Orion32 HD | Gen 3
64-channel HDX & 32-channel USB 3.0 Audio Interface

User Manual

1. Safety Notes

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

Do not remove the 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.

Do not install near any heat sources such as radiators, stoves, or other devices (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.

AC 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 from headphones and

speakers can cause permanent ear damage.

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

2. Introduction

Thank you for choosing Antelope Audio!

Our HDX-ready AD/DA converter has become an industry-leader, achieving a phenomenal dynamic range of 136 dB at the Monitoring D/A section! With upgraded conversion and refreshed design, the Orion32 HD | Gen 3 will make your productions and live shows sound like nothing else on the market.

Key Features

• FPGA-based low latency effects modeling legendary studio gear worth thousands
• Pro Tools HD and Native-compatible
• Streaming of 24-bit, 192 kHz audio via HDX or USB 3.0
• Flawless 4th Generation 64-bit clocking and jitter management
• Additional connectivity on MADI, ADAT, S/PDIF, 8x DB25
• Mastering Grade monitor outputs
• Housed in an efficient "green design" fanless chassis
• Network Control from multiple computers
• macOS and Windows compatible

Enjoy working with the Orion 32 HD | Gen 3!

With compliments,
Team Antelope

3. Getting Started

1. Hook up to a power source and connect the Orion 32 HD | Gen 3 to your Windows or Mac computer with an HDX or USB cable (an USB cable is included). Power on the unit.
2. Visit www. HYPERLINK "http://www.antelopeaudio.com/" HYPERLINK "http://www.antelopeaudio.com/"antelopeaudio.com and log in or create a customer account.
3. Head to the Antelope Audio Customer Support page and download the Antelope Launcher. Windows users must download the drivers as well.
4. Install the software by following the on-screen instructions.
5. Open the Antelope Launcher and update the Orion 32 HD | Gen 3 firmware & Control Panel to the latest available version.
6. Launch the Orion 32 HD | Gen 3 Control Panel from the Antelope Launcher.
7. Use the Antelope Audio Registration Wizard to register your device. Simply follow the on-screen instructions.
8. Proceed with connecting your equipment and setting up the Orion 32 HD | Gen 3 for use in your preferred DAW.

4. Front Panel Controls

From left to right:

1. Power button
Toggles standby/operation state

Press and hold the Power button to enter the System Menu, which lets you access the following sub-menus:

1. Device Info
2. Brightness
3. Scr Save Time
4. Scr Save Style
5. Factory Reset
6. 10M Calibration

Use the Frequency Up/Down buttons to navigate. Press the Frequency Down (?) button to enter a menu. To confirm, press and hold the Frequency Down button.

2. Oven Clock light
When lit, this indicates Orion 32 HD | Gen 3 is clocked by its own internal clock.

3. Lock light
When lit, this indicates Orion 32 HD | Gen 3 is locked to the Digital input (S/PDIF, MADI, DB25).

4. Atomic Clock Lock light
When lit, this indicates Orion 32 HD | Gen 3 is locked to the Antelope Audio 10M/10MX Atomic Master Clock. The Oven Clock lock light will automatically dim.

5. Frequency Up/Down buttons
Use these buttons to increase and decrease the device's sample rate. The following choices are available: 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, and 192kHz.

6. Display

Multi-function display * that shows the Sample Rate on the left and individual input/output volume levels on the top and bottom meters (up to 64 channels at a time, adjustable from the software Control Panel).

There's a protective film over the display, which may dim the illumination – feel free to remove it.

7. Antelope button
Hold down the Antelope button to access the Control Menu *, which lets you adjust:

1. Clock Source
2. Peak Meter
3. Monitor Trim
4. Line Out Trim
5. Line In Trim
6. SR Conversion
7. S-MUX In
8. S-MUX Out

Use the Frequency Up/Down buttons to navigate. Press the Frequency Down (?) button to enter a menu. To confirm, press and hold the Frequency Down button.

To restore Factory Defaults:
1. Unplug the power cable
2. Press and hold the Frequency Up and Down buttons simultaneously
3. Plug the power cable back in.

8. Preset buttons (1-5)
Five Preset buttons store and recall your 'favorite' settings. The following functionality is available:

1. Save Preset
2. Recall Preset

Use the Frequency Up/Down buttons to navigate. Press the Frequency Down (?) button to enter a menu. To confirm, press and hold the Frequency Down button.
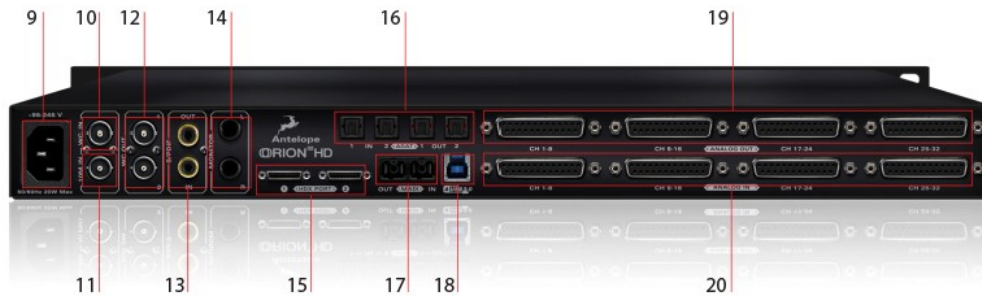

