

# Analog Sound Digital Recall



Thank You for the purchase of \_RHEA

\_RHEA

Stereo vari-mu Tube compressor with digital control over VST2/VST3/AAX/AU  
plugins.

With kind regards

Radoslaw Wesolowski and Michal Weglicki

---

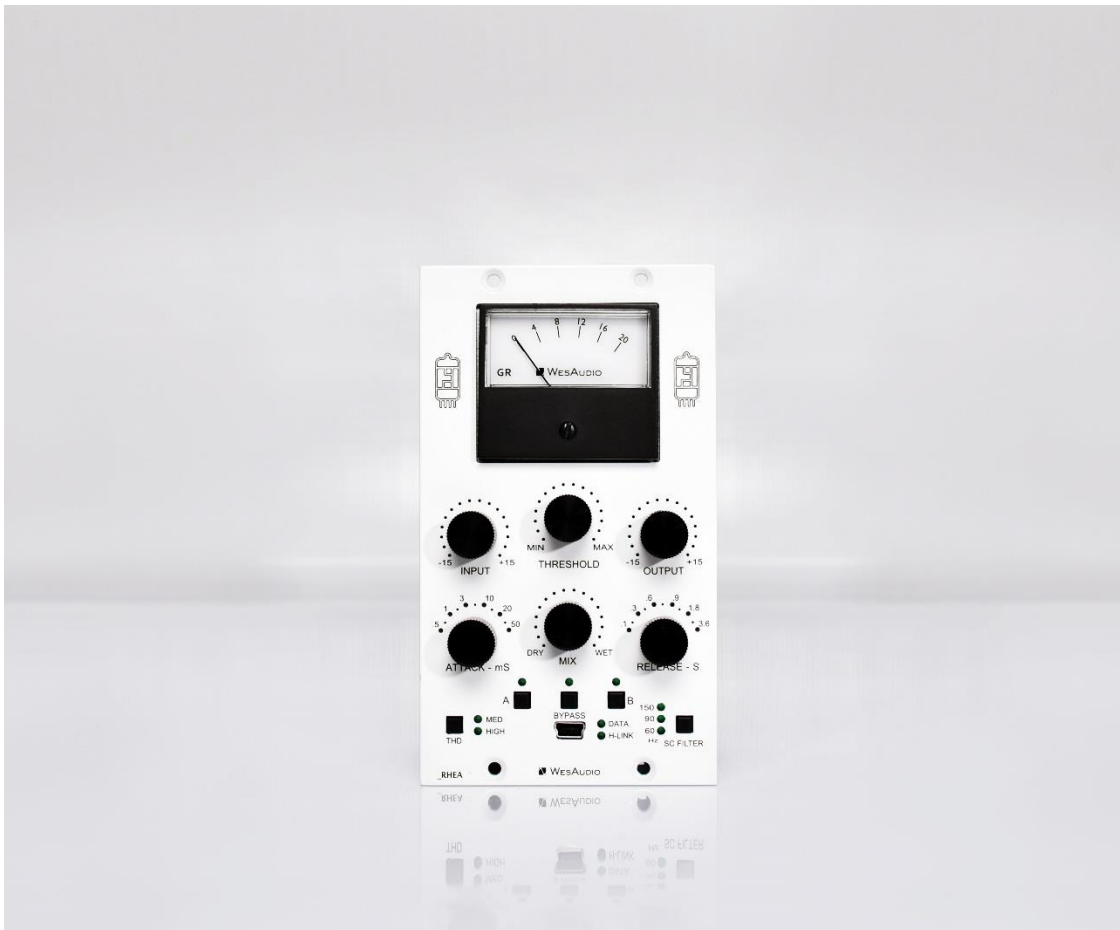
## **\_RHEA is next product in new generation 500 series line created by WesAudio.**

---

Since digital footprint became part of the modern age, analog flavor was demanded more than ever. It is hard to imagine more musical and rich sounding compression than vari-mu design.

This time ng500 line presents \_RHEA - most noble of all, where modern age meets vintage, literally.

\_RHEA - fully analog, stereo vari-mu tube compressor with digital recall.



## Table of Contents

1.	Introduction.....	6
2.	Main Features .....	6
3.	Module installation and compatibility.....	7
4.	Front Panel .....	10
5.	Sound.....	12
6.	Stereo vs Mono .....	13
7.	Software.....	14
5.1.	Installation .....	14
5.1.1.	Windows.....	14
5.1.2.	OSX.....	15
5.1.3.	Troubleshooting.....	15
5.2.	Plugin.....	17
5.2.1.	How does it work? .....	17
5.3.	How to connect a unit to a Plugin-in?.....	18
5.4.	Plugin description.....	19
6.	Hookup diagrams .....	20
6.1.	Hookup diagram – analog cables with _TITAN .....	21
6.1.1.	Hookup diagram – _CALYPSO and _TITAN.....	22
6.1.2.	Hookup diagram – 500 series chassis .....	23
6.1.3.	Other examples.....	24
6.2.	Setup for mixing .....	25
6.2.1.	HW insert/External effect in DAW.....	25
6.2.2.	Direct output in DAW .....	26
6.4.	Memories.....	27
6.4.1.	Synchronization upon connection .....	27
6.5.	Automation.....	27
6.5.1.	Automation record .....	27
6.6.	Pro Tools Integration .....	27
6.7.	GCon Manager .....	28

