



Antelope

OWNER'S MANUAL



GOLIATH

PROFESSIONAL
THUNDERBOLT™ | USB | MADI
AUDIO INTERFACE



WWW.ANTELOPEAUDIO.COM

Owner's Manual

For detailed information on this and other Antelope Audio products, please explore our various communication channels, listed at the end of this manual.

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1. Safety Notes



To reduce the risk of electrical shocks, fire, and related hazards:

- Do not remove screws, cover, or cabinet. There are no user serviceable parts inside. Refer servicing to qualified service personnel.
- Do not expose this device to rain, moisture or spillover of liquid of any kind.
- Should any form of liquid or a foreign object enter the device, do not use it. Switch off the device and then unplug it from the power source. Do not operate the device again until the foreign object is removed or the liquid has completely dried and its residues fully cleaned up. If in doubt, please consult the manufacturer.
- Do not handle the power cables with wet hands!
- Make sure the device is switched off when plugging/unplugging it to/from the power source.
- Avoid placing things on the cabinet or using the device in a narrow and poorly ventilated place which could affect its operation or the operation of other closely located components.
- If anything goes wrong, turn off the device first and then unplug the power. Do not attempt to repair the device yourself. Consult authorized service personnel or your dealer instead.
- Do not install near any heat sources such as radiators, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not use harsh chemicals to clean your unit. Clean only with specialized cleaners for electronics equipment.
- Connect all your devices before powering your unit.
- This unit is connected via its power cord to the mains safety earth.
- Never operate the unit without this earth connection.
- DC power supply cable should be routed so that it is not likely to be walked on or squeezed by items placed upon or against it.
- To completely turn off the device, unplug the power cable first from the outlet and then from the rear panel of the unit.
- Both occasional and continued exposure to high sound pressure levels can cause permanent ear damage via headphones and monitors.
- Your unit should always be un-racked when traveling or in a flight case.
- The device is designed to operate in a temperate environment, with a correct Operating Temperature of 0-50° C, 32-122° F
- **Attention!** *During the firmware update we advise to disconnect every other device from your Antelope unit except the computer.*

2. Introduction

Thank you for purchasing the Goliath from Antelope Audio.

Antelope Audio has packed more than 20 years of experience in digital audio, clocking and analog circuit development into an impressive, amazing-sounding and versatile, professional audio interface – Goliath. The blazing-fast Thunderbolt™, USB, and MADI I/O house a total of 36 analog ins and 32 analog outs, including 16-Channels of Class-A Mic Preamps with pristine and transparent AD/DA, all powered by Antelope's renowned clocking technology.

64 channels via Thunderbolt™ can be routed to a vast selection of Digital and Analog I/O options, including MADI, AES, ADAT, and S/PDIF for digital signals. There are 36 Analog Inputs and 32 Analog Outputs with stunning pristine AD/DA converters. These include 4 superb Instrument DI's, 2 transformer Reamp Outs, 2 Headphone Outs with integrated Talkback on the front, and 16-Channels of Class-A Mic Preamps, 2 sets of Stereo Inserts and a pair of mastering grade Monitor Outs on the back. The DB25 connectors feature 24 Outputs and 16 additional Line Inputs, making Goliath an attractive solution for Hardware Inserts and Summing. Even more Analog I/O Channels can be added by connecting Antelope's own Orion32 or Orion32+ using MADI, for a full 64 Channels of Analog I/O simultaneously.

Dedicated knobs make real-time control exceedingly simple for adjusting Mic Pre Gain and Instrument Inputs, as well as an assignable large volume knob for Stereo or Headphone Monitor Outs. There are also dedicated buttons for Talkback, Mono, and Mute, as well as a flexible Antelope Button. Goliath's exceptional control options go from convenient to simply amazing with its innovative multifunctional color touch screen allowing for our most user-friendly front panel experience ever.

Using your computer, you'll be able to easily route any input to any output via a flexible color-coded routing matrix inside Antelope's custom control panel software for Mac or PC and then save all your settings to five recallable presets. You can then go wireless using exceptional Apps for both iOS and Android devices. All of these options ensure that you are in complete control of Goliath's vast connectivity at all times.

Goliath employs Antelope's powerfully fast FPGA-based DSP engine, able to process four zero latency mixers with custom effects, like the stunning new AuraVerb reverb and several new modern and vintage hardware EQ and compressor models. Antelope's new RealModel technology creates the most accurate modeling of classic analog gear. Stacks of FX can then be combined to build custom FX Chains and saved as Presets inside the AFX engine. Guitar Players will love this new FX approach when combined with Antelope's new partnership with Overloud Audio Tools' amp modeling, which also comes preloaded with Goliath.

Goliath's precise clocking is run by Antelope's proprietary 4th generation of Acoustically Focused Clocking (AFC) jitter management algorithm and oven-controlled crystal oscillator, as featured in Antelope's best crystal-based master clocks. For optimum detail and sound stage, Goliath can be additionally synced to the extremely accurate Rubidium Atomic Clock – 10MX. It can be used as a master clock for two other products via the two Word Clock Outs on BNC.