5. Rear Panel Explained

From left to right:

9. Mains Power Connection
The IEC connector supports a range from ~95-245 V. The device automatically accommodates mains voltage in every country.

10. Word Clock Input
BNC connector for Word Clock reference signal.

11. 10M Input
This BNC Input Connector lets the Orion 32 HD | Gen 3 receive timing reference from an Antelope Audio Atomic Clock, such as the 10M and 10MX, thereby increasing oscillator accuracy, musical detail, and clock stability.

12. Word Clock Outputs
Two Word Clock Outputs with BNC connector.

13. S/PDIF Input/Output
75ohm S/PDIF connectors for use with compatible equipment.

14. Monitor Outs
Assignable stereo output.

15. HDX ports
Connect the Orion 32HD | Gen 3 to an HD system (cable not included).

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

17. MADI Input/Output
1 x MADI I/O Connector capable of 64 input tracks and 64 output tracks.

17. USB3 port - Type B
Orion 32 HD | Gen 3 uses an USB connector Type B and operates at up to 192kHz sample rate under Windows & macOS.

18. D-SUB 25pin Analog Outputs (on top)
Four connectors enable you to attach breakout cables, each with 8 lines.

19. D-SUB 25pin Analog Inputs (on bottom)
Four connectors enable you to attach breakout cables, each with 8 lines.

6. Software Control Panel
6.1 Routing Tab and Main View

The Universal Panel view sits constantly on the upper half of the Control Panel, allowing for quick access to the most important features.

Main view:
1. Power/Standby button
2. Meter Source Display (drop-down tab lets you select different sources to preview)
3. Clock Source

This dropdown menu allows you to select how the Orion32 HD | Gen 3 is to be synchronized:

- Select Oven/10M for internal sync (with or without atomic clock reference).
- Select W.C. (Word Clock) to sync the Orion32 HD | Gen 3 to an external device through the Word clock input. *
- Select MADI, ADAT, S/PDIF for syncing with incoming digital signals.

* Once an Atomic Clock is connected, it replaces 'Oven' in the Clock Source dropdown menu.

4. Sample Rate select
Once you select the Clock Source and Sample Rate, this will automatically determine the number of channels available to you in the Inputs & Outputs Router.

5. Lock light
When your Orion32 HD | Gen 3 is slaved to another clock source, the panel will lock, displaying a "Pad Lock" symbol to the clock source. You also won't be able to change the presets. Presets do not store clock source info or sample rate. This allows you to adjust presets while the device is receiving clock lock.

6. **Devices**
This dropdown menu allows you to switch between Antelope Audio devices connected to your computer or on the same network.
7. Presets
8. **Settings**
9. Info
10. Monitor Volume knob
11. Mute button
12. 'From' Section (from Routing)

LINE IN - Audio coming from line inputs

USB PLAY - Operating system audio (YouTube, etc.)

MADI IN - Audio coming from MADI inputs

HDX PLAY 1, 2 - Audio coming from HDX inputs

ADAT IN - Audio coming from ADAT inputs

S/PDIF IN - Audio coming from S/PDIF

AFX OUT - Audio being processed through effects

Mix L/R 1 - 4 - Output from software mixers 1 - 4

13. 'To' Section (from Routing)

Line Out - Audio to line outputs

Monitor - Audio to monitor outputs

USB REC - Audio recorded over USB

MADI OUT - Audio to MADI outputs

HDX REC - Audio recorded over HDX

ADAT OUT - Audio to ADAT outs

S/PDIF OUT - Audio to S/PDIF outs

AFX IN - Audio routed to effects processing

MIX CH 1 - 4 Audio routed to software mixers 1 - 4

14. Signal Meter
15. Routing Matrix Alternative View Switch
16. Undo/Redo Routing; Save/Load Set Up Files (from Routing)
17. How To (opens Tutorial YouTube Playlist)

6.2 Mixer Tab

Orion32 HD offers four software low latency mixers which provide zero latency mixing and monitoring that can be distributed to any output from the control panel. 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, for example, quickly make a stereo mix plus an Auxiliary send in order to use AuraVerb.

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

AuraVerb

AuraVerb is a powerful and flexible algorithmic reverb effect powered by the Orion 32 HD | Gen 3 that provides near zero-latency effect monitoring without taxing your computer's processor. AuraVerb can also be used as a hardware effect from your DAW, so you can take advantage of its rich and unique ambience effect while mixing or mastering.

