

Analog Sound Digital Recall



www.WesAudio.com



ngOmniBox

User Manual

EN

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Thank you for purchasing ngOmniBox.

Next Generation Analog Mix & Master Processor with digital recall.

With kind regards

Radoslaw Wesolowski and Michal Weglicki

Next Generation Analog Mix & Master Processor with digital recall

For decades, engineers have built their mix and mastering chains around carefully selected analog processors, combining EQ, compression, saturation, clipping and stereo enhancement to shape the final sound. ngOmniBox brings that entire workflow into a single, fully recallable analog processor. Built around a flexible stereo signal path, ngOmniBox combines a passive EQ, bus compressor, saturation, clipper and width processing, together with dedicated input and output stages and external insert points. Each processing block can be individually activated or bypassed, allowing you to build the signal chain around the sound your mix actually needs. The order of EQ and compressor can also be reversed, giving you instant access to two fundamentally different processing approaches. Full digital control, A/B/C comparison, detailed LCD parameter visualization and seamless DAW plug-in integration bring the speed and precision of a modern workflow to a truly analog signal path. One box. Your analog finishing chain. Fully recallable.



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1 Main Features

- **Fully Analog Stereo Mix & Master Processor:** The ngOmniBox combines multiple analog processing stages in a single unit, designed for mix bus and mastering applications.
- **Flexible Processing Architecture:** Individual processing blocks can be independently enabled or bypassed, allowing the signal chain to be adapted to different mixing and mastering workflows.
- **Comprehensive Input Section:** Features fully controllable stereo input level, integrated high-pass filtering, and input level metering for precise signal preparation.
- **Dedicated Input Insert:** Allows external analog processors to be integrated directly into the ngOmniBox signal chain.
- **Fully Analog Passive EQ:** A musical passive equalization section designed for broad tonal shaping and precise control of the overall frequency balance.
- **Flexible EQ and Compressor Routing:** The EQ can operate either before or after the compressor, with instant **EQ → COMP / COMP → EQ** routing.
- **Analog Stereo Bus Compressor:** Provides dynamics control, mix-bus glue, and final mix shaping while remaining independently bypassable from the rest of the processing chain.
- **Dedicated Analog Saturation:** Adds variable harmonic character, density, and color independently from the EQ and compression stages.
- **Integrated Analog Clipper:** Designed for peak control, transient shaping, and additional loudness while remaining independently bypassable.
- **Stereo Width Processing:** Provides precise control over the stereo image, allowing the perceived width of the mix to be adjusted independently.
- **Comprehensive Output Section:** Features fully controllable stereo output level and output metering for accurate final gain staging.
- **Dedicated Output Insert:** Allows external analog processors to be integrated at the final stage of the ngOmniBox processing chain.
- **Stereo and Mid/Side Output Insert Modes:** The Output Insert can operate in either **Stereo** or **Mid/Side**, providing additional flexibility when integrating external hardware.
- **Full Digital Recall:** Analog parameters can be digitally recalled, allowing complex hardware settings to be restored instantly without compromising the analog signal path.
- **Hardware A/B/C Memory Settings:** Quickly switch between three different processing settings directly from the hardware for easy comparison.

- **Integrated LCD Parameter Display:** Provides clear visualization of parameter values, settings, and metering directly from the front panel.
- **USB and Ethernet Connectivity:** Supports direct USB connection or network integration via Ethernet for versatile setup options.
- **Analog Automation Capability:** Draw automation lines in your DAW to control the analog device settings dynamically, with touch-sensitive encoders for recording automation back to your DAW.

2 Hardware

This chapter describes the hardware features of ngOmniBox.

2.1 Specification

THD+N (1 kHz, 0 dBu, all sections OFF)	<0.003%
THD+N (1 kHz, 0 dBu, all sections IN)	<0.015%
Frequency response	10 Hz – 40 kHz (-1 dB)
Input impedance	>10 kΩ
Output impedance	<50 Ω
Crosstalk	>100 dB
Max input level	+26 dBu
Max output level	+26 dBu
Power consumption (MAX)	22 W
Compressor attack – FAST	0.1 ms
Compressor attack – SLOW	30 ms
Compressor release – FAST	100 ms
Compressor release – MID	0.6 s
Compressor release – SLOW	1.2 s
Compressor release – AUTO	Automatic release with dual time constants
Compressor ratio – LOW	1.5:1
Compressor ratio – HIGH	10:1
Sidechain HPF	60 Hz / 90 Hz / 150 Hz
Input insert	Electronically balanced; located after INPUT TRIM and before HPF
Output insert	Electronically balanced; selectable STEREO / M/S operation; located immediately before OUTPUT TRIM
Unit dimensions	88 × 483 × 235 mm
Box dimensions	550 × 380 × 270 mm
Unit weight	4.4 kg
Box weight	7 kg

2.2 Front Panel and Main Functions

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1. **Input Section:** Controls the signal entering the ngOmniBox processing chain. The **TRIM** control adjusts the stereo input level, while the LED meters provide visual feedback for the left and right input channels.

The integrated **HPF** allows unwanted low-frequency content to be removed before further processing. A dedicated **balanced Input Insert**, located **after the TRIM control and before the HPF**, enables external analog processors to be integrated directly into the signal path.

2. **Passive Equalizer:** A fully analog passive equalization section designed for broad, musical tonal shaping. Separate **LF** and **HF** controls provide independent frequency selection and gain adjustment for the low and high frequency bands.

The **IN** switch engages or bypasses the EQ section. The **FLIP** control changes the processing order between the Equalizer and Bus Compressor:

- **EQ → COMP** – Equalizer is processed before the Bus Compressor.
- **COMP → EQ** – Bus Compressor is processed before the Equalizer.

3. **Bus Compressor:** The analog stereo Bus Compressor provides dynamics control, mix-bus glue and final mix shaping. **THRESHOLD** determines the level at which compression begins, while **MIX** blends the dry and compressed signals for parallel compression. **MAKE UP** provides output gain compensation after compression. Dedicated controls provide selection of **Attack, Release, Ratio and Sidechain Filter** settings. The LED **Gain Reduction Meter** displays the amount of compression being applied.

The **IN** switch engages or bypasses the Bus Compressor section.

4. **Saturation:** Adds adjustable analog saturation and harmonic character independently from the EQ and compression stages. Its character is reminiscent of classic tape saturation, gradually adding density, warmth and harmonic content as the signal is driven harder. At higher **DRIVE** settings, the circuit can move beyond subtle coloration into clearly audible saturation and distortion, making it useful both for gentle enhancement and more pronounced creative processing.

DRIVE control determines the amount of saturation applied, while **MIX** blends the dry and processed signals, allowing the effect to be introduced gradually or used more aggressively.

The **IN** switch engages or bypasses the Saturation section.

5. **Clipper:** The analog Clipper provides peak control, transient shaping and additional loudness at the final stages of processing. The **CLIP** control adjusts the amount of clipping applied to the signal, while the LED meter provides visual feedback of clipping activity.

The **IN** switch engages or bypasses the Clipper section.

6. **Width:** Controls the stereo image of the processed signal. The **WIDTH** control adjusts the amount of stereo width applied (Side signal). **HPF** - sets the cutoff frequency of the high-pass filter applied to the entire Side signal.
7. **IN** switch engages or bypasses the Width section.
8. **Output Section:** Controls the final signal leaving the ngOmniBox. The **TRIM** control provides precise stereo output level adjustment, while the LED meters display the left and right output levels. The dedicated **Output Insert** allows external analog processors to be integrated at the final stage of the signal chain.
INSERT M/S switches the Output Insert between standard Stereo and Mid/Side operation.
9. **BYPASS ALL:** Bypasses the ngOmniBox processing chain for direct comparison between the processed and unprocessed signal.
10. **LCD Display:** The integrated LCD provides clear visual feedback of ngOmniBox operation, including **input and output metering, parameter values and current settings**. **Parameter** changes made from the front panel are displayed directly on the screen for precise adjustment and monitoring.
11. **A/B/C Memory:** Three dedicated **A/B/C memory buttons** allow instant switching between three different ngOmniBox settings. This makes it possible to quickly compare different processing configurations directly from the hardware while maintaining the fully analog signal path.

2.3 Rear panel

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1. **AC Power Socket:** This is the designated point on the unit where the power cable is connected, linking the device to the main electrical supply. It's through this connection that the device draws alternating current (AC) power, essential for its operation. The socket is designed to accommodate the specific type of power cord that corresponds with the electrical standards of the region, ensuring the unit is powered safely and efficiently.
2. **Voltage Selector:** This feature provides the option to switch the unit's operating voltage between 115 V (60 Hz) and 230 V (50 Hz), catering to different regional electrical standards. It's crucial to use the correct fuses for the voltage setting you select to prevent damage. Always replace the fuses with the appropriate ones before changing the voltage selector to match the mains electricity supply of your location. This ensures the unit operates within its safety and performance specifications.
3. **Serial Number.**

Digital Management Connections: The ngOmniBox facilitates digital management through two connection options:

4. **USB:** Features a USB2+ compatible port for GCon management.
5. **Ethernet:** Offers an Ethernet port for GCon management using the UDP protocol (LAN within a single subnet).

Please be aware that only one type of connection can be active at any given time. To use the Ethernet connection, ensure the USB cable is disconnected from the unit's rear.

6. **Output Insert:** The dedicated stereo Output Insert provides separate SEND and RETURN balanced connections for the left and right channels, allowing external analog processors to be integrated at the final stage of the signal chain. The Output Insert can operate in Stereo or Mid/Side mode.
7. **Right Input & Output:** Provides balanced **RIGHT XLR input and output** connections for the right channel of the stereo signal.
8. **Input Insert:** The dedicated stereo **Input Insert** provides separate **SEND and RETURN** balanced connections for the left and right channels, allowing external analog processors to be integrated into the ngOmniBox signal path.
9. **Left Input & Output:** Provides balanced **LEFT XLR input and output** connections for the left channel of the stereo signal.

