

# iConnectAUDIO<sup>4+</sup>

## Owner's Manual



<p><b>Interference with other electrical devices</b> Radios and televisions placed nearby may experience reception interference. Operate this unit at a suitable distance from radios and televisions.</p> <p><b>Indoor use only</b> To avoid the risk of electrocution and/or damage to other connected equipment, this equipment must not be used under wet or high moisture conditions. All interconnecting cabling must also be indoors. Should moisture suddenly increase, immediately disconnect power to the equipment.</p> <p><b>Power sources</b> Ensure that correctly rated power outlets are used with the supplied power supply.</p> <p><b>Heat</b> Keep this equipment away from all heat sources. Ensure that sufficient ventilation and/or heat dissipation is provided for the equipment and all connected devices.</p> <p><b>Packaging</b> Keep all packaging materials away from children. Properly dispose of unwanted packaging.</p> <p><b>Handling</b> To avoid breakage, do not apply excessive force to the switches, connectors or directly to the equipment. Do not apply excessive bending force to the cables. Use the connector casings of cables to attach and detach cables from their receptacles to avoid damage to the cable and/or its receptacles.</p> <p><b>Ingestion</b> Do not ingest the packaging, equipment, attachments, or accessories. Do not ingest paint or removed parts from the equipment or accessories. If this occurs, immediately seek medical attention.</p> <p><b>Care</b> If the exterior becomes dirty, wipe with a clean, dry cloth. Do not use liquid cleaners such as benzene or thinner, or cleaning compounds or flammable polishes.</p> <p><b>Keeping foreign matter out of your equipment</b> Never set any container with liquid in it near this equipment. If liquid gets into the equipment, it could cause electrical damage, breakdown, fire, or electrical shock. Be careful not to let metal objects get into the equipment.</p> <p><b>Keep this manual</b> After reading this manual, please save it for later reference.</p> <p><b>Notice regarding disposal (EU only)</b> Disposal of this product, package, or cables must be done in an approved manner. Do not discard this product, package, or cables along with ordinary household waste. Disposing in the correct manner will prevent harm to human health and potential damage to the environment. Since the correct method of disposal will depend on the applicable laws and regulations in your locality, please contact your local administrative body for details.</p>	<p><b>FCC (USA)/IC (Canada) Regulation Warning</b>  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:</p> <ul style="list-style-type: none"> <li>- Adjust the receiving antenna</li> <li>- Increase the separation between the equipment and receiver</li> <li>- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected</li> <li>- Consult the dealer or an experienced radio/TV technician for assistance</li> </ul> <p>Unauthorized changes or modifications to this system can void the user's authority to operate this equipment.</p> <p><b>Important notice to consumers</b>  This product has been manufactured according to strict specifications and voltage requirements that are applicable in the country in which it is intended that this product should be used. If you have purchased this product via the Internet, through mail order, and/or via a telephone sale, you must verify that this product is intended for use in the country in which you reside.</p> <p><b>WARNING</b>  Use of this product in any country other than that for which it is intended could be dangerous and could invalidate the manufacturer's or distributor's warranty. Please also retain your receipt as proof of purchase; otherwise, your product may be disqualified from the manufacturer's or distributor's warranty.</p> <p><b>CAUTION</b>  Always keep children and pets under constant adult supervision. The packaging, equipment, and included accessories are not toys and must be kept out of reach of children and pets. Use only under constant adult supervision.</p>
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## Warranty

iConnectivity warrants to the original purchaser that this unit is free of defects in materials and workmanship under normal use and maintenance for a period of one (1) year from the date of original purchase. The warranty applies only to registered iConnectivity users that register their product(s) within fourteen (14) days of time of original purchase. To register iConnectivity products, visit [iConnectivity.com](http://iConnectivity.com). If the unit qualifies for warranty service during the one (1) year period, it will be repaired, or replaced, at iConnectivity's option, at no charge, when returned prepaid to the iConnectivity Technical Service Center with proof of purchase – the sales receipt may be used for this purpose. Installation labor is not covered under this warranty.

All replacement parts, whether new or re-manufactured, assume as their warranty period for only the remaining time of this warranty. This warranty does not apply to damage caused by improper use, accident, abuse, improper voltage service, fire, flood, lightning, or other acts of God, or if the product was altered or repaired by anyone other than iConnectivity Technical Service Center. Consequential and incidental damages are not recoverable under this warranty.

Some regions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. No portion of this warranty may be copied or duplicated without the expressed written permission of iConnectivity. THIS WARRANTY IS NOT TRANSFERRABLE.

For warranty service please [contact iConnectivity](#).

## Compatibility

Please visit [www.iConnectivity.com/support](http://www.iConnectivity.com/support) for the latest compatibility requirements, as they are subject to change.



iPad, iPhone, and iPod touch are trademarks of Apple Inc., registered in the US and other countries.

"Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

iConnectAUDIO4+ and iConnectivity are trademarks of iKingdom Corp. Features of this product are protected under patent pending. For more details see <http://www.iConnectivity.com/patents>.

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# iConnectAUDIO<sup>4+</sup>

Thank you for purchasing the iConnectAUDIO<sup>4+</sup> Audio + MIDI Interface. Your iConnectAUDIO<sup>4+</sup> is the most flexible interface available, integrating iOS devices with today's professional multiple-computer set-ups and traditional MIDI hardware.

Here are its major features:

- Multi-host Device ports enable up to two computer devices (Mac/PC/iOS) at the same time
- Audio passThru™ routes audio digitally between computer devices
- Host port for connecting up to eight MIDI peripherals (with Class-compliant devices connected to a powered hub)
- 4 XLR - ¼" Combo analog inputs, each with individual +48V phantom power toggle (two are balanced mic/line, two are unbalanced mic/ instrument)
- 4 ¼" TRS balanced analog outputs
- ¼" stereo headphone output with independent mix
- 1 x 1 5-pin MIDI DIN in/out
- iConfig software (Mac, Windows) for easy audio mixing/routing, and MIDI routing/processing; set-ups stored in FLASH memory on the device
- Onboard audio mixer/patchbay.
- Front panel control of all input/output levels and +48V phantom power
- High-resolution audio - up to 24-bit/96kHz AD/DA conversion
- USB audio and MIDI Class-Compliant
- Charges an iOS device.



## What's in the Box

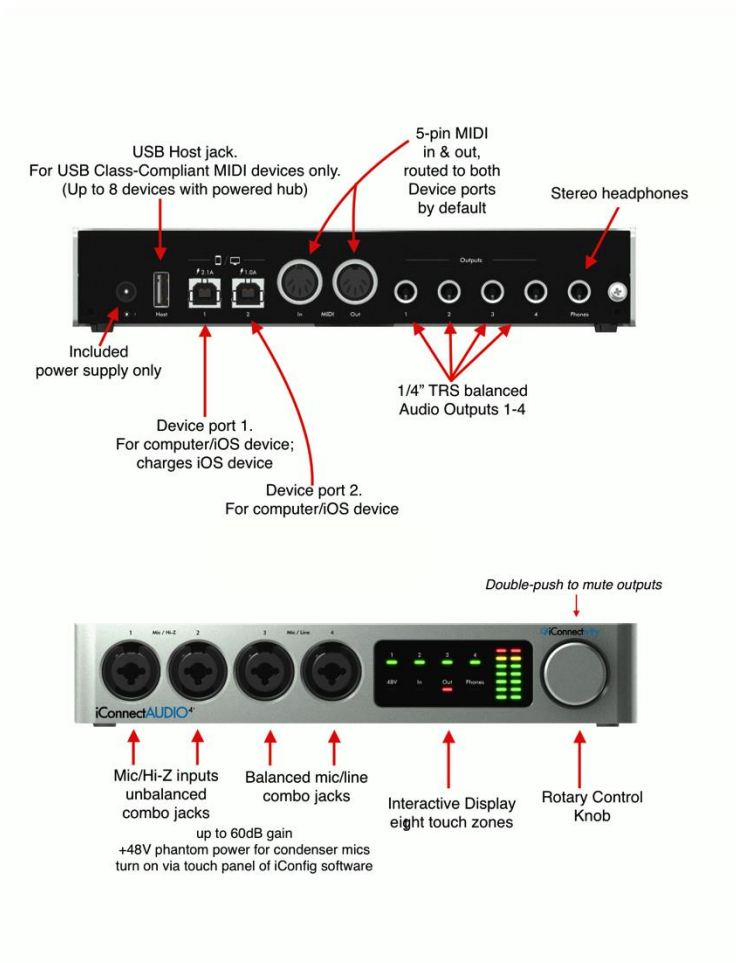
- The iConnectAUDIO4+
- One Lightning-to-iConnectivity USB-B inline connection cable to connect the interface to an iOS device that uses this connector. (iConnectivity [30-pin Connection Cable](#) sold separately.)
- One USB-A to USB-B cable to connect the interface to a Mac or PC computer.
- iConnectAUDIO4+ power supply. Please use only the included iConnectivity 12V/3A (36W) center positive supply, or you risk damaging the device. This adapter operates over a range of 100-240V/50 or 60Hz, so it can be used internationally with wall plug adapters.