6.13.1. How to check firmware version .....	29
6.13.2. How to perform firmware upgrade .....	29
7. Factory reset .....	31
8. Troubleshooting .....	31
8.1. Module is frozen and doesn't react to encoder moves .....	31
8.2. Module passes signal only when bypassed .....	31
8.3. Module can't connect to a plug-in .....	31
8.4. Module disconnects by itself .....	32
8.5. Module can't connect anymore .....	32
8.6. (WINDOWS) Unit can't connect to a plug-in .....	32
9. Abbreviations and terms .....	33
10. Warranty .....	33
11. History .....	34

## 1. Introduction

\_RHEA is fully analog unit with digital control - whole audio processing is done ONLY through analog components. Digital side is responsible to configure device accordingly, which allows to implement digital recall and remote control of the unit.

## 2. Main Features

**100% analog device with +24dBu of headroom,  
True stereo tube “vari-mu” style compressor,  
High voltage (160V) tube operation,  
Inter-stage CARNHILL transformers,  
Input and output level control for maximum flexibility,  
Mix knob for parallel compression,  
THD – harmonic distortion with two modes (Medium & High),  
SIDE CHAIN FILTERS – 3 high pass filters at 60, 90 and 150 Hz,  
500 series and ng500 (e.g. \_TITAN) series compatible,  
Total Recall and plugin control compatible with most DAWs,  
Analog automation in DAW.**

**Fully digitally controlled and isolated analog circuit,  
Digital recall can be achieved by connecting unit directly through front  
panel mini USB socket, or using it inside \_TITAN chassis,  
4 touch sensitive encoders allow record automation of particular parameters (Threshold, Mix,  
Make Up) in DAW,  
True bypass,  
Accurate analogue GR meter and its precise simulation implemented in the plug-in itself,  
Free software and firmware upgrades.**

### 3. Module installation and compatibility.

WesAudio \_RHEA compressor module is designed to be installed into an API™ **500 Series** compatible rack or in **ng500** rack (e.g. \_TITAN) and cannot function stand alone, requiring the power source supplied by the rack system.

**Important NOTE:**

**Unit produces fair amount of heat because of its power consumption and tubes, it is highly recommended to leave empty space above and below chassis to allow proper air circulation. Ideally 1U space above, and 1U space below.**

After unpacking your \_RHEA module, please check for any visible damage that may have occurred during transit. If there is any problem, please contact your dealer immediately for an advice on how to proceed.

**!!!Ensure the rack is completely powered down before attempting installation to prevent damage to the module and yourself!!!**