2.4 Audio Signal Connectivity

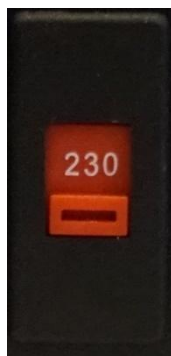
The ngOmniBox is a state-of-the-art device that marries the warmth and richness of analog signal processing with the precision and flexibility of digital control. This means that while your audio signal paths are purely analog, passing through the device via XLR connections on the back panel for pristine quality, the extensive range of the unit's functions and parameters can be meticulously adjusted through a digital management protocol. Each channel's input and output are facilitated through these XLR sockets, ensuring high-quality, interference-free audio transmission.

2.5 Voltage Selector and Fuses

2.5.1 Voltage Selector

Before changing the voltage selector or replacing a fuse, switch off the unit and disconnect the power cord from the mains supply. Ensure that the installed fuse has the correct rating for the selected voltage before powering on the unit.

The ngOmniBox can be configured to operate at either 230 V or 115 V. Please note that your unit is pre-configured for the specific sales region, including the appropriate fuse setup for either 230 V or 115 V. If you need to change the voltage configuration using the power selector, make sure to also use the correct fuse for the new voltage setting.



For proper operation, you can change the voltage and ensure the correct fuse is installed based on your voltage setting. Use:

- **1 A fuse for 115 V**
- **500 mA fuse for 230 V**

Important: Incorrectly setting the voltage selector can cause severe damage to the unit and result in the fuse blowing. For example, if the voltage selector is set to 115 V (60 Hz) while connected to a 230 V (50 Hz) supply, the unit may experience overloading, leading to a blown fuse and potential harm to the device. Always double-check the voltage selector before powering on the device.

2.5.2 Spare Fuses



A spare fuse is included in the power supply, allowing you to quickly swap it with the primary fuse when needed.

2.5.3 Replacing the Fuse

In the event of a blown fuse, follow the instructions below to safely access and replace it. Important: Ensure that the unit is powered off and the power cord is disconnected from the power source before proceeding.

2.5.3.1 Opening Fuse Holder

To open the fuse holder, use a small flat-head screwdriver.

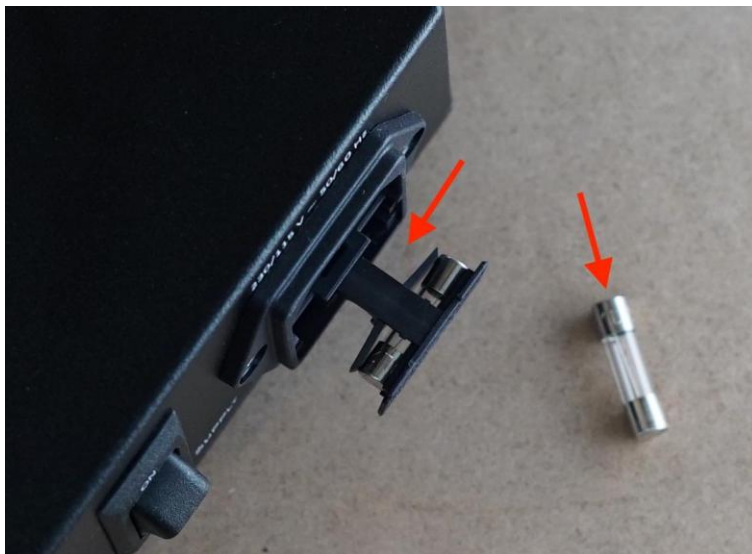
1. Insert the screwdriver into the slot of the fuse holder.
2. Gently pull the fuse holder open, as illustrated in the image below.



2.5.3.2 Changing the Fuse

Once the fuse holder is open, proceed with the following steps:

Remove the blown fuse (marked with indicators) by gently pressing on it until it disengages and drops out of the holder, as shown in the picture below.



Take the spare fuse located in the adjacent slot and insert it into the position of the removed fuse.



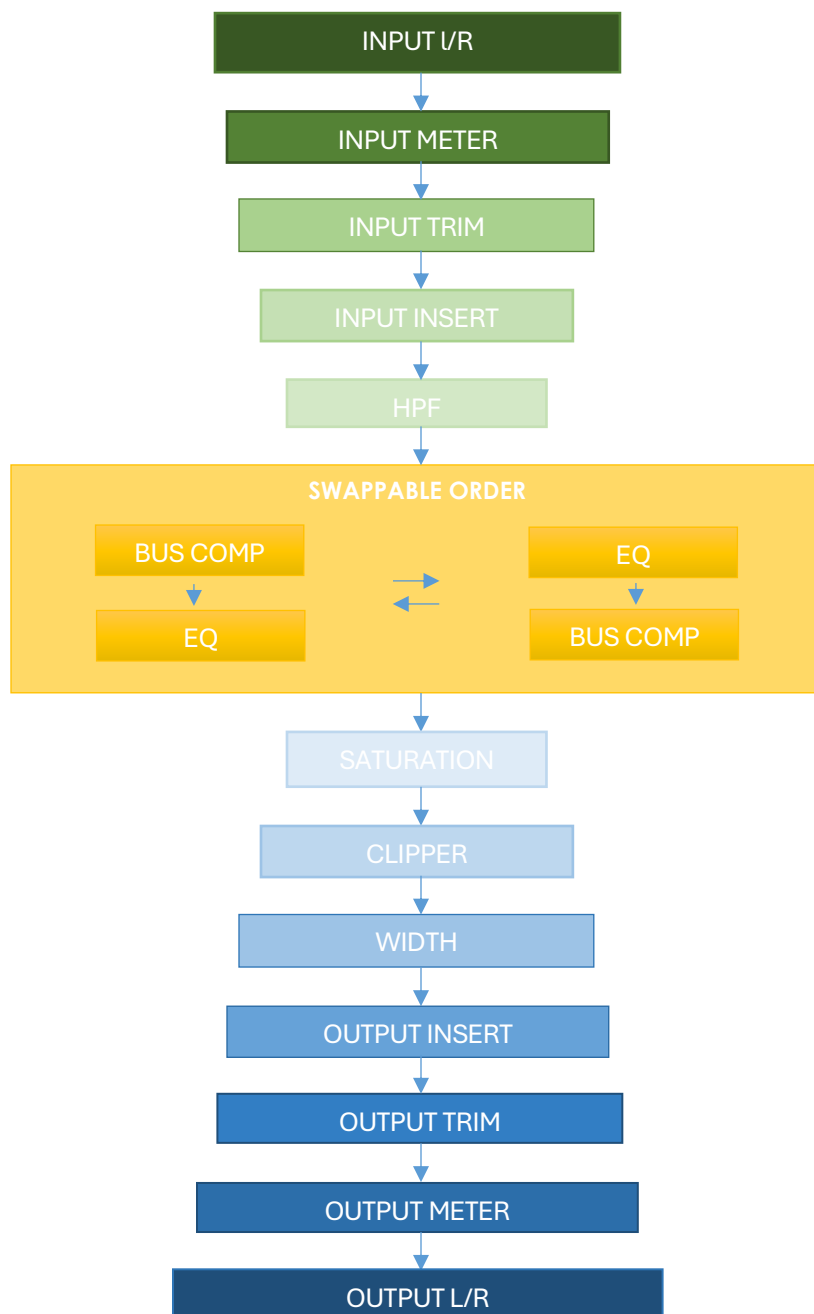
Close the fuse holder securely.

Your device is now ready for use.

3 Analog Processing

This chapter describes the analog operation of ngOmniBox in detail.

3.1 Analog Signal Flow



RELEVANT NOTES

The **ngOmniBox** remains a fully analog device, where certain features can influence one another due to its integrated design. While further details are provided in subsequent chapters, the following summary highlights key considerations regarding how specific functionalities interact within the unit:

- **Bypass Functionality:** Activating bypass directly connects the INPUT to the OUTPUT, rendering other features in the signal chain inoperative. For instance, the insert points will not work when bypass is enabled.

3.2 Analog Processing Blocks

The ngOmniBox is equipped with a series of dedicated analog processing blocks designed for mix bus and mastering applications. Each section can be independently engaged or bypassed, allowing the processing chain to be adapted to different mixing and mastering requirements.

The main analog processing blocks include the **Passive Equalizer, Bus Compressor, Saturation, Clipper and Width** sections. While the signal processing remains fully analog, the parameters can be digitally controlled, recalled and automated.

3.2.1 Input Meter

The **INPUT** meters provide visual indication of the signal level entering the unit. The meters cover a **30 dB range**, from **-6 dBu to +24 dBu**, allowing the input level to be monitored before processing.

3.2.2 Input Trim

The **INPUT TRIM** adjusts the level of the signal entering the ngOmniBox processing chain.

It provides a gain range of **±15 dB** in precise **0.25 dB steps**, allowing accurate input level matching before further processing.

3.2.3 Input Insert

The dedicated stereo **Input Insert** allows external analog processors to be integrated into the ngOmniBox signal path.

Separate **SEND** and **RETURN** connections are provided for the left and right channels, allowing external stereo processing equipment to be incorporated without changing the main input and output connections of the unit.

This makes it possible to extend the processing chain with additional analog hardware while maintaining the ngOmniBox as the central part of the setup.

The Input Insert is controlled independently from the main processing blocks, allowing the connected external processor to become part of the complete analog chain when required.

3.2.4 Input HPF

The Input HPF provides adjustable low-frequency filtering at the beginning of the ngOmniBox processing chain. It operates continuously from 12 Hz to 200 Hz with a 12 dB/octave slope, allowing unwanted subsonic energy, rumble and excessive low-frequency content to be reduced before the signal reaches the main processing sections.

