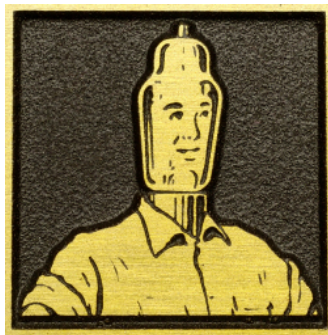




Bottlehead DAC 1.0

A User's Manual



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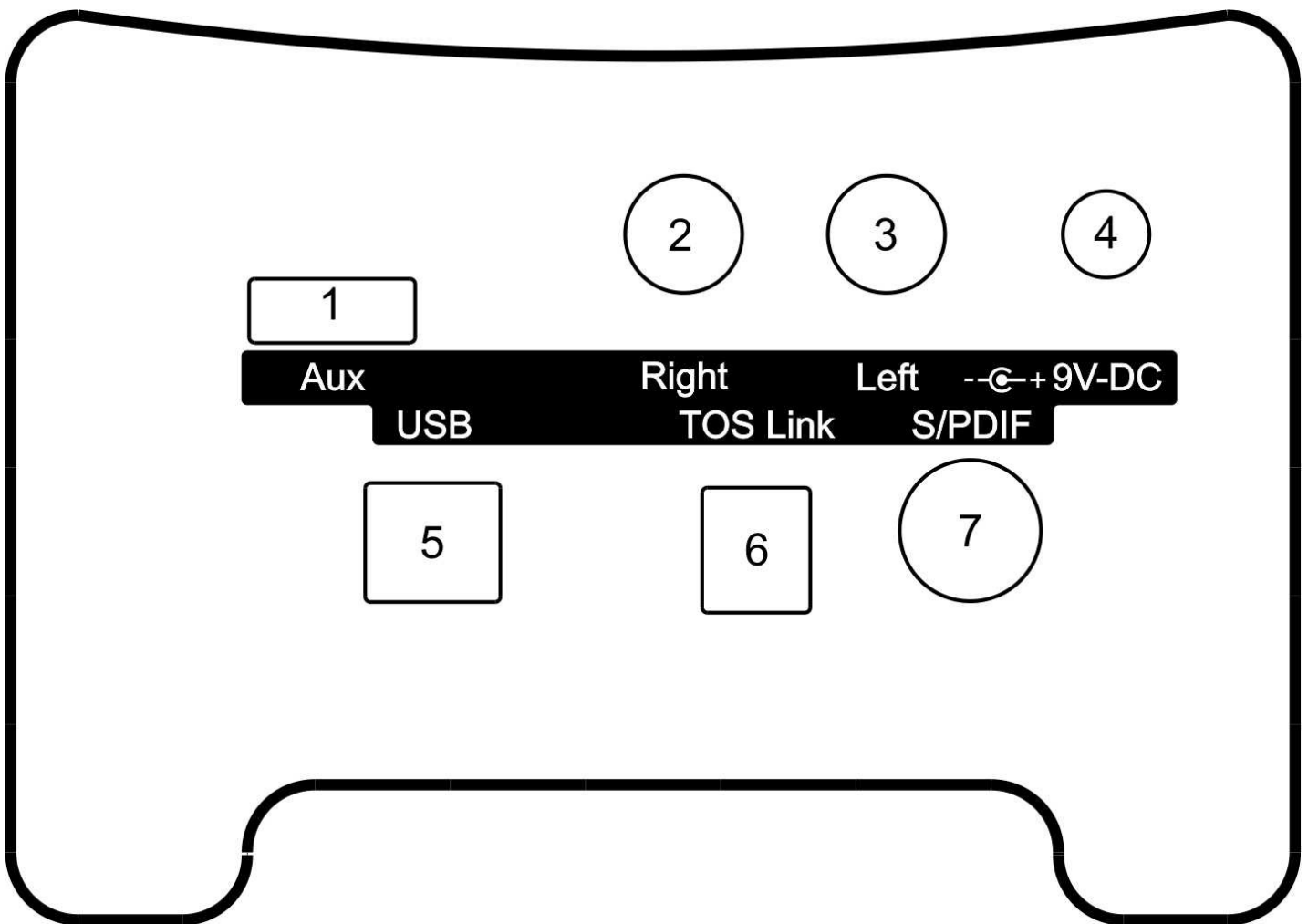
Basic Instructions and Legal Information



