CUBE·4nano

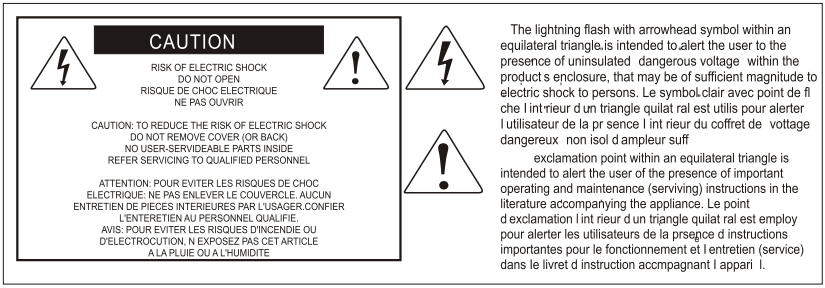
ProDrive III

USB2.0 High-Speed

4-In / 4-Out with +48V Phantom Power Recording USB Interface

User manual

CN1630



Important Safety Instructions

1. Read this manual thoroughly before using this unit.
2. Keep this manual for future reference.
3. Take notice of and comply with all warnings included in the user's manual or indicated on the appliance.
4. Follow all instructions included in this manual.
5. Do not expose this unit to rain or moisture. Avoid having water or other liquids spilled on this unit.
6. When cleaning the cabinet or other parts of this appliance, use only a dry or slightly damp soft cloth.
7. Do not block any ventilation openings or interfere with the proper ventilation of this unit. Install in accordance with the manufacturer's instructions.
8. Do not use or store near any heat sources such as radiators, heat registers, stoves, or other heat-producing appliances.
9. Do not interfere with the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. These are designated for your safety. If the provided plug does not fit into your outlet, consult an electrician.
10. Protect the power cord from being walked on or otherwise damaged by items placed on or against them. Particular attention should be given to the plugs, receptacles, and the point where the cord exits the appliance.
11. To avoid the risk of electrical shock, do not touch any exposed wiring while the unit is in operation.
12. Only use attachments/accessories specified by the manufacturer.
13. Unplug this unit and all connected electrical equipment during lightning storms or when left unused a long period of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the appliance has been damaged in any way or fails to operate normally.

WARNING: To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture

Contents

Introductions

Thank you for purchasing the ICON Cube4Nano digital audio Interface. We sincerely trust this product will provide years of satisfactory service, but if anything is not to your complete satisfaction, we will endeavor to make things right.

In these pages, you'll find a detailed description of the features of the Cube4Nano digital audio interface, as well as a guided tour through its front and rear panels, step-by-step instructions for its setup and use, and full specifications.

You'll also find a warranty card enclosed---please don't forget to fill it out and mail it so that you can receive online technical support at: **www.iconproaudio.com**. And so we can send you updated information about these and other ICON products in the future. As with most electronic devices, we strongly recommend you retain the original packaging. In the unlikely event the product must be returned for servicing, the original packaging (or reasonable equivalent) is required.

With proper care and adequate air circulation, your Cube4Nano digital audio interface will operate without any trouble for many years. We recommend that you record your serial number in the space provided below for future reference.

Please write your serial number here for future reference:

Purchased at:

Date of purchase:

What's in the package?

- Cube4Nano USB Recording Interface
- Quick Start Guide x 1
- Driver Software CD

  Different language electronic user manual & quick start guide (pdf)
- DAW software – Reaper & KiloHearts
- USB 2.0 cable x 1

Features

The ICON Cube4Nano USB recording interface provides an audio input and output module with USB connectivity. Main features include:

- 24-Bit 192KHz 4-In/4-Out USB Recording Interface
- High dynamic range:
  DAC: Dynamic Range: 114dB
  ADC: Dynamic Range: 114dB
- 2x2 analog I/O full duplex recording and playback
- Dual Mic/Instrument preamps with individual gain control and phantom power switch
- 2 analog outputs on 1/4” TRS jacks
- S/PDIF I/O on RCA coaxial connectors
- 1 x 1 – 16 channel MIDI I/O
- Master volume control on the front panel
- Direct monitor knob control on the top panel
- 1 headphone output with assignable source and individual volume control
- Flexible channel routing via the software control panel
- ICON innovative ProDrive III ™ plug-ins hosting rack is provided
- Different plug-ins are provided
- USB2.0 High Speed equipped and USB bus-powered
- Supports DirectSound, WDM and ASIO2.0
- Compatible with Mac OS (Intel-Mac), iOS 9 or above and Windows 7, 8 & 10 (32-bit/64-bit)
- Full duplex, simultaneous record/playback
- +5VDC power supply connector is equipped for external power supply when using with iOS
- Rugged aluminum construction

Front Panel

1. **“Mic/Inst” Inputs 1/2**
   Unbalanced instrument and mic level inputs. These hybrid connectors will accept a standard 3-pin XLR plug or a 1/4” TS connector.

