



**D48X**  
Matrix Signal Processor  
**User Manual**  
Revision 1.2

**NST**  
AUDIO

[www.nstaudio.com](http://www.nstaudio.com)

© NST Audio Ltd 2022

EU Declaration of Conformity.....3

Declaration of Conformity .....4

Important Safety Instructions.....5

Instructions De Securite Importantes.....6

WEEE .....7

ROHS .....7

Thank You .....8

Installation.....8

Overview.....9

Key Features .....9

Unit Overview .....10

Front Panel Control and LCD in Detail .....12

Menu Options in Detail.....13

Technical Specifications.....16

Maintenance.....17

Servicing.....17

Warranty.....17

Contact.....17

## EU DECLARATION OF CONFORMITY

---

This declaration is issued under the sole responsibility of the manufacturer.

**We:**

NST Audio Ltd.  
Unit 4C Seph Way  
York Road Industrial Park  
Malton  
North Yorkshire  
YO17 6YF  
United Kingdom

**Declare that this declaration of conformity is issued under our sole responsibility and belongs to the following product:**

**Kind of equipment:** Audio processor  
**Model:** D48X

**The object of the declaration is in conformity with the relevant Union harmonisation legislation:**

2014/35/EU Low Voltage Directive (LVD)  
2014/30/EU Electromagnetic Compatibility Directive (EMC)

**The following harmonised standard and technical specifications have been applied:**

EN 62368-1:2014 - Audio/video, information and communication technology equipment - Safety requirements  
EN 55032:2015 - Electromagnetic compatibility of multimedia equipment - Emission requirements  
EN 55035:2017 - Electromagnetic compatibility of multimedia equipment - Immunity requirements

**Signed:**



**Name:** Dan Cartman

**Position:** Research and Development Manager

**Date:** September 2022



## DECLARATION OF CONFORMITY

---

This declaration is issued under the sole responsibility of the manufacturer.

**We:**

NST Audio Ltd.  
Unit 4C Seph Way  
York Road Industrial Park  
Malton  
North Yorkshire  
YO17 6YF  
United Kingdom

**Declare that this declaration of conformity is issued under our sole responsibility and belongs to the following product:**

**Kind of equipment:** Audio processor  
**Model:** D48X

**The object of the declaration is in conformity with the relevant statutory requirements:**

2016 No. 1101 - Electrical Equipment (Safety) Regulations 2016  
2016 No. 1091 - Electromagnetic Compatibility Regulations 2016

**The following UK designated standards and technical specifications have been applied:**

BS EN 62368-1:2014 - Audio/video, information and communication technology equipment - Safety requirements  
BS EN 55032:2015 - Electromagnetic compatibility of multimedia equipment - Emission requirements  
BS EN 55035:2017 - Electromagnetic compatibility of multimedia equipment - Immunity requirements

**Signed:**



**Name:** Dan Cartman

**Position:** Research and Development Manager

**Date:** September 2022

**UK  
CA**

## IMPORTANT SAFETY INSTRUCTIONS

---

CAUTION: RISK OF ELECTRIC SHOCK. DO NOT OPEN.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of 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 of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:** Apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

**WARNING:** To prevent injury, this apparatus must be securely attached to the rack in accordance with the installation instructions.

- 1 : Read these instructions.
- 2 : Keep these instructions.
- 3 : Heed all warnings.
- 4 : Follow all instructions.
- 5 : Do not use this apparatus near water.
- 6 : Clean only with a dry cloth.
- 7 : Do not block any ventilation openings, install in accordance with the manufacturer's instructions.
- 8 : Do not install near any heat sources, such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
- 9 : Do not defeat the safety purpose of the polarised or grounding-type plug. A polarised plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 : Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- 11 : Only use attachments/accessories specified by the manufacturer.
- 12 : Use only with the cart, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from a tip over.
- 13 : Unplug this apparatus during lightning storms or when unused for a long period of time.
- 14 : Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as if 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.
- 15 : Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
- 16 : To completely disconnect this equipment from the AC mains, disconnect the power cord from the mains circuit breaker.
- 17 : This unit is fitted with a 3-wire power cord. For safety reasons, THE EARTH LEAD SHOULD NOT BE DISCONNECTED IN ANY CIRCUMSTANCE.
- 18 : Only replace the IEC inlet fuse with the correct part: T 3.15A H 250V.