*Please contact your dealer or iConnectivity directly if any of these items were not included in the packaging.*

## Quick Start Guide

By default your iConnectAUDIO4+ is pre-configured to work with Digital Audio Workstation (DAW) software. All the interface's audio inputs are routed to the computer device(s) for recording, not directly to the audio outputs; **you won't hear anything** if, say, you plug in a mic without going through your audio/music software.

Furthermore, **all the audio ins and outs are set all the way down**, and need to be raised. This Quick Start Guide will show you how to get sound running in and out of your interface as simply as possible.



### Audio hookup – connecting a Mac, PC, or iOS device

1. Connect a Mac or PC to USB Device Jack 1, using the supplied USB-A to USB-B cable. \*
2. Connect your powered monitors or power amp and speakers to Analog Out Jacks 1&2.
3. Connect the included iConnectivity power supply and plug it into the wall.

\* For the purposes of a sound check, you can substitute an iOS device using the Lightning-to-iConnectivity cable, and then skip to “Using the Interactive Display” a few paragraphs down (there is no software to configure). But it's important to install the iConfig software on a computer (step 2 just below).

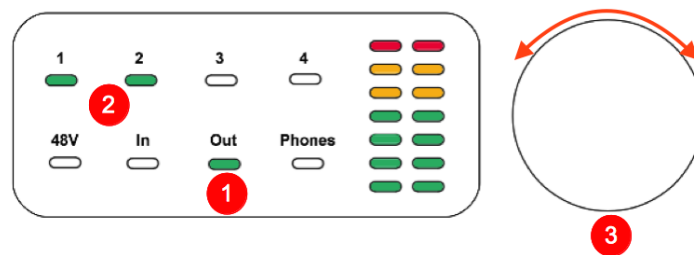
### Software

1. If you're using a Mac or iOS device, no driver is required. For Windows, please [download the driver](#) and install it. (Installation is straightforward, but for details please see [here](#).)
2. Download and install the [iConfig Software](#) to a Mac or PC. This will ensure that your interface's firmware is up to date, and allow access to all its functions and configuration options.
3. Select the iConnectAUDIO4+ as the audio output device in your DAW (or other audio software).
4. Play some test audio, preferably in a loop. You may not hear anything until you bring up the output level.

### Sound check - adjusting the output level

There are two ways to adjust the output level: directly on the front panel Interactive Display, or using the iConfig software's [Audio Mixer](#).

Using the [Interactive Display](#):



1. Touch the region centered around Out on the bottom row, selecting the output level for adjustment. The LED will turn green, for Signal Level mode, indicating that the LED meters are displaying the signal level.

You could also touch Out a second time to toggle the display into Gain Set mode, which is like showing the position of a volume control (the Rotary Knob is continuous, so otherwise you wouldn't know where it is). The LEDs then turn red, and the meters go between green and red to show the gain level. An additional touch toggles back to Signal Level mode.

2. Touch the regions centered around 1 or 2 on the top row (they should be linked for stereo), selecting Analog Outs 1&2 for adjustment. Their LEDs will turn green if you're in Signal Level mode, or red if you're in Gain Set mode.

3. Turn the rotary Knob clockwise to increase the level and counterclockwise to decrease it.



## Using the Audio Mixer:

1. Launch iConfig. If you have other iConnectivity interfaces connected, select the iConnectAUDIO4+ in the Device Selection dialog.
2. Select the Audio Mixer tab. Mix A, the first of the available mixes in the Sub Mix/Bussing section, should be selected. The mixer should look like the following screen capture:



3. Bring up the Analog Outputs 1 & 2 fader (they're linked for stereo). You should now see three sets of stereo meters moving in the Audio Mixer. If you select Analog Outs 1&2 in Signal Level mode in the Interactive Display, the LED meters on the hardware will match the onscreen ones.



## Adding a second computer device

1. Simply connect the second computer device USB Device Jack 2.

If it's a Windows computer, install the driver as per the Software instructions above. With Mac OS X or Windows, select the iConnectAUDIO4+ as the audio interface in your audio software. There's no software to install or configure in iOS devices.

If both computer devices are iOS so there's no iConfig software with an Audio Mixer, use the apps' level controls to balance their relative levels. Otherwise, the second computer device appears in the Audio Mixer channel strip to the right of the first one; iConfig is already set up.



## Recording audio

1. The four Analog In Jacks on the front panel are routed to the first four inputs of both computer devices, i.e. to the USB1 and USB2 Device Jacks. DAWs and iOS devices will see them as available inputs to tracks for recording.

All four combo Analog In jacks accept mics; Inputs 1&2 accept unbalanced Hi-Z instruments on 1/4" plugs; and Inputs 3&4 accept balanced line signals on 1/4" TRS plugs.

2. Enable +48V phantom power for condenser mics (only condenser mics!) on any or all four Analog In jacks, and adjust the input levels. This can be done with the Interactive Display, or in the iConfig Analog Mixer.

- Here Analog Input channels 1&2 have phantom power turned on, and their faders have been raised:



- To enable phantom power for Analog Inputs 1&2 in Interactive Display, simply touch the 48V touch zone on the bottom row, then 1 and 2 on the top row.

- To adjust the gain levels for Analog Inputs 1&2 on the Interactive Display, touch In on the bottom row, and 1 and/or 2 on the top row (depending on whether they're independent sources or a stereo pair). Then use the Rotary Knob to adjust the levels. Subsequent touches of In on the bottom row toggle between Gain Set and Signal Level modes (as discussed above when we set the output level).

## MIDI

The iConnectAUDIO4+ has one input/output pair of 5-pin MIDI DIN jacks, a single USB Host jack (for MIDI devices with USB connection instead of 5-pin), and MIDI is routed to and from both computer devices connected to the USB Device jacks.

Use a *powered* USB hub to connect up to eight USB MIDI devices to the USB Host jack, otherwise it supplies enough power for a single MIDI device plugged in directly.

There are 29 16-channel MIDI Ports available to be routed between those physical connections – 464 MIDI channels.

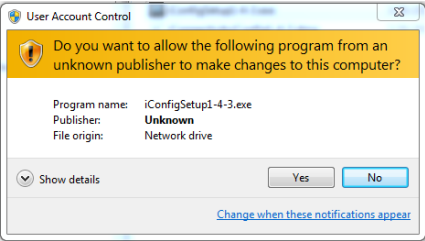
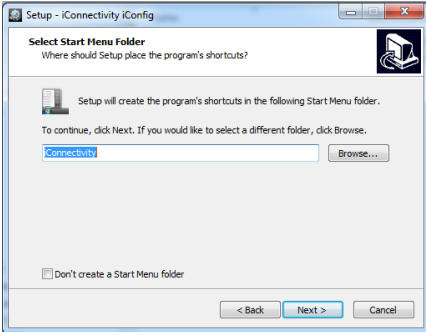
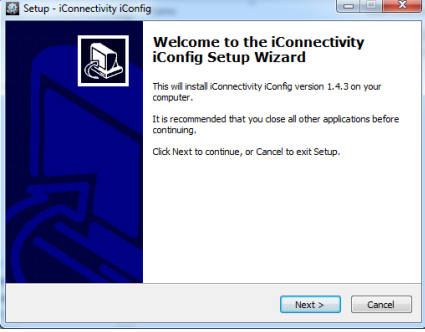
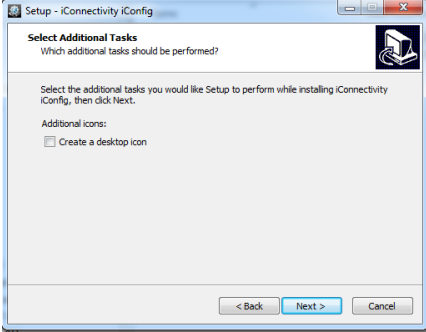
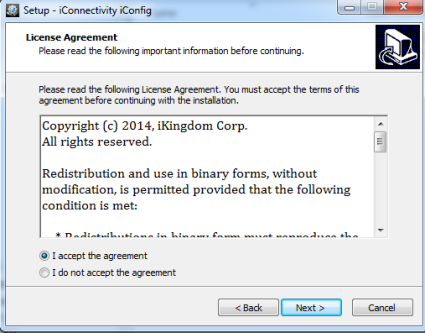
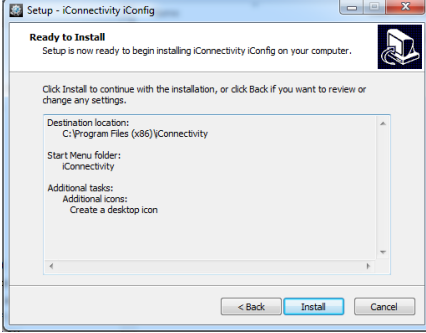
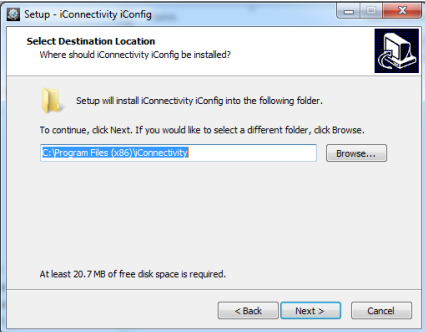
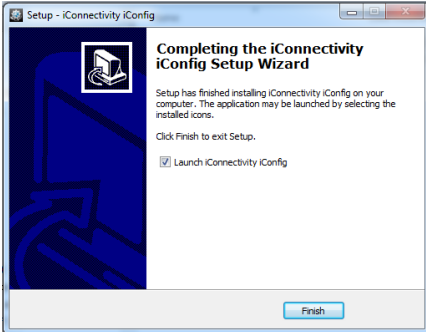
By default, every possible MIDI Port is routed from every device to every other device; if a device supports multiple Ports, they're all accessible. The only exception is multiport USB MIDI Devices, which must be enabled in the iConfig's MIDI Info tab.