**!!!UNIT OPERATES AT HIGH VOLTAGE!!!**

**!!DO NOT TOUCH ANY COMPONENT INSIDE THE MODULE WHEN CHASSIS IS ON!!**

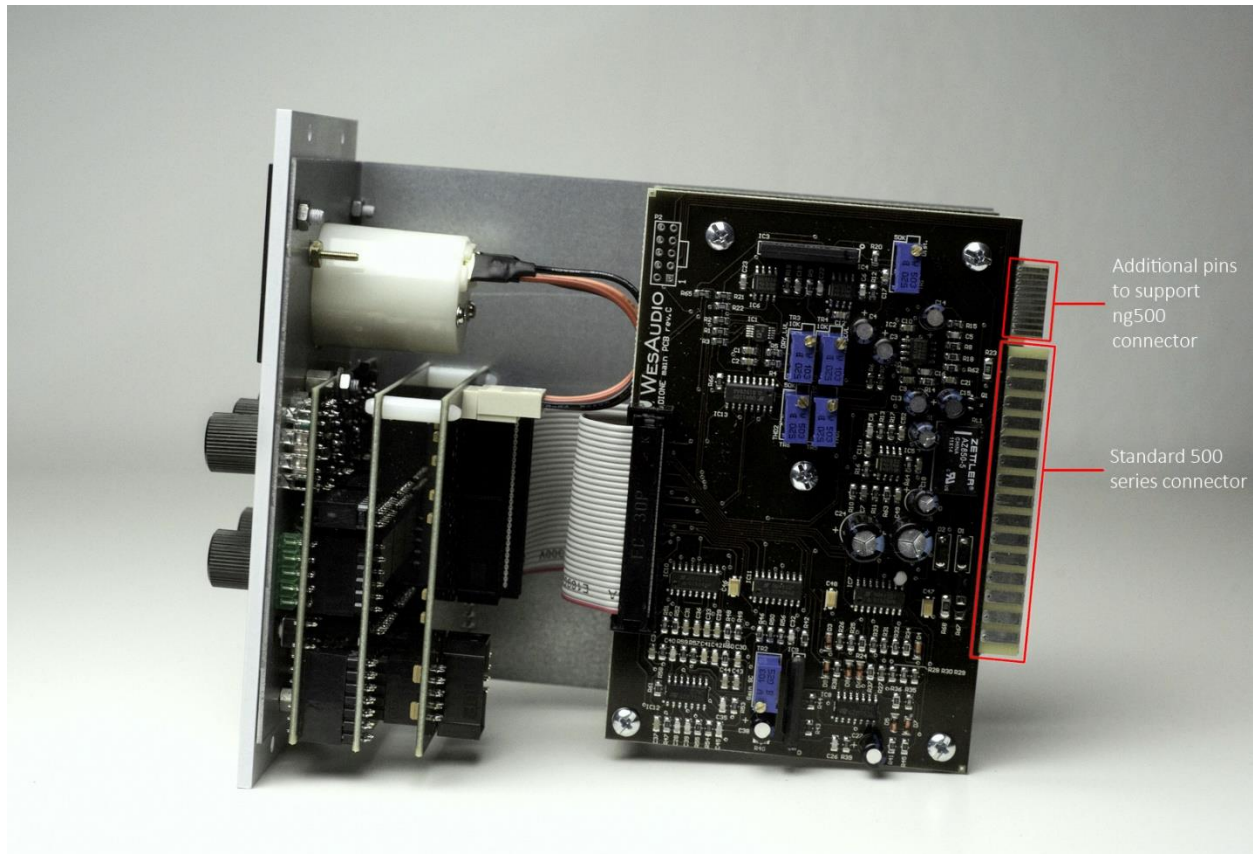


**Module installation walkthrough:**

Choose the position in the rack to which you will install the module and slide it in so that the edge connector of the module aligns with the matching connector in the rack. A gentle push and the module should slide home into the rack connector. Attach the front panel to the front of the rack with screws supplied by your rack manufacturer. This is important for mechanical rigidity. Do not over tighten these screws to avoid stripping out the threads. Apply power, test that everything is working OK, and most importantly, enjoy!

### 500 series compatibility note:

Each WesAudio device in ng500 (Next Generation 500 series) product line is equipped with special connector. This connector is an extension to 500 series, and allows your device to be managed/recalled through specialized GCon protocol (e.g. \_Titan 500 series 10 slots frame).



This extension is compatible with 500 series standardized plug type, however some manufacturers apply enormous screws to the plug itself, which prevent the device to fit in. Based on official research more than 90% of available 500 series racks will fit just fine. **Currently known exceptions:**

- 1) Rupert Neve Designs 500 series Racks (R6 & R10),
- 2) Aphex 500 series rack, problematic\_screw-copy
- 3) Some older BAE racks (not produced anymore).
- 4) Midas L6 – Module won't be able to fit till the very end on slot 3 & 6 – it should work just fine though.



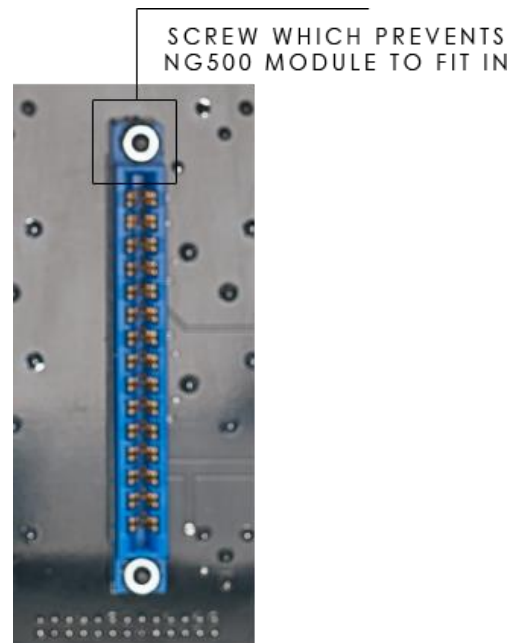
- 5) Midas L10 – Module won't be able to fit till the very end on slot 4 & 8 – it should work just fine though. If you are in possession of any of those 500 series racks, there are two options:

NG500 module won't fit into this racks because of upper screw attached to 500 series connector. This particular screw can be removed without any side effects in most of listed racks. With such simple modification your rack is ready to host any NG500 module on this particular slot.

If you are in possession of any of those 500 series racks, there are following options:

1) **If You are in possession of WesAudio module WITH ng500 connector (regular version):**

- a. RND R6 & R10 – it is quite simple modification to remove those screws, and there is no impact on the chassis – We have created very simple tutorial: [http://wesaudio.com/r6\\_mod/](http://wesaudio.com/r6_mod/)
- b. For Midas L6 & L10 – WesAudio modules can be placed on slots without the upper screw on the connector.
- c. For BAE & Aphex racks – it was not analyzed how complicated removal of those screws can be, so we would advise to select different chassis, or acquire WesAudio module without ng500 connector (please check below).