The following information, though obvious, is intended to protect both the user and the product from accidental damage. Failure to observe these practices may lead to damage of the product and injury to the user. Bottlehead Corp. is unable to provide warranty support and cannot be held liable for products or mammals damaged by means otherwise avoidable by following these precautions.

1. Keep the DAC, power brick, and any cabling away from sources of moisture, including steam, coffee, soda, fish tanks, moping buckets, and the like.
2. Clean the DAC with a clean cloth. We like the microfiber towels available at electronics stores. DO NOT use liquids of ANY KIND when cleaning your DAC.
3. If you are unsure of how to set up your DAC, consult a professional.
4. Do not use a power supply other than the one provided, or one approved of by Bottlehead specifically. (Note: a forum member on the Bottlehead forum endorsing a different power supply is not to be considered an endorsement by Bottlehead Corp.)
There is circuitry inside the DAC to protect the DAC PC board from using the incorrect adapter, and some of these parts will sacrifice themselves to save the expensive DAC main board.
5. To reduce the risk of electronic shock, insert the blades on the plug of the wall wart all the way into the wall.
6. DO NOT for ANY REASON attempt to open your DAC. There are no user servicable parts, and many user damagable parts inside. You break it, you bought it. See the warranty information on the last page of this manual for further explanation.

The Back Panel



1. **Auxiliary Port:** HDMI port for future upgrades. **Do not** connect this port to your television or receiver.
2. **Right Output Jack:** analog output for right channel audio
3. **Left Output Jack:** analog output for left channel audio
4. **Power Jack:** input from power supply
5. **USB Jack:** digital input from USB source
6. **Optical Jack:** digital input from Toslink source
7. **BNC Jack:** digital input from S/PDIF source

Getting Started

Unpacking your DAC:

The Bottlehead DAC is double boxed from the factory. Please retain the white shipping box with the foam protection pieces. When future filters or other software upgrades are made available, it will be required that the DAC is shipped back in its original packing materials for safety.

In the Box:

1. Bottlehead DAC
 2. Wall power adapter
- For international users only:
3. Step-down transformer

Quick Hookup Instructions

(for CD players and similar devices)

1. Connect the analog outputs of the DAC to your system.
2. Connect a digital source to the optical (TOSLINK) or BNC (S/PDIF) input.
3. Plug the power supply into the wall, then into DAC.
4. Select the desired cabling method on the front panel selector switch.

The "Less-than-Quick" Hookup

If you will be using your DAC with a computer via USB, you will have some simple additional steps.

MacOS X

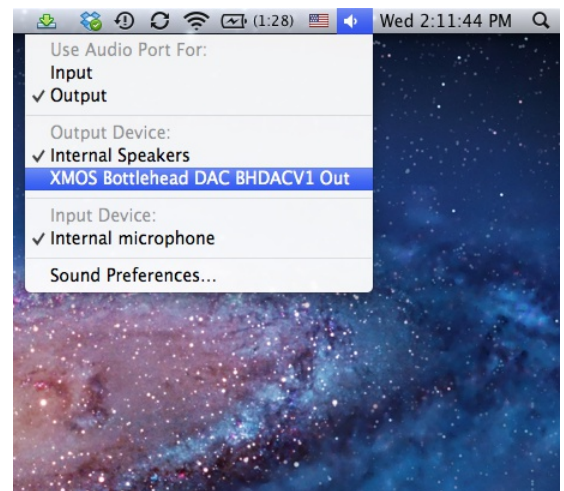
Connect the analog outputs of your DAC to your audio system. Plug the DAC in to a spare USB port, and connect the provided power supply to the wall, and then into the DAC.