2. **48V phantom power switch**
   Press to supply +48V phantom power to the associated XLR input. This phantom power circuit is suitable for most condenser microphones.

3. **Input gain level controls 1/2**
   These potentiometers control the input level of their associated analog Mic/Inst input.

4. **Master level control**
   This potentiometer controls the master output level of the analog outputs.

5. **Headphone level control**
   This potentiometer controls the output level of the headphone output.

6. **Headphone output**
   This output jack accepts a standard 1/4″ stereo TRS headphone connector.

Rear Panel

1. **USB 2.0 connector**
   Connect it with the provided USB cable to your Mac/PC/iOS device camera kit's USB connector. Your Mac/PC must have a USB2.0 connector in order to run the full speed of Cube4Nano.

2. **Line outputs 1/2**
   These are unbalanced analog outputs on standard 1/4″ TS connectors at +6dBU line level.

3. **S/PDIF Coaxial I/O connectors**
   S/PDIF digital input and output on coaxial RCA connectors. The digital input is selected via the Cube4Nano's software control panel, while the digital output will be sent to the coaxial.

4. **MIDI I/O connectors**
   MIDI input and output on standard 5-pin DIN connectors.

5. **Power supply connector**
   Cube4Nano is USB bus powered. If your computer does not supply sufficient power, connect an ICON +5VDC power supply adapter to this jack or use a standard phone charger/power adapter with the correct USB cable.

   *(**Note:** You can get the power adapter from ICON Distributors/dealers near you.)*

Top Panel

1. “Direct monitor ” knob

Hardware direct monitoring (clockwise “Direct out”) eliminates the latency or delay inherent in even the best internal circuitry while listening to your input and existing tracks. Alternatively listen to your input complete with effects (anti-clockwise “Computer”) while recording by using the extremely low-latency ASIO monitoring.

Mac driver installation

Cube4Nano is a class compliance device. Thus there is no driver installation needed for Mac. Also, it is fully supporting iOS devices by connecting to a camera kit.

Please follow the step-by-step procedures below to install your Cube4Nano USB recording interface.

1. Turn on your Mac

*(**Note:** Do not connect the Cube4Nano digital audio interface to your Mac yet.)*

2. Class compliance device

Cube4Nano is class compliance on Mac OSX, no driver installation is needed.

3. Copy the software control panel shortcut logo to your desktop

Open the previous “Mac” folder. Copy the “ProDrive Ⅲ ” software panel shortcut logo and paste it to your desktop.

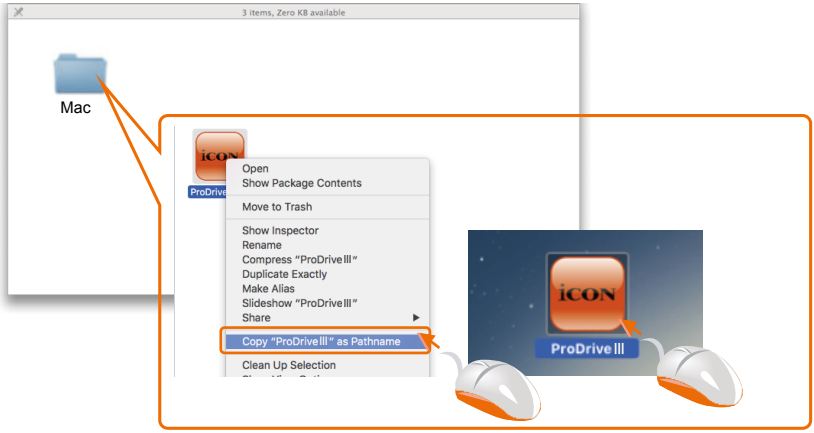


Diagram 1

4. Launch the software control panel

Click the Cube4Nano’s software control panel shortcut logo you have just copied to your desktop to launch the software control panel.