ATTENTION: RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR.



Le symbole représentant un éclair fléché dans un triangle équilatéral a pour but d'alerter l'utilisateur de la présence d'une "tension dangereuse" non isolée à l'intérieur du boîtier, pouvant être d'une force suffisante pour constituer un risque d'électrocution.



Le point d'exclamation dans un triangle équilatéral a pour but d'alerter l'utilisateur de la présence d'instructions importantes concernant le fonctionnement et la maintenance, dans la documentation qui accompagne l'appareil.

ATTENTION: Appareils de construction de CLASSE I doit être raccordé au réseau électrique via une prise de courant reliée à la terre.

ATTENTION: Pour éviter toute blessure, cet appareil doit être solidement fixé à la torture, conformément aux instructions d'installation.

1 : Lisez ces consignes.

2 : Conservez ces consignes.

3 : Respectez tous les avertissements.

4 : Respectez toutes les consignes d'utilisation.

5 : N'utilisez jamais l'appareil à proximité d'un liquide.

6 : Nettoyez l'appareil avec un chiffon sec.

7 : Veillez à ne pas empêcher la bonne ventilation de l'appareil via ses ouvertures de ventilation. Respectez les consignes du fabricant concernant l'installation de l'appareil.

8 : Ne placez pas l'appareil à proximité d'une source de chaleur telle qu'un chauffage, une cuisinière ou tout appareil dégageant de la chaleur (y compris un ampli de puissance).

9 : Ne supprimez jamais la sécurité des prises bipolaires ou des prises terre. Les prises bipolaires possèdent deux contacts de largeur différente. Le plus large est le contact de sécurité. Les prises terre possèdent deux contacts plus une mise à la terre servant de sécurité. Si la prise du bloc d'alimentation ou du cordon d'alimentation fourni ne correspond pas à celles de votre installation électrique, faites appel à un électricien pour effectuer le changement de prise.

10 : Installez le cordon d'alimentation de telle façon que personne ne puisse marcher dessus et qu'il soit protégé d'arêtes coupantes. Assurez-vous que le cordon d'alimentation est suffisamment protégé, notamment au niveau de sa prise électrique et de l'endroit où il est relié à l'appareil; cela est également valable pour une éventuelle rallonge électrique.

11 : Utilisez exclusivement des accessoires et des appareils supplémentaires recommandés par le fabricant.

12 : Utilisez exclusivement des chariots, des diables, des présentoirs, des pieds et des surfaces de travail recommandés par le fabricant ou livrés avec le produit. Déplacez précautionneusement tout chariot ou diable chargé pour éviter d'éventuelles blessures en cas de chute.

13 : Débranchez l'appareil de la tension secteur en cas d'orage ou si l'appareil reste inutilisé pendant une longue période de temps.

14 : Les travaux d'entretien de l'appareil doivent être effectués uniquement par du personnel qualifié. Aucun entretien n'est nécessaire sauf si l'appareil est endommagé de quelque façon que ce soit (dommages sur le cordon d'alimentation ou la prise par exemple), si un liquide ou un objet a pénétré à l'intérieur du châssis, si l'appareil a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas correctement ou à la suite d'une chute.

15 : N'exposez pas cet équipement au fait de tomber goutte à goutte ou au fait d'éclabousser et gardez qu'aucun objet rempli des liquides, comme les vases, n'est placé sur l'équipement.

16 : Pour complètement débrancher cet équipement de la conduite principale de courant alternatif, débranchez la corde de pouvoir du disjoncteur de conduite principale.

17 : Cette unité est correspondue avec une corde de pouvoir de 3 fils. Pour les raisons de sécurité, L'AVANCE DE TERRE NE DEVRAIT ETRE DÉBRANCHÉE DANS AUCUNE CIRCONSTANCE.

18 : Ne remplacez le fusible d'entrée IEC que par la pièce correcte: T 3.15A H 250V.

## WEEE

---



Once your NST Audio product has reached the end of its useful life, please ensure that it is recycled in a proper manner.

