1073OPX

8-channel Microphone, Line & Instrument Preamplifier

User Manual

Issue 2

Health & Safety Notice

FOR YOUR OWN SAFETY AND FOR THE PROTECTION OF OTHERS
PLEASE OBSERVE THE FOLLOWING HEALTH AND SAFETY INSTRUCTIONS

- READ THESE INSTRUCTIONS AND KEEP THEM HANDY
- HEED ALL SAFETY WARNINGS
- DO NOT USE NEAR WATER
- CLEAN ONLY WITH A DRY CLOTH
- DO NOT INSTALL NEAR HEAT SOURCES
- DO NOT BLOCK VENTILATION OPENINGS
- PROTECT THE POWER CORD
- USE ONLY ACCESSORIES SPECIFIED BY THE MANUFACTURER
- UNPLUG WHEN UNUSED FOR LONG PERIODS OF TIME
- OPTIONAL CARDS SHOULD NOT BE INSERTED OR REMOVED WITH THE POWER ON
- REFER ALL SERVICING TO QUALIFIED PERSONNEL ONLY
- NO USER SERVICEABLE PARTS INSIDE

FAILURE TO OBSERVE THESE PROCEDURES AND RECOMMENDATIONS WILL INVALIDATE THE MANUFACTURER'S WARRANTY

Avertissements de Santé & Sécurité

POUR VOTRE SECURITE ET CELLE DES AUTRES MERCI DE RESPECTER LES INSTRUCTIONS DE SANTE ET SECURITE SUIVANTES

- LISEZ CES INSTRUCTIONS ET GARDEZ-LES À PORTÉE DE MAIN
- TENEZ COMPTE DE TOUS LES AVERTISSEMENTS DE SÉCURITÉ
- NE PAS UTILISER PRÈS D'UNE SOURCE D'EAU
- NETTOYER UNIQUEMENT AVEC UN CHIFFON SEC
- NE PAS INSTALLER PRÈS D'UNE SOURCE DE CHALEUR
- NE PAS BLOQUER LES BOUCHES D'AÉRATION
- PROTÉGER LE CORDON D'ALIMENTATION
- N'UTILISER QUE LES ACCESSOIRES SPÉCIFIÉS PAR LE FABRICANT
- DÉBRANCHER PENDANT DE LONGUES PÉRIODES D'INACTIVITÉ
- NE PAS INSÉRER OU RETIRER D'EVENTUELLES CARTES OPTIONNELLES ALORS QUE L'APPAREIL EST SOUS TENSION
- CONFIER TOUTES LES OPÉRATIONS DE MAINTENANCE À DU PERSONNEL QUALIFIÉ UNIQUEMENT
- AUCUNE PIÈCE INTERNE N'EST RÉPARABLE PAR L'UTILISATEUR

LE NON-RESPECT DE CES PROCÉDURES ET RECOMMANDATIONS INVALIDERA LA GARANTIE DU FABRICANT

Important Safety Instructions

For your own safety and for the protection of others, please observe the following safety precautions:
1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture
6) Clean only with dry cloth.
7) Do not block any ventilation openings.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10) Unplug this apparatus during lightning storms or when unused for long periods of time.
11) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

WARNING:
THIS APPARATUS HAS CLASS I CONSTRUCTION AND SHALL BE CONNECTED TO THE EXTERNAL PSU MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.

WARNING:
WHERE THE MAINS PLUG OR AN APPLIANCE COUPLER IS USED AS THE DISCONNECT DEVICE, THE DISCONNECT DEVICE SHALL REMAIN READILY OPERABLE.

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Instructions Importantes sur la Sécurité:

Pour votre sécurite et celle des autres merci de respecter les instructions de santé et sécurité suivantes :

1) Lisez ces instructions.
2) Gardez ces instructions.
3) Tenez compte de tous les avertissements.
4) Suivez toutes les instructions.
5) ATTENTION: afin de réduire les risques d'incendie ou de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité
6) Nettoyez uniquement avec un chiffon sec
7) Ne pas bloquer les bouches d'aération
8) Ne pas installer à proximité d'une source de chaleur telle qu'un radiateur, une bouche d'air chaud, des plaques de cuisson (ou cuisinière), ou n'importe quel autre appareil producteur de chaleur (y compris un amplificateur)
9) Protégez le cordon d'alimentation afin d'éviter les piétinements et pincements, et plus particulièrement à proximité des prises de courant ou tout autre élément de branchement, ainsi qu'au point de sortie de l'appareil)
10) Débranchez cet appareil pendant les orages ou de longues périodes d'inactivité.
11) Confiez toutes les opérations de maintenance à un technicien qualifié. Un entretien est nécessaire lorsque l'appareil a été endommagé de quelque manière que ce soit, comme par exemple si le cordon d'alimentation ou la fiche sont endommagés, du liquide a été renversé ou des objets sont tombés dans l'appareil, si l'appareil a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas correctement ou a subi une chute de hauteur.

ATTENTION:
AFIN DE RÉDUIRE LES RISQUES D'INCENDIE OU DE CHOC ÉLECTRIQUE, N'EXPOSEZ PAS CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

ATTENTION:
CET APPAREIL CORRESPOND A UNE CONSTRUCTION DE CLASSE I ET DOIT ÊTRE RACCORDÉ À UNE PRISE SECTEUR DOTÉE D'UNE PROTECTION PAR MISE À LA TERRE.

ATTENTION:
LORSQU'UNE PRISE SECTEUR OU UN PROLONGATEUR EST UTILISÉ COMME DISPOSITIF DE DÉBRANCHEMENT, CELUI-CI DOIT RESTER FACILEMENT ACCESSIBLE.

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1073OPX Introduction

The 1073OPX is an eight-channel Microphone, Line, and Instrument preamplifier featuring Marinair® transformer-coupled microphone preamplifiers. Housed in a 2 unit 19'' rackmount enclosure with an optional digital interface, the 1073OPX is the ideal preamp for any studio setup, allowing engineers, producers, and artists to expand their recording capabilities, and access the legendary Neve sound.

The 1073OPX DI Input is a transformer-less Class-A design offering +30 to +60dB of gain and accessed through front-mounted XLR/TRS combi inputs for fast, high-quality instrument recording.

This digitally controlled preamplifier has Total Recall™ capability via the proprietary 1073OPX remote control software. Every control and setting can be adjusted remotely via the Neve® Remote-Control software which can be installed onto any compatible MAC or PC computer. This software provides a simple and elegant remote-control system for users of digital audio workstations, production suites, or live sound reinforcement systems.

Up to eight 1073OPX units can be connected and controlled remotely, giving up to 64 Mic Preamplifiers, Line Level, or DI inputs, all managed from a single computer. The unit always powers up with all settings, levels and states as they were at power-down.

Two optional Digital Cards provide AD/DA conversion for all eight preamps and digital monitor returns over three available formats – Dante/USB/ADAT. The USB/DANTE card allows the 1073OPX to be used as a Dante enabled Audio-over-IP preamplifier with both Primary and Secondary network capability and the USB port enables the 1073OPX to function as a primary standalone audio interface for any DAW enabled computer. The USB/ADAT card provides the same USB functionality with added ADAT connectivity, allowing the 1073OPX to operate as an expansion preamp for ADAT-enabled audio interfaces.

A unique feature of the 1073OPX is its analogue and digital monitor return path. This feature allows the device to be used as an analogue monitoring system feeding studio loudspeakers, cue mix systems as a primary audio interface with complete I/O for any MAC/PC DAW enabled computer.

Rack Mount Instructions

- Elevated Operating Ambient- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (30°C) specified by the manufacturer.

- Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

- Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not created by improper or uneven mechanical loading.

- **Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).**

Installation en Baie (rack)

- Température en service élevée – si l'installation est effectuée dans un endroit clos et/ou multi-rack, il se peut que la température localisée soit plus élevée que la température ambiante. Dans ce cas, il faudra faire attention à ce que l'environnement soit compatible avec la température ambiante maximale (30°) spécifiée par le fabricant.

- Aération réduite –l'installation de l'appareil dans une baie devra être réalisée afin de permettre une circulation d'air suffisante pour que le fonctionnement de celui-ci ne soit pas compromis.

- Installation mécanique – l'installation de l'appareil dans un rack devra être réalisée afin d'éviter une position qui s'avèrerait dangereuse dans le cas d'une installation instable.

- Mise à la terre convenable – la mise à la terre dans le cas d'une installation en baie/rack doit être maintenue. Une attention particulière devra être portée pour toute connection indirecte (par exemple utilisation d'une multiprise)

Configuring the 1073OPX

To operate the 1073OPX, configure as follows:

- Ensure the unit is switched off.
- Connect the PSU to the mains supply.
- Connect the supplied power adaptor (PS12221) to the rear 5-pin DIN input.
- Connect your mic/line or DI input source/s to the front of the unit. Separate mic/line inputs **MIC I/Ps 1-8** and **LINE I/Ps 1-8** are available on the rear of the unit on D-sub connectors. These inputs follow the DB-25 standard pin configuration. Monitor inputs **MONITOR IN L** and **MONITOR IN R** are available on the rear XLRs of the unit. On the front of the unit, Mic inputs use the XLR combo connectors; Line and DI inputs both use the 6.35mm jack on the combo connectors.
- Connect the line output/s **O/Ps 1-8** into your system. The outputs are available on the rear D-sub connector. This uses the DB-25 standard pin configuration.
- Connect monitor outs if required via XLR cables at the rear of the unit labelled **MONITOR OUT L** and **MONITOR OUT R**
- Connect headphones to the front ¼'' jack connector at the front of the unit.
- Switch on the unit. it will default to the last-used setting. Set front panel controls as required.
- Select front or rear input source by pressing the **FNT** button.
- Select Input **MIC/LINE/DI** by pressing the **IP** button.
- Set the phantom power **+48v**, **80Hz** high pass filter, **-25**dB PAD and **LoZ** impedance as required for each preamplifier.
- Set phase by **pressing and holding** the IP button, it will illuminate red to indicate 180° phase flip.

The DI circuit within the 1073OPX is a transformer-less class-A design. This uses an FET transistor to increase the impedance to 650Kohms, perfect for guitars, basses and keyboards. When connecting an instrument directly to the unit using the DI, set the level at +40db gain and adjust gain levels from this point. If the signal is distorted at 40dB then use the -25dB pad to reduce the incoming signal and then add preamplifier gain to get the desired tone and level.