Because the filter is positioned early in the signal path, it can also be used to prevent unnecessary low-frequency energy from influencing the Equalizer, Bus Compressor and subsequent processing stages.

3.2.5 Passive Equalization Section

The ngOmniBox features a fully analog passive equalization section designed for broad and musical tonal shaping. The Equalizer consists of two **shelving bands**: a **Low Frequency (LF) shelf** and a **High Frequency (HF) shelf**, rather than conventional bell-shaped bands.

Each band provides independent **GAIN** and **FREQUENCY** controls, allowing the turnover frequency and amount of boost or cut to be adjusted across the low and high frequency ranges.

The **GAIN** control provides an adjustment range of **±15 dB** in precise **0.25 dB steps**, allowing both subtle tonal correction and more pronounced equalization.

The **FREQUENCY** control provides eight selectable frequency points for each band:

- **LF**: 33 Hz, 60 Hz, 100 Hz, 150 Hz, 220 Hz, 300 Hz, 410 Hz, 500 Hz
- **HF**: 1.6 kHz, 2.6 kHz, 4.1 kHz, 6 kHz, 8.2 kHz, 13 kHz, 18 kHz, 28 kHz

The complete Equalizer section can be engaged or bypassed using the **IN** switch.

The **FLIP** function allows the processing order of the Passive Equalizer and Bus Compressor to be reversed:

- **EQ → COMP** – the signal is processed by the Equalizer before entering the Bus Compressor.
- **COMP → EQ** – the signal is compressed first and then processed by the Equalizer.

Changing the order of these two sections provides additional flexibility, as equalization applied before compression can affect how the compressor reacts to the signal, while equalization after compression allows tonal shaping of the already compressed signal.

3.2.6 Bus Compressor

The ngOmniBox features a fully analog stereo Bus Compressor designed for **dynamics control, mix-bus glue and final mix shaping**. It can be used for subtle level control as well as more pronounced compression, depending on the selected settings.

The compressor provides dedicated control over the main dynamics parameters:

- **THRESHOLD** – determines the signal level at which compression begins.
- **ATTACK** – controls how quickly the compressor reacts once the signal exceeds the threshold. Two settings are available: FAST – 0.1 ms and SLOW – 30 ms.
- **RELEASE** – determines how quickly the compressor returns to its uncompressed state after the signal falls below the threshold. Four settings are available: FAST – 100 ms, MID – 0.6 s, SLOW – 1.2 s, and AUTO – automatic release with dual time constants.
- **RATIO** – defines the amount of compression applied above the threshold. Two ratio settings are available: LOW – 1.5:1 and HIGH – 10:1.
- **MAKE UP** – compensates for level reduction introduced by compression and allows the output level of the compressor section to be adjusted.
- **SC FILTER** – modifies the signal feeding the compressor's sidechain, allowing its response to low-frequency content to be controlled.
- **MIX** – blends the compressed signal with the dry signal, enabling parallel compression directly within the ngOmniBox.

The **MIX** control makes it possible to retain part of the original signal while adding the density and control of the compressed signal. This allows the amount of compression to be introduced gradually without the need for external parallel routing.

The integrated **Gain Reduction Meter** provides real-time visual feedback of the amount of gain reduction being applied, making it easier to monitor the compressor's behavior while adjusting Threshold, Ratio, Attack and Release settings.

The entire Bus Compressor section can be independently engaged or bypassed using the **IN** switch.

The processing order of the Bus Compressor and Passive Equalizer can also be reversed using the **FLIP** function. This allows the compressor to react either to the original signal or to the signal after equalization, depending on the selected routing.

3.2.7 Saturation

The dedicated analog **Saturation** section is designed to introduce additional harmonic content, density and character into the signal independently from the Equalizer and Bus Compressor.

Its response is inspired by the character of analog tape saturation, where increasing the level gradually introduces harmonic content, softens signal peaks and adds a sense of density and warmth. At lower settings, the effect can be used as subtle coloration, while higher **DRIVE** settings progressively push the circuit into more obvious saturation and audible harmonic distortion.

Two controls provide direct adjustment of the saturation effect:

- **DRIVE** – determines how strongly the signal is driven into the saturation circuit and therefore controls the overall amount and intensity of saturation.

- **MIX** – blends the original dry signal with the saturated signal.

The **DRIVE** control allows the amount of processing to be adjusted gradually, ranging from subtle harmonic enhancement to clearly audible saturation and distortion. This makes the section equally useful for gentle mastering coloration and more pronounced creative processing.

The **MIX** control provides additional flexibility by allowing the saturated signal to be blended with the original source. This makes it possible to retain the dynamics, transients and clarity of the dry signal while introducing the additional harmonic character and density generated by the Saturation stage.

Used together, **DRIVE** and **MIX** provide precise control over the overall intensity and character of the effect, making it easy to adapt the Saturation section to different material and processing requirements.

The entire section operates independently from the EQ and compression stages and can be engaged or bypassed using the **IN** switch.

3.2.8 Clipper

Designed as a dedicated stage for **peak control, transient shaping and additional loudness**, the analog **Clipper** provides another level of control over the dynamics of the processed signal.

The **CLIP** control determines the amount of clipping applied. As the setting is increased, more of the signal peaks are affected by the clipping stage, allowing transient peaks to be controlled before the signal reaches the output section.

This can be useful when working with material containing strong transient peaks or when additional level is required without relying solely on compression.

An integrated **LED meter** provides immediate visual feedback of clipping activity. This allows the user to monitor how strongly the circuit is affecting the signal while adjusting the CLIP control.

As an independent processing stage, the Clipper can be used on its own or together with compression and saturation as part of the complete analog processing chain.

The **IN** switch engages or bypasses the Clipper section.

3.2.9 Width

The **Width** section provides dedicated control over the stereo image, allowing the perceived width of the processed signal to be adjusted directly from the front panel.

Two controls define the operation of this section:

- **WIDTH** – adjusts the amount of stereo width applied to the signal.
- **HPF** – determines the low-frequency range excluded from Width processing.

The **WIDTH** control allows the stereo image to be adjusted according to the requirements of the mix, from more controlled stereo positioning to a wider overall presentation.

A dedicated **HPF** provides additional control over the frequency range affected by the Width processing (Side). By excluding low-frequency content from Side signal, the lower part of the spectrum can remain more focused in the center while stereo enhancement is applied to frequencies above the selected point.

This is particularly useful in mix-bus and mastering applications where the stereo image may need to be widened without unnecessarily affecting the stability of the low end.

The **IN** switch engages or bypasses the complete Width section.

3.2.10 Output Insert

The dedicated stereo Output Insert provides an additional point for integrating external analog processors at the final stage of the ngOmniBox signal chain, immediately before OUTPUT TRIM.

Separate balanced **SEND** and **RETURN** connections are available for the left and right channels. This allows external analog equipment to be placed after the main ngOmniBox processing stages without changing the unit's main input and output connections.

The Output Insert can operate in either Stereo or Mid/Side mode:

- Stereo – the **LEFT SEND** and **RETURN** connections carry the left channel, while the **RIGHT SEND** and **RETURN** connections carry the right channel.
- Mid/Side – ngOmniBox internally encodes the stereo signal to M/S before the Output Insert and decodes it back to stereo after the return. The **LEFT SEND** and **RETURN** connections carry the Mid signal, while the **RIGHT SEND** and **RETURN** connections carry the Side signal.

The operating mode is selected using the dedicated **INSERT M/S** button in the Output section of the front panel.

3.2.11 Output Trim

The **OUTPUT TRIM** adjusts the final output level of the ngOmniBox.

It provides a gain range of **±15 dB** in precise **0.25 dB steps**, allowing accurate output level matching with downstream equipment.

3.2.12 Output VU

The **OUTPUT** meters provide visual indication of the final signal level leaving the unit.

The meters cover a **30 dB range**, from **-6 dBu to +24 dBu**, allowing the output level to be monitored after processing.

3.2.13 Bypass All

The **BYPASS ALL** function provides a convenient way to compare the complete processed signal with the unprocessed signal.

Instead of bypassing each processing section individually, **BYPASS ALL** allows the entire ngOmniBox processing chain to be bypassed at once. This makes it possible to perform a fast before/after comparison and evaluate the cumulative effect of the processing applied throughout the unit.

This function is particularly useful when several processing sections are active simultaneously, as it allows the overall effect of the complete chain to be assessed without changing the settings or bypass status of the individual blocks.

When returning from **BYPASS ALL**, the previously selected processing configuration remains available for continued adjustment and comparison.

Software Setup

The WesAudio software package is accessible for download to all purchasers of the corresponding hardware unit at <https://www.wesaudio.com/download>.

<https://www.wesaudio.com/download>



For information on supported plug-in types and platforms, please refer to the provided link.

4.1 Installation Process

To initiate the installation of the WesAudio software package, navigate to <http://www.wesaudio.com/download> and download the latest version of the software.

4.1.1 For Windows Users

- **Initial Installation:** Before beginning the installation, ensure that all WesAudio devices are disconnected from your computer.
- **USB Driver Installation:** Upon installing the USB driver, a notification will prompt you to connect all WesAudio devices. Please connect the devices as instructed.
- **Computer Restart Request:** Installation of the USB driver may necessitate restarting your computer. Although restarting is generally inconvenient, it is a crucial step to ensure successful installation of the USB driver.
- **Post-Restart:** After restarting, the installer should automatically resume. If the installer does not restart on its own, please manually reopen the same installer to continue the process.