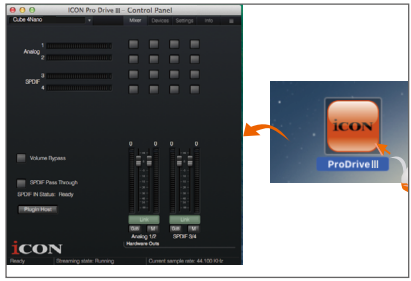


Diagram 2

5. Connect your Cube4Nano digital audio interface

Now connect the Cube4Nano digital audio interface to your Mac's USB port.

Note: *Cube4Nano audio interface only support USB2.0. Your Mac must have a USB2.0 port.*

Diagram 3

6. Audio MIDI setup

Open the “Audio MIDI setup” window and check if the Cube4Nano device has setup properly as shown below in diagram 4.

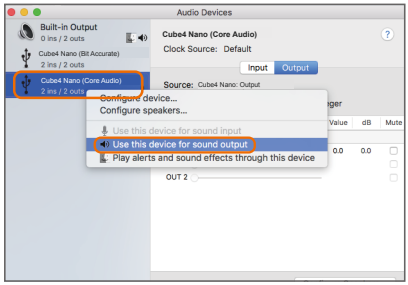


Diagram 4

Mixer control panel

The mixers work like a matrix mixer. Activate and adjust the corresponding input or output channel level. They are very useful and make your inputs and outputs very flexible. You may route any of your input(s) to any output(s).

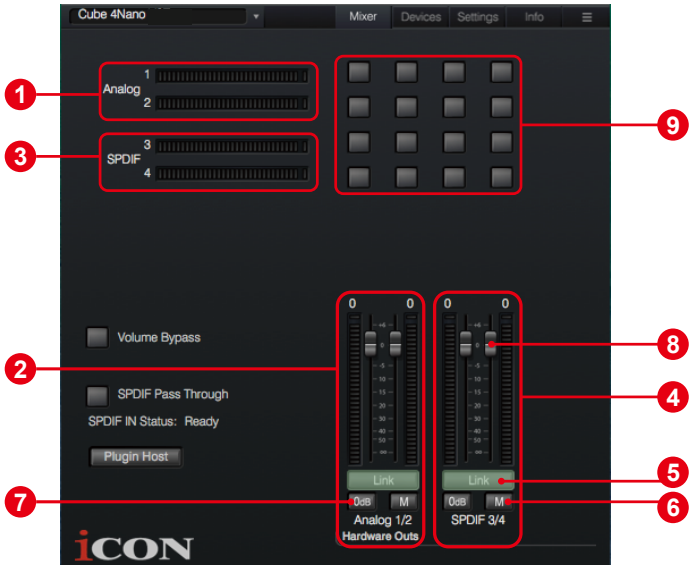


Diagram 5

1. **HW Input 1/2 level metering**
   Showing the hardware 1/2 input level. (HW In 1/2).

2. **HW Output 1/2 level metering**
   Showing the hardware 1/2 output level.(HW Out 1/2).

3. **S/PDIF In 3/4**
   Showing the S/PDIF 3/4 input level (S/PDIF In 3/4).

4. **S/PDIF Out 3/4**
   Showing the S/PDIF 3/4 output level (S/PDIF Out 3/4).

5. **Link switch**
   Switch to adjust both channels level simultaneously.

6. **Mute switch**
   Switch to mute the corresponding channel.

7. **“0dB” switch**
   Switch to instantly adjust the corresponding channel to “0dB” level.

8. **Gain control fader**
   Slide to adjust the gain level for the corresponding channel.

9. **Inputs & Outputs Matrix switches**
   Switch to turn On/Off the corresponding input channel route to the corresponding output channel. The matrix is very useful and makes your inputs and outputs very flexible. You may route any of your input(s) to any output(s).

Windows driver installation

Please follow the step-by-step procedures below to install your Cube4Nano USB recording interface and its driver.

1. Turn on your computer

Note: *Do not connect the Cube4Nano digital audio interface to your computer yet.*

2. Insert the Driver CD into your CD-Rom.

After you have inserted the provided Driver CD into your CD-Rom, an Installation screen should appear as shown in Diagram 6, then click "Windows" for the driver installation".

Note: *If the Installation screen does not appear automatically. Go to the CD folder and double click "Setup" .*

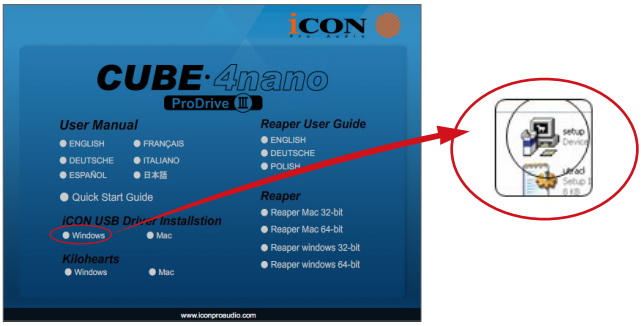


Diagram 6

3. Installation Wizard appears

Choose "Next" when you see the Welcome Screen shown in Diagram 7.