"The WEEE Regulations 2013 are the UK interpretation of the EU WEEE Directive and aim to reduce the quantity of waste electrical and electronic equipment (WEEE) disposed of in the UK".

EEE producers are required to pay for the reuse, recycling and recovery of the products by registering as an EEE producer which requires them to join a producer compliance scheme.

NST Audio has been registered with producer compliance scheme Comply Direct since 2015 ensuring 100% compliance with the WEEE regulations 2013.

Our WEEE Producer Registration Number is WEE/HG5453ZY.

Old electrical equipment can be recycled along with its metal enclosure. Our products are marked with a crossed-out wheeled bin symbol on the rear of the product.

Please do not throw any electrical equipment (including those marked with the crossed out wheeled bin symbol) in your general waste bin.

NST Audio Ltd. is able to arrange WEEE collections for our customers through a trusted network of WEEE recycling facilities made available by Comply Direct. We are able to arrange collection and transportation of your WEEE to reprocess and recycle ensuring the minimum goes to landfill.

## ROHS

---

The Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive (2011/65/EU).

NST Audio Ltd products are RoHS compliant, and are available for export as lead-free and RoHS compliant.

NST Audio Ltd is committed to eliminating the use of hazardous substances in the materials, manufacturing and packaging of our products in strict accordance with the RoHS directive.

With regards to the RoHS Directive 2002 / 95 / EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, we declare that to the best of our knowledge, all products meet and fulfil all the requirements of the aforementioned directive.

## THANK YOU

---

Thank you for choosing an NST Audio product for your application. Please spend a little time reading through this manual, so that you can obtain the best possible performance from the unit.

All NST products are carefully designed and engineered for cutting-edge performance and world-class reliability. If you would like further information about this, or any other NST product, please do not hesitate to contact us.

## UNPACKING THE UNIT

---

After unpacking, please check the unit carefully for any damage. If any is found, immediately notify the carrier concerned - you, the consignee, must instigate any claim.

Please retain all packaging, in case of future re-shipment.

## INSTALLATION

---

### **Electrical Considerations:**

The NST device has been manufactured to comply with your local power supply requirements, but before connecting the unit to the supply, ensure that the voltage (printed on the rear panel) is correct, and that a mains fuse of the correct type and rating has been fitted.

Make sure power outlets conform to the power requirements listed on the back of the unit.

Damage caused by connecting to incorrect AC voltage is not covered by the warranty.

### **Mechanical Considerations:**

To ensure that this equipment performs to specification, it should be mounted in a suitable rack or enclosure. When mounting the unit in a rack or enclosure, ensure that there is adequate ventilation. The cooling fan sucks cool air in through the right side and blows warm air out of the left side of the unit through the ventilating grills. Take care when mounting other equipment in the same rack.

### **Operation:**

Read all documentation before operating your equipment and retain all documentation for future reference. Do not spill water or other liquids into or on the unit and do not operate the unit while standing in liquid. Do not block the fan intake or operate the unit in an environment that could impede the free flow of air around the unit. If the unit is used in an extremely dusty or smoky environment, it should be cleaned of any collected debris at regular intervals.



## OVERVIEW

---

With inputs and outputs switchable in channel pairs between analogue or AES/EBU the D48X gives you the flexibility you need to integrate into your system.

Compressors are available on every input as well as a high pass filter, 8 bands of parametric EQ, 3 bands of dynamic EQ, a 28-band graphic EQ, and up to 1.3 seconds of delay. Routing to outputs can be configured to either mix-matrix mode, free-routing or several pre-configured routing options.

Flexible channel linking enables quick and easy configuration of common crossover setups or customised configurations as required. Every output channel has high and low pass filters, 16 bands of parametric EQ, up to 1.3 seconds of delay as well as a new limiter designed to offer the best driver protection with the lowest distortion.

The D48X runs at a fixed sampling rate of 96kHz. Front panel control allows instant mute of any input or output as well as editing of all the most commonly used parameters and recall of presets.

The USB and Ethernet based computer control software gives you the ability to not only control all the devices on a network but also to store preset memories and configure systems offline. With Mac and iPad control too, you can control your system the way that suits you.

## KEY FEATURES

---

4 Analogue Inputs, 8 Analogue Outputs

AES Digital Inputs and Outputs with sample rate conversion from 24kHz to 192kHz

Sample rate fixed at 96kHz.

