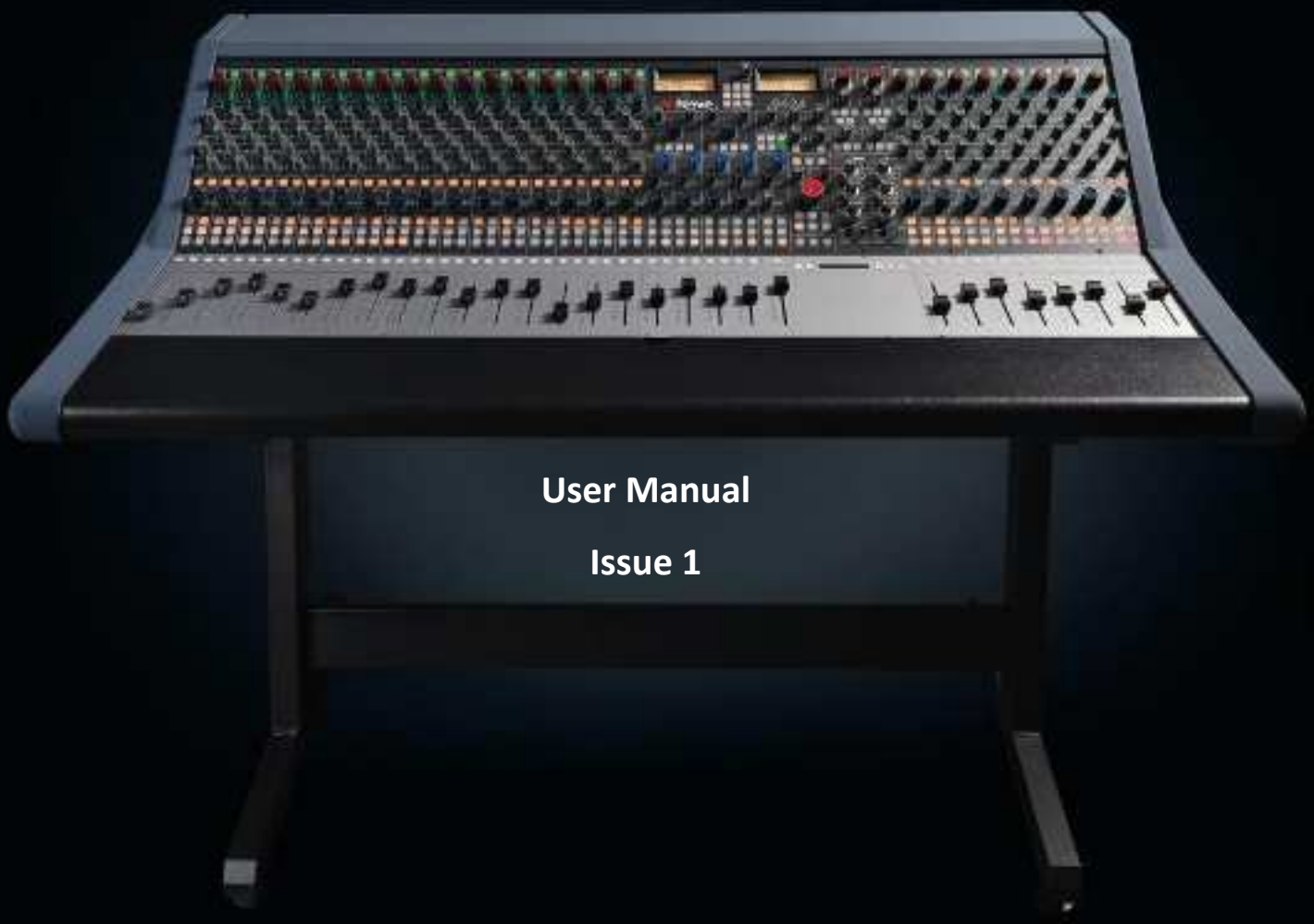
Neve

8424



User Manual

Issue 1

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
- MODULES OR CARDS SHOULD NOT BE INSERTED OR REMOVED WITH THE POWER ON
- REFER ALL SERVICING TO QUALIFIED PERSONNEL ONLY
- NO USER SERVICEABLE PARTS INSIDE
- PLEASE OBSERVE THE RECOMMENDED 'POWER UP' & 'POWER DOWN' PROCEDURES

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

Important Safety Instructions



- **Read these instructions**
- **Keep these instructions**
- **Heed all warnings**
- **Follow all instructions**
- **Do not use this apparatus near water**
- **Clean only with a dry cloth**
- **Do not block any ventilation openings.**
- **Install in accordance with the manufacturer's instructions.**
- **Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.**
- **Do not defeat the safety purpose of the polarized or grounding-type plug.**

A polarized 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.

As this apparatus is constructed to Class I, it shall be connected to a MAINS socket outlet with protective earthing connection.

- **Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit the apparatus.**

Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

- **Only use attachments / accessories specified by the manufacturer.**
- **CAUTION Use only with the optional 8424 cart/stand specified by AMS Neve, or sold with the apparatus. When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over. Use with other equipment may result in instability causing injury.**
- **Unplug this apparatus during lightning storms or when unused for long periods of time.**

Refer all servicing to qualified service personnel.

Servicing is required when the apparatus has been damaged in any way, such as 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.

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 A MAINS SOCKET OUTLET WITH A PROTECTIVE EARYTHING CONNECTION.

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

Warning Symbols



Please refer to the manual before operating



Danger of electric shock
Disconnect from the MAINS before opening cover



No user serviceable parts inside

Environmental considerations

Temperature	**Operating**	**5°C to 30°C (41°F to 86°F)**
	Non-operating	**-20°C to 50°C (-2°F to 122°F)**
	Max Gradient	**15°C/Hour (59°F/Hour)**
Relative Humidity	**Operating**	**20% to 80%**
	Non-operating	**5% to 90%**
	Max wet bulb	**28°C non-condensing (or 57°F non-condensing)**
Altitude	**Operating**	**0 to 2,000m**
	Non-operating	**0 to 12,000m**

Cooling



Care must be taken not to place any accessories that could block the ventilation above or below the heat sinks at the rear of the console.

All PSU's will operate over an ambient temperature range of -10°C to +30°C (14°F to 86°F).

The console must not be powered up or operated with the dust cover still in place.

Important Safety Instructions



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



- **READ THESE INSTRUCTIONS AND KEEP THEM HANDY**
- **HEED ALL SAFETY WARNINGS**
- **THE CONSOLE MUST BE EARTHED WHEN OPERATED**
- **DO NOT USE NEAR WATER**
- **CLEAN ONLY WITH A DRY CLOTH**
- **DO NOT INSTALL NEAR HEAT SOURCES**
- **DO NOT BLOCK VENTILATION OPENINGS**
- **THE AMBIENT ROOM TEMPERATURE SHOULD BE NO GREATER THAN 30°C / 86°F**
- **PROTECT THE POWER CORDS**
- **USE ONLY ACCESSORIES SPECIFIED BY THE MANUFACTURER**
- **UNPLUG WHEN UNUSED FOR LONG PERIODS OF TIME OR DURING LIGHTNING STORMS**
- **MODULES AND CARDS SHOULD NOT BE INSERTED OR REMOVED WITH THE POWER ON**
- **REFER ALL SERVICING TO QUALIFIED PERSONNEL ONLY**
- **THE CONSOLE MUST ONLY BE MOVED BY AT LEAST TWO PEOPLE**
- **NO USER SERVICEABLE PARTS INSIDE**

IMPORTANT POWER NOTICE



THE 8424 CONSOLE IS SUPPLIED WITH A 3-CORE AC POWER CABLE APPLICABLE TO THE REGION IT IS TO BE OPERATED IN, AND MUST BE CONNECTED TO A 3-PIN EARTHED SUPPLY.

IF A REPLACEMENT CABLE IS USED, THEN THE EARTH FROM THE MAINS SOCKET OR TECHNICAL EARTH TO THE CONSOLE MUST BE MAINTAINED.

IF ONLY A 2-PIN (NO EARTH) SUPPLY IS AVAILABLE, THEN THE 8424 CONSOLE MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN TO ENSURE THAT THE CONSOLE METALWORK IS PERMANENTLY EARTHED.
THE CONSOLE SHOULD ONLY BE POWERED FROM A SINGLE-PHASE SUPPLY WITH THE NEUTRAL CONDUCTOR AT EARTH POTENTIAL.

FAILURE TO FOLLOW THESE PROCEDURES AND RECOMMENDATIONS COULD INVALIDATE THE MANUFACTURER'S WARRANTY

Table of Contents

Health & safety Notice 2
Important safety instructions USA 3
Warning Symbols 5
Environmental Considerations 5
Cooling 5
Important Safety Instructions UK 6
Important Power Notice 7
Introduction **9**
Console Overview **10**
Channel Strip Overview 11
Master Section Overview **12**
About This Manual **13**
Conventions Used 13
Console surface Colour coding 13
Power Procedure **14**
Safety notice 14
Power Up Procedure 14
Power Down Procedure 14
Quick Start **15**
Cabling Requirements 15
Boot Mode 15
Connecting the Console 15
Studio Setup **16**
Channel Strip **17**
Overview 17
A/B Channel Input 17
Direct Pre 17
Direct Output Signal Path 17
Input Trim Encoder 18
Global Input Trim Reset 18
Channel Meter 18
Stereo Cue 19
Aux sends 1-3 20
Insert/Input C 20
Pan 20
Group Pan 20
Channel Routing 21
Solo 21
ISO 21
Cut 21
Channel Fader 21
Groups 1-4 ..... **22**
Overview 22
Group EQ 22
Pan 22
Group routing 22
Group 1-4 Output Pre 22
Group Output Signal path 22
Solo 23
ISO 23
Cut 23
Group fader 23
1073 Preamps **24**
Overview 24
Gain Control 24
Trim Control 24
Preamp Controls 24
500 series Routing 24
Instrument DI Inputs **25**
Overview 25
Instrument DI Controls 25
500 series Routing 25
500 Series Slots **26**
Overview 26
500 Series Routing 26
Direct Input/Output 26
Reverb Returns **27**
Overview 27
Reverb Return Controls 27
Reverb Return Routing 27
Aux & Cue Masters **28**
Overview 28
Global Aux Controls 28
AUX 2&3 as CUE mix 2 28
Engineer Headphones **29**
Overview 29
EHP 1 29
EHP 2 29
EHP 2 Source Selection 29
Talkback **30**
Overview 30
Talkback controls 30
Talkback Trim Pots 30
Cue Talkback 30
Slate Talkback 30
Return Talkback 31
Talkback Footswitch 31
Solo Modes **32**
SIP 32
AFL 32
PFL 32
Global Solo Controls 33
Master Controls **34**
Overview 34
Solo Safe 34
Reset 34
48 MIX 34
Aux On/Pre 34
IPC MTR 34
A/B CH IP 34
Stereo Mix Processing **35**
Overview 35
EQ 35
Stereo Width 35
Stereo Mix Routing **35**
Overview 35
Mix bus Inject L/R 35
500 1/2 35
Cue Bus 35
INS IN 35
PRE 36
Stereo Mix Output Signal Path 36
Master Fader 36
Control Room Monitor **37**
Overview 37
Control Room Source 37
Monitor Level Controls 37
VU Meter **38**
Overview 38
Meter Select 38
Services **39**
Master Options 39
Talkback options 40
Oscillator Functions 40
System 40
Recall Store System **41**
Overview 41
Save 41
Load 42
Auto Scan 44
Manual Recall 46
Return Talkback Options **47**
Overview 47
Live room return Talkback 47
Producers sofa mic 48
Additional Recording Input 48
Service outputs (DC Remotes) **49**
2T VU MTR OSC TB **49**
Example Applications **50**
Mixing 50
Recording 51
Overdubbing 52
48 Input Mix Mode **53**
IN-Line Mode (ILM) **54**
Parallel Processing 55
Audio Interface Setup **56**
Firmware update software **57**
Abbreviations and acronyms **59**
Dimensions & power requirements **60**
Console Physical/Technical Information 60
Fuse ratings 60
Console Rear Connections **61**
Power Unit 61
Channel inputs 61
Master Inputs/outputs 62
Monitor Connections 62
Console Connections Table **63**
Main 63
Channel inputs A/DAW Returns 64
CH DAW RET I/P A 1-8 64
CH DAW RET I/P A 9-16 64
CH DAW RET I/P A 17-24 64
Channel inputs C/DAW Returns 65
Input C 24-32 65
Input C 33-40 65
Input C 41-48 65
Channel Direct Outputs 66
Direct outs 1-8 66
Direct outs 9-16 66
Direct outs 17-24 66
Line inputs and Outputs 67
XLR inputs and Outputs 67
DC Remote Pin out Functions 67
2T VU MTR Pin out Functions 67
8424 Audio Specification **68**
General Specification **69**

Introduction

For almost 60 years, the designers and engineers at Neve have worked uncompromisingly to produce the world's premier audio recording and mixing equipment. As a result, our products have long exceeded the most stringent requirements for sound quality and musicality – from countless classic albums to the vast majority of each year's blockbuster films. This technical expertise and industry-led design is taken forward into every new Neve console, combining with modern enhancements to meet the needs of todays studios. **Introducing the 8424…..**

Legendary **80**-series Neve sound, **4** groups, **24** channel faders

The 8424 console is designed to fit the needs of the modern hybrid studio where the speed of in-the-box workflow is enhanced with the ultimate sound quality of analogue outboard gear. The 8424 provides a centralised platform with unparalleled connectivity, facilitating an ergonomic link between the linear analogue processing world of outboard gear, analogue synths, and instruments, to the digital world of DAW workflow, software plugins and session recall.

The 8424's Marinair® transformer-coupled Stereo Mix bus delivers legendary Neve® sound, derived from the iconic 80-series consoles. 24 channels, 4 groups and 48-mix capability give this small footprint console huge routing and summing potential. Dual on board 1073® preamps, Instrument DI's and headphone amplifiers provide a comprehensive recording platform, with a fast, efficient workflow that keeps the creativity flowing in the studio.

The 8424 has an on-board Recall system which further integrates the console into the modern hybrid studio workflow. This unique feature enables this pure analogue console to save, load, and recall all settings, faders and pot positions for on a session by session basis. With this unrestricted workflow, engineers can take advantage of all analogue features without the added worry of losing console settings and wasting valuable studio time.

As with all Neve products, the 8424 offers sound and build quality beyond reproach. All the audio connections on the 8424 are balanced and +4dBu with the exception of the iMon input and engineers' headphones.

The 8424 is designed to be straightforward and accessible to all. this versatile and powerful desk provides a central, creative hub where analogue outboard gear, synthesisers and a host of instruments combine with the digital world of DAW workflow, software plugins, and session recall. Every piece of studio magic can now be connected through the ultimate creative platform – **The 8424 console**.

AMS Neve Ltd

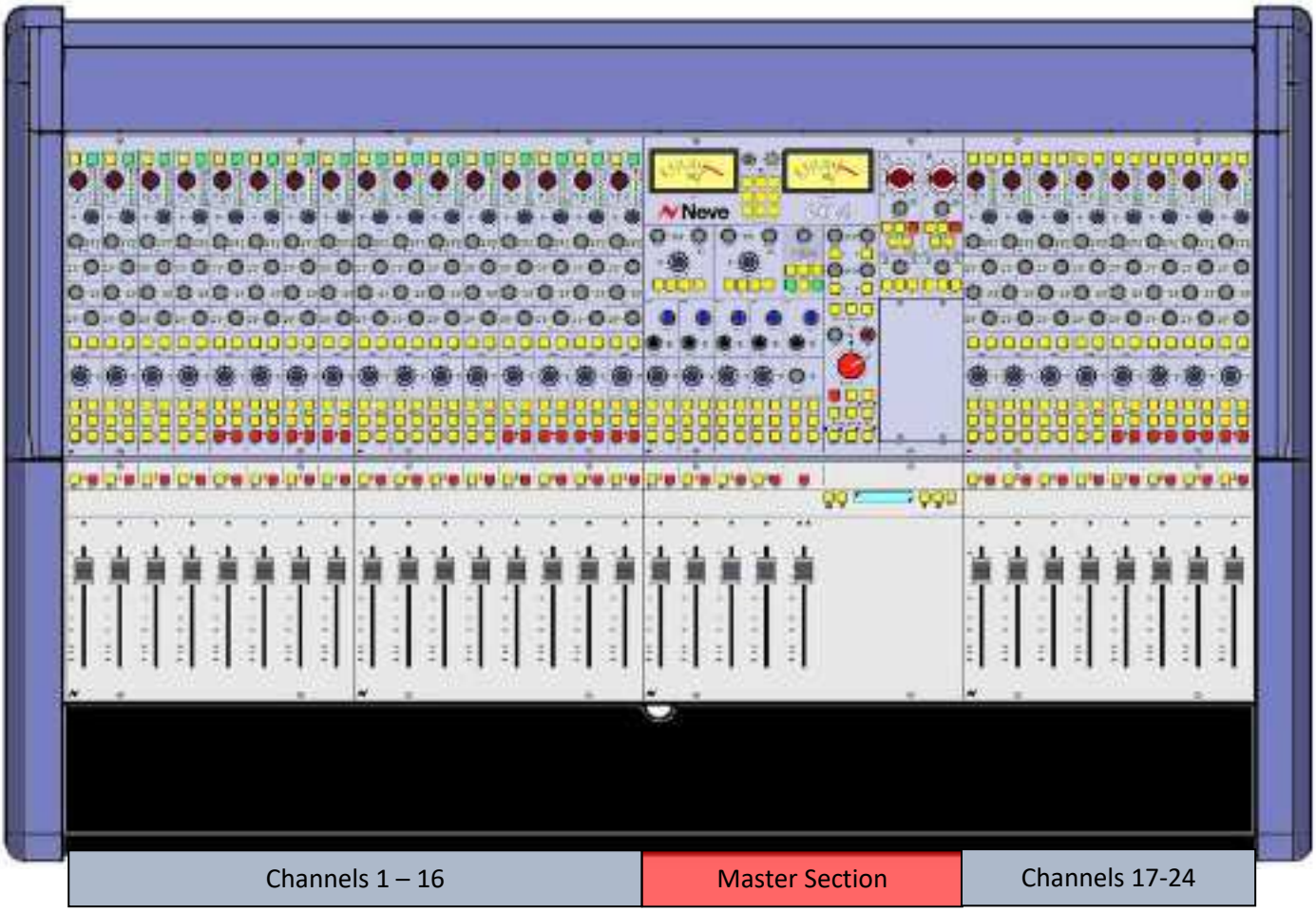
AMS Technology Park
Billington Road
Burnley
Lancashire
England
BB11 5UB

Phone: +44 (0) 1282 417 011
Fax: +44 (0) 1282 417 282

Email: info@ams-neve.com
Web: www.ams-neve.com

© ® 2005 - 2020 AMS Neve Ltd own the copyright of all information and figures contained in this manual which are not to be copied or reproduced by any means or disclosed in part or whole to any third party without written permission. As part of our policy of continual product improvement, we reserve the right to alter specifications without notice but with due regard to all current legislation.
Disclaimer: The information in this manual has been carefully checked and is believed to be accurate at the time of publication. However, no responsibility is taken by AMS Neve Ltd for inaccuracies, errors or omissions nor any liability assumed for any loss or damage resulting either directly or indirectly from use of the information contained within.
Trademarks: Neve®, 1073® and Marinair® are registered trademarks. AMS Neve Limited pursues a policy of continual improvement therefore all specifications are subject to change without notice. All trademarks are property of their respective owners E & O E ©2020 AMS Neve Ltd.