Front Panel

POWER: Switches the unit on or off. The button will light when the unit is ON

HP LEVEL: Controls the volume of the headphones and rear monitor outputs and attenuates from -35 to 0dB. Pressing the **HP LEVEL** control knob will cycle through the monitor sources indicated by the adjacent LEDs:

Off/cut; No LED illuminated.

Channel-1 only; mono by default unless the **MONO** button is deselected; 1/2 LED **RED**

Channel-2 only; mono by default unless the **MONO** button is deselected; 1/2 LED **GREEN**

Channels 1 (left) and 2 (right); stereo by default unless the **MONO** button is selected; 1/2 LED **YELLOW**

[this sequence repeats for channels 3/4 5/6 7/8]

MON - Monitor input; stereo by default unless the **MONO** button is selected, routes the stereo Monitor input at the rear of the unit to the stereo monitor output and to the headphone output Post-HP level control.

DMON – The Digital Monitor input is only available when the optional digital monitor card has been inserted into the unit; once installed this option will become available on the front panel. **DMON** is stereo by default unless the **MONO** button is selected. **DMON** routes the digital stereo monitor signal from the connected DAW/Computer through the D/A converter and to the stereo monitor XLR outputs and headphone output post-HP level control.

Monitor source select is reflected in both the headphone output and the monitor output at the rear of the unit.

MONO: Toggles between mono or stereo monitoring. The button will light when mono is selected.

GAIN: Adjusts the sensitivity (gain) of the selected input in 1dB increments. The sensitivity is indicated on the dual 7-segment display.

+48V: Applies 48V phantom power to the microphone input (front or rear, whichever is selected). The button will light when phantom power is active.

This button is only available when mic input source is selected. Selecting a different input source will automatically switch off phantom power.

-25: Provides 25dB of attenuation to the input (applies to mic/line/DI, whichever is selected). The button will light when the pad is applied.

LoZ: The default microphone input impedance is 1.3kΩ. Pressing the **LoZ** button will reconfigure the input for 300Ω input impedance. The button will light when **LoZ** is selected. This button is only available when mic input source is selected. Selecting a different input source will automatically cancel **LoZ**.

XLR/Jack combo input: Use the XLR input for microphone sources and the 6.35mm jack input for line or DI sources.

IP: Press this button quickly to cycle through mic, line, or DI input source. The selected source is indicated by the three adjacent LEDs.

Ø: press and hold the **IP** button to flip the phase of the incoming preamplifier signal. The button will illuminate red to indicate 180° Phase flip.

FNT: Switches the audio input from the rear D-sub connector/s to the front combo connector (applies to mic/line. When DI is selected FNT is activated automatically). The button will light when the front input is selected.

⁄80: Switches the 80Hz high-pass filter into the signal path (applies to mic/line/DI, whichever is selected). The button will light when the filter is selected.

SIG: Lights green when a low-level signal is detected in the signal path; lights red when one point in the signal path is close to clipping; lights orange when the analogue-to-digital converter is close to clipping.

Rear Panel

DC POWER: Connects the accompanying DC power supply to the unit.

MONITOR OUT L&R: Stereo, balanced monitor XLR outputs.

MONITOR IN L&R: Stereo, balanced monitor XLR inputs.

O/P's 1-8: Balanced line outputs (DB-25 standard).

SOFT SWITCHES: out of use until future product updates.

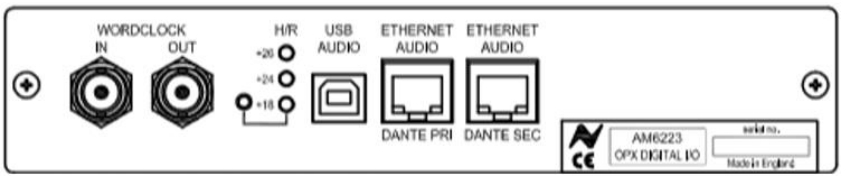
COMMS CTL: Ethernet Cat5e/Cat6 for remote control connection.

LINE I/Ps 1-8: Balanced line inputs (DB-25 standard).

MIC I/Ps 1-8: Balanced Microphone inputs (DB-25 standard).

DIGITAL OPTION PANEL: Optional Digital module is fitted here.

AD/DA USB/Dante card (Optional)



The 1073OPX USB/DANTE card provides a digital interface for the 1073OPX and has 8 A/D preamplifier converters and 2 D/A monitor converters. By default, the post-gain amplified signal from the Mic/Line input is routed to the A/D inputs. If this digital board is not fitted, then the Sample Rate and Sync Source LEDs on the front of the unit will not light or function.

Word Clock In: The BNC connector provides an input to the internal sample rate clock for synchronisation to external devices.

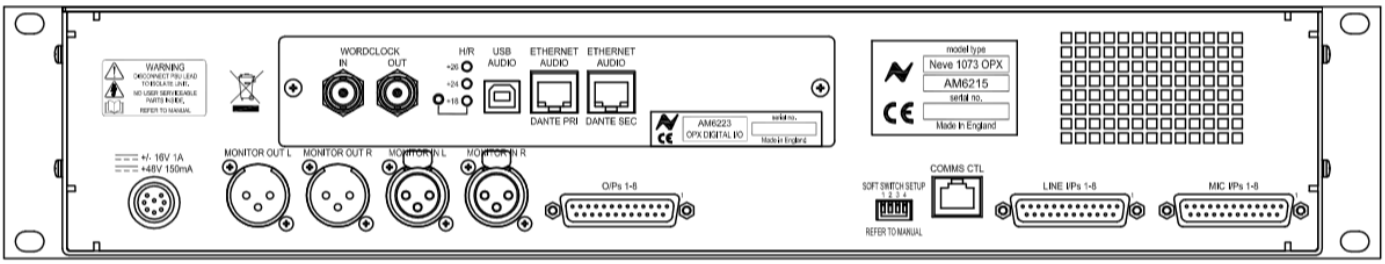
Word Clock Out: The BNC connector provides an output from the internal sample rate clock for synchronising external devices to the 1073OPX internal clock.

H/R: The digital headroom selector toggles the **DMON** stereo digital input and Preamplifier 1 to 8 digital outputs headroom from +18dBu, +24dBu or +26dBu.

USB AUDIO: Provides USB B connection for MAC or PC enabling use of the 1073OPX as a primary audio interface.

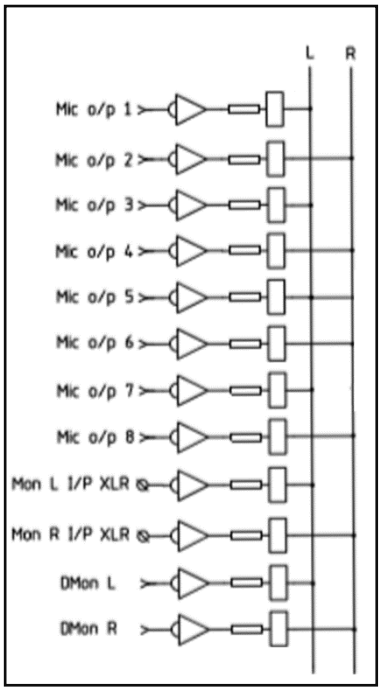
DANTE PRI/ DANTE SEC: Primary and secondary Dante audio-over-iP connections to connect the 1073OPX as a Dante-enabled device.

Monitoring



The 1073OPX rear panel has two female XLR connectors labelled **MONITOR IN L** and **MONITOR IN R**. These can be used to feed a monitor path from your audio interface into the 1073OPX unit. The Signal is fed into the units MON audio path and can be attenuated by -35dB via the **HP LEVEL** control. This signal is then fed to both the headphone output on the front of the unit and to the **MONITOR OUT L** and **MONITOR OUT R** outputs on the rear of the unit. This signal path can be used to feed a monitor Loudspeaker set in the control room or a performer cue mix system in the live room.

Latency Free Monitoring



The 1073OPX monitor path can be fed from a combination of preamplifier output and monitor input signal sources. This enables latency free monitoring of preamp signals, allowing operators to record overdubs by listening to the input source directly pre-DAW. Users can blend the mic, line or DI preamplifier signals directly with the monitor or digital monitor signal for quick latency-free monitoring.

When the unit is powered down, the monitor input selection is remembered for the next time the unit is powered up.

The Diagram to the left shows the connections of each individual preamplifier output into the monitor path. The outputs are connected as stereo pairs with **1, 3, 5, 7** connected to the **LEFT MON/DMON** path and **2, 4, 6, 8** connected to the **RIGHT MON/DMON** path. This configuration allows for accurate latency-free stereo imaging at the signal source. If a mono signal is required when monitoring either a single preamplifier output or combination of signals, simply press the **MONO** button.

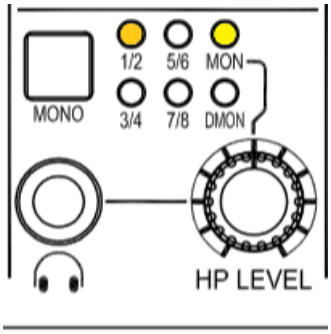
Activating MONO will convert all monitor path signals into mono, including MON and DMON

Pressing and holding the **HP LEVEL** control (for more than 1 second) and then pressing any channel gain encoder will add the selected preamplifier channel into the units monitor **MON** or **DMON** signal path. Multiple preamplifier inputs can be selected at any time to form stereo pairs or mono signals monitored in the left or right monitor path. The signals being fed into the HP Monitor path are indicated by LEDs on the **HP LEVEL** control section. **MONO** can be activated at any time.

To add preamplifier signals into the monitor path-

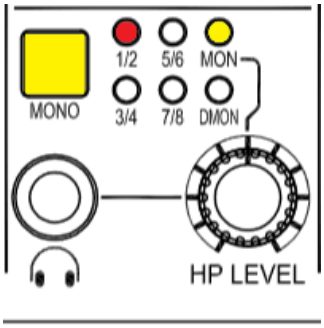
- Press and hold the **HP Level** control (for more than 1 second)
- Then press **GAIN POT** of the preamplifier channel you wish to monitor.
- Add additional signals by repeating the process.
- Multiple monitor indicator LEDs will display which signals are being fed to the monitor path.