4.1.2 For macOS Users

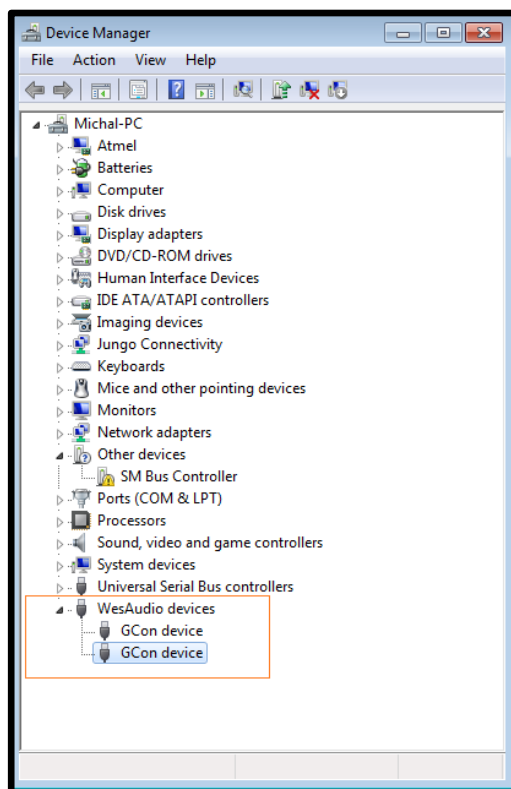
Connect all WesAudio devices before starting the macOS installer. If macOS blocks the installer, verify that it was downloaded from the official WesAudio website. Where available, open System Settings > Privacy & Security and select Open Anyway, then follow the on-screen instructions. If the installer is reported as damaged or containing malware, contact WesAudio support before proceeding.

4.1.3 Troubleshooting

If you encounter any issues during the installation process, please reach out to our support team at support@wesaudio.com, and we will respond promptly to assist you.

Below is a common issue along with suggestions that might help in diagnosing the problem:

- Issue: "Can't find my device in the plug-in dropdown menu"
 - This problem can stem from multiple causes. On Windows, a critical step is to verify that the USB device is successfully recognized at the system level. You can check this in the "Control Panel -> System -> Device Manager."
 - **Important for Windows Users:** Installing the USB driver is essential for the hardware units to communicate with the software. This step is mandatory only during the initial installation. The driver installation option will be automatically disabled for any subsequent software updates.



4.2 GCon Manager

The GCon Manager is a versatile application designed for configuration management across compatible devices. GCon Manager is installed in the following locations:

- **For macOS:** Access it at “/Applications/WesAudio/GConManager.app.”

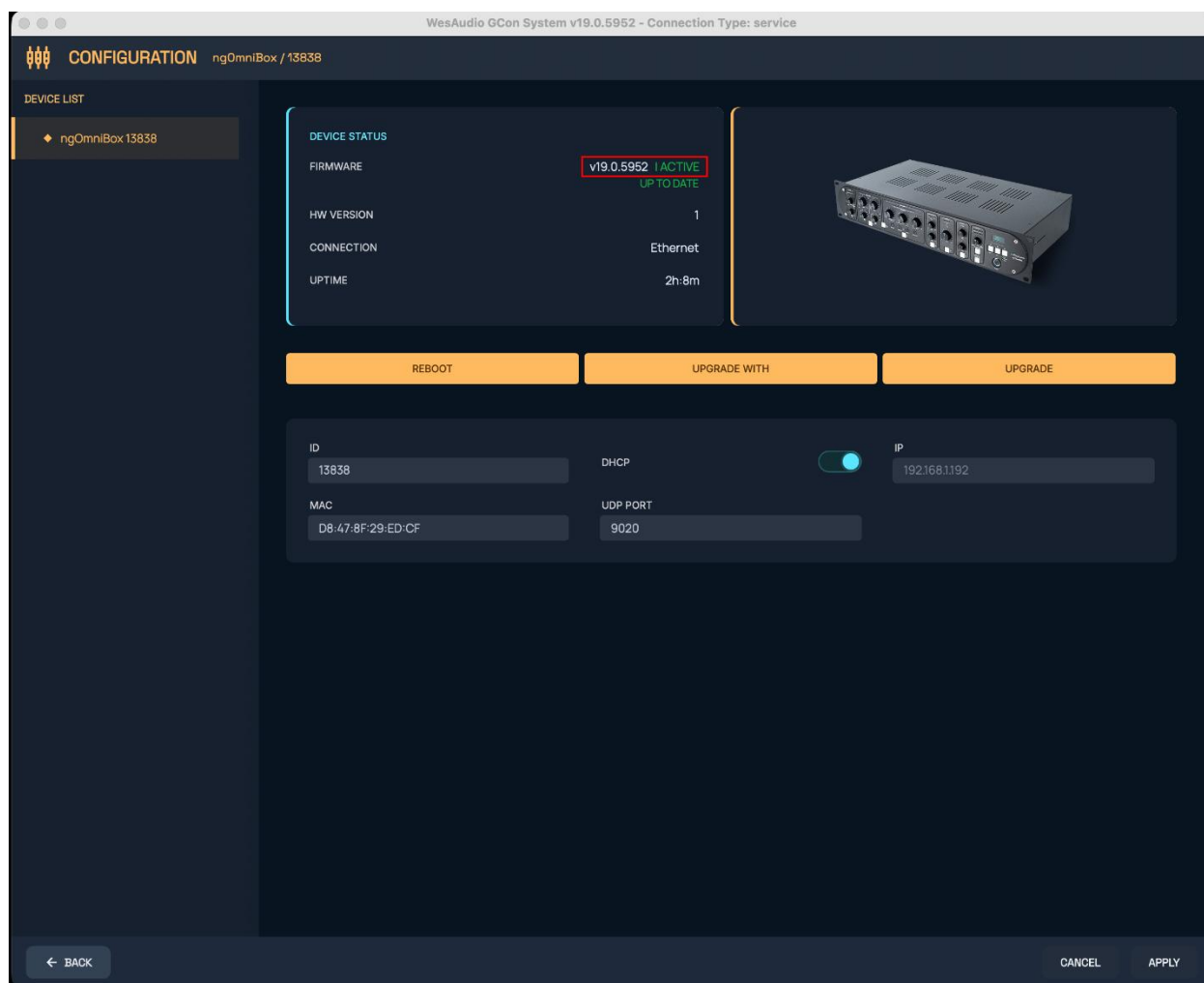
- **For WINDOWS:** Find it in the folder chosen during the installation phase, typically “C:\Program Files (x86)\WesAudio\GConManager.exe” by default.

Main Features:

- **Firmware Updates:** Easily upgrade your device's firmware to the latest version.
- **Configuration Settings:** Modify unit settings, such as IP address configuration, to suit your needs.
- **Diagnostics:** Run diagnostic tests to ensure your unit is functioning correctly.
- **External Controller Setup:** Configure external controllers, for instance, for the ngLeveler.
- **Standalone Operation:** Control units directly without the need for a DAW (Digital Audio Workstation).

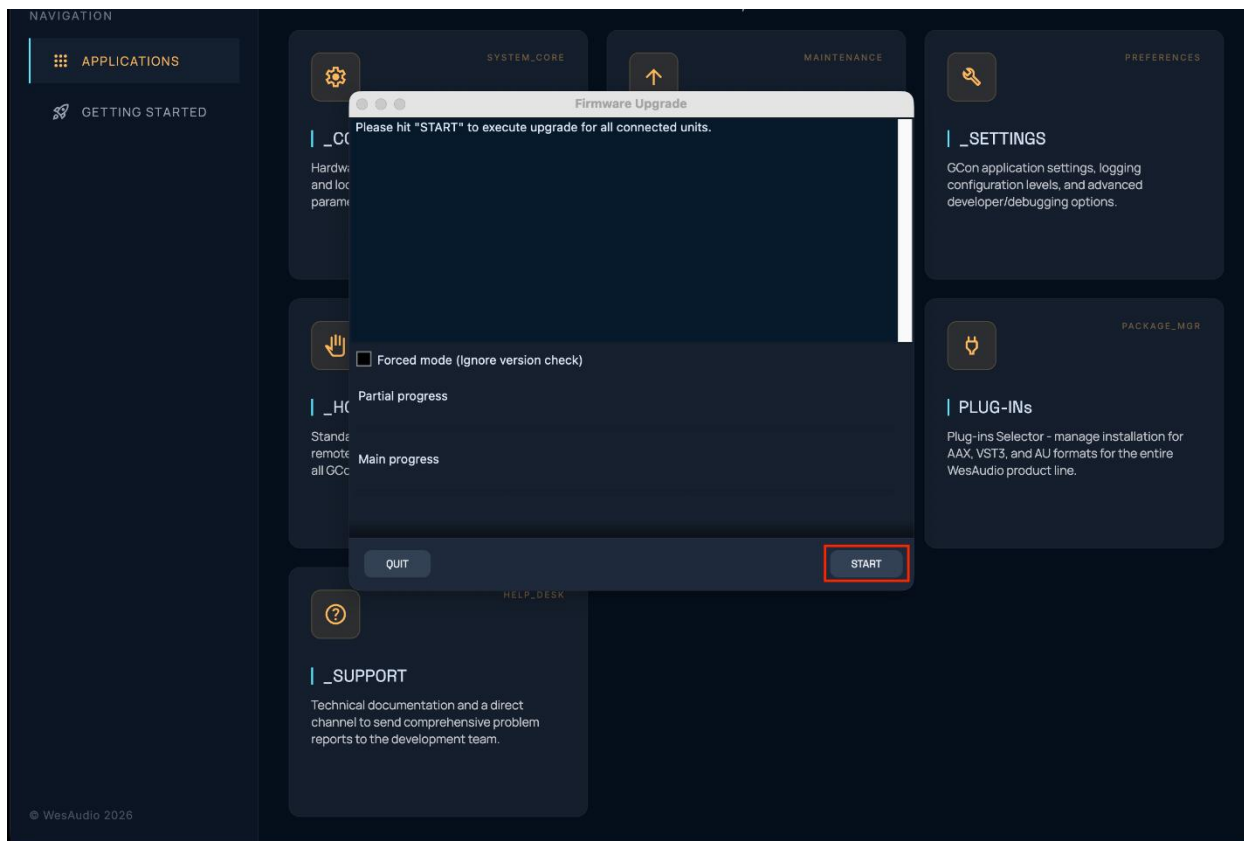
4.3 How to Check the Firmware Version

Each device communicates its firmware version to your workstation, establishing compatibility between your host application and the connected device. To verify or perform a firmware upgrade, please use the GConManager_CONFIG application. Additionally, the firmware version is displayed on the device's LCD screen immediately upon startup.