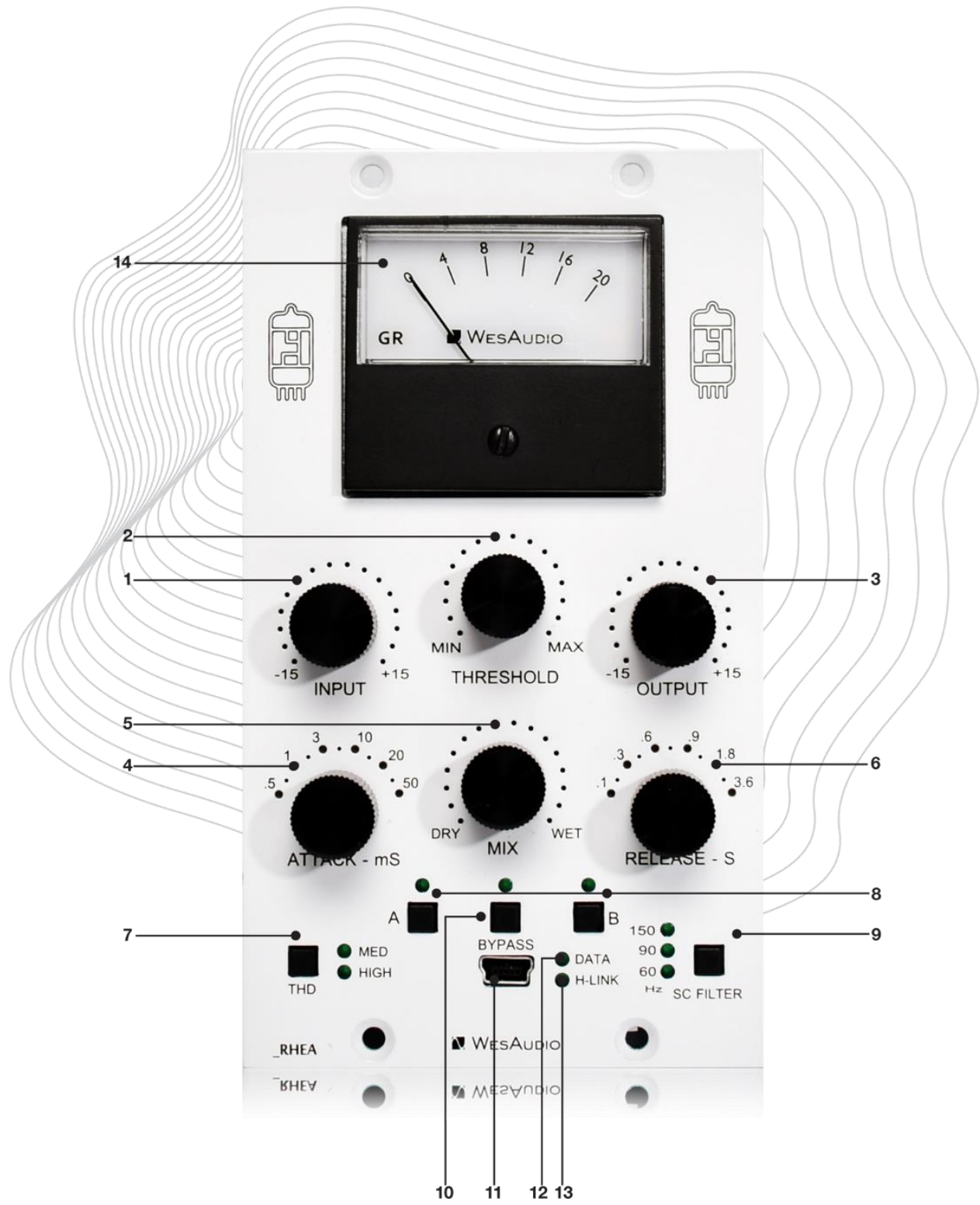


2) **You can order WesAudio module WITHOUT ng500 connector (special order):**

Each device can be ordered without special ng500 series connector which makes it fully 500 series compatible, however:

- a) The device compatibility with \_TITAN chassis is broken, and can't be undone.
- b) The device can be managed/recalled via direct USB connection without any problems – however please note that each module to be connected separately via USB cable.

## 4. Front Panel



1. **INPUT** – Input level of the signal – range -15 dB to 15dB,
2. **THRESHOLD** – sets the operating level for the knee of the compressor. Threshold is continuously adjustable,
3. **OUTPUT** – Output level of the signal - range -15dB to 15dB,
4. **ATTACK** – controls the quickness of the compressor’s response to changes. Six switchable attack rates: 0.5, 1, ; 3, 10, 20 and 50 ms,
5. **MIX** - WET/DRY signal mixer knob for parallel compression,
6. **RELEASE** – release time is switchable between 0.1, 0.3, 0.6, 0.9, 1.8 and 3.6 seconds.
7. **THD** – controls the harmonic distortion of the Wet signal only. Two switchable modes are possible: MED (1%THD) and HIGH (2.5%THD),
8. **A/B** – two slot memory buttons which can be used to compare two different compressor settings,
9. **SC FILTER** - this button determine three side-chain hi-pass filter frequency (60Hz,90Hz,150Hz),
10. **BYPASS** – true bypass button,
11. **USB** – module control USB port,
12. **DATA LED** – indicates that data is being sent from DAW to device,
13. **H-LINK LED** – indicates state of host-module connection,
14. **GR METER** – analogue GR meter indicating current gain reduction.