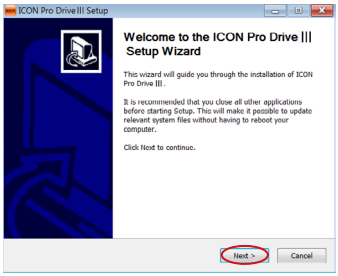


Diagram 7

4. License Agreement

Click “I Agree” to proceed.

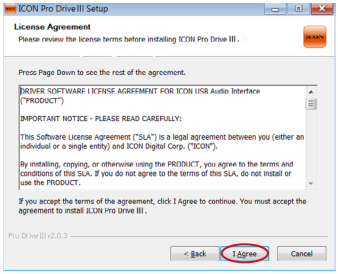


Diagram 8

5. Select components for installation

Check mark the components that you would like to install. We strongly recommend you to select all components.

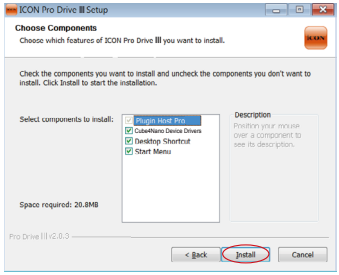


Diagram 9

6. Preparing installation files

The installation process started, the process may take some time depending on your computer performance, please be patient and wait for the process to finish.

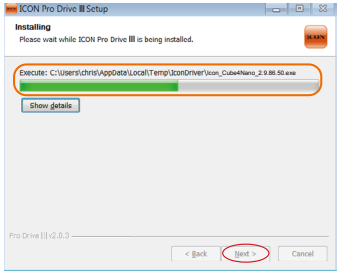


Diagram 10

7. Click “Install” to proceed.

Note: *Same message will appear three times as there are three different drivers installation.*

Diagram 11

Diagram 12

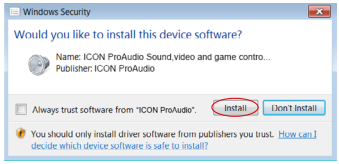


Diagram 13

8. Setup completed

A window as shown in Diagram 14 should appear. Choose "Finish".

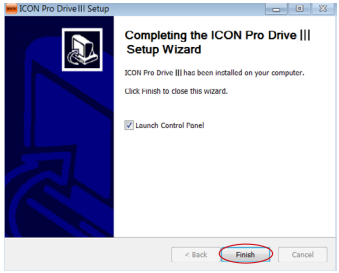


Diagram 14

9. Launch the software control panel

You may click the ICON ProAudio logo on the system tray to launch the software control panel (Page 16).

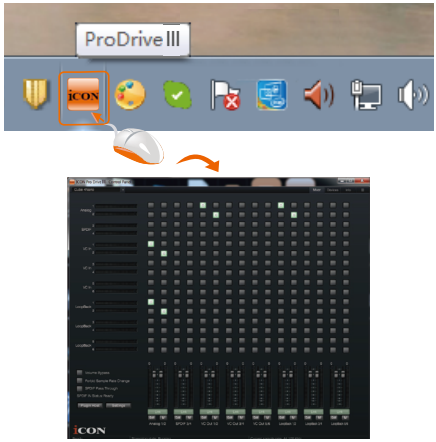


Diagram 15

10. Connect your Cube4Nano digital audio interface

Now connect the Cube4Nano digital audio interface to your computer's USB port.

Diagram 16

Diagram 17

Diagram 18

To make the Cube4Nano very versatile and powerful, we have developed a new technology ProDrive III - it is our innovative rack, plug-in host, and virtual signal

router. Run it in standalone mode or with your favorite DAW. Pull up your guitar modeling and play, or plug in your midi controller and control your favorite virtual instruments without running through your digital audio workstation.

Mixer control panel

On the mixer control panel, there are four different main types of ASIO channels that you can manipulate.

1. **Cube4Nano Hardware channels (HW In 1/2 & HW Out 1/2)**
   These are the hardware input and output channels on Cube4Nano.