Antelope's record setting Thunderbolt™ speed, combined with real-time FPGA mixers and FX mark an end to the need for offline DSP to enhance the power of a modern DAW on today's computers. Antelope interfaces make use of real-time DSP for specific tasks, such as monitor mixing with reverb, tracking through accurately modeled EQ and Compression, as well as exceptional guitar amp models from the highly regarded Overloud Audio Tools. Antelope's custom Thunderbolt™ circuit enables users to route to external hardware gear in near real-time or route recorded guitars or other audio out of Antelope Reamp Outputs to external effects pedals or other instrument processors. Monitoring the results is so fast, a guitar player could even play live through the chain without feeling any lag from the excessive latency of standard buffering, usually associated with external DSP solutions.

For further information, you can also visit our support area online for the FAQ, Help Desk and to register your product at: www.antelopeaudio.com.

Enjoy working with the new Goliath!

All the best,
The Antelope Team

3. Features

- 1x Custom USB 2.0 Type-B Connector
- 1x Thunderbolt™ Gen1
- 16x Universal Inputs (Mic In/Line In) on XLR (Inputs 1 to 4 are also HiZ compatible & first two are connected to AD INSERTS)
- 4x Instrument In on 1/4 stereo jack (dedicated for instrument / HiZ only)
- 16x Line In on 2x DB25
- 24x Line Out on 3x DB25
- 2x Reamp Out on 1/4 stereo jack
- 2x HP Out on 1/4 stereo jack
- 2x AD Inserts on double TRS (connected to rear 1 & 2 universal inputs)
- 8x AES/EBU I/O on 2x DB25 (following TASCAM standard)
- 1x WC In on BNC
- 1x Atomic In on BNC
- 2x WC Out on double BNC
- 1x S/PDIF I/O on 2x RCA
- 2x ADAT In / Out on Fiber optic
- 2x Optical MADI In and Out on Fiber optic (64 channels on each MADI)
- 1x Monitor Line Out on 1/4 TRS stereo jacks (L/R CHs) for pair of stereo monitors
- 1x TALKBACK Mic
- 1x 3.5" high resolution TFT display (262 000 colors) with capacitive touch screen panel

4. Installation Guide

Connect to the AC power source via rear panel connector.

Windows:

1. Connect the USB cable to the USB port on your computer.
2. Download and install the Goliath Software Control Panel and driver from www.antelopeaudio.com/en/support/downloads This will enable you to control your device from your computer and select all necessary settings.
3. Open your Control Panel by double clicking and follow the device activation procedure.
4. Connect your choice of inputs and outputs to Goliath.
5. The guest operating system will recognize the new output audio device (Goliath).
6. If you want to use the Goliath for playback and recording, open your preferred DAW and make sure the device is selected as an input and output.

Note: Make sure your device has the most recent firmware installed.

Mac OS:



Important Note

A Mac is compatible with Goliath only if it has the Thunderbolt™ logo.

Mini Display Port

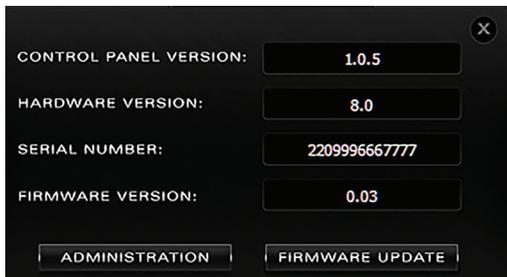
Thunderbolt™ Port



1. Connect the Thunderbolt™ (TB) or the USB cable to the TB or USB port on your computer.
2. Download and install the Goliath Software Control Panel and driver from www.antelopeaudio.com/en/support/downloads This will enable you to control your device from your computer and select all necessary settings.
3. Open your Control Panel by double clicking and follow the device activation procedure.
4. Connect your choice of inputs and outputs to Goliath.
5. The guest operating system will recognize the new output audio device (Goliath).
6. If you want to use Goliath through Thunderbolt™ for playback and recording, open your preferred DAW and make sure the device is selected as an input and output.

Note: Make sure your device has the most recent firmware installed. Check this by selecting the Options panel and clicking on the Firmware Update button.

See picture:



Activation Guide

It is essential to activate your Goliath before using it. Once connected to your AC and USB or Thunderbolt™ to your computer follow the steps below:

1. Navigate to **www.antelopeaudio.com/support/downloads** and then to Goliath.
2. Download the Goliath Launcher.
3. Start the application (If you are on a PC install the launcher). The launcher will automatically download the Software Control Panel.
4. You will be greeted by an Activation Screen. If you already have an Antelope Audio account click on "Use existing Antelope ID". Enter your information and click Continue.

If you don't have an Antelope Audio account please enter a user ID, e-mail and password, then click Done.