### **Input Processing Features:**

Soft Knee Compressor

8 Parametric EQs

24dB/Oct HPF

3 bands of Dynamic EQ

28-band Graphic EQ

Gain, Polarity, Delay

### **Routing Matrix Modes:**

Mix Matrix, Routing Matrix, Preset Configurations (2x4, 4x2, 1x8, 2x3+2)

### **Output Processing Features:**

16 Parametric EQs

Crossover Filters up to 48dB/Oct

FIR Filter capable -

1024 Taps/2ch, 512 Taps/4ch, 256 Taps/8ch at 96kHz

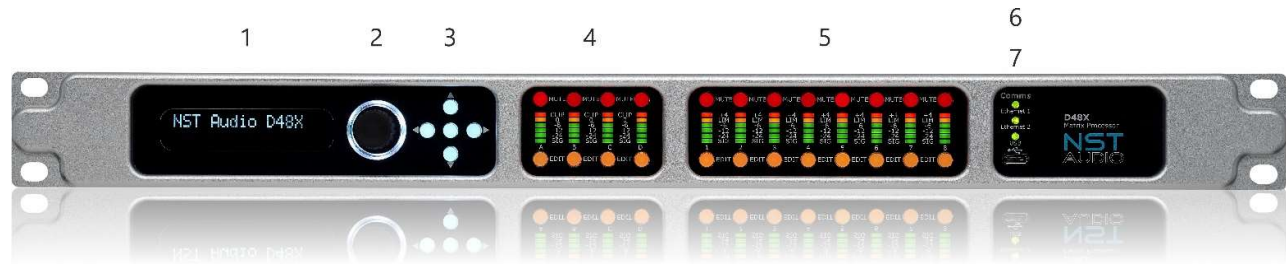
Gain, Polarity, Delay, Limiter

### **Control Features:**

Remote control via Gbps/100Mbps Ethernet, USB Type C

Up to 30 presets may be stored for offline recall

### Front Panel Overview:



#### 1. LCD Screen:

2x16 character backlit LCD display, showing various control parameters and menu options.

#### 2. Rotary Encoder:

Velocity sensitive illuminated control adjusts the displayed parameter on the LCD screen.

#### 3. Navigation Keys:

Centre Key: Enters and quits parameter and menu screens - Confirms menu options.

Up Key: Navigates upwards through menu and parameter options.

Down Key: Navigates downwards through menu and parameter options.

Left Key: Navigates left through menu and parameter options containing multiple options.

Right Key: Navigates right through menu and parameter options containing multiple options.

#### 4. Input Meters, Mute Keys and Edit Keys:

Real time LED input meters show level from maximum input level (clip) in 4-segments...

Signal present, 6dB below clipping, 0dB/maximum input level and clip\*.

\*If analogue input level is within 1dB of clipping, the red input Clip LED will illuminate to show this.

Mute Keys: Mutes the selected input channel and illuminates red to confirm this.

Edit Keys: Accesses the selected input channel's parameters and illuminates amber to confirm this.

*Tip: Pressing an Edit key for a second time will display the last parameter edited, making it easier to edit or check the same parameter across multiple channels.*

#### 5. Output Meters, Mute Keys and Edit Keys:

Real time LED output meters show level from the limiter threshold in 4-segments...

Signal present, 6dB below limiter threshold, Limiter threshold and 3dB into limiting.

Mute Keys: Mutes the selected output channel and illuminates red to confirm this.

Edit Keys: Accesses the selected output channel's parameters and illuminates amber to confirm this.

*Tip: Pressing an Edit key for a second time will display the last parameter edited, making it easier to edit or check the same parameter across multiple channels.*

#### 6. Comms LEDs:

Flashes when communication is taking place between the device and D-Net software on either Ethernet port (green for 1Gbps or orange for 100Mbps) or via the USB port (green).

#### 7. USB Port:

USB type C port for single unit connection to a computer running the D-Net software. This will also allow remote control of other NST devices if they are connected via the Ethernet ports on the rear panel.

