Neve

1073SPX

Single Microphone Preamplifier & EQ

User Manual

Issue 1.2

Important Safety Instructions

For your own safety and for the protection of others, please observe the following safety precautions:

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

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1073SPX Introduction

The Legendary 1073® Preamplifier

The Neve 1073® is widely regarded as one of the most influential microphone preamps ever designed, helping define the sound of professional recording studios since the early 1970s. Its distinctive sonic character comes from a carefully balanced combination of transformer-coupled inputs and outputs, Class-A amplification, inductor-based equalisation, and expertly engineered analogue circuitry. Together, these elements create the warmth, depth, and musicality that have made the 1073 a recording industry benchmark.

Marinair® Transformer Design

At the heart of the 1073 sound is a transformer architecture that remains central to its character. The design incorporates the legendary LO1166 gapped-output transformer, originally developed by Rupert Neve, alongside the Neve/Marinair-designed 10468 microphone input transformer and 31267 line input transformer. These components contribute not only to signal balancing and gain, but also to the harmonic richness, low-frequency weight, and subtle saturation that engineers associate with classic Neve equipment.

Pure Class-A Amplification

The 1073 employs a multi-stage Class-A amplifier design, a topology prized for its ability to amplify the entire audio waveform with exceptional linearity and musicality. Two transistor-based input gain stages work in conjunction with the transformer-balanced input section before feeding a transformer-coupled output amplifier. This unique gain structure delivers high levels of clean gain while retaining the harmonic character and dynamic response that have helped shape the sound of countless recordings over the past six decades.

Musical Inductor-Based EQ

The 1073's renowned equaliser was designed for musicality. Its inductor-based mid-band EQ and independent choke-coupled high-pass filter provide smooth, natural tonal shaping through carefully selected fixed frequency points. Originally developed to suit a wide variety of sources in professional recording consoles, the EQ allows engineers to enhance or control frequencies without sounding harsh or clinical. The circuitry also contributes a subtle analogue colour that has become part of the classic 1073 signature.

Classic Sound, Modern Features

The 1073SPX brings the complete 1073 circuit into a convenient standalone 1U rack-mount format, preserving the same Class-A signal path and transformer-based design that made the original famous. While remaining faithful to its heritage, it incorporates modern studio features including comprehensive metering, Di circuit, an insert path, and flexible connectivity options. The result is a unit that delivers authentic 1073 performance while integrating seamlessly into contemporary recording, mixing, and production environments.

Rack Mount Instructions

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

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

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

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

Quick Start Guide

The 1073SPX, delivered in premium packaging, contains the following-

- **SPX-D 19” rack unit**
- **PSU & IEC**
- **User Manual QR link**
- **Neve Outboard Product Brochure**
- **Neve Sticker**

To use the 1073SPX, configure as follows:

▶ Connect the supplied 48V power adaptor (PS10501) to the 48V input.

▶ Connect your mic/line or DI input source:
- Mic input uses the XLR input of the XLR combo connector on the front panel, or the XLR connector on the rear panel.
- Line input uses the 6.35mm jack input of the XLR combo connector on the front panel, or the XLR connector on the rear panel.
- DI input uses the 6.35mm jack connector on the front panel.

▶ Connect any intermediate sources to the insert loop as required, via the 6.35mm jack connectors on the rear panel.

▶ Connect the line output XLR (rear panel) into your system

▶ Switch on 1073SPX via the **POWER** switch

▶ Set the phantom power, DI earth lift, DI PAD and Mic I/P Z as required.

Input Connections

Rear connections

The 1073SPX features independent rear mounted female XLR connections for microphone or line level inputs.

The rear connections are ideally suited for studio integration into patch bays or direct connections to studio microphone snakes and line-level equipment such as audio interface outputs.

The two Rear connections are the default inputs for the 1073SPX

FRONT Switch

The FRONT switch activates the front mounted Combi Mic/line/DI connector and disables the rear XLR input connections.

Toggling the **FRONT** switch allows for easy access to the unit via the front combi input, without disconnecting the integrated rear inputs.

Front input Connections

Microphone Input (XLR Connection)

Connect microphone sources via an XLR cable to the front combi input.

Line Input (TRS Connection)

Connect line sources via a TRS/TS jack cable to the front combi input.

DI Input (TRS Connection)

Connect instrument sources via a TRS/TS jack cable to the front combi input.

Preamp Controls

The 1073 SPX features the legendary 1073 preamp, complete with transformer-balanced topology and multiple gain stages for all input types.

Gain Switch

The 1073SPX gain switch is used to select the input type (Mic or Line) and set the preamp gain level for the selected input.

Preamp gain is incremented in 5dB steps, ranging from -20 to +10 of line level, and -20 to -80dB of microphone level.