5. Check your email for the activation link mail and click on it. If the email does not appear in your Inbox, please check your Spam folder.
6. Go back to the launcher and enter the required information. Click Done.
7. You're good to go!

Note: *If you haven't activated your Goliath, a red window will appear on the touch screen saying: PLEASE ACTIVATE. Please follow the steps above to successfully activate it.*

5. Front Panel Explained



- 1. 2 Re-amp outputs**
These outputs are direct outputs that should be used with guitar amplifiers for re-amping.
- 2. 4 Instrument Inputs**
Hi-Z Inputs with dedicated rotary control knobs. Hi-Z Inputs are suitable for connecting instruments such as bass or guitar to the Goliath.
- 3. High resolution “capacitive touch” TFT display**
Multi function touch screen that displays various information.
- 4. Channel Gain Control knobs / Input Selectors**
To adjust the input signal of the channel, turn the knob left/right. Value can be adjusted in 1 dB steps. The peak indicator lights in response to the level of the input signal. Press and hold the rotary knob to mute the corresponding channel.

To switch between the input modes (Mic, Line, Hi-Z on inputs 1-4) press the rotary knob. Please ensure that your selection matches the type of input signal.
- 5. Talkback button and Talkback mic**
Press the talkback button to activate the talkback microphone. This can be distributed to the selected headphones and/or monitors using the software control panel.
- 6. Main Rotary Control**
Big knob for monitor outs, line outs or HP volume control. By pressing it you can cycle through the different outputs, the Reamp and Monitor Volume.

- 7. Mono Button**
Changes from Stereo to Mono the current output that is selected by the Main Rotary Control

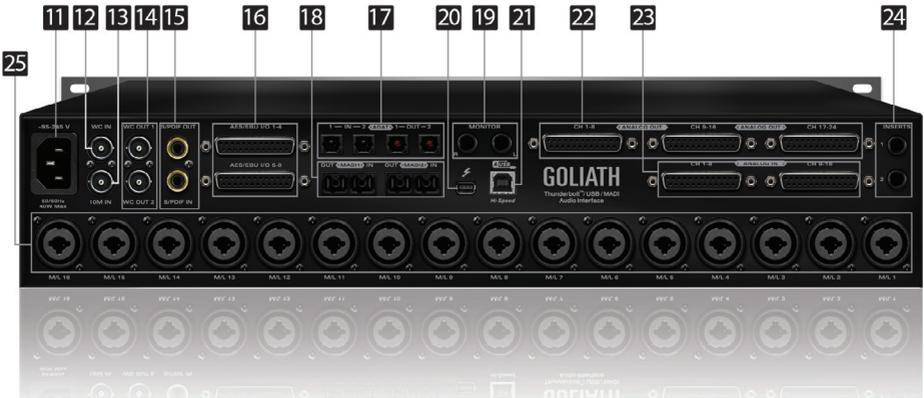
- 8. Antelope Button**
Accesses various menus in combination with other buttons.

Antelope button & Mono button: Enters touch screen calibration mode.
Press and hold the Mono button + Mute button before powering on the device:
Factory Reset Combo.

- 9. Mute Button**
Mutes the current output that is selected by the Main Rotary Control

- 10. 2 Headphone Outputs**
Two independently assignable headphone outputs, selectable and controllable via the main volume control knob.

6. Rear Panel Explained



11. Mains Power Connector

The IEC connector supports a range from ~95-245 V. This enables the device to automatically accommodate mains voltage in every country.

12. Word Clock Input

BNC connector used to accept Word Clock reference.

13. 10M Input

This BNC Input Connector allows the Goliath to receive timing reference from an Atomic Clock such as the Antelope 10M and 10MX, to increase the Oscillator accuracy. If the device is in Oven mode, plugging in the atomic clock causes the “Oven” light to turn to “Atomic” on the touchscreen and the atomic device becomes the primary timing reference, thus providing better sample accuracy, more detailed sound and greater stability.

14. Word Clock Outputs

Two Word Clock Outputs on BNC connectors.

15. S/PDIF I/O

75Ω S/PDIF input and output for use with compatible equipment.

16. AES/EBU I/O

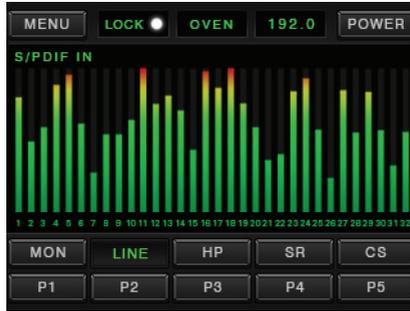
Each D-SUB 25 connector has 4 ins and 4 outs (following TASCAM standard).