**Note: Any parameter changes will be reflected to a connected computer running the D-Net software, in real time!**

## Rear Panel Overview:



### 1. Mains Power Inlet, Fuse and Power Switch:

3-pin IEC input, fused [5mm x 20mm, 3.15A, 250V, Anti-Surge (T)], 90-250VAC, 50-60Hz <40W.  
A spare fuse is located within the fuse holder – only replace with the correctly rated fuse!

### 2. Ethernet Computer Control Ports:

Neutrik EtherCON RJ45 network Ethernet ports accepts either a standard CAT5 cable or housed RJ45 connector for connection to a computer. Connect to port 1 and daisy chain from port 2 to additional NST units or use a suitable network switch to control multiple units simultaneously.

### 3. Balanced Analogue Audio Outputs / Digital AES Outputs\*:

The analogue outputs are wired as follows:

- Pin 1: Shield/Ground
- Pin 2: Signal Hot (+)
- Pin 3: Signal Cold (-)

\*Digital AES outputs can be enabled from within the D-Net software, and run in pairs...

- Outputs 1 and 2 are outputted together from output 1.
- Outputs 3 and 4 are outputted together from output 3.
- Outputs 5 and 6 are outputted together from output 5.
- Outputs 7 and 8 are outputted together from output 7.

### 4. Balanced Analogue Audio Inputs / Digital AES Inputs\*:

The analogue inputs are wired as follows:

- Pin 1: Shield/Ground
- Pin 2: Signal Hot (+)
- Pin 3: Signal Cold (-)

\*Digital AES inputs can be enabled from within the D-Net software, and run in pairs...

- Inputs A and B are inputted together on input A.
- Inputs C and D are inputted together on input C.

**NOTE: Not all parameters are available from the front panel – use the D-Net software application for full access!**

### **LCD Default Mode:**

By default, the top line of the screen will show the name of the device (editable from the D-Net software).

The bottom line of the screen will show the name of the last stored or recalled preset – an asterisk (\*) will show if any parameter from the original preset has been changed.

### **Channel Edit Screens:**

Pressing any of the Edit keys will access the selected channel(s) parameters.

Use the Up and Down navigation keys to view available parameters.

Use the rotary control to edit any parameter.

If a '<' or '>' appears on the LCD, this shows there are further parameters available to view and edit - by use the Left and Right navigation keys to access these parameters.

### **Input Parameters:**

Assuming the Down navigation key is being pressed, the input parameters will show as follows:

#### **Gain**

**Phase** (Note: This parameter will remain unlinked, if channel links are in use!)

#### **Delay**

**High-Pass Filter (HPF) Frequency > Type > Bypass**

**PEQ1 Frequency > Gain > Q > Bypass > Type**

x 8 Bands

### **Output Parameters:**

Assuming the Down navigation key is being pressed, the output parameters will show as follows:

#### **Gain**

**Phase** (Note: This parameter will remain unlinked, if channel links are in use!)

#### **Delay**

#### **Limiter**

**High-Pass Filter (HPF) Frequency > Type**

**Low-Pass Filter (LPF) Frequency > Type > Bypass**

**PEQ1 Frequency > Gain > Q > Bypass > Type**

x 16 Bands

## MENU OPTIONS IN DETAIL

---

Pressing the centre navigation key will access the D48S menu options.

Assuming the Down navigation key is being pressed, the menu options will show as follows:

### **System:**

#### **LCD Brightness**

Adjusts the LCD's brightness level - values 1 to 32, where 1 is the dimmest and 32 is the brightest. Use the rotary control to vary the brightness level.

#### **IP Address**

Displays the D48's IP address (for when connecting to a computer running the D-Net software).

#### **MAC Address**

Displays the device's MAC address (for when connecting to a computer running D-Net software).

#### **Firmware Version**

Displays the device's firmware version. To update the firmware, use the D-Net computer software.

### **Lock Device:**

This feature allows the device to be locked with a 4-digit pin code. Once locked, no parameters can be viewed or edited. If the device is connected to the D-Net software, it will be discovered and will show metering, but it cannot be accessed unless the correct pin code is entered.