When mono is selected manually, the incoming MON (Monitor) or DMON (Digital Monitor) signal will also become mono.



Example 1

MON is selected and channel 1 gain encoder has been pressed. This activates channel 1 preamplifier output into the left monitor path. However, since the **MONO** button has also been pressed, both preamplifier output 1 and the monitor **(MON)** signal is sent as **MONO** to the headphone left and right and monitor (**MONITOR OUT L** & **MONITOR OUT R)** outputs.



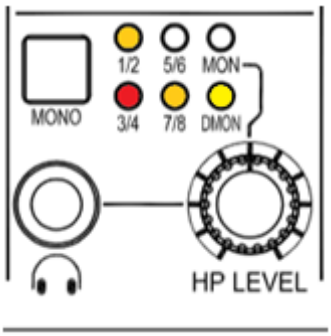
Example 2

MON is selected and preamplifier gain 1 and 2 encoders have been pressed. Since these signals can now form a stereo pair of preamplifier inputs, they have been added into the monitor path as

Channel 1 - Left

Channel 2 - Right

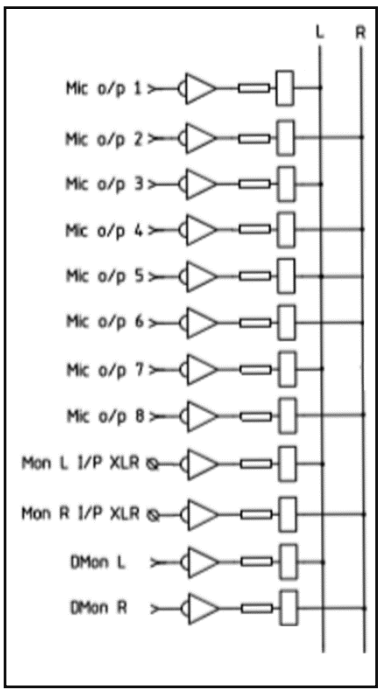
Both signals can now be monitored in the headphone and monitor outputs in stereo.



Example 3

DMON is selected (fed from digital **USB** or **DANTE**) and preamplifier channel 1&2, 3, 7&8 are selected. In this example two stereo pairs of preamplifier inputs (1 & 2 and 7 & 8) and one mono preamplifier 3 have been added into the monitor path. Since we now have two stereo pairs and one mono source, channel 3 signal will monitor through the **LEFT HP LEVEL** output and **MONITOR OUT L** only. **MONO** can be selected at any time, but all stereo signals will be converted to **MONO** through the 1073 OPX Headphone and Monitor outputs.

Summing



The Monitor output XLR connectors at the rear of the unit follow the front **HP LEVEL** monitor signal selection. This function gives users the ability to use the unit as a 4x stereo input analogue summing mixer. Users can pass audio signals through the 1073 line-level preamplifiers, combining them into the monitor path through the Left and Right Monitor output XLRs on the rear of the unit. This stereo signal can then be fed into the DAW and recorded back as a summed stereo track.

Due to the hard wiring of the unit, odd numbers are fed to the Left monitor output and Even numbers are fed to the Right monitor output.

Preamplifier Outputs 1, 3, 5, 7 > MONITOR OUT L

Preamplifier Outputs 2, 4, 6, 8 > MONITOR OUT R

Any combination of up to 4 stereo pairs of input signals can be summed together by using this technique.

Individual mono signals will appear in either the left or the right only.

MONO can be activated by the user which will sum both left and right output signals together to be sent equally to both Left and Right XLR outputs.

1073OPX Remote Control Software Setup

The 1073OPX proprietary Remote-control software application can be run on Mac or PC and allows users to access and operate the 1073OPX control features remotely. The unit's front panel controls including gain level, Input selection, phantom power, etc can be controlled remotely from any connected computer.

Installation

Download the 1073OPX Remote Software installer from www.neve.coom and follow the on-screen instructions.

- Choose 'Full Installation'
- Click 'Create a desktop shortcut' if required
- Tick 'launch Neve 1073OPX'
- Click 'Finish'

Connecting Comms

The 1073OPX can be connected directly to the control computer or through a network switch.

When making a direct ethernet connection from the computer to the 1073OPX, a Manual IP address must be assigned. See page 19.

To connect the 1073OPX directly to the computer, a connection via ethernet CAT5e/CAT6 cable must be made from the computer ethernet port to the **COMMS CTL** port on the rear of the unit.
Multiple units can be connected to the computer by connecting through a network switch. DHCP protocol will assign each unit its own unique IP address which will be recognised by the control computer and seen by the remote software.
The Comms connector light on the unit front panel indicates two-way communication between the software plugin and the 1073OPX unit.

Up to 8 1073OPX racks can be connected to the remote computer. When using multiple OPX units, each rack must be selected by clicking the rack name at the top of the screen, the plugin interface window will update to display and control the settings of the chosen hardware unit.

To access IP Config mode

- Press and hold preamplifier Gain Controller 1
- Press preamplifier Gain Controller 8 at the same time

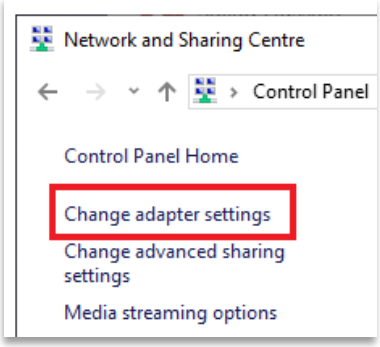
Preamplifier gain indicators 1 & 2 will now display **DHCP**, indicating an automatic IP address assignment. This mode is used when connecting through a Network switch.

To view the manual address menu and set a manual IP Address, press the Preamplifier Channel 1 +48v button.

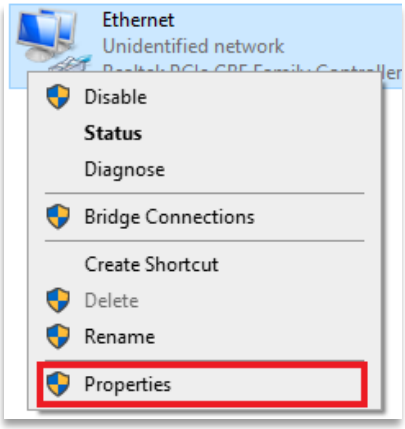
Once pressed, the preamplifier channels will change to display the unit's manually assigned IP address across the front panel gain indicators.

Follow the steps on page 17 and 18 to configure the computer and 1073OPX manual IP addresses.

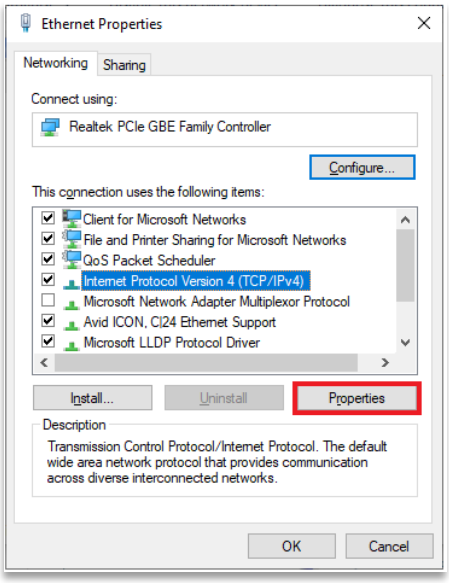
Manual IP address setup - Windows PC



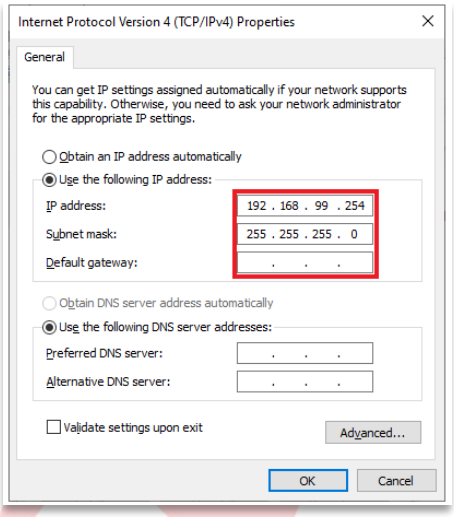
- Open control panel>Network&Internet>Network and Sharing Centre
- Click Change Adapter Settings



- Highlight the Ethernet connection and click **Properties**



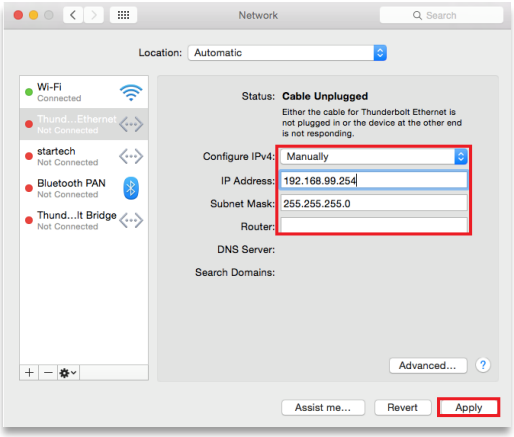
- Click **Internet Protocol version 4 (TCP/IPv4)**
- Click **Properties**



- Click **use the following IP address**
- Enter a manual IP address - **10.10.251.254**
- Enter Subnet Mask **255.0.0.0**
- Alternative address - **192.168.99.254**
- Alternative Subnet Mask **255.255.255.0**

Manual IP address setup MAC

- ▶ Open **System Preferences**
- ▶ Click **Network**



- ▶ Select the ethernet connection on the left
- ▶ Click the Configure IPv4 dropdown box
- ▶ Select **Manually**
- ▶ Enter a manual IP address - **10.10.251.254**
- ▶ Enter subnet mask **- 255.0.0.0**
- ▶ Alternative address – **192.168.99.254**
- ▶ Alternative subnet mask – **255.255.255.0**