17. ADAT Inputs and Outputs

2 Inputs & 2 Outputs (up to 8 channels per line).

- 18. MADI Inputs and Outputs**
2 x MADI I/O Connectors providing 64 tracks input and 64 tracks output per connector.
- 19. Monitor Outputs**
A stereo pair (2 x TRS) of balanced outputs to connect a pairs of monitors.
- 20. Thunderbolt™ Port**
Enables you to connect your Goliath to a Thunderbolt™ port on a Mac computer using a Thunderbolt™ cable (not included).
- 21. USB High-Speed**
Goliath uses USB connector Type-B and operates up to 192 kHz sample rate with Antelope ASIO on Windows & Mac OS X.
- 22. Analog Line Outputs (on top)**
Three D-SUB 25 connectors enable you to attach breakout cables, each with 8 lines.
- 23. Analog Line Inputs (on bottom)**
Two D-SUB 25 connectors enable you to attach breakout cables, each with 8 lines.
- 24. AD Insert Points**
Two ¼" TRS insert points (L & R) for connecting analog gear such as dynamics processors or EQ's, just before the A/D conversion.
- 25. Mic and Line Inputs**
16 Class-A mic preamps, with phantom power over combo XLR. First four are also Hi-Z compatible.

7. Touch Screen Explained



The Goliath features a touch screen on its front panel. From it you can access all options of the device.

The touch screen features the following options:

Menu

Here you can adjust different Goliath parameters:



Brightness

Adjusts the touchscreen brightness.

Comm Interface

Selects which is the current type of connection between the computer and the Goliath, USB or Thunderbolt™.

Screen Saver Style and Time

Changes the amount of time it will take for the screen saver to appear as well as the type of the screen saver for the touchscreen.

SR Conversion

Enables and disables the Sample Rate Converter for the digital inputs.

Presets Saving

Enables you to save the current settings on a preset.

Factory Reset

Resets the device to the factory settings, note that all settings and saved presets will be lost.

10M Calibration

Enters calibration mode which will enable you to calibrate the Goliath to a 10M.

Ensure atomic signal is fed to the Atomic Input, the Atomic Clock is warmed up and the Atomic Indicator on the touchscreen is lit.

1. Select 10M calibration from the menu and the device will enter calibration mode
2. The indicator below will show a temperature number which will stabilize with time. When the number is stable and the 10M is connected LOCKED will appear on the screen. Wait until the number of "clock errors" are displayed. Click Done when the error number gets stabilized to finish the calibration.
3. Repeat the procedure as many times as necessary so that the number becomes as close as possible to Zero and relatively stable (number may have small deviations in a few seconds).

Device Info

Displays the serial number, hardware revision and firmware version of the device.

Touch Screen Calibration

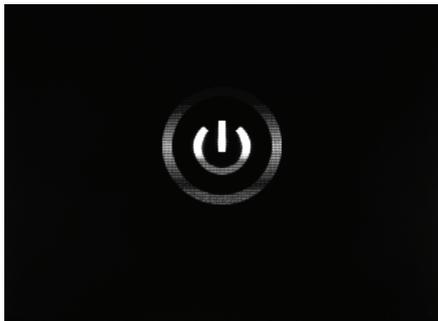
Will enter the touch screen calibration mode. Follow the instructions on the screen to re-calibrate the screen.

Lock

Indicates whether the Goliath is locked to an incoming signal or not.

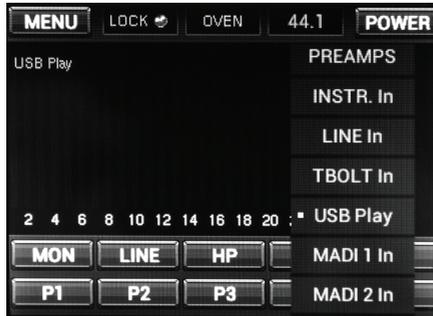
Power

Powers off the device, if the Goliath is in standby mode, a power button like this will appear:



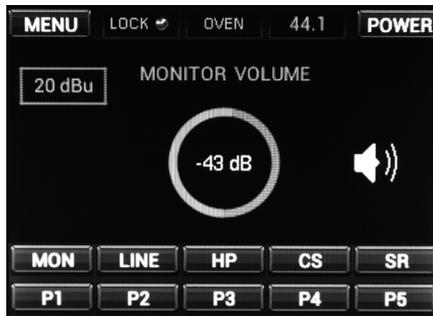
Tap it to switch the device on.

Main Display



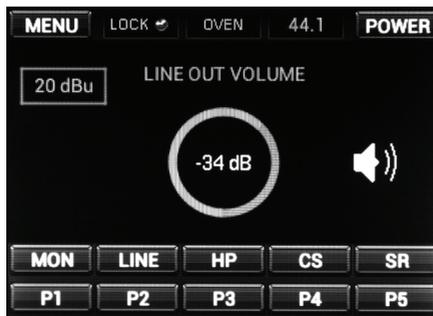
Tap it you select the meters to be currently displayed.