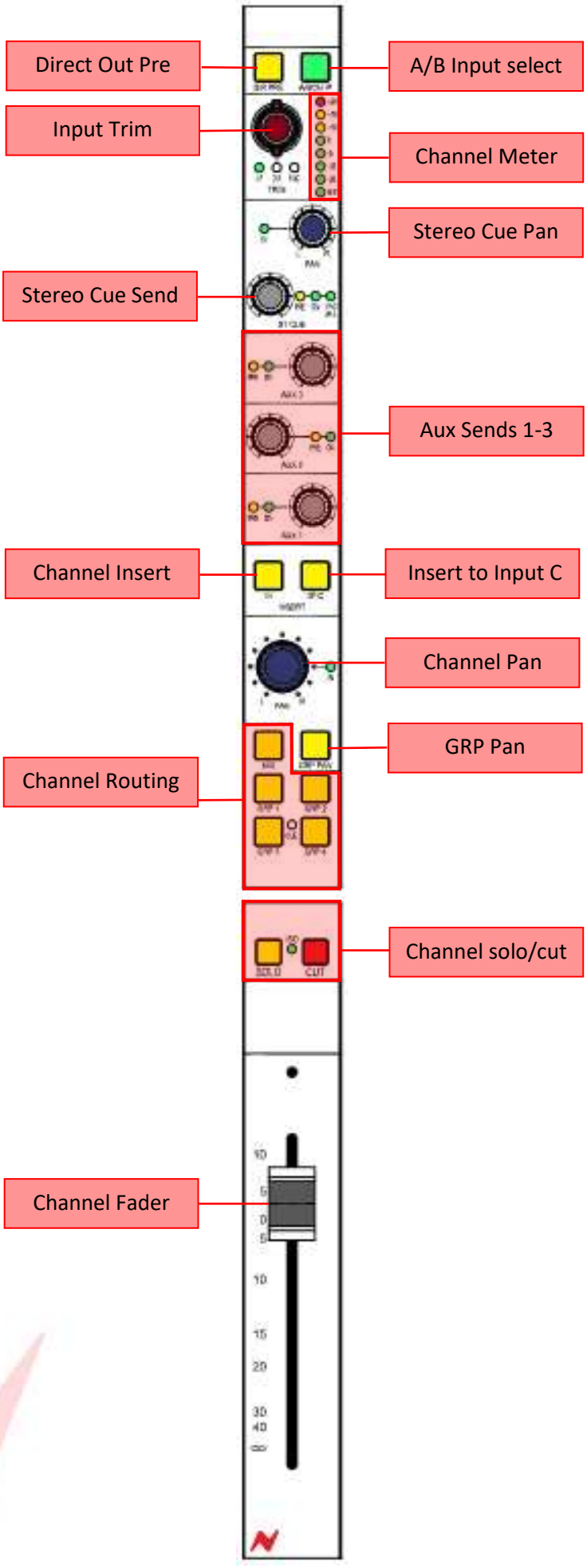
Console Overview



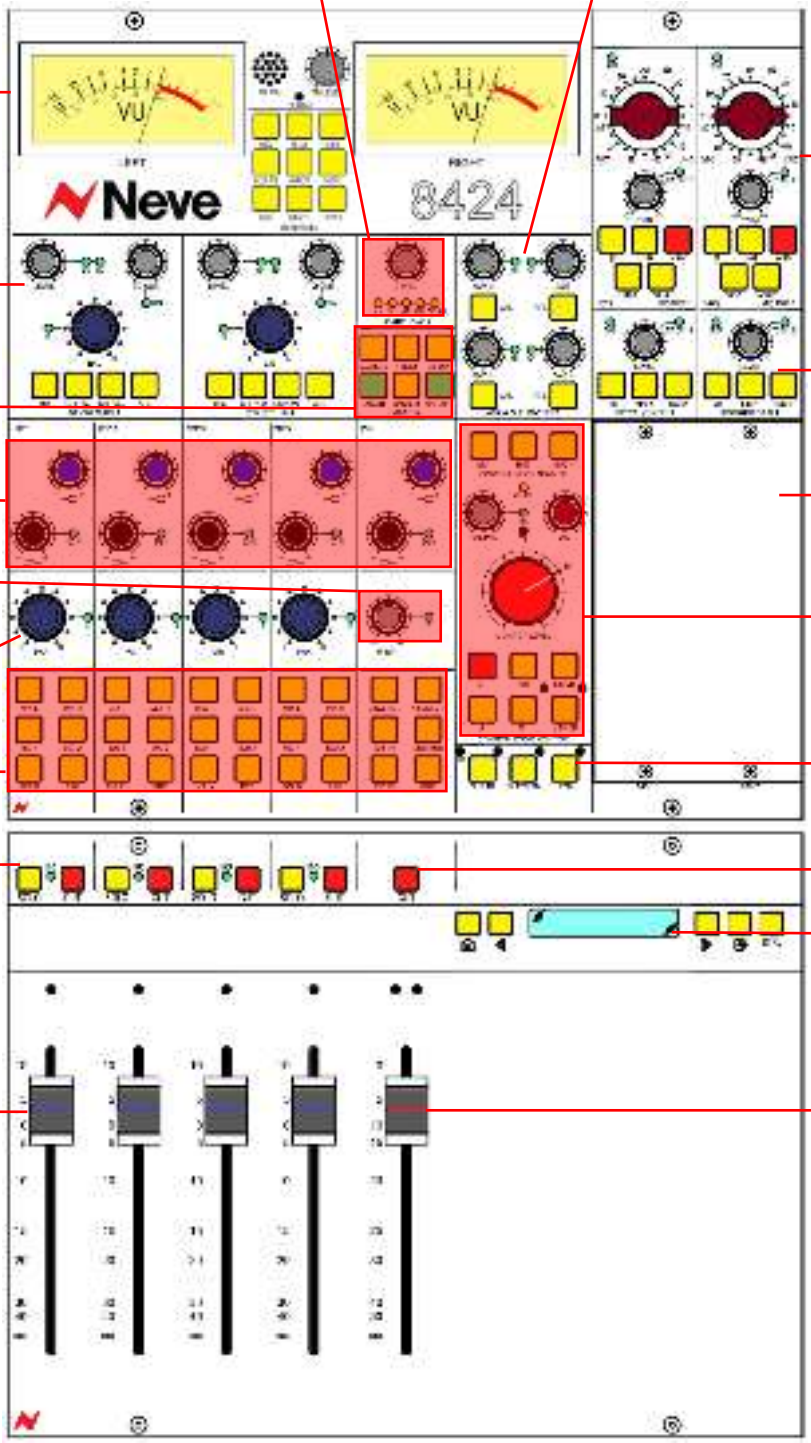
8424 Console Features

- 24 Mono channels with source selections and 100mm faders
- 24 Channel Direct Outputs
- 4 Groups with 100mm faders
- 3 Mono Auxiliary sends
- 1 Stereo Cue send
- 2 Stereo Reverb Returns
- Marinair® Transformer coupled Stereo Mix bus
- 2 1073® Microphone Pre-amplifiers
- 2 Hi-z DI inputs
- 2 500 Series Slots
- 4 Mono, 1 Stereo 2-band shelving EQ
- 1 Stereo Width control
- 2 stereo External inputs
- 3 Loudspeaker Outputs
- 2 engineers headphone outputs
- 30 Balanced Inserts on Channels, Groups & Stereo mix
- 48 Input Capability
- 8 Stage LED Channel Input Meters
- Assignable Backlit VU meters
- Global channel A/B input switch
- Oscillator
- Smart routing
- Comprehensive connectivity on console rear
- Internal Power Supply

Channel Strip Overview



Master Section Overview



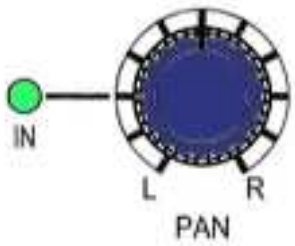
About this manual

This manual consists of:

- A section-by-section operational overview of all parts of the console surface
- Technical & physical specifications including power consumption, dimensions, weight and other relevant information
- Schematics and reference drawings of D-Type pin-outs

There is a Heading Index at the start.

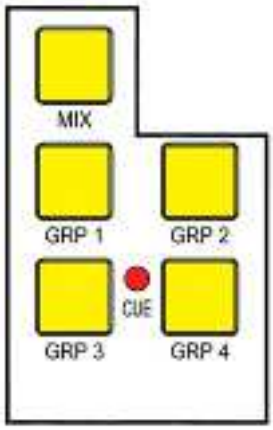
There is also a table explaining the Acronyms and Abbreviations of the most commonly used buttons and functions on page 58 of this document.



Many rotary controls on the 8424 have a push-activation ON/OFF function. Simply push the pot to switch the control ON or OFF.

Where relevant, the ON/OFF state of the control is displayed by an adjacent LED.

Conventions used



All button names / rotary controls are shown in **BOLD CAPITALS**.

Additional Global controls and notes for set parameters are shown in bold grey italics.

▶ An arrow-shaped bullet-point indicates you should do this action.

Console surface colour coding

The knobs and buttons on the Channel Strip and master sections of the console are colour-coded for ease of operation.

Type	Control	Colour
Rotary	Level Control	Dark Grey
	Pan	Dark Blue
	Gain/Trim	Dark Red
	High Shelf EQ	Light Blue
	Low Shelf EQ	Black
	Monitor level	Bright Red

Power Procedure

Safety Notice

Before plugging the 8424 into the mains supply, please make sure of the following safety precautions:

▶ The amplifier connected to the speakers is turned off and the volume controls are turned fully down (or if using active speakers, ensure they are turned down and turned off).

▶ Ensure the 8424 Control Room Monitor level is fully turned down.

▶ All faders (including the Main Output faders) are at the bottom of their run at the **CUT** (∞) position.

Power-up procedure

▶ Turn on the power to 8424 using the power switch on the rear of the console.

▶ Switch the amplifier on (or the speakers if you are using active speakers).

▶ Turn the amp (or speakers) to the desired level.

▶ On the 8424, ensure that the Control Room level is turned down and un-cut the monitoring (as a safety feature, the monitoring system will always be **CUT** when first switching the system on).

▶ Move the Channel faders to the desired levels and put the Main mix fader up to 0dB.

▶ Turn the Control Room Monitoring level up.

In this state, the console is ready to start recording from the A or B inputs with the Direct Outputs feeding the DAW (or tape machine)

Power Down Procedure

▶ Ensure your work is saved to the relevant medium.

▶ Turn the Control Room Monitoring down as far as it will go and press the master **CUT** button for the speakers.

▶ Turn the output level on the speaker's amplifier down to **CUT**, then turn the power off (if using active speakers, turn each speaker down before removing the power).

▶ Safely remove the power to 8424.

Failure to follow this procedure correctly could invalidate the manufacturer warranty

Quick Start

Cabling Requirements

- **DAW Interface Outputs (Input A)** - 25-Pin D-Sub > D-Sub loom x3
- **Line Inputs (Input B) -** ¼'' TRS Jack 1-24
- **Direct outputs -** 25-Pin D-Sub > D-Sub Loom x 3
- **Insert send/Return -** ¼'' TRS Jack 1-24
- **Group insert Send/Return –** ¼'' TRS Jack 1-4
- **Mix/Aux/Cue/Group output –** XLR x9
- **loudspeaker Outputs –** XLR x6
- **Reverb returns/EXT/500 series/1073 inputs –** XLR x10

Boot Mode

Upon start-up, the 8424 is configured with all channel inputs on **Input B.** This can be changed by switching the inputs individually on each channel, or by pressing the global **A/B CH IP** switch in the master select section of the console. **Green** LED's indicate **Input A** state, **Yellow** indicate **Input B.**

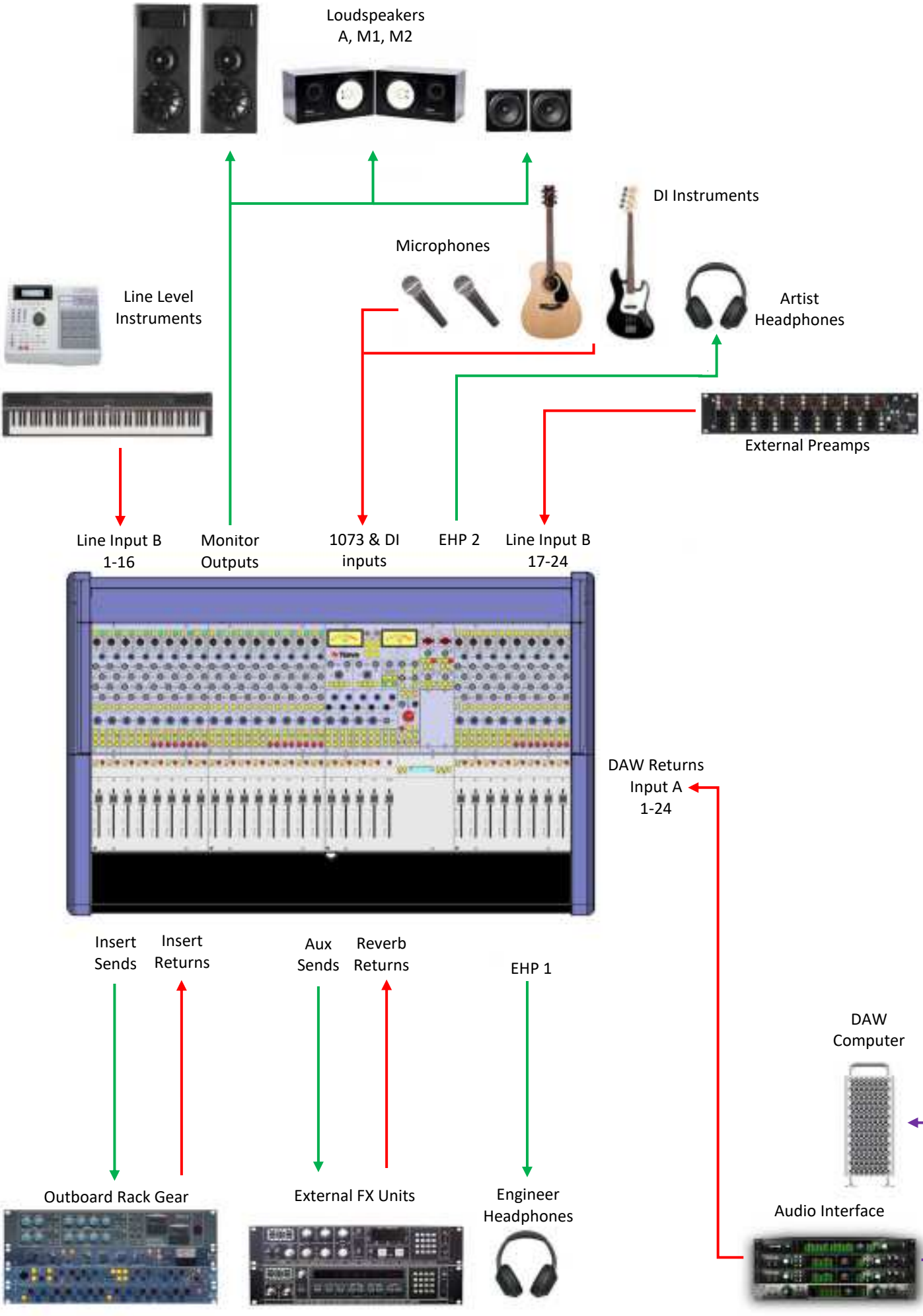
To protect the system from feedback, the direct outputs from the channels are fed from Input B by default. This can be changed in the services screen by selecting MAST> IPA DIR [Y].

The console will always boot up in safe mode. This state ensures that no damage incurs to loudspeakers or additional studio equipment on start-up. In safe mode all feeds to speakers will be **CUT** (speaker outs will illuminate **RED** to indicate **CUT** state). The control room monitor level should also be turned fully down automatically to further protect studio equipment.

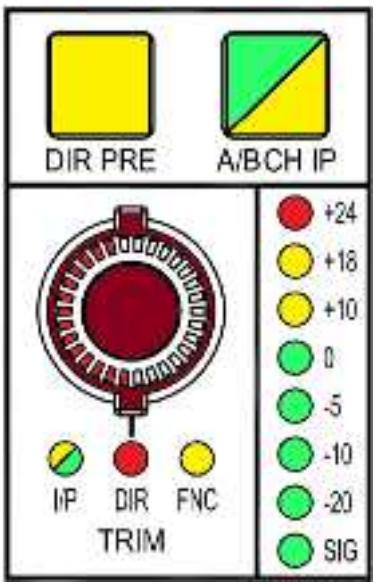
Connecting the console

- Connect DAW interface outputs into the 8424 channel **Inputs A** via the three D-sub connectors **1>8 9>16 17>24.**
- Connect line level instruments or external preamps into the 8424 channel inputs B where required. **1>24 ¼'' Jack.**
- Connect channel Direct Outputs 1-24 to DAW interface inputs via the D-sub connector **1>8 9>16 17>24.**
- Connect **MIX O/P L** and **MIX O/P R** into your DAW interface to record your Stereo Mix back into the DAW.
- Connect group 1-4 outputs **GRP1 OUTPUT 1-4** into your DAW interface if required.
- Connect Aux outputs **AUX O/P** 1-3 to external FX units.
- Connect external FX returns to Reverb Returns **REV1** and **REV2 L+R.**
- Connect Headphones to **EHP1** and **EHP2**
- Connect headphone amplifiers to **CUE O/P L+R** if required.
- Connect studio speakers to **A LS O/P Left** and **Right** XLR.
- Connect additional studio Speakers to **M1 LS O/P Left** and **Right** XLR.
- Connect any analogue hardware inserts to each channel or group using the ¼'' jack connectors at the rear of the console.
- Connect analogue hardware inserts to the master channels using the XLR connectors at the rear of the console **MIX INS SEND** and **MIX INS RETURN.**

Studio Setup



Channel Strip



Overview

One of the core design concepts of the 8424 is that each channel can select its input from two alternative line input sources. This enables the 8424 to be used for Mixing, Recording and Overdubbing. The **A/B CH IP** switch on every channel will select either channel **Input A** (DAW Interface Outputs) or channel **Input B** for line level instruments or external preamps. Each channel trim pot will function independently for both **Input A** and **Input B.** The Input trim LEDs will indicate the trim level for each input **A** or **B.** When Switching between inputs, the **TRIM** level will swap between **Input A** and **Input B** levels. The **I/P LED** will indicate the current selected input - **Green** for **Input A** trim or **Yellow** for **Input B** trim. Each trim level is separate, this allows for precise and independent trim control of both channel input levels.

A/B Channel Input

This function selects the input source for each channel and will light **Green** for **Input A** or **Yellow** for **Input B**.
Input A is fed by a 25-way D-Type connector on the rear of each fader bank in sets of 8.
Input A should be used to connect your DAW interface outputs to the console.

To protect the system from feedback, the direct outputs from the channels are fed from Input B by default. This can be changed in the services screen by selecting MAST> IPA DIR [Y].

Input B is fed by ¼'' TRS connectors to the rear of each individual channel.
Input B can be used for any line level input such as external pre-amp outputs or line level instruments to be directly tracked through the console.

The Global A/B CH I/P switch can be found in the centre of the console.

Direct Pre

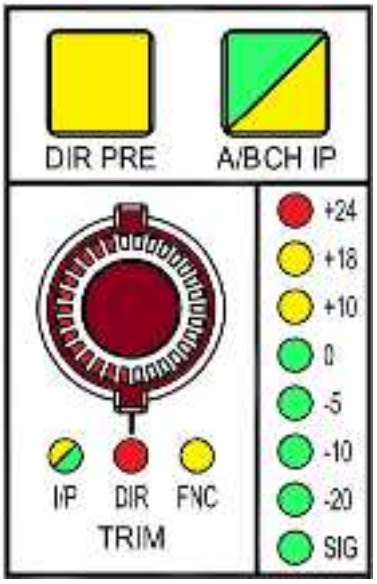
The **DIR PRE** button will route the channel direct output pre-fader. This can be used to create DAW stem tracks un-affected by the current control room fader levels. When **DIR PRE** is inactive, the direct outputs are post-fader, any channel fader motions will affect the direct out signal. This can be used to record audio adjustments directly onto the DAW stem tracks, creating manual level changes on certain mix elements. Pre or Post fader Direct Outs are sent post-channel insert, allowing for outboard hardware processing to be added into the signal chain and recorded into the DAW.

The Global DIR PRE switch is activated from the services screen in MAST>DIR PRE

Direct Output Signal Path

DIR PRE selected	DIR PRE not selected
Channel Input A/B	Channel Input A/B
Input Trim	Input Trim
Insert	Insert
Direct Output Trim	CUT
Direct output D-Sub	Fader
CUT	Direct Output Trim
Fader	Direct Output D-Sub

Direct outputs are post fader in their default state.



Input Trim Encoder

Each channel features a stepped +/-20dB trim pot. This is controlled by the rotary encoder at the top of each channel (when in **I/P** mode).
The gain increments are-

+/- 1dB, 2dB, 3.5dB, 5dB, 6.5dB, 8dB, 9.5dB, 11dB, 12.5dB, 14dB. 15.5dB, 17dB, 18.5dB, 2 0dB.

The encoder LED will indicate the gain level for the selected **A** or **B** channel input. When switching between **A/B CH IP** the LED will change to indicate **I/P A** or **I/P B** trim gain. Following shutdown and restart of the console all channel trim settings are reset to the default setting of 0dB. To save and load the trim settings for your session, use the services screen in the centre of the console and choose the **SYSTEM SAVE** or **LOAD**.

More information on SAVE/LOAD can be found on page 41.

Note: Loading a saved state will overwrite all Trim A/B/Direct out levels.

The input trim encoder is dual function and can be pressed to toggle between three states of action-

- **I/P** sets the encoder to act as a +/- 20dB trim pot for all incoming line levels. This functions for both **Input A** and **Input B** independently and will toggle between both inputs displaying **Green** for Input A and **yellow** for **Input B.**

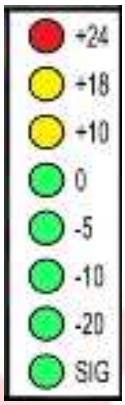
The Global A/B CH I/P switch can be found in the centre of the console.

- **DIR** sets the level of the direct output pre/post fade/cut for the selected channel; the channel direct out has +10dB gain in hand which can help to boost the input level of any low gain signals into your DAW interface. By default, direct outputs are set to channel **Input B**. **Input A** can be sent to the Direct Output, via the services screen in the centre of the console by selecting **MASTER>IPA>DIR:[Y]**
- **FNC** is reserved for future console Firmware upgrades.

Direct out level will always be retained regardless of channel input selection A or B.