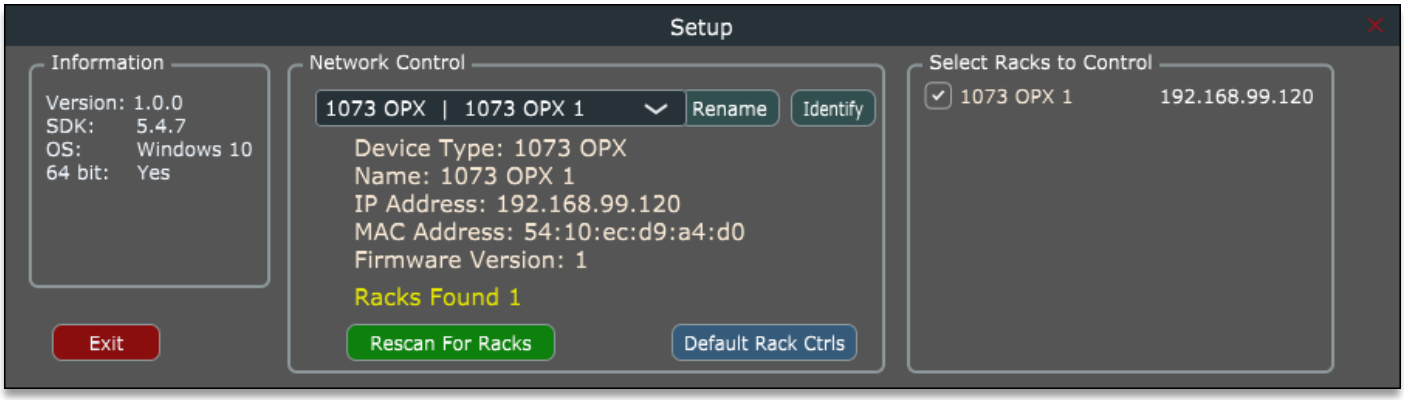
Once a manual IP address has been selected on the remote-control computer, the 1073OPX manual address must be assigned within the same IP range.

1073OPX manual IP address setup

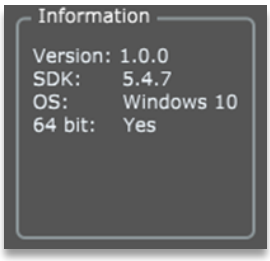
- ▶ Choose an IP address between **10.10.251.1** and **10.10.251.253**
- ▶ If using the alternative IP Address range – select an IP address between **192.168.99.1** and **192.168.99.253**
- ▶ Twist the gain knobs to adjust the figures, the gain knobs work in pairs to assign each 3-digit number section of the IP address.
- ▶ Gain knobs **1&2** assign the first 3 digits **192**.168.99.131
- ▶ Gain knobs **3&4** assign the second 3 digits 192.**168**.99.131
- ▶ Gain knobs **5&6** assign the third 3 digits 192.168.**99**.131
- ▶ Gain knobs **7&8** assign the fourth 3 digits 192.168.99.**131**
- ▶ Once assigned press the flashing **MONO** button
- ▶ The units manual IP address is now set.

For reliable communications, the IP Addresses of remote computer and 1073OPX must be set on the same subnet. Once the IP address is set, allow 7 seconds for the unit to update settings.

Setup Menu

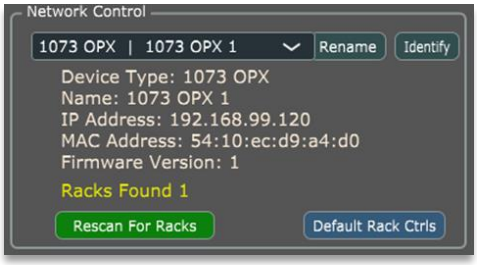


Once the units IP address has been assigned, the remote software will scan for connected devices and automatically connect. If a unit is not found, or if several 1073OPX units are connected, click the **SETUP** button in the plugin software window and follow the steps on the following pages.



Information

Shows key information such as software version, operating system, software design key and 64-bit operation information.



Network control

The dropdown menu will show any available connected 1073OPX devices. By default, each device is named 1073OPX.

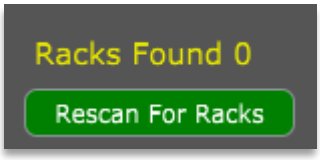
Renaming a device

- Choose a device in the dropdown menu

- Click **Identify**
- The **MONO** button will flash on the selected 1073OPX device.
- Click **Rename**
- Rename the device (Max 21 characters)

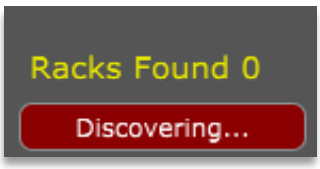
The device name will appear at the top of the main plugin window. Names are locked to the units fixed MAC Address & stored in the device's internal memory, each time a device is connected or disconnected, the name remains with the device.

Rescan for Racks

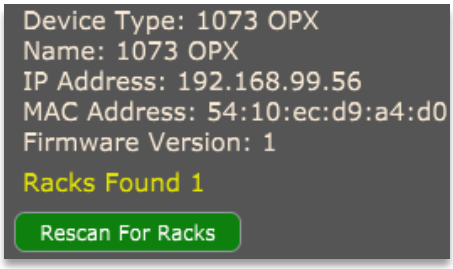


If no units are found,

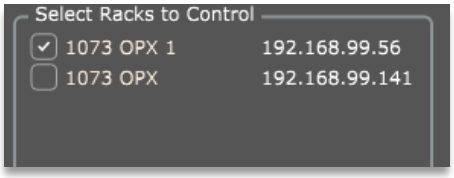
- ▶ check the IP address is set correctly by following steps on **page 14.**
- ▶ Then click **Rescan for Racks**



Discovering will appear during the scan process.



Once a unit is found the device information will be displayed
Device type: will show as 1073OPX
Name: 1073OPX by default, unless renamed by user.
IP Address: will show the units current manual or auto-assigned IP address
MAC Address: Fixed address used to identify each unit.
Firmware version: displays the units current firmware version, firmware updates can be found at [www.AMS-Neve.com >1073OPXproductpage >supporting documentation]
Racks Found: Displays the number of racks visible on the network.



Select racks to control

Once available racks are found and ready to connect, the plugin can be assigned to control up to 8 1073OPX racks.

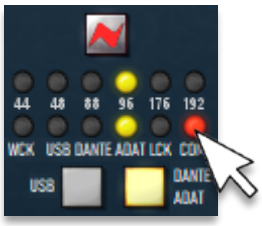
As a safety feature, the software will not automatically connect, the user must tick the racks they wish to control.

Settings Reset

To reset the front panel controls of the selected rack press **Default Rack Controls**. All settings for the 8 preamplifier channels are reset to their default state. Monitor control and digital section are exempt from the reset.

Use caution when multiple racks are connected, Default rack controls will only reset one device at a time. Ensure that the correct rack is selected by using the IDENTIFY button.

1073OPX Remote-Control Software Operation



Comms

When communication is synchronised between the 1073OPX and the GUI, the **COMMS** light will illuminate red. Two-way control between the plugin and the unit front panel controls is now possible. Changes made on the front panel of the unit will be reflected in the plugin. Similarly, changes made on the plugin will be reflected on the unit front panel controls.

Lock

To lock out the unit controls press the **LOCK** button on the plugin screen, The **LOCK LED** will illuminate Yellow to indicate lock status. When locked, the 1073OPX front panel preamplifier controls cannot be accessed locally. Only the HP level control, monitor source, MONO and digital controls can be adjusted from the front panel of the unit when in lock mode. To override lock, press and hold the **HP LEVEL** pot. When held, the unit's settings can be changed from the unit front panel, when released, the unit returns to locked state.

Controlling multiple 1073OPX units

The top bar of the plugin window displays the available connected 1073OPX racks. Up to 8 racks can be connected and controlled at the same time.

Select units to control by clicking the unit name at the top of the plugin window. The selected unit will name will be highlighted Blue.

Only one unit can be controlled at a time, the GUI will update to show the front plate settings of each hardware unit when selected.

Save/Load settings

1073OPX settings can be saved and loaded from the remote computer's memory. Each save file is unique to each 1073OPX device.

The loaded Active store will be displayed at the top of the software window when the selected rack is focused in the software.

Software operation

The 1073OPX software controls can be adjusted by using your computer mouse to change the hardware unit control values.

The 1073OPX buttons can be pressed by clicking on them with your mouse pointer. The software button will change colour to indicate on/off status and the physical button on the unit will illuminate when active.

Linear Gain Adjustment

To adjust preamp gain from the software, pressing the selected gain pot on the screen and moving the mouse up or down in a linear motion will increase or decrease the channel gain. This is the default mode of operation for the 1073OPX software.

Fine gain Adjustment

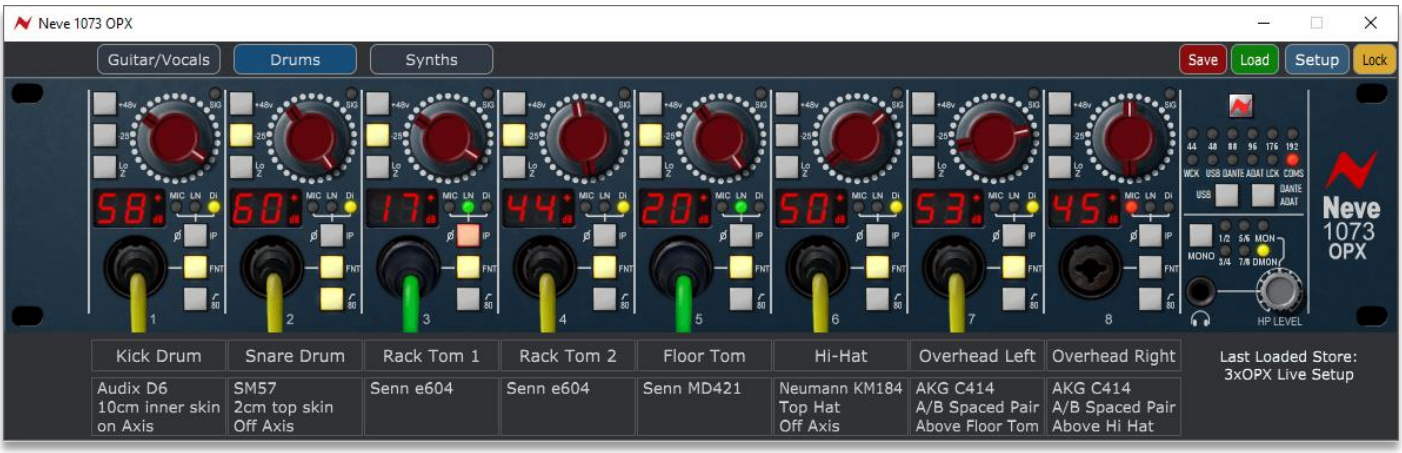
The 1073OPX software features a shortcut that allows users to remotely adjust gain settings accurately in 1dB steps. This mode is activated by pressing and holding the **CTRL (CONTROL)** key while making adjustments with the mouse pointer.