MON



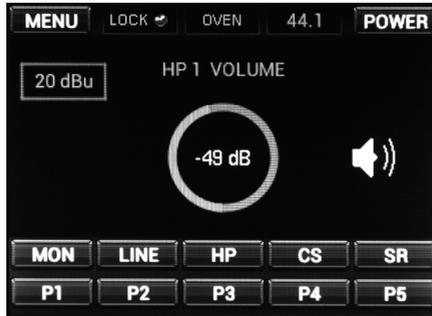
Enter the Monitor menu to adjust the Monitor volume level from the screen or the main Volume Knob.

LINE



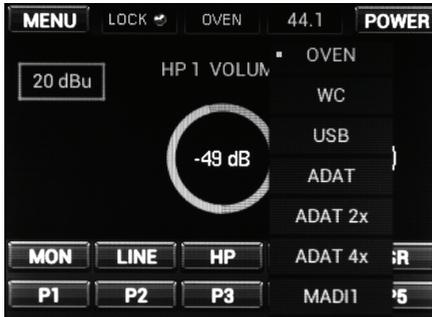
Enter the Line Out menu to adjust the output volume level.

HP



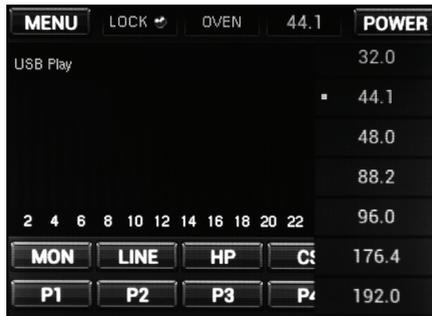
Cycle through the two Headphone outputs and set their volume levels.

CS



Shows the current Clock Source for the Goliath, set by default to Oven. The selected source is displayed on the top of the touchscreen. Tap to choose from the available clock sources. Your selection will be shown in the section above.

SR

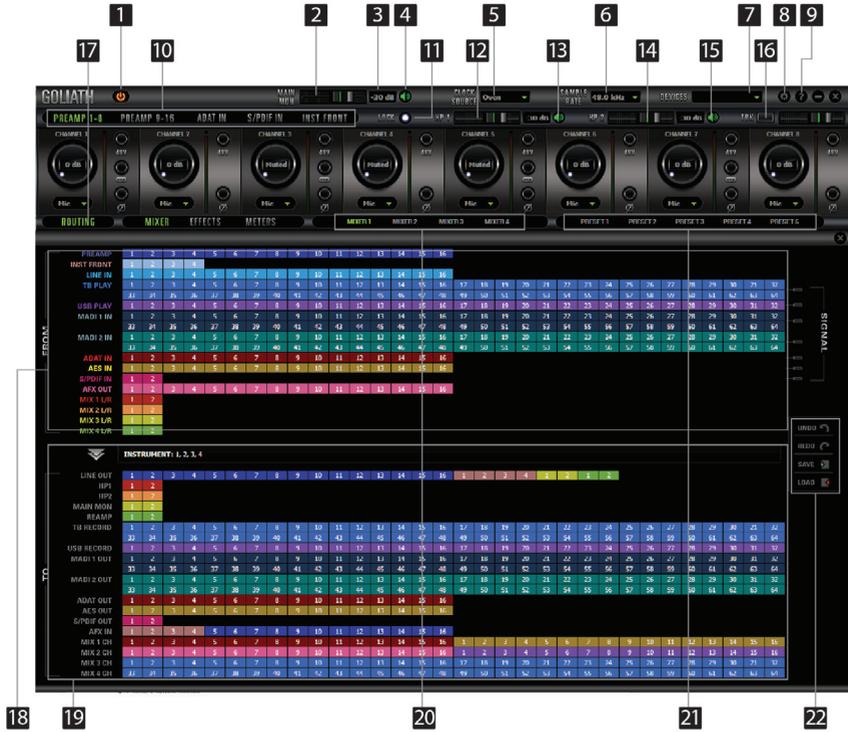


Here you select the Sample Rate for the Goliath. Tap the SR button to see the available Sample Rates. The current one will be displayed on the top of the touchscreen.

Presets 1–5

The Global Presets save all device settings to one of the five available Preset slots. By pressing buttons P1 to P5 you switch between all customizable presets.

8. Software Control Panel



8.1. Main View Options and Routing Tab

The universal panel view is constantly located on the upper half of the control panel for quick access to the most important features.

Main view:

1. Power/Standby button
2. Main monitor volume slider
3. Main monitor dB level
4. Main monitor mute button
5. Clock source select

This dropdown menu allows you to select how the Goliath is to be synchronized. Select 'Oven' for internal sync, W.C. (Word Clock) to sync the Goliath to an external device through the Word Clock input or ADAT, MADI, S/PDIF, AES for syncing with incoming digital signals, or through Thunderbolt™ / USB.

