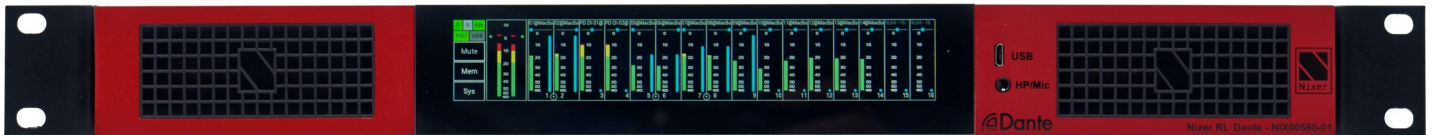


RL64

User Manual

V1.01

(rev a 13/02/20)



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Manufacturer's CE Declaration of Conformity

Manufacturer Identification

Legal Name: Nixer Ltd
 45 Evelyn Road, Dunstable
 Bedfordshire, LU5 4NG
 Tel.: +44 (0) 1582 343111

Representative: Nick Fletcher
 Function: CEO/CTO

Product: RL64 - Audio over Ethernet Diagnostic Tool
 Brand: Nixer
 Model: RL64 (Mk 1)
 CE Affixing Date: 12.12.2019

Declaration:

Provided that it is installed, maintained and used in the application for which it is made, with respect of the professional practices, relevant installation codes and manufacturer's

We hereby declare, under our sole responsibility, that the above referenced product complies with the essential requirements of Council Directives 2004/108/EC (EMC), 2006/95/EC (LVD) and 2011/65/EC (ROHS)

instructions:

European harmonized standards applied:

EMC	Emission	EN 61000-6-3:2007-10-01: EN55022:2007-06-01, Class B wireless, EN 55022:2007-06-01, wired
	Immunity	EN 61000-6-1:2007-12-01: EN 61000-4-2 + A1+A2: 2002-02-01, EN 61000-4-3: 2007-11-01, EN 61000-4-4: 2005-09-01, EN 61000-4-5:2007-08-01, EN 61000-4- 6+A1:2002-02-01,
Product safety:		2006/95/EG
ROHS:		

Signature of manufacturer's representative:


 Nick Fletcher

Important Safety Information

CAUTION: These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the User Manual unless you are qualified to do so. Refer all servicing to qualified service personnel.

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on this apparatus.
- Clean only with a dry cloth.
- Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install or use near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- Only use attachments/accessories specified by the manufacturer.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power-supply cord or plug is damaged, 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.
- To completely disconnect mains power from this apparatus, the power supply cord must be unplugged.

For US and CANADA only:

Do not defeat the safety purpose of the grounding-type plug. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of an uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

General Precautions

- Do not place heavy objects on the RL64, expose it to sharp objects or handle it in any way that may cause damage, e.g., rough handling and/or excessive vibration.
- Do not subject the equipment to dirt, dust, heat or vibration during operation or storage. Never expose the console to rain or moisture in any form. Should the unit become wet, turn it off and disconnect it from the power source without further delay. The equipment should be given sufficient time to dry out before recommencing operation.
- When cleaning the RL64, never use chemicals, abrasive substances or solvents.
- The front panel should be cleaned using a soft brush and a dry lint-free cloth. For persistent marks, use a soft cloth and isopropyl alcohol.
- Keep these instructions for future reference. Follow all warnings in this manual and those printed on the unit.
- The RL64 must be connected following the guidance in this manual. Never connect power amplifier outputs directly to the RL64. Connectors and plugs must never be used for any other purpose than that for which they are intended.
- The equipment must be powered from an appropriate source which can be via either of the mains inputs. Use both inputs for redundancy purposes.
- The RL64 must not be operated inside a case or enclosed as the housing acts as a heatsink for the components inside.
- Refer servicing to qualified technical personnel only.

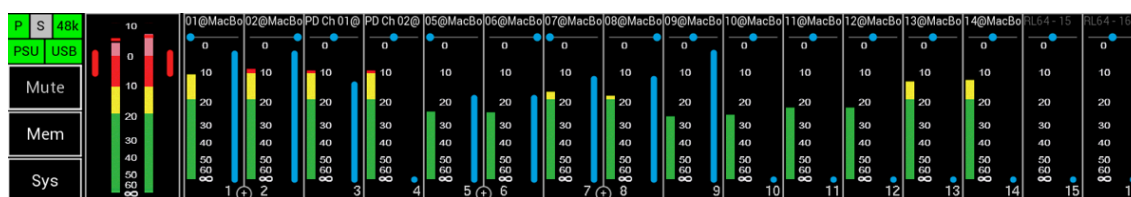
Introduction

Thank you for purchasing your new Nixer RL64 audio network confidence monitor, diagnostic and testing tool. This unit has been designed to make it convenient and easy to test, setup and monitor audio signals within Dante networks. Operation is via its clear and simple to use touchscreen interface and it is housed in a compact and robust case.

A 1U 19inch rack mounted Dante monitoring and mixing unit, which allows two modes of operation a mixing mode which can mix up to 64 Dante channels at 48kHz (32 channels at 96kHz) plus microphone input (via headphone connector) and AES input to create a 67 into 2 mixer. Alternatively, it can be set into a simple Listen mode where touching a channel instantly routes to the LR output and cancels any previous selection.

The outputs of the LR bus are presented to the user via the inbuilt 4mm x 9mm full range speakers or via the 3.5mm headphone jack. The speakers are automatically muted when a headphone jack is inserted. Simultaneous outputs are also available in the form of the stereo balanced line outputs and AES output accessed via XLR connectors on the rear of the RL64 Dante. The mix output is also routed to the Dante output.

The RL64 Dante is operated and controlled via the large letterbox 6.6" diagonal (168mm) 1440 x 240 24-bit colour LCD and capacitive touch panel.



A simple and elegant menu system has been designed to be intuitive to navigate allowing the user to access all the features of the RL64 Dante very quickly.

The high-resolution screen is easy to read presenting comprehensive metering, routing and status information to the user.

Nixer Ltd was founded in 2000 by two professional audio design engineers who have between them over 50 years' experience of designing and manufacturing the highest quality audio products possible. Their designs have been used on many world-famous shows on Broadway, The West End and around the world.

Welcome and Unpacking

Thank you for purchasing a RL64

Please take care when unpacking your product

In the box, you will find

- the RL64
- Quick Start Guide

Check that all the parts are present and in good condition

Please contact your retailer immediately should anything be incorrect

Quick Start Guide

Once you have unpacked your RL64 you can follow this quick guide to get you started using it.