Hold the option key and click on the speaker icon in the top-right corner of the screen.

A menu will appear; click on "XMOS Bottlehead DAC BHDACV1." The checkmark will move to that option.

Now select the USB option on the front panel of the DAC.

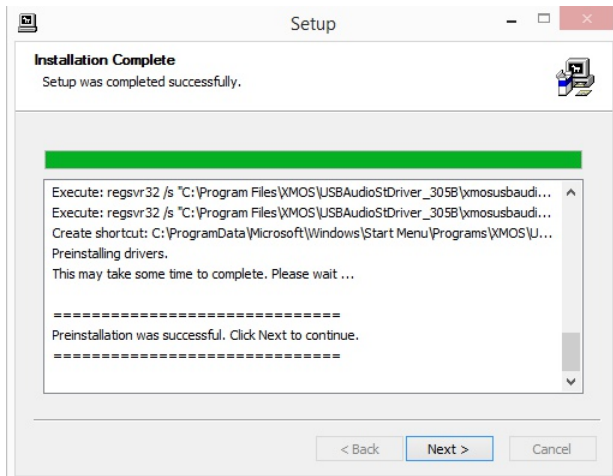
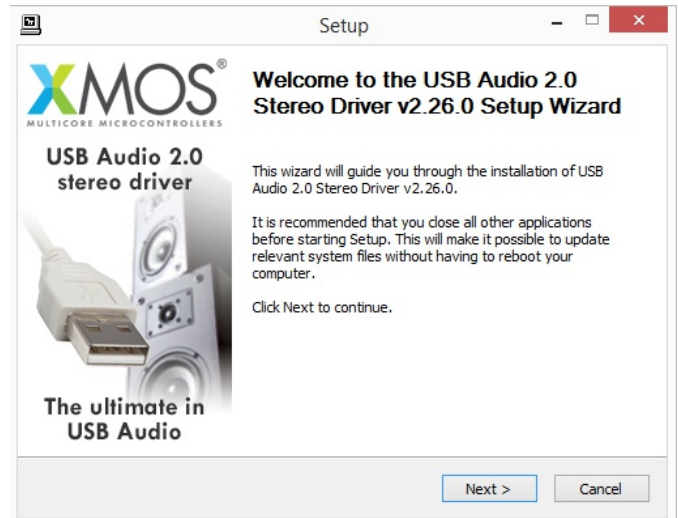
Reboot your computer, then load your preferred player and enjoy!



Windows – General (XMOS Driver Installation)

On all Windows machines, you must install the XMOS driver for the DAC. Begin by connecting the DAC to your computer with a USB cable and plug the DAC in to the provided power supply. Next, run the driver setup program you downloaded from [our website](#).

Once you click "Next," the driver setup program will search for the DAC on your system. If the DAC is not found, please ensure that it is powered on (7 segment display should be lit) and connected to a functional USB port.



The setup program will ask you to accept the XMOS license agreement, then you will be able to install the software.

Once finished, click "Next," then you will be prompted to disconnect, power cycle, then reconnect the device. This step **must** be completed for proper DAC installation.

Windows XP

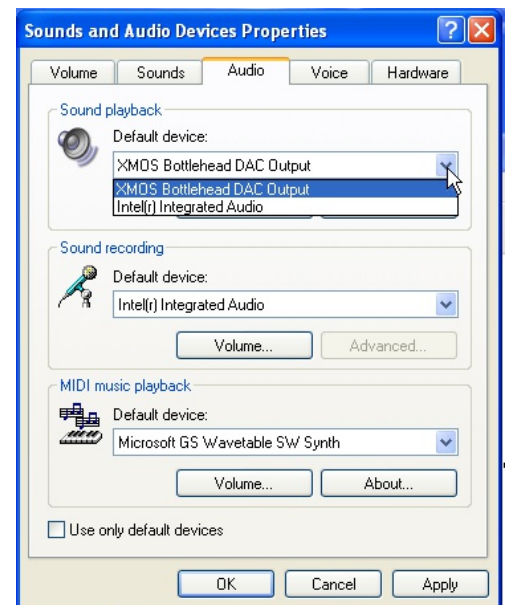
Windows XP will require the XMOS driver for proper operation as outlined above.