6. Sample rate select
7. Connected devices
8. Settings
9. Info
10. Preamp 1-8 / Preamp 9-16 / ADAT In / S/PDIF In / Inst front section
11. Lock light
12. Headphone (HP 1) volume slider
13. Headphone (HP 1) 'Mute' button
14. Headphone (HP 2) volume slider
15. Headphone (HP 2) 'Mute' button
16. Talkback active button / Indicator light & Talkback volume fader
17. Routing Show/Hide
18. 'From' section (from Routing tab)
19. 'To' section (from Routing tab)
20. Mixers 1–4 section
21. Presets 1–5 section
22. Undo/Redo routing; Save/Load (from Routing tab)



23. Mic, Line and Hi-Z (1, 2, 3, 4 only) modes selectable via dropdown menu (please ensure your selection from the dropdown menu matches the type of signal being inputted)
24. Channel Gain (value adjustable in 1 dB steps), Ctrl+Left-Click (Win) / Cmd+Left-Click (Mac) mutes the channel
25. Peak meter
26. 48V Phantom power switch (independently assignable)
27. Stereo link button
28. Phase reverse button

8.2. Mixer Tab



1. Fader (double-click to reset to zero)
2. Fader Level indication
3. Solo
4. Mute
5. Stereo Link
6. Pan (double-click to reset to zero)
7. Send (double-click to reset to zero)
8. Master Mix Fader (double-click to reset to zero)
9. Master Mix Level indication
10. Master Mix Mute
11. Mixer 1–4 Show/Hide

Goliath offers four software low latency mixers which provide near zero latency mix and monitoring that can be distributed to any output from the control panel.

For example, you can drag all of the 32 USB PLAY channels to MIXER 1 channels and then drag and drop MIX 1 L/R to LINE OUT 1&2 providing a stereo bus mix to LINE OUT channels 1 and 2.

The low latency mixers provide all basic functions of a real mixer such as: Solo, Mute, Pan, Stereo Link, Volume Level fader control and a Master Fader, so you can easily make a stereo mix plus an



Auxiliary send in order to use the Goliath DSP effects. AuraVerb is a powerful and flexible algorithmic reverb effect powered by the Goliath's Custom FPGA-based DSP. It provides near zero-latency effect monitoring without taxing your CPU. AuraVerb can also be used as a hardware effect from your DAW. That way you can take advantage of its rich and unique sound while mixing or mastering.



By default the effect is switched on.

Quick Start

AuraVerb appears as a pre-fader send effect on the Goliath's mixer 1. To send a signal to the reverb, turn up the send control on a mixer channel and use the reverb output level to adjust the return to the mixer's master channel. To hear the reverb, route the mixer output to your monitors by clicking and dragging MIX 1 [1] [2] to MONITOR [1] [2] on the routing matrix. Fine tune the reverb mix by balancing between the dry signal on the mixer channel's fader and the reverb Output Level knob.

AuraVerb Parameters

- Color

AuraVerb's Color control allows you to adjust the overall tone of the reverb. On "0" the space created is darker, like a lushly carpeted area. On "100" the reverb sounds the brightest, which can add some sizzle to a lead vocal, for example.

- PreDelay

PreDelay is a common function on most reverb effects and allows you to create a bit of space between the source and the onset of reverb by controlling the amount of delay time that precedes the initial reverberated sound. This parameter is used to place the reverberated signal later in time with respect to the unprocessed signal. Natural settings for this are based on the size of the environment and range from 0 to 32 milliseconds. Fine adjustment of this parameter with respect to the tempo of the song or dramatic timing of the piece can help set the feel of the reverb within the mix.

- Early Reflection Gain

This is the linear gain value for all early reflections. These reflections are perceptually grouped with the direct sound when set at lower levels and can nicely thicken a track when increased.

- Late Reflection Delay

Among other things, AuraVerb calculates reflected energy from the side walls and ceiling of the virtual space. Late Reflection Delay controls the delay of these these late bursts of reflections, either to create dedicated echoes or to support the spatial impression of the simulated acoustic space.

AuraVerb allows you to fine tune several other parameters for even deeper control of the acoustic environment you are designing:

- Richness
- Reverb Time
- Room Size
- Reverb Level

AuraVerb offers 24 presets suitable for a variety of genres and instruments.

The S & L icons stand for saving and loading your own AuraVerb presets.