2. **Cube4Nano S/PDIF channels (S/PDIF In 3/4 & S/PDIF Out 3/4)**
   These are the S/PDIF input and output channels on Cube4Nano.

3. **Cube4Nano Virtual channels (VC In 1/2, 3/4 and 5/6), (VC Out 1/2, 3/4 and 5/6)**
   These are the input and output virtual channels that related to the WDM.
   For example: WDM Out 1/2 linked to VC In1/2
   VC Out1/2 linked to WDM In1/2

4. **Cube4Nano Loopback channels (LB 1/2, 3/4 and 5/6)**
   These are the ASIO loop-back channels.

Diagram 19

By activating different cross points, you may route the corresponding signal to your desired channels.

1. **HW Input 1/2 level metering**
   Showing the hardware 1/2 input level (HW In 1/2).

2. **HW Output 1/2 level metering**
   Showing the hardware 1/2 output level (HW Out 1/2).

3. **S/PDIF Input 3/4 level metering**
   Showing the S/PDIF 3/4 input level. (S/PDIF In 3/4).

4. **S/PDIF Output 3/4 level metering**
   Showing the S/PDIF 3/4 output level. (S/PDIF Out 3/4)

5. **VC In 1/2 (Virtual) input level metering**
   Showing the WDM 1/2 output level (VC In 1/2).

6. **VC In 3/4 (Virtual) input level metering**
   Showing the WDM 3/4 output level (VC In 3/4).

7. **VC In 5/6 (Virtual) input level metering**
   Showing the WDM 5/6 output level (VC In 5/6).

8. **VC Out 1/2 (Virtual) output level metering**
   Showing the ASIO 1/2 VC output level (VC Out 1/2).

9. **VC Out 3/4 (Virtual) output level metering**
   Showing the ASIO 3/4 VC output level (VC Out 3/4).

10. **VC Out 5/6 (Virtual) output level metering**
    Showing the ASIO 5/6 VC output level (VC Out 5/6).

11. **Loopback 1/2**
    Showing the ASIO loop-back 1/2 channel's level metering.

12. **Loopback 3/4**
    Showing the ASIO loop-back 3/4 channel's level metering.

13. **Loopback 5/6**
    Showing the ASIO loop-back 5/6 channel's level metering.

14. **Link switch**
    Switch to adjust both channels level simultaneously.

15. **Mute switch**
    Switch to mute the corresponding channel.

16. **"0dB" switch**
    Switch to instantly adjust the corresponding channel to "0dB" level.

17. **Gain control fader**
    Slide to adjust the gain level for the corresponding channel.

18. **Inputs & Outputs Matrix switches**
    Switch to turn On/Off the corresponding input channel route to the corresponding output channel. The matrix is very useful and makes your inputs and outputs very flexible. You may route any of your input(s) to any output(s).

Settings (Sample rate and latency settings)

Click the “Setting” button to launch the settings window.

Diagram 20

Sample rate setting

Select your desired sampling rate from 44.1KHz to 192KHz on the pull down window shown in Diagram 21.

Diagram 21

Latency settings

There are six standard latency settings to select. If you would like to customize your own latency value, select custom.

- Safe (maximum latency)
- Extra Large
- Normal
- Small
- Very Small
- Minimum (minimum latency)
- Custom

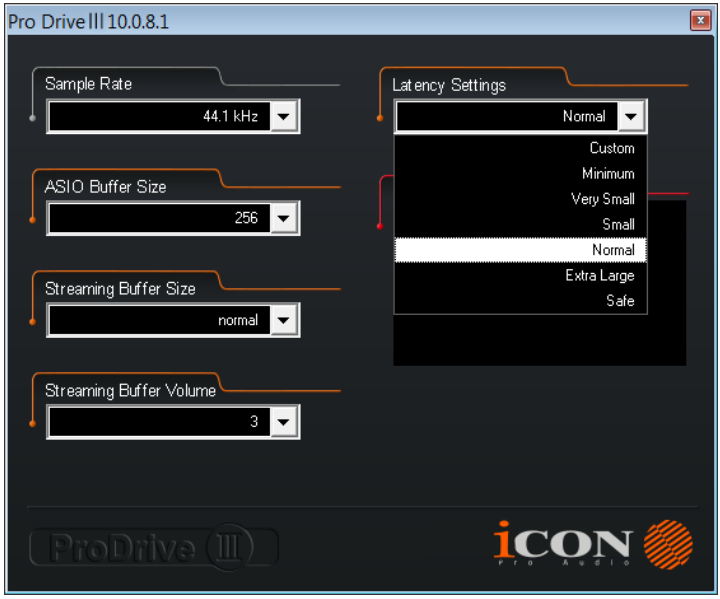


Diagram 22

There are three different settings you can adjust to customize your own latency settings: These values include:

1. ASIO buffer Size

You may adjust the value ranging from 32/64/128/256/512/1024/2048 and 4096.