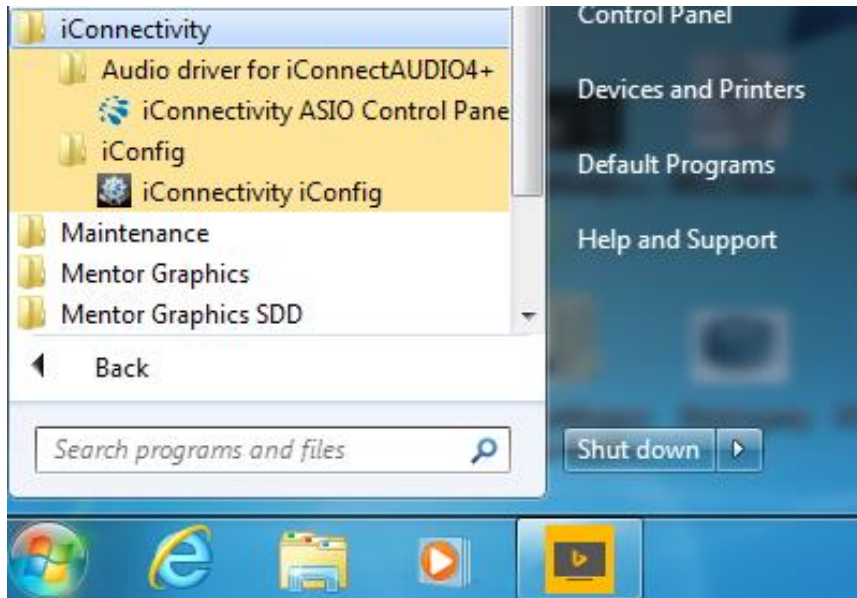
## IMPORTANT NOTES

- No additional drivers are required for Mac or iOS, Windows driver available [here](#). [Set-up instructions here](#).
- No Mac or iOS drivers needed. The iConnectAUDIO4+ is USB class-compliant, so it's recognized automatically by Mac OS X and iOS for applications to pass audio and MIDI as soon as you connect it to either of the unit's two Device ports.
- IF YOU HEAR NOTHING FROM YOUR SPEAKERS OR HEADPHONES: please check that levels are turned up, either using the [Interactive Touch Display](#) or [Audio Mixer](#) tab in the [iConfig software](#). This is explained in the [Quick Start Guide](#). In addition, check that the output source you're monitoring is routed correctly in the [Audio Patchbay](#) tab.
- The default 16-bit/44.1kHz setting ensures compatibility with iOS software that doesn't operate at higher rates, but it can be changed up to 24-bit/96kHz in the iConfig software's [Audio Info](#) tab.

# Windows Driver Installation

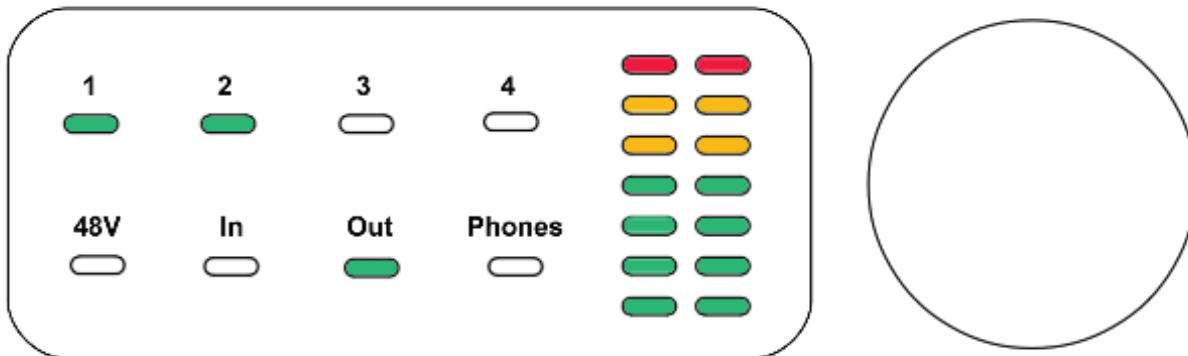
Download the Windows drivers [here](#). You will see the following dialogs.

 <p>Do you want to allow the following program from an unknown publisher to make changes to this computer?</p> <p>Program name: iConfigSetup1-4-3.exe Publisher: Unknown File origin: Network drive</p> <p><input type="checkbox"/> Show details</p> <p>Yes No</p> <p><a href="#">Change when these notifications appear</a></p>	 <p>Select Start Menu Folder</p> <p>Where should Setup place the program's shortcuts?</p> <p>Setup will create the program's shortcuts in the following Start Menu folder.</p> <p>To continue, click Next. If you would like to select a different folder, click Browse.</p> <p>Connectivity Browse...</p> <p><input type="checkbox"/> Don't create a Start Menu folder</p> <p>&lt; Back Next &gt; Cancel</p>
<p>Yes. ↓</p>	<p>Next. ↓</p>
 <p>Welcome to the iConnectivity iConfig Setup Wizard</p> <p>This will install iConnectivity iConfig version 1.4.3 on your computer.</p> <p>It is recommended that you close all other applications before continuing.</p> <p>Click Next to continue, or Cancel to exit Setup.</p> <p>Next &gt; Cancel</p>	 <p>Select Additional Tasks</p> <p>Which additional tasks should be performed?</p> <p>Select the additional tasks you would like Setup to perform while installing iConnectivity iConfig, then click Next.</p> <p>Additional icons:</p> <p><input type="checkbox"/> Create a desktop icon</p> <p>&lt; Back Next &gt; Cancel</p>
<p>Next. ↓</p>	<p>Desktop icon is optional. ↓</p>
 <p>License Agreement</p> <p>Please read the following important information before continuing.</p> <p>Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.</p> <p>Copyright (c) 2014, iKingdom Corp. All rights reserved.</p> <p>Redistribution and use in binary forms, without modification, is permitted provided that the following condition is met:</p> <p>* Redistributions in binary form must reproduce the</p> <p><input checked="" type="radio"/> I accept the agreement <input type="radio"/> I do not accept the agreement</p> <p>&lt; Back Next &gt; Cancel</p>	 <p>Ready to Install</p> <p>Setup is now ready to begin installing iConnectivity iConfig on your computer.</p> <p>Click Install to continue with the installation, or click Back if you want to review or change any settings.</p> <p>Destination location: C:\Program Files (x86)\Connectivity</p> <p>Start Menu folder: iConnectivity</p> <p>Additional tasks: Additional icons: Create a desktop icon</p> <p>&lt; Back Install Cancel</p>
<p>Accept the agreement. ↓</p>	<p>Visual Studio Redistributable installed if needed. ↓</p>
 <p>Select Destination Location</p> <p>Where should iConnectivity iConfig be installed?</p> <p>Setup will install iConnectivity iConfig into the following folder.</p> <p>To continue, click Next. If you would like to select a different folder, click Browse.</p> <p>C:\Program Files (x86)\Connectivity Browse...</p> <p>At least 20.7 MB of free disk space is required.</p> <p>&lt; Back Next &gt; Cancel</p>	 <p>Completing the iConnectivity iConfig Setup Wizard</p> <p>Setup has finished installing iConnectivity iConfig on your computer. The application may be launched by selecting the installed icons.</p> <p>Click Finish to exit Setup.</p> <p><input checked="" type="checkbox"/> Launch iConnectivity iConfig</p> <p>Finish</p>
<p>Next. ↗ □</p>	<p>Finish.</p>



The Start Menu after installing the Windows driver and the iConnectivity iConfig software.

## Interactive Display



The iConnectAUDIO4+'s Interactive Display makes it simple to view and adjust analog input and output levels, enable/disable 48V phantom power for condenser mics, and perform various utility functions without using the iConfig software.

It consists of a capacitance touch panel with eight touch zones and dual 8-stage LED meters; and a Rotary Control Knob that also performs various functions when it's pushed/double-pushed.

### Viewing Modes

There are two *viewing modes*. Successive touches of a bottom row touch zone (except 48V) toggles between the two.

- **Signal Level mode**, indicated by a green bottom row LED. The LED meters display VU (the signal level).

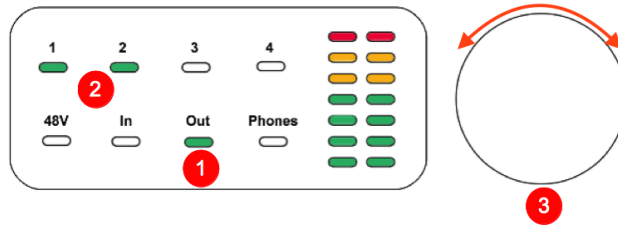
- **Gain Set mode**, indicated by a red bottom row LED. This is like showing the position of a volume control (the Rotary Knob is continuous, so otherwise you wouldn't know where it is).