Firstly, you will need to download and install a copy of Dante Controller onto your PC/Mac

You can download this from

<https://www.audinate.com/products/software/dante-controller>

Next plug your RL64 into your network with an RJ45 patch lead

If you have plugged into a PoE enabled router/port you will see the splash screen on the RL64 appear after a couple of seconds

If you do not have a PoE port, then you will need to plug in a 12 – 24V DC supply with a 2.1mm barrel connector (not supplied)

Note it is possible to plug in both a PoE supply and the external DC supply at the same time for PSU redundancy

Once plugged in and power applied the splash screen on the RL64 appear after a couple of seconds

After the RL64 has booted you will be presented with the main screen

If you have a valid network connection the status light in the top left side of the screen next to the P (primary) will turn green

At this point start Dante Controller on your PC/Mac and you will see your RL64 appear in the list of devices

You will then be able to select sources and destinations for your RL64

For more advice on using Dante Controller please visit the Audinate Website

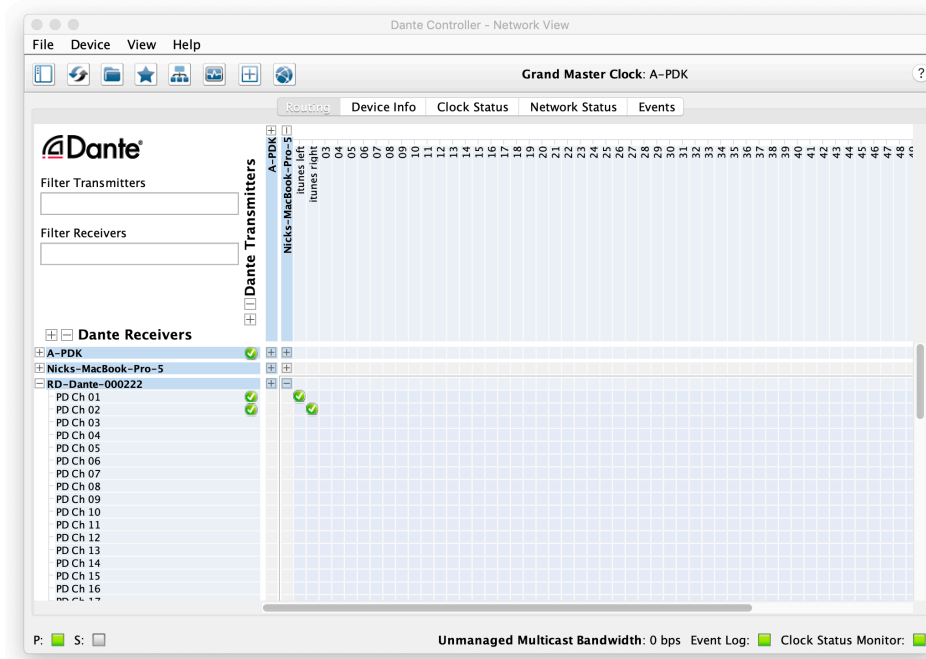
Once you have done this you will be able to start using your RL64 via the touch screen interface

Please take the time to register your RL64 here

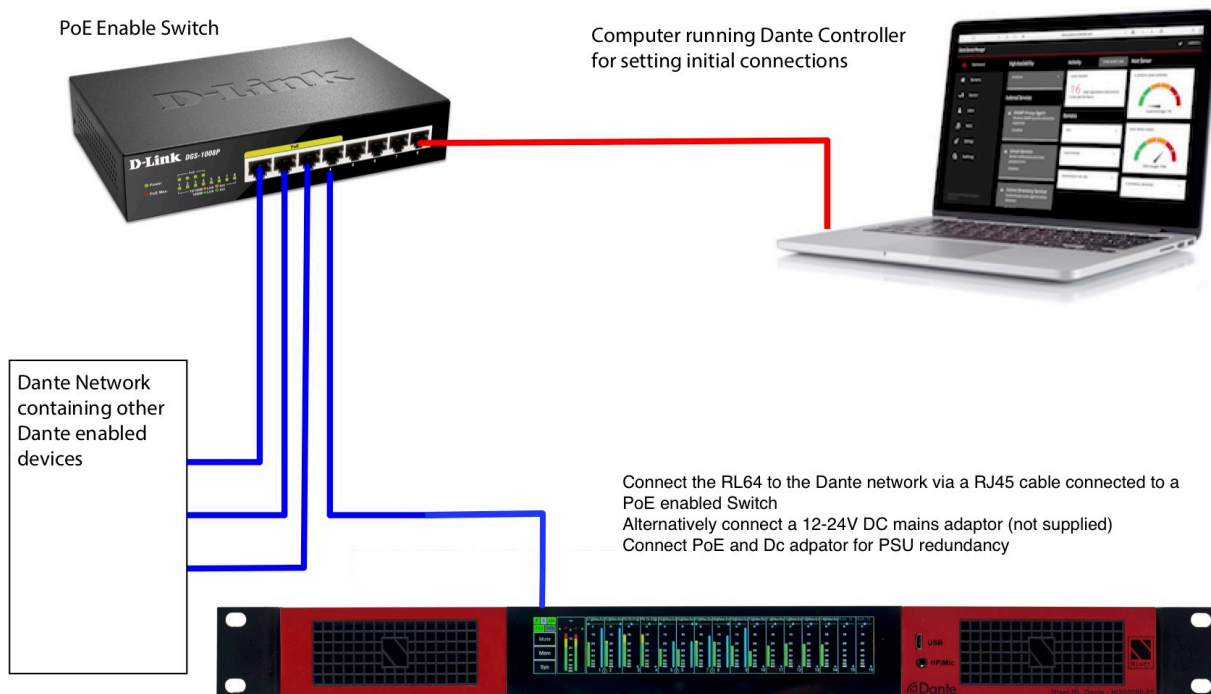
<http://www.nixerproaudio.com/Registration/registration.php>

Once you have registered you will be full access to download the User Manual and any software updates available for your RL64

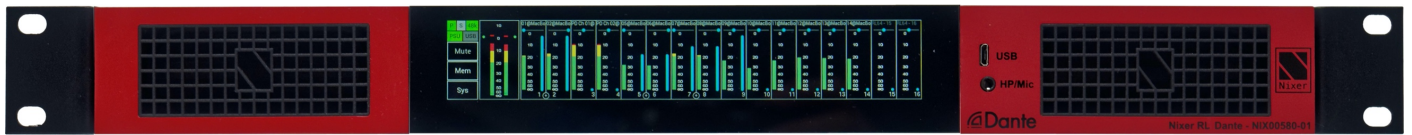
View of Dante Controller with RL64 connected



Basic RL64 connection diagram



RL64 Front View



The RL64 Dante is operated and controlled via the large letterbox 6.6" diagonal (168mm) 1440 x 240 24-bit colour LCD and capacitive touch panel.

A simple and elegant menu system has been designed to be intuitive to navigate allowing the user to access all the features of the RL64 Dante very quickly.

The high-resolution screen is easy to read presenting comprehensive metering, routing and status information to the user.

Firmware updates of the RL64 Dante are achieved via a dedicated USB micro AB connector on the front panel. There is also a dedicated 3.5mm jack socket for the headphone output.