## 5. Sound

Vari-mu style compression is very natural in sounding. The behavior is so musical, that in a lot of situations we will be tempted to push the compressor to the very high gain reduction settings. And this is all fine! However, there is a tradeoff which can lead to the tube overload for some very dynamic content – and it may end up in audible distortion. For some high peaks and fast transient material (like e.g. drums) this can be really a desired effect, but sometimes it won't simply align well with source material – please note though, this effect can start to be audible with very aggressive setting!

This is something to be careful about, we would like to emphasize that this effect is not anyhow connected with unit's headroom but it is caused by tubes behavior in particular.

### **THUMP?**

“Thump” or “Thumping” in vari-mu compressors is very specific effect when side chain control voltage gets into the signal. This is caused because of very small tubes imbalance. It may bring to the processed signal some additional low-end artifacts – in fact in many cases this may be a desired effect, as it will strongly emphasize low end content. However, for lower volumes and more gentle source materials, it can start to be audible. All our tubes get through very complex pairing and parameter checks, but some small differences can still cause this effect to happen. In this situation we would strongly encourage to raise the input signal and experiment with attack and release settings.

### **INPUT, OUTPUT and THRESHOLD?**

\_RHEA allows to control the level on the signal going in the tube compression stage (Input), the amount of compression (Threshold), and finally the output of the compressor (Output). Such approach brings the best flexibility to alter the source material. It can be noticed that Threshold can be quite gentle in effect, however if more compression is desired, input knob can be used to this purpose. Please also note that each of those parameters can be automated, so don't hesitate to change those settings in different sections of the song!

### **THD – Total harmonic distortion**

THD switch will enable a proprietary circuit which overloads output stage of the compressor. This circuit can be found in most of our units and it brings certain presence to the source material, which can't be achieved using any other approach. We are proud of its design, and we hope You will enjoy it as much as we do!

## 6. Stereo vs Mono

\_RHEA is true stereo compressor – that means that detector circuits of each channel are working on a summed signal in the side chain circuit. This makes it impossible to work in dual mono mode – we can't process two independent tracks on each channel simultaneously – like kick and snare for example. However, it is entirely possible to work with only one mono channel at a time – so feel free to process a mono vocal track through \_RHEA and have fun!

## 7. Software

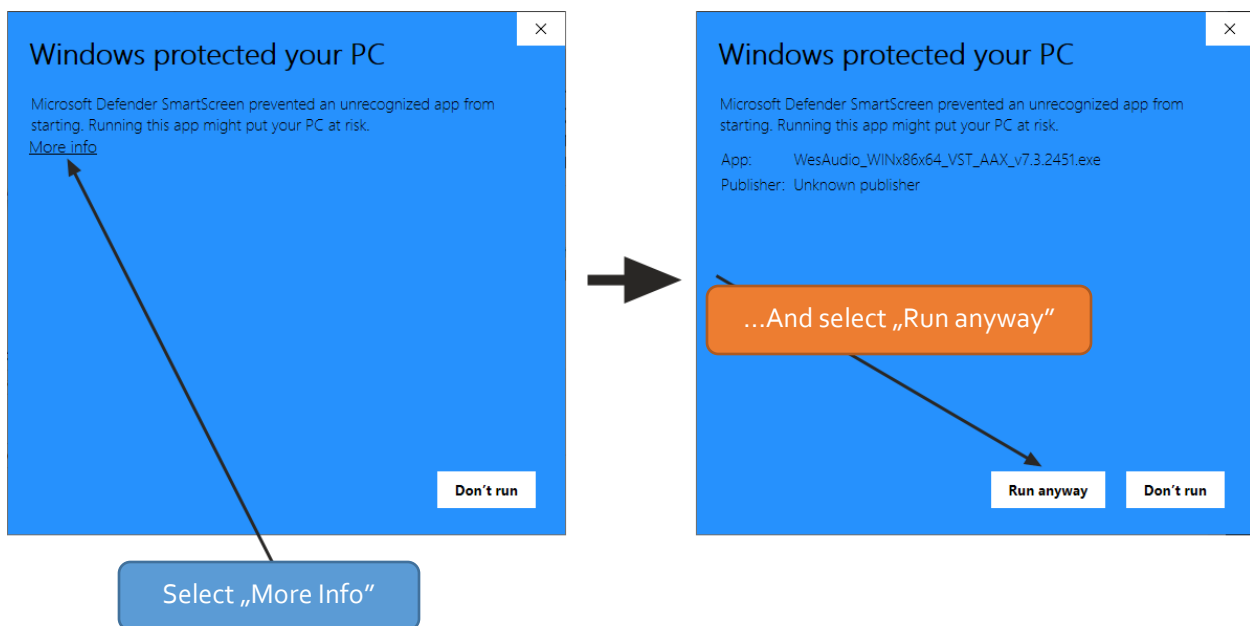
Software package can be downloaded from <http://www.wesaudio.com/download> by anyone who purchased related HW unit. To check currently supported plugin types and platforms, please follow above link.