The 48V touch zone has no effect on the viewing mode, since it's an on/off function rather than a level setting.

### Basic Operation

1. Touch the region centered around one of the four functions on the bottom row to select it: 48V, In, Out, or Phones.
2. Touch numbers 1 through 4 on the top row to select that analog input or output for adjustment (or to turn 48V phantom power on/off).
3. Turn the Rotary Knob to adjust the In, Out, or Phones level.

**Example:** *adjust the level of Analog Outs 1&2, which are connected to your powered monitors.*



1. Touch “Out” on the bottom row.

- The LED turns green (Signal Level mode); you may want to touch it again to toggle it to Gain Set mode.

2. Touch “1” and “2” on the top row (or either one if they’re configured as a stereo pair, as they are by default).

3. Turn the Rotary Knob to adjust the level.

## Rotary Knob Push functions

FUNCTION	ROTARY KNOB PUSH COMMAND
Mute all outputs	Double push
Save all settings to internal memory	Single push
Power down	Push and hold until each meter shows a single red and a single amber LED
Power up	Single push (when powered down)
Bootloader mode (for manual firmware updates)	Push and hold until each meter shows a single red LED, then release
Reset	Push and hold until all LEDs turn off, then release

## LED Meter Levels

### Gain/Attenuation

Ins	Outs/phones
60 dB	0 dB
50, 60	-10, 0
40, 50	-20, -10
30, 40	-30, -20
20, 30	-40, -30
10, 20	-50, -40
1, 10	-63, -50

Ch 1/3    Ch 2/4  
phones L    phones R



# The iConnectAUDIO4+ hardware

## Front Panel



### 1 & 2 Analog In Jacks 1 & 2

XLR - 1/4" Combo unbalanced mic/line/instrument inputs.

Connect Hi-Z instrument inputs (electric guitars, basses, etc.) with 1/4" plugs; they go through a -20dB pad, with a gain range of -20dB to +40dB in 1dB increments.

Connect microphones with XLR plugs. The gain range is 60dB in 1dB increments.

### 3 & 4 Analog In Jacks 3 & 4

XLR - 1/4" Combo balanced mic/line inputs.

Connect line-level inputs (synthesizers, DJ rigs, etc.); they go through a -20dB pad, with a gain range of -20dB to +40dB in 1dB increments.

Connect microphones with XLR plugs. The gain range is 60dB in 1dB increments.

### 5 Interactive Display

### 6 Rotary Control Knob

([Full details here](#)) Easy capacitive touch interface lets you adjust, view, and store analog audio levels, and turn +48V phantom power on/off for condenser mics.

## Rear Panel



### 7 Power Jack

Please use only the supplied iConnectivity 12V/3A (36W) center positive transformer, or you risk damaging the device.

This adapter operates over a range of 100-240V/50 or 60Hz, so it can be used internationally with wall plug adapters.

### 8 USB A Host Jack

This USB 2.0 jack supports up to eight 16-channel MIDI Ports, divided among up to eight USB MIDI Class-Compliant devices.

Connect, for example, a MIDI keyboard controller via its USB MIDI port instead of using 5-pin DIN cables. Up to 500mA – the USB power standard – is provided, enough to power a single device. Or connect up to eight USB MIDI devices via a powered USB hub.

Note: this jack is dedicated to USB MIDI – it's not a standard USB jack.

### 9 USB 1 Device Jack

Use the included iConnectivity USB-B to USB-A cable to connect the interface to a Mac or PC computer, or the included iConnectivity USB-B-to-Lightning cable to connect an iOS device.

This jack supplies 2.1A to charge an iOS device.

### 10 USB 2 Device Jack

Use the included iConnectivity USB-B to USB-A cable to connect the interface to a Mac or PC computer, or the included iConnectivity USB-B-to-Lightning cable to connect an iOS device.

This jack supplies 1A of power to an iOS device - usually enough to keep it charged, and it may charge a smaller iOS device (depending on the size and usage).

### 11 & 12 MIDI DIN In & Out

These jacks accept 5-pin MIDI DIN plugs for standard MIDI hardware. MIDI is transmitted at the standard MIDI rate (31.25 Kbps).

## **12, 13, 14, 15** Analog Out Jacks 1 – 4

¼" balanced TRS outputs.

The output is 13dBu/11dBV, a very high level, so please use caution to avoid overloading subsequent equipment in the signal path.

Normally Analog Outs 1 & 2 would be connected to a stereo amp and speakers (or powered monitors). In a live application you could use Analog Outs 3 & 4 for a FOH (front of house) mix, or they might go to a second set of speakers or stereo effects unit in a studio.

## **17** – Headphone Jack

For stereo headphones with a ¼" plug.

## **16** – Security lock port (right side)

## iConfig Software

iConfig, the included software program for Mac and Windows provides access to the set-up and routing features in your iConnectAUDIO4+, and it controls additional iConnectivity interfaces connected to your system.

The active settings snapshot is stored in the interface's onboard flash memory; please see the **Device drop-down menu** in the following screen shot. It can be copied into the iConfig software for editing (the "Restore from FLASH" command).

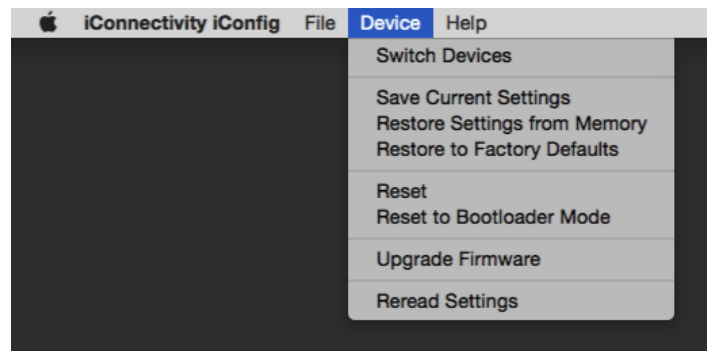
iConfig works the same on Mac and Windows.

### Launching iConfig



When you have multiple iConnectivity interfaces connected to your computer, the Device Selection dialog will appear; simply select the one to be configured. If you have only the iConnectAUDIO4+, it will be selected automatically in the dialog without intervention.

## Device Menu



Switch Devices – Brings up the Device Selection dialog, allowing you to choose a different iConnectivity interface to be configured.

*All the following have a confirmation dialog so you have a chance to cancel before the operation:*

Save Current Settings – Write the current iConfig settings to the iConnectAUDIO4+'s flash memory.

Restore Settings from Memory – Transfers the current snapshot from the iConnectAUDIO4+'s flash memory into iConfig.

Restore to Factory Defaults – Removes all user changes to the iConnectAUDIO4+'s configuration.

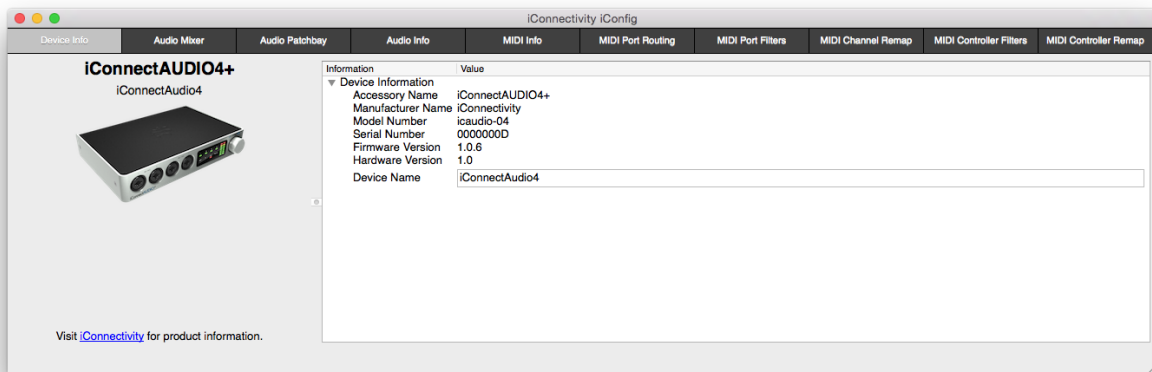
Reset – All digital devices can get “confused” and require resetting.

Reset to Bootloader Mode – When the device restarts it will be in Bootloader Mode, ready to receive firmware changes. This lets you load specific firmware files.

Upgrade Firmware – Checks whether your firmware is current. If not, it installs it from [www.iConnectivity.com](http://www.iConnectivity.com).