Rear View



On the rear of the RL64 Dante there are 2x balanced line outputs on 3 pin male XLRs and AES output also on 3 pin male XLR. These outputs can be configured to follow the main volume settings of the speakers/headphones or they can also be set to follow the main Mute control.

Additionally, there is an AES input via 3 pin female XLR connector

The RL64 Dante can be powered via PoE on the Primary port or alternatively via 2.1mm DC input connector and requires powering via an external (not supplied) 12v - 24V 2Amp DC adaptor

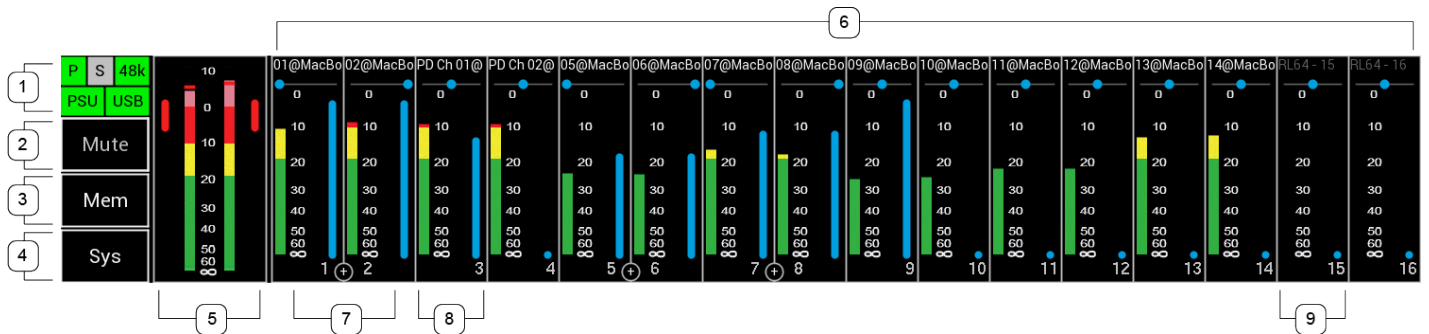
Both PoE and the external adaptor can be used simultaneously for redundancy

Power

Firstly, connect the RL64 Primary port to a Dante Network via a PoE enabled Switch
You will see the RL64 splash screen which will give information on the Firmware version and FPGA version.

After a few seconds, you will see the main input screen shown on the next page

RL64 Software



Main Input Screen

1. RL64 Status Bar

Primary port status is shown by a “P” on a square box. The colour of the box will change to reflect the current connection

- Green = 1Gbps network connection
- Orange = 100Mbps network connection
- Grey = no valid network connection

Secondary port status is shown by a “S” on a square box. The colour of the box will change to reflect the current connection

- Green = 1Gbps network connection
- Orange = 100Mbps network connection
- Grey = no valid network connection

Clock Frequency is shown on a rectangular box. The colour of this box is normally green when a valid clock is present with the clock speed overlaid on the box

- 44K indicates a clock of 44.1kHz
- 48K indicates a clock of 48Khz
- 96K indicates a clock of 96Khz
- (displayed in grey) indicates there is no valid clock

PSU indicator

- Green = PoE present and working
- Grey = no PoE

USB indicator

- Green = USB present and working

- b. Grey = no USB

2. Mute

- a. Pressing this cell toggles the Mute function
- b. Mute active is indicated with the button background turning Red

3. Memory

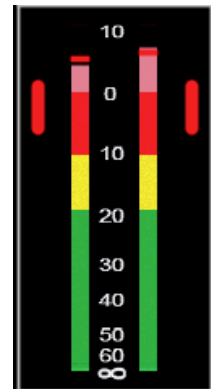
Pressing the Memory area will open the Memory Settings Menu

4. System Button

Pressing the system button will open the System Menu which is described in the System Menu section

5. Main Meters

- a. 2 level meters displaying signal in 1dB steps from +10dBFS down to -60dBFS
- b. 0dBFS up to +10dBFS is displayed as pink segment
 - i. Note Although the RL64 internally can work with higher level signals it has a built-in limiter which prevents signals going above 0dBFS to the outputs
- c. 0dBFS down to -10dBFS is indicated by a red segment
- d. -10dBFS down to -20dBFS is indicated in yellow
- e. -20dBFS and lower is indicated in green
- f. An Optional peak hold can be enabled in the System tab under the System menu. Normally the peak is displayed in white, turning red when a 0dBFS or above is detected
- g. Touching this cell will open the Master Output window
- h. Outside the two main meters are two indicators which show how much the limiter is working.
 - i. Green indicators show the limiter is inactive
 - ii. Red indicates limiting and grow larger with more limiting



6. Channel meters

- a. This area off the screen displays 16 channels
- b. Channels can be displayed in mono see point 8
- c. Channels can also be configured in odd and even pairs to be a stereo shown in point 7
- d. Channels that have been routed to a Dante source will show their name in white and take their name from the connected source
- e. Channels that have not been connected to a Dante source will be displayed in grey with their RL64 default name

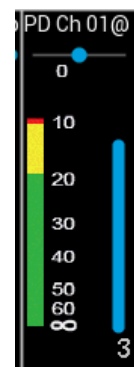
7. Stereo linked channels

- a. Stereo channels can be configured in the Channel Window (Touching the cell will open the Channel Window)
- b. Stereo channels are indicated by the + sign between the two channels
- c. Each channel has a 0dBFS to -60dBFS meter (meter scales can be configured to be SMPTE or EBU standard in the System tab of the System menu)
- d. Channel Pan can be seen below the channel name
- e. Channel volume is indicated by the blue vertical bar next to the meter scale



8. Mono channels

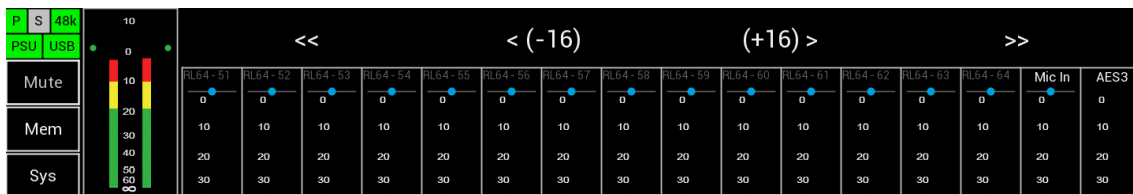
- a. Mono channels can be configured in the Channel Window (Touching the cell will open the Channel Window)
- b. Each channel has a 0dBFS to -60dBFS meter (meter scales can be configured to be SMPTE or EBU standard in the System tab of the System menu)
- c. Channel Pan can be seen below the channel name
- d. Channel volume is indicated by the blue vertical bar next to the meter scale



9. Unassigned channel

- a. Channels that have not been routed to a Dante source appear in grey with the default RL64 channel name

