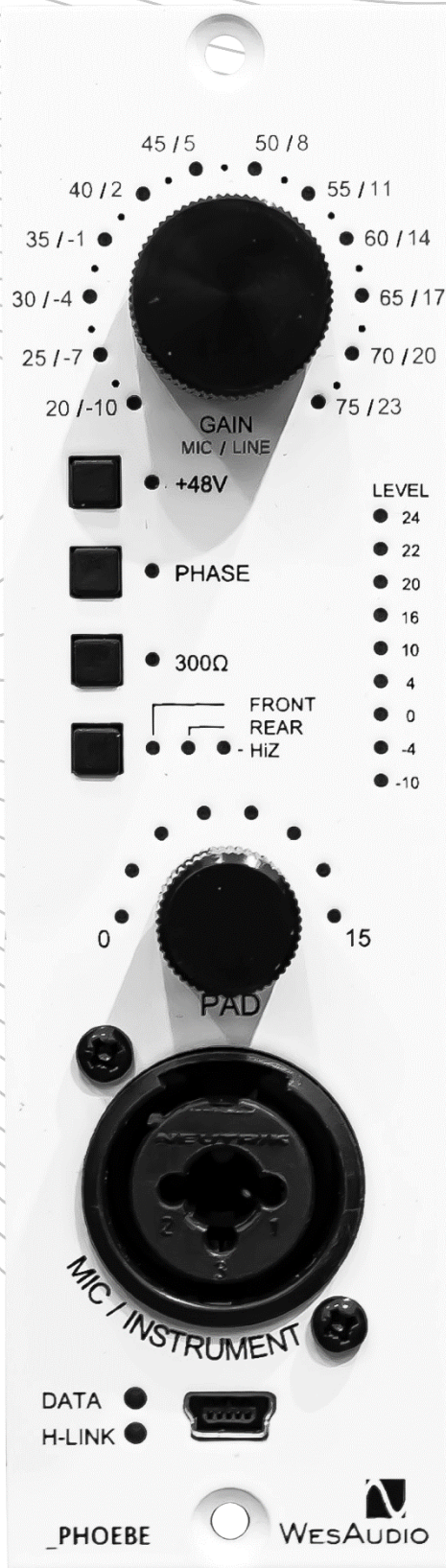


# Analog Sound Digital Recall



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



# **\_PHOEBE**

User manual

EN

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Thank You for the purchase of **\_PHOEBE**

**Class A analog microphone preamplifier with digital recall**

With kind regards

Radoslaw Wesolowski and Michal Weglicki

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# CLASS A PREAMPLIFIER – VINTAGE SOUL, MODERN CONTROL

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Experience the revered character of classic microphone preamps—now seamlessly integrated into today’s digital workflows. \_PHOEBE is a fully analog, Class A microphone, line, and instrument preamplifier built on a dual-amp vintage design and enhanced with the most requested modern features.

As part of the NG500 ecosystem, \_PHOEBE offers full digital recall and remote control while preserving an uncompromised analog signal path.



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# 1 Overview

\_PHOEBE is a fully analog processing unit equipped with digital control. All audio signal processing is performed exclusively by analog components to preserve the integrity and character of the sound. The digital control section is responsible for configuring the unit's settings, enabling seamless integration with DAW environments through features such as digital recall and remote control - without affecting the analog signal path.

# 2 Main Features

\_PHOEBE offers a sophisticated blend of analog audio excellence with digital precision, designed for professionals seeking uncompromising sound quality and versatile control:

- **100% Analog Signal Path:** Class A microphone/line/instrument preamplifier with +28dBu of headroom, ensuring pristine audio performance.
- **Dual-Amp Vintage Design:** Inspired by the legendary 1073 preamp, \_PHOEBE features a fully analog, dual-amplifier topology for rich, musical character.
- **Wide Gain Range:** Microphone gain adjustable up to 75dB, suitable for a wide variety of dynamic and ribbon microphones.
- **Carnhill Transformers:** High-quality input and output transformers deliver classic warmth and tonal depth.
- **IRON PAD – Passive Output Attenuator:** A transformer-coupled passive attenuation stage with 1dB steps, placed after the output transformer for optimal sonic control.
- **Precise Metering:** Front panel LED signal meter with clip detection for accurate output level monitoring.
- **Flexible Input Configuration:** Front-panel combo XLR/TRS input supports:
  - a. Hi-Z instrument input (TS)
  - b. Line input (XLR)
  - c. Microphone input (XLR) - Signal source can be switched between the front and rear XLR inputs with recallable control.
- **Switchable Input Impedance:** Select between 1200  $\Omega$  and 300  $\Omega$  to match various microphone types and tonal preferences.
- **Phantom Power & Phase Invert:** Analog switching with digital control of +48V phantom power and phase invert function.
- **Digital Recall via USB or \_TITAN:** Quick recall of settings through front panel USB or within \_TITAN chassis.

## 3 Hardware

This chapter will go through all analog features and explain all hardware aspects of \_PHOEBE.

### 3.1 Specification

<b>Frequency Response</b>	+/- 0.5dB 20Hz-20kHz; -3dB at 50kHz
<b>Distortion</b>	0.005% at 1kHz at +20dBu output
<b>Line Input Impedance</b>	5.5k $\Omega$ bridging
<b>Microphone Input Impedance</b>	300/1200 $\Omega$
<b>Noise</b>	Unity gain (better than -100dbU)
<b>Max Gain</b>	+75dB (better than -70dbU)
<b>EIN</b>	Better than -120dB
<b>Max Power Consumption</b>	170mA(+16V); 100mA(-16V)
<b>Unit Dimensions</b>	38x133x145mm
<b>Box Dimensions</b>	105x162x234mm
<b>Unit Weight</b>	1 kg
<b>Bos Weight</b>	1,2 kg
<b>Warranty</b>	2 years

The unit must warm up for approximately 5 minutes before use. Temperature changes can impact internal analog circuitry, potentially affecting gain levels and tonal balance.

## 3.2 Installation and Compatibility

WesAudio \_PHOEBE compressor module is intended for installation in:

- An **API™ 500 Series** compatible rack
- \_TITAN or any other **ng500** compatible chassis.

WesAudio's \_PHOEBE module isn't standalone; it needs power from the rack system to function.

When unpacking, check for any damage caused during shipping. If there's a problem, contact your dealer immediately!

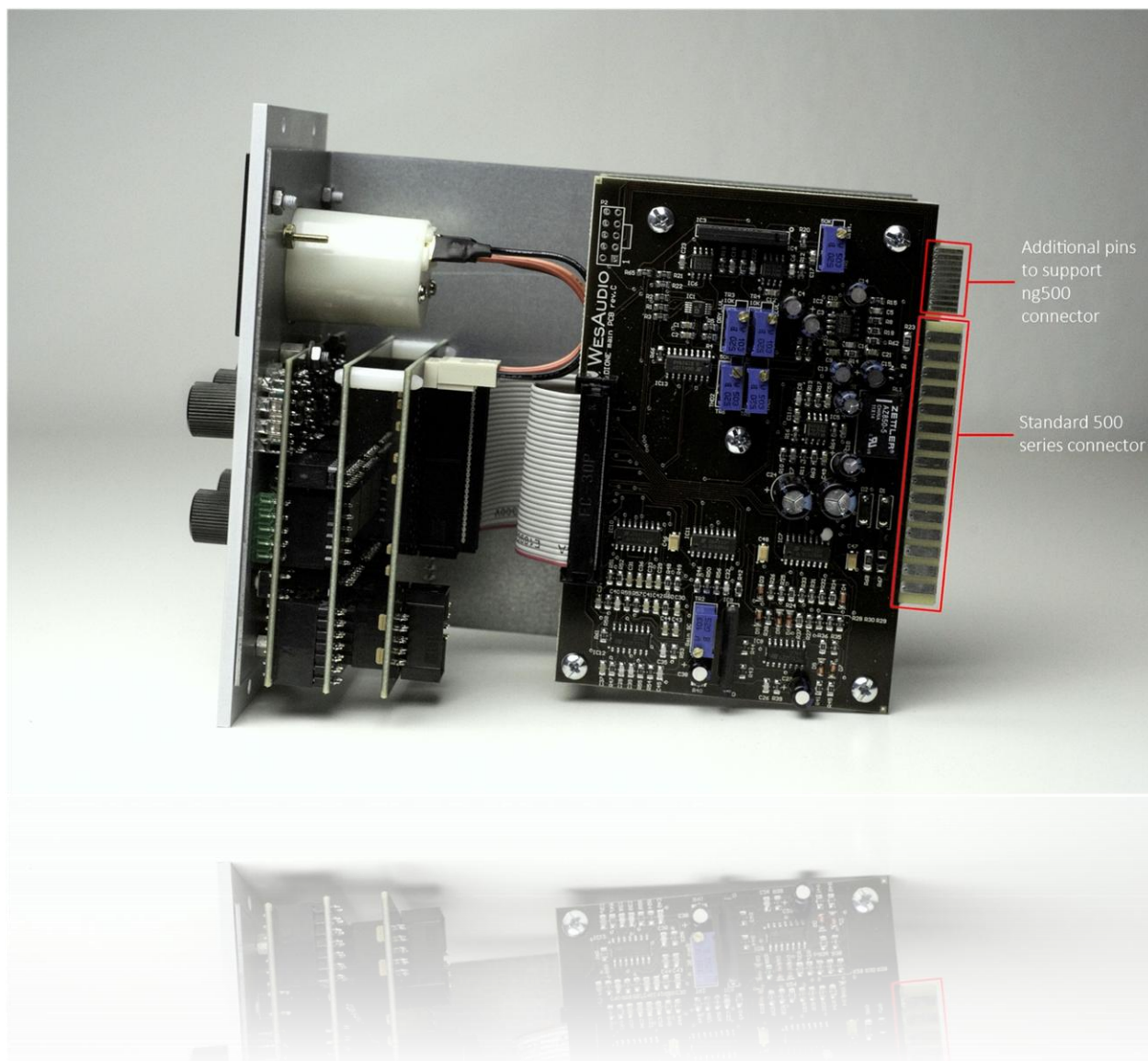
### **Module installation walkthrough:**

Select the slot in the rack for the module and insert it, aligning the edge connector with the rack's matching connector. Gently slide the module into place until it is securely seated. Secure the front panel to the rack using screws provided by the rack manufacturer for stability. Be careful not to overtighten to avoid damaging the threads. Power it up, perform a quick test to ensure everything's functional, and most importantly, enjoy!