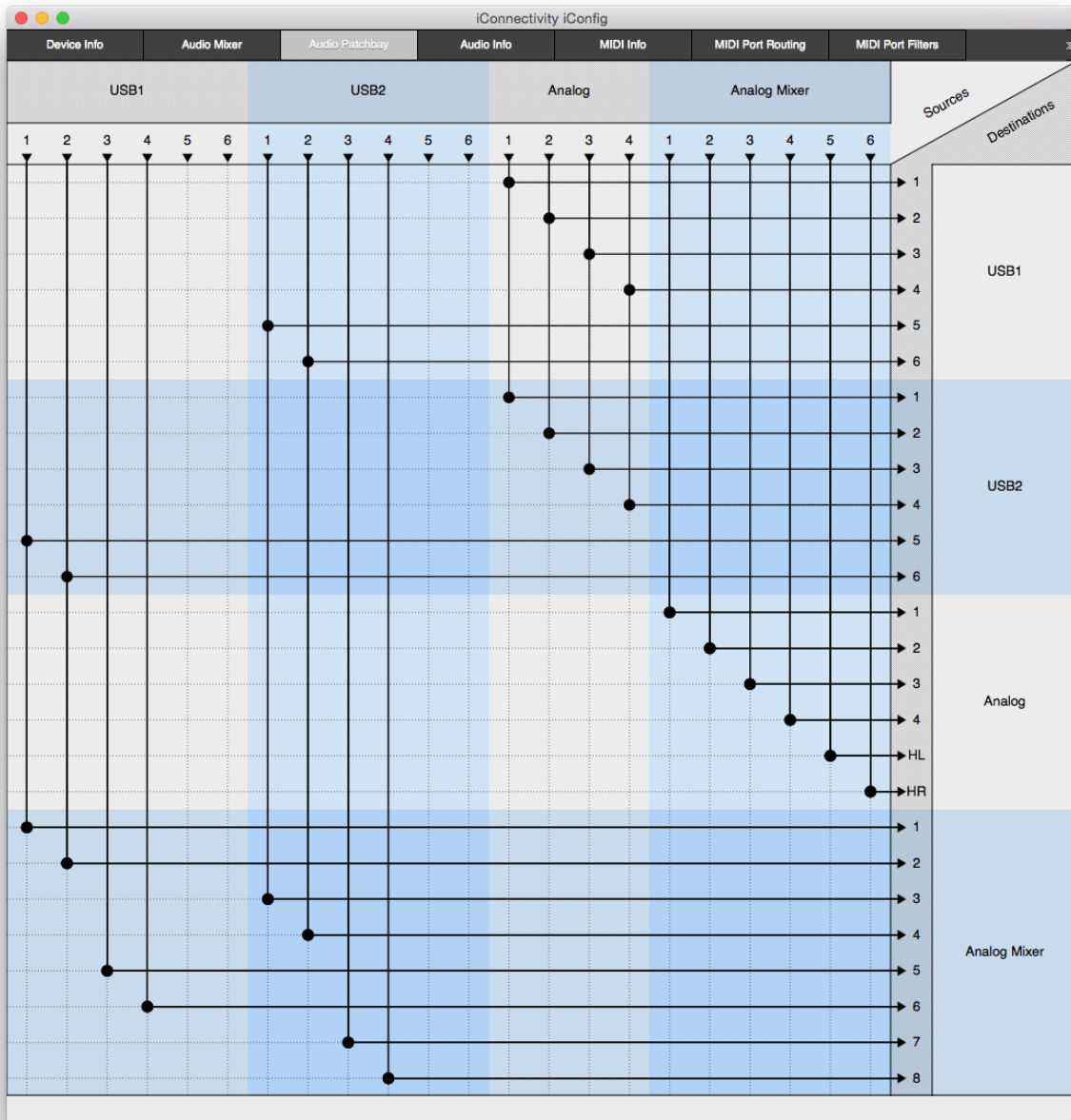
Reread Settings – Refreshes the application screen.

## Device Info



This displays information about the connected audio interface(s), including the firmware version. Note that the Device Name field can be edited, so you can give your interface a custom name.

## Audio Patchbay



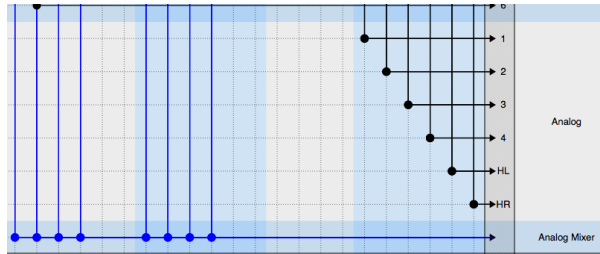
This is a routing matrix with source audio busses across the horizontal axis and destination busses on the vertical axis. Think of it as “from” (audio *sources* into the patchbay) and “to” (*destinations*).

**Available Sources and Destinations:** USB1 and USB2 (digital Audio Channels from the two Device Jacks); Analog (the four Analog Ins and four Analog Outs); the Analog Mixer (which controls the Analog Ins and Outs); and – only when enabled (see four paragraphs below) – the USB1 and USB2 mixers.

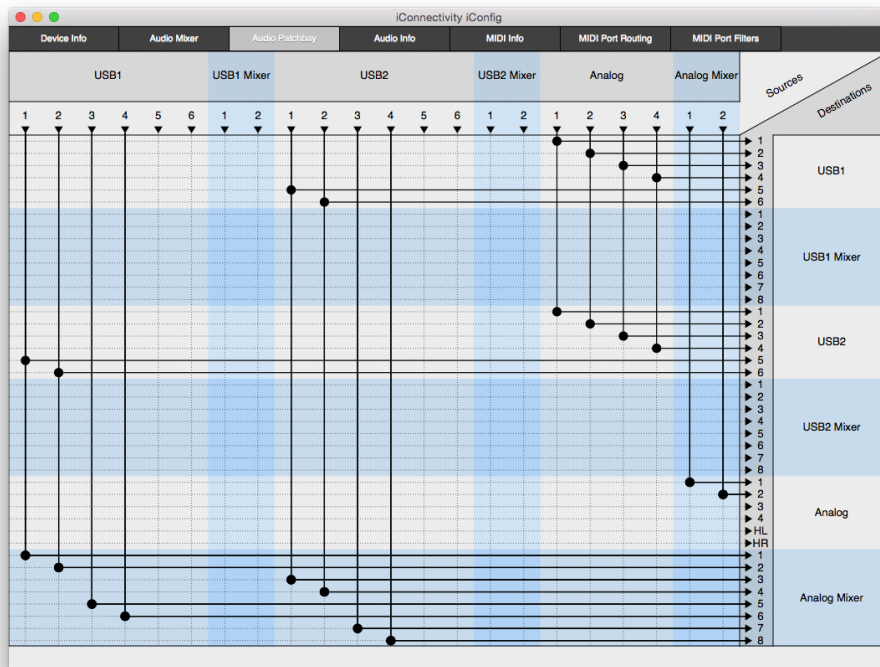
**Operation** —There is one simple principle to bear in mind when routing audio in the iConnectAUDIO4+: *each Destination bus may have only one Source.*

Just as a physical jack doesn’t accommodate two plugs, the Audio Patchbay will not allow connections that make no sense.

Click on the appropriate spot on the matrix to make or sever a routing connection. Click on any bus' name in the Source or Destination areas to condense its view (in this case "Analog Mixer" is condensed, while the Analog outputs above it aren't):



**USB mixer Destination Busses** – The USB Mixers seen in the following screen shot are disabled in the iConnectAUDIO4+'s factory default set-up. Since most DAWs and other software programs have mixing built in (and the factory default is intended for use with DAWs), they aren't needed.



When you do need the USB1 and USB2 Mixer, for example in a live situation, the way to enable them is to select 2, 4, or 6 (anything other than 0) "Mixes to outputs on USB1 [and/or USB2] domain" under the Mixer Information disclosure triangle in the Audio Info tab.



## Audio Mixer



**Audio Mixer overview:** The Analog Inputs and Analog Outputs sections – on the darker grey background – are master faders for the iConnectAUDIO4+'s Analog Ins, Analog Outs, and Headphones. While the Analog Inputs are “hardwired” directly to their faders, the Source for each Analog Output channel is selectable from a drop-down menu.

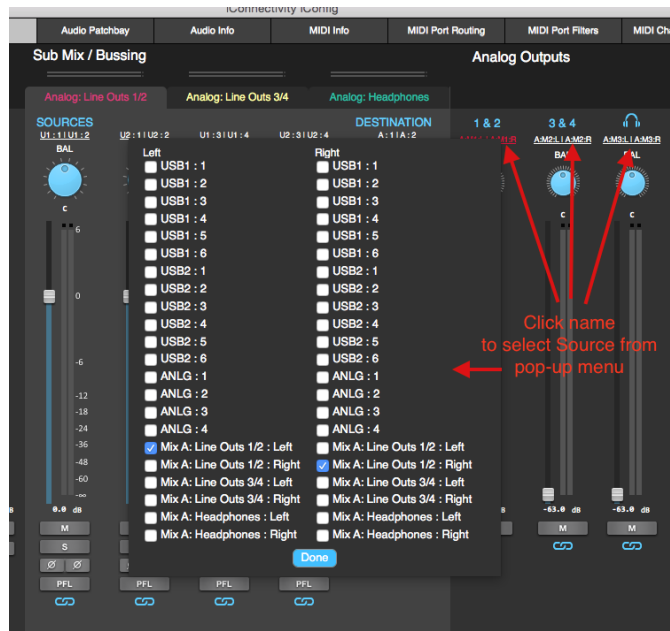
These Source choices include the Destinations of the three Mixes – A, B, and C — in the Sub Mix/Bussing section in the middle, shown on a lighter grey background.

In turn, the Sources available to Mix A, B, and C channels depend on the Mixer Information settings in the Audio Info tab, and also on the way the Audio Patchbay is configured. Mixes A, B, and C can all have multiple Destinations, and they can share them.