Circular Gain Adjustment

This mode of operation allows for coarse gain adjustment by moving the mouse pointer around the gain pot in a circular motion. This mode is activated by pressing and holding the **SHIFT** key while making adjustments with the mouse pointer.

CAUTION: when using Circular Gain Adjustment, maximum gain can be applied to a channel in a single click. Please take care when using this mode to prevent microphone damage.

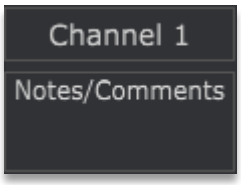
OPX Channel Labelling (OPX App Version 3.1+)



OPX app version 3.1 includes a new channel labelling feature that allows for OPX channel renaming and note-taking.

This feature is ideal for keeping track of complex recording sessions or using the 1073OPX as a live sound preamplifier.

The scribble strip boxes will appear underneath the previous 1073OPX GUI.



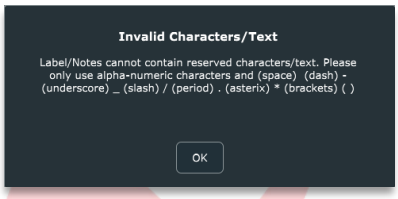
The top box is used to label the channel name. The default channel name (**Channel 1-8**) is displayed if channels have not yet been named.

The lower box is used to enter notes/comments related to the channel. If no notes have yet been entered, the default label **Notes/Comments** is displayed.

The Channel name box has up to 64 characters, depending on the characters used, and the font size will decrease to fit larger channel names. If the character amount is exceeded, the label will be abbreviated with the last characters displayed as **...**

The Notes/Comments box has up to 127 characters, depending on the characters used. The font size will decrease to fit larger notes/comments. If the character amount is exceeded, the label will be abbreviated with the last characters displayed as **...**

The Notes/Comments box is ideal for taking notes on microphones used, microphone position, and instrumentation.



Only alpha-numeric characters are allowed. Entering invalid characters such as **/#%** will cause a pop out warning to appear.

The channel label information is embedded into the OPX recall store within the computer filing system and is stored only when the OPX setting are **saved**. If settings are not saved, labels will remain in view while the app is open. If an old OPX settings file is opened, channel labels will remain on screen, allowing old files to be labelled and then saved again with new channel label information included.

USB Audio Interface Mode

This mode enables the 1073OPX to function as an audio interface for your MAC or PC.

In USB audio mode, only one 1073OPX rack unit can be used as a primary audio interface.

Once a valid USB connection is made, the **USB** LED will illuminate Blue. If both a dante and USB connection are made at the same time, the **USB** button must be pressed to select the connected **USB** as the digital interface I/O. The **USB** button will light Blue when USB digital I/O is selected.

On MAC the 1073OPX will show as a core audio device.

On PC the 1073OPX will show as an ASIO audio device

For MAC, once connected via USB the unit will appear as a core audio device and is ready for use.

For PC, to use the 1073OPX unit as a primary audio interface, the 1073OPX USB audio driver must be installed.

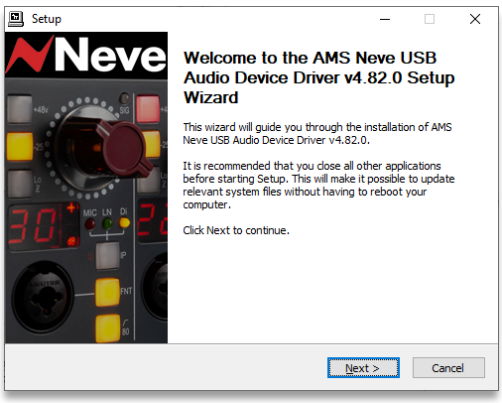
In USB Audio Interface mode, the 1073OPX operates as an AD/DA audio interface for your DAW computer.

The USB interface connection provides 8 mono digital inputs into your DAW computer from the 1073OPX preamplifiers. The USB option also has a stereo digital monitor return output from your DAW into the unit's **DMON** digital monitor path. This can be used to feed your studio loudspeakers or headphones.

Once and audio application is open on the connected computer, the blue USB LED will switch on and remain on until the unit is powered off.

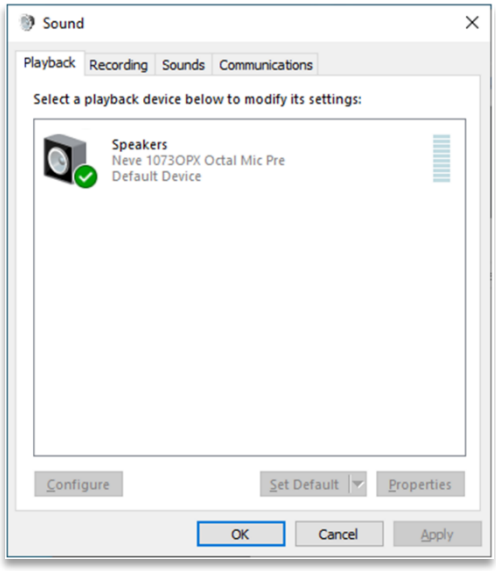
USB must be selected and illuminated on the front panel of the unit or from the front panel in the 1073OPX plugin.

PC Audio Device Driver



Download the AMS Neve USB Audio Device Driver from www.AMS-Neve.com >1073OPXproductpage >supporting documentation for your PC, run the application and follow the on-screen instructions.
Before installing, please ensure that the USB cable is disconnected from the unit

- Click 'Next
- the driver will write to default location or a custom destination for the driver can be entered if required,
- click Install
- Click 'Finish'

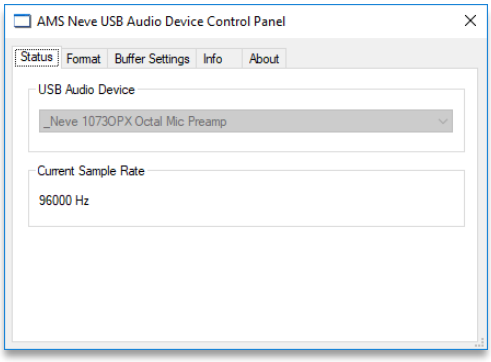


Once installed, the 1073OPX will appear in your PC's available audio devices and the AMS NEVE USB audio device control panel application can now be accessed. This application allows users to view the selected sample rate, Bit Depth, buffer size, I/O and release and serial number information.

The 1073OPX can also be operated as a standalone audio interface, independent of the DAW. This can be configured from your mac or PC audio settings screen in the same way as any compatible connected audio device.

PC – following driver installation the AMS Neve USB Audio device control panel will function once the driver is installed, and the hardware connected.

The device will appear in the PC's **Control Panel>Hardware and Sound>Manage Audio Device** and can be selected as the computers default recording and playback device.

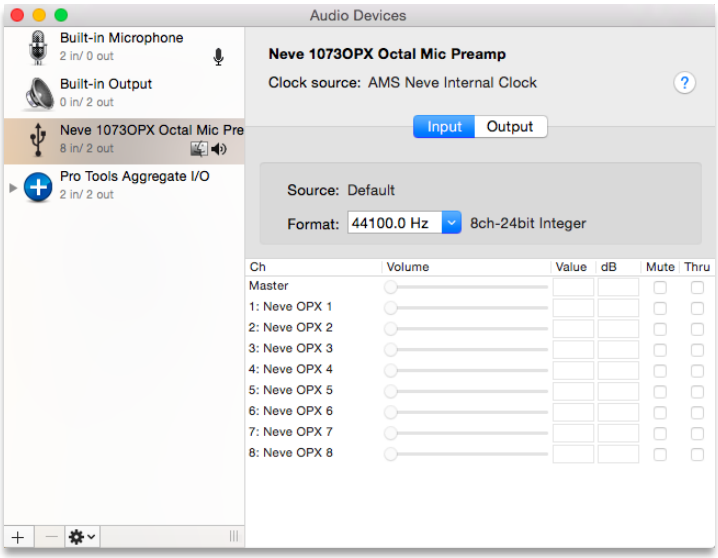


The 1073OPX will now function as an ASIO/core audio device and is compatible with sample rates up to 192kHz and bit depths of 16/24Bit.

The sample frequency in USB Interface mode is controlled entirely through the DAW sample rate selection. The units sample rate display will reflect the sample rate selected within the DAW. However, the preferred buffer size can be adjusted through the device control panel or via the DAW playback engine settings page.

MAC Core audio device

The Neve 1073OPX will appear as a core audio device as soon as the hardware is connected to the Mac. Adjustments can be made through the Audio Devices menu.



As a general rule, any flashing LED on the digital panel indicates that the unit is not locked to the selected sample rate or source. If this happens, please check that the units digital source selection is correct. This will be either USB, Wordclock or Dante. Solid LEDs indicate the unit is locked to the selected source at the chosen rate.

Dante Networked Audio Mode

This mode enables the 1073OPX to function as a Dante networked audio device which can be accessed by the connected Dante network.

The **ETHERNET AUDIO DANTE PRI** or **ETHERNET AUDIO DANTE SEC** must be connected via a **CAT5e** or **CAT6** cable to the Dante network to use the 1073OPX as a Dante enabled audio device.