**!Ensure the rack is powered down completely to avoid potential module damage!**

**500 series compatibility note:**

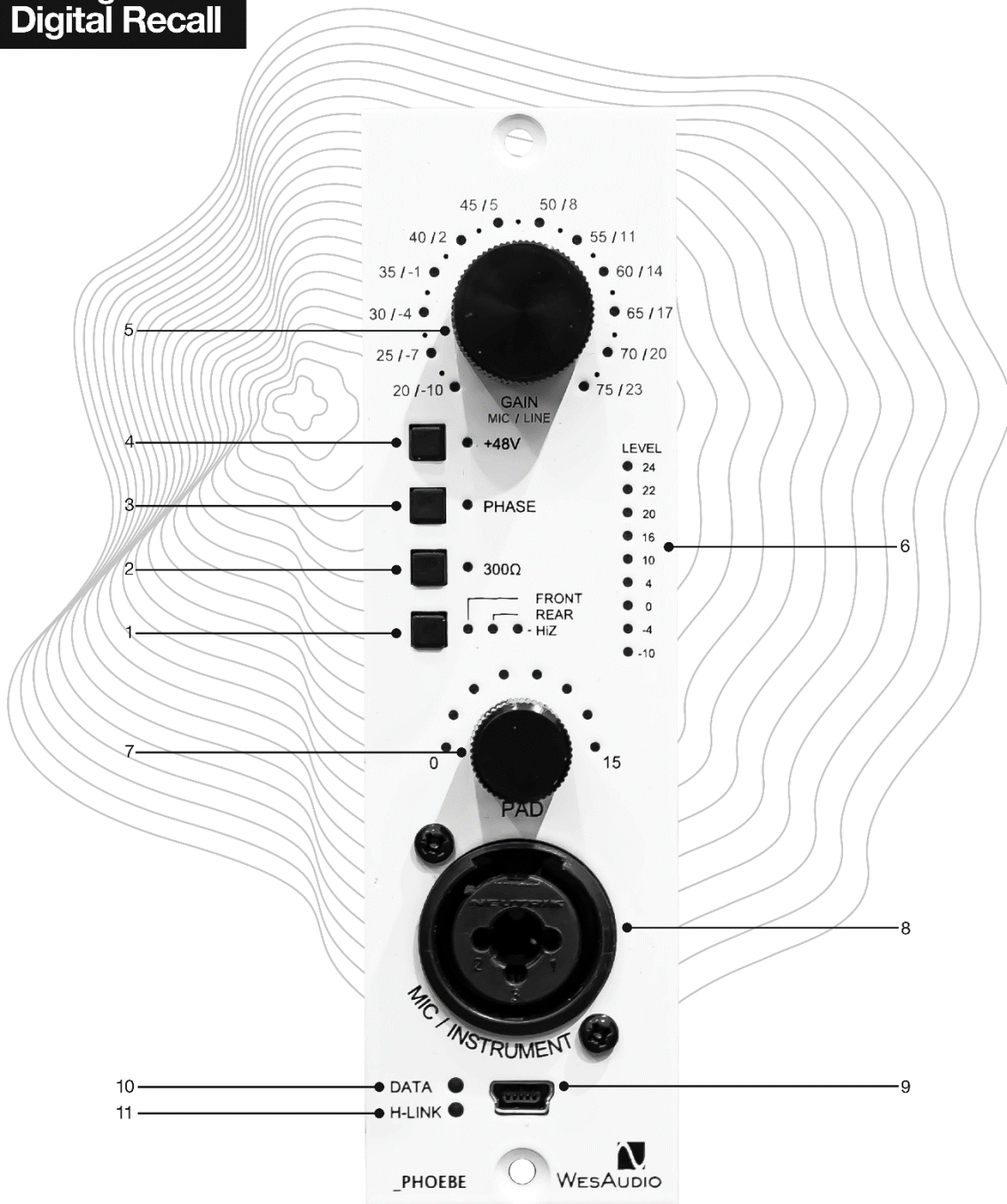
Each WesAudio device within the ng500 (Next Generation 500 series) lineup comes with a unique connector. This specialized connector serves as an extension to the standard 500 series, enabling your device to be controlled and recalled using the specialized GCon protocol. For instance, this connector allows compatibility with the \_Titan 500 series 10-slot frame.



This extension is designed to work with the standardized plug type in the 500 series. Yet, some manufacturers use large screws on the plug, hindering device compatibility. Research indicates that over 90% of 500 series racks are compatible. For more information, please visit: <https://wesaudio.com/ng500/>.

### 3.3 Front Panel and Main Functions

**Analog Sound**  
**Digital Recall**



1. **FRONT/REAR Input Selector:** Selects the input source between the rear XLR socket (Line/Microphone) and the front-panel combo XLR/TRS socket (Line/Microphone/Instrument).
  - The **Hi-Z LED** lights up when a TS (instrument) cable is connected, and **FRONT** mode is selected.
2. **300  $\Omega$  Impedance Switch:** Activates a lower input impedance of 300 ohms (default is 1200 ohms) to better match certain microphones and alter tonal response.
3. **Phase Invert:** Inverts the polarity of the input signal. Useful for phase alignment when using multiple microphones.
4. **Phantom Power (+48V):** Enables phantom power for condenser microphones.
  - Automatically disabled when **LINE** or **Hi-Z** mode is active to protect line-level and instrument inputs.
5. **GAIN Encoder:** Adjusts the gain level of the preamplifier.
  - Press the encoder to toggle between **LINE** and **MICROPHONE** input modes.
6. **VU Meter:** Displays the output signal level up to +24dBu.
  - All LEDs turn **red** to indicate internal clipping.
7. **PAD (IRON PAD Attenuator):** Engages a passive output attenuator post-output transformer, adjustable in 1dB steps up to 15dB.
8. **Front-Panel Combo Input (XLR/TRS):** Active when **FRONT** mode is selected. Accepts:
  - **XLR:** Microphone or line-level signals
  - **TRS (TS):** Instrument (Hi-Z) signals
9. **USB Socket:** Module control USB port.
10. **DATA LED:** Indicates that data is being sent from the DAW to the hardware.
11. **H-LINK LED:** Shows the status of the host-module connection.

## 4 Analog Processing

### 4.1 Gain

\_PHOEBE automatically adjusts its gain range based on the selected input mode. The available gain levels are as follows:

- **Microphone Mode: +20dB to +75dB**
- **Line Mode: -10dB to +20dB**
- **Instrument (Hi-Z) Mode: -30dB to +25dB**

**Tip:** If the maximum **75dB** of microphone gain is not sufficient, engaging the **300 Ω input impedance mode** can slightly boost the input level by a few additional decibels due to impedance interaction.

### 4.2 VU Metering

The front panel VU meter and the plug-in meter both display the **output signal level after the PAD stage**, effectively showing the **gain level** applied by the preamp.

- When the signal approaches clipping, all front-panel LEDs will turn **red**, indicating that internal **CLIP** has been detected, and signal level should be reduced to avoid distortion.

### 4.3 Stereo vs Mono

\_PHOEBE is a **single-slot, mono preamplifier**, but thanks to its digital control capabilities, it can be seamlessly linked with a second unit for **stereo operation**.

To enable stereo mode:

1. Open the **Stereo version of the plug-in**.
2. Connect two \_PHOEBE units.

Once linked, all parameters can be controlled in **relative stereo mode** - adjust a control on one channel, and the second channel will automatically follow with matched offset, ensuring consistent stereo tracking.

### 4.4 Front vs Rear

\_PHOEBE leverages its digital control architecture to offer **two independent memory banks**, allowing fast and seamless switching between connected sources:

- **Bank A - FRONT Input**  
Activated when the **front panel XLR/TRS** combo socket is selected.
- **Bank B - REAR Input**  
Activated when the **rear XLR** input (on the chassis) is selected.

Each bank stores a **separate set of analog parameters**, including gain, impedance, phase, phantom power, and PAD settings. This makes it easy to switch between two completely different input sources with a single button press.

For example:

- **REAR (Bank B)** could be connected to a **microphone**.
- **FRONT (Bank A)** could be used for a **DI instrument** or **line-level source**.

Switching between FRONT and REAR inputs instantly recalls the respective parameter set, eliminating the need to reconfigure settings manually—even when the plug-in is not in use.