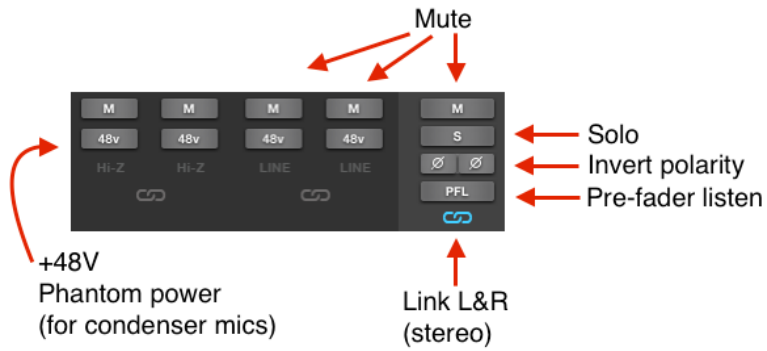
### Audio Mixer operation:

- Click on “EDIT MIX NAME” (as shown above) to rename the A, B, and/or C mixes; the default names are simply Line Outs 1/2, Line Outs 3/4, and Headphones. These names appear as SRC (Sources) for the Analog Output channels.

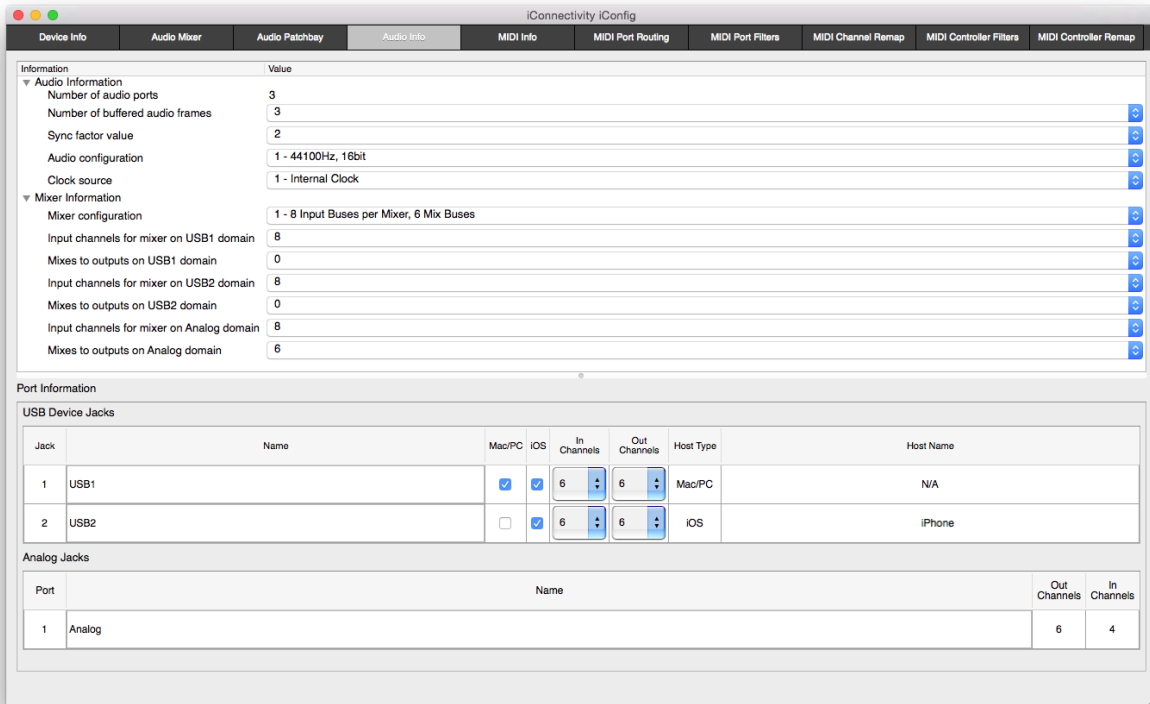
- To select a Source or Destination, click on the underlined white text to get a pop-up checklist:



- Double-click most faders and the BAL (Balance) knobs to set them to 0.
- The rest of the controls are as follows:



## Audio Info



This is the iConnectAUDIO4+'s information and settings screen. As soon as you make a change, you will have the opportunity to commit your edits to the interface or to cancel:

For changes to take effect perform a "Commit & Reset".

Commit & Reset

Abandon Changes

### Audio Information

*Number of audio ports* (fixed) – 3: two USB Device ports for computer devices, one 4x4 analog port.

*Number of buffered audio frames* and *Sync factor value*: as with every device that processes digital audio, audio goes into a buffer before it is processed, and it takes a small fraction of a second for audio to fill the buffer as it streams through. This latency is compensated for with the Sync factor value parameter so that incoming and outgoing audio is in sync.

The larger the audio frame buffer, the longer this takes, but the lower the strain is on the device; conversely, smaller buffers lower the processing latency and require more computing horsepower.

The default settings offer low latency and solid audio performance. However, you may wish to experiment with faster settings; or if you hear glitches, increase the buffer.

*Audio Configuration* – the sample rate and bit depth setting. This defaults to the CD-standard 16-bit/44100Hz setting to ensure compatibility with all iOS software. Higher bit and (to a lesser degree) sample rates can offer higher sound quality in some applications, but they use more processing resources.

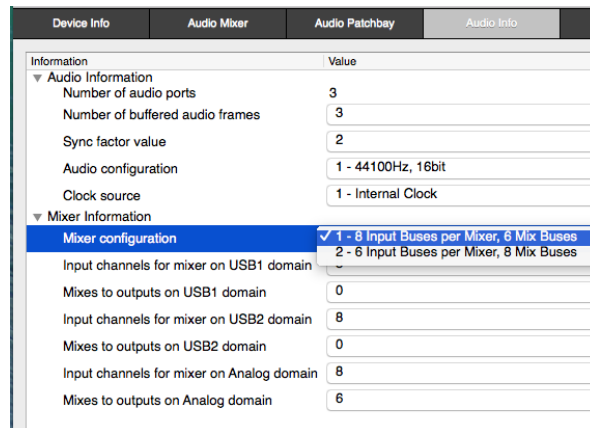
- 1 - 44100Hz, 16bit
- 2 - 48000Hz, 16bit
- 3 - 96000Hz, 16bit
- 4 - 44100Hz, 24bit
- ✓ 5 - 48000Hz, 24bit
- 6 - 96000Hz, 24bit

The following **Audio Configuration Table** shows the processing footprints for every possible configuration.

Audio Configuration	1	2	3	4	5	6
Frequency	44100 Hz	48000 Hz	96000 Hz	44100 Hz	48000 Hz	96000 Hz
Bit Depth	16 bits			24 bits		
Max USB Audio Channels	16	12		16		12
Option 1 Mixer Max. Sources	8	6		8		6
Option 1 Mixer Max Destinations	6	4		6		4
Option 2 Mixer Max Sources	6	4		6		4
Option 2 Max Mixer Destinations	8	6		8		6
Clocking Sources	1 – Internal Clocking 2 – Computing device connected to USB Jack 1 3 – Computer device connected to USB Jack 2					

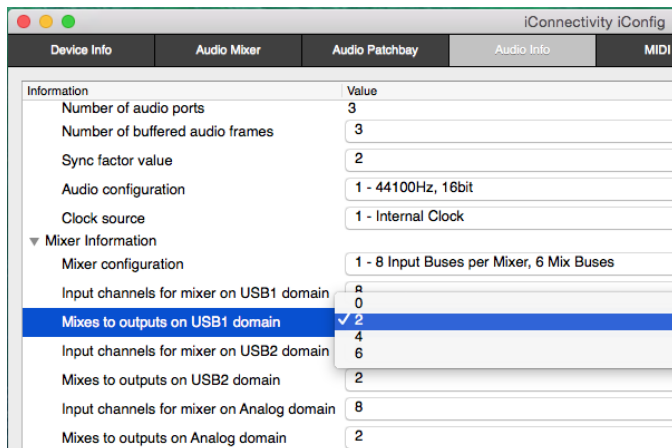
## Mixer Information

**Mixer Configuration** — There are two options: 8 input Buses per Mixer, 6 mix Buses (the default); and vice versa, as shown below. This comes down to a choice between more sources and more destinations.



**Enabling USB mixer Destination Busses** – The USB Mixers are not enabled in the iConnectAUDIO4+'s factory default set-up. Since most DAWs and other software programs have mixing built in (and the factory default is intended for use with DAWs), they aren't needed.