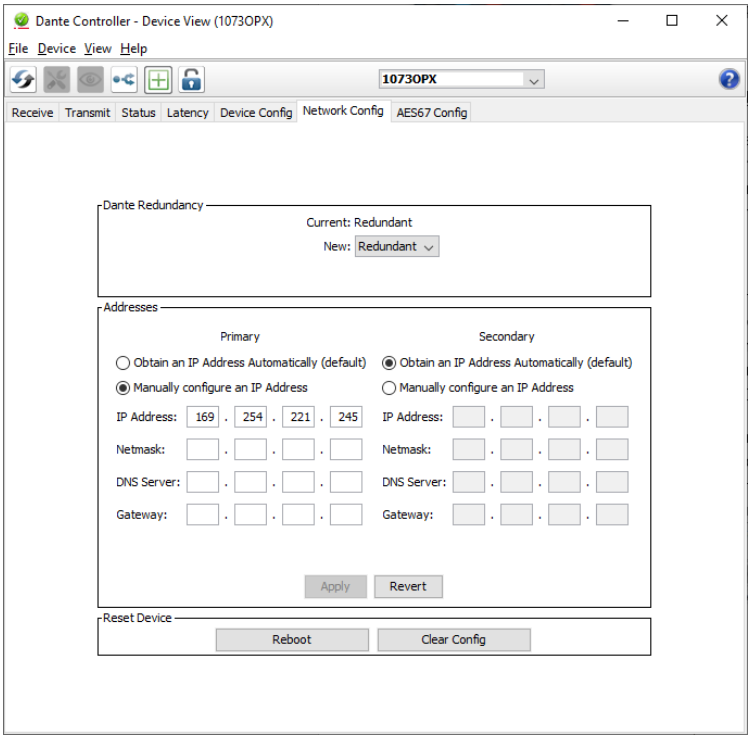
Once the connection is made and a valid Dante network is detected, the **DANTE** light will illuminate red to indicate a valid connection. If both a Dante and USB connection are made at the same time, the **DANTE** button must be pressed to select the connected Dante network as the digital interface I/O. The **DANTE** button will light Red when Dante digital I/O is selected.

In this mode, the 1073OPX is operating as an AD/DA audio interface, converting analogue signals to and from the digital Dante network . The Dante connection provides 8 mono digital inputs into the Dante network from the 1073OPX preamplifier outputs. The Dante option also has a stereo digital monitor return output from your DAW into the unit's **DMON** digital monitor path. The **DMON** path can be used to feed your studio loudspeakers or headphones. The unit sample rate is displayed with 6 yellow LEDS for 44.1, 48, 88.2, 96, 176.4, and 192kHz, sample rates can only be set from in the Audinate software application - Dante Controller.

Dante IP Addressing

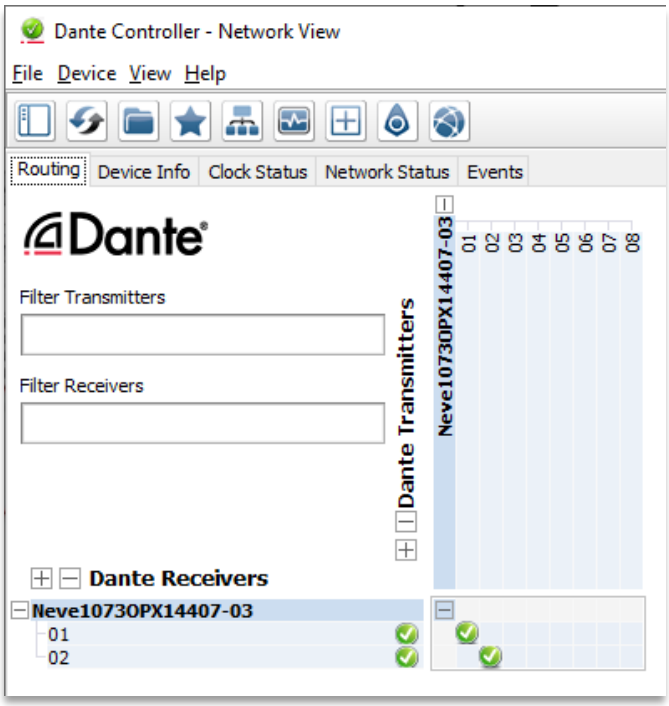
Dante addresses are set dynamically meaning that typically, the Dante network assigns IP addresses to each unit. If a DHCP server is not found by the Dante device, the device will assign itself an APIPA address that will be in the range of 169.254.0.1 through 169.254.255.254.

Manual IP addresses can be assigned in the Device view of Dante Controller.



For more information on Dante IP address assignment please visit www.audinate.com

The Dante controller software allows users to route any of the 1073OPX audio paths to any available network audio device via the simple routing matrix on the main screen.



This window uses a matrix with horizontal and vertical tabs to connect units together, active connections are called subscriptions.

The horizontal tab shows transmitters, these are digital outputs from your unit, The 1073OPX has 8 available transmitters, one for each preamp output.

The vertical tab shows receivers, these are digital inputs into your unit, the 1073OPX has 2 available receivers **DMON** Left and **DMON** Right.

Making Connections

Connections (subscriptions) are made by clicking the matrix boxes and are active when a green tick **(subscribed)** appears in the connection box. Audio to and from the 1073OPX will now pass through to its routed location.

(In Progress) indicates a subscription in progress.

An **(Error)** symbol indicates a failed connection. This could be for a number of reasons. *See Troubleshooting page.*

(Warning) Indicates an unresolved subscription. Typically, because the transmitting device is not visible on the network (or because the transmitting device is switched off or removed from the network).

(Pending) Indicates that the device is part-way through setting up a subscription.

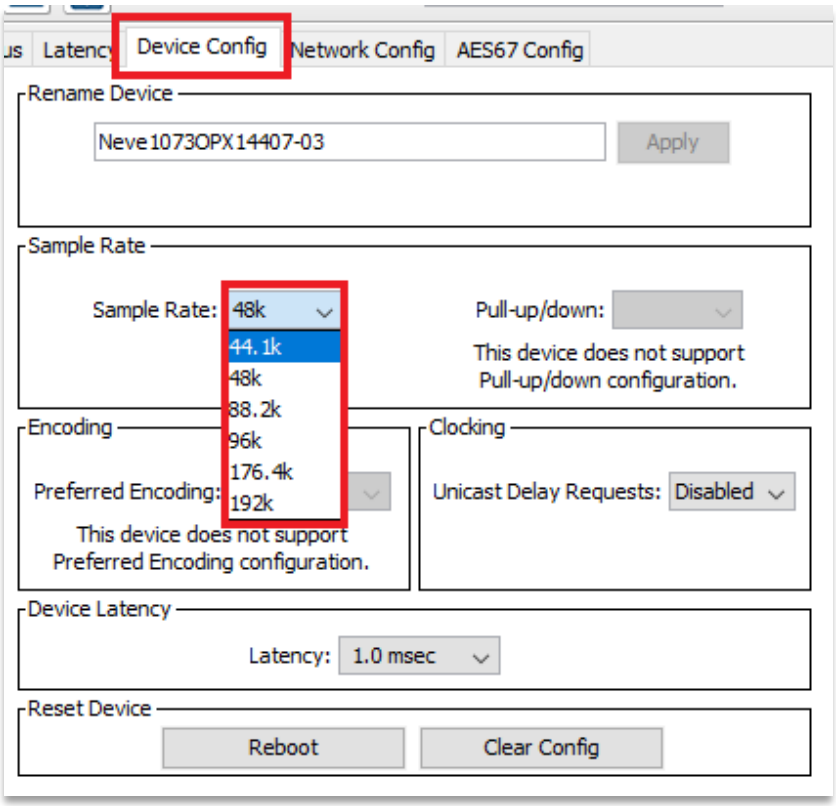
Configuring Hardware settings

In order to configure the 1073OPX's Sample rate, Dante controller must be installed and run on a MAC or PC computer that is connected to the Dante network. The unit will appear in Dante controller as 1073OPX.

To change the units sample rate, double click on the 1073OPX device name in the Dante controller routing tab. This will open the Dante Controller device view window.

With the device view window open, click on the device config tab.

From this window, the user can adjust several settings such as sample rate, and device latency, as well as renaming the device on the Dante network.