After the driver is installed, go to:

- Start >
- Control Panel >
- Sounds and Audio Devices >
- Audio tab

Select the Bottlehead DAC from the Playback dropdown menu, then click "OK."

Connect your DAC to your audio system, load your preferred audio playing software, and enjoy!

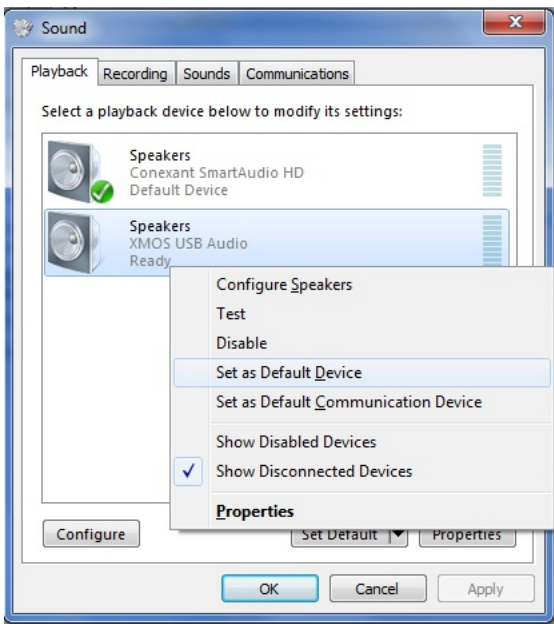
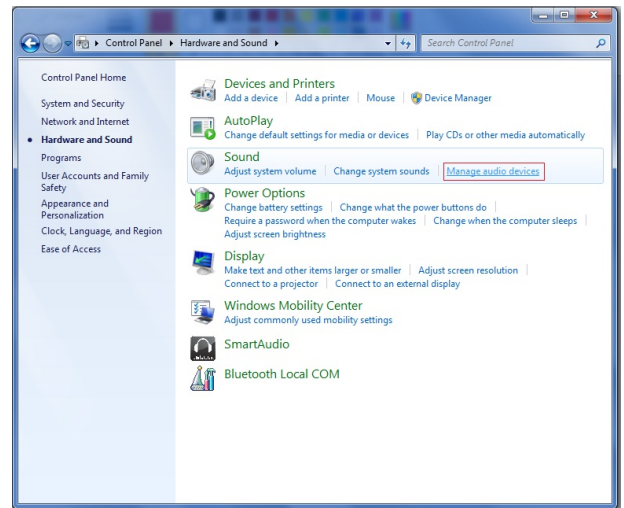


Windows 7

Begin with the instructions for the XMOS driver installation as shown at the top of page 6.

Once complete, go to

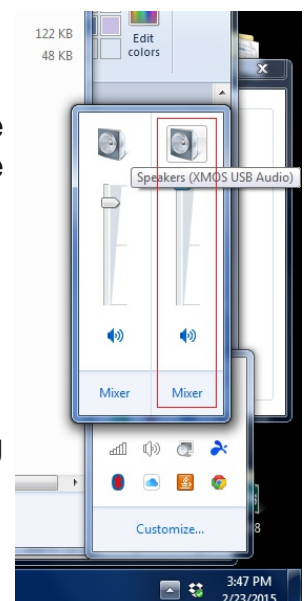
Start >
Control Panel >
Hardware and Sound >
Manage Audio Devices >
Playback Tab



In the "Playback" tab, right click on XMOS USB Audio and the left click on "Set as Default Device." Do note that if you click "Set as Default Communication Device," the DAC will not work properly.