#### Input Compatibility:

- **Front Panel Combo XLR/TRS Socket**
  - Microphone (XLR)
  - Line (XLR)
  - Instrument / Hi-Z (TS)
- **Rear Panel XLR Socket**
  - Microphone (XLR)
  - Line (XLR)

## 4.5 Hi-Z – Instrument Mode

Hi-Z mode, designed for instrument-level signals (such as electric guitars or basses), is **automatically engaged** when the following two conditions are met:

- **FRONT input mode** is active.
- A **TS jack cable** is inserted into the **front-panel TRS socket**.

When both conditions are satisfied, \_PHOEBE automatically switches to Hi-Z mode and enables the appropriate input impedance for instrument signals. The **Hi-Z LED** will illuminate to indicate this mode is active.

## 4.6 +48V Phantom Power

+48V Phantom Power is a standard and essential feature for powering condenser microphones, and \_PHOEBE includes this functionality as part of its digitally controlled analog design. However, due to specific internal circuitry configurations, phantom power behavior is governed by a set of rules to ensure safe operation:

- **LINE Mode**  
When the preamp is set to **LINE** gain mode, phantom power is automatically **disabled** and becomes **unresponsive** on both the front panel and in the DAW plug-in.
- **Hi-Z Mode**  
Similarly, when operating in **Hi-Z (instrument)** mode, phantom power is also **disabled** and **unresponsive** to prevent potential damage to connected equipment.

- **Input Source Switching (FRONT/REAR)**

When switching between **FRONT** and **REAR** input sources, phantom power behavior will follow the current gain setting.

- For example, if **REAR** is set to **LINE** and **FRONT** to **MICROPHONE**, switching from FRONT to REAR will automatically disable phantom power due to the LINE setting.

These safeguards are in place to protect both \_PHOEBE and any connected devices, ensuring safe and reliable operation across all use cases.

## 4.7 Output Pad

The Output PAD circuit is designed to provide up to 15dB of passive attenuation, implemented entirely in the analog domain after the output transformer. While the target attenuation is 15dB, actual values may vary slightly due to the nature of analog component tolerances and external factors, including:

- **Resistor Tolerances** - Due to standard manufacturing tolerances and limitations in available resistor values, small deviations in attenuation are expected.
- **Load Impedance** - The input impedance of the next device in the analog signal chain can influence the effective attenuation level.

**In practice**, the maximum attenuation provided by the PAD may range between 16–17dB. If the following device presents an unusually low input impedance, the attenuation may exceed this range by a few additional decibels.

## 5 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 plugin types and platforms, please refer to the provided link.*

### 5.1 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.

#### 5.1.1 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.

#### 5.1.2 For OSX Users

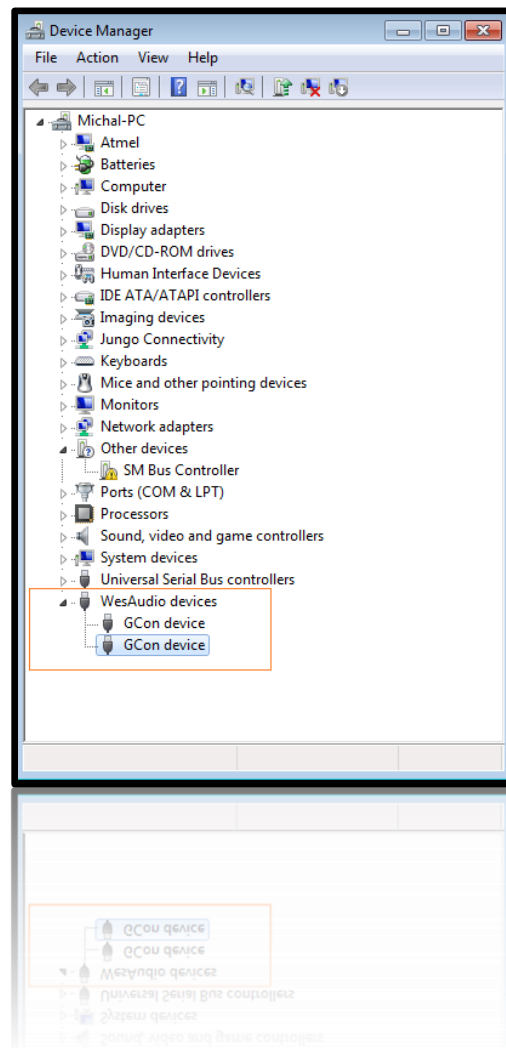
Due to the simpler nature of OSX architecture and its handling of USB devices, the primary consideration is to ensure all devices are connected before beginning the installation process. Once you initiate the installer application, you might encounter system warnings regarding the installer. In such cases, please disregard these warnings\*. If necessary, you can bypass these warnings by accessing the context menu through an 'Option' click (or right mouse click) and initiating the installation process again.

### 5.1.3 Troubleshooting

If you encounter any issues during the installation process, please reach out to our support team at [support@wesaudio.com](mailto: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 plugin 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.



## 5.2 GCon Manager

The GConManager is a versatile application designed for configuration management across compatible devices. It is located within the Application folder data:

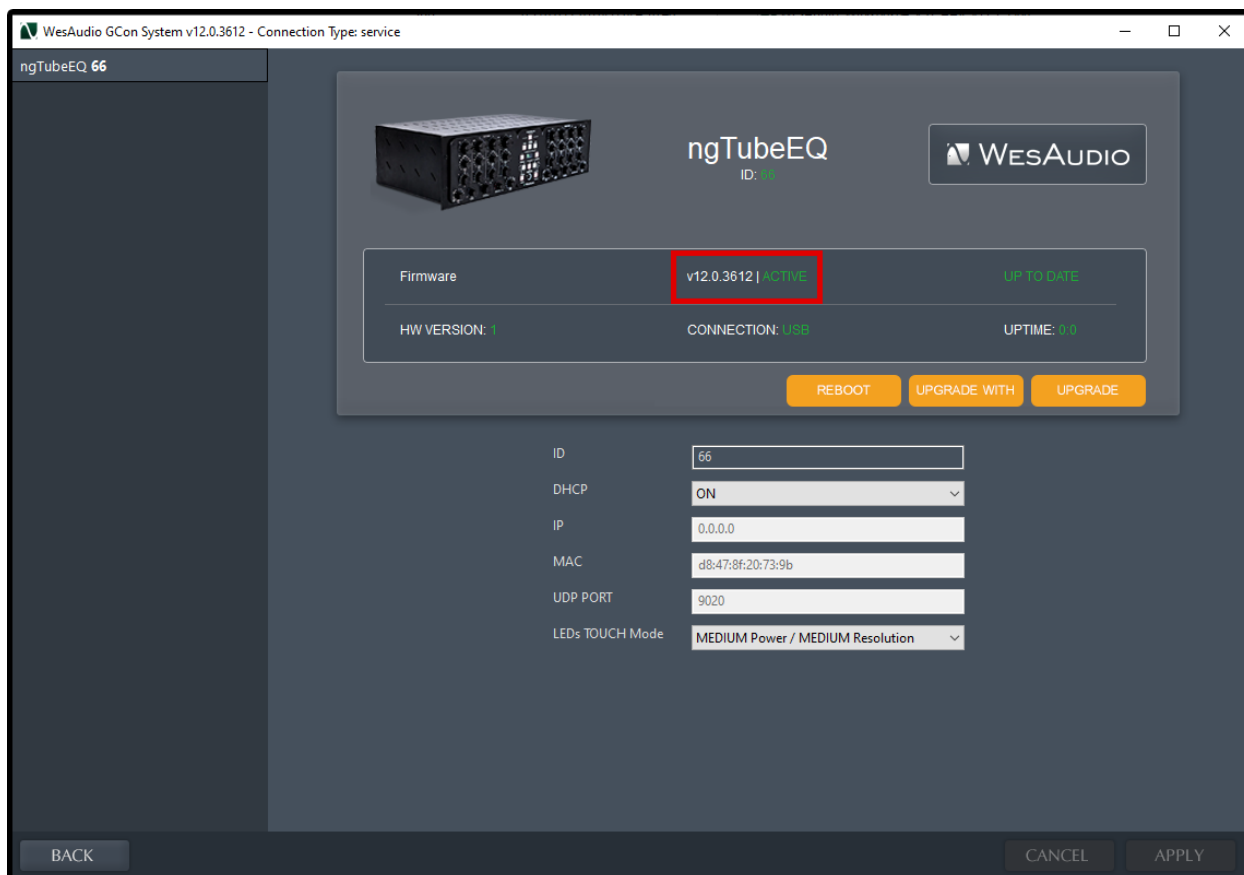
- **For OSX:** Access it at “/Applications/WesAudio/GConManager.”
- **For WINDOWS:** Find it in the folder chosen during the installation phase, typically “c:/Program Files x86/WesAudio/GConManager.exe” by default.