### 5.1. Installation

To install Plugin Bundle package, please visit <http://www.wesaudio.com/download> and download recent version of software.

#### 5.1.1. Windows

Start the installer application, if you will encounter any system warnings about this particular installer, please ignore them (\*):



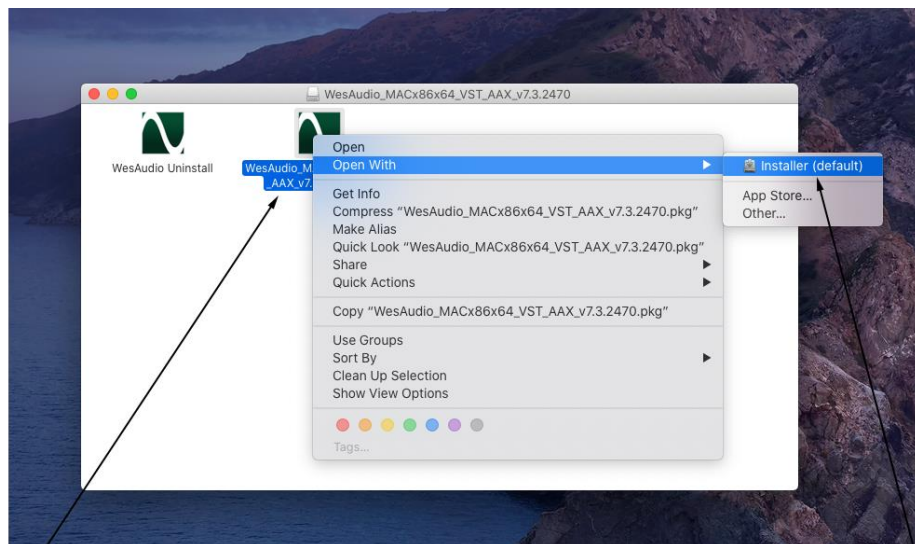
Select any components which you would like to install (\*\*).

- If this is **FIRST** installation, please unplug all WesAudio devices from your workstation.
- When USB driver will be installed, application will inform that all devices should be connected – **please do so.**
- If USB driver installation is triggered, user will be asked to restart computer. We know that this is unwanted activity, but it is necessary step for USB driver to install with success.
- If computer restart is triggered, this Installer will start again during start up. **If for some reason installer won't be started after the restart, please start same installer manually again.**

### 5.1.2.OSX

Because OSX architecture and USB devices handling is much simpler in concept, the only thing to note is to have all devices **connected** during install procedure.

Start the installer application, if you will encounter any system warnings about this particular installer, please ignore them \* (sometimes it is necessary to open context menu with right mouse button and trigger installation once again):



RIGHT CLICK or CONTROL+ left click

And select Installer(default)