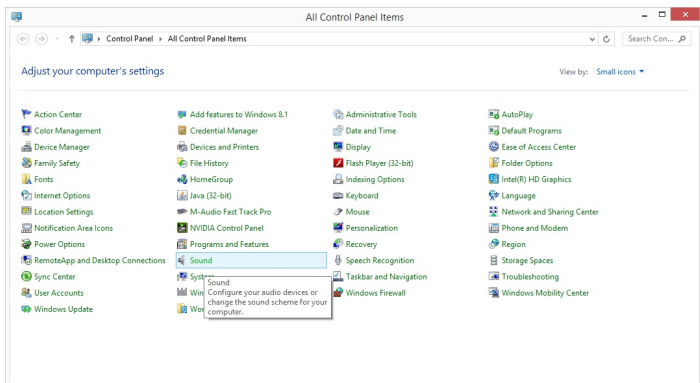
Now you can open the volume control from the lower right corner on the Start bar. There may be two audio devices present, but hovering the mouse over each speaker icon will reveal which slider controls which device.

Connect your DAC to your audio system, load your preferred audio playing software, and enjoy!



Windows 8

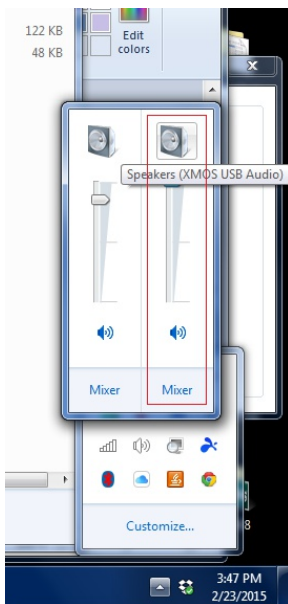
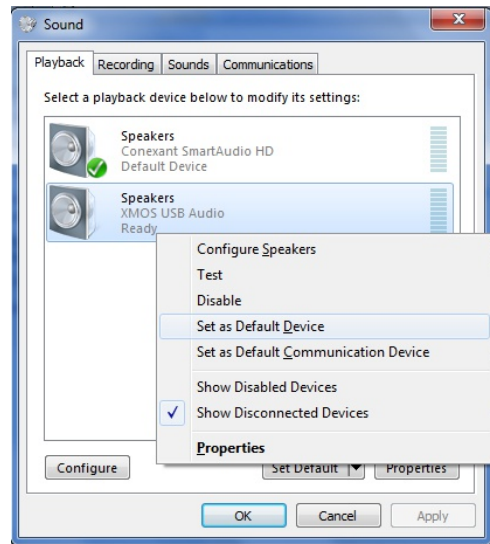
Begin with the instructions for the XMOS driver installation as shown at the top of page 6.



Hold the Windows key and press "X."
Select "Control Panel."

Click on Sound.

In the "Playback" tab, right click on XMOS USB Audio and the left click on "Set as Default Device." Do note that if you click "Set as Default Communication Device," the DAC will not work properly.



Now you can open the volume control from the lower right corner on the Start bar. There may be two audio devices present, but hovering the mouse over each speaker icon will reveal which slider controls which device.

Connect your DAC to your audio system, load your preferred audio playing software, and enjoy!

POSIX operating systems

If you are using any of a variety of open source or UNIX-like environments, the UAC2 compliance of the DAC ought to make installation a breeze. If you are having issues, we suggest visiting [our forum](#). Likewise, if you have tips you would like to share, please post your experiences.

General Troubleshooting

I get sound out of the DAC, but it sounds choppy or scratchy

Cycle the input selector on the front panel. Often times, this will let the DAC synch up with your digital source again, and the issue will resolve itself. We have also experienced this issue when the digital cable feeding the DAC is too loosely connected.

I get no sound out of the DAC on TOSLINK and/or S/PDIF

Try both power cycling the DAC and changing the inputs. On some sources you may need to go through the setup menus to activate the digital output and confirm that it is set to PCM (may say 2.1 alternatively).