### 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).

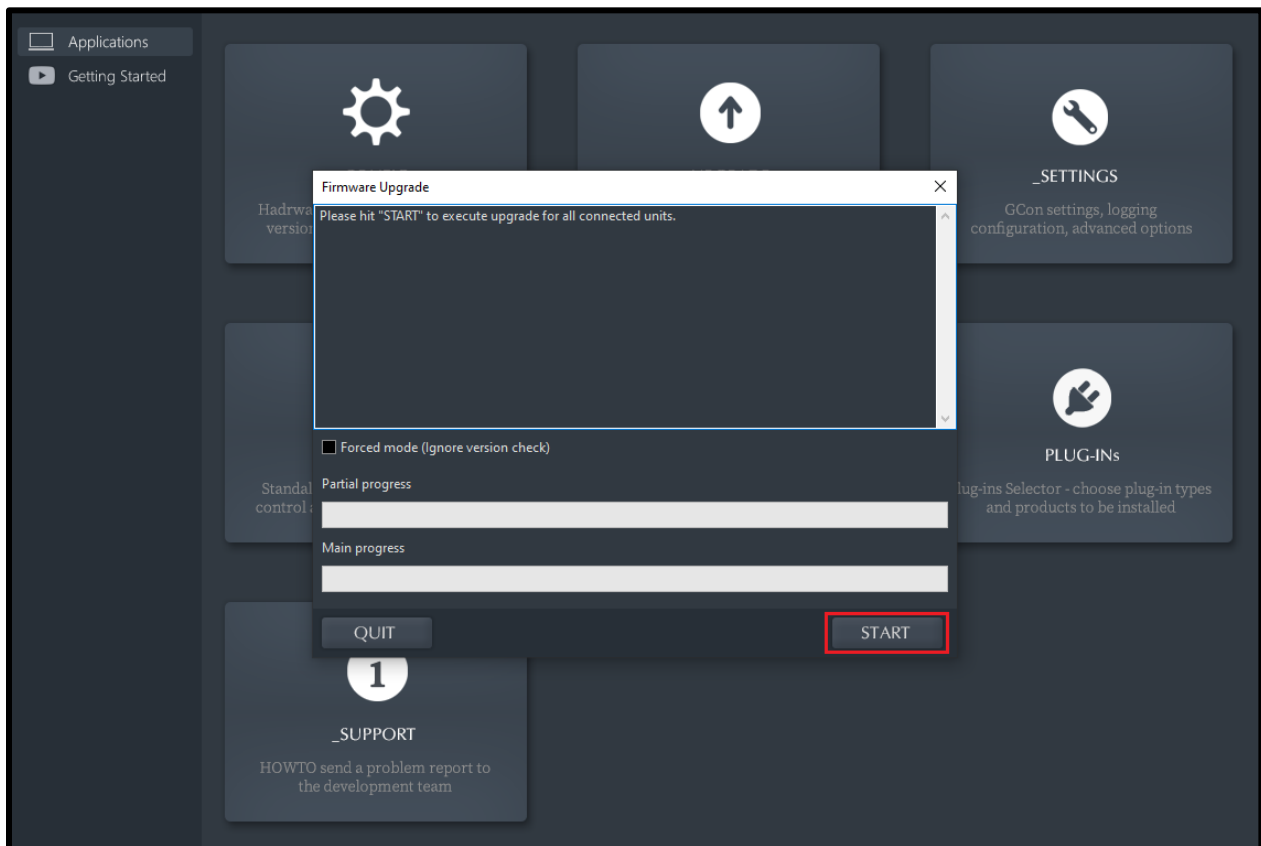
## 5.3 How to check Firmware version

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.



## 5.4 How to perform Firmware upgrade

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.



## 6 Digital Control / Recall

This chapter delves into the comprehensive options available for managing \_PHOEBE and automating its settings. The cornerstone of \_PHOEBE's automation capabilities is its integration with Digital Audio Workstations (DAW) through a plugin, 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 plugin 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.

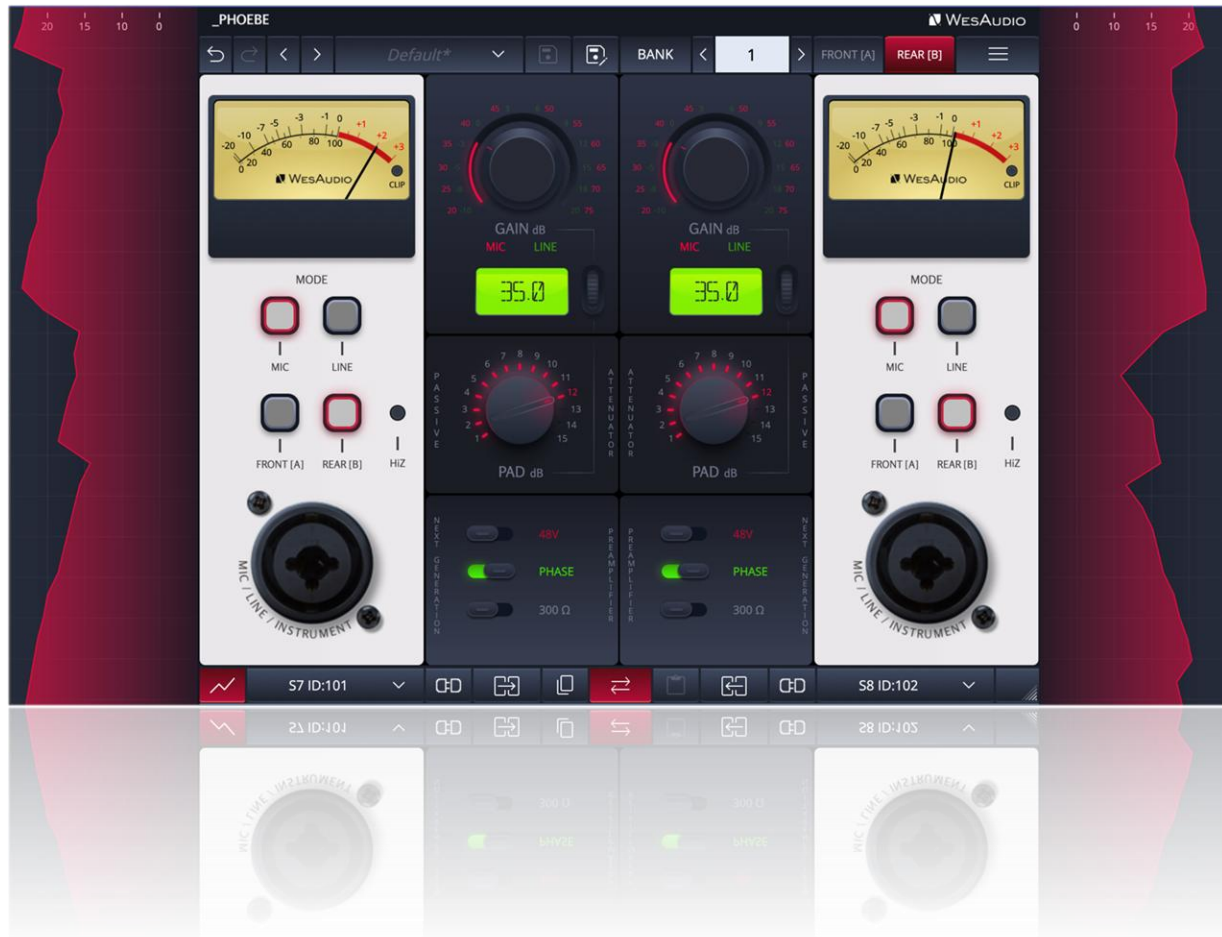
### Benefits of DAW Plugin Control:

- **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 \_PHOEBE 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 plugin 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 plugin control ensures full accessibility and adjustability of \_PHOEBE features from the workstation, a boon for those with spatial constraints or other limitations preventing direct access to their hardware.

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

## 6.1 DAW Plug-in

The \_PHOEBE 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.



### 6.1.1 \_PHOEBE – Mono Plugin Structure

**Analog Sound  
Digital Recall**



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

1. **Undo:** The Undo feature in the \_PHOEBE 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 preset database.
4. **Next Preset:** Loads the next preset from preset database.
5. **Preset Name:** The name of the preset currently in use or being modified, which allows for easy recall or sharing of specific configurations.
6. **Preset Selector:** Allows for the selection, viewing, and deletion of presets.
7. **Preset Save:** Saves currently selected presets.
8. **Preset Save As:** Facilitates saving current settings as a preset providing name and preset details.
9. **Front [A]:** Activates front panel input (Mic/Line/Instrument) and loads configuration A with independent settings.
10. **Rear [B]:** Activates rear XLR input (Mic/Line) and loads configuration B with its own parameter set.
11. **Copy:** Enables users to copy the current parameter state.
12. **Paste:** Enables users to paste the current parameter state, facilitating quick duplication of settings.
13. **Menu:**
  - **Resize:** Adjusts the GUI size (75%/100%/125%/150%/175%/200%), catering to different screen sizes and user preferences.
  - **Reset Parameters to Default:** Resets all plugin parameters to their default states.
  - **Save GUI Preferences:** Allows to save current GUI settings, ensuring each new plugin instance opens with the same size and scaling settings.
  - **Clear GUI Preferences:** Clears the information about plugin size, FFT, and draw plot from the file. Please note that this function does not reset the plugin GUI to its default settings, it just clears saved configuration used by new plug-in instances.
  - Shows currently installed plug-in version.
14. **VU Meter:** A classic analog-style VU meter displays the output level after the PAD stage, providing precise visual feedback for level monitoring and gain staging.
15. **Mic/Line:** Switches between Mic (20–75dB gain) and Line (-10 to +20dB gain) modes. Phantom power only in Mic mode.
16. **Front/Rear/Hi-Z:** Selects the active input source - rear XLR (Mic/Line), front XLR (Mic/Line), or front TS jack (Hi-Z). Hi-Z mode engages automatically when a TS cable is inserted, and the front input is selected.
17. **Gain:** Sets gain depending on mode.
18. **Dynamic Link:** Links the Gain and Pad controls when using the GUI Scroll in the plugin, allowing both parameters to be adjusted simultaneously. For more information read chapter "[Auto Parameter Linking Feature](#)."
19. **Pad:** Passive attenuator up to 15dB (1dB steps), post-transformer. Actual value may vary slightly.