A complete AuraVerb User Manual is available in the Antelope Audio website's Customer Support section.
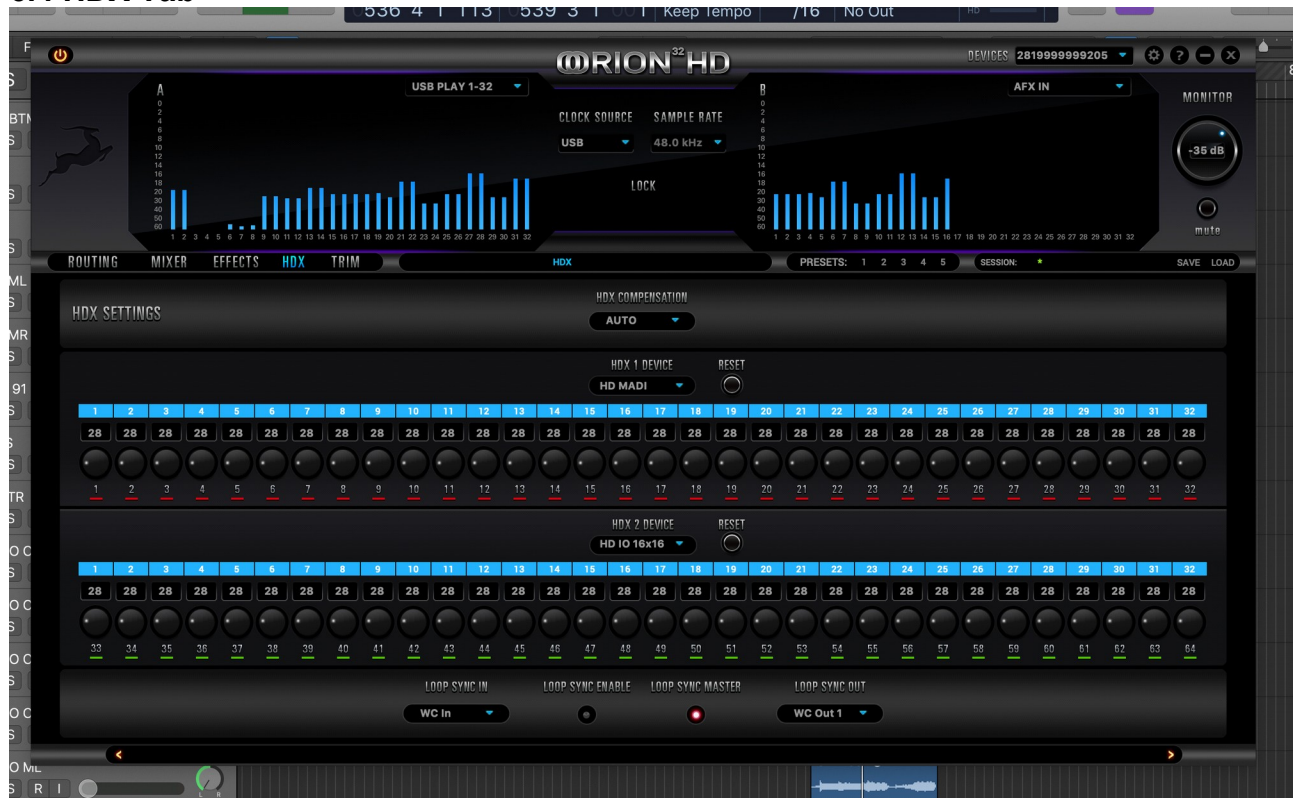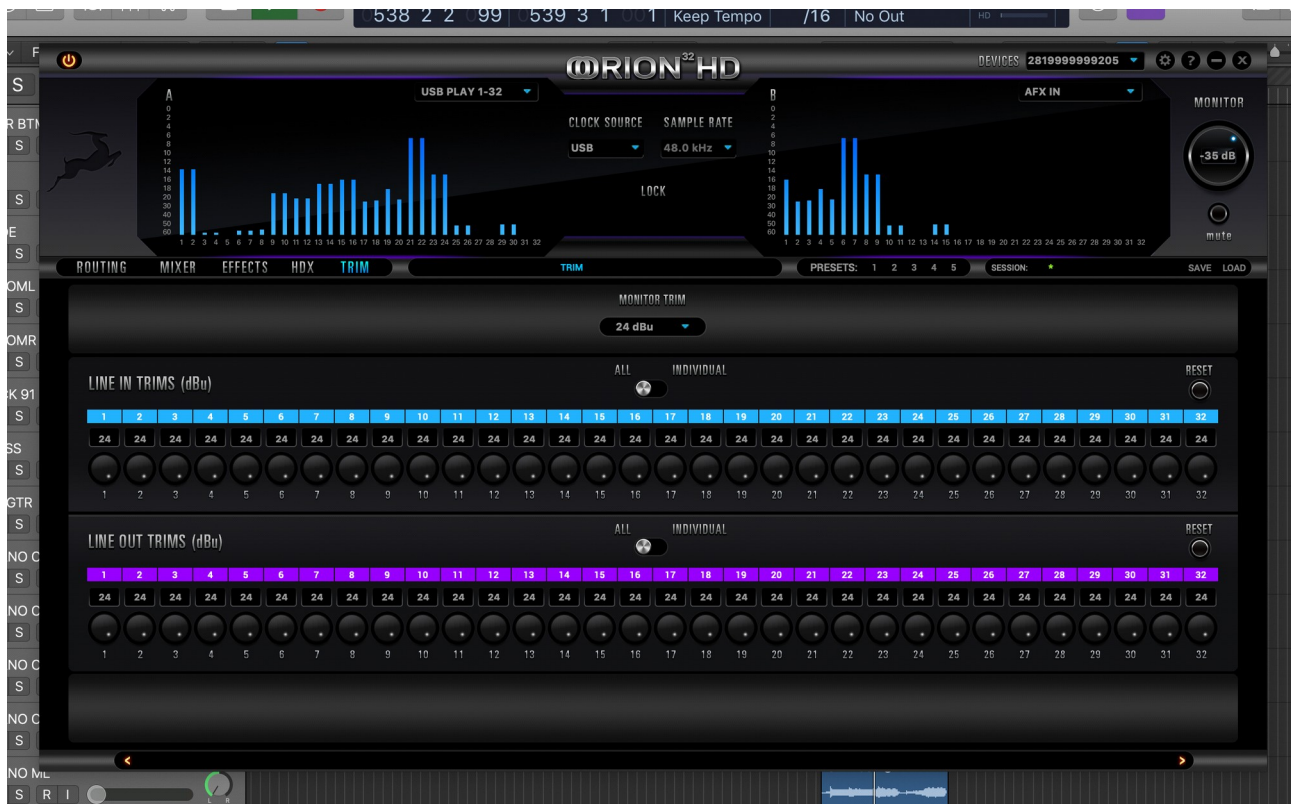
6.3 Effects Tab