To lock the device:

1. Press the centre navigation key when the menu is showing Lock Device.
2. Use the rotary control to select whether to lock 'Everything' or 'Enable Presets', meaning the device will be locked, but will still allow presets to be recalled. Press the centre to key to confirm.
3. The unit will ask for a 4-digit pin code to be entered – use the rotary control to select a number, and then use the right navigation key to access the next number.
4. Once the 4-digits have been entered, press the right navigation key once more.
5. The unit will then ask to confirm the pin code – re-enter the pin code, as above, and press the right navigation key to lock the device. The device will only lock if both pin codes match.

To unlock the device, repeat steps 1 to 3.

**NOTE: Please keep the password safe and written down somewhere, so it cannot be forgotten!**

If a pin code has been inadvertently forgotten, contact NST Audio.

**Interface Modes:**

Allows the selection of analogue or digital AES options for input and output channels.

Press the centre navigation key, to access the options, and then use the left and right navigation keys to view the available options. Use the rotary control to edit the options.

See the 'Rear Panel Overview' page for details.

**Create Xover:**

This menu option allows a quick set-up of common crossovers.

Use the rotary control to view the available formats and press the centre key to select the desired format. Press the centre key once again to confirm the selection.

(For a full selection of routing options and crossover set-up, use the D-Net software).

**Delete Preset:**

Lists any presets stored within the device. Use the rotary control to view the presets, and then use the centre navigation key to delete the displayed preset. Confirmation will be needed - use the centre navigation key again to confirm this action.

**Rename Preset:**

Lists any presets stored within the device. Use the rotary control to view the presets, and then use the centre navigation key to rename the displayed preset. Use the rotary control to scroll around the available letters, numbers and symbols – use the left and right navigation keys to select another character. Once complete, use the centre navigation key to finish renaming the preset. Confirmation will be needed - use the centre navigation key again to confirm this action.

**Store Preset:**

Lists any presets stored within the device. Use the rotary control to view the available preset allocations, and then use the centre navigation key to store the current settings to the displayed allocation.

The unit will then ask what to store to memory - Use the rotary control to scroll around the available options as follows:

Mute+In+Mtx+Out – This option is shown first by default, and will store ALL current settings.

Mute+Matrix+Out - This option will store the current mute status, matrix configuration and output settings only.

Mute+In+Out - This option will store the current mute status, input settings and output settings only.

Mute+In+Matrix - This option will store the current mute status, input settings and matrix configuration only.

Mute+Inputs - This option will store the current mute status and input settings only.

Mute+Matrix - This option will store the current mute status and matrix configuration only.

Mute+Outputs - This option will store the current mute status and output settings only.

In+Matrix+Out - This option will store the current input settings, matrix configuration and output settings only.

Matrix+Outputs - This option will store the current matrix configuration and output settings only.

Inputs+Outputs - This option will store the current input settings and output settings only.

Inputs+Matrix - This option will store the current input settings and matrix configuration only.

Inputs - This option will store the current input settings only.

Matrix - This option will store the current matrix configuration only.

Outputs - This option will store the current output settings only.

Use the centre navigation key to confirm this action.

The unit will then ask for the preset to be named – follows the instructions for 'Rename Preset' above.

Once completed, confirmation will be needed - use the centre navigation key again to confirm this action.

**Recall Preset:**

Lists any presets stored within the device. Use the rotary control to view the presets, and then use the centre navigation key to recall the displayed preset.



D-Net is an Ethernet based computer control platform that gives you the ability to not only control all the devices on a network, but also to store presets and configure systems offline.

Compatibility with Microsoft Windows, Apple Mac and Apple iPad too, you can control your system the way that suits you. USB connection (Microsoft Windows only) is also available on some devices, allowing quick connection to a single device.

D-Net is available to download, free of charge, from the NST Audio website:



[nstaudio.com/software-downloads](http://nstaudio.com/software-downloads)



The iPad version is available from the Apple app store. (There is also a link to this from the software page shown above).