20. **+48V (Phantom Power):** Provides phantom power in Mic mode only. Disabled in Line and Hi-Z modes.
21. **Phase:** Inverts signal polarity (180° phase flip).
22. **300 Ω:** Switches input impedance from 1200 Ω to 300 Ω, increasing gain slightly and changing mic response.
23. **Plot:** Toggles the signal visualization display. For more information read chapter “[Plot Feature.](#)”
24. **The Select Connection Button:** Within the \_PHOEBE plug-in serves as a gateway to establishing and managing 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.

**Upon Initiating Connection, It Visualizes the Connection State as Follows:**

- **USB:** This label signifies a connection established through USB, offering a direct link between the hardware unit and the workstation.
  - **SLOT:** This label indicates that the unit is connected through a \_TITAN chassis.
  - **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:
    - **ON:** A solid white font denotes a successful connection, indicating that communication between the plug-in and the hardware unit is active.
    - **OFF:** A solid gray font signifies that the connection is not established, alerting the user to a disconnect or other issue preventing communication.
    - **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
25. **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."
  26. **Resize:** Adjusts the display size or layout of the interface.
  27. **Signal Meter:** Displays the signal level of the module, providing real-time visual feedback of the output.

## 6.1.2 \_PHOEBE – Stereo Plugin Structure

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1. **Config Bank:** Selects between configuration banks, each containing three configurations. This feature supports automation for changing unit settings within a session or a song.
2. **Left Select Connection Button:** Opens a dropdown list of available hardware units. Select the appropriate device to establish a connection for the left channel.
3. **Left 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."
4. **Copy Left to Right:** This feature enables quick duplication of settings from the left channel to the right channel, simplifying the alignment of parameters between the two.
5. **Parameter Link:** Synchronizes identical controls across both channels, ensuring consistent adjustments and cohesive stereo operation with a single action.
6. **Copy Right to Left:** This feature enables quick duplication of settings from the right channel to the left channel, simplifying the alignment of parameters between the two.
7. **Right 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."
8. **Right Select Connection Button:** Opens a dropdown list of available hardware units. Select the appropriate device to establish a connection for the right channel.

### 6.1.3 Automation When Parameter Link Is Enabled

It's important to understand that when using the PARAMETER LINK function to synchronize channels, automating just one channel is sufficient, as the linked channel will mirror the adjustments automatically. Should both channels be automated simultaneously, each will attempt to update the other, inevitably causing unpredictable and undesired outcomes. This feature is designed to streamline workflow and ensure cohesive sound processing across channels, but it requires careful management of automation to avoid conflicts.

## 7 Other Functions

In addition to its core features, \_PHOEBE 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 \_PHOEBE, optimizing their workflow and achieving the best possible sound quality.

### 7.1 Memories

In terms of parameter storage:

- The \_PHOEBE unit offers **TWO** distinct quick-access presets, selectable via the Front/Rear buttons.
- In contrast, the \_PHOEBE plugin supports saving an **UNLIMITED** number of configurations. Each preset within the plugin provides three rapid configuration changes, labeled A [Front]/B [Rear] per bank ID.

#### 7.1.1 Synchronization Upon Connection

When a new plugin instance is loaded into your DAW, it starts with default settings and no modified parameters. Upon establishing a connection to the hardware unit by setting the Connection ID, the plugin downloads the current parameter state from the hardware, including any available fast configuration presets. For example, if the connection between the \_PHOEBE plugin and the \_PHOEBE hardware is made while the plugin is in its default state, all parameter states, including A and B presets, will be downloaded to the plugin.

#### 7.1.2 Preset Banks Feature

The Preset Bank feature allows you to configure different parameter states and enables additional parameter configurations (A [Front]/B [Rear]) for flexible use. Having multiple memory banks can be particularly beneficial when mixing multiple songs within the same session. The Memory 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.



## 7.2 Plot Feature

The Plot feature in the \_PHOEBE allows users to toggle the visual representation of the gain reduction applied or the input/output signal passing through the unit. By clicking on the plot icon, you can easily enable or disable the function, giving you the flexibility to visualize the dynamic changes in real-time. This graphical display provides an intuitive way to monitor compression or signal flow, offering immediate feedback to fine-tune settings for optimal performance. Whether you want a clear overview of how the gain reduction is affecting your sound or track the levels of your input and output signals, the Plot feature enhances your workflow with precision and ease.

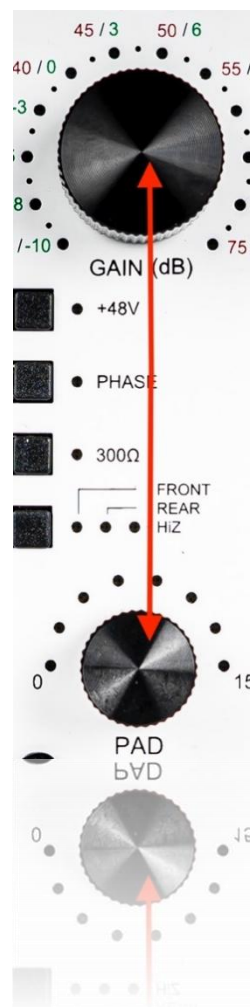


## 7.3 Auto Parameter Linking Feature

Auto Parameter Linking is a **hardware-based function** that allows selected parameters to move together in a coordinated and predictable way. Its purpose is to simplify gain staging and preserve consistent output levels while shaping tone.

In \_PHOEBE, Auto Parameter Linking connects the **Gain** and **Pad** controls so that they move in the **same direction**. When the feature is active, increasing or decreasing one parameter causes the other to change by a corresponding amount.

This behavior enables intuitive control of analog coloration and headroom, allowing users to explore harmonic character and saturation without unintended jumps in loudness. Auto Parameter Linking is especially useful during creative tone shaping and fast mix adjustments, where consistent level management is essential.



### 7.3.1 How to Enable/Disable Auto Parameter Linking

Auto Parameter Linking is **enabled** by default. This hardware-based function can be configured in the **GCon Manager \_CONFIG** application and operates entirely at the hardware level.

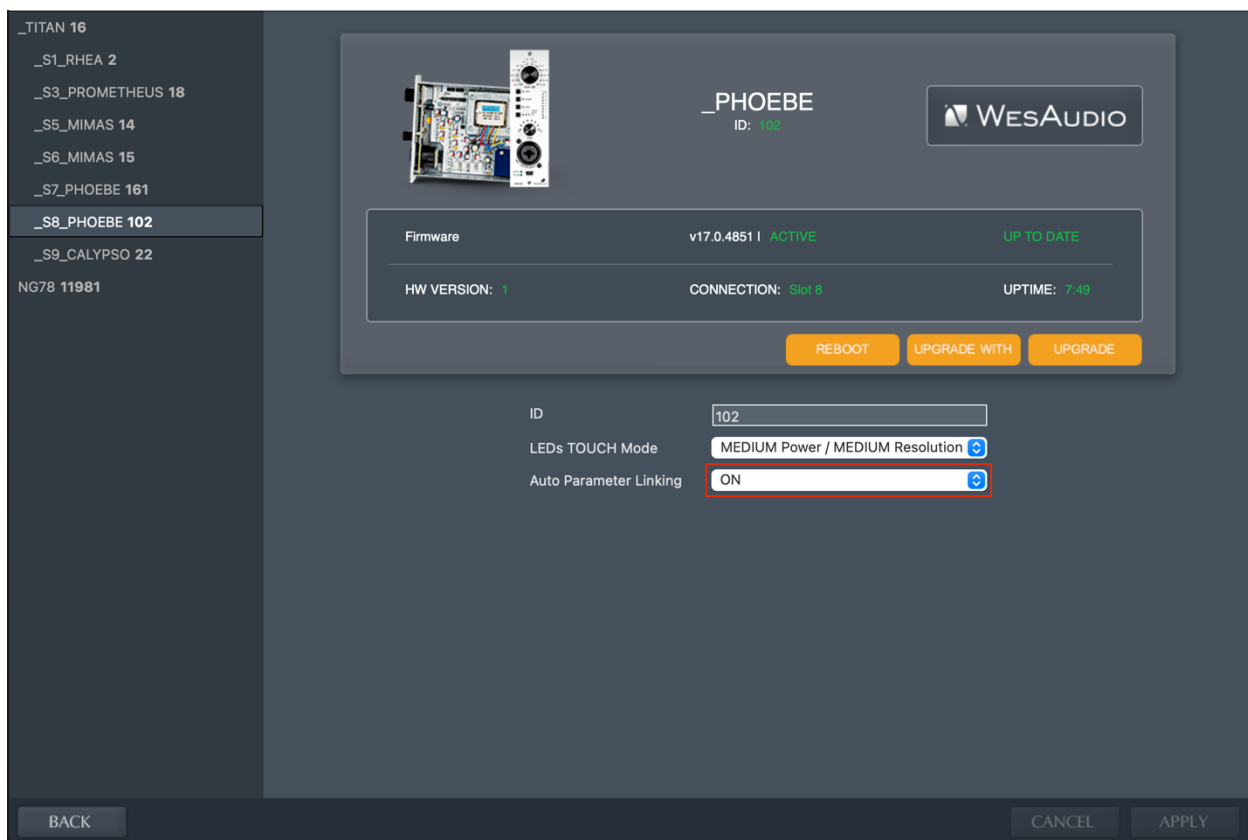
To enable or disable the feature:

1. Open **GCon Manager \_CONFIG**.
2. Locate the **Auto Parameter Linking** option.
3. Set the option to **ON** to allow hardware-based parameter linking, or **OFF** to disable the feature.