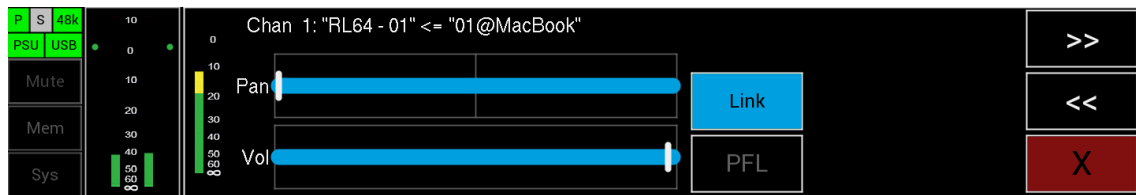
Navigation



Touch gestures

- Touch cell for pop up window (or to select channel to listen too in listen mode)
- Swipe Left or Right – to scroll through the 67 available channels.
- Down – to view the quick scroll menu
 - << - jump to channel 1
 - <(-16) – jumps back 16 channels from the current channels
 - (+16)> - jumps forward 16 channels
 - >> - jumps to channel 67 (AES3)
- Swipe gestures are disabled in 16 channel mode

Channel Window

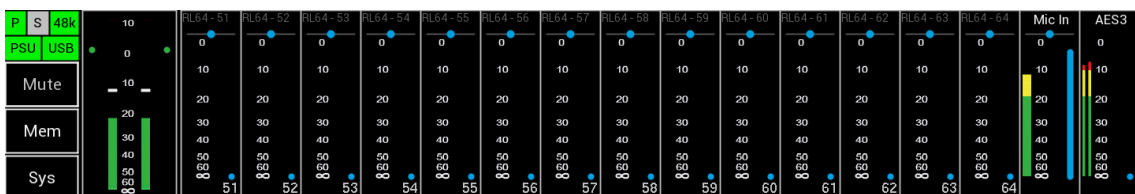


On pressing a Channel Cell the Channel Window will appear

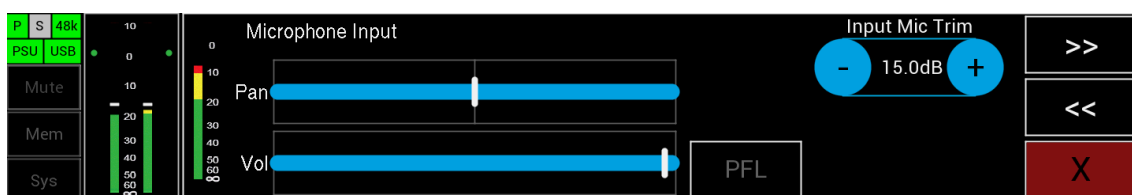
This window displays the following:

- Channel Number
- Dante RX Channel name and if there is a valid Dante connection the name and path of that connection
- A high-resolution meter showing the level of the currently selected channel
- Pan Control
 - Slide the pan control from left to right to adjust panning to LR main mix
- Volume Control
 - Slide volume slider to adjust volume level sent to the LR Main mix
- PFL – pressing this button will activate the Solo Listen function
 - On selection, this button will turn from dark grey to green
 - Main LR audio will be Muted
 - Selected channel audio will be routed to the LR output
 - Pressing the button, a second time or moving to another channel deactivates this function and the main LR audio mix will be unmuted
- << - pressing this button decrements one channel
- >> - pressing this button increments one channel
- X – pressing this button closes this window

Scrolling to the end of the channel list there are two special channels Mic input and AES3 input



On pressing a Mic In the Microphone input window will appear



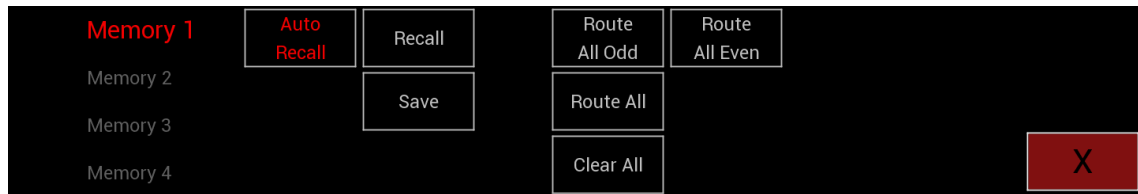
- Mic Trim
 - Shows the current gain setting for the mic input which can be changed in 0.5dB steps from -12dB up to +40dB
- A high-resolution meter showing the level of the currently selected channel
- Pan Control
 - Slide the pan control from left to right to adjust panning to LR main mix
- Volume Control
 - Slide volume slider to adjust volume level sent to the LR Main mix
- PFL – pressing this button will activate the Solo Listen function
 - On selection, this button will turn from dark grey to green
 - Main LR audio will be Muted
 - Selected channel audio will be routed to the LR output
 - Pressing the button, a second time or moving to another channel deactivates this function and the main LR audio mix will be unmuted
- << - pressing this button decrements one channel
- >> - pressing this button increments one channel
- X – pressing this button closes this window

On pressing AES3 the AES3 input window will appear



- A high-resolution meter showing the level of the currently selected channel
- Volume Control
 - Slide volume slider to adjust volume level sent to the LR Main mix
- PFL – pressing this button will activate the Solo Listen function
 - On selection, this button will turn from dark grey to green
 - Main LR audio will be Muted
 - Selected channel audio will be routed to the LR output
 - Pressing the button, a second time or moving to another channel deactivates this function and the main LR audio mix will be unmuted
- << - pressing this button decrements one channel
- >> - pressing this button increments one channel
- X – pressing this button closes this window

Memory Menu



On pressing the Memory Button the Memory Menu window will open

This window displays the following:

- Memory number (1 to 4)
- Recall – pressing recall after selecting a memory will recall the memory
- Save – pressing this button saves the units current routing and pan settings to the selected memory
- Route All Odd – routes all odd numbered channels to the L of the Main LR mix at full volume and panned to the Left
- Route All Even – routes all even numbered channels to the R of the Main LR mix at full volume and panned to the R
- Route All – routes all odd numbered channels to the L of the Main LR mix at full volume and panned to the Left and routes all even numbered channels to the R of the Main LR mix at full volume and panned to the R
- Clear All – clears routing and sets pan to centre on all channels
- X – pressing this button closes this window

Selecting a memory

Pressing the name of a memory will highlight that memory which will then be displayed in a larger font. This indicates which memory will be recalled, saved or have its name edited.