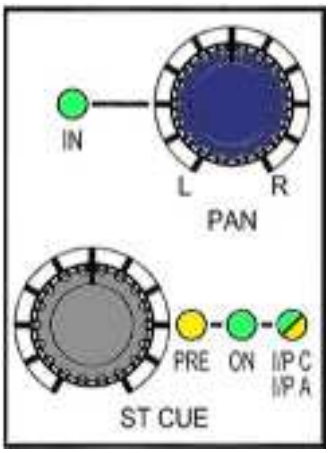
Global Input Trim Reset

Channel Input A and B Trim levels can both be globally reset to zero from the console services screen. To globally reset **Input B** trim levels from the services screen, select **MAST>ZERO IP B**. To globally reset DAW returns **Input A** select **MAST>ZERO IP A.**



Channel Meter

Each Channel on the 8424 has its own 8 stage **PPM** input level meter which displays input signal levels from -30dB through to +24dB. Levels below 0dB illuminate **green** and levels above 0dB will illuminate **yellow.** The **Red** LED will indicate clipping at +24dB.



Stereo Cue

Each Channel on the 8424 has a stereo cue send which can send audio from channel input **A** or **B** (depending which input is selected on the top of the channel strip) to performers in the live/control room. The **CUE** send can also be used as a stereo FX send. The **ST CUE** also has a third input option - **Input C.** This input allows for an additional 24 inputs into the 8424 from the DAW.

More information on Input C uses can be found on page 53.

The **CUE** rotary send runs from -inf to 0dB and has push activation. Pressing the Rotary level control will activate the cue send. The **ON** light will illuminate **green** to indicate that the **CUE** is active. Each cue has its own L/R Pan control which can be activated by pressing the **ST CUE PAN** control.

The CUE can be set Pre or Post fader via simple button combinations listed below. By default, the **CUE** sends signal from the channels selected input A or B but can also be fed from **Input A** independent of channel input selection or an additional **Input C.** *(see page 53/54 for more information)*

To toggle between **PRE/POST** fader-

- Press and hold the **CUE PAN** and then press the **CUE** level controller. The **PRE** LED will indicate the sends pre-fader state.

To select **Input C** as the Stereo cue source-

- Press and hold the **CUE PAN** and then press the **CUE** controller twice. **I/P C I/P A** LED will illuminate **Yellow** to indicate that **Input C** is the **CUE** source.

To toggle between **I/P C** or **I/P A** Cue send source-

- When the **I/P C, I/P A** LED is illuminated, press and hold **A/B CH IP** at the top of the channel strip then press the **CUE** level control, The **I/P A I/P C** LED will illuminate **Green** to show that **Input A** is the signal stereo cue source or will illuminate **Yellow** to indicate that **Input C** is the signal source for the stereo cue send.

To Globally select **Input C** for all **CUE** inputs-

- Press **48 MIX** in the Master section of the console.

48 mix is explained in greater detail on page 53

To Globally select **Input A** for all **CUE** inputs-

- Press **48 MIX** in the Master section of the console
- From the services screen press **MASTER** then select **ILM [Y]**

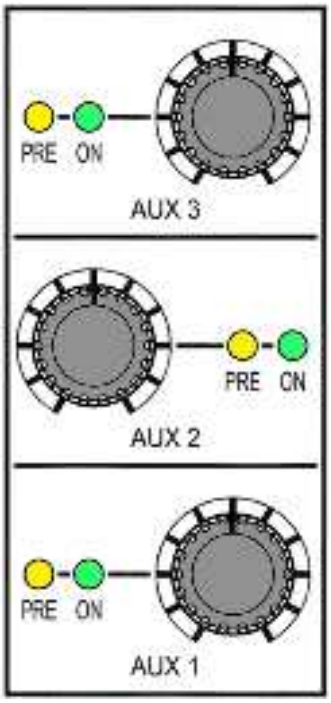
ILM is explained in greater detail on page 54

The **CUE** send pre-fade option will function differently depending on which channel input A/B is selected. This is to ensure that when recording or overdubbing, the channel cut does not cut the cue send. Similarly, when recording/mixing, the channel cut will cut the cue send.

If channel **Input B** is selected – cue sends are pre-fade pre-cut

If channel **Input A** or **C** is selected – cue sends are pre-fade post-cut

Global Stereo cue sends pre/post state can controlled by interlocking the Aux On/Pre button and ST CUE master knob in the centre of the console.
More information on page 28.



AUX Sends 1-3

There are three mono aux sends per channel. Each rotary control sends level from -inf to 0dB and has push activation. The **ON** light will illuminate **Green** once the send is active. Each Aux send 1-3 is set to Post-Fade by default.

To switch to **PRE**-Fade-

- Press and hold the **CUE PAN** controller, then press the **AUX** controller.
- The **PRE** light will illuminate **Yellow** to indicate pre-fader state.

AUX 2 and **AUX 3** can also be used as a second stereo cue. **AUX 2** becomes the right signal and **AUX 3** becomes the left signal of the second stereo cue mix.

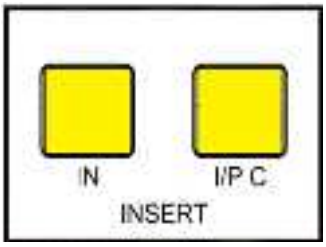
Further information on additional stereo cue mixes can be found on page 28.

The aux send pre-fade option will function differently depending on which channel input **A/B** is selected. This is to ensure that when recording or overdubbing, the channel cut does not affect the aux send and when mixing, the channel cut will also cut the aux send appropriately.

If channel **Input B** is selected – **AUX** sends are pre-fade pre-cut.

If channel **Input A** or **C** is selected – **AUX** sends are pre-fade post-cut.

Global Aux On/Pre fade state can be set by interlocking the Aux On/Pre button and Aux master knobs in the centre of the console. More information on page 28.



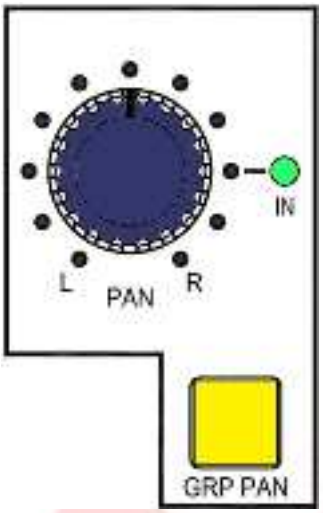
Insert/Input C

Just below the aux sends on the channel are the **Insert IN** and **Insert to Input (I/P C)** switches. When illuminated, the insert **IN** switch will activate the channels insert signal path from the Insert send and Insert return ¼'' TRS connector at the rear of the console. When **I/P C** is selected and illuminated, the channel insert will be assigned to the signal path for the third channel input **(Input C)** DAW interface outputs 24-48 and fed to the **ST CUE** input.

Further information about inputs 25-48 can be found on Page 52

Global INSERT IN and INSERT I/P C can be activated from the services screen in MAST>INS IN and MAST>INS IP C

Note: Channel insert sends are always active. This allows a second pre-fade direct out from each channel.



Pan

The 8424 pan-pot runs from 0dBu hard left, - 4.5dBu centre to 0dBu hard right positions. The channel Pan-Pot functions for both **Input A** or **Input B** depending on the selected channel input.

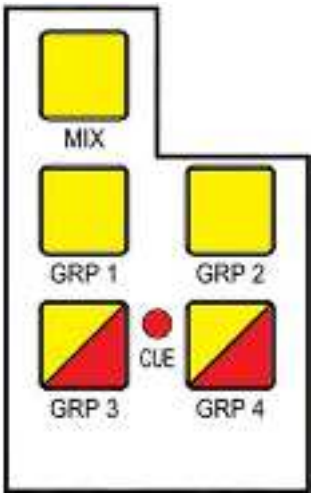
The Pan-Pot has push-activation and is switched on when the **IN** light is illuminated.

All channel pans can be activated globally from the services screen in MAST>MIX PAN.

GRP PAN

GRP Pan or '*channel pan to group'* assigns the channel pan position to the group routing. When selected, the position of the Pan control is reflected in the channels group assignments. I.E when the channel is routed to groups 1 and 2, panning hard left will send the channel signal to group 1 only, panning hard right will send the signal to group 2 only and centre panning will send the signal in equal amounts to both groups 1 & 2.

Global GRP PAN can be activated from the services screen in MAST>GRP PAN.



Channel Routing

Channels can be routed using the buttons below the pan. Channel signal can be sent either to the Stereo Mix via the **MIX** button or to groups 1-4 via the **GRP 1-4** buttons. Any combination of channel routing is possible by pressing multiple routing buttons. Each routing path is active when the button is lit.

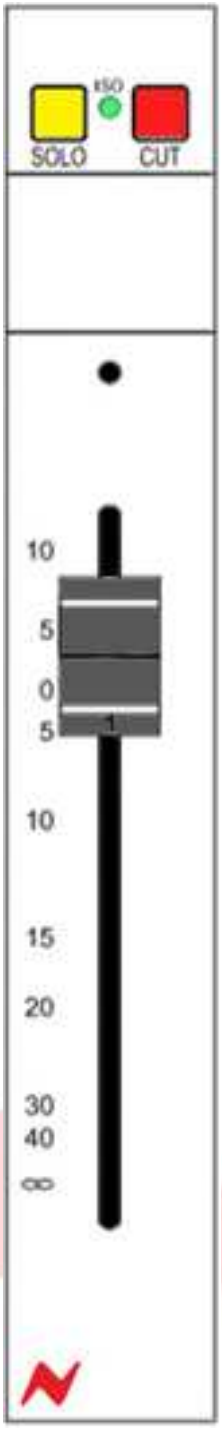
Global channel routing is accessed from the services screen in MAST>MIX, MAST> GRP 1, GRP 2, GRP 3, GRP 4.

In addition to the channel routing, the cue bus can also be routed to groups 3 & 4, this feature is useful when using the 8424's In-Line monitoring mode. Any DAW output sent to the channel cue **I/P A** or **I/P C** can rerouted from the master **CUE** bus to groups 3 and 4 which will now act as the master faders for cue channels routed to the groups, taking advantage Group processing. The **CUE LED** indicator displays group to cue routing status**.**

To route the Cue bus into groups 3 & 4

- Press and hold **CUE PAN** then press **GRP 3** or **GRP 4** routing buttons
- The **GRP 3** and **GRP 4** button will now illuminate **RED** to indicate Cue to Group routing.

Global Cue to Group 3+4 routing is accessed from the services screen in MAST>CUE GRP



Solo

The channel **SOLO** button will isolate the selected channel into the stereo master bus. The channel solo is destructive by default (**SIP**) but can be set to non-destructive modes - Pre-fader **(PFL)** or After-fader **(AFL). AFL** is the default setting when activating **SOLO SAFE** button in the Master Section of the console. This can be switched to **PFL** in the control room monitor section of the console by pressing the **AFL/PFL** level control.

More information on solo modes can be found on page 32

Solo is latching by default but can be switched to Momentary via the Services Screen under MAST>SOLO[LATCH/MOM]

ISO

Isolates the channel path from the default **SIP** (solo-in-place) system and activates the channels non-destructive solo **AFL**/**PFL** bus. The isolated channels are also **SOLO SAFE.** When any other channel solo is active, a **CUT** will not be applied to any channel/group that has been isolated.

Any channel that is isolated can now be soloed without activating the **CUT** on all other channels/groups. The channel solo bus is now routed either pre-fader (**PFL**) or after-fader (**AFL**) and routed to the engineer headphones and control room monitor path via the **PFL/AFL** bus.

To isolate a Channel-

- Press and hold the **CUT** button on the selected channel, then press the **SOLO** button on the selected channel at the same time.
- The **ISO** light will illuminate to indicate that the channel is now protected from destructive solo.

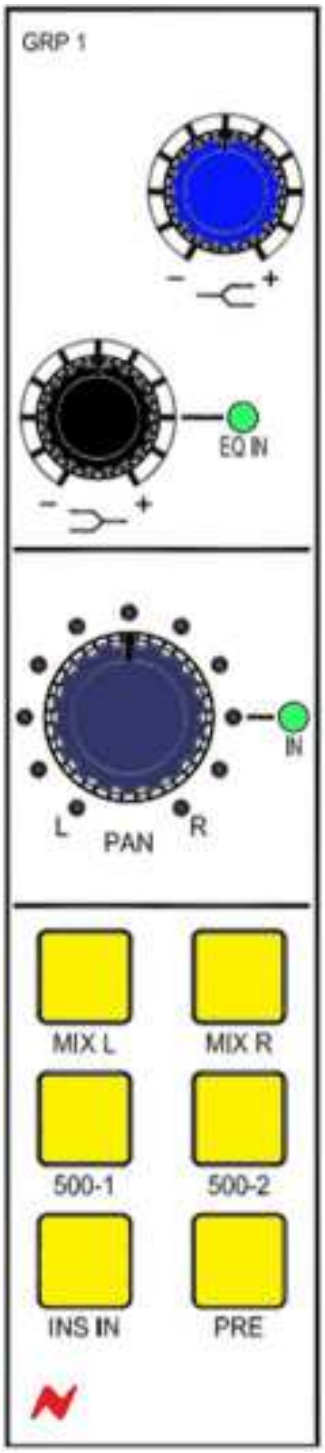
CUT

CUT will remove the selected channels audio from the mix bus audio path, the channels audio is muted when the **CUT** light is illuminated. **CUT** will also mute the channels **AUX** or **CUE** Post-fade bus sends, **Input A** pre-fade bus send and will cut the assigned group routing.

Channel Fader

Each channel has a 100mm fader for precise level control from -inf to +10dB.

Groups 1-4



Overview

The 8424 features 4 mono Groups with 100mm Faders located in the centre of the console. These groups can be used for a variety of functions such as sub-mixing instrument groups, using group processing on selected instruments, balancing large amounts of instruments or as separate masters for the cue mix bus when using the consoles in-line mixing mode.

Further information on Page 54.

Group EQ

Each mono group has its own analogue 2-band shelving EQ that can be used to treat groups of instruments or individual instruments depending on which channels are assigned the group. The high shelf centre frequency of 10kHz can both be boosted or cut by + or – 15dB. and low shelf centre frequency of 220Hz can both be boosted or cut by + or – 12dB. The low shelf knob has push-activation. When pressed, the Group EQ is active and the **EQ IN** LED will illuminate.

Pan

Each mono group has its own pan control which has push-activation. This allows the mono groups to be accurately positioned in the Stereo Mix, with individual channels being assigned to either the left or right depending on the stereo image.

Group Routing

The Group routing buttons above the fader can be used to send the group output to the Stereo Mix bus by pressing **MIX L** or **MIX R** (or both). The **500-1** & **500-2** buttons will activate the 500 series slots as group inserts. The routing buttons will illuminate to indicate the current routing setup.

Beneath the routing buttons, the **INS IN** switch activates the groups insert post EQ/Pre-Fade.

Note: Group insert sends are always active. This allows a second pre-fade direct out from each Group.

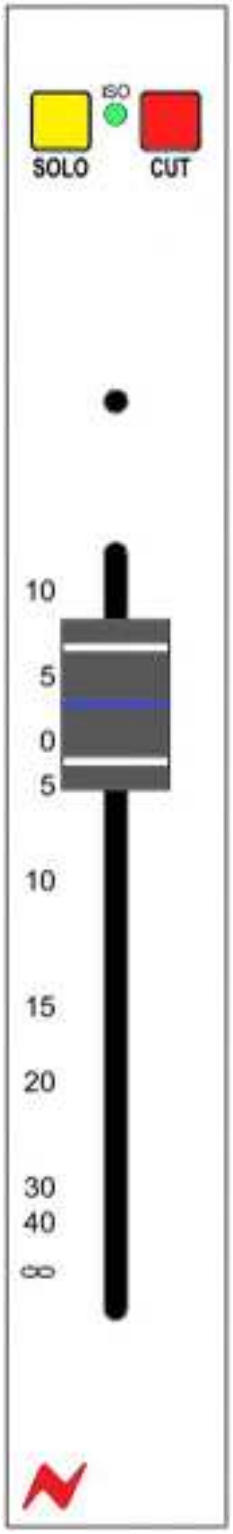
PRE- sets the Group hardware insertion point to pre fader (see table below).

Group Output Signal Path

If PRE selected	If PRE not selected
500 series units (when activated)	500 series units (when activated)
2 band EQ	2 band EQ
Hardware insert	Group Cut
Group Cut	Group Fader
Group Fader	Hardware insert
Mix or Direct out routing	Mix or Direct Out routing

Group 1-4 Direct Output Pre

Each mono group has its own direct output on the rear of the console which can be used to feed into the DAW or external recorder. Direct outs are Post-Fade by default, the service screen option **MAST>GRP 1-4 PRE** will set the direct outs to Pre-Fade.



Solo

The **SOLO** button will isolate the selected Group channel into the Stereo Mix bus and group outputs. The Group solo is destructive by default (**SIP**) but can be set to non-destructive modes; Pre-fader **PFL** or After-fader **AFL** which is set in the control room monitor section of the console by pressing the **AFL/PFL** level control or by Isolating on a channel by channel basis.

More information on solo modes can be found on page 32

ISO

Removes the selected Group channel from the default **SIP** (solo-in-place) system and activates the groups non-destructive solo **AFL**/**PFL** bus. The isolated groups are **SOLO SAFE.** When any other solo is active on the console A **CUT** will not be applied to any group that has been isolated. Similarly, any group that is isolated can now be soloed without activating the **CUT** on all other channels/groups. The group solo bus is now routed either pre-fader (**PFL**) or after-fader (**AFL**) to the engineer headphones and monitor path via the **PFL/AFL** bus.

PFL or AFL is selected in the control room monitor section of the console by pressing the AFL/PFL level knob.

To isolate a Group-

- Press and hold the **CUT** button on the selected group, then press the **SOLO** button.
- The ISO light will illuminate Green to indicate that the group is now protected from destructive solo. And will not cut any channels that are in destructive solo **(SIP)** mode.

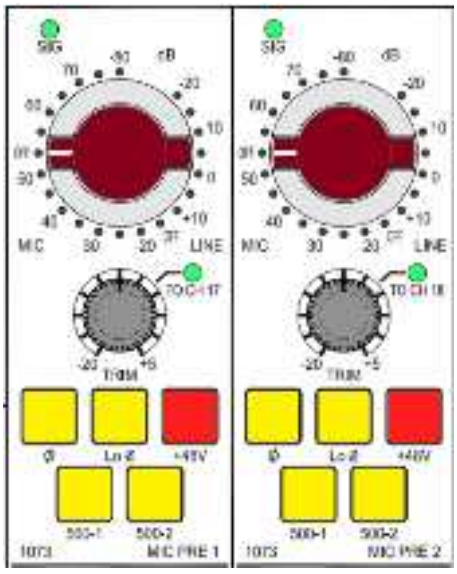
CUT

CUT will remove the selected groups audio from the Stereo Mix bus and group output audio paths. The groups audio is muted when the **CUT** light is illuminated.

Group Fader

Each Group has a 100mm precision fader for precise level control which runs from -inf to +10dB.

1073 Preamps



Overview

The 8424 console has two Neve 1073® preamps which are produced to the exact specifications of the original modules and feature Marinair® input and output stage transformers. Considerable resources have been devoted to the acquisition of the original components to ensure the sound remains true to that of the classic units. The 8424 1073's have Smart Routing, enabling them to be routed to console channels 17 & 18 at the push of a button with no patching required. By default, the preamps are routed to the XLR outputs at the rear of the console. This XLR output is active even if the 1073 is routed to 500 series slots or to channels 17/18, splitting the signal to record two outputs from the same source. The 1073 preamps can be hard-patched to any channel **Input B** by using an XLR> ¼'' TRS cable from the two 1073 XLR outputs and into any channel **Input B** at the rear of the console.

Gain Control

The two 1073s on the master section of the console feature the same classic stepped attenuator which cycles through the dual amplifier gain settings for either Microphone +20dB to +80dB or Line levels -10dB to +20dB in 5dB steps. The **SIG** light at the top of each 1073 preamp illuminates **Green** at -30dB to show level coming into the preamp. The **SIG** light will illuminate **Red** at +26dB to indicate overload.

Trim Control

Beneath the stepped gain control is the rotary gain trim pot which can adjust the preamp gain from -20dB to +5dB. The trim pot is especially useful for precise preamp gain control and allows signals to benefit from 1073 harmonic distortion by dialling in high gain levels on the main gain control then trimming back the final preamp output with the trim pot. The trim pot smart routing push-function can be pressed to assign the output of each preamp to channels 17 and 18 **Input B** respectively. **TO CH 17/18** light will illuminate **Green** to indicate that the 1073 outputs are routed to channel 17 and 18.

1073 Trim is not included in the Save/Load Recall feature.

Preamp controls

Ø = 180° Phase flip

Lo Z = Impedance switch changes signal impedance from 1.2kΩ (HI-Z) to 300Ω (Lo-Z). Useful for ribbon microphones with lower impedance requirements.

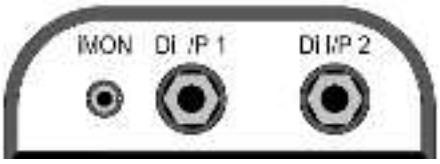
+48v = phantom power for condenser microphones. Phantom power can only be selected and activated when the 1073 preamp is set to mic gain.

500 series routing

Each of the two 1073 preamps can use the 500 series slots 1 or 2 as inserts before the **TO CH** routing. The **500-1 500-2** switches at the bottom of the 1073 section activate the 500 slots as inserts.

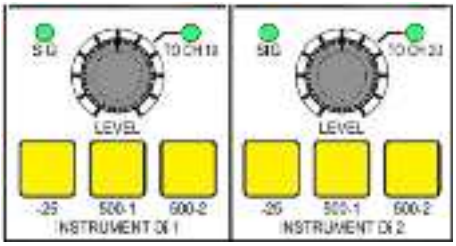
Note: the 1073 output XLR at the rear of the console will not be affected by the 500 series insert.