For more information on Dante Controller please visit www.audinate.com

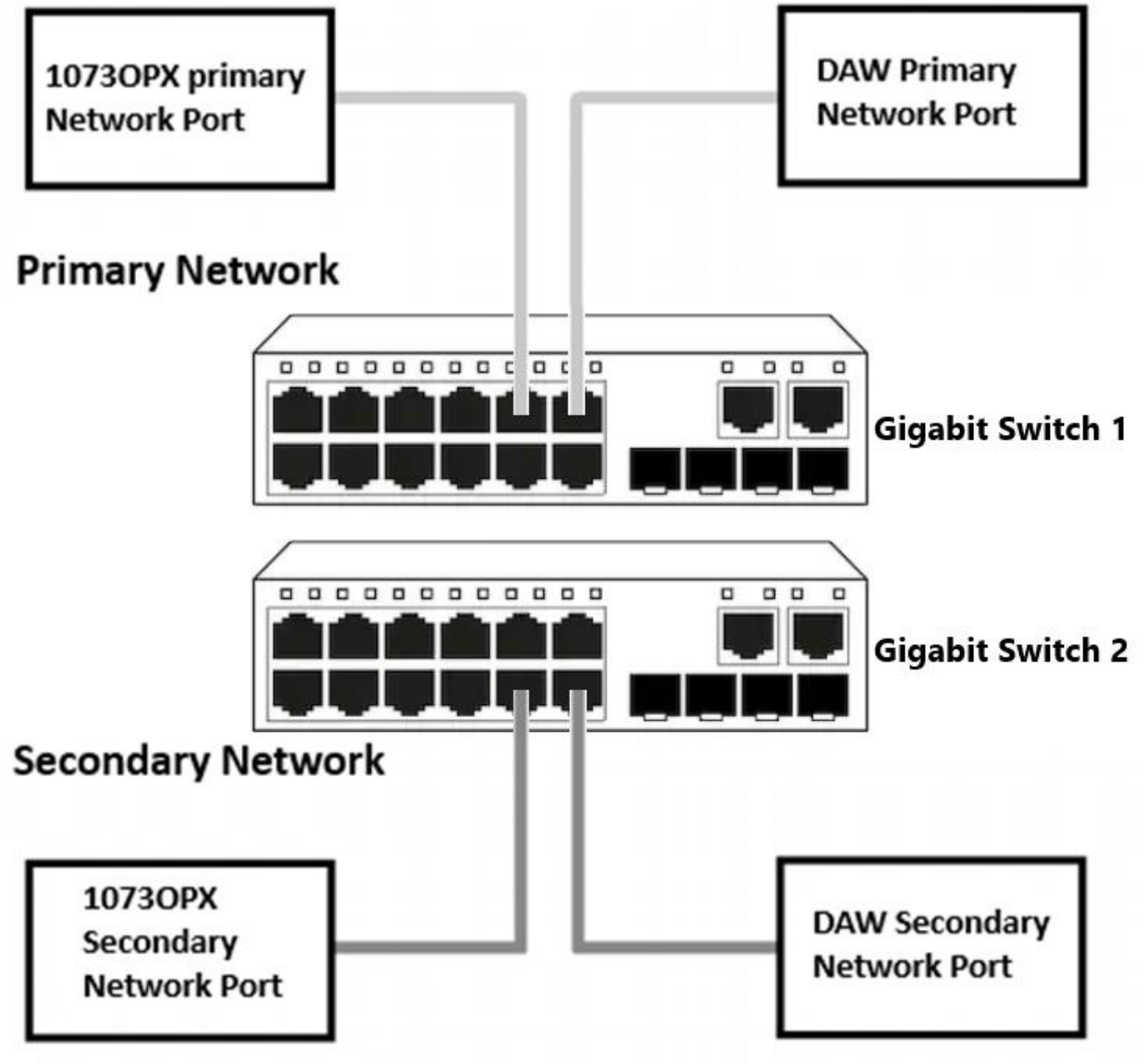
Dante Network Connections

The 1073OPX optional digital card has both a primary Dante network port **DANTE PRI** and a redundant secondary Dante network Port **DANTE SEC**.

The Primary network port connects to the primary Dante network along with your Dante Controller enabled MAC/PC.

The 1073OPX **DANTE SEC** network port is used to create a secondary Dante network. This network connection (if required) must also be made using a separate gigabit ethernet switch.

For more information on secondary Dante Networks visit: www.audinate.com



All Dante connections should be made using* CAT5e *or* CAT6 *ethernet cable and connections must be made by using gigabit switches.

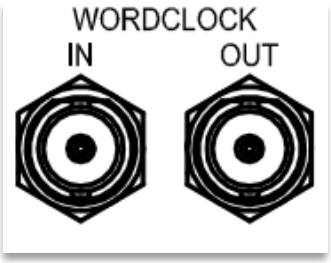
For more information on Dante Networked audio please visit www.audinate.com

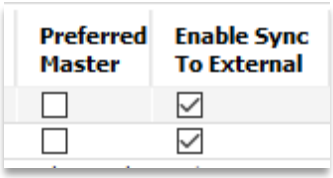
Wordclock Sync

Depending on the Digital option card installed, there will be either Wordclock Input and Output connections **(USB/Dante card),** or a Wordclock Input connection only **(USB/ADAT card).**

The Wordclock output connector transmits Wordclock data for all USB, ADAT, and Dante interface modes allowing external units to sync to the 1073OPX internal sample rate clock.

All Wordclock connections must be made with a 75Ω BNC cable





USB/Dante

The 1073OPX USB/DANTE digital card has both Wordclock Sync Input and a Wordclock sync output.

The Wordclock input is used for Dante Network synchronisation only. USB mode does not allow for external clock synchronisation, when using USB Mode, the Wordclock Input is redundant.

Wordclock sync is activated from the **Dante Controller** application

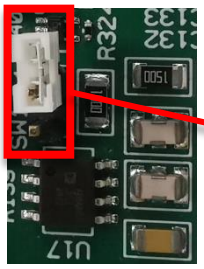
- ▶ In the main window click the **Clock Status** tab
- ▶ Then click the tick box labelled **Enable Sync To External**

Once this step is complete the **WCK LED** will illuminate.

The Incoming Wordclock sample rate must match the 1073OPX sample rate set by Dante Controller, if the sample rate does not match, the **WCK** LED will not illuminate, and the unit will default to its own internal clock.

More information on Dante external sync can be found at www.audinate.com

Wordclock 75Ω Termination

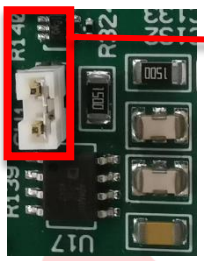


The USB/Dante digital card has an internal jumper switch that is used to terminate the 75Ω Wordclock input. This is located just behind the Wordclock BCN connector.

By default, wordclock is not terminated, in this mode, one pin is left exposed.

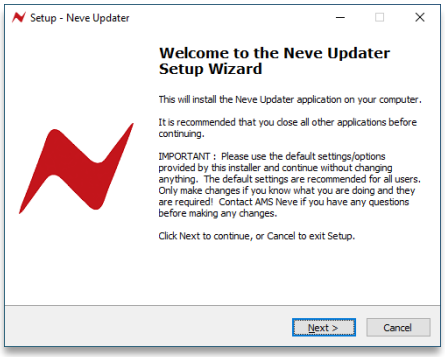
To select 75Ω Wordclock termination -

- ▶ **Removes the jumper switch from its current position**
- ▶ **move the jumper to the left position, covering both pins**



Wordclock should be terminated when the 1073OPX is the last unit in the synchronisation chain to receive Wordclock. 75Ω Wordclock termination should not be used when transmitting Wordclock via **WORDCLOCK OUT**.

Firmware Update Software

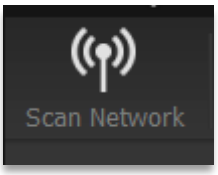


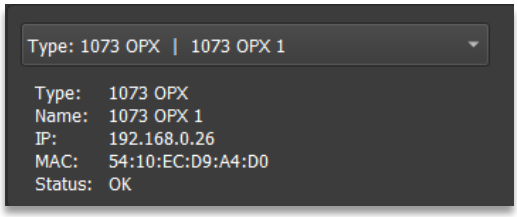
The Neve firmware update software can be found at www.AMS-Neve.com >1073OPXproductpage >supporting documentation. The software program is used to check your unit's firmware is up to date and perform the necessary updates if required. The windows application is 32-bit software supported by windows 10. The MAC 64-bit software supports OSX 10.14/10.15 only.

First the software must be installed.

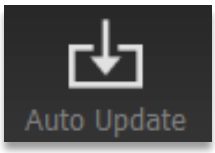
Run the installer package on your PC/MAC and follow the on-screen steps. Once installed the software is ready to be connected to your 1073OPX unit. Once connected and scanned the software will prompt the user to begin firmware update if required.

To perform a firmware update-

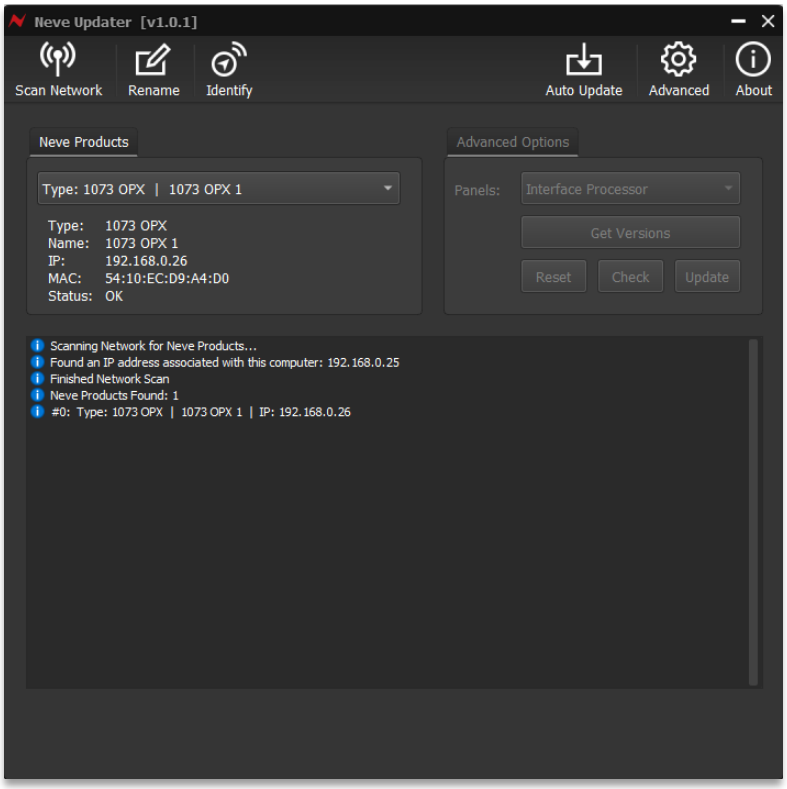


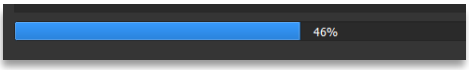


- Connect the unit via the COMMS ethernet connection to your computer using a CAT5/CAT6 ethernet cable.
- Run the update software program.
- Click 'scan network'
- Discovered units will appear in the Neve Products dropdown box.
- Product type, Name, IP address and MAC address will be displayed underneath.
- Select the unit to update from the drop-down menu



- Click **Auto Update**
- an indication will appear on screen informing which panels require firmware updates and the update process will begin.

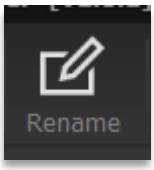




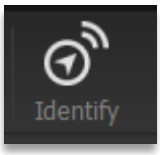
The software will update the firmware in three stages which is indicated on the progress bar.

- 1st grey progress indicator is entering boot mode then another is shown to indicate erasing memory status.
- 2nd blue indicates update progress.
- 3rd grey indicates exiting program mode.
- Lower thin grey progress indicator is overall progress.

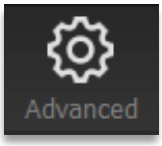
The OPX front panel will enter boot mode when programming, please do not press any buttons on the unit during this process.