For more info about AuraVerb, visit our website:

<http://www.antelopeaudio.com/en/support/downloads>

8.3. Effects Tab

Click on the Effects Tab to reveal the 16 AFX Channel strips:



EQ

- Frequency Adjust Dials (double-click to return to default)
- Gain Adjust Dials (double-click to return to default)
- Q Factor Adjust Dials (double-click to return to default)
- Frequency Band Analysis Screen
- Save / Load / Bypass
- EQ Output Metering
- Selectable High Pass or High Shelf Filter (in green)
- Bandpass / Notch Filter (in blue / red)

Compressor

- Detector
- Ratio
- Threshold
- Knee
- Attack
- Release
- Gain
- Compression Meter
- Compression Curve
- Save / Load / Bypass
- Stereo Link

8.4. Meters Tab

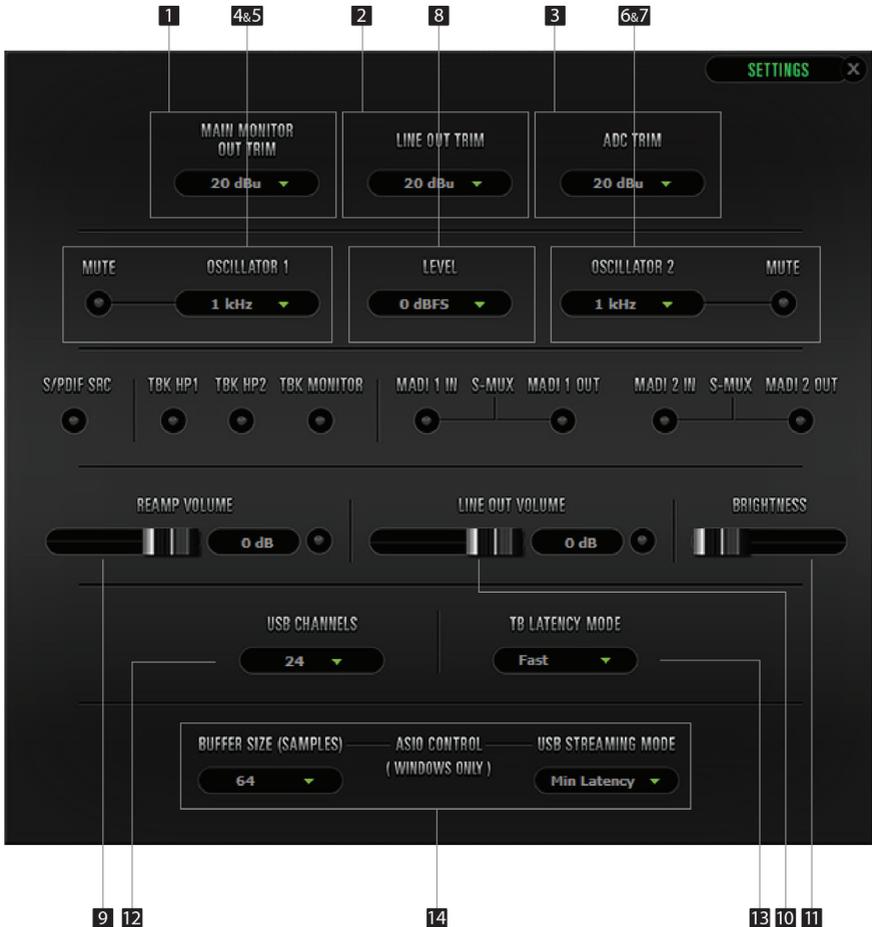
The Meters tab allows you to measure the volume levels of all audio signals coming from and to the Goliath. A dropdown menu allows you to easily switch between the routing matrix sections, whose signal levels you want to visualize.



8.5. Settings Tab

Click on the gear icon to open the “Settings” window.

1. Main monitor out trim
2. Line out trim
3. ADC trim
- 4 & 5. Oscillator 1 and mute
- 6 & 7. Oscillator 2 and mute
8. Oscillator level
9. Reamp volume
10. Line out volume
11. Brightness – adjusts the Goliath’s front panel display brightness
12. USB channel count
13. Thunderbolt™ latency mode
14. Windows only: ASIO control – buffer size & USB streaming mode



9. In the Box

- Goliath – Thunderbolt™ and USB AD/DA Interface
- Owner's Manual
- Warranty Card
- 1 IEC Power cable
- 1 USB cable

10. Troubleshooting

Start up and Sound:

- Are you running the latest control panel and firmware?

If not, please update your control panel and firmware.

- Are you correctly routing the audio signal via the routing panel?

For Thunderbolt™ or USB playback, route the Thunderbolt™ or USB-play channels to the Line Out channels by dragging and dropping from the top section to the bottom.

- Have you set the correct sample rates matching your DAW with your computer's sound and the Goliath?

On Mac, first check that the sample rate is correct in the audio MIDI set up, then proceed to check in the DAW before finally checking the Goliath sample rate.

For Windows, first check in play back devices, right click on the Goliath then click properties before then moving to the advanced tab. Then repeat the above by checking the DAW's sample as well as the Goliath.

Connectivity:

If you believe there is no sound being received to an input or delivered from an output:

- Check your source. Is there a signal being transmitted from the source?
- Is your source in the correct sample rate for the Goliath to receive?
- Check what clocking mode you are in. Are you receiving the clock signal from the source?
- Check that the relevant lock light on the control panel of the Goliath is lit up.
- Try a different cable and another source if available.
- Check the routing on the control panel. Have you routed the signal path correctly?
- If you have routed signals to the routing mixer, check their corresponding fader is up.
- Check the relevant peak meters of the control panel by selecting them in the drop down menu to see if the relevant signal is being received or is being outputted.