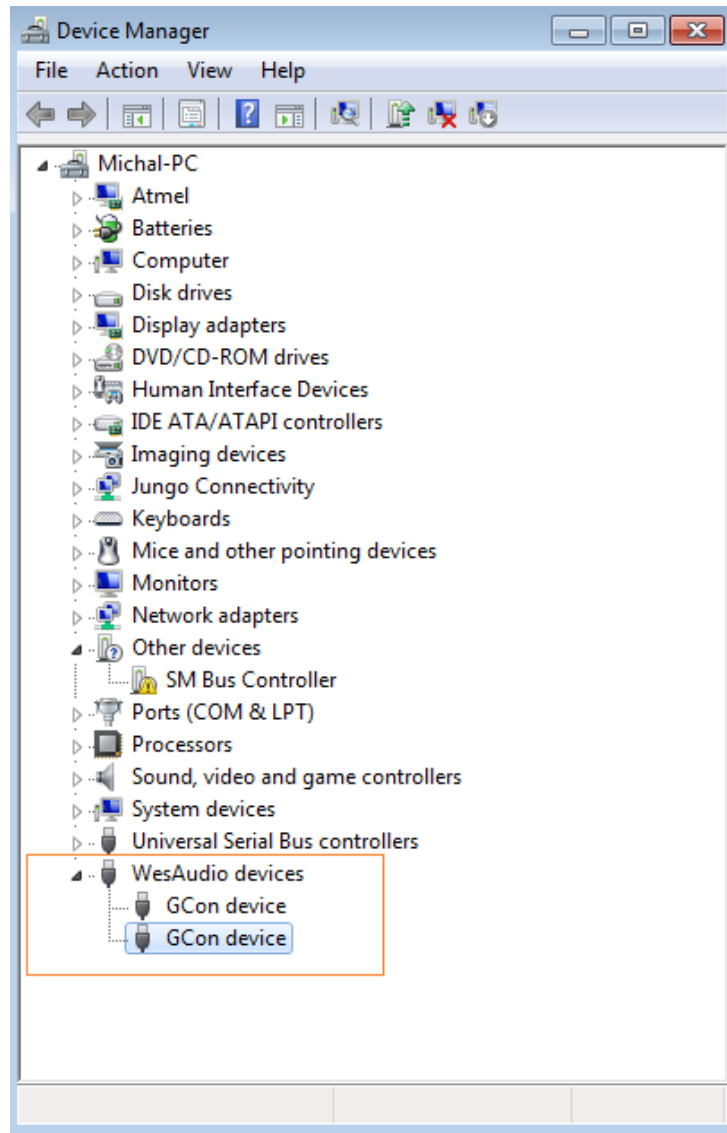
### 5.1.3. Troubleshooting

If anything would fail during installation procedure please contact our support at [support@wesaudio.com](mailto:support@wesaudio.com). We will get back to you ASAP.

Below you can find some symptoms and description which will help to investigate the issue:

“Can’t find my device on plugin drop down menu”

Unfortunately there could be dozens of root causes. On Windows machine it is very important to check if USB device is successfully connected on system level. That can be checked in “Control Panel->System->Device Manager”:



**The amount of GCon devices on the list should be equal amount of connected WesAudio units.**

If you can't find WesAudio device in the list, or amount of devices doesn't match, it is very valuable information and totally changes troubleshooting steps.

In any other cases, it is necessary to contact our support via [support@wesaudio.com](mailto:support@wesaudio.com)

*\* Operating system as windows or OSX are very restrictive about software signing, which doesn't really match with software distributed on small scale. Please ignore any warnings, we guarantee that software is checked and doesn't contain any viruses or unwanted malware objects.*

*\*\* Please note that for **WINDOWS** it is necessary to install USB driver which is critical to communicate with HW units. It is required step only during first installation, and this option will be automatically disabled during any software upgrades.*