Units can be renamed by clicking **rename** (Max 21 characters)



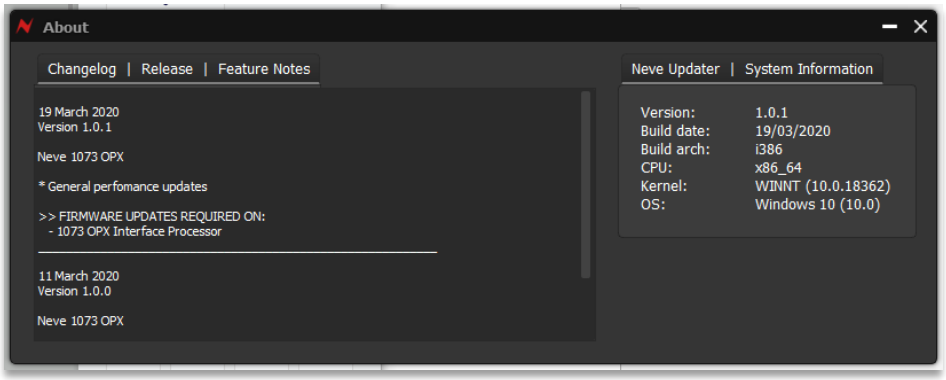
Identify flashes the **MONO** button on the selected unit.



Advanced is reserved for the use of AMS Neve engineers when manually uploading firmware.

It is not recommended for end-users to enter this mode.

The About window displays the software system information and the available firmware versions.



No audio at the line output/s

- Check all connections to the unit. For example, check that corresponding inputs and outputs are routed to the same channel. The front panel SIG led/s will light if any signal is detected.
- Check the setting of the Gain control. Turn clockwise to increase the Gain level.
- Check the input source selection indicated on the front panel LEDs matches the actual desired source.
- Check that the **FNT** button is set to the desired option. This button should be lit to select a front audio source.

No audio at the monitor or headphone output/s

- Check the monitor source selection indicated on the front panel LEDs matches the actual desired source. Press the **HP LEVEL** knob to cycle through the options.
- Check the **MONITOR IN L & R** XLR connections at the rear of the unit.
- Check the setting of the **MONO** button. In MONO mode, any audio will be heard equally on left and right outputs, this will indicate an issue on either side of the stereo signal.
- Check the setting of the **HP LEVEL** control. Turn clockwise to increase the output level.

No connection to the Dante Network

- Make sure a CAT5/CAT6 cable is used to make the connection.
- Check that the network switch is 1 gigabit and un-managed
- Wait 25 seconds after making the physical connection.
- Check that DANTE LED is lit on the front of the unit.
- Check settings in Dante Controller

For more information on Dante Controller please visit www.audinate.com

No USB Audio

- If using PC, ensure the correct drivers are installed. Drivers can be found at www.AMS-Neve.com >1073OPXproductpage >supporting documentation.
- Check the USB cable connection.
- Open an au audio application on the connected computer. The USB connection requires an active audio application to activate the interface.

Dimensions & power Requirements

Height	89mm/3.5 inches
Width	484mm/19.05 inches
Depth	360mm/14.17 inches
Weight	7.8kg
Heat Dissipation	40 watts
Power factor	>0.90
Voltage	Input Voltage Range 90-240v AC Only
Current Amps RMS 240v	0.135A
Current Amps RMS 90v	0.330A
Current	Switch-On surge current – 65A Peak @ 240v

Audio Specification

General Specifications	
Headroom	>+26dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.15dB, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.002% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
General Noise	<-85dBu (20Hz to 22kHz filter)
Mic EIN Noise	Typically -125dBu (20Hz to 20kHz)
Microphone Inputs	Input Impedance ≈300Ω or ≈1.3kΩ (PAD out). Transformer coupled. Gain 20dB to 70dB in 1dB steps.
Line Inputs	Input Impedance ≈10kΩ Bridging (PAD out). Gain -20dB to +20dB in 1dB steps.
DI Inputs	Input Impedance >650kΩ. Transformer-less Class A Gain 30dB to 60dB in 1dB steps.

Crosstalk	
Inter-channel crosstalk	<100dBu @ 1kHz

AD/DA Card Specification

Type	Device	S.R	Noise	Dynamic Range	Distortion
Dante	Analogue to Dante Conversion	48,000	better than -118dBFS[1]	-	<0.0007%[3]
Dante	Dante to Analogue Conversion	48,000	<-94dBu[2]	>120dB[2]	<0.0008%[4]
Dante	Analogue to Dante Conversion	192,000	better than -118dBFS[1]	-	<0.0007%[3]
Dante	Dante to Analogue Conversion	192,000	<-91dBu[2]	>117dB[2]	<0.0008%[4]

Device Latency determined by Dante network configuration

[1]*Noise (A weighted), 22Hz, 22kHz filter ON*

[2]*Noise (A weighted), 22Hz, 22kHz filter ON, headroom set to +26dBu*

[3]*Distortion, with a 20dBu input signal, headroom set to +26dBu*

[4]*Distortion, with a -6dBFS input signal*

Type	Device	S.R.	Bits	Buffer	Measured RTL (ms)	Noise Floor
ASIO	AMS Neve USB Audio Device	44100	32	16	7.0068	-111.3
ASIO	AMS Neve USB Audio Device	44100	32	32	7.8458	-111.5
ASIO	AMS Neve USB Audio Device	44100	32	64	8.82086	-111.3
ASIO	AMS Neve USB Audio Device	44100	32	128	13.1746	-111.4
ASIO	AMS Neve USB Audio Device	44100	32	256	21.9501	-111.4
ASIO	AMS Neve USB Audio Device	44100	32	512	31.2472	-111.3
ASIO	AMS Neve USB Audio Device	44100	32	1024	55.102	-111.3
ASIO	AMS Neve USB Audio Device	44100	32	2048	102.109	-111.4
ASIO	AMS Neve USB Audio Device	48000	32	16	6.91667	-111
ASIO	AMS Neve USB Audio Device	48000	32	32	7.89583	-111.1
ASIO	AMS Neve USB Audio Device	48000	32	64	8.3125	-111.1
ASIO	AMS Neve USB Audio Device	48000	32	128	12.5	-111.1
ASIO	AMS Neve USB Audio Device	48000	32	256	20.4375	-111.1
ASIO	AMS Neve USB Audio Device	48000	32	512	30.1458	-111.1
ASIO	AMS Neve USB Audio Device	48000	32	1024	52.5625	-111.1
ASIO	AMS Neve USB Audio Device	48000	32	2048	98.125	-111.1
ASIO	AMS Neve USB Audio Device	96000	32	16	4.97917	-105.1
ASIO	AMS Neve USB Audio Device	96000	32	32	5.01042	-105.1
ASIO	AMS Neve USB Audio Device	96000	32	64	5.46875	-105.2
ASIO	AMS Neve USB Audio Device	96000	32	128	6.38542	-105.1
ASIO	AMS Neve USB Audio Device	96000	32	256	10.3438	-105.1
ASIO	AMS Neve USB Audio Device	96000	32	512	19.0104	-105.2
ASIO	AMS Neve USB Audio Device	96000	32	1024	28.3438	-105.1
ASIO	AMS Neve USB Audio Device	96000	32	2048	51.0104	-105.1
ASIO	AMS Neve USB Audio Device	96000	32	4096	96.4583	-107.1
ASIO	AMS Neve USB Audio Device	192000	32	32	4.01563	-91.2
ASIO	AMS Neve USB Audio Device	192000	32	64	4.18229	-91.3
ASIO	AMS Neve USB Audio Device	192000	32	128	4.39063	-91.4
ASIO	AMS Neve USB Audio Device	192000	32	256	5.18229	-91.3
ASIO	AMS Neve USB Audio Device	192000	32	512	9.51563	-91.3
ASIO	AMS Neve USB Audio Device	192000	32	1024	18.1771	-91.3
ASIO	AMS Neve USB Audio Device	192000	32	2048	27.5156	-91.3
ASIO	AMS Neve USB Audio Device	192000	32	4096	50.0625	-91.3

Unit Connection Tables

External PSU Mains, fused @ 4 amps	**IEC male**
Preamplifier Microphone Inputs (Front)	**XLR 3-pin plug female**
Preamplifier Microphone Inputs (Rear)	**25-way D-Type, Tascam convention**
Preamplifier Line Inputs (Front)	**¼" TRS Jack sockets**
Preamplifier Line Inputs (Rear)	**25-way D-Type, Tascam convention**
Preamplifier DI inputs	**¼" TRS Jack sockets**
Preamplifier Outputs (Rear)	**25-way D-Type, Tascam convention**
Headphone Output	**¼" TRS Jack socket**
Monitor Inputs	**XLR 3-pin plug Female**
Monitor Outputs	**XLR 3-pin plug Male**
Comms	**CAT 5e/6 ethernet socket**

Line & DI Inputs & Headphone Output

All ¼" Line Inputs & Outputs on the unit have the same wiring

Tip	Hot
Ring	Cold
Sleeve	Ground

XLR Inputs & Outputs

All XLR Inputs & Outputs on the unit have the same wiring

Pin 2	Hot
Pin 3	Cold
Pin 1	Ground

Preamplifier Mic Input 1-8 D-Type 25-Way Pin Outs

(25-way D-type)

Signal	Name	Pin		
		Hi	Lo	Screen
1	Microphone Input 1	24	12	25
2	Microphone Input 2	10	23	11
3	Microphone Input 3	21	9	22
4	Microphone Input 4	7	20	8
5	Microphone Input 5	18	6	19
6	Microphone Input 6	4	17	5
7	Microphone Input 7	15	3	16
8	Microphone Input 8	1	14	2

Preamplifier Line Input 1-8 D-Type 25-Way Pin Outs

(25-way D-type)

Signal	Name	Pin		
		Hi	Lo	Screen
1	Line Input 1	24	12	25
2	Line Input 2	10	23	11
3	Line Input 3	21	9	22
4	Line Input 4	7	20	8
5	Line Input 5	18	6	19
6	Line Input 6	4	17	5
7	Line Input 7	15	3	16
8	Line Input 8	1	14	2

Preamplifier Outputs 1-8 D-Type 25-Way Pin Outs

(25-way D-type)

Signal	Name	Pin		
		Hi	Lo	Screen
1	Preamplifier Output 1	24	12	25
2	Preamplifier Output 2	10	23	11
3	Preamplifier Output 3	21	9	22
4	Preamplifier Output 4	7	20	8
5	Preamplifier Output 5	18	6	19
6	Preamplifier Output 6	4	17	5
7	Preamplifier Output 7	15	3	16
8	Preamplifier Output 8	1	14	2