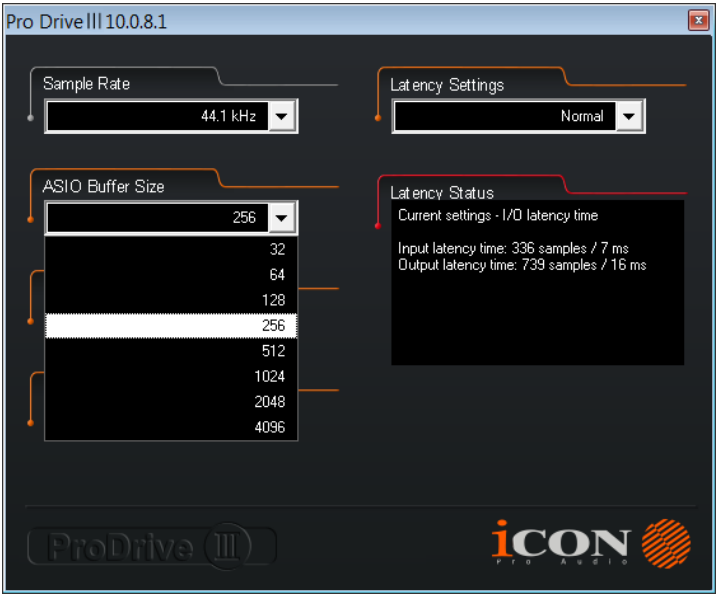


Diagram 23

2. Streaming buffer Size

Adjustable settings: Minimum/Low/Normal/High and Maximum.

Diagram 24

3. Streaming buffer volume

Adjustable values: 2/3 and 4.