Selecting auto recall of a memory

A memory can be selected to Auto Recall when the RL64 is turned on

- Select the memory you would like to Auto Recall
- Press the Auto Recall button which will change the Memory number to red indicating that this memory will be recalled on power on
- Auto Recall will be indicated when no memory is selected by the memory number in red

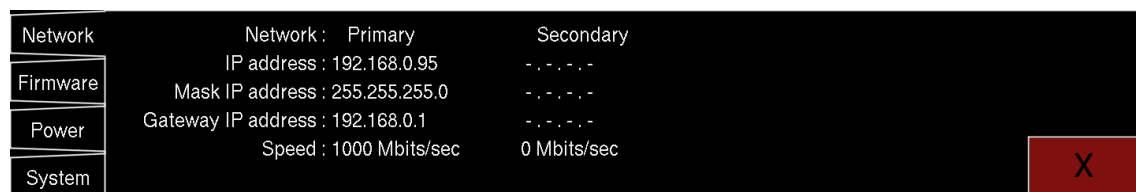
The System Menu

Pressing the System button opens the System Menu

The System Menu consists of several tabs

- Network
- Firmware
- Power
- System

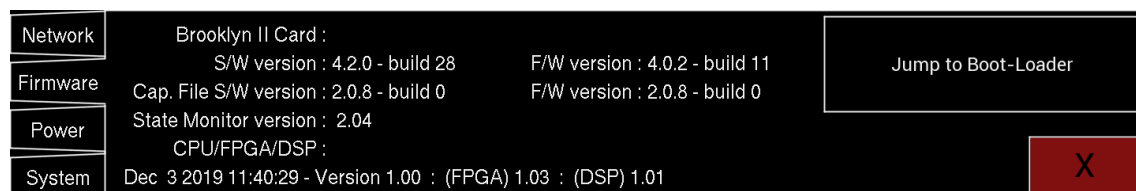
Network



Network connection parameters are displayed on this page

- Primary Connection
 - IP Address
 - Mask IP Address
 - Gateway IP Address
 - Network Speed
- Secondary Connection
 - IP Address
 - Mask IP Address
 - Gateway IP Address
 - Network Speed

Firmware

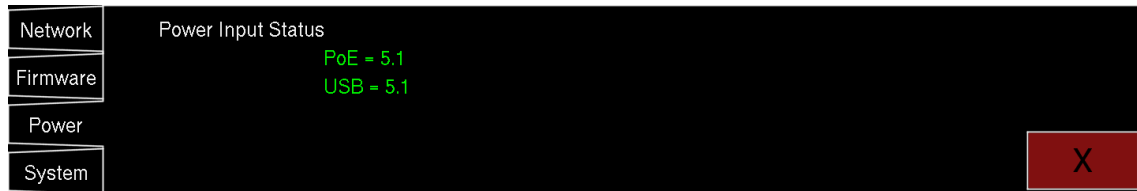


Firmware versions are displayed on this page

- Brooklyn II Card firmware(s)
- RL64 firmware and FPGA version

- Jump to Boot-Loader – enters the RL64 into update mode please read section called Update for more information

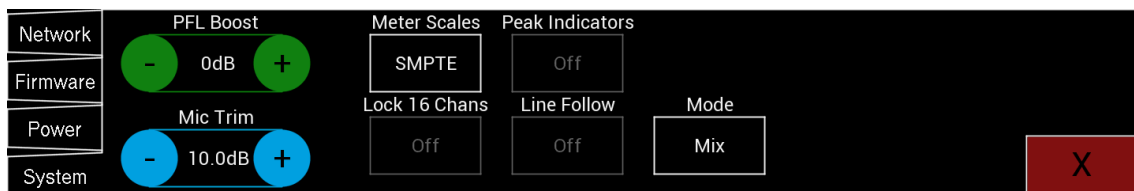
Power



PSU voltages are displayed on this page

- PoE voltage
- USB voltage

System



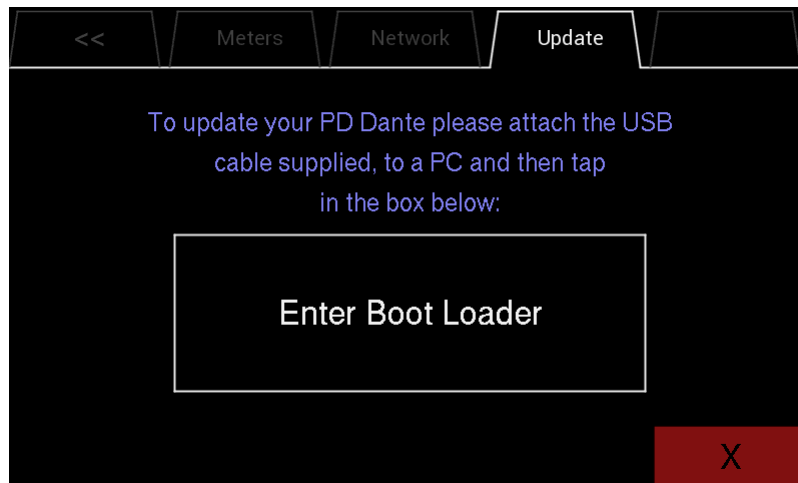
System setting are displayed and set from this page

- PFL Boost
 - Shows the current PFL trim gain which can be adjusted from 0dB to 30dB in 1dB steps
- Mic Trim
 - Shows the current gain setting for the mic input which can be changed in 0.5dB steps from -12dB up to +40dB
- Meter Scales – press this button to toggle through options
 - SMPTE – sets meter scale to SMTPE scale
 - EBU – sets meter scale to EBU scale
- Peak Indicators
 - Peak Hold – enables peak hold markers on the main meters
- Lock 16 Chans
 - Locks the display to the first 16 channels only and disables swipe left/right and up/down functions
- Line Follow
 - Enabling this function will make the Line Outputs, AES3 out and Dante Output follow the Main Volume and Mute
- Mode
 - Mix – enables the 67 into 2 mixer functionality with pan and level for each channel. When in this mode channel outlines are in white

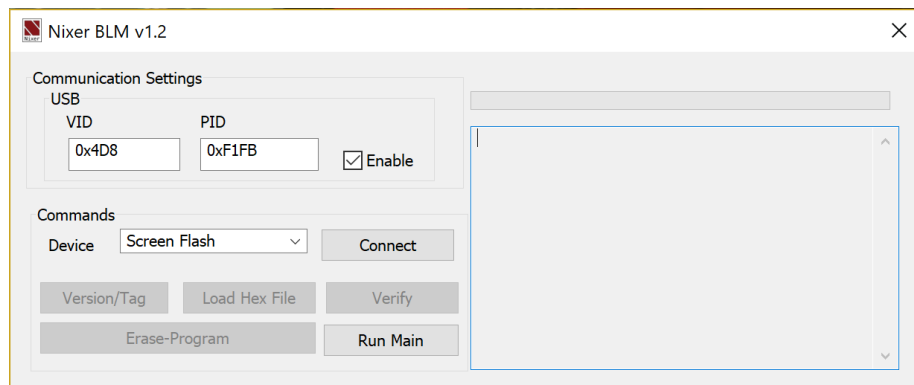
- Listen – enables listen mode where pressing a channel will route that signal directly to the Main LR outputs. Any channels that have been configured to stereo will route in stereo the LR output.
 - Note channels can only be switched between stereo and mono in Mix mode and Listen mode retains these setting