The **line preamp** has seven gain settings, selectable from the gain switch. In each of these positions, the rear XLR or front TRS line input is selected via the **FRONT** switch setting.

The **microphone preamp** has 13 switch settings, selectable from the gain switch. In each of these positions, the rear XLR or front XLR microphone input is selected via the **FRONT** switch setting.

There are two **'OFF'** positions. The first **OFF** position deactivates the line preamp before switching to the microphone preamp.

The second **'OFF'** position denotes the point in which the first single-transistor gain stage is deactivated, and the second, dual-transistor gain stage is activated.

At higher gain settings, a greater degree of harmonic saturation can be achieved by adjusting the output gain via the **O/P Level** into the DAW.

Phantom Power (+48v)

The **+48V** switch activates phantom power for the front & rear XLR microhpone inputs. When activated, the red LED will illuminate.

Dynamic microphones and Ribbon microphones do not require phantom power (+48v).

The +48V switch should be switched off for dynamic and ribbon microphones.

Condenser Microphones require Phantom power.

The +48V switch should be switched on for condenser microphones.

Note: Before activating Phantom Power, ensure that the monitor level is turned down to protect your monitoring system from pops.

Lo-Z

Lo-Z Switches the front or rear microphone input impedance from the default 1.2kΩ setting to 300Ω impedance.

This switch should be used to impedance match the microphone preamp to the connected microphone.

Most modern microphones use higher impedance settings, so the default 1.2kΩ setting should be used.

Vintage microphones may use lower impedances, so the Lo-Z setting of 300Ω should be used.

Note: Always check your microphone output impedance settings before activating lo-Z

DI

The **DI** circuit is activated once a TRS/TS jack connection is made to the Di I/P jack connector. Iinstruments can connect to the front TS connector via a 6.35mm TS or TRS jack cable.

The DI input has a high impedance of 1MΩ. DI signals pass through the microphone transformer and mic preamp stage of the 1073SPX.

To apply gain to an instrument DI, set the 1073SPX gain switch to the microphone input side of the switch, and adjust gain accordingly.

NOTE: When DI is connected, all other microphone inputs are automatically disconnected

-20

The **-20** switch Provides 20dB of attenuation to the DI input, accommodating 'hot' instrument signals.

In the default position (**-20** off) the input impedance of the DI input is approximately 1MΩ.

When set to -20dB attenuation (-20 depressed) the input impedance of the DI input is approximately 10kΩ.

LIFT

The **LIFT** switch provides a ground lift for the DI input. If hum or buzz is present during DI recording, pressing the **LIFT** switch may remove this issue.

DIGI

The **DIGI** switch is not used on the 1073SPX.

EQ Section

The 1073SPX uses a three-band inductor-based EQ circuit, identical to the classic 1073 80-series modules. The EQ circuit also includes a choke-based high pass filter.

EQ Switch

The three-band EQ and HPF are activated via the **EQ** switch. Unless **EQ** is switched, the EQ and HPF are completely bypassed.

High Frequency

The high EQ band control provides smooth +/-16dB of fixed frequency shelving EQ at 12kHz.

Mid Frequency

The mid EQ band control provides smooth +/-18dB of peaking EQ with a fixed Q.

The second ring of the dual concentric control is a switched frequency selector, ranging from 0.36, 0.7, 1.6, 3.2, 4.8, & 7.2kHz.

In the ‘off’ position, the mid EQ band is bypassed.

Low Frequency

The Low EQ band control provides smooth +/-16dB of shelving EQ.

The second ring of the dual concentric control is a switched frequency selector, ranging from 35, 60, 110, & 220Hz.

In the ‘off’ position, the low EQ band is bypassed.

High Pass Filter

The **HPF** is a switched rotary control used to activate an 18dB per octave high pass filter into the 1073SPX signal path.

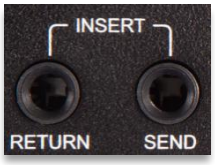
Corner frequencies are selectable at 50, 80, 160 & 300Hz.

In the ‘off’ position, the HPF is bypassed.

Output Connections & Controls

Phase

The Phase switch reverses the phase of the 1073SPX output signal. In the default position, absolute phase is preserved through the unit. When Phase is depressed, the output signal of the unit is inverted by 180 degrees.



Insert Send & Return Connections

The insert send and return TRS connections are balanced at +4dBu, allowing for connection to professional audio equipment such as compressors etc.

INS

The **INS** Switch activates the rear TRS insert send/return loop into the SPX-D signal path.

PRE

When depressed, the **PRE** switch positions the insert send/return loop before the 1073SPX EQ circuit (pre-EQ).

In the default position, the insert loop is positioned immediately after the EQ circuit (post-EQ).

Line O/P

The Line O/P male XLR connection is the main analogue output of the 1073SPX.