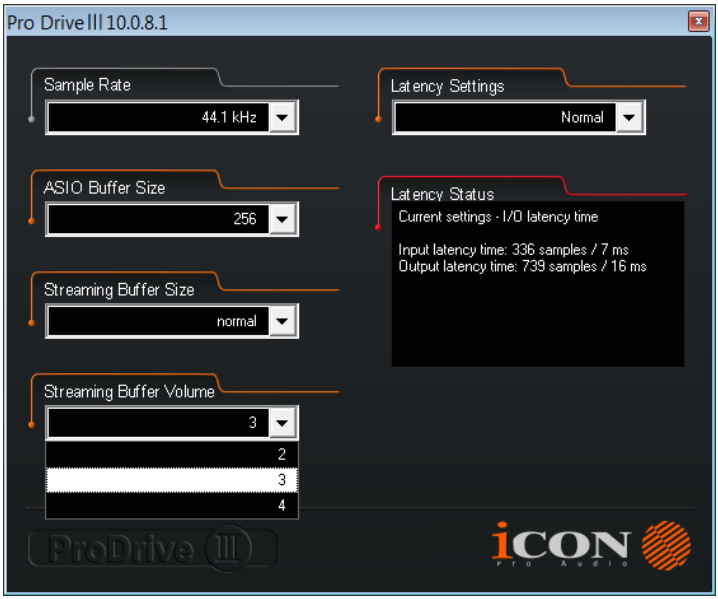


Diagram 25

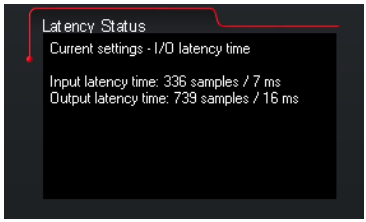
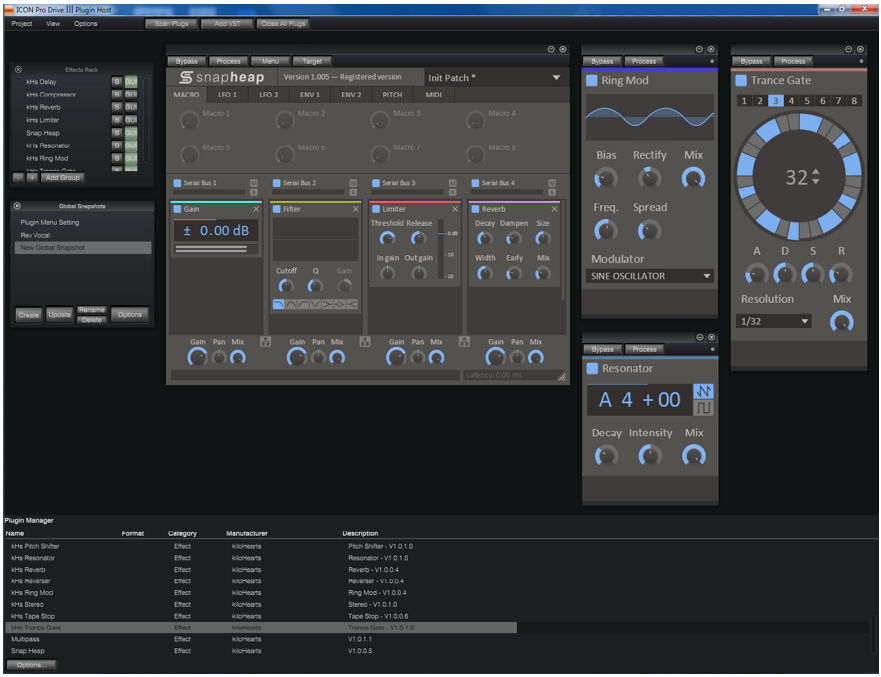


Diagram 26

*(**Note:** If a warning message appears on the "Latency Status" windows, please adjust a larger latency setting.)*

*(**Note:** If a clicking sound occurs, you should change to a larger buffer size for the settings. If the largest buffer size has been selected and there is still a clicking sound. It means your computer performance is not able to handle the task. (It is not caused by Cube4Nano digital audio interface.)*

ProDrive III hosting rack



With the ProDrive III Rack, you can use any of your plug-ins with your DAW. Or

you may use your device as a standalone plug-ins effector without the need to run a DAW.

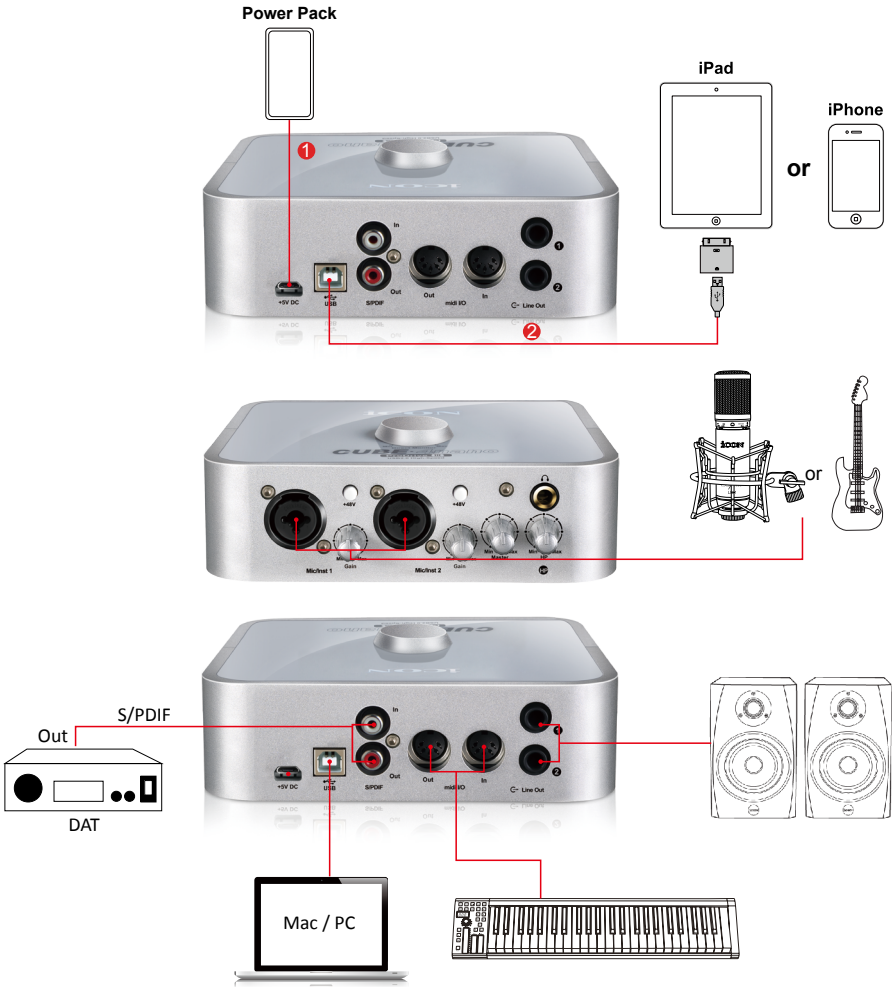
Hardware Connections

Connect the Cube4Nano digital audio interface outputs to your amplifier, powered monitors or surround system. Two-channel stereo operation, the default outputs are channels 1 and 2.