DAW

- What buffer size is your DAW set to?
- If it is significantly low i.e. lower than 128 samples in your buffer size, try increasing it. Try increasing the buffer size from the Goliath control panel (Windows Only)
- Have you checked the input and output routing is correct in your DAW?
- Is the Goliath device selected in the relevant sound card section of the DAW's preferences?

If the Goliath doesn't show up in you DAW, first try unplugging and plugging back the Thunderbolt™ cable (or the USB cable), then restarting your Computer and finally re-install the firmware, drivers and control panel for the Goliath.

11. Technical Specifications

Inputs

Analog	16 x Line inputs on two D-SUB 25, +20 dBu max, 11.2 kOhms 16 x Mic / Line universal inputs on XLR combos on the rear (first 4 are HiZ compatible) 4 x Instrument (HiZ) inputs on TRS ¼ jacks on front
Analog Inserts	2 x Inserts on TRS ¼ jacks (dedicated to rear universal inputs 1, 2)
Digital	2 x Fiber Optic MADI (up to 64CH each) 2 x ADAT (up to 16CH) 8 x AES/EBU I/O on 2 x D-SUB 25 (16 CH) 1 x S/PDIF
Word Clock	1 x Input @ 75 Ohms 3Vpp on BNC 32 – 192kHz
Atomic Clock	1 x 10M Input @ 75 Ohms 1Vpp on BNC

Outputs

Analog	24 x Line outs on two D-SUB 25, +20dBu, 56 Ohms 2 x Main Monitor outs on TRS ¼ jacks 2 x Stereo Headphone outs on TRS 2 x ReAmp outs on TRS
Digital	2 x Fiber Optic MADI 2 x ADAT 8 x AES/EBU I/O on D-SUB 25 (16CHs) 1 x S/PDIF
Word Clock	2 x Outputs @ 75 Ohms 3Vpp on BNC 32 - 192kHz
USB I/O:	1 x USB 2.0 Hi-Speed; Data stream up to 480 Mbits/192kHz, 32 channels I/O, Type-B
Thunderbolt™	1 x Thunderbolt™, (64x64 channels I/O)

D/A Main Monitor Converter

Dynamic Range:	127 dB
THD + N:	-108 dB

D/A Converter

Dynamic Range:	120 dB
THD + N:	-107 dB

A/D Converter

Dynamic Range:	120 dB
THD + N:	-110 dB

11. Technical Specifications (continued)

Mic Preamp

Gain: 0, 10 – 65 dB
THD + N: -108 dB

Clock Specs

Clocking System: 4th Generation Acoustically Focused Clocking
64-bit DDS
Oven Controlled Crystal Oscillator

Clocking Stability: <+/-0.02 ppm, oven controlled at at 64.5°C/ 148.1°F

Clock Aging: < 1 ppm per year

Clock Calibration: <+/-0.001 ppm

Sample Rates (kHz): 32, 44.1, 48, 88.2, 96, 176.4, 192

Operating temperature: 0-50°C/32-122°F

Weight: 6.8 kg/ 15 lbs approx.

Dimensions (approx.): Width: 483mm /19"
Height: 81mm / 3.2"
Depth: 279mm / 11"

Power Supply: AC Universal input ~95-245

Power Consumption: 40 Watts Max

12. Antelope Audio Support Resources

Antelope Audio offers a range of services and support resources for your Antelope hardware, firmware and software control panels.

FAQ

Several categories of frequently asked questions are available on the website:

<http://www.antelopeaudio.com/en/support>

Telephone Support

Phone line is for general inquiries and technical support: +1 734 418 8661

Hours of Operation: 7:00 a.m. - 3:00 p.m. (EST)

Help Desk

A ticketing system ensures a 24-hour response time:

www.antelopeaudio.com/en/support/help-desk

Live Chat

Connect with a customer support agent directly via the website:

<http://www.antelopeaudio.com/en/support>

Click on Antelope Tab on the right-hand side of the webpage

Hours of Operation: 7:00 a.m. - 3:00 p.m. (EST)

Support Documents and Software

A web resource with all device manuals, datasheets and software:

<http://www.antelopeaudio.com/en/support/downloads>

Control Panel Newsfeed

The software control panel for Goliath incorporates a newsfeed at the bottom, which displays all new updates and relevant information:

You Tube Page

Tutorial videos, interviews, user cases and promos for forthcoming products:

<http://goo.gl/yfOmZf>

Web Blog

Regular blog posts will update you on the latest user cases with the Goliath:

<http://www.antelopeaudio.com>

NOTES

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***Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)***

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



OWNER'S MANUAL



GOLIATH

PROFESSIONAL THUNDERBOLT™ | USB | MADI AUDIO INTERFACE



WWW.ANTELOPEAUDIO.COM

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