Update

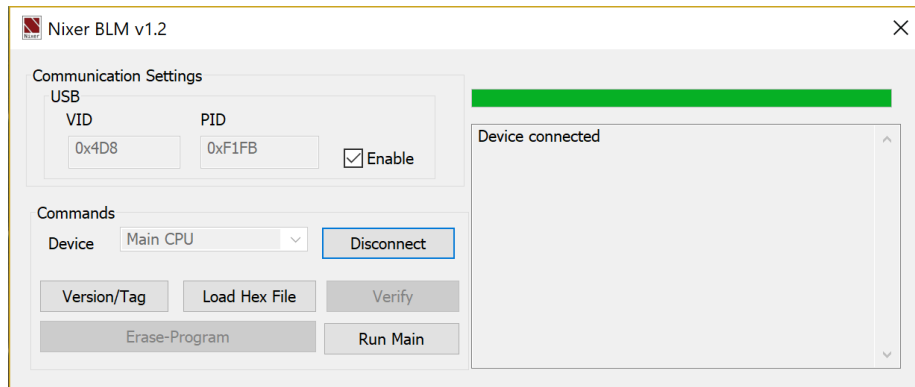
To update your RL64



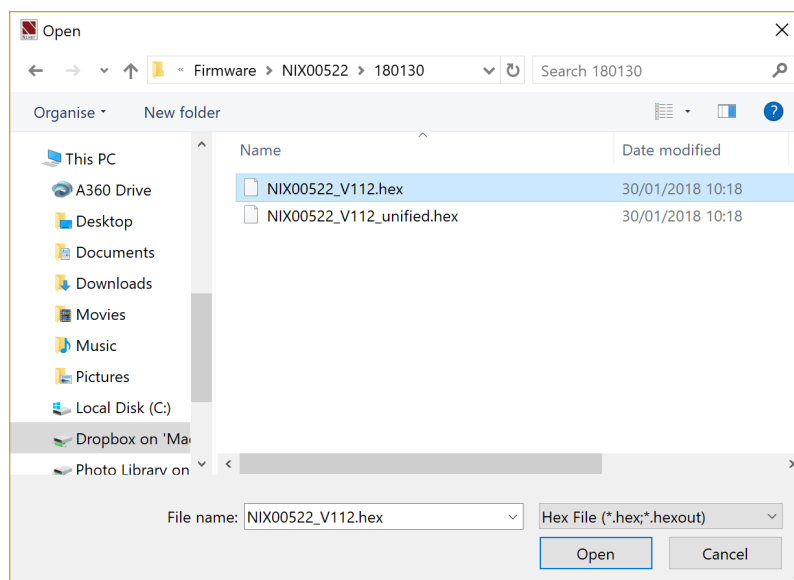
- If you do not have it download and install the Nixer BLM.exe from www.nixerproaudio.com
- Also download the latest firmware from www.nixer.uk.com to your PC
- Next attach the RL64 to the PC via the USB cable that came with your product
- Navigate to the Update Menu in the System menus and press the button to enter Boot Loader Mode. You will see a countdown of dots before the screen goes blank
- Your RL64 is now ready to update
- Run the Nixer BLM program on your PC



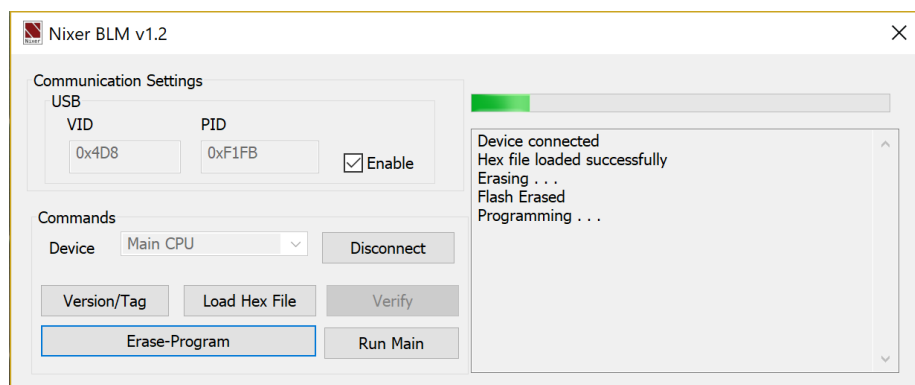
- Once the program is running change “Screen Flash” to “Main CPU” via the drop-down menu and click connect



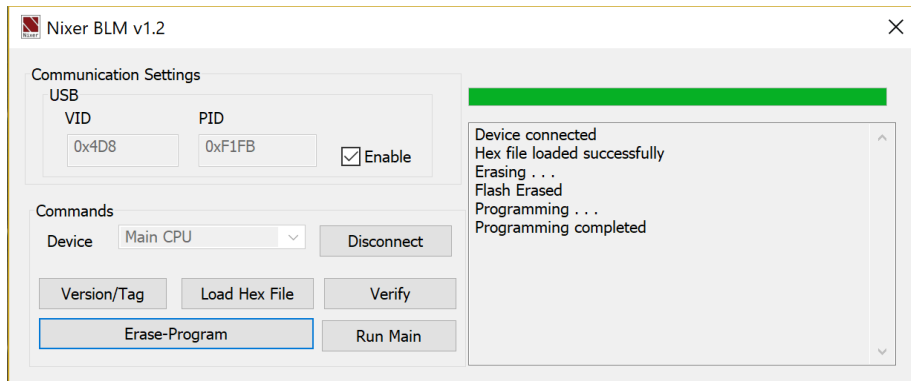
- You will now see that it says device connected in the status window
- Click on Load Hex File. Next navigate to and load in the .hex file that you downloaded from ww.nixerproaudio.com



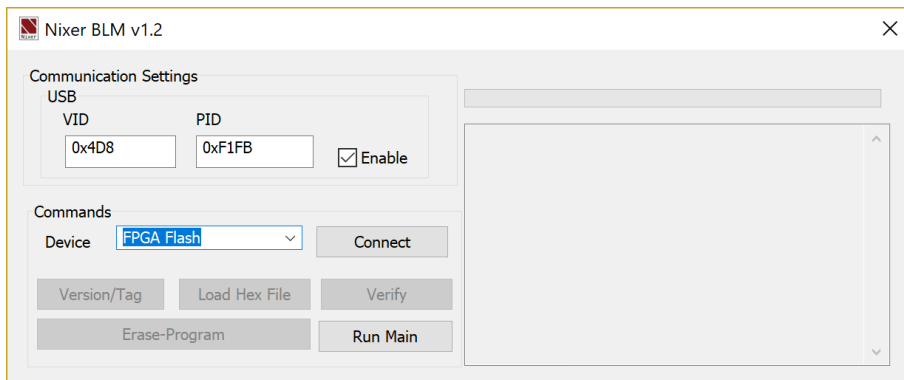
- Click the Erase-Program Button and your device will be reprogrammed. You will see the progress in the status window and by the status bar which will gradually fill as the device is programme