Instrument DI Input



Overview

In addition to the two 1073 microphone preamp inputs, the 8424 has two 760 kΩ Instrument DI channels that can be routed to various points on the console. The Instrument DI inputs are ¼'' Jack connectors (balanced or unbalanced) that are located conveniently underneath the front of the console. This allows for instrument tracking directly from the studio control room. The 8424 Instrument DI's have Smart Routing, enabling them to be routed to console channels 19 & 20 at the push of a button with no patching required.



Instrument D.I Controls

Each Instrument D.I channel has a level control which runs from -20dB to +5dB. The **SIG** light at the top of each level control illuminates **Green** at -30dB and will illuminate **Red** at +17dB to indicate Overload.

The instrument D.I channels have no default routing, this must be assigned using the 500 series slots or the smart routing **TO CH** switches.

The level pot has smart routing, this push-function pot can be pressed to assign the output of each preamp to channels 19 and 20 **Input B** respectively. **TO CH 19/20** light will illuminate **Green** to indicate that the DI outputs are routed to channel 19 and 20.

-25 pad reduces the incoming signal by 25dB

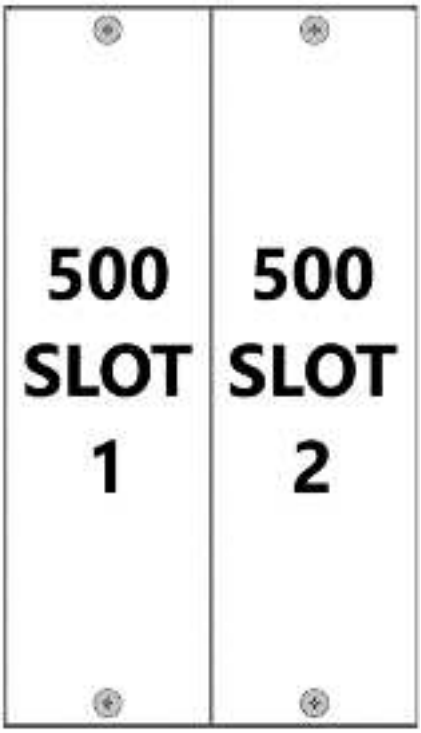
500 series routing

Each of the two Instrument DI inputs can use the 500 series slots 1 or 2 as inserts before the **TO CH** routing. The **500-1 500-2** switches at the bottom of the Instrument DI section activate the 500 slots inserts.

Each of the two instrument D.I preamps can be routed to the 500 series slots 1 or 2 by using the **500-1 500-2** routing switches at the bottom of the instrument DI section.

Instrument DI Level is not included in the Save/Load Recall feature.

500 series slots



Overview

500-series is a module size that AMS-Neve and many other pro audio companies manufacture modules for. All 500 series modules that are VPR Alliance approved will work perfectly in the 8424 500 series slots. The 8424 console has 2 empty slot that can be filled with any 500 series outboard units and used on a variety of console signals.

500 Series Routing

The two 500 series units can be routed as inserts to any of the following-

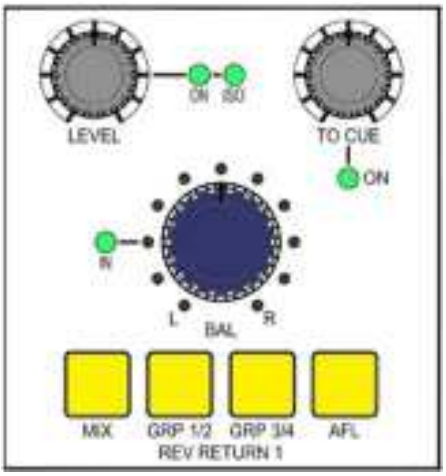
- 4 mono sub-group Inserts (pre-processing)
  - ▶ Press the **500-1** or **500-2** button above the selected group fader to use the 500 series module as a group insert.
- Stereo Master Inserts (pre-processing)
  - ▶ Press the **500-1/2** button above the stereo master fader to use both of the 500 series modules as a stereo Master Insert.
- 2 built in 1073 microphone/line preamp inserts. (Post gain & trim)
  - ▶ Press the **500-1** or **500-2** button at the bottom of the 1073 preamp section to use as an insert for the selected preamp channel (before smart routing to channels 17/18)
- 2 built in Instrument D.I inputs. (Post-level control)
  - ▶ Press the **500-1** or **500-2** button at the bottom of the Instrument DI section to use as an insert for the selected Instrument D.I. (before smart routing to channels 19/20)

Direct Input/Output

In addition to the group, mix, preamp and DI routing options, the 8424 500 series units can be used as standalone hardware units by using the XLR in/out connections on the rear of the console. This allows the 500 series slots to function as a separate hardware rack, independent of the console. The outputs of the standalone 500 series units can also be routed to any channel on the console by using a physical XLR>¼'' TRS Line connection.

Caution: if preamplifiers are used in the 8424 500 series slots, do not activate group, Stereo Mix, 1073 or Instrument DI 500 1/2 buttons.

Reverb Returns



Overview

The 8424 console features two dedicated stereo reverb returns which are fed by the XLR inputs on the rear of the console. The reverb returns can be used to return stereo effect unit outputs into the console or as additional stereo line level inputs should you require more line inputs. Signals using the reverb return channels can be routed to the 500 series slots via the group 1-4 routing buttons.

Reverb Return Controls

Each reverb return has a push-activation level trim pot that runs from Inf to 0dB and can be pressed to activate the reverb return. When activated the **ON** light will illuminate **Green**.

To isolate the reverb from the solo and cue solo path-

- Press and hold the Rev return **LEVEL** Pot**.**
- the **ISO** light will illuminate **Green** to indicate the reverb return isolation status.

Each reverb return has an independent **TO CUE** level pot which runs from inf to 0dB. This pot is push-activation and sends the reverb return signal to the Cue bus, when activated the **ON** light will illuminate **Green**.

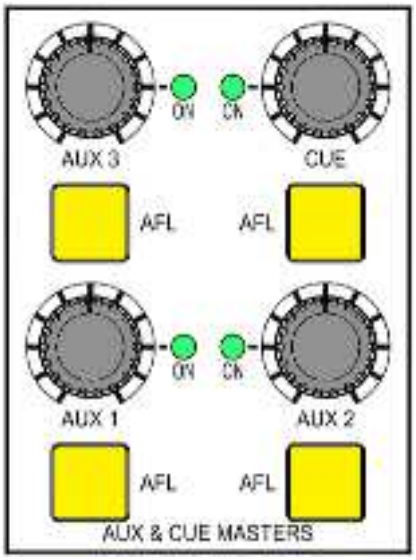
The reverb returns also have a balance pot which will balance the left and right levels by + or -6dB. The balance pot has push-activation and can be pressed to activate the balance control. the **IN** light will illuminate **Green** to indicate that the balance function is active.

Reverb Return Routing

Reverb return signals can be routed to the Stereo Mix bus by pressing the MIX button, group 1 and 2 by pressing the **GRP 1/2** button or Group 3 and 4 by using the **GRP 3/4** button. Any combination or routing is also possible by selecting multiple routing buttons. Each button will illuminate to indicate the reverb return routing.

The reverb returns can also be soloed by pressing the **AFL** button which illuminates when active.

Aux & Cue Masters



Overview

The Three mono **AUX** master and stereo **CUE** master controls are located above the control room monitor section of the console. Each pot runs from inf to 0dB and has push-activation. When pressed, the **AUX/CUE** master bus is active and the **ON** light will illuminate **Green.**

Each aux master and cue master can be soloed by pressing the **AFL** button which illuminates **Yellow** when active.

Global Aux Controls

The **AUX** and **CUE** masters have several global functions that are accessed by pressing the **AUX ON/PRE** button and then pressing the **AUX/CUE** master pot.

To switch all associated channel **AUX/CUE** sends **ON/OFF**-

- Press the master **AUX/CUE ON/PRE** button once, this will now illuminate **Green.**
- Press the master **AUX/CUE** pot. The associated channel 1-24 **AUX/CUE** sends will now toggle between **ON/OFF** status.

To switch all associated channel **AUX/CUE** sends to **PRE/POST fade**

- Press the **AUX/CUE ON/PRE** button twice, this will now illuminate **Yellow**
- Press the master Aux pot. The associated channel 1-24 **AUX/CUE** sends will now toggle between **PRE/POST** status.

AUX 2&3 as CUE mix 2

An additional cue mix can be created by using **AUX2** and **AUX3** bus sends. In this mode, **AUX 2** becomes the Right stereo cue mix signal, and **AUX 3** becomes the Left stereo signal.

The cabling into the second artist foldback system must reflect the AUX 3=Left and AUX 2=Right signal path.

To monitor the second foldback mix through the solo bus-

- Press **AUX 2** Master **AFL**
- Press **AUX 3** Master **AFL**

By default, Aux busses will monitor in MONO unless both AUX 2 and AUX 3 AFL are illuminated.

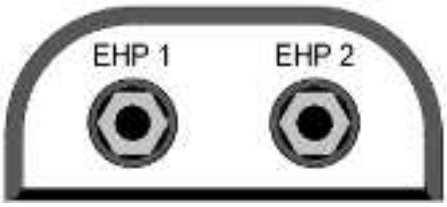
To display the second foldback mix on the VU meters-

- Press the **AUX 1/2** meter select button
- Press the **AUX 3** meter select button

Talkback can be routed to AUX2/3 via the Services screen TB>TB AUX 2[Y] and TB AUX3 [Y]

VU Meters will display AUX busses in MONO unless both AUX 1/2 and AUX 3 meter select buttons are illuminated, Second Cue mix right signal will appear on the left VU, the second cue mix left signal will appear on the Right VU.

Engineer Headphones

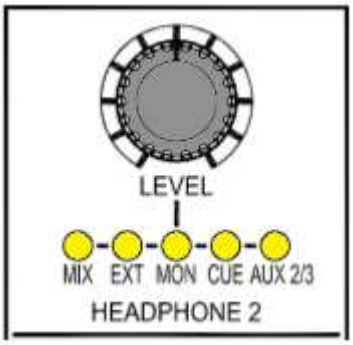


Overview

The 8424 engineer's headphone system [**EHP**] has been designed to help & enhance the modern recording session for the engineer, the producer and the artist. Artist and engineer can track in the control room with their own stereo headphones, featuring independent level controls and source selections. There are 2 engineers stereo headphone output jack sockets located just under the front console armrest. **EHP 1** and **EHP 2** are both stereo quarter inch jacks.

EHP 1

Engineer Headphone mix 1 takes its signal from the main monitor source selector in the control room monitor section of the console. If any console source **AFL** or **PFL** solo is selected, such as the stereo cue mix, the headphones will follow this selection. **EHP 1**'s level is controlled by the main monitor volume control in the centre of the console.



EHP 2

Engineer headphone mix 2 has a five-way source selector switch located in the centre of the console labelled **HEADPHONE 2.** Engineer Headphone mix 2 has its own independent level control and source selection

EHP 2 Source selection

MIX – listens to the console main mix bus post-fader.

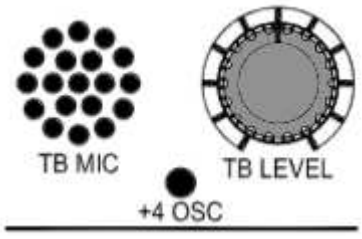
EXT – listens to any wired external source.

MON – listens to the control room monitor source selection.

CUE – listens to the **CUE** mix bus post-master level.

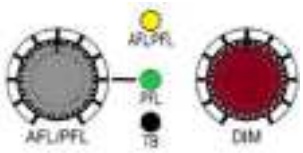
AUX 2/3 – Listens to **AUX 2** or **AUX 3** post **AUX Master** level controls.

Talkback



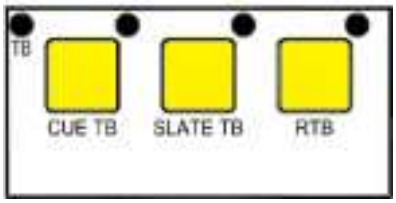
Overview

The talkback function on the 8424 enables three-way communication between the engineer, producer and the performers. The 8424-talkback microphone and talkback master level control are located at the top of the console, in between the two VU meters. When talkback is engaged, the monitors in the control room are dimmed to allow for clear communication. The **DIM** level is set by the **TB DIM** control above the Control Room Monitor Level controller.



Talkback controls

The talkback buttons are located beneath the control room monitor section of the console. The **CUE TB** and **SLATE TB** switches are momentary and must be held to enable talkback. **RTB** is latching and must be switched on or off. Talkback dim is controlled by the **TB DIM** trim pot in-between the **AFL/PFL** and **DIM** pots. This trim pot runs from 0 to -35dB and will affect the **CUE** bus level when talkback is engaged, similarly it will affect the **AUX 2** and **AUX 3** bus if talkback to **AUX 2** and **AUX 3** is engaged via the services screen.



Talkback Trim Pots

Talkback level to all destinations can be adjusted by using the TB trim level pots with a small flat-head screwdriver. The top left hole labelled **TB** adjusts the external talkback feed to the XLR at the rear of the console. This connection can be used to feed external talkback systems, if signal into the external system is too hot, the TB trim can reduce talkback output accordingly. The next hole adjusts the talkback level to the cue bus followed by the slate talkback level trim. The final hole to the far right-hand side is used to trim the return talkback signal. The trim pots are the final level attenuators for talkback to the associated destination Post **TB LEVEL** master.

CUE Talkback

The **CUE TB** Routes the talkback microphone signal into the cue mix bus. When engaged, the **ST CUE** mix level will be dimmed by -21db to enable clear communication between the engineer and the performers. This Talkback dim level can be adjusted by using the **TB DIM** trim pot next to the master **DIM** pot. The **DIM** button will flash to indicate **TB DIM** active. The cue talkback level can be adjusted with the trim level control to the top right of the **CUE TB** button and the talkback master control.

Slate Talkback

SLATE TB can route the talkback microphone signal to channel Direct Outputs, Group 1-4 Direct outs and Stereo Mix bus outputs depending on which services screen option is selected. This function can be used to identify takes by recording the engineers voice directly to tape/DAW. The slate talkback level can be adjusted with the trim level control to the top right of the **SLATE TB** button and the talkback master control. Slate to Direct outputs, Group outputs and Mix outputs must be activated independently from the services screen in **TB>SL DIR OP: [Y], SL GRP OP: [Y]** and **SL MIX OP: [Y]**

Return Talkback

The **RTB** switch activates the signal path of the studio live room return talkback microphone. **RTB** is latching and can remain on throughout the session. This function enables two-way communication between the engineer and instrumentalists who may not have a vocal microphone in the studio live room. Return talkback is connected via an XLR connector on the rear of the console. The return talkback level to both **M2 LS** outputs and the **RTB O/P** XLR can be adjusted with the trim level control to the top right of the **RTB** button.

Further information on Return Talkback Options can be found on page 47

In order for the RTB button to function, Return Talkback must be activated from the services screen under TB>RTB ENABLE: [Y]

Talkback Footswitch

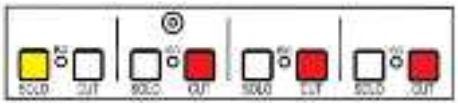
The 8424 Console also has a talkback on/off footswitch control that is accessed via the **DC REMOTES** D-sub connection on the back of the console (Pin 4). Once connected the footswitch will run parallel to the **CUE TB** on the console surface. **CUE TB** and **DIM** will flash to indicate engineer external talkback active.

Further information on DC Remote pin outs can be found on page 49

Solo Modes

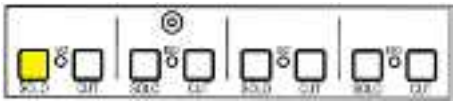
The 8424 console has three solo modes, each solo system offers professional signal isolation derived from Neves large-format studio consoles. Each solo mode works differently while allowing users to listen to console signal sources in isolation.

SIP Solo-in-Place

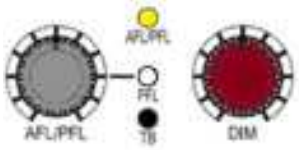


Solo in place is the 8424 default solo mode. **SIP** is destructive, any channel solo will mute all other console channels. **SIP** sends the soloed channel signal through the stereo mix bus. All 24 channels 4 mono groups can be soloed-in-place as well as console inputs 25-48 when in 48-Mix mode. Solo in place is useful when mixing, as it allows engineers to hear exactly how a signal sounds in-place within the stereo field, including channel processing, Pan, Fader Level, Aux, Cue sends and Routing assignments. Since Solo in place is routed through the Stereo Mix bus, all stereo mix processing is active and retained while soloing.

AFL After Fader Listen



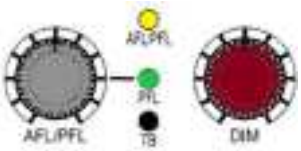
After fader listen is activated by pressing **SOLO SAFE** in the global console controls section of the 8424 or on a channel by channel basis by activating **ISO**. **AFL** is Non-destructive, meaning that any soloed signal does not mute other console signals. **AFL** uses its own stereo bus, separate from the stereo mix bus, the **AFL** bus also uses voltage mixing through Marinair® transformers allowing for accurate soloing. The master **AFL** Level control located in the control room monitor section of the console and sets the master **AFL** level to be fed to the headphones and stereo mix bus. **AFL** is useful when recording, as any **AFL** soloed signal does not mute other channel signals, therefore not affecting the recording Direct Outputs or **AUX/CUE** sends. **AFL** signals are routed to the **AFL** bus after the channel fader and pan, allowing for accurate stereo imaging and level when soloing.



PFL Pre Fader Listen



Pre fader listen is Activated by pressing **SOLO SAFE** in the global console controls section of the 8424 and then pressing the **ALF/PFL** level pot**.** (or on a channel by channel basis by activating **ISO**). **PFL** is Non-destructive, meaning that any soloed signal does not mute other console signals. **PFL** signals are routed thorough the **AFL** bus in the same way as **AFL** solos but with the key difference of not including fader level and pan position. Any **PFL** signal will be heard in Mono and at the incoming channel signal level set by the Trim Pot. Since **PFL** listens to the consoles incoming signal before it is processed by any channel inserts and attenuated by the channel faders it is very useful for preparing to record by auditioning incoming signal levels, adjusting channel strip trim levels and preamp/DI gain levels. PFL is also very useful for quickly identifying problem signals within a mix session such as feedback or distortion.



Global Solo Controls

All three solo modes can be switched between Latching or Momentary modes from the console Services Screen –
MAST>SOLO: [LATCH]/[MOM]

Latch mode –

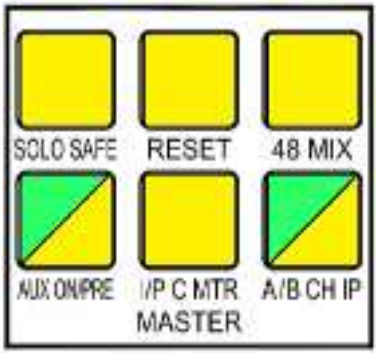
Affects **SIP/AFL/PFL** and is the 8424-default solo switch setting. This setting allows for multiple console signals to be pressed and soloed at the same time. Solos will remain on until the engineer deselects the solo switch on each soloed channel or by pressing the **RESET** button in the global console controls section of the 8424.

Momentary mode –

Selected from the services screen **MAST>SOLO:[MOM].**

Momentary mode affects **SIP/AFL/PFL**. In Momentary mode, when a solo is pressed, it must be held to remain soloed, when the operator lets go of the solo button, the solo is automatically cancelled.

Master Controls



The 8424 Master controls enable global switching of channel, solo and channel/cue input settings.

SOLO SAFE

Globally switches all channels and groups from **SIP** (Solo In Place) to non-destructive **AFL/PFL** (After-fader Listen or Pre-fader listen) mode. When solo safe is Illuminated, any solo button on the channels and groups becomes non-destructive **AFL/PFL.**

RESET

Wipes any active console solo, does not affect **ISO**.

48 MIX

A unique 8424 function that enables 48 individual inputs to be mixed through the console simultaneously. Pressing **48 MIX** changes several routing options on the console.

- All channel **CUE** inputs are set to **I/P C**
- All **CUE** sends are switched **ON**
- The **SIP** Solo system is linked to the **CUE** along with the channel faders.
- **CUE BUS** is selected, routing all channel **CUES** to the Stereo Mix bus.

The console is now set to receive and mix up to 48 DAW interface outputs through its Stereo Mix bus with inputs 1-24 appearing on the channel faders and pan controls and inputs 25-48 appearing on the **CUE** level and pan controls.

More information on 48 Mix mode can be found on Page 53.

AUX ON/PRE

When illuminated **Green,** pressing each AUX master knob now globally toggles all channel **AUX**'s **1, 2, 3** or **ST CUE** on or off. When illuminated **yellow**, pressing each AUX master knob now globally toggles the selected channel **AUX's 1, 2, 3** or **ST CUE** between Post-fader and Pre-fader state.