4.4 How to Update the Firmware

To update the firmware, navigate to the GConManager UPGRADE section and press the “Start” button. This initiates the update process for any modules that are not currently aligned with the latest version of your host software.



4.5 Set up GCon Connection

This chapter outlines potential setup configurations and details the primary steps for configuration.

It's important to recognize that audio signals should be transmitted through XLR connectors. The USB and Ethernet ports are designed solely for managing unit configurations using the GCon Protocol.

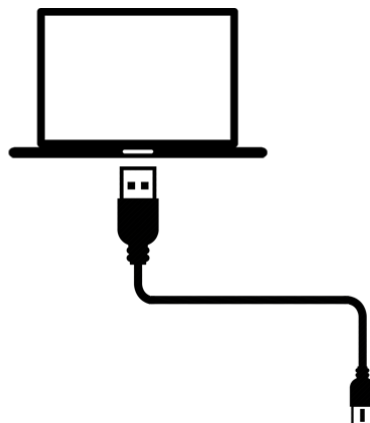
Broadly speaking, the ngOmniBox supports two types of connections:

- **USB 2.0** or higher.
- **Ethernet 10/100**, utilizing the UDP protocol for LAN within a single subnet.



4.5.1 USB

To directly link your ngOmniBox unit to your workstation, simply use a USB cable to connect it to any available USB 2.0+ port on your computer.

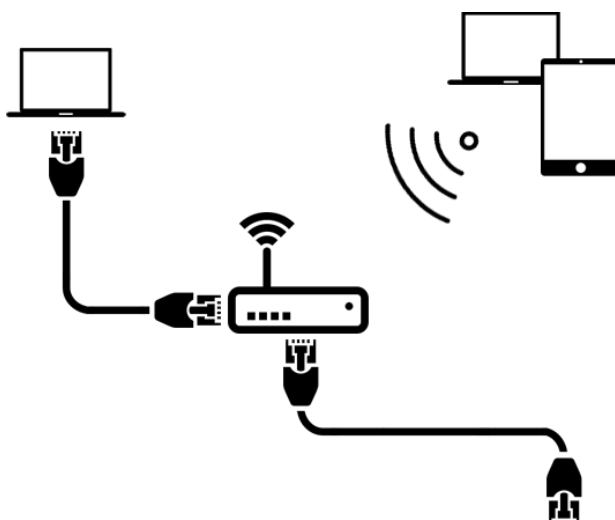


4.5.2 Ethernet

The ngOmniBox, like any network-enabled device, offers flexibility in connectivity to your workstation through the following methods:

- **Local Area Network (LAN) Connection:** By integrating the ngOmniBox into your LAN, it becomes accessible from various devices within the network, allowing for versatile placement and usage within your studio environment.
- **Direct Workstation Connection:** For a straightforward setup, the ngOmniBox can be directly connected to your workstation. This method is ideal for simple, one-to-one configurations without the complexity of a network.

In certain scenarios, it might be necessary to manually assign IP addresses to both your workstation and the ngOmniBox to ensure proper communication and functionality. The following illustrates a typical setup within a local area network, showcasing how different devices can interact with and utilize the ngOmniBox's features:



(*) In case you would like ngOmniBox to join an existing network, most probably your workstation has IP address already set up through static configuration entry, or through DHCP (by your router).

4.5.3 Default network configuration via DHCP

Each ngOmniBox unit is set to utilize **DHCP by default**, making it straightforward to connect your ngOmniBox to your router—simply plug it in, and you're good to go! If you're interested in altering this setup, the following sections will guide you through changing the configuration. To establish static IP addresses for your devices, you must undertake two key steps:

Disable DHCP: This ensures that your device does not automatically obtain an IP address from the network, allowing for manual configuration of a static IP address.

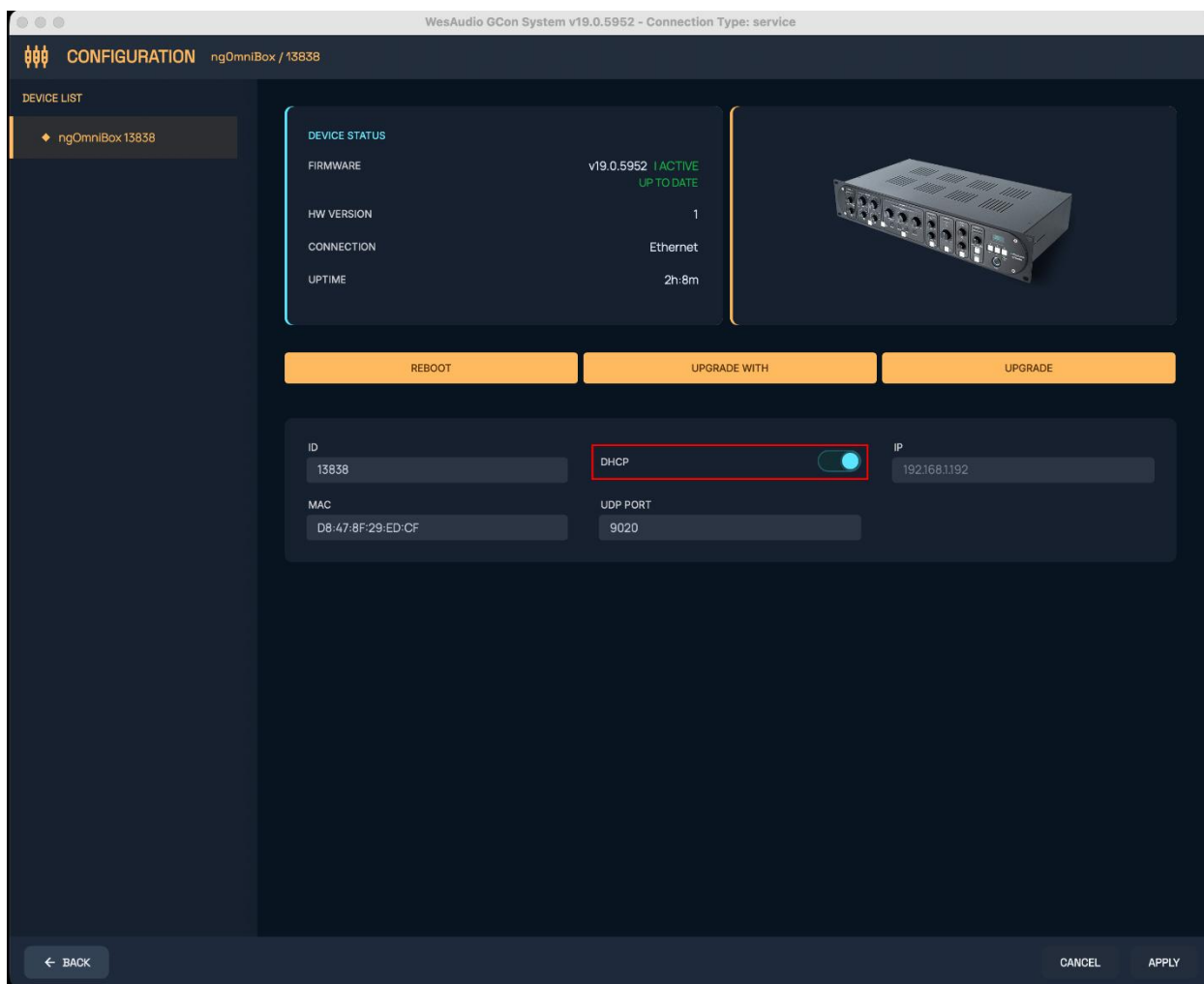
Configure a Static IP Address: Once DHCP is disabled, you can assign a specific, unchanging IP address to your device.

Detailed instructions for both procedures are provided in the subsequent chapters.

4.5.4 Enable/Disable DHCP

To toggle the DHCP setting on your ngOmniBox unit to either enabled or disabled, follow these steps:

- **USB Connection:** Begin by connecting your ngOmniBox directly to your workstation using a USB cable. This step is crucial because altering network configurations might result in a loss of connectivity with your device. A direct USB connection will remain as a fallback for reconfiguration.
- **Launch GConManager:** Open the GConManager software and proceed to the _CONFIG application.
- **Select Your Device:** Within GConManager, find and select your ngOmniBox from the list displayed in the elements tree on the left side.
- **Adjust DHCP Setting:** Modify the DHCP option to match your requirements—either turning it "ON" for automatic IP address assignment or "OFF" for static IP configuration. Following this adjustment, the unit will undergo a restart, after which your connection to the ngOmniBox should automatically re-establish.



Before transitioning from a USB connection to Ethernet, it's crucial to configure the appropriate IP address on your ngOmniBox. This setup ensures seamless communication between the device and

your network. The subsequent chapter will guide you through the process of establishing the correct IP settings.