When you do need the USB1 or USB2 Mixers, for example in a live situation, the way to enable them is to select 2, 4, or 6 (anything other than 0) "Mixes to outputs on USB1 [and/or USB2] domain" as shown below:

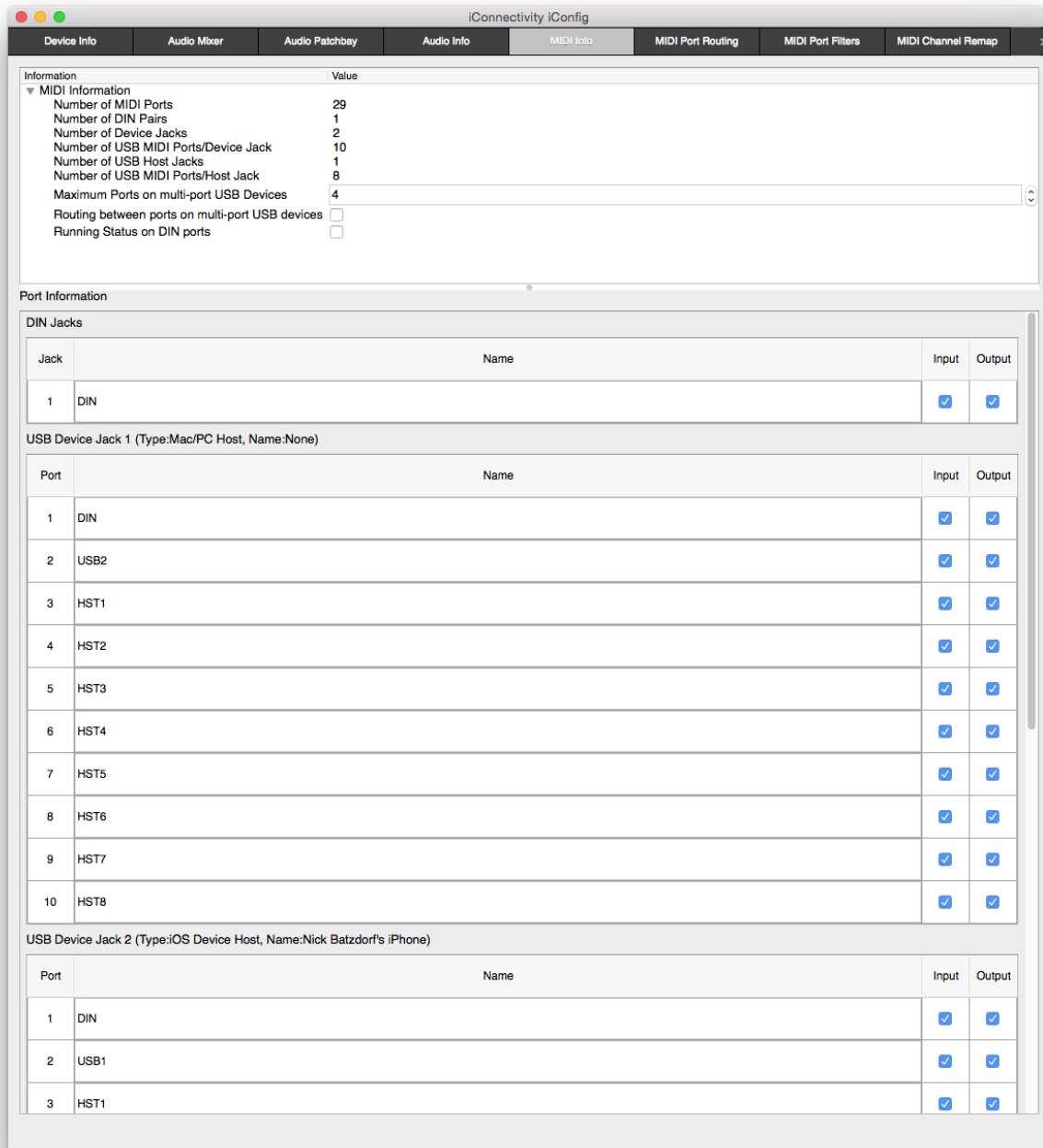


**Port Information** - On the two USB Device Jacks, enable/disable Mac/PC and/or iOS support; and set the maximum number of input and output channels available (when they're enabled in the Mixer Information section).

The number of Analog Jacks is fixed, of course: 6 outputs (4 Analog Out Jacks + 2 for Headphone Jacks 1&2); and Analog In Jacks 1-4.

Note that the names of the devices can be edited.

## MIDI Info



**MIDI Information:** Summary MIDI information about the iConnectAUDIO4+'s physical ports, as well as the 29 total 16-channel MIDI Ports available for routing.

*Maximum Ports on multi-port USB Devices* (default: 4): Multi-port USB MIDI devices have more than one 16-channel Port. For example, some controllers may have an additional MIDI In or Out Port available, and modern DAWs can usually access any number of them. This setting allows up to eight Ports.

*Routing between ports on multi-port USB Devices* (default: off): Multi-port USB MIDI devices have more than one 16-channel port.

*Running Status on DIN ports* (defaults to off) – Running status is a way of reducing the amount of MIDI data that must be sent. It works by assuming that the first part of the

MIDI message - the status byte that identifies what it is (for example a note) – remains the same until further notice. Running status must be implemented correctly by the receiving device to work; we recommend enabling it only if you can confirm that this is the case.

**Port Information:** MIDI in and out for each physical connection – the 5-pin DIN I/O jacks, the two USB Device Jacks, and up to eight MIDI devices connected to the USB Host Jack (if you're using a powered hub) – has its own line in this section.

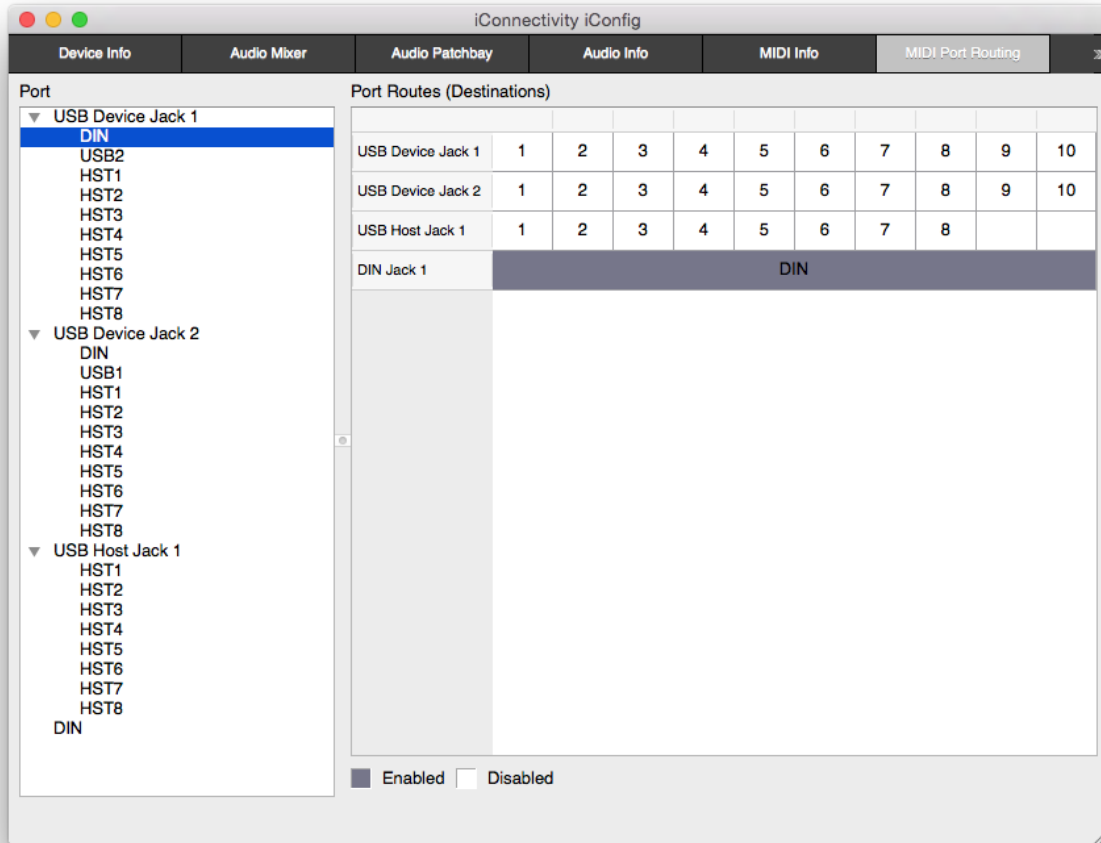
Each one can have its Input and Output enabled or disabled, and the names are editable.

An additional drop-down menu, Reserved, is available for devices connected to the USB Host jack (remember, *these must be USB MIDI Class-Compliant devices*). In this case an M-Audio USB O2 MIDI keyboard is connected; its name appears automatically to be reserved, which means it will occupy USB Host Jack Port 1 every time it's restarted.

However, this works for a single M-Audio USB O2; there would be no way to differentiate between multiple O2s (or multiples of any device).

Port	Connected Device	Reserved	Name	Input	Output
1	M-Audio USB O2 (Port 1)	<input type="checkbox"/> None <input checked="" type="checkbox"/> M-Audio USB O2	HST1	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## MIDI Port Routing



There is a total of 29 16-channel MIDI Ports available to be routed between the iConnectAUDIO4+'s physical connections. This routing matrix enables this feature

By default, every possible MIDI Port is routed from every device to every other device; if a device supports multiple Ports, they're all accessible to it (for example, a modern DAW should be able to access every Port as soon as the interface is connected). The only exception is multiport USB MIDI Devices, which must be enabled in the iConfig's [MIDI Info](#) tab.

Source Ports are on the left, listed vertically, and Port Routes (destinations) are on the right. Please check our online video tutorials for specific applications.