When **Auto Parameter Linking** is enabled:

- Touching two encoders simultaneously on the hardware activates linking between the selected parameters.
- Once linked, adjusting either control causes both parameters to move in opposite directions, maintaining a consistent signal level relationship.

When the option is set to **OFF**, encoder-based linking on the hardware is disabled and automatic parameter linking cannot be performed.



## 7.4 Metering

\_PHOEBE features a precise LED-based output level meter on the front panel, as well as a detailed metering display within the companion DAW plug-in. Together, these tools provide accurate visual feedback for setting gain levels, avoiding clipping, and optimizing headroom during tracking and mixing.

### 7.4.1 Front Panel LED Meter

- **Scale:** The front panel meter displays output levels from **-10dBu to +24dBu**.
- **Clip Indication:** When clipping is detected in the internal analog path, **all LEDs turn red**, providing a clear warning that the signal is exceeding safe headroom.
- **Metering Point:** The meter reflects the signal after the PAD circuit, providing an accurate representation of the final output level.

### 7.4.2 Plug-in Metering

The DAW plug-in provides an exact simulation of the analog output level:

- **Real-time Display:** Mirrors the hardware metering in real time.
- **Clip Detection:** Indicates when internal signal clipping occurs, in sync with the front panel.
- **Remote Monitoring:** Allows level monitoring even when the physical unit is not visible (e.g., rack-mounted setups).

### 7.4.3 Additional Notes

- Switching between FRONT [A] and REAR [B] input configs automatically update the metering to match the active input path.
- Accurate metering helps maintain optimal gain staging and ensures clean signal capture, especially with high-output microphones or instruments.

## 8 Hookup diagrams

This section illustrates various ways to integrate \_PHOEBE with other audio equipment. Many of these configurations involve connecting **two signal sources simultaneously** - one to the **REAR** XLR input and another to the **FRONT** panel combo socket. Thanks to PHOEBE's **digitally controlled analog architecture**, this setup is not only safe but extremely practical.

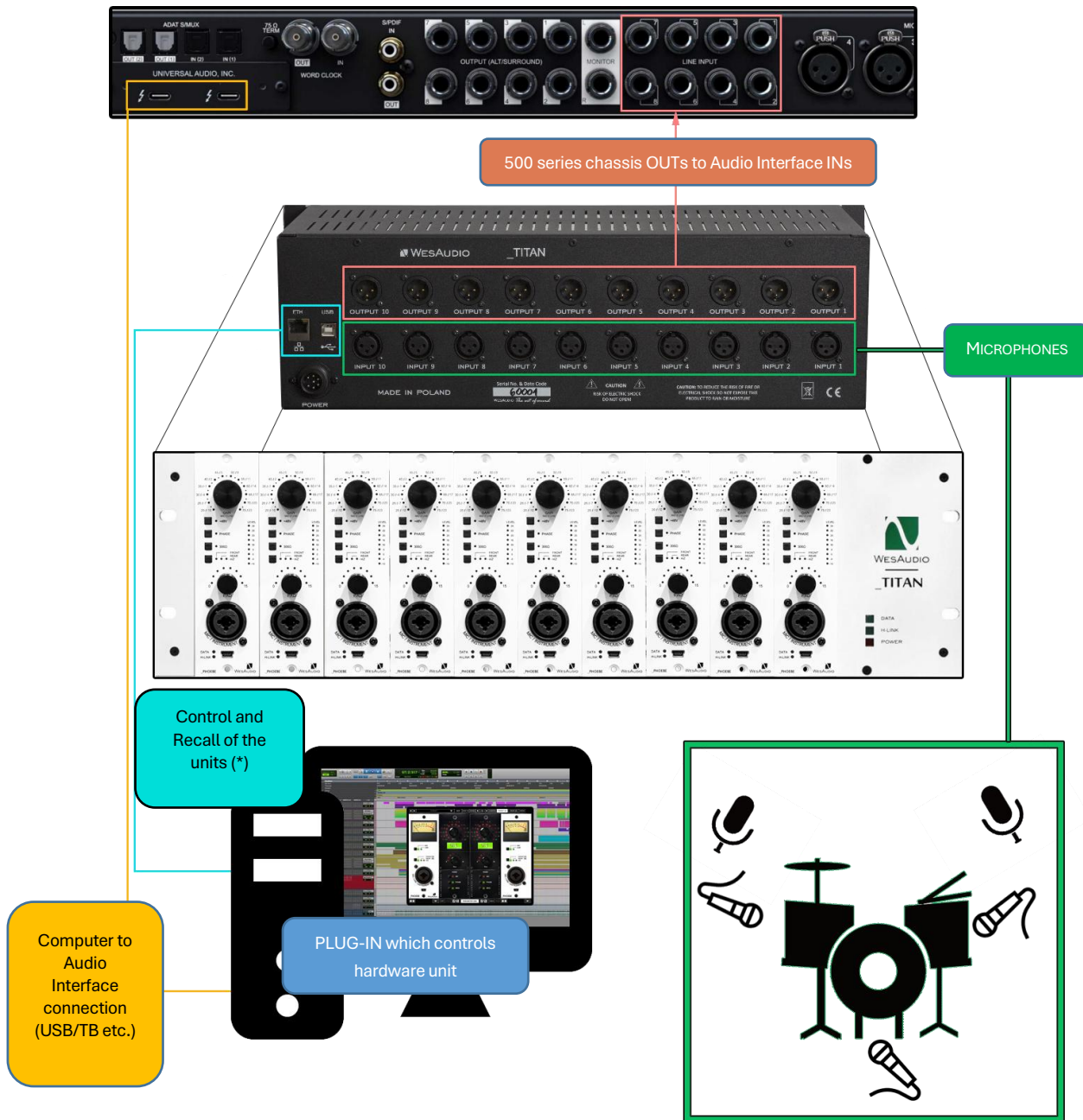
Each input source (FRONT and REAR) is tied to a **separate memory bank** (A and B), allowing users to switch between two complete signal paths - with their own gain, impedance, phase, and PAD settings - at the press of a button or a DAW recall.

### Typical Use Cases:

- 1. Rear Input (Bank B)**  
Configured for **LINE mode**, perfect for integrating \_PHOEBE as a **hardware insert** in your DAW session.  
Example: Post-recording processing of line-level tracks.
- 2. Front Input (Bank A)**  
Set up for **MICROPHONE mode**, optimized for **live recording** of vocals or instruments.  
Example: Recording vocals while maintaining insert capability on playback.

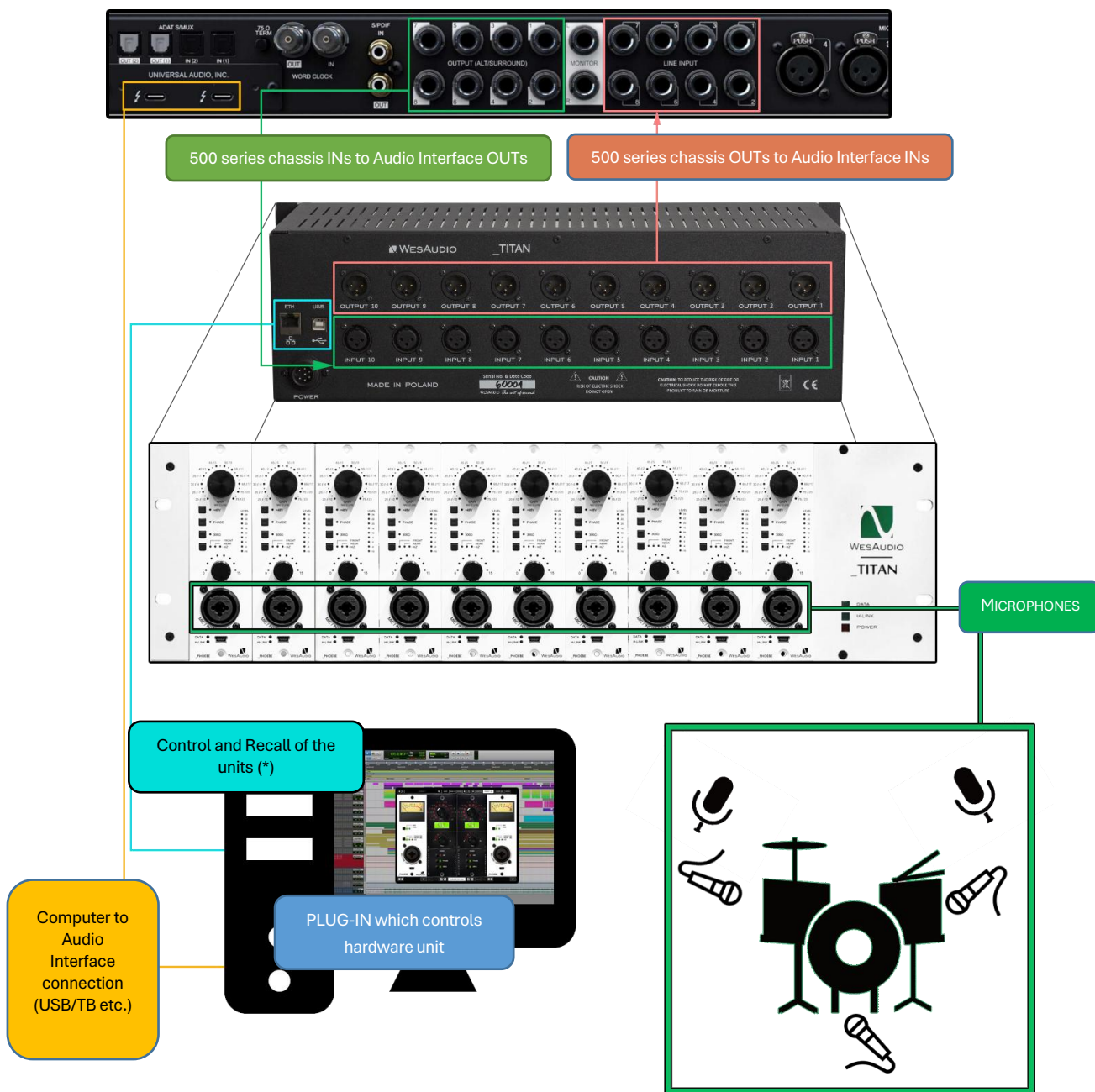
These setups are **fully recallable** via the plug-in. When you reopen a DAW session, \_PHOEBE automatically restores the correct configuration - including source selection (FRONT/REAR) and all analog parameters. Even when the plug-in is not used, the two banks operate independently, so switching between two use cases is as easy as pressing a single button.