Clicking the Effects tab reveals the 16 AFX Channel Strips. Clicking each bar reveals or hides 2 of the total 16 DSP FX channel strips. Stack effects from the drop-down menu. Drag-and-drop the effects to re-order.

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User Manuals for all Antelope Audio real-time FPGA effects are available [here](#).

6.4 HDX Tab

6.5 **Trim tab**

7. Advanced User Tips

Ground Loop Hum and Noise
The design of Orion 32 HD | Gen 3 minimizes the possibility of ground loop hum and noise. However, we recommend the use of shorter, shielded cables and balanced connections for all the audio signals of your system. All power cables of the system should be connected to a dedicated outlet box or power conditioner unit to avoid ground current noise affecting the audio signal path. It is also advisable to keep the layout of your signal and power cables separate.

8. In The Box

- Orion 32 HD | Gen 3 64-channel AD/DA Interface
- Warranty Card
- Power cable
- USB cable

9. Troubleshooting

Startup 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?
Route the relevant channels to the Line Out channels by dragging and dropping from the top

section to the bottom.

Have you set the correct sample rates?

On Mac, first check that the sample rate is correct in the Audio & Midi Setup panel, then proceed to check in the DAW before finally checking the Orion 32 HD | Gen 3 sample rate.

For Windows, first check in Playback devices. Right click on the Orion 32 HD | Gen 3 then click Properties before moving to the Advanced tab. Then repeat the above by checking the DAW's sample rate as well as on the Orion 32 HD | Gen 3.

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 form the source?
• Is your source in the correct sample rate for the Orion 32 HD | Gen 3 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 Orion 32 HD | Gen 3 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.

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 Orion 32 HD | Gen 3 Control Panel (Windows Only)

Have you checked the input and output routing is correct in your DAW?

Is the Orion 32 HD | Gen 3 device selected in the relevant sound card section of the DAW's preferences?

If the Orion 32 HD | Gen 3 doesn't show up in your DAW, first try unplugging and plugging back the HDX or USB cable, then restarting your computer. Finally, reinstall the firmware, drivers and Control Panel for the Orion 32 HD | Gen 3.

10. Resources

Antelope Audio offers a full range of services and support resources for its products:

- Visit the Customer Support area at antelopeaudio.com. We maintain some of the industry's finest Live Chat, Telephone, and ticketing support systems.
- Visit Antelope Audio on YouTube for tutorial videos, interviews, use cases and more.
- Join the Antelope Audio Users Facebook Group and reach out to fellow users.