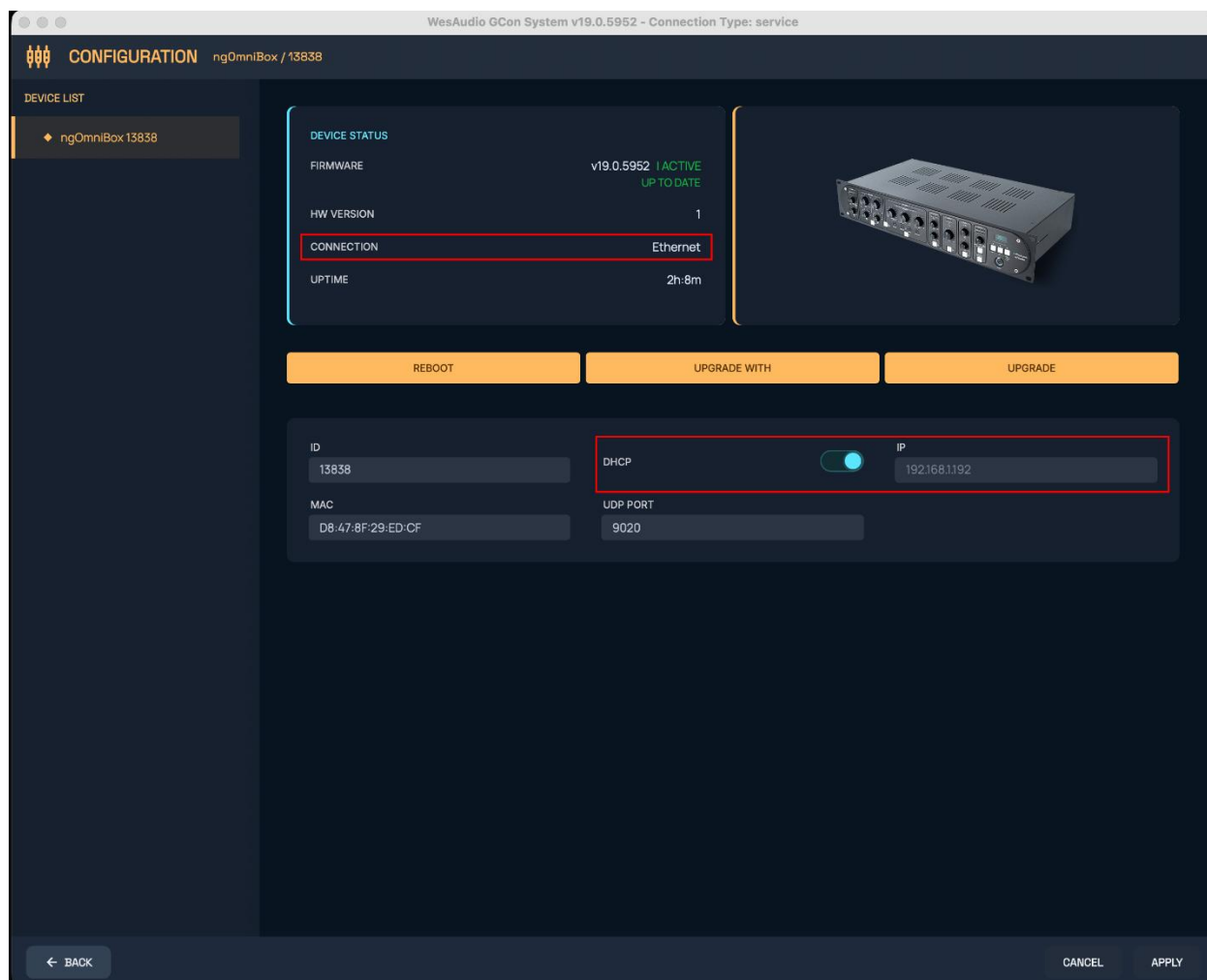
4.5.5 Set Up Static IP Address

There are a few situations where manually configuring the IP address for your ngOmniBox might be necessary:

- **Non-DHCP Router:** If your router does not support DHCP, you will need to manually set the IP address to ensure the ngOmniBox can connect to the network.
- **Manually Configured LAN:** For networks set up with manual configurations, such as through a hardware switch, your ngOmniBox will require a manual IP setup to match the network's settings.
- **Direct Workstation Connection:** If you prefer to connect your ngOmniBox directly to the Ethernet port on your workstation, a manual IP configuration is needed for the device to communicate effectively with your computer.

To configure the IP address for your ngOmniBox, the process is similar to setting up other devices, with slight adjustments for device-specific steps. Here's how you do it:

- **USB Connection:** Initially, connect your ngOmniBox directly to your workstation using a USB cable. (If you've already established a connection to the ngOmniBox via an Ethernet cable and can access its settings, this step might not be necessary).
- **Launch GConManager:** Open the GConManager software on your computer and proceed to the "_CONFIG" application.
- **Select Your Device:** From the device list on the left side of the screen, select your ngOmniBox unit.
- **Adjust DHCP Settings:** If the DHCP option is enabled ("ON"), change it to "OFF." This will necessitate a restart of the unit, after which the connection should automatically be re-established.
- **Set the IP Address:** Input the IP address you wish to assign to your ngOmniBox in the provided field and press the 'Apply' button. The unit will undergo a restart to apply the new network settings. Once it powers back up, the connection with your ngOmniBox will be re-established under the new IP configuration.
- **After successfully configuring the IP address,** you can now disconnect the USB cable from your ngOmniBox and connect it to your network using an Ethernet cable. This will enable network-based communication and control according to the new settings you've applied.



4.5.6 Direct connection – setting IP address on PC/Mac

Before connecting ngOmniBox directly to a Mac or PC via Ethernet, configure a static IP address on the unit through USB as described in Sections 4.5.4 and 4.5.5. Disconnect the USB cable before using Ethernet. Assign the computer a different IP address in the same subnet, then follow the steps below.

For Both Mac and PC

Step 1: Prepare Your Equipment

- Ensure you have a standard Ethernet cable available.
- Your ngOmniBox should be powered off before making any connections.

Step 2: Connect the Ethernet Cable

- Plug one end of the Ethernet cable into the Ethernet port on your ngOmniBox.
- Connect the other end of the Ethernet cable to the Ethernet port on your Mac or PC.

For Mac

Step 3: Configure Network Settings

- Go to **System Preferences > Network**.
- Select the Ethernet connection from the list on the left. If it's not already configured, it may appear as a new connection with a green dot and say "Connected".
- Click on the "Advanced" button, then go to the TCP/IP tab.
- Configure the IPv4 setting to "Manually" or "Using DHCP with manual address", depending on your needs.
 - If selecting "Manually", enter a different IP address in the same subnet as your ngOmniBox. Do not assign the same IP address to both devices.
- Click "OK", then "Apply" to save your settings.

For PC (Windows 10/11)

Step 3: Configure Network Settings

- Go to **Settings > Network & Internet > Ethernet**.
- Click on your Ethernet connection.
- Scroll down and select **Edit** under IP assignment.
- In the Edit IP settings drop-down, choose "Manual".
- Enable "IPv4" by toggling it On, then fill in the IP address, Subnet mask, and Gateway based on your ngOmniBox network settings.
- Click "Save" when done.

Final Step for Both Mac and PC

- Power on your ngOmniBox.
- Ensure any necessary software or drivers for ngOmniBox operation over Ethernet are installed on your computer.
- If required, adjust the ngOmniBox's network settings to ensure they are compatible with your computer's network configuration. This might include setting a static IP address on the ngOmniBox that is in the same subnet as your computer but outside your DHCP range to avoid IP conflicts.

You should now be able to communicate directly between your ngOmniBox and computer via Ethernet, allowing for device management and control without a router or network switch.

5 Digital Control / Recall

This chapter delves into the comprehensive options available for managing ngOmniBox and automating its settings. The cornerstone of ngOmniBox's automation capabilities is its integration with Digital Audio Workstations (DAW) through a plug-in, which is available in all common formats. This seamless convergence between hardware and digital software opens a wide array of creative possibilities and enhances workflow efficiency.

DAW Plugin Control:

DAW plug-in control bridges the analog-digital divide, enabling users to manipulate hardware settings directly from their DAW. This fusion of the tactile and the virtual is not merely convenient but transformative, changing how producers and engineers interact with their gear.

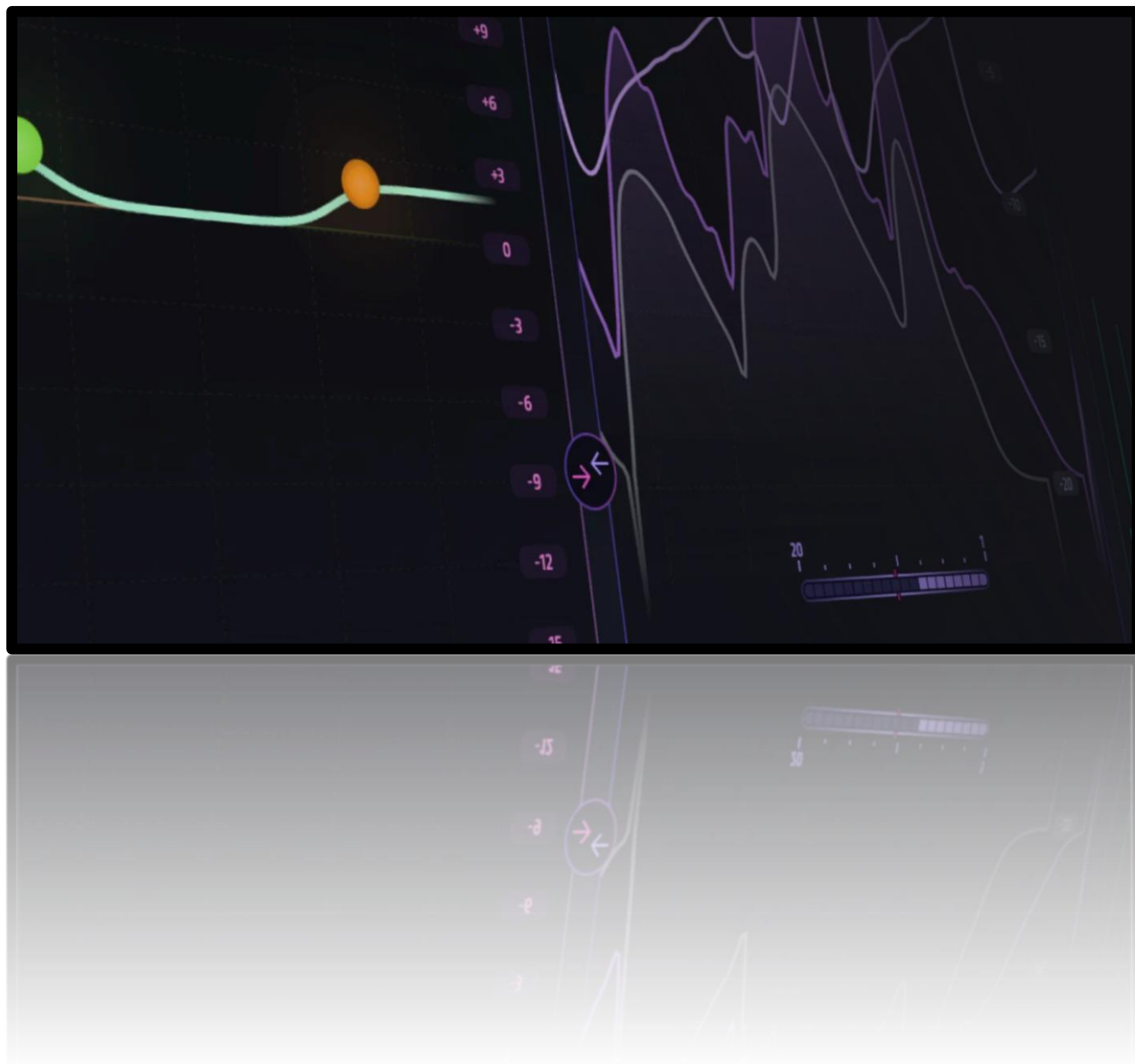
Benefits of DAW Plugin Control:

- **Precision and Recall:** The ability to precisely recall settings for sessions is invaluable, ensuring mixes can be revisited or altered without the need to manually reconfigure the hardware. This feature is crucial for those working on multiple projects or needing to maintain consistency across sessions.
- **Automation Capabilities:** Integration with the DAW allows for the automation of every ngOmniBox parameter within the digital environment. This feature provides dynamic changes in settings over time, infusing tracks with movement and vitality without manual intervention.
- **Workflow Efficiency:** Manually adjusting settings on hardware units can be cumbersome, particularly in complex setups. DAW plug-in control simplifies this process, facilitating quick changes and A/B comparisons without physical interaction with the unit, thereby streamlining the production process.
- **Enhanced Creative Potential:** Merging the analog warmth with digital control flexibility broadens the creative spectrum, enabling real-time experimentation and the achievement of effects that might be challenging or impractical to accomplish on the hardware alone.
- **Accessibility:** DAW plug-in control ensures full accessibility and adjustability of ngOmniBox features from the workstation, a boon for those with spatial constraints or other limitations preventing direct access to their hardware.

In essence, ngOmniBox DAW plug-in integration marries the rich, analog sound quality with the precision and versatility of digital control. This not only amplifies the functionality of ngOmniBox but also elevates the music production process, offering unprecedented control and flexibility in a traditionally analog setup.

5.1 DAW Plug-in

The ngOmniBox plug-in extends comprehensive control over all parameters of the unit, ensuring seamless integration into any digital audio workstation (DAW) environment. Designed to be versatile and accessible, it supports all common plug-in standards, including VST2, VST3, AU (Audio Units), and AAX, making it compatible with a wide range of software platforms.



5.1.1 ngOmniBox – Plugin Management Panel

Analog Sound Digital Recall



The structure of the ngOmniBox plug-in is meticulously designed to mirror the hardware unit's layout, offering a familiar and intuitive interface for users who are accustomed to the physical controls of the ngOmniBox. This close mapping ensures a seamless transition between working with the hardware and the software, allowing users to apply their knowledge of the hardware's front panel functions directly to the plug-in environment.

For detailed explanations of each control and its functionality, users are encouraged to consult the chapter titled "Front Panel Functions." This section provides comprehensive insights into how to interact with the ngOmniBox, whether you're adjusting parameters on the physical unit or via the plug-in.

1. **Undo:** The Undo feature in the ngOmniBox plug-in allows users to revert to the previous state before the most recent adjustment was made. This function is essential for quickly correcting mistakes or reassessing changes without permanent consequences to the settings.
2. **Redo:** Following an Undo action, the Redo function permits users to reapply the last change that was undone. This feature ensures that no adjustment is final until the user is satisfied, providing an additional layer of flexibility in tweaking the settings.
3. **Previous Preset:** Loads the previous preset from the preset database.
4. **Next Preset:** Loads the next preset from the preset database.
5. **Preset Selector:** Allows for the selection, viewing, and deletion of presets.
6. **Scale:** Adjusts the GUI size (75%/100%/125%/150%/175%/200%), catering to different screen sizes and user preferences.
7. **Preset Info:** Displays details of the currently loaded preset.
8. **Preset Save:** Saves the current preset.
9. **Preset Save As:** Saves the current settings as a new preset with a name and description.
10. **Menu:**
 - **Reset Parameters to Default:** Resets all plug-in parameters to their default states.
 - Shows currently installed plug-in version.
11. **Bypass:** Engages or disengages bypass on the hardware unit.
12. **Toggle Connection Button:** This button toggles the connection status ON/OFF. It functions only when a connection ID has been selected using the "Select Connection Button."
13. **The Select Connection Button** within the ngOmniBox plug-in serves as a gateway to establish and manage connections with devices that support the GCon protocol. This feature simplifies the process of identifying and selecting the hardware unit to be controlled, providing a user-friendly interface for seamless integration between the plug-in and physical devices.

The connection state is displayed as follows:

- **USB:** This label signifies a connection established through USB, offering a direct link between the hardware unit and the workstation.
- **ETH:** This label indicates an Ethernet connection, showcasing the ability to connect over a network for potentially more flexible setup options.
- **Connection ID:** The unique identifier for the connected hardware unit is displayed, allowing for easy recognition and management of multiple devices. Accompanying this ID, the connection status is visually indicated to inform the user of the current state:
 1. **ON:** A solid white font denotes a successful connection, indicating that communication between the plug-in and the hardware unit is active.
 2. **OFF:** A solid gray font signifies that the connection is not established, alerting the user to a disconnect or other issue preventing communication.

- 3. **Connecting:** A gray italic font is used to represent the process of establishing a connection. If this state persists for an extended period (more than 5 seconds) without successful connection, it suggests a potential issue requiring troubleshooting or support consultation.
- 14. **Copy:** Enables users to copy the current parameter state.
- 15. **Paste:** Enables users to paste the current parameter state, facilitating quick duplication of settings.
- 16. **Configuration Bank:** Selects between configuration banks, each containing three configurations. This feature supports automation for changing unit settings within a session or a song.
- 17. **Config A/B/C:** Selects configuration A, B or C within the current bank for comparison and recall.
- 18. **Resize:** Adjusts the display size or layout of the interface.

5.1.2 ngOmniBox – Main Plugin Structure



The ngOmniBox plug-in provides direct control over the corresponding analog functions of the hardware unit. Its controls reflect the hardware signal path **1:1**, with parameter changes made in the plug-in being applied directly to the analog circuitry.

The operation and sonic characteristics of each processing block are described in detail in the [Analog Processing Blocks](#) section of this manual. The following chapters focus on the corresponding plug-in controls, their layout and functionality.

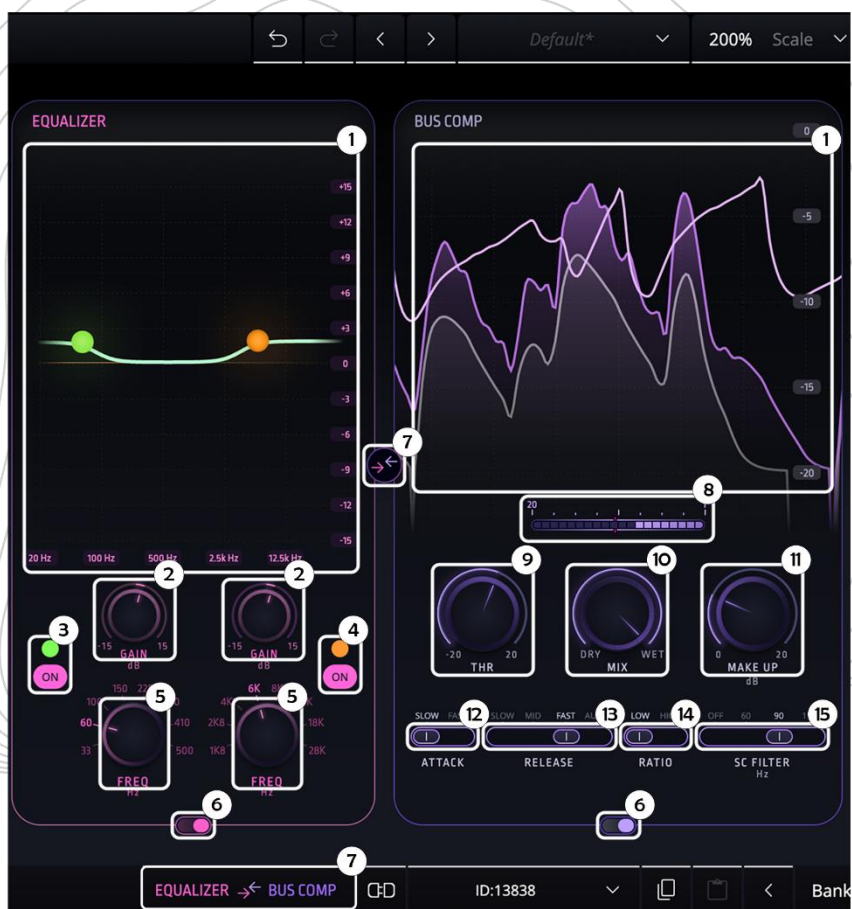
5.1.3 ngOmniBox plug-in - Output/Input Section

Analog Sound Digital Recall



1. Input Meter – displays the input signal level.
2. Input Insert – engages or bypasses the Input Insert.
3. Input/Output Trim – adjusts the corresponding input or output signal level.
4. HPF ON – engages or bypasses the Input HPF.
5. Input HPF – adjusts the HPF cutoff frequency.
6. Output Meter – displays the output signal level.
7. Output Insert / M/S – controls the Output Insert and its Stereo/M/S operation.