## MIDI Channel Remap

The screenshot shows the MIDI Channel Remap interface. On the left, a tree view lists ports under three categories: USB Device Jack 1, USB Device Jack 2, and USB Host Jack 1. Each category lists DIN, USB, and HST1-HST8. The 'Remap Type' is set to 'Input'. The 'Remap Channels' table is as follows:

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Remap to Channel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pitch Bend																
Channel Pressure																
Program Change																
Control Change																
Poly Key Pressure																
Note On/Off																

For each MIDI port, this matrix is for remapping – changing - entire MIDI channels to different ones, or just various data types (Pitch Bend, Channel Pressure, etc.).

*Remap Type* (top left) selects whether to modify the input going to or the output coming from each port.

*Port* is the familiar list of the 16-channel MIDI ports available on the iConnectAUDIO4+: the USB Device Jacks, USB Host Jack, and 5-pin DIN.

In the screen capture above, incoming MIDI data to USB Device Jack 2 is being remapped as follows: Pitch Bend data on Channel 3 and Channel Pressure data on Channel 2 are being changed to Channel 1.

## MIDI Controller Data Filter

The screenshot shows the MIDI Controller Data Filter interface. On the left, a tree view lists ports under three categories: USB Device Jack 1, USB Device Jack 2, and USB Host Jack 1. Each category lists DIN, USB, and HST1-HST8. The 'Filter Type' is set to 'Input'. The 'Continuous Controller Filters' table is as follows:

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Controller ID
Controller Filter 1																	7 - Main Volume (coarse)
Controller Filter 2																	0 - Bank Select (coarse)
Controller Filter 3																	0 - Bank Select (coarse)
Controller Filter 4																	0 - Bank Select (coarse)
Controller Filter 5																	0 - Bank Select (coarse)
Controller Filter 6																	0 - Bank Select (coarse)
Controller Filter 7																	0 - Bank Select (coarse)
Controller Filter 8																	0 - Bank Select (coarse)

For each MIDI port, this matrix is for filtering (removing from the datastream) any MIDI controller on any of the 16 MIDI channels.

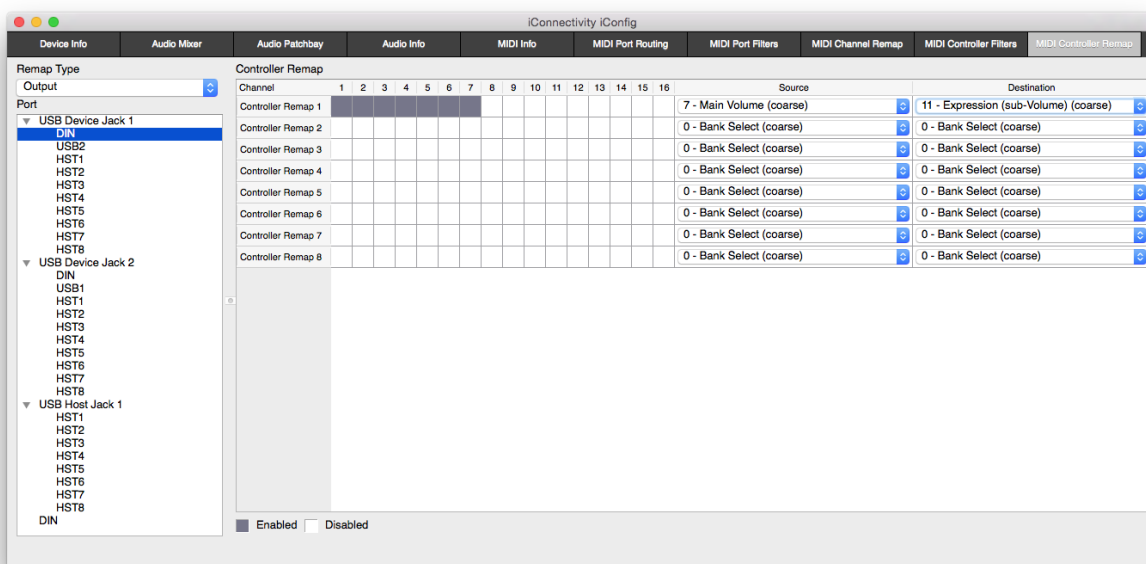
*Filter Type* (top left) selects whether to modify the input going to or the output coming from each port.

*Port* is the familiar list of the 16-channel MIDI ports available on the iConnectAUDIO4+: the USB Device Jacks, USB Host Jack, and 5-pin DIN.

In the screen capture above, MIDI Continuous Controller 7 (Main Volume) data to USB Device Jack 1 from the MIDI DIN port is being filtered from Channels 1-6 and 16.

The entire list of 127 MIDI controllers is available for filtering under the drop-down menu in the Controller ID column.

## MIDI Controller Data Remap



For each MIDI port, this matrix is for remapping (converting) any MIDI controller on any of the 16 MIDI channels to a different one. The entire list of 127 MIDI controllers is available as a Source and a Destination under the drop-down menu s.

*Remap Type* (top left) selects whether to modify the input going to or the output coming from each port.

*Port* is the familiar list of the 16-channel MIDI ports available on the iConnectAUDIO4+: the USB Device Jacks, USB Host Jack, and 5-pin DIN.

In the screen capture above, MIDI Continuous Controller 7 (Main Volume) data to USB Device Jack 1 from the MIDI DIN port is being converted to MIDI Continuous Controller 11 (Expression) – but only on MIDI channels 1 through 7.

## Troubleshooting

### **No sound from speakers or headphones connected to the interface**

Please check that levels are turned up in the Audio Mixer tab in the iConfig software. In addition, check that the output source you're monitoring is routed correctly in the Audio Patchbay tab.

### **MIDI is not being received by the expected destination**

Please check the routing in the iConfig software MIDI Port Routing tab.

### **No sound from an iOS device's speaker/earphones/microphone**

The iOS device automatically uses the iConnectAUDIO4+ when it is connected. This deactivates the built-in speaker, usually the built-in mic, and often the headphones and/or headset mic when it is plugged into the iOS devices 1/8" TRRS jack.

### **iOS device's battery isn't charging**

USB Device Jack 1 will charge an iOS device. USB Device Jack 2 will keep an iOS device charged or almost charged, or it may charge a smaller iOS device (depending on usage).

### **Printer, mouse, computer keyboard, etc. doesn't work in USB Host Jack**

This jack is only for USB MIDI devices.

### **USB Host Jack won't power MIDI devices**

This USB-standard jack provides enough power for a single MIDI device. Up to eight additional devices are supported with a powered USB hub only.

# Specifications

## Audio

### *Digital Performance*

24-bit resolution

A-D Dynamic Range:102dB (Single-ended)

D-A Dynamic Range:106dB

Supported sample rates: 44.1 kHz, 48 kHz, and 96 kHz

### *Microphone Inputs*

Gain: 0- 60 dB (1 dB steps)

Frequency Response: 20 Hz - 20kHz

SNR: 110dB (1kHz, 1.2 Vrms, BW: 22Hz-22kHz, A-weighting, Unity Gain)

THD+N: -99 dB (1kHz, 1.2 Vrms, BW: 22Hz-22kHz, A-weighting, Unity Gain)

### *Line Inputs (Balanced)*

Frequency Response: 20 Hz - 20kHz

SNR: 111 dB (1kHz, 10 Vrms, BW: 22Hz-22kHz, A-weighting)

THD+N: -99 dB (1kHz, 1.2 Vrms, BW: 22Hz-22kHz, A-weighting)

Maximum input level: 11 Vrms, 23 dBu, 21 dBV (1kHz, BW: 22Hz-22kHz, A-weighting, 1% THD+N, SNR=116 dB)

### *Instrument Inputs*

Frequency Response: 20 Hz - 20kHz

SNR: 95 dB (1kHz, 5 Vrms, BW: 22Hz-22kHz, A-weighting)

THD+N: -92 dB (1kHz, 5 Vrms, BW: 22Hz-22kHz, A-weighting)

Maximum input level: 10 Vrms, 22 dBu, 20 dBV (1kHz, BW: 22Hz-22kHz, A-weighting, 1% THD+N, SNR= 94 dB)

### *Line Outputs*

Maximum Output Level: 13 dBu, 11 dBV, 3.6 Vrms

SNR: 115 dB (1kHz, BW: 22Hz-22kHz, A-weighting)

THD+N: -112 dB (1kHz, BW: 22Hz-22kHz, A-weighting)

### *Headphone*

SNR: 100 dB (1kHz, BW: 22Hz-22kHz, A-weighting)

THD+N: -100 dB (1kHz, BW: 22Hz-22kHz, A-weighting)

Power output into 30 Ohms per channel: 73 mW per channel

## MIDI

5-pin MIDI DIN I/O

29 16-channel MIDI ports

Up to 10 MIDI ports (160 channels) per computer device

Supports up to eight USB MIDI devices (via powered hub)

Features of iConnectAUDIO4+ are patent pending. For more details see [www.iConnectivity.com/patents](http://www.iConnectivity.com/patents). Product features are subject to change.

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Powered USB hub not included

## Contact iConnectivity

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

[support@iConnectivity.com](mailto:support@iConnectivity.com)

+1 403.457.1122

Monday to Friday 9:00 am to 5:00 pm (Mountain Time)

iConnectivity  
#100, 925 26th Street NE  
Calgary, AB T2A 6K8  
Canada