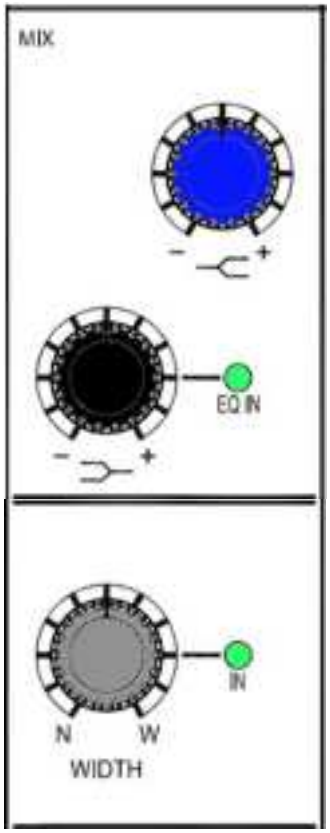
IPC MTR

This function allows for accurate metering of all Input C (DAW inputs 25-48). **IPC MTR** Globally switches the 8424 channels 8-stage LED Meters to display Input C DAW Interface Outputs 25-48 incoming levels.

A/B CH IP

This function globally selects the channel inputs from either **Input A** (DAW interface outputs 1-24 or **Input B** channel Line inputs. Global switching functions in the same way as local **A/B** switching.

Stereo Mix Processing



Overview

The 8424 Stereo Mix bus features two Neve classic Marinair® transformers for high-headroom, voltage mixing. Two XLR outputs labelled **MIX O/P** on the rear of the console allow for recording the consoles final Stereo Mix by patching into the DAW, tape machine or external recording device.

E.Q

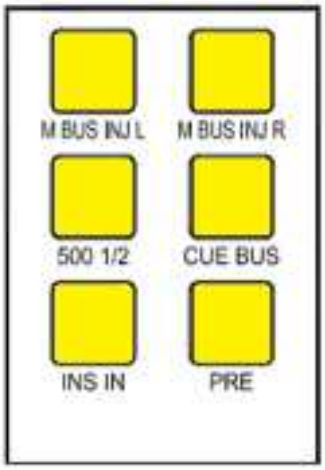
The Stereo Mix fader has its own 2 band shelving EQ. The high shelf centre frequency of 10kHz and low shelf centre frequency of 220Hz can both be boosted or cut by + or – 12dB. The low shelf push-activation knob can be pressed to activate the EQ circuitry onto the Stereo Mix bus. **EQ IN** will illuminate when the EQ is active.

Stereo Width

The 8424 console features Neve's proprietary stereo width control function on the Stereo Mix bus. This function uses phase to widen the stereo image. This push-activation pot can be pressed to activate the stereo width function and the **IN** light will illuminate to indicate if the circuitry is active.

The pot will select between a narrow mono image when turned fully counter-clockwise, stereo at the 11 o-clock position and a wide, enhanced stereo image when turned fully clockwise. This feature is very useful to enhance and add width to minimal, acoustic mixes with limited signal sources.

Stereo Mix Routing



Overview

The Stereo Mix routing buttons activate insert points and routing paths for the Stereo Mix bus.

M BUS INJ L/R

Allows an external signal to be independently blended into the master Left and right bus via XLR connectors on the rear of the console.

500 1/2

This function routes the 500 series modules as pre-fade, pre-processing inserts into the Stereo Mix Bus.

CUE BUS

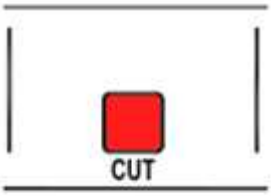
Routes the cue bus into the Stereo Mix bus. This function allows for 48 inputs to be mixed simultaneously into the Stereo Mix output. (1-24 channel **Inputs A/B** and 24-48 **Input C** to **ST Cue** bus). This button is automatically activated when **48 MIX** is pressed.

More information on 48 mix mode can be found on Page 53.

INS IN

Activates the Stereo Mix insert circuit, the stereo insert is routed via two XLR sockets on the rear of the console labelled **MIX INS SEND** and **MIS INS RET.**

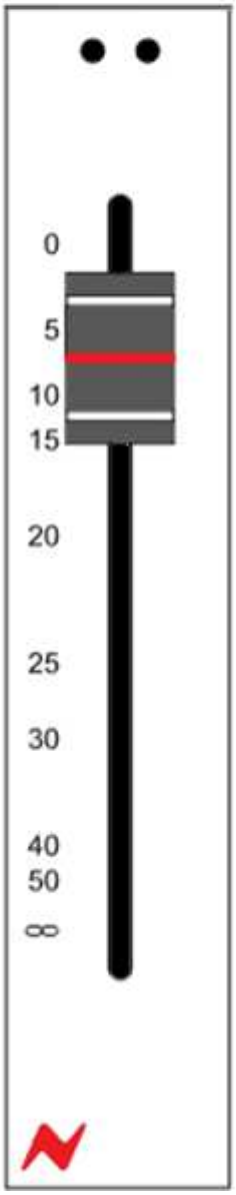
Note – The Mix insert send is always active, this can be used as a second pre-fade (if PRE is selected) or post-fade (is PRE is not selected) Stereo Mix output from the 8424.



PRE- sets the Master mix hardware insertion point to pre fader (see table below)

Stereo Mix Output Signal Path

If PRE is selected	If PRE not selected
500 series units	500 series units
Hardware insert	2 band EQ
2 band stereo EQ	Stereo Width Control
Stereo width control	Master Cut
Master Cut	Master Fader
Master Fader	Hardware insert
Mix O/P L/R XLR	Mix O/P L/R XLR

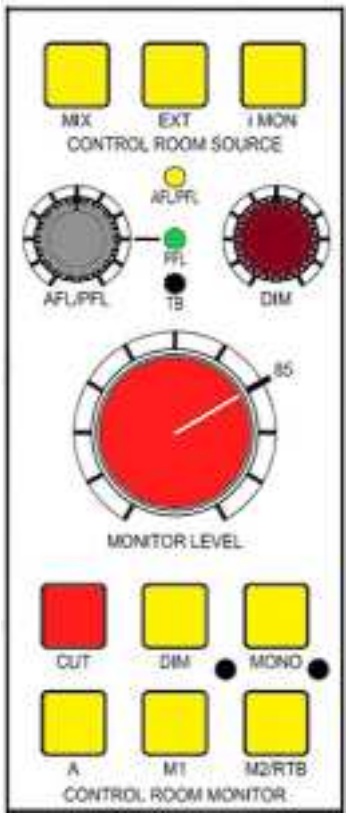


Master Fader

The 8424 Stereo Mix fader is a 100mm precision stereo fader that controls both the Left and Right outputs of the console.

The master **CUT** will mute the master mix bus from the control room monitor audio path.

Control Room Monitor



Overview

The Control Room Monitor section of the 8424 gives total control of the Stereo Mix monitoring outputs and is the loudspeaker output attenuation control for the 8424 console. The monitor section of the console is positioned in the centre to allow easy access to the essential controls.

Monitor source selection buttons can be found at the top of the control room source section. **AFL/PFL** solo level control, **DIM** level and monitor level knobs are also located here along with monitor output selectors, **CUT**, **DIM** and **MONO** buttons.

There are three possible stereo loudspeaker outputs from the console; **A, M1** and **M2**. The **M1** and **M2** monitor output levels can be independently calibrated to match the **A LS** output level by using the trim screw points next to **M1** and **M2** speaker selection buttons.

Control Room Source

MIX selects the main Stereo Mix bus, post-master fader as the control room audio source.

EXT selects the external stereo input as the control room audio source, used for listening to reference tracks or monitoring any external audio sources.

i-MON selects the 3.5mm Jack input as the control room audio source. The minijack can be found underneath the console armrest, next to **DI I/P 1**.

Monitor Level Controls

MONITOR LEVEL - A precision rotary controller to attenuate the console loudspeaker outputs. Perfectly tracks the stereo image at any listening level.

AFL/PFL - Uses Marinair® Transformers to give accurate AFL voltage soloing and can be boosted by 10dB. **ALF/PFL** sets the level for the non-destructive solo bus of the console. Both **AFL** and **PFL** solo modes are activated either on a channel by channel basis by Isolating selected channels or by pressing the **SOLO SAFE** global function. Once pressed, any channel solo button will now be **AFL**, unless the **AFL/PFL** pot is pressed and the **PFL** light is lit. Reverb returns and **AUX** masters are **AFL** by default.

TB DIM - Sets the amount that the **CUE** bus and optional **AUX** 2 & 3 busses are reduced by when **CUE TB** or producer return talkback is active.

DIM POT - Sets the amount the Control Room Monitor level is reduced by when the **DIM** button is pressed.

CUT -Mutes the console **LS** outputs.

DIM - Reduces the loudspeaker output of the console by the amount set by the **DIM POT,** displays as a solid light when dim is pressed, flashes if **CUE TB**, Producer **RTB** or the talkback footswitch is pressed.

MONO - Sums the left and right loudspeaker outputs of the console into a mono signal which is then fed to both the Left and Right speaker outputs equally.

A - Routes the control room monitor audio path to the speaker output **A LS O/P** XLRs on the rear of the console.

M1 - routes the control room monitor audio path to the speaker output **M1 LS O/P** XLRs on the rear of the console.

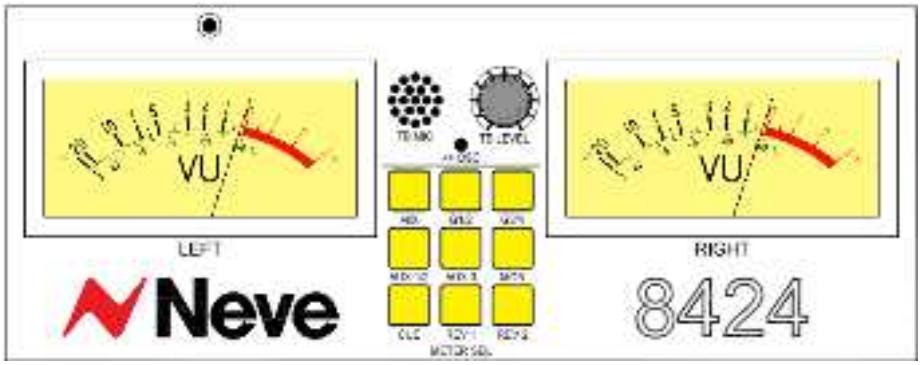
M2/RTB - routes the control room monitor audio path to the **M2 LS O/P** speaker output XLRs on the rear of the console. **M2** has the added feature of having Return Talkback capability, the **RTB** signal from the live room can be routed through the console into the **M2** XLR outputs. When **RTB** is engaged, the signal is fed directly into **M2** monitors, this allows for quick communication between the live and control room.

TB DIM - Trim calibration point allows for setting attenuation of the cue mixes when talkback is engaged. It runs from 0 to - 35dB. If **DIM** is also engaged, the attenuation levels are multiplied together.

VU Meters

Overview

The 8424 console features 2 large backlit VU meters which display level in



Volume Units. The VU meters can be used to monitor a number of different console signal sources.

Meter Select

MIX - Selects the Stereo Mix output as the VU meter signal.

G1/2 - Selects Group 1 (Left) and 2 output (Right) as the VU meter signal.

G3/4 - Selects Group 3 (Left) and 4 output (Right) as the VU meter signal.

AUX 1/2 - Selects AUX 1 (Left) and Aux 2 (right) bus as the VU meter signal.

AUX 3 - Selects AUX 3 (Left) mix bus as the VU meter signal

Aux 1/2 and AUX 3 - together shows the Left (AUX 3) and right (AUX 2) Cue Mix 2 signal.

MON - Selects the control room monitor Left and Right output as the VU Meter signal.

CUE - Selects the Left and Right cue Mix bus output as the VU Meter signal.

REV 1 - Selects stereo reverb return 1 as the VU Meter signal.

REV 2 - Selects stereo reverb return 2 as the VU Meter signal**.**

Services

The 8424 Services screen allows users to globally select master controls, engage Talkback and reverse talkback options controls and access and assign the oscillator functions.

The services screen is a 16-character digital display that shows the top menu titles **MAST, TALK, OSC, SYSTEM**. The buttons allow access to each control.

- Returns to the top title menu.
- Scrolls forwards through menu options one at a time.
- Scrolls backwards through menu options one at a time.
- Enters the four main menu tabs and activates selected parameters.

CTRL - Enables secondary functions. Pressing CTRL + will jump to the beginning or end of the selected menu options.

Master Options

MIX – Globally routes channels to the stereo mix bus.

MIX PAN – Globally activates channel **PANS.**

GRP 1 – Globally routes channels to group 1.

GRP 2 – Globally routes channels to group 2.

GRP 3 – Globally routes channels to group 3.

GRP 4 – Globally routes channels to group 4.

ZERO IP A – Globally resets all channel Input A DAW Interface outputs to unity gain.

ZERO IP B - Globally resets all channel Input B Line Inputs to unity gain.

SOLO: [LATCH]/[MOM]– Switches the console solo system from latch to momentary. Console default is **LATCH**

ILM: [Y]/[N] – IN Line Mode – Globally selects **Input A** to return on console **Input C** via the **ST CUE** controls.

See page 54 for more information on In line Monitoring.

INS IN – Globally activates channel inserts.

INS I/P C – Globally assigns channel inserts to Input C.

CUE PAN – Globally activates channel ST Cue Pans.

GRP PAN – Globally activates channel Pan to Groups.

DIR PRE – Globally routes channel Direct Outputs as pre-fader.

CUE GRP – Globally routes channel Cue stereo outputs to group 3&4.

GRP 1 PRE [Y]/[N] – Routes Group 1 Direct Output pre-fader.

GRP 2 PRE [Y]/[N] – Routes Group 2 Direct Output pre-fader.

GRP 3 PRE [Y]/[N] – Routes Group 3 Direct Output pre-fader.

GRP 4 PRE [Y]/[N] – Routes Group 4 Direct Output pre-fader.

IPA>DIR [Y]/[N] – Routes channel 1-24 Direct Output from the Input A DAW Interface outputs. This is useful for printing stem tracks back into the DAW. The default channel Direct Output is Input B.

Talkback options

TB AUX2 [Y]/[N] – Routes Talkback into AUX 2 buss.

TB AUX3 [Y]/[N] – Routes Talkback into AUX 3 buss.

RTB COMP [Y]/[N] – Activates the Return Talkback Compressor.

RTB +48 [Y]/[N] – Activates the Return Talkback Phantom power.

RTB ENABLE [Y]/[N] - Activates Return Talkback.

SL DIR OP [Y]/[N] – Routes Slate to all Channel Direct Outputs.

SL GRP OP [Y]/[N] – Routes Slate to all Group Direct Outputs.

SL MIX OP [Y]/[N] – Routes Slate to the Stereo Mix Output.

Oscillator Functions

OSC DIR [Y]/[N] – Routes the Oscillator to the Channel Direct Outputs.

OSC GP [Y]/[N] – Routes the Oscillator to the Group Outputs.

OSC MIX [Y]/[N] – Routes the Oscillator to the Stereo Mix Output.

OSC SL TB [Y]/[N] – Routes the Oscillator to the Slate TB Output.

System

SAVE –Saves current console state to the 8424 internal memory **See Page 41**

LOAD – Loads a console store from the 8424 internal memory **See page 42**

DHCP: [Y/N] – for use when preforming firmware updates from the Neve Updater App. **DHCP [Y/N**] Sets an automatically assigned IP address for when connecting the 8424 to the computer via a network switch. Selecting **[Y]** will allow a connected network DHCP server to assign an automatic IP address to the 8424 that will be recognised by the Neve Updater app.

SET IP: Sets a manual IP address when connecting directly from 8424 to computer using CAT5/6 cable.



Manual address is set my using the ◀ and ▶, **ENTER** and **CTRL** buttons. Select each triple digit Section of the IP address until the desired IP address number is reached.
ENTER toggles through plus 1 digit at a time

ENTER + CTRL toggles through minus 1 digit at a time

CTRL+ ▶ toggles through plus 10 digits at a time

CTRL + ◀ toggles through minus 10 digits at a time

Once the entire address has been entered, select **YES** to enter the Manual IP address. This IP address will be recognised by the Neve Updater App.

RESET DESK CONFIRM [OK] – resets the console back to its factory default start up setting, wiping any solo, routing and input trim setting. This option gives a five second countdown before reset is enacted. Pressing any key during this countdown will cancel the reset procedure.

Recall Store System

Overview

One of the main drawbacks of analogue console workflow is the long and arduous process of recalling console settings, fader positions and pot positions. On larger consoles, this process can take a very long time and can slow down the creative process. The 8424's internal Recall feature allows operators to save and load console switch settings, fader positions and hard pots within the 8424 internal memory. 8424 settings can be saved and recalled on a session-by-session basis enabling a fast, analogue console workflow that takes advantage of all features while remaining creative, efficient and productive.

Save

The console save option scans all console settings and stores them in the 8424's internal memory. There are 99 available console stores that can be used to save console settings for different projects. Each store is numbered **[1]** to **[99].** A quick way to associate a recall store with a DAW project session is to include the Recall store number in the saved DAW project name.

Example–

ProTools mix – Recall Store [90]

Logic session – Recall Store [2]

Vocal overdub session – Recall Store [1]

To save a Recall Store –

- **Enter SYSTEM menu and select [SAVE]**



The following window will appear –



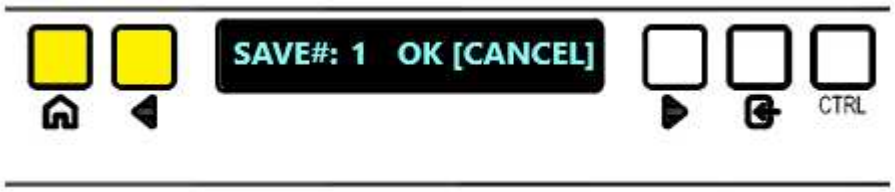
- **Choose a Console store [1] to [99] clicking ENTER or to toggle 10 at a time press CTRL + ENTER.**
- **Use the navigation arrows to select [OK]**



Once pressed, a 5 second countdown will begin while the console panels are preparing to save settings.



- **If you do not wish to save over the selected store, either press the HOME button or select CANCEL**



Once the save process is complete, switch settings, channel trims, pot positions, and fader levels are now stored, along with the master section switch settings, pot positions and fader levels.

8424 settings exempt from the console store –

- **Talkback Level**
- **Solo Settings**
- **Control room Monitor CUT**
- **1073 1 Trim**
- **1073 2 Trim**
- **Instrument DI 1 Level**
- **Instrument DI 2 Level**
- **Master menu settings (except IPA> DIR, ILM, SOLO [LATCH/MOMN], GRP 1 PRE, GRP 2 PRE, GRP 3 PRE, GRP 4 PRE)**
- **TB menu options**
- **OCS Menu Options**

Once saved, the services screen will revert to the top title menu.

Load

The load option allows users to select any of the 99 Recall Stores to recall. Loading a Recall store will overwrite the current console switch settings automatically, the user can then choose to recall the hard pots and fader settings or to leave them in their current state. Stores can only be loaded from an active recall save file, if there is no data stored on the selected store number, the load process will not begin.

The MONITOR CUT will always activate after loading a console snapshot as a safety feature.

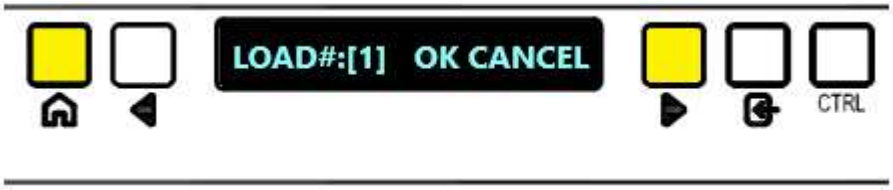
To load a Recall Store –

- **Enter SYSTEM menu and select [LOAD]**

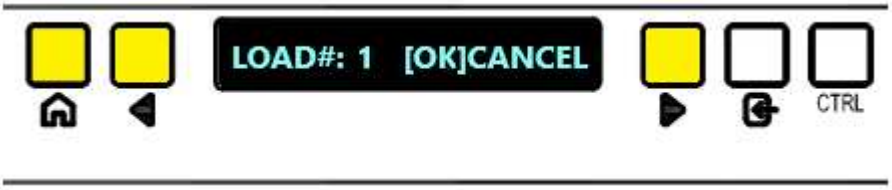


The following window will appear –

- **Choose a Recall Store from [1] to [99], toggle through stores by pressing ENTER, or to toggle 10 at a time press CTRL + ENTER.**



- **Once the selected store is found, use the navigation arrows to select [OK]**



Once pressed, a 5 second countdown will begin while the console panels are preparing to load settings.



- **If you do not wish to save over the selected store, either press the HOME button or select CANCEL**



Once the countdown is complete, the console snapshot will be automatically loaded, this includes all console soft-switch settings such as mutes, routing, aux on/off pre/post state and input trim settings.

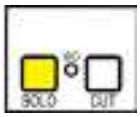
Once the Snapshot loads (following a 2 second delay), the Recall store load process will prompt the user to begin the recall procedure.

- **Select [OK] to begin the recall procedure. If hard pot/fader recall is not required, select [CANCEL]**

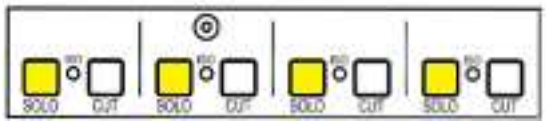


Auto Scan

The Recall auto scan starts once OK has been pressed. This procedure automatically scans all console pots and faders from channel 1 to 24. Settings are read from the top of each channel strip downwards, scanning from **ST CUE PAN** down to the channel **FADER**.