## 8.1 Hookup Diagram – \_PHOEBE in \_TITAN: Recording



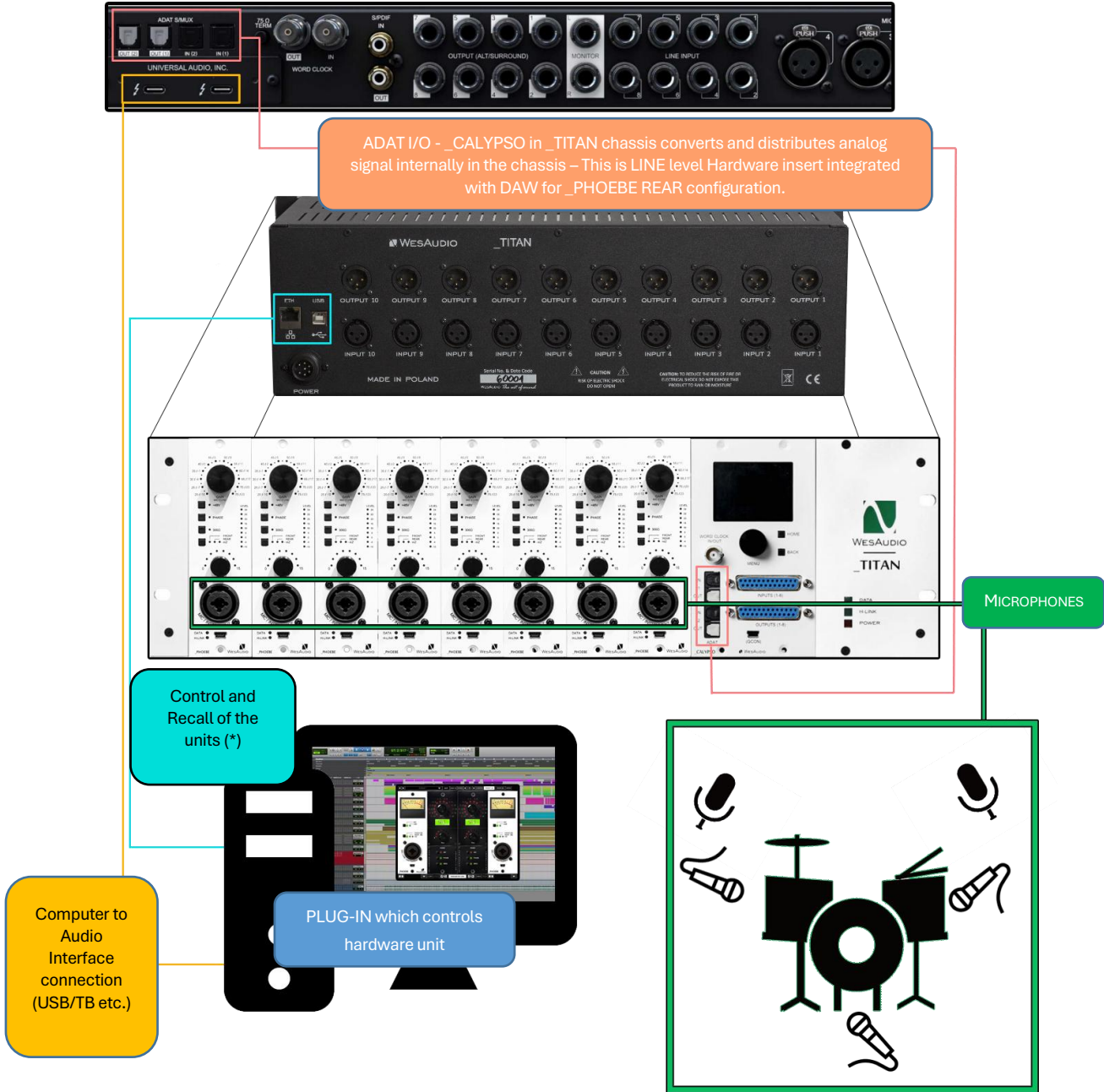
(\*) Please note that the \_TITAN Ethernet connection does not require a direct connection to a PC or Mac. You can also connect the \_TITAN directly to a router and use your local network to access and control all units within the \_TITAN.

## 8.2 Hookup Diagram – \_PHOEBE in \_TITAN: Recording & Mixing



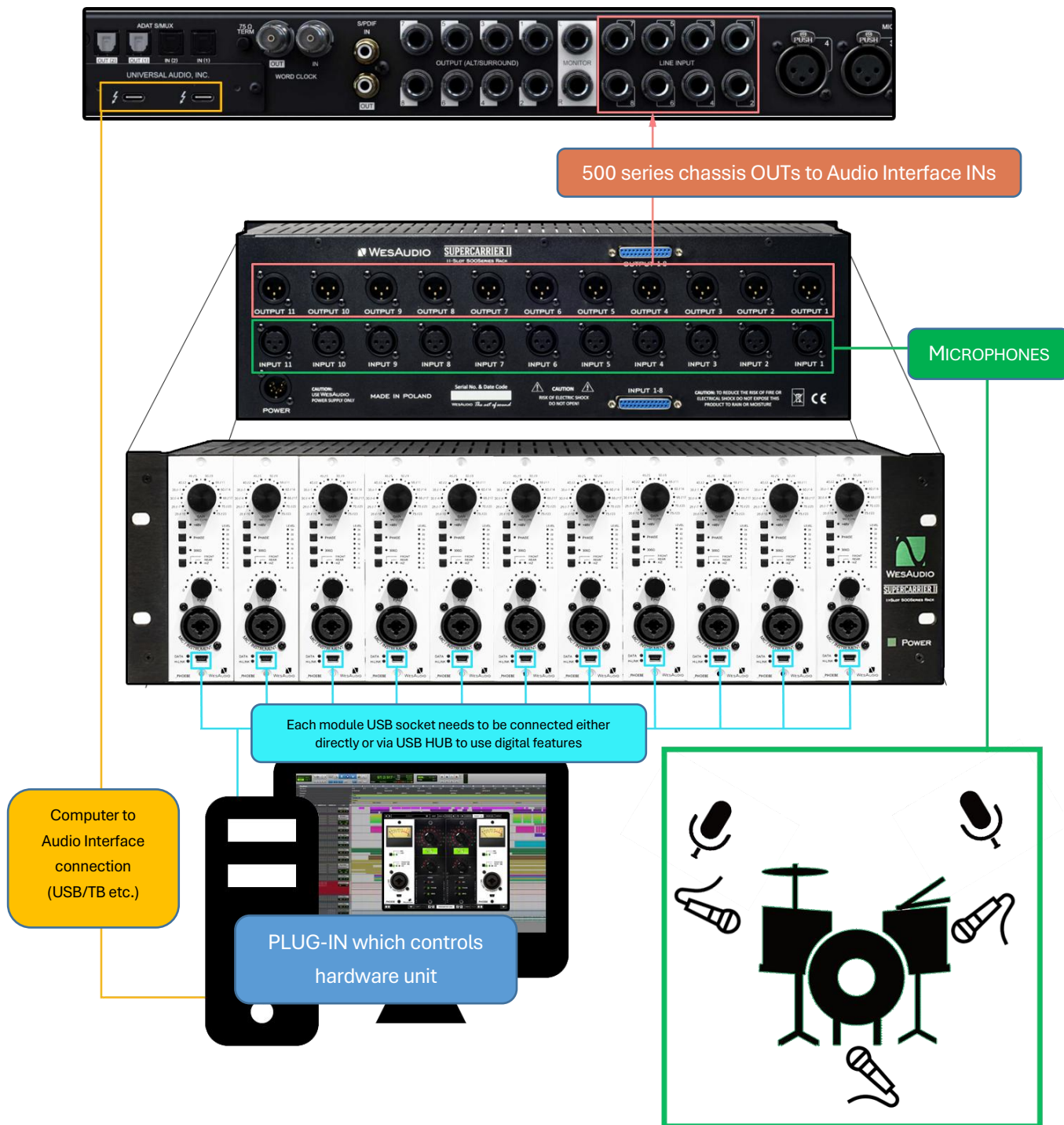
(\*) Please note that the \_TITAN Ethernet connection does not require a direct connection to a PC or Mac. You can also connect the \_TITAN directly to a router and use your local network to access and control all units within the \_TITAN.