Mac Troubleshooting

I get no sound out of the DAC, and I have already power cycled/run through the inputs

Sometimes the sample rate needs to be manually reset. To do this, go to the Audio MIDI Setup utility (in the Utilities folder, which is in the Applications folder). This will give you several options for the sample rate. Manually toggling it to 44100.0 Hz will clear up this issue.

Windows Troubleshooting

Windows sees the XMOS interface, but no sound is played

If you have been playing audio, then select the XMOS device while the audio is playing, you may need to stop and restart the audio for the DAC to function properly. On content streamed on the internet, a page refresh will be in order for proper functionality.

Nothing happens when I plug the DAC into the USB port.

The DAC will have to be powered up for Windows to find it. Also ensure that the USB port is active (try a different device in the same port).

The XMOS driver installation gives me an error that won't let me get past the first step.

The installer will wait for Windows to try to make sense of what the DAC is, what to do with it, and what driver to use. Windows will inevitably fail at doing this, and after Windows has given up, the device can be installed. This may take a few seconds to complete, or up to a minute, depending on how rigorous Windows decides to be in your instance. The other error that occurs is that the XMOS installer can't find the DAC. In this instance, be sure the DAC is powered up and plugged into a functional USB port.

I got everything up and running, but when I try to play music through the DAC, it doesn't work and it no longer appears as a device in the Sound Properties.

For reasons a bit beyond our control, Windows may present this error when USB booting is enabled in the BIOS. Disabling USB booting is not harmful to your computer (unless your operating system resides on storage connected VIA USB, which is very rare), but there are many BIOS chips used on Windows machines, and they are all a little different. A web search for "Disable USB Boot in BIOS" with the model of your computer should yield the necessary information to work around this, or feel free to post on our tech support forum for more information.

Specifications

Electrical:

Input Voltage	9 V DC
Power Consumption	5.5 W
Data Resolution	16, 24, and 32 bits
Data Sample Rates (TOSLINK and S/PDIF)	44.1, 48, 88.2, 96, 176.4, and 192kHz
Data Sample Rates (USB)	44.1, 48, 88.2, 96, 176.4, 192, 352.8, and 384kHz
Analog Output Voltage	Approximately 1.8V RMS
S/N Ratio	>112dB
Output Impedance	470Ω

Physical:

Dimensions	85mm x 122mm x 173mm
Mass	0.7kg

Enclosure Lid	Vinyl clad steel
Enclosure Base	Extruded aluminum
Materials: Enclosure Back Panel	Laser cut aluminum 0.10" thickness
Enclosure Front Panel	Hand machined 0.375" thick smoked acrylic with machine buffed edges
Analog Output Jack Construction	Gold plating over solid copper

Warranty Information

Bottlehead Corp. warrants to the original purchaser that the product shall be free of defects in workmanship and materials for one year from the date of receipt. During this period, Bottlehead Corp. will repair a defective product free of charge.

To receive warranty repair work, please file a support ticket on [our forum](#) with the issue you are experiencing. It is quite possible that your issue may be resolved without a repair, but in case it is not, we will provide an RMA number for the repair. Please ensure that you have the original packaging to use when returning the DAC, or let us know if you are unable to locate it and we will provide replacement packaging at a reasonable cost.

No warranty repairs will be provided without posting a support ticket and having correct packaging. Any product returned without an RMA and correct packaging will be returned to the sender with no repairs completed.

Please understand that the DAC PC boards are produced in batches, and are otherwise incredibly expensive to produce. Bottlehead Corp. will make an earnest effort to reserve spare parts for DAC repairs, but reserves the rights to perform warranty repairs with parts sourced from the next scheduled production run. Bottlehead Corp. will source replacement boards in small quantities if the wait time for replacement boards exceeds 180 days.

Warranty Limitations:

This warranty is voided if the product is:

1. Modified or has had the cover removed

or

2. Damaged by abuse, negligence, or improper use.

or

3. Has blown protection circuitry in the power input board.