Each channel strip **SOLO** will light up as the channel strip settings are automatically scanned.



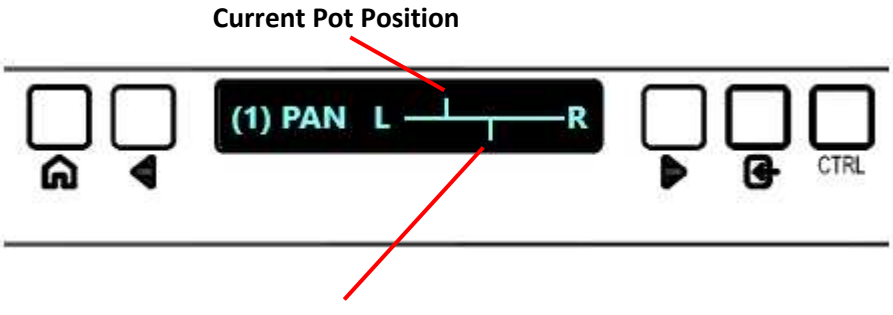
This process is repeated for all 24 channels and then the master section is scanned. All four group **SOLOS** will illuminate as the master section is being automatically scanned.

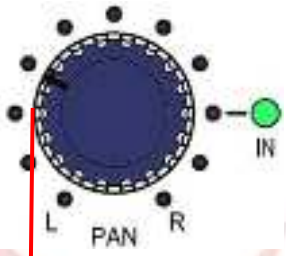
The auto scan procedure scans the entire console 3 times, this ensures total accuracy and compensates for any manual pot/fader motions entered by the operator during the auto scan process.

When the auto scan process finds a pot that is out of position from the Recall Store saved position, the service window will display the channel number **(1)** first, followed by the parameter name (in this example – **PAN)** on the left side of the screen. The right side of the screen will display a horizontal line with two attached vertical lines. **L** and **R** represent the Left and Right pan pot directions.

The Top vertical line represents the current pot position.

The bottom vertical line represents the Console Store Saved pot position





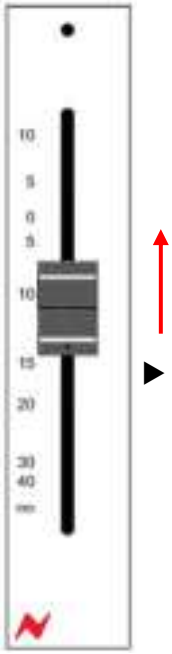
- **Turn clockwise to match saved position**

In the above example, **Channel 1 PAN** needs to be turned clockwise (Right) in order to match the saved pot position. As the pot is turned, the top vertical line will sweep across until it matches the saved pan pot position.

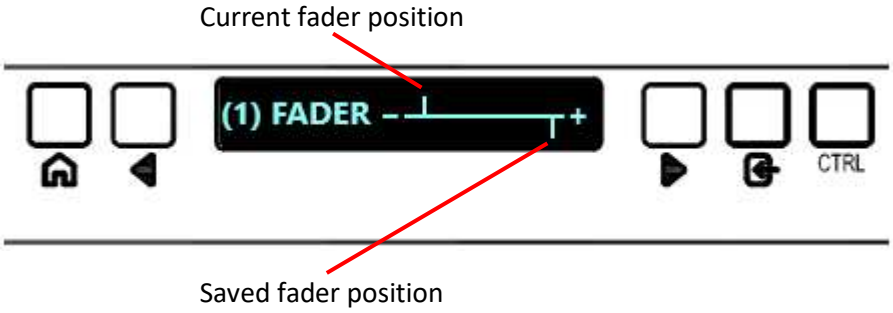
Once the pot is in the correct position **<MATCHED>** will momentarily appear on the screen.



The pot position now matches the console store. The auto scan process will continue until it discovers another pot or fader position out of place from the saved Recall store.



The example below shows a that auto scan has found a fader out of position on channel **(1)**. **-** and **+** represent fader level down or fader level up.



▶ **Move fader up to match saved position**

In the above example channel 1 fader must be moved upwards in order to match the saved fader position. As the fader is moved upwards, the top vertical line will sweep across until it matches the saved fader position.

Once the fader is in the correct position **<MATCHED>** will momentarily appear on the screen.



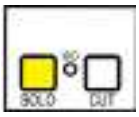
The fader position now matches the Recall store. The auto scan process will continue until it discovers another pot or fader position out of place from the saved console store.

Please take extra care when adjusting fader positions, due to the high resolution of logarithmic-scale faders, fast motions can cause the auto scan to skip this fader setting until the next auto scan cycle.

Press HOME at any time to stop the auto scan and exit recall.

Manual Recall

At any point during the auto scan process users can enter manual recall mode. This mode of operation allows users to manually recall individual channel settings or master section settings without having to auto scan and recall the entire console.



To manually recall a selected channel, simply press the channel **SOLO** button during the auto scan process. When pressed, the auto scan is stopped, and the recall program is focused only on the selected channel.

The display will now show and remain focused on the topmost channel setting (**ST CUE PAN**)

Use the ◀ and ▶ to toggle through settings in the following order –

ST Cue Pan> ST Cue Level> AUX 3 > AUX 2 > AUX 1 > PAN > Fader

If settings match, the saved setting from the console store **<MATCHED>** will show on the display.

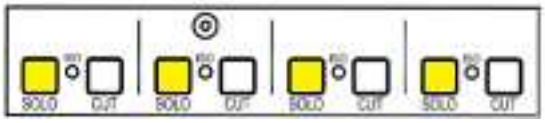


if the setting does not match, the horizontal line will appear until the pot/fader has been reset.



In Manual mode, the operator must toggle through each selected channel strip setting manually by pressing the ◀ and ▶ keys.

To select adjacent channels in manual mode press and hold **CTRL** and press the ◀ and ▶ or press the adjacent channel solo button.



To manually recall a master section setting, press any of the 4 group solo buttons.

The display will now show and remain focused on the topmost master section setting (**REV RETURN 1 LEVEL**).

Use the ◀ and ▶ to toggle through master section settings and adjust as required. Settings will appear as **<MATCHED>** or the horizontal line will appear if settings do not match the Console Store.

To exit manual mode press **CTRL** and **ENTER.** This will return the recall procedure to auto scan mode.

Press HOME at any time to stop the auto scan and exit recall.

Return Talkback Options



RTB Activation, Compression Threshold, Gain level and Phantom Power are accessed from the services screen

Overview

The 8424 includes a Return Talkback feature that can be used in three different ways depending on your studio requirements.

The Return Talkback system has its own microphone controls, Gain, Phantom power and Compressor circuit. The Mic Gain level is controlled from the **RTB GAIN** trim controller at the rear of the console. At the factory this level is set to 40dB but can be adjusted with a small flat head screwdriver counter clockwise to reduce gain, or clockwise to increase the Return Talkback Mic Gain.

The Return Talkback system has +48v Phantom power which is accessed through the services screen under **TB>RTB+48V: [Y]**

The return talkback system has its own compressor circuit which is activated from the Services screen under **TALK>RTB COMP: [Y]** The Threshold of the compressor can be adjusted with a small flat head screwdriver via the **RTB THR** controller at the rear of the console. From the factory, the threshold is set to 0dB and can be adjusted counter clockwise to reduce the threshold, or clockwise to raise the threshold.

Once the **RTB GAIN** and **RTB THR** are set, adjust the **RTB TRIM** pot at the right of the **RTB** button on the console surface to set the final return talkback microphone gain levels.

Live room Return Talkback

Live room return talkback enables seamless two-way communication between the studio live room and the studio control room. This function is particularly useful when not every performer in the live room has a microphone. With live room return talkback every performer can communicate effectively with the producer and studio engineer.

The live room Return Talkback microphone must be connected via the **RTB** XLR on the rear of the console.

This default Return Talkback mode routes the **RTB** signal into the **M2** Loudspeaker outputs. When the **RTB** button is pressed and illuminated, the return talkback signal can be monitored through any loudspeaker system connected to the **M2 LS O/P XLR LEFT & RIGHT** outputs at the rear of the console.

M2 speakers are used to listen to the studio live room independently of the control room mix on outputs **A** or **M1.** If the control room monitor signal is sent to the **M2** speaker set, **RTB** will be cancelled. **RTB** can only be activated if **A** or **M1** is selected as the control room monitor loudspeakers.

RTB must be enabled by switching the RTB system on in the services screen via **TB>RTB ENABLE: [Y].**

The RTB switch will only function once this step is completed.

Producers Sofa Mic

As an alternative, the 8424 return talkback can be used to create a second talkback feed from the control room into the live room. In this mode, the **RTB** signal is not sent to **M2,** (as is the case for the Live Room Return Talkback mode) but instead is sent to the **CUE** bus. This allows a producer at the back of the room to talk to performers by using a switchable producer microphone connected to the **RTB MIC** input along with a remote switching device connected to the **DC REMOTES** 15-Pin connection at the rear of the console. Producer Talkback mic gain and compressor settings are adjusted at the rear of the console, Phantom power is set in the services screen at **TB>RTB +48V: [Y]**

Producer talkback is unaffected by RTB TB trim.

When the Producer Mic is in use, the **CUE TB** button will flash to indicate that the producer **RTB** is active. The engineer can override the **RTB** producer mic by pressing and holding the **CUE TB** button. Producer talkback is automatically patched to the same aux and cue busses as the 8424's internal **CUE TB**, no additional patching is required. The Producer talkback will also activate the **TB DIM** in the same way as the engineer talkback system. **CUE TB** and **DIM** will flash indicating Producer return talkback active.

Engineer talkback is always the Master Talkback system.

Additional Recording Input

The Return Talkback system also has the ability of becoming an additional recording input from the live room. The Return Talkback mic in the live room is connected to the console **RTB MIC** XLR input connector on the rear of the console. This signal passes through the adjustable internal **RTB** microphone preamp and compressor circuit within the console and is routed out of the **RTB O/P** XLR connector at the rear of the console. This can then be patched manually with an XLR>¼''TRS cable back into any console channel **Input B** and mixed along with the other console channel inputs, alternatively this can be patched directly into the audio interface and recorded into the DAW.

In this mode the **RTB** circuit does not need to be activated either from the services screen or from the **RTB** button on the console surface. The mic simply needs to be patched to wherever it is required, with the phantom power, gain, compressor and **RTB TRIM** settings set appropriately.

Service Outputs (DC Remotes)

The 8424 console has a 15-Pin, 5 Channel D-Type connector on the rear of the console, Labelled as **DC Remotes.** These service outputs allow for several external control options and can be controlled by a number of custom-built remote switches or connected footswitches.

Pin 1 provides the on/off switch for producer **RTB**.

Pin 2 provides an external control for remotely activating the Monitor **DIM.**

Pin 3 provides an external control for remotely activating the monitor **CUT.**

Pin 4 provides an external control for remotely activating Engineer Talkback.

Pin 5 & 6 provide a 5v supply for the producer talkback switch.

Pin 7, 8, 9, 10, 11, 12 not in use

Service Pin outs are shown on page 67.

2T VU MTR OSC & TB

The 8424 15-pin connector labelled as **2T VU MTR OSC & TB** output provides console outputs external devices such as VU meters, external talkback systems as well as providing an external Oscillator output for use when calibrating connected audio equipment.

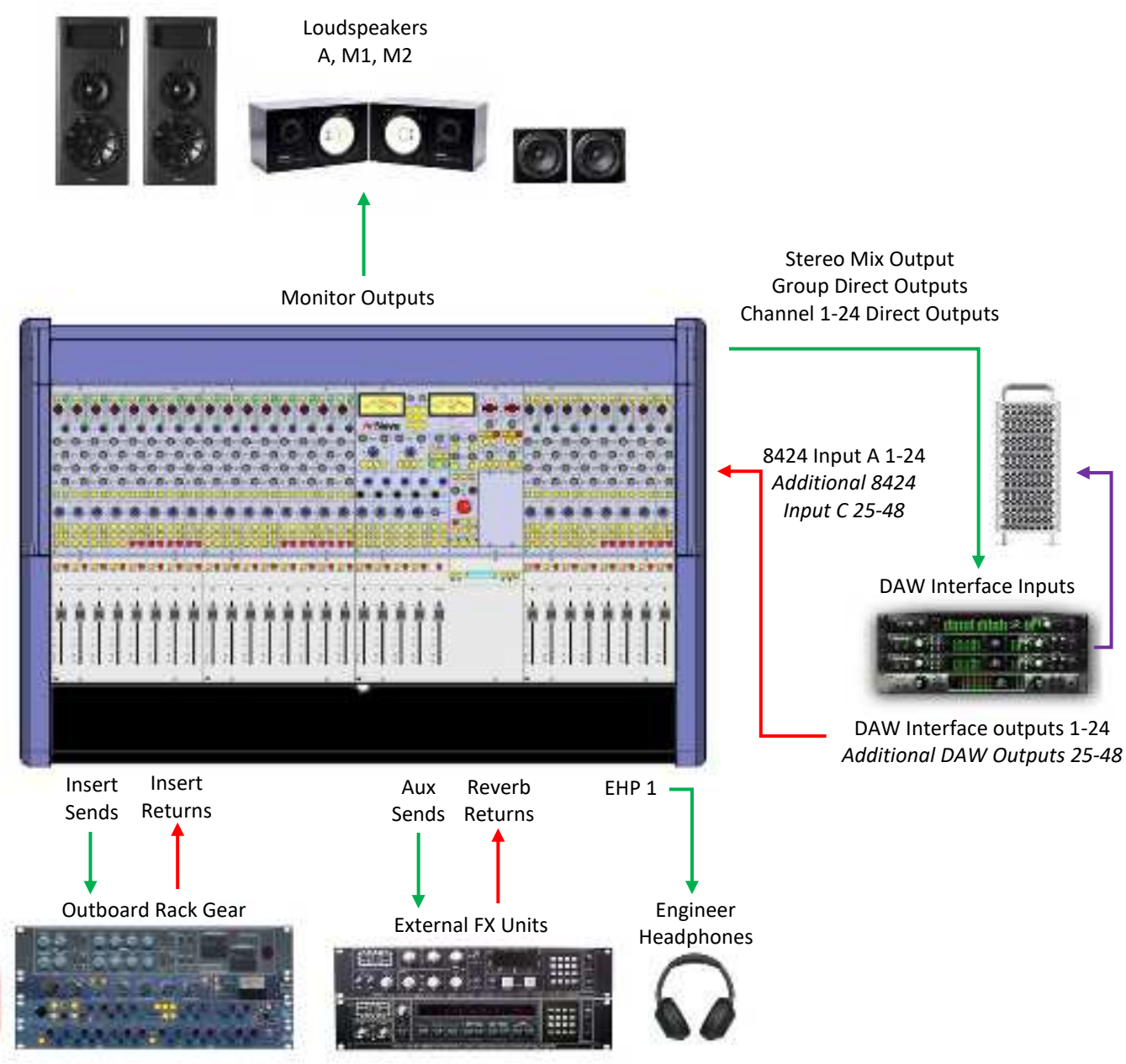
Channel 1 and 2 are for External VU meter outputs, these can be connected to any external Large VU or Linear phase VU meter. The VU trim pot located at the rear of the console allows for calibration of this external send.
Channel 3 is not in use.
Channel 4 is used as an external Talkback send, this is always active and post talkback master level control. This can be used to feed any external talkback system.
Channel 5 is used as an external Oscillator send and is set at +4dBu.

2T VU outs are shown on page 67.

Example Application - Mixing

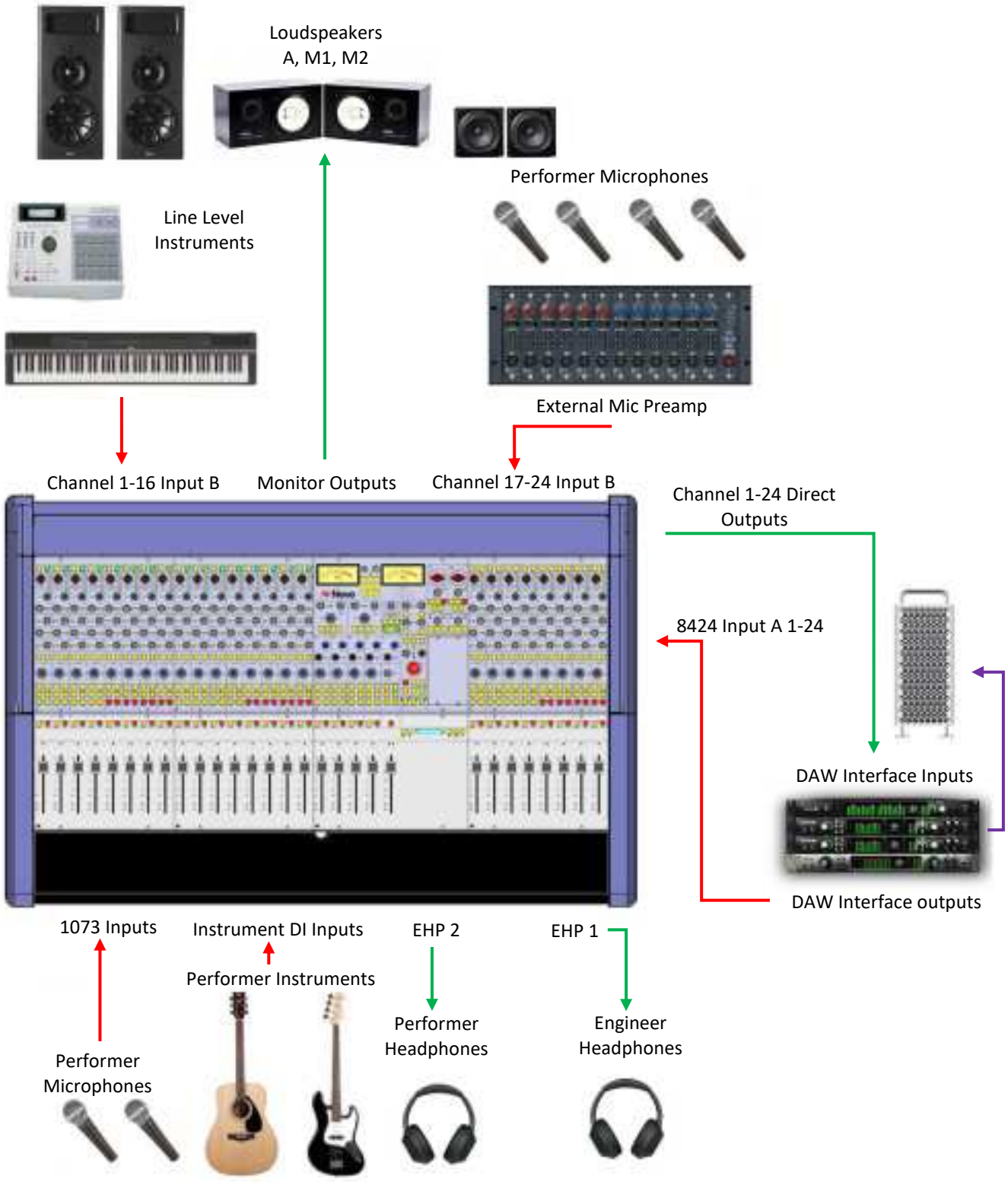
The primary input for mixing is **Input A**. This is fed via D-type connections directly into the console from the DAW Audio Interface. When 24 DAW outputs are connected via the consoles three **Input A** D-type connectors, 24 separate channels of audio can be mixed through the consoles Stereo Mix Bus, through the 4 Mono Group busses through the Group direct outputs, or bounced as individual stems back into the DAW by using the channel Direct Outputs. The 8424 has Marinair® Transformers on its Stereo Mix bus for true Voltage mixing. The processing on the master section of the console (*Group/Stereo Mix EQ's, Stereo width control, Channel, Group or master hardware inserts, 500 series inserts)* allow for versatile tone shaping of Group signals and the main Stereo Mix signal. If your session requires more than 24 mix channels, there is no need to sum multiple DAW channels into console stereo pairs. The consoles **48 MIX** mode gives the capability of mixing 48 separate channels simultaneously through the console. DAW interface Outputs 25-48 can be fed from the Audio Interface into the **Input C** D-Type connectors on the rear of the console.

More Information on 48 Mix Mode is found on page 53.