### **Analogue Inputs – 4**

Electronically balanced, pin 2 hot  
CMRR: >60dB @ 1kHz  
Maximum Level: >20dBu  
Input Impedance: 10k $\Omega$  balanced

### **AES Inputs – 2 x 2 channel**

Transformer balanced, pin 2 hot  
AES Input Sample Rates : 8kHz to 192kHz  
AES Input s/n Ratio : 139dB  
Input Impedance : 110 $\Omega$

### **Analogue Outputs – 8**

Electronically balanced, pin 2 hot  
Maximum Level: >20dBu  
Source Impedance: <60 $\Omega$

### **AES Outputs – 4 x 2 channel**

Transformer balanced, pin 2 hot  
Sample Rate : 96kHz  
Source Impedance : 110 $\Omega$

### **Performance:**

Frequency Response 12Hz – 32kHz  $\pm$ 0.2dB  
Dynamic Range: >119dB 'A' weighted (in to out analogue)  
THD + N (+19dB @ 1kHz): 0.00029%  
Latency: 0.427ms (in to out, analogue, 96kHz)

### **Processing:**

Input Gain (per channel) : -30 to +15dB in 0.1dB steps, mute, phase  
Input Delay (per channel) : 0 to 1.3s in 10.4 $\mu$ S steps (at 96kHz)  
Input Compressor (per channel) : Threshold (-30 to +22 dBu), Attack, Release, Ratio, Soft-Knee  
Input Parametric EQ (per channel) : 8 bands – parametric, low shelf, high shelf, notch, band-pass  
Input High-Pass Filter (per channel) : Up to 24dB/octave (Bensen/Butterworth/Bessel/Linkwitz-Riley)  
Input Dynamic EQ (per channel) : 3 bands  
Input Graphic EQ (per channel) : 28 bands

Routing Inputs to Outputs: Choice of modes (Matrix Mixer, Free Routing, 1 $\times$ 8, 2 $\times$ 4, 4 $\times$ 2, 2 $\times$ 3+2 Aux)

Output Parametric EQ (per channel) : 16 bands – parametric, low shelf, high shelf, notch, band-pass  
Output High-Pass and Low-Pass Filter (per channel) : Up to 48dB/octave (Bensen/Butterworth/Bessel/Linkwitz-Riley)  
FIR Filter capable - 1024 Taps/2ch, 512 Taps/4ch, 256 Taps/8ch at 96kHz  
Output Gain (per channel) : -30 to +15dB in 0.1dB steps, mute, phase  
Output Delay (per channel) : 0 to 1.3s in 10.4 $\mu$ S steps (at 96kHz)  
Output Limiter (per channel) : Threshold (-50 to +22dBu), attack, release, auto attack/release option

FIR Support: 1024 Taps/2ch, 512 Taps/4ch, 256 Taps/8ch at 96kHz

Presets : Up to 100

### **Power Requirements:**

3-pin IEC input, fused [5mm x 20mm, 3.15A, 250V, Anti-Surge (T)], 90-250VAC, 50-60Hz 20W

### **Dimensions:**

Height: 44mm (1.75inch) 1U, Depth: 213mm (8.4 inches), Width: 482mm (19 inches)

### **Weight:**

Net: 2.5kg, Shipping: 3.5kg



## MAINTENANCE

---

The unit will require very little routine maintenance, apart from occasional routine checking of the fan inlet outlets on the side panels. Cleaning the casework should only be done with a cloth lightly dampened with water only! The use of chemical or abrasive cleaners may damage the paint finish.

## SERVICING

---

There are no user serviceable parts within the unit!  
Please contact us to arrange returning any units to us that require servicing or repairing.

## WARRANTY

---

This product comes with a warranty against defects in components and workmanship only, for a period of five years from the date of shipment to the customer. During the warranty period, NST Audio will, at its discretion, either repair or replace products that prove to be defective, provided that the product is returned, shipping prepaid, to an authorised NST Audio service facility.

Defects caused by unauthorised modifications, misuse, negligence, act of God or accident, or any use of this product that is not in accordance with the instructions provided by NST Audio, are not covered by this warranty.

This warranty is exclusive and no other warranty is expressed or implied.  
NST Audio is not liable for consequential damages.

## CONTACT

---

If you have any questions or comments about the information contained within this manual, or require further assistance, then please do not hesitate to contact us:



[www.nstaudio.com](http://www.nstaudio.com)



[support@nstaudio.com](mailto:support@nstaudio.com)



[www.facebook.com/nstaudio](http://www.facebook.com/nstaudio)



[@nstaudio](https://twitter.com/nstaudio)

*Thank you!*

**NST**  
AUDIO

The NST Audio team