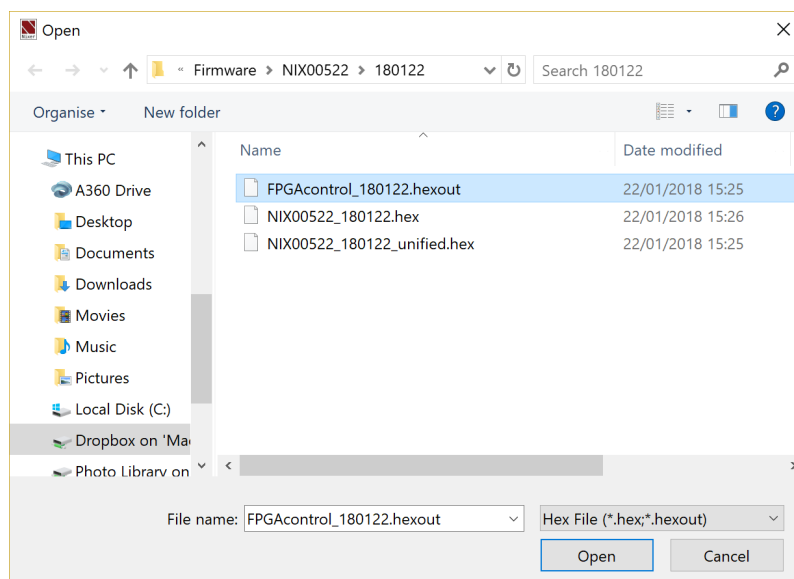
- When the device has been programmed the status window will say “Programming completed. Click Run Main and your unit will reboot with its updated software



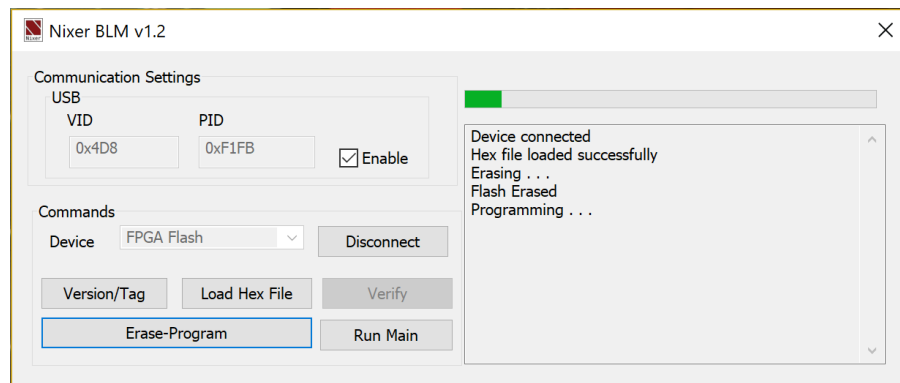
- To update the FPGA firmware, start the Nixer BLM program
- Select FPGA Flash from the pull-down menu and click connect



- Once connected click Load Hex File and navigate to and open the .hexout file you have downloaded



- Click Erase-Program



- Once the status window says Programming complete click Run Main and your RL64 will reboot
- When the Splash Window starts you will see confirmation of the Main CPU firmware followed by the FPGA version

Configuring Dante Networks

You can configure your Dante network in one of two ways

- Switched (non-redundant) in this mode the Primary and Secondary ports are effectively two ports of a switch and it does not matter which port you connect too.
- Redundant mode where the Primary port and Secondary port must be connected to two independent networks. This then gives complete redundancy to the network

Correct IP configuration

Dante hardware devices are set to obtain their IP address automatically from the network. They will either:

- Automatically assign themselves an address in the range 169.254.*.* (172.31.*.* for the secondary network if present), or
- Obtain an IP address from a DHCP server if it is present on the network

Your PC or Mac TCP/IP network configuration set should be set to 'Obtain an IP address automatically'. This way it will automatically acquire a Link Local automatic IP address in the same network as other Dante devices. If a DHCP server is present, the computer and Dante devices will all acquire their IP addresses via DHCP.

Possible IP network configuration mistakes

Possible network configuration errors are listed below. Dante Controller will try to automatically detect these. If detected the offending device will be displayed in red.

Incorrect PC/Mac IP configuration

- Accidentally having multiple network interfaces with addresses in the same subnet
- If your secondary network is using Link Local (no DHCP server), all devices on that network will be in the 172.31.*.* range. The secondary network interface for the computer must be manually configured (using static IP addressing) to the same range.

Incorrect general IP configuration

- Accidentally having multiple DHCP servers on the same network
Unusual – for example, someone may have a PC connected to the network with a DHCP server running that they're not aware of.
- Incorrectly configured static IP addresses

- You shouldn't typically need to configure static IP addresses at all. If for some reason you do, it must be in the same subnet as the rest of the network.

Incorrect redundant network configuration

There are a few ways to incorrectly configure a redundant network. More than one of these can be present at the same time.

- Connecting the secondary interface of a Dante device to the primary network
 - Most commonly by either misunderstanding how redundancy works, and using only one switch with all cables connected to it; or correctly using two switches or networks, but accidentally connecting one secondary cable to a primary network switch
- Joining the primary and secondary Dante networks
 - By connecting primary and secondary switches, or perhaps just using one switch.
- Multiple interfaces on the same device using the same IP address subnet
 - Possibly by having the same DHCP server on both primary and secondary networks, or both DHCP servers configured to serve the same IP addresses. Also, mixing DHCP and Link Local on the same network can cause issues. It is often necessary to have all devices and the computer on either DHCP or Link Local.

Dante Latency will depend upon the number of switches the signal is being routed through and on average a signal takes 100uS to travel through a switch (Please remember that each Dante device contains one switch)

In a simple Dante network with just one external switch latencies below 0.25mS will be easily attainable.

Note that Multicast streams will always have a latency of 1mS

For complex networks, it is recommended to set some values in DSCP part of the QoS (Quality of Service) in managed routers/switches

There are 64 parameters in DSCP set all to Low Priority except for the following:

- #8 (Control Data) set to Medium Priority
- #46 (Audio Data) set to High Priority
- #56 (Clock) set to High Priority

You will need to refer to your router manual for how to adjust these settings

If using Multicast streams, Wi-Fi and/or 100Mbs it would be also advisable to use IGMP snooping if it is available on your router as this will significantly reduce the overall data rate on your network and only send data to the IP address that requests it rather than to all IP addresses.