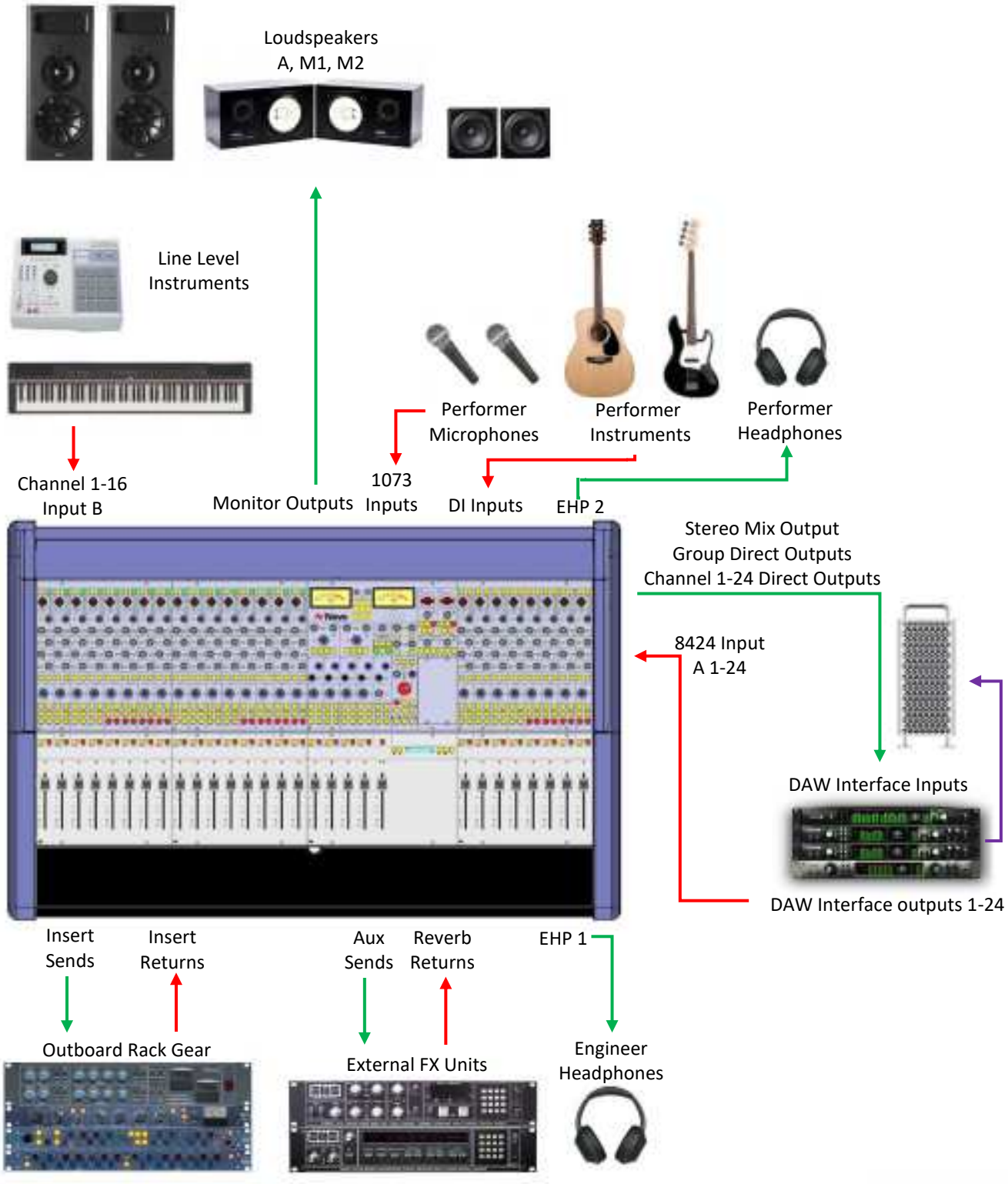
Example Application – Recording

When recording through the 8424 console, **Input B** allows individual line-level signals to be patched directly into the channel inputs via the ¼'' balanced jack connections at the rear of the console. Any external Preamp line outputs can also be patched into the console via **Input B**, allowing multiple microphone sources to be recorded through the console surface. Up to 24 channel signals are then fed through the Direct Output trim control (either pre or post-fader), through the D-Type connector on the rear of the console and back into the DAW interface inputs.
Instruments in the control room can be patched directly into the consoles two Instrument D.I inputs under the front armrest, through any optional 500 series processing and into channels 19-20 via smart routing which can then be sent via the Direct Output Trim control (pre or post-fader), through the D-Type connector on the rear of the console and patched into the DAW interface inputs. Microphone sources can be connected to the two 1073 preamps and fed to channels 17 & 18 via smart routing which can then be sent through the Direct Output Trim control (pre or post-fader), through the D-Type connector on the rear of the console and patched into the DAW interface inputs.

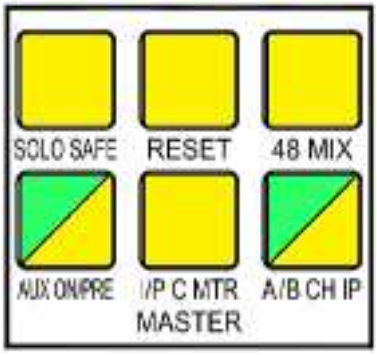


Example Application – Overdubbing

The channel **IPA/IPB** button enables fast input selection for individual channels, allowing for overdubs to be quickly performed and recorded alongside DAW return channels. Globally select **Input A** to return your previously recorded DAW tracks back through the 8424's 24 channels. Overdubs can be recorded on any chosen channel 1 to 24 by selecting **Input B** as its channel input source. The selected channel will be setup to feed the channel Direct output into the DAW ready to record an overdub track. DAW return and live overdub tracks can be monitored in the control room at the same time through the Stereo mix bus and can both be sent to the **ST CUE** output to feed performer headphones. The recorded track can be monitored In-line on the same channel strip by activating **ILM** mode or manually applying **IP/A** to the selected channels **ST CUE** bus. This allows you to check your overdub in the mix without sacrificing channels or switching from your recording Input B. In-Line mode also allows you to record with DAW plugins active, simply deselect **MIX** on the selected overdub channel and monitor the recorded signal coming back from the DAW through the **ST CUE Input A.** *More information on ILM found on page 54*



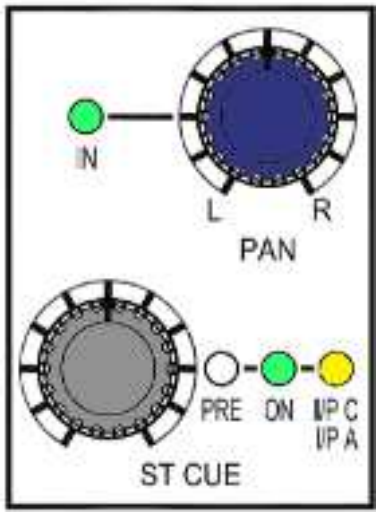
48 Mix Mode



This mode of operation doubles the channel count of the 8424 console and enables 48 separate mono DAW inputs to be mixed simultaneously. This mode splits the console into two layers - The channel faders (**I/P A**) will input DAW interface outputs 1-24 and the **ST CUE** bus uses Input (**I/P C**) to input DAW interface outputs 25-48. Additional DAW outputs can be patched from your audio interface and into **Input C** D-Type connectors at the rear of the console.

To enter **48 MIX** mode simply press the **48 MIX** button in the console master controls section. Pressing **48 MIX** activates several routing options:

- All previous **ST CUE ON** switches**, PRE/POST** state and Input selection **(I/P C, I/P A)** are overridden.
- All channel **ST CUE** inputs are set to **I/P C.**
- All **ST CUE** channel sends are switched **ON.**
- The **SIP** Solo system is linked to the **ST CUE** along with the channel faders.
- **CUE BUS** is selected, routing the **ST CUES** to the Stereo Mix fader.



In **48 MIX** mode, the Cue Master bus now becomes the master fader for all **I/P C** DAW Interface Outputs 25-48. The Cue Master bus must be switched **ON** by pressing the **CUE** master pot in the master section of the console.

Channels 1-24 **ST CUE** now become level and pan controls for DAW returns 25-48 **(I/P C).** These inputs run in-line alongside the DAW monitor returns 1-24 **(I/P A)** which are controlled by the channel fader and pan at the bottom of the channel strip.

The insert on the channel strip can be assigned to either **A** or **C** input by selecting or deselecting the **INSERT I/P C** button.

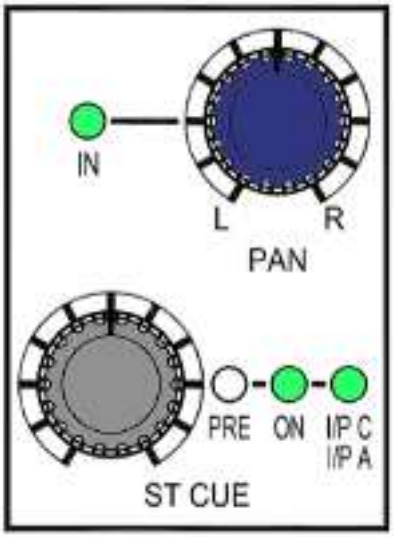
To solo DAW returns 25-48, press the **CUE** level pot, this function now no longer acts as an **ON** switch. In **48 MIX** mode pressing the Cue level pot will **SOLO** the signal and the **ON** LED will flash to indicate solo active.

Channels can be removed from **48 MIX** mode on an individual basis one at a time by pressing and holding the **ST CUE PAN** then pressing the **ST CUE** level control simultaneously. When removed, the **ST CUE** will once again function as a traditional Cue send.

Pressing **48 MIX** a second time exits **48 MIX** mode and the channel **ST CUE** sends are switched off and **Input C** is de-selected. Any channel **ST CUE**s that were individually removed from **48 MIX** mode will remain on and function as Cue sends.

As an alternative to the Cue Master bus, the cue outputs can be sent to Group masters 3&4. This option gives a second pair of master faders for DAW Interface outputs 25-48 which can be processed independently of inputs 1-24. To send 25-48 to Groups 3 & 4 globally select **MAST>CUE GRP** from the services screen.

In-Line Mode (ILM)



The 8424 is capable of functioning as an In-line studio console, with the **ST CUE** level control becoming the monitor return 'Small Fader'. This allows for simultaneous mixing of both recording line inputs **(I/P B)** on the channel faders and monitor return inputs **(I/P A)** on the **ST CUE** controls. These in-line monitor returns can either be routed to the mix via the cue bus, or to groups 3+4 which then become the master fader for any selected monitor returns.

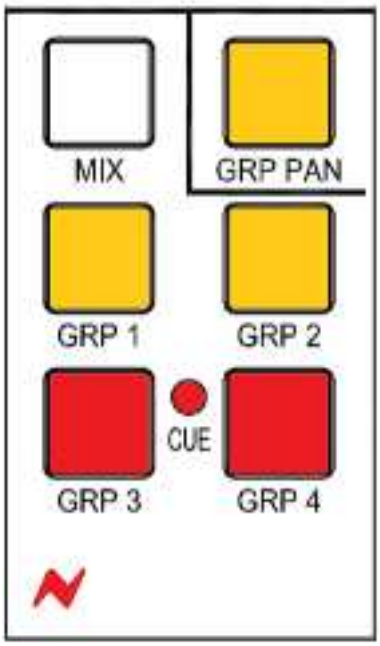
ILM works in a similar way to **48 MIX** mode, each channel **ST CUE** can select either **Input A** for DAW returns 1-24 (In Line mode) or **Input C** for DAW returns 24-48 (48-Mix mode)

To select **Input A** as the Stereo cue source-

- Press and hold the **CUE PAN** and then press the **ST CUE** controller twice. **I/P C I/P A** LED will illuminate **Green** to indicate that **Input A** is the **ST CUE** source.

To toggle between **I/P C** or **I/P A** Cue send source-

- When the **I/P C, I/P A** LED is illuminated, press and hold **A/B CH IP** at the top of the channel strip then press the **ST CUE** controller, The **I/P A I/P C** LED will illuminate **Green** to show that **Input A** is the signal stereo cue source or will illuminate **Yellow** to indicate that **Input C** is the signal source for the stereo cue send.



Alternatively,…

- In the services menu go to **MASTER>ILM: [Y]**
- This will globally select **Input A** as channel 1-24 **ST CUE** input source.

When using the console in this mode, **Input A** is routed into the channel **ST CUE** Via **Input C**. Inserts can be assigned to recording channel path **(Input B)** or to the Monitor return input path **(Input A)** via the **IP C** and **INS** buttons.

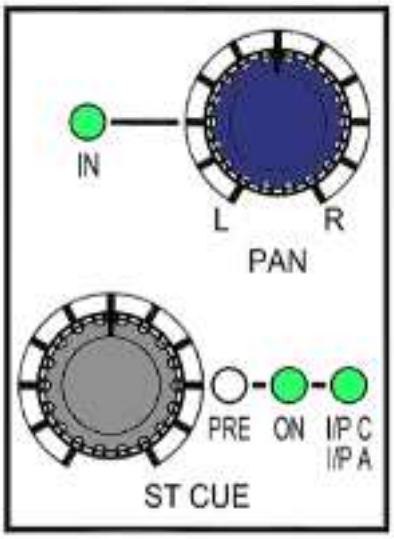
The channel **ST CUE** Level and **PAN**s now control the DAW Monitor Returns, and the channel faders and pan pots will control the recording inputs.

The monitor returns and recording inputs can be monitored through the Stereo Mix bus at the same time by pressing the **CUS BUS** button above the Master Fader. The **CUE** Master pot will now be the main level control for the monitor returns and must be pressed and switched ON.

If separate control or processing is required for the Recording or Monitor Return inputs; the monitor returns **(Input A)** can be routed through Group 3+4 by pressing and holding each **ST CUE** pan pot, then pressing the channel **GRP 3** or **GRP 4** routing button. The **CUE LED** in-between group 3 and 4 routing buttons will illuminate **RED** to indicate that the channel **ST CUE** is routed to the group rather than the channel. The **GRP 3 + GRP 4** routing buttons themselves will also illuminate **RED** when pressed in this mode. Recording inputs **(Input B)** can then be routed to groups 1+2 by pressing the **GRP 1 + GRP 2** buttons or into the Stereo Mix. Pressing **GRP PAN** will allow the channel and **ST CUE** pan pots to assign to the group routing.

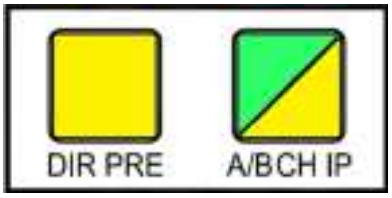
Global Cue to group routing can be activated from the services screen by selecting MASTER>[CUE GRP]

Parallel Processing



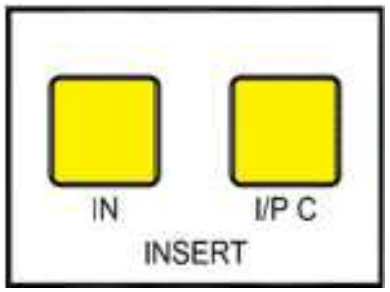
The 8424 has the capability of sending Input A (DAW interface Outputs 1-24) to two locations on the same channel strip. Both into the main channel input and into each channel **CUE** Input. This is the same function that enables In-Line Mode **(ILM).**

Since this function splits the DAW signal into each channel and sends it to both the Channel fader and to the **CUE** controls, this allows for parallel processing of mix signals by adding a hardware insert onto one of the signal paths Channel - **INS** or Cue - **INS I/P C** and leaving the other signal unprocessed. Both processed and unprocessed signals can be blended into the Stereo Mix bus independently.



To enable this function-

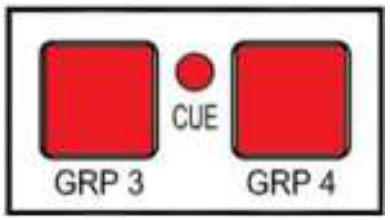
- Select channel **Input A** either on the top of the channel strip via the **A/B CH IP** button. Alternatively, this can be globally selected by pressing the **A/B CH IP** button in the master section of the console.
- Select Cue **Input A** for each channel by Pressing and holding the **CUE PAN** and then press the **ST CUE** controller twice. Alternatively, this can be globally selected by selecting **ILM** from **Services>MASTER>ILM [Y]**



The signal for each selected channel fader and **CUE** is now being fed from the same DAW interface output simultaneously. Depending on how you wish to process this, hardware inserts can be added to either the channel fader by pressing **INS,** or to the **CUE** controls by pressing **INS** and **I/P C.**

The CUE signals for the selected channels can be blended into the Stereo Mix fader signal by pressing the **CUE BUS** button above the stereo master fader.

Alternatively, the cue signals can be routed to the groups by pressing and holding the **ST CUE** Pan pot and then pressing **GRP 3** or **GRP 4** button. Group 3+4 buttons will illuminate **Red** to indicate Cue to group routing.



Unprocessed Channel and Processed Cue signals can now be blended together using both the channel faders and the **ST CUE LEVEL** controls for all 24 DAW returns. Cue to group routing can be used to parallel process large groups of DAW return signals by using the Group Insert points.

Audio Interface Setup

Interface Type & Size	Interface I/O	Console I/O
8 x I/O Audio Interface (Minimum I/O required)	**8 DAW Outputs** **8 MIX Inputs**	**8 Channels - Input A** **2 Stereo MIX, 4 Group, 2 x 1073 O/Ps**
16 x I/O Audio Interface (Capable of using most console features)	**16 DAW Outputs** **8 DAW MIX Inputs** **8 DAW Channel Inputs**	**16 Channels - Input A** **2 Stereo Mix, 4 Group, 2 1073 Outputs** **8 Channels - Direct Out**
32 x I/O Audio Interface (Recommended I/O to enable full console functionality and use of all features)	**32 DAW Outputs** **8 DAW MIX Inputs** **24 DAW Channel Inputs**	**24 Channels - Input A** **8 Channels - Input C** **2 Stereo Mix, 4 Group, 2 1073 Outputs** **24 Channels - Direct Out**

Example 1 - 8 I/O Audio AD/DA Interface

An 8 in 8 out AD/DA audio interface will allow for 8 DAW Interface Outputs patched into 8 channel inputs via Input A, as well as 8 mix outputs from the console such as main Left and Right Stereo Mix, Group 1-4 outputs and 2x Direct Outputs either from the 1073 outputs or D.I channels 19-20 direct outputs. The remaining console channels can be used as recording inputs via Input B which can be mixed through the master section along with the DAW returns and recorded back into the DAW. This simple setup will allow mixing of 8 mono or 4x stereo pairs of groups or individual DAW signals through the consoles master section and recorded back into the DAW from the Stereo mix bus or group outputs, benefiting from any channel inserts, 500 series or master section processing. The outputs from the 1073 preamps or the DI channels can also be patched directly into the interface to be recorded by the DAW.

16 I/O Audio AD/DA Interface

A 16 in 16 out AD/DA audio interface will allow for 16 DAW returns into 16 channel inputs via Input A, as well as 8 mix outputs from the console such as main Left and Right Stereo Mix, Group 1-4 outputs and 2x direct outputs either from the 1073 outputs or D.I channels 19-20 direct outputs, plus 8x direct outputs from any selected channel. The remaining console channels can be used as recording inputs via Input B which can be mixed through the master section along with the DAW returns and recorded back into the DAW or sent as pre/post fader stems via the channel Direct Outputs. This setup will allow mixing of up to 16 DAW channels along with any live instruments patched into the console via channel Input B through the consoles master section. The overdub inputs can be recorded into the DAW from the mix bus or group outputs, benefiting from any channel inserts, 500 series or master section processing. 8 stem tracks can also be sent directly from the Input B channels via the channel Direct Outputs. The outputs from the 1073 preamps or the D.I channels can also be patched directly into the interface to be recorded by the DAW.

32 I/O Audio AD/DA Interface

A 32 in 32 out AD/DA audio interface allows for full functionality of the 8424 console. with this setup, 24 DAW returns can be patched into all channel inputs via Input A, and a further 8 can be patched into Input C. This enables simultaneous summing of up to 32 individual audio channels through the console using 48 MIX mode. (a 48-output interface is required to use all 48 summing inputs). The 8 mix outputs from the console such as main Left and Right Stereo Mix, Group 1-4 outputs and 2x direct outputs from the 1073 outputs can be patched into the interface. The direct outputs from the consoles full 24 channels can now be patched into the audio interface giving full functionality as an In-line mixing and recording console. This flexible setup allows every channel to be used as either Input A DAW returns or Input B recording inputs. Users can record, mix and overdub through any of the consoles 24 channels. A choice of mixing methods is now available, such as creating individual DAW stems from any of the consoles 24 channels or using a multitude of mix bus paths to mix audio through the console surface and back into the DAW. Input C can be used to return additional DAW signals through the channel ST CUE bus.

Firmware Update Software



The Neve firmware update software can be found at [www.AMS-Neve.com >8424productpage >supporting documentation.](www.AMS-Neve.com) The software program is used to check if your unit's firmware is up to date and if necessary, perform firmware updates if required. The windows application is 32-bit software supported by windows 10. The MAC 64-bit software supports OSX Catalina 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 8424 Console. Once connected and scanned the software will prompt the user to begin firmware update if required.

To perform a firmware update-

- Set the 8424 IP address via the services screen, full instructions found on page 40 under System
- 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





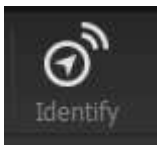
The software will update the firmware in three stages which is indicated on the progress bar.

- 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 8424 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 not in use.



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.