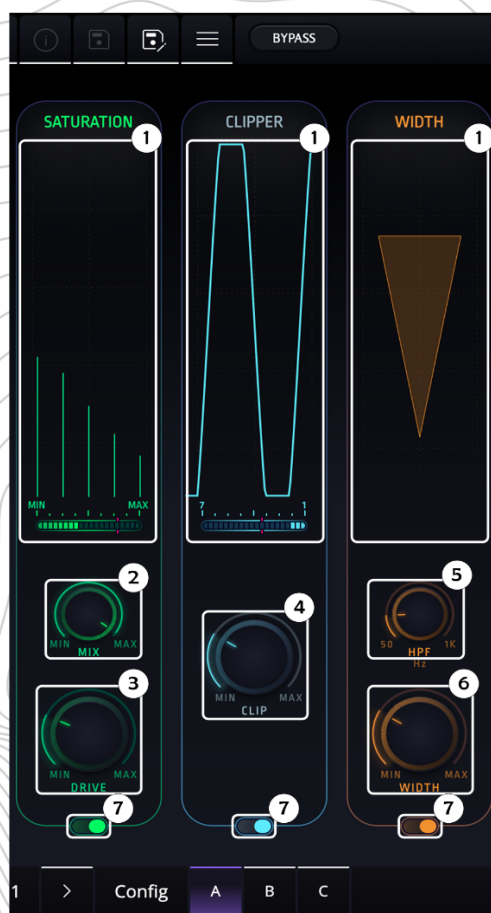
5.1.4 ngOmniBox plug-in – Equalizer & Bus Comp

**Analog Sound
Digital Recall**

1. **Processing Graph** – provides a real-time visual representation of the active processing. In the Equalizer section it displays the EQ response, while in the Bus Compressor section it visualizes the compressor response and gain reduction.
2. **GAIN** – adjusts the amount of boost or cut for the selected EQ band from -15 dB to +15 dB in 0.25 dB steps.
3. **LF ON** – engages or bypasses the Low Frequency shelving band.
4. **HF ON** – engages or bypasses the High Frequency shelving band.
5. **FREQ** – selects the operating frequency of the corresponding LF or HF shelving band.
6. **IN** – engages or bypasses the complete Equalizer or Bus Compressor section.
7. **EQ/Comp Flip**: changes the order of the Equalizer and Bus Compressor in the signal path. When disabled, the signal flows EQ → COMP. When enabled, the order is reversed to COMP → EQ. This allows the interaction between equalization and compression to be adjusted depending on the source material and processing goal.
8. **Gain Reduction Meter** – displays the amount of gain reduction currently applied by the Bus Compressor.
9. **THR** – sets the compressor threshold, determining the signal level at which compression begins.
10. **MIX** – blends the dry and compressed signals, allowing parallel compression.
11. **MAKE UP** – adjusts the compressor output gain to compensate for level reduction caused by compression.
12. **ATTACK** – selects the compressor attack time: SLOW – 30 ms or FAST – 0.1 ms.
13. **RELEASE** – selects the compressor release mode: SLOW – 1.2 s, MID – 0.6 s, FAST – 100 ms, or AUTO – automatic release with dual time constants.
14. **RATIO** – selects the compression ratio: LOW – 1.5:1 or HIGH – 10:1.
15. **SC FILTER** – selects the compressor sidechain high-pass filter: OFF, 60 Hz, 90 Hz, or 150 Hz, reducing the compressor's sensitivity to low-frequency content.

5.1.5 ngOmniBox plug-in – Saturation, Clipper & Width

Analog Sound Digital Recall



1. **Meter / Visualization** – displays the processing status of the corresponding section. For **Saturation** and **Clipper**, it acts as a real-time processing meter. For **Width**, it provides a visual representation of the selected stereo width setting.
2. **MIX** – blends the dry signal with the saturated signal.
3. **DRIVE** – controls the amount of saturation applied to the signal.
4. **CLIP** – controls the intensity of the analog clipping effect.
5. **HPF** – sets the high-pass filter frequency for the Side signal within the Width section.
6. **WIDTH** – controls the stereo width of the signal.
7. **IN** – engages or bypasses the corresponding Saturation, Clipper or Width section.

6 Other Functions

In addition to its core features, ngOmniBox includes several other functions that enhance its versatility and user experience. These functions, while not as prominently featured as the main controls, play a crucial role in the unit's overall functionality and ease of use. Understanding these additional features will enable users to fully exploit the capabilities of the ngOmniBox, optimizing their workflow and achieving the best possible sound quality.

6.1 Internal Memory Management

The ngOmniBox is designed with robust internal memory management to ensure users can store and recall their preferred settings efficiently, catering to various operational scenarios and user needs.

Parameter Storage and Recall:

- **A/B/C Presets:** Directly stored in the ngOmniBox's internal memory, these presets offer quick access to three distinct settings configurations, readily available even after a power cycle.
- **100 Internal Presets:** Beyond the fast-access presets, the unit houses 100 internal presets, navigable via the unit's menu for a wide range of storage options.
- **Unlimited DAW Plugin Presets:** Users can save an unlimited number of presets within the DAW plug-in, providing vast flexibility for project-specific settings.

6.1.1 Fast Presets A/B/C

Fast presets are designed for quick retrieval, serving as three memory banks for easy comparison of the unit's settings. These presets are synchronized with the connected plug-in, ensuring consistency across hardware and software environments.

6.1.2 Internal Presets

For scenarios where plug-in use is impractical or impossible, the ngOmniBox offers 100 memory slots for user-defined presets, which load into the currently active Fast Preset (A, B, or C).

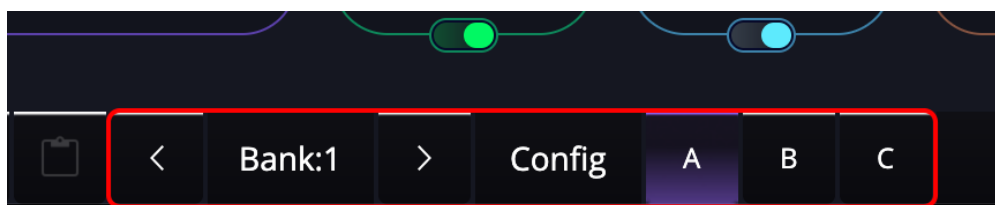
Navigating and Managing Internal Presets:

- **Accessing Preset Menu:** Press and hold the INSERT MS (MENU) button for 2 seconds to enter the PRESET MENU. Use the bypass buttons to navigate through presets 1 to 100.
- **Navigating Presets:** Use the WIDTH IN button to move to the previous preset and BYPASS ALL to advance.
- **Loading Presets:** Press button A (LOAD) to load the selected preset into the active Fast Preset slot.
- **Exiting Menu:** Press button B (QUIT) or the INSERT MS (MENU) button to exit the preset menu.
- **Saving Presets:** Select the desired preset number and press button C (SAVE) to store the current settings of both channels under that preset number.

This internal memory management system enhances the ngOmniBox's versatility, providing users with multiple layers of preset storage options, from immediate access to detailed preset navigation and management, all aimed at optimizing the mixing and mastering process.

6.1.3 Configuration Banks

The Configuration Bank feature allows you to configure different parameter states and enables additional parameter configurations (A/B/C) for flexible use. Having multiple memory banks can be particularly beneficial when mixing multiple songs within the same session. The Configuration Bank parameter can be automated in the DAW, helping to maintain different settings across various sections of a session or between different songs within a single session. This feature is especially useful during the mastering phase, where multiple songs are often processed in one session.



7 Troubleshooting

If you encounter any of the following issues:

- No Sound Output or Signal Loss
- Unexpected Distortion
- Thumping or Low-End Artifacts
- Inconsistent Compression
- No Response to DAW Automation
- Excessive Heat

Please visit the WesAudio FAQ site <https://wesaudio.com/faq/> for detailed troubleshooting steps and solutions.

8 Abbreviations and terms

GCon is a high-speed communication protocol developed to enable complete management and recall of analog devices. It's important to note that GCon is solely focused on device control and management; it does not facilitate the transfer of audio signals. This protocol is instrumental in bridging the gap between analog warmth and digital convenience, allowing users to enjoy the best of both worlds without compromising on sound quality or control flexibility.

9 Warranty

WesAudio is committed to delivering products of the highest quality, designed for durable and reliable performance over many years, assuming proper care, usage, transport, and storage. Our products come with a two-year warranty covering defects in parts and workmanship from the original date of purchase. This warranty is extendable to any future owner within the warranty period, ensuring continued protection.

Warranty Coverage:

- The warranty is valid for two years from the date of the original purchase.
- It is transferable to any subsequent owner within this period.

Exclusions:

- The warranty does not cover normal wear and tear.
- It excludes damages due to misuse, negligence by the customer, accidental impacts, unauthorized modifications or repairs, cosmetic issues, and damages from shipping.

Warranty Service:

- Should a product exhibit a defect in parts or workmanship during the warranty period, WesAudio will, at its discretion, repair or replace the defective components at no charge, assuming the customer provides valid proof of purchase.
- The product must retain its original factory serial number to be eligible.
- Customers are responsible for shipping costs to WesAudio for warranty service. WesAudio will cover the return ground shipping costs.

This comprehensive warranty underscores our dedication to quality and customer satisfaction, ensuring your WesAudio products perform flawlessly for years to come.