Connect the Line output to an available line input on your audio interface to record SPX signals into your DAW.

O/P Level

Adjusts the output audio level fed to the XLR output.

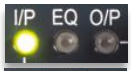
This control is post-EQ but pre-output transformer.

The pot ranges from -inf to +5dB, the thick line on the graticule indicates the point of nominal unity gain.

Metering

The 1073SPX features a 7-stage LED PPM meter ranging from -30dB to +24dBu.

Metering can be fed from three sources, selected by pressing **O/P LEVEL**.



I/P – Displays metering just after the preamp gain switch.

EQ – Displays metering after the EQ & Insert send/return loop circuit.

O/P – Displays metering after the output level control.

In addition to the 7-stage LED meters, each of the meter source LEDS (I/P, EQ, O/P) include clip indication and will illuminate red if their respective signal source is close to clipping.

Sample Rate Indication

The sample rate indication LEDS are not used on the 1073SPX.

Power Information & Troubleshooting

+48 DC Input

Power inlet for the external PSU (PS10501). Ensure this connection is stable and not likely to be pulled from the unit in normal use.

Fuse Holder

Main DC fuse for the unit. Always use the correct fuse rating, as indicated beside the fuse holder. Fuse Rating: T500mAL, 250v 20mm, Ø 5mm.

Troubleshooting - No Audio at Line Out

▶ Check that the unit is receiving power and the POWER LED is lit. If power is not functioning, check PSU, IEC cable and rear-mounted fuse.

▶ Check all audio connections to the unit. For example, check that all necessary inputs and outputs are plugged into the unit.

▶ Check that the **FRONT** switch is set to the desired position. This switch should be depressed when the audio source is connected to the front combo connector.

▶ Check the setting of the gain control. Turn clockwise (Mic or DI) when using a microphone or instrument source. Turn anti-clockwise (line mode) when using a line-level source.

▶ Check the gain setting is not configured to either of the two 'off' positions.

▶ If connecting an instrument via the DI connection, ensure that the preamp gain setting is in MIC mode.

▶ If using a mic source, ensure that instruments are disconnected from the DI TS jack connector.

▶ Check whether the insert loop is in use. Set the **INSERT** switch to the default position (not depressed); if line output signal becomes present, this indicates a problem with connections to the insert loop or with the external equipment in the loop.

▶ Check the setting of the **LEVEL** control. Turn clockwise to increase the output level

▶ Toggle the **LEVEL** control to check signal metering through the unit, input, EQ, and Output will show where the signal is present within the unit.

Dimensions & Power Requirements

Height	44mm/1.75 inches
Width	480mm/19 inches
Depth	310mm/12 inches
Weight	5Kg/11Lbs
Voltage	100 – 240Vac
Current	48V DC 250mA ±20mA. Negative Earth

PSU	Neve PS10501
48V internal fuse	T500mAL, 250v 20mm, Ø 5mm.

Audio Specification

Microphone Inputs	
Frequency Response 20Hz to 20kHz	+/- 0.25dB
Frequency Response 10Hz to 35kHz	+/-0.5dB
Distortion (THD)	<0.2% 20-20kHz, <0.02% 1kHz
Noise EIN	<-124.5dBu 20-20kHz unweighted, gain @ 60dB
Gain Range	20 to 80dB
Maximum Input Level (Max Gain @ 80dB)	-56dBu
Maximum Input Level (Min Gain @ 20dB)	+6dBu
Input Impedance	1200Ω / 300Ω
Line Inputs	
Frequency Response 20Hz to 20kHz	+/- 0.25dB
Frequency Response 10Hz to 35kHz	+/- 0.5dB
Distortion (THD)	<0.2% 20-20kHz, <0.02% 1kHz
Noise (EIN)	<-100dBu 20-20kHz unweighted, gain @ 20dB
Gain Range	-10 to +20dB
Maximum Input Level (Max Gain @ 20dB)	+6dBu
Maximum Input Level (Min Gain @ -10dB)	+36dBu
Input Impedance	10kΩ
DI Inputs	
Frequency Response 20Hz to 20kHz	+/- 0.5dB
Distortion (THD)	<0.2% 20-20kHz, <0.02% 1kHz
Gain Range	20 – 80dB without pad
Maximum Input Level (Max Gain @ 80dB)	-56dBu
Maximum Input Level (Min Gain @ 20dB)	+6dBu
Input Impedance	1MΩ / 10kΩ
Insert Send / Return	
Maximum Output Level	+26dBu
Maximum Input Level	+26dBu
Output	
Maximum Output	>+26dBu into 600Ω. Output impedance is 75Ω @1kHz.
Distortion	< 0.07% from 50Hz to 10kHz at +20dBu output (80kHz bandwidth)
Metering	
Signal	~-30dBu
Clip	+23dBu