

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## Contact Information

Contact the Listen office at 617-556-4104, Monday thru Friday, between 9 AM and 5 PM EST.

Sales - [sales@listeninc.com](mailto:sales@listeninc.com)

Technical Support - [support@listeninc.com](mailto:support@listeninc.com)

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