For Dante Cable Copper:

- Use CAT5e or CAT6, solid core, shielded
- Never use a copper cable longer than 100m
- Use cable with solid copper cores whenever possible
- Stranded copper cores are more flexible, but not so good at long distance transmission
- Keep 60m maximum with stranded cable
- A lot of rugged “stage-cable” is stranded, so take care.

For Dante Optical Cable:

- Multi-Mode up to 500metres – lower cost
- Single Mode up to several kilometres – longer distances and can be used with patch panels

Recommended Switch Specifications

- 1Gbps (or more per port)
- Switching capacity 2x the total number of ports i.e. 10 ports = 20Gbps
- EEE (Energy Efficient Ethernet) must be disabled (if it can't be then avoid it)
- Fan less operation
- Fibre module options
- Easy to use web interface

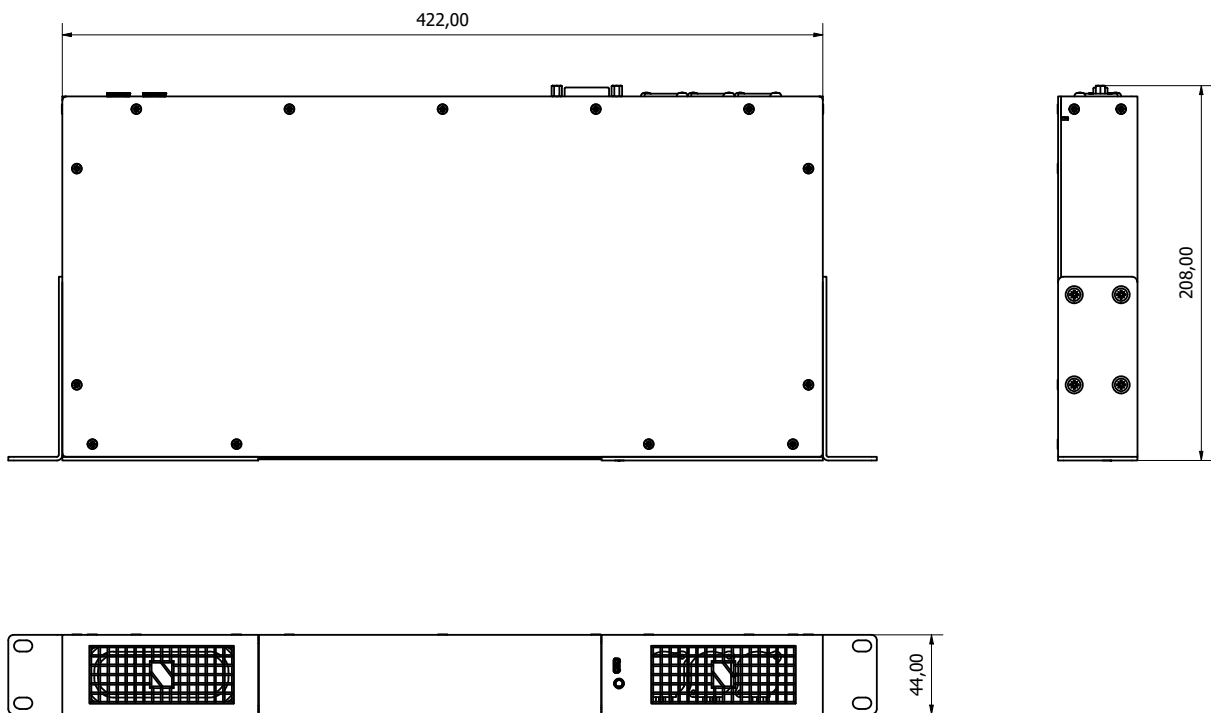
Do NOT under any circumstance use switches with EEE (Energy Efficient Ethernet or 'Green Ethernet') enabled

If you are using a managed switch then please go into the system settings of the switch and disable EEE

Nixer RL64 Dante Specifications

- 1 Monitoring of 64 Dante channels at 48kHz (32 channels at 96kHz)
 - Optional fixed 16 channel mode
- 2 Sample rates supported
 - 44.1kHz
 - 48kHz
 - 88.2kHz
 - 96kHz
- 3 Bit Depth supported
 - 16bit
 - 24bit
 - 32bit
- 4 AES67 compatible
- 5 Fully compatible with Dante Domain Manager
- 6 67 x 2 mixer with the following controls
 - Pan
 - Level
 - PFL
 - Option to Link odd and even adjacent channels into stereo pairs
- 7 Output
 - Built in speakers/headphones
 - Line Output
 - AES3 Output
 - Dante
- 8 67 channel meters (16 displayed at a time)
 - High resolution meters switchable scale standards from
 - EBU
 - SMPTE
 - Screen swipe left and right to allow viewing of all meters
 - Screen swipe down to present navigation controls
 - Jump +16 channels
 - Jump -16 channels
 - Jump to end
 - Jump to beginning
- 9 Main LR meters
 - Large high-resolution meters displaying +10dBFS down to -60dBFS in 1dB steps
 - Optional Peak hold
 - Limiter operation indicators
- 10 Internal 2W/channel amplifier feeding either
 - 2x 4mm x 9mm full range drivers
 - Headphone output
- 11 Dual Balanced Line Outputs 0dBFS = +21dBu maximum output into 600ohms 2x 3pin male XLR connectors
 - Fed from main Stereo LR bus

- Option to follow main volume control
 - Output Mute relays
- 12 Stereo AES3 output on 3pin male XLR connector
- Fed from main Stereo LR bus
 - Option to follow main volume control
- 13 Stereo AES3 Input on 3pin female XLR connector
- SRC converts from 44.1kHz, 48kHz or 96kHz to RL64 sample rate
 - AES3 routing to main mix via
 - Level
 - PFL
- 14 3.5mm Headphone socket and microphone input
- Headphone output for driving loads from 8ohm to 600ohm
 - Microphone input routing to main mix via
 - Input Gain control 0dB to 30dB
 - Pan
 - Level
 - PFL
 - Socket wiring is suitable for use with most common mobile phone headsets
- 15 Dual 1Gbps RJ45 Dante inputs
- 1Gbps or 100Mbps operation
 - User configurable for Switched or Redundant operation
 - Network configuration information available via menu
- 16 Power input
- PoE on Primary port
 - 2.1mm DC inputs socket for use with external 24V 2amp adaptor
 - Both power inputs can be active at the same time for redundancy
- 17 USB port is used for product firmware updates
- 18 LCD
- 6.6" (168mm) diagonal 24-bit colour LCD with 1440xRGBx240 resolution
 - LED backlight (adjustable brightness via software)
 - multi touch capacitive touch overlay with gesture support
- 19 Size
- 494mm wide by 210mm deep by 44mm height
 - 2.0kG
- 20 19inch rack mounting ears can be removed for desktop use

Dimensioned drawing

Nixer reserves the right to change product details and specifications without notice

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