## 8.3 Hookup Diagram – \_PHOEBE and \_CALYPSO in \_TITAN: Mixing and Recording

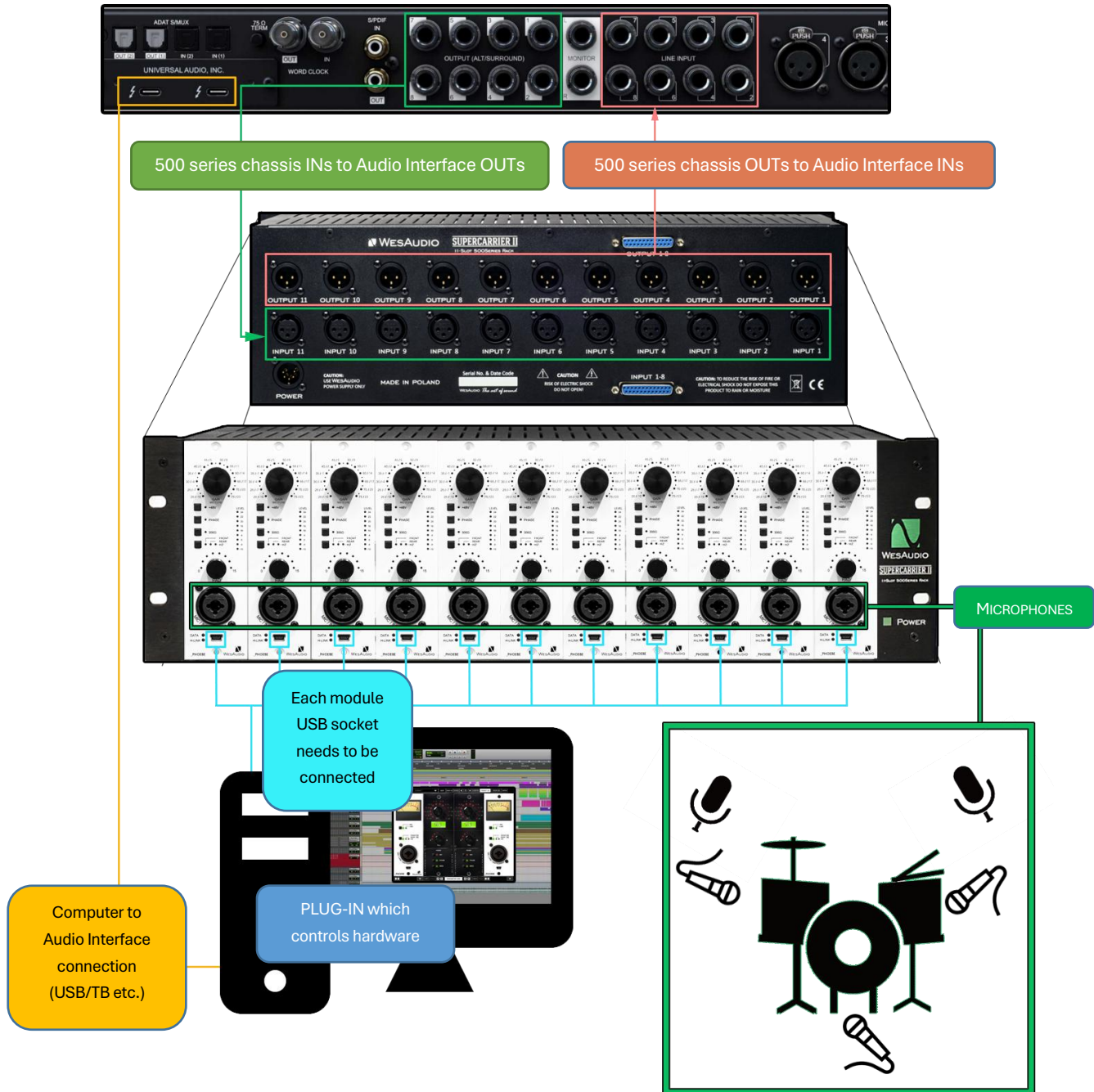


(\*) Please note that the \_TITAN Ethernet connection does not require a direct connection to a PC or Mac. You can also connect the \_TITAN directly to a router and use your local network to access and control all units within the \_TITAN.

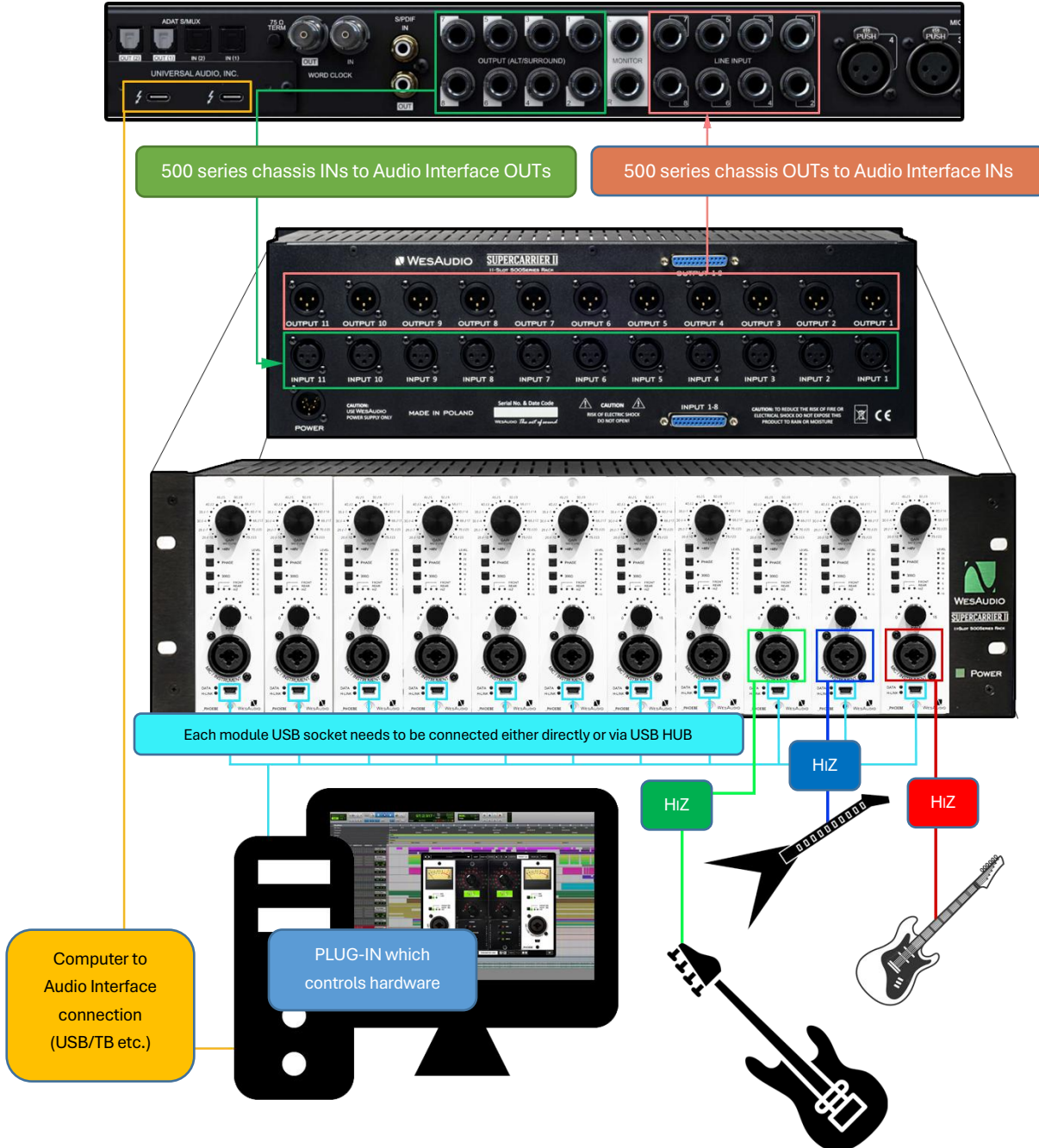
## 8.4 Hookup Diagram – \_PHOEBE in 500 Series Chassis: Recording



## 8.5 Hookup Diagram – \_PHOEBE in 500 Series Chassis: Recording & Mixing



## 8.6 Hookup Diagram – \_PHOEBE in 500 Series Chassis: Recording (Hi-Z) & Mixing



## 8.7 Other Examples

Please note that all WesAudio units, despite their digital recall and control capabilities, remain fully analog and can be utilized at any stage of the production process, including recording and post-processing. For instance, like any other unit, WesAudio modules can be seamlessly integrated during tracking.

## 9 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.

## 10 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.

**NG500** represents the next generation in the 500 series format, offering advancements in technology and integration capabilities for audio processing hardware. This evolution maintains compatibility with existing standards while introducing improvements in power, connectivity, and digital control.

**The NG500 connector** is a specialized extension of the standard 500 series connector, incorporating additional pins to support enhanced features. These include digital control signals facilitated by the GCon protocol, power management improvements, and potentially other functionalities that exceed the capabilities of the traditional 500 series format. This connector ensures that NG500 series modules can leverage advanced digital control and management while maintaining the character and quality of analog audio processing.

## 11 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 uninterrupted coverage.

### **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 defects 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.