Abbreviations & Acronyms

48 MIX	48 Mix Mode
500 1/2	500 series slots 1/2
500-1	500 series Slot 1
500-2	500 series Slot 2
AD	Analogue to Digital Converter
AFL	After Fader Listen
CH	Channel
CUE	Cue send
CUE O/P L+R	Cue Output Left and Right
CUE TB	Cue Talkback
DA	Digital to Analogue Converter
DAW	Digital Audio Workstation
DIR	Direct output
DIR PRE	Direct output pre fader
EHP	Engineer Headphones
EXT	External
FNC	Function
GRP	Group
I MON	Ipod External 3.5mm minijack
I/P	Input
MTR	Meter
ILM	In Line Mode
INS	Insert
ISO	Isolate
INJ	Inject
L/S	Loudspeaker
M1	Monitor 1
M2	Monitor 2
O/P	Output
PFL	Pre-Fader Listen
REV	Reverb
RTB	Return Talkback
SIP	Solo In Place
ST CUE	Stereo Cue
TB	Talkback
THR	Threshold

Dimensions & Power Requirements

Console Physical / Technical Information

Height To top of LS Shelf (No Stand)	500mm/19.68 inches
Height To Top of LS Shelf (With Stand)	990mm/38.98 inches
Width (24 Channel)	1190mm/46.85 inches
Depth (24 Channel)	850mm/33.46 inches
Weight (no stand)	53kg
Weight (with stand)	64kg
Console Weight (with packaging)	84kg
Stand weight (with packaging)	12kg
Heat Dissipation	225 watts
Power factor	>0.87
Voltage	Input Voltage Range 90-240v AC Only
Current **Amps RMS 240v**	1.1A
Current **Amps RMS 90v**	2.3A
Current	Switch-On surge current - 4 amps for 7ms (average)

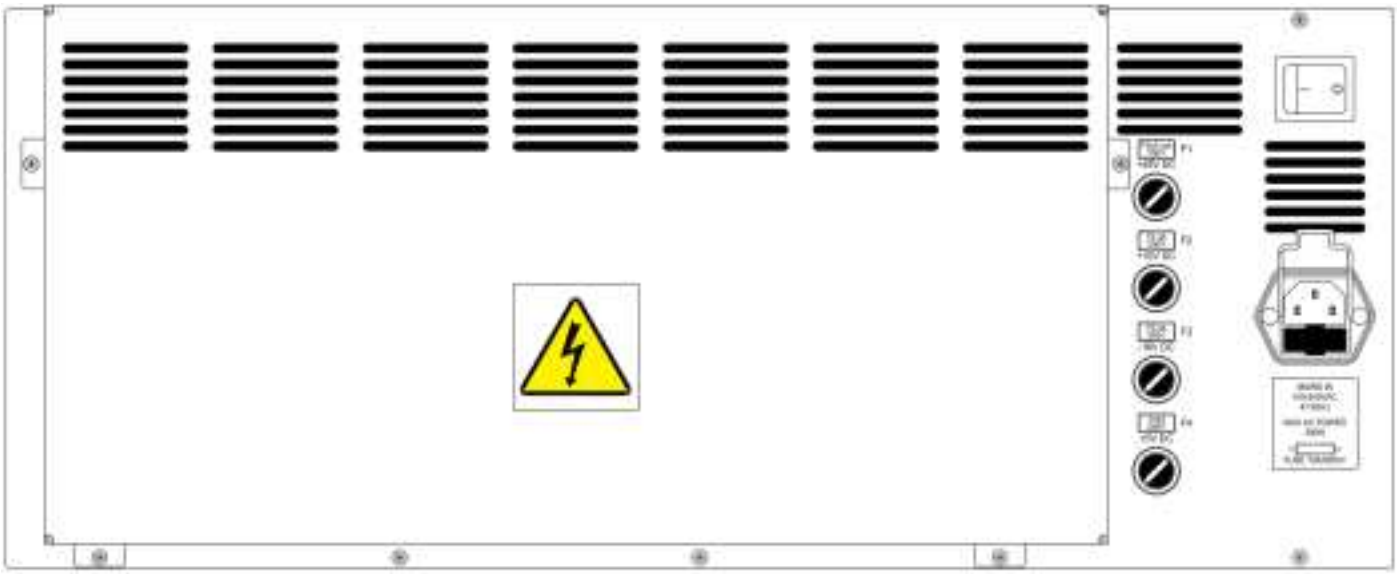
Fuse Ratings

AC Fuses	
Main IEC input fuse	T4.0A H250v
DC Fuses	
+16V	T6.3A 250v
-16V	T6.3A 250v
+5V	T16A 250v
+48V	T500mA 250v

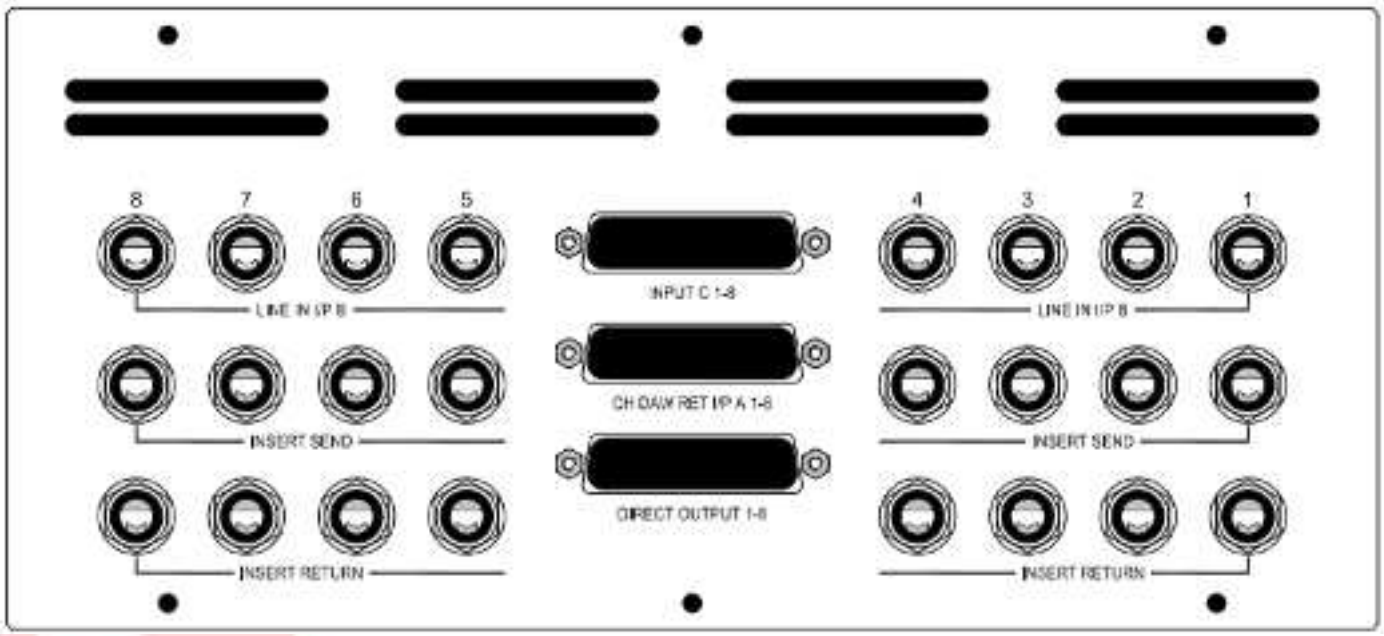
Console Rear Connections



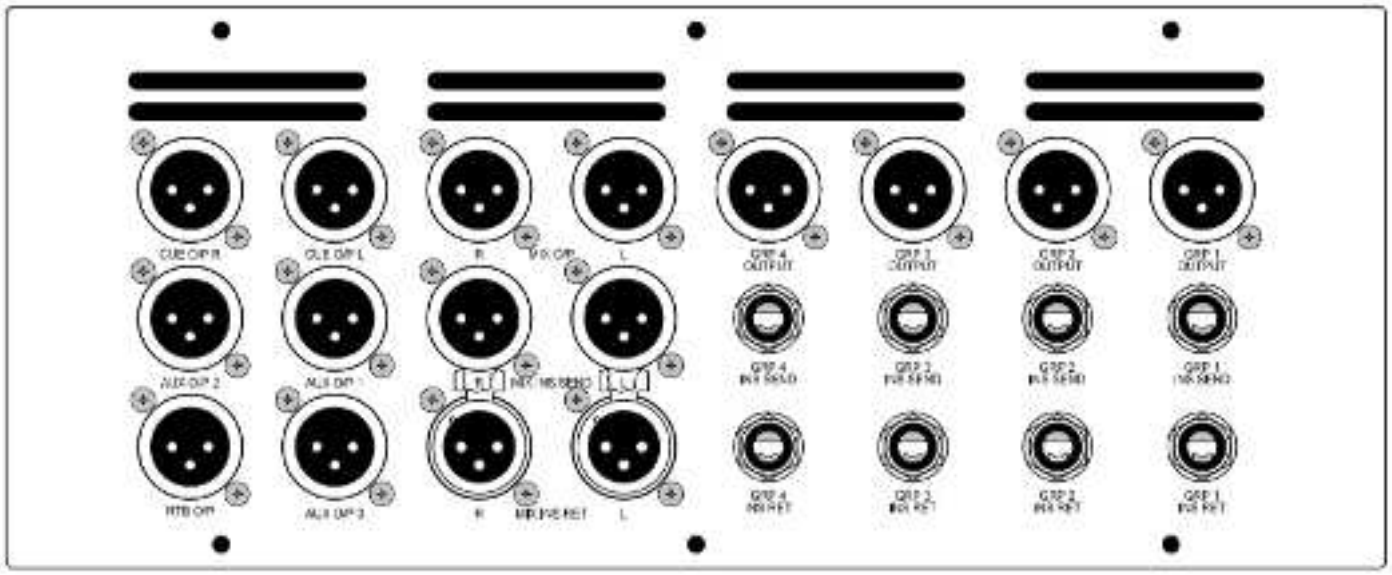
Power Unit



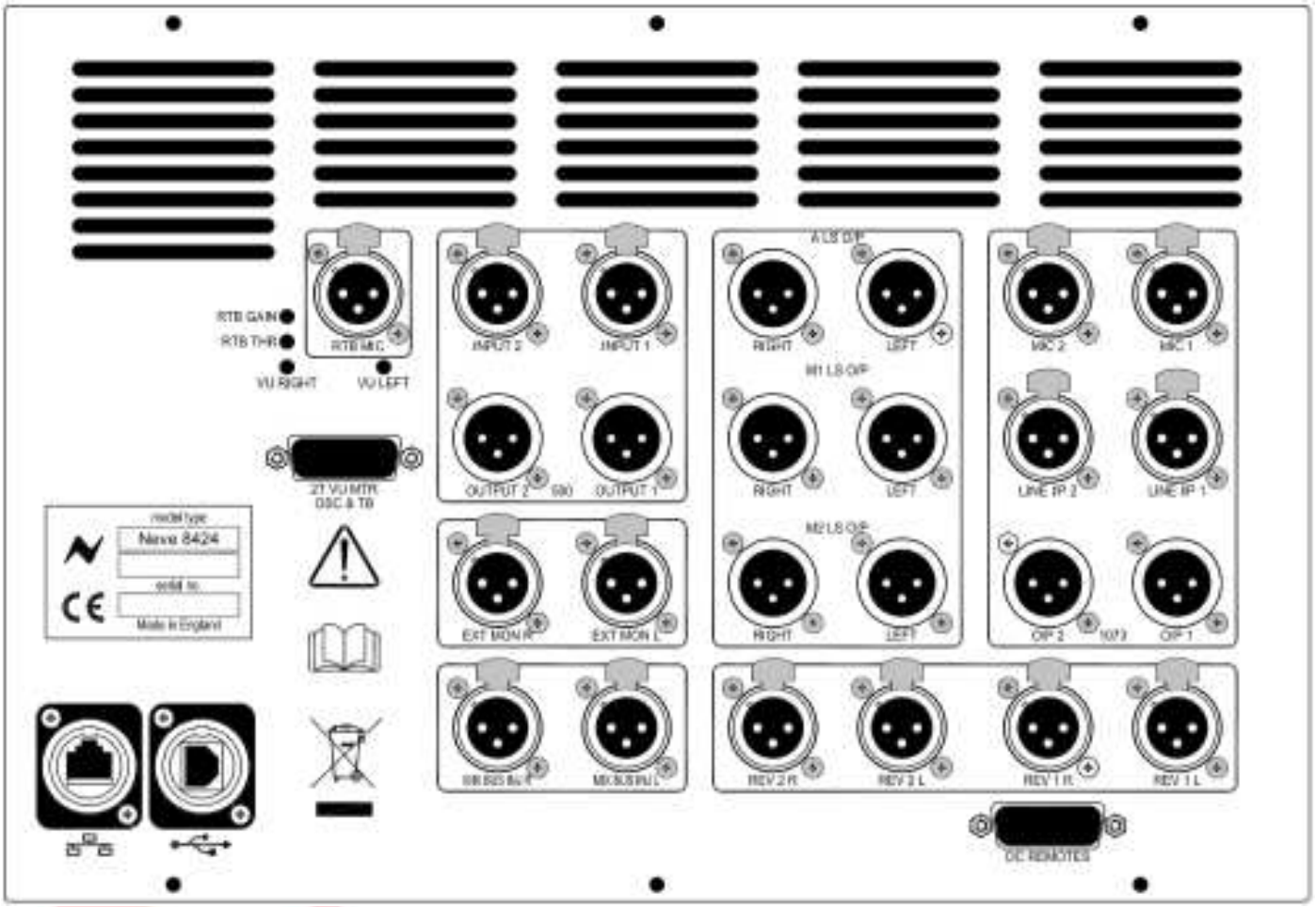
Channel Inputs



Master Outs



Monitor connections



Console Connection Tables

Main

Console AC Mains, fused @ 4 amps	IEC males
Channel Line Inputs B	¼" TRS Jack sockets
Channel DAW Return Input A	25-way D-Type, Tascam convention
Channel Input C	25-way D-Type, Tascam convention
Channel Insert Send	¼'' TRS jack sockets
Channel Insert Return	¼'' TRS jack sockets
Channel Direct Output	25-way D-Type, Tascam convention
Main Mix A LS Output	XLR 3-pin plug male
Main Mix M1 LS Output	XLR 3-pin plug male
Main Mix M2 LS Output	XLR 3-pin plug male
500 Series Input 1 + 2	XLR 3-pin plug female
500 Series Output 1 + 2	XLR 3-pin plug male
External monitor L/R	XLR 3-pin plug female
Mix Buss INJ L/R	XLR 3-pin plug female
1073 Mic Input 1 + 2	XLR 3-pin plug female
1073 Line Input 1 + 2	XLR 3-pin plug female
1073 Output 1 + 2	XLR 3-pin plug male
Reverb Returns 1+2 L/R	XLR 3-pin plug female
Return Talkback Mic	XLR 3-pin plug female
DC Remotes	15-way D-type
2T VU MTR	15-way D-type
Cue output L/R	XLR 3-pin plug male
Aux 1-3 output	XLR 3-pin plug male
Return Talkback Output	XLR 3-pin plug male
Mix output L/R	XLR 3-pin plug male
Mix Insert Send L/R	XLR 3-pin plug male
Mix Insert Return L/R	XLR 3-pin plug female
Group 1-4 outputs	XLR 3-pin plug male
Group 1-4 Insert Sends	¼'' TRS jack sockets
Group 1-4 Insert Returns	¼'' TRS jack sockets
Computer Connection 1	Cat 5/6 ethernet Socket
Computer Connection 2	USB A Socket

Channel Input A/DAW Returns 1-24 D-Type 25-Way Pin Outs

CH DAW RET I/P A 1-8 (25-way D-type)

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

CH DAW RET I/P A 9-16 (25-way D-type)

Signal	Name	Pin		
		Hi	Lo	Screen
1	I/P A Input 9/DAW Return 9	24	12	25
2	I/P A Input 10/DAW Return 10	10	23	11
3	I/P A Input 11/DAW Return 11	21	9	22
4	I/P A Input 12/DAW Return 12	7	20	8
5	I/P A Input 13/DAW Return 13	18	6	19
6	I/P A Input 14/DAW Return 14	4	17	5
7	I/P A Input 15/DAW Return 15	15	3	16
8	I/P A Input 16/DAW Return 16	1	14	2

CH DAW RET I/P A 17-24 (25-way D-type)

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

Channel Input C/DAW Returns 16-48 D-Type 25-Way Pin Outs

Input C 1-8 (25-way D-type)

Signal	Name		Pin	
		Hi	Lo	Screen
1	I/P C Input 1/DAW return 25	24	12	25
2	I/P C Input 2/DAW return 26	10	23	11
3	I/P C Input 3/DAW return 27	21	9	22
4	I/P C Input 4/DAW return 28	7	20	8
5	I/P C Input 5/DAW return 29	18	6	19
6	I/P C Input 6/DAW return 30	4	17	5
7	I/P C Input 7/DAW return 31	15	3	16
8	I/P C Input 8/DAW return 32	1	14	2

Input C 9-16 (25-way D-type)

Signal	Name		Pin	
		Hi	Lo	Screen
1	I/P C Input 9/DAW return 33	24	12	25
2	I/P C Input 10/DAW return 34	10	23	11
3	I/P C Input 11/DAW return 35	21	9	22
4	I/P C Input 12/DAW return 36	7	20	8
5	I/P C Input 13/DAW return 37	18	6	19
6	I/P C Input 14/DAW return 38	4	17	5
7	I/P C Input 15/DAW return 39	15	3	16
8	I/P C Input 16/DAW return 40	1	14	2

Input C 17-24 (25-way D-type)

Signal	Name		Pin	
		Hi	Lo	Screen
1	I/P C Input 17/DAW return 41	24	12	25
2	I/P C Input 18/DAW return 42	10	23	11
3	I/P C Input 19/DAW return 43	21	9	22
4	I/P C Input 20/DAW return 44	7	20	8
5	I/P C Input 21/DAW return 45	18	6	19
6	I/P C Input 22/DAW return 46	4	17	5
7	I/P C Input 23/DAW return 47	15	3	16
8	I/P C Input 24/DAW return 48	1	14	2

Channel 1-24 Direct Outputs D-Type 25-way Pin Outs

Direct outputs 1-8 (25-way D-type)

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

Direct outputs 9-16 (25-way D-type)

Signal	Name		Pin	
		Hi	Lo	Screen
1	Direct Out Channel 9	24	12	25
2	Direct Out Channel 10	10	23	11
3	Direct Out Channel 11	21	9	22
4	Direct Out Channel 12	7	20	8
5	Direct Out Channel 13	18	6	19
6	Direct Out Channel 14	4	17	5
7	Direct Out Channel 15	15	3	16
8	Direct Out Channel 16	1	14	2

Direct outputs 17-24 (25-way D-type)

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

Line Inputs & Outputs

All ¼'' Line Inputs & Outputs on the Console have the same wiring

Tip	Hot
Ring	Cold
Sleeve	Ground

XLR Inputs & Outputs

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

Pin 2	Hot
Pin 3	Cold
Pin 1	Ground

DC remote Pin Out Functions

(15-way D-type)

Pin 1	**Producers Sofa Mic Remote Talkback**
Pin 2	**Remote Loudspeaker Dim**
Pin 3	**Remote Loudspeaker Cut**
Pin 4	**Engineers Talkback Footswitch**
Pin 5	**5v Supply for Producer talkback switch**
Pin 6	**5v Supply for Producer talkback switch**
Pin 7	**Not in Use**
Pin 8	**Not in Use**
Pin 9,10,11,12	**Not in Use**

2T VU MTR Pin Out Functions

(15-way D-type)

Signal	**Name**		**Pin**	
		Hi	**Lo**	**Screen**
1	VU Meter 1	7	15	8
2	VU Meter 2	13	6	14
3	Not in Use	5	4	12
4	Talkback Output	1	9	2
5	+4dB Oscillator Output	10	3	11

8424 Audio Specification

Line Input B to Direct Output	
Headroom	+27.7dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.004% @ 1kHz (measured at +10dBu 10Hz to 80kHz filter)
Noise	<-88dBu (20Hz to 22kHz filter)
	Input C to Cue Bus Output
Headroom	+27.6dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.005% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
Noise	<-86dBu (20Hz to 22kHz filter)
	1073 Input to 1073 Output
Headroom	+28.8dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dB, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.005% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
Noise (EIN)	<-125.5dBu (20Hz to 22kHz filter, 60dB gain, input terminated 150Ω R)
	Line B to Mix Output
Headroom	+27.4dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.004% @ 1kHz (measured at +10dBu, 10Hz to 80kHz filter)
Noise	<-85dBu (20Hz to 20kHz filter, no channel routed)
	<-84dBu (20Hz to 22kHz filter, 1 channel routed)
	<-80dBu (20Hz to 22kHz filter, 24 channels routed)
	Line B to Group Mix Output
Headroom	+27.8dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.005% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
Noise	<-90dBu (20Hz to 22kHz filter, no channel routed)
	<-87dBu (20Hz to 22kHz filter, 1 channel routed)
	Line B to Aux Mix Output
Headroom	+27.8dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.003% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
Noise	<-92dBu (20Hz to 22kHz filter, no channel routed)
	<-88dBu (20Hz to 22kHz filter, 1 channel routed)

General Specifications

	1073 to Channels 17 & 18
Headroom	+27.7dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.003% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
Noise	<-87dBu (20Hz to 22kHz filter)

	DI to Channels 19 & 20
Headroom	>+27.7dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.004% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
Noise	<-87dBu (20Hz to 22kHz filter)

	Control Room Output feed from Main Mix
Headroom	>+26.5dBu @ 1kHz (<0.5% THD+N)
Frequency Response	Typically +/- 0.1dBu, 20Hz to 20kHz
Distortion (THD+N)	Typically 0.002% @ 1kHz (measured at +20dBu, 10Hz to 80kHz filter)
Noise	<-87dBu (20Hz to 22kHz filter)

Crosstalk	
Inter-channel crosstalk	<100dBu @ 1kHz
Mix bus Crosstalk	<100dBu @ 1kHz
Group bus Crosstalk	<100dBu @ 1kHz
Aux Mix bus Crosstalk	<100dBu @ 1kHz