If you are monitoring through headphones, connect your headphones to the device's headphone output.

Connect your microphones, instruments or other line level analog sources to the device's analog inputs.

Connect your S/PDIF digital devices to the coaxial digital I/O and MIDI device to the MIDI I/O.



Specifications

Mic1 / 2 Inputs (at Minimum Gain):

Frequency Response: ..... 22Hz to 22kHz (+/-0.1dB)
Dynamic Range: ..... 114dB, A-weighte
Signal-to-Noise Ratio: ..... -114dB, A-weighted
THD+N: ..... -100dB
Crosstalk: ..... -97dB @ 1kHz
Input Impedance: ..... Mic in: 1.8K Ohms, typical
Adjustable Gain: ..... +34dB
Total Gain Range: ..... +50dB

Inst1 / 2 Inputs (at Minimum Gain):

Frequency Response: ..... 22Hz to 22kHz (+/-0.1dB)
Dynamic Range: ..... 114dB, A-weighted
Signal-to-Noise Ratio: ..... -114dB, A-weighted
THD+N: ..... -100dB
Crosstalk: ..... -97dB @ 1kHz
Input Impedance: ..... Inst in: 500K Ohms, typical;
Adjustable Gain: ..... +39dB
Total Gain Range: ..... +39dB

Line Outputs 1/2 (Unbanced):

Frequency Response: ..... 22Hz 22kHz (+/-0.1dB)
Dynamic Range: ..... 114dB, A-weighted
Signal-to-Noise Ratio: ..... -114dB, A-weighted
THD+N: ..... -100 dB
Crosstalk: ..... -97dB @ 1kHz
Nominal Output Level: ..... Unbalanced: +4dBV, typical;
Maximum Output Level: ..... +11dBV, typical;
Output Impedance: ..... 150 Ohm
Load Impedance: ..... 600 Ohm minimum

Headphone Outputs: 1 & 2 (at Maximum Volume; Into 100 Ohm load):

Frequency Response: ..... 22Hz to 22kHz (+/-1dB)
Power into Ohms: ..... 90 mW into 100 Ohms
THD+N: ..... <0.06% (-66dB)
Signal-to-Noise Ratio: ..... -100dB, A-weighted
Max Output Level into 100 Ohms: ..... +2.0dBV, typical
Output Impedance: ..... 75 Ohm
Load Impedance: ..... 32 to 600 Ohms

Services

If your Cube4Nano needs servicing, follow these instructions.

Check our online help centre at **http://support.iconproaudio.com/hc/en-us**, for information, knowledge, and downloads such as:
1. FAQ
2. Download
3. Learn More
4. Forum

Very often you will find solutions on these pages. If you don't find a solution, create a support ticket at our online ACS (Auto Customer Support) at the below link, and our technical support team will assist you as soon as we can.
Navigate to **http://support.iconproaudio.com/hc/en-us** and then sign in to submit a ticket or click "Submit a ticket" without the need to sign in.
As soon as you have submitted an enquiry ticket, our supporting team will assist you to resolve the problem with your ICON ProAudio device as soon as possible.

To send defective products for service:

1. Ensure the problem is not related to operation error or external system devices.
2. Keep this owner's manual. We don't need it to repair the unit.
3. Pack the unit in its original packaging including end card and box. This is very important. If you have lost the packaging, please make sure you have packed the unit properly. ICON is not responsible for any damage that occurs due to non-factory packing.
4. Ship to the ICON tech support center or the local return authorization. See our service centres and distributor service points at the link below:

   If you are located in Hong Kong
   Send the product to:
   ASIA OFFICE:
   Unit F, 15/F., Fu Cheung Centre,
   No. 5-7 Wong Chuk Yueng Street, Fotan,
   Sha Tin, N.T., Hong Kong.

   If you are located in Europe
   Send the product to:
   ICON Europe GmbH
   Am Spitzberg 3
   15834 Rangsdorf
   Germany
   Telephone: +49-(0)33708-933-0
   Fax: +49-(0)33708-933-189
   E-Mail: info@sound-service.eu

5. For additional update information please visit our website at:
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