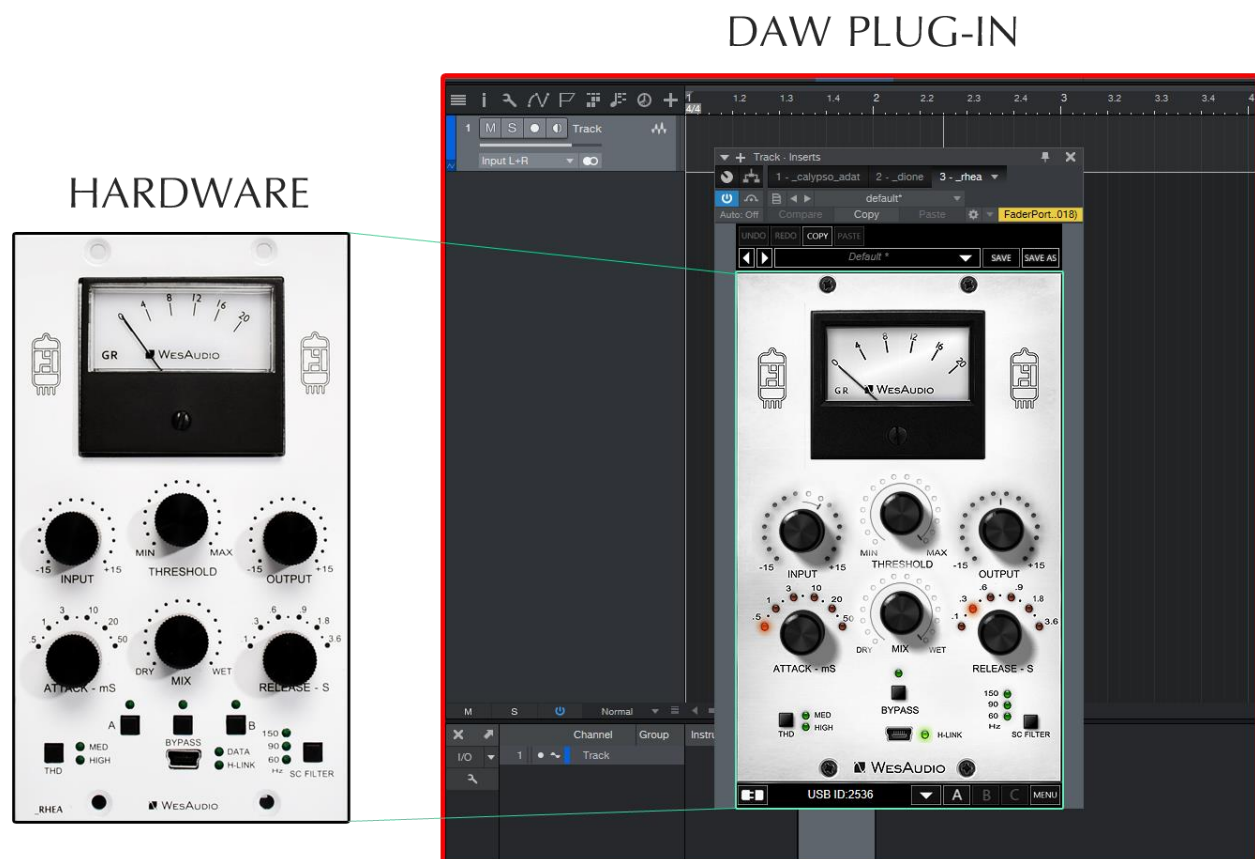


## 5.2. Plugin

\_RHEA is a fully analog device, which was designed to integrate with its digital counterpart – a software plug-in available in following formats: VST2/VST3/AU/AAX or standalone application.

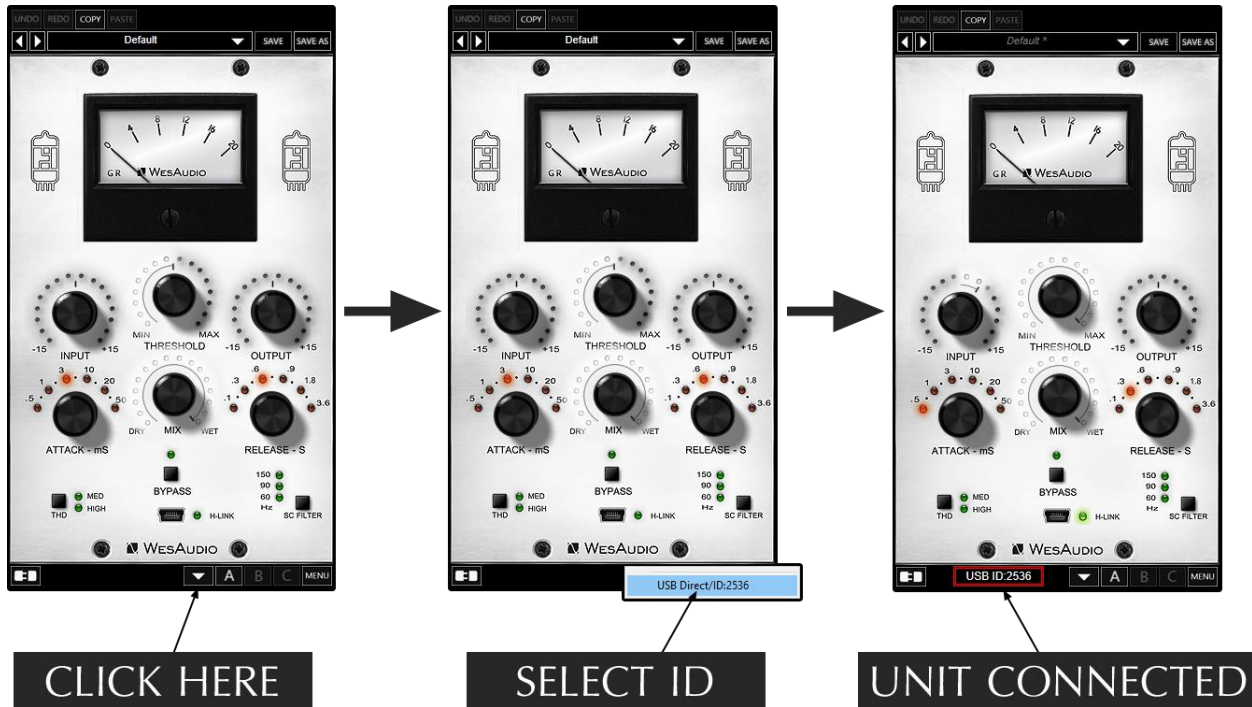
### 5.2.1. How does it work?

When connection of the DAW plug-in and the Hardware unit is established, both units should present exactly the same state of parameters. That means that any change on the hardware unit's front panel, will be presented on the plug-in, and any change on the DAW plug-in will be presented on the hardware unit. Each change of the parameters will also apply changes to unit's analog circuit, so you can have the best of both worlds!



### 5.3. How to connect a unit to a Plugin-in?

In practice there could be plenty of GCon devices connected to Your PC/MAC, that is why it is mandatory to select proper ID from the drop-down list in order to initiate connection of the plug-in with the hardware unit. To do so, please hit small Triangle BUTTON on the left bottom section of the plug-in:



## 5.4. Plugin description



- 1) **Select connection button:** This button shows all connected devices, if “drop-down” list with element IDs is not visible, that means that no devices has been detected which support GCon protocol.
- 2) **Toggle connection button:** Button toggles connection status ON/OFF. Please note that button works only if ID has been previously selected using “Select connection button”.
- 3) **Connection details:** Additional connection information:
  - a. **USB** – module has been connected through direct USB connection in front panel.
  - b. **S#X** – Slot number which is functionality available in \_Titan frame, and means that internal connection protocol between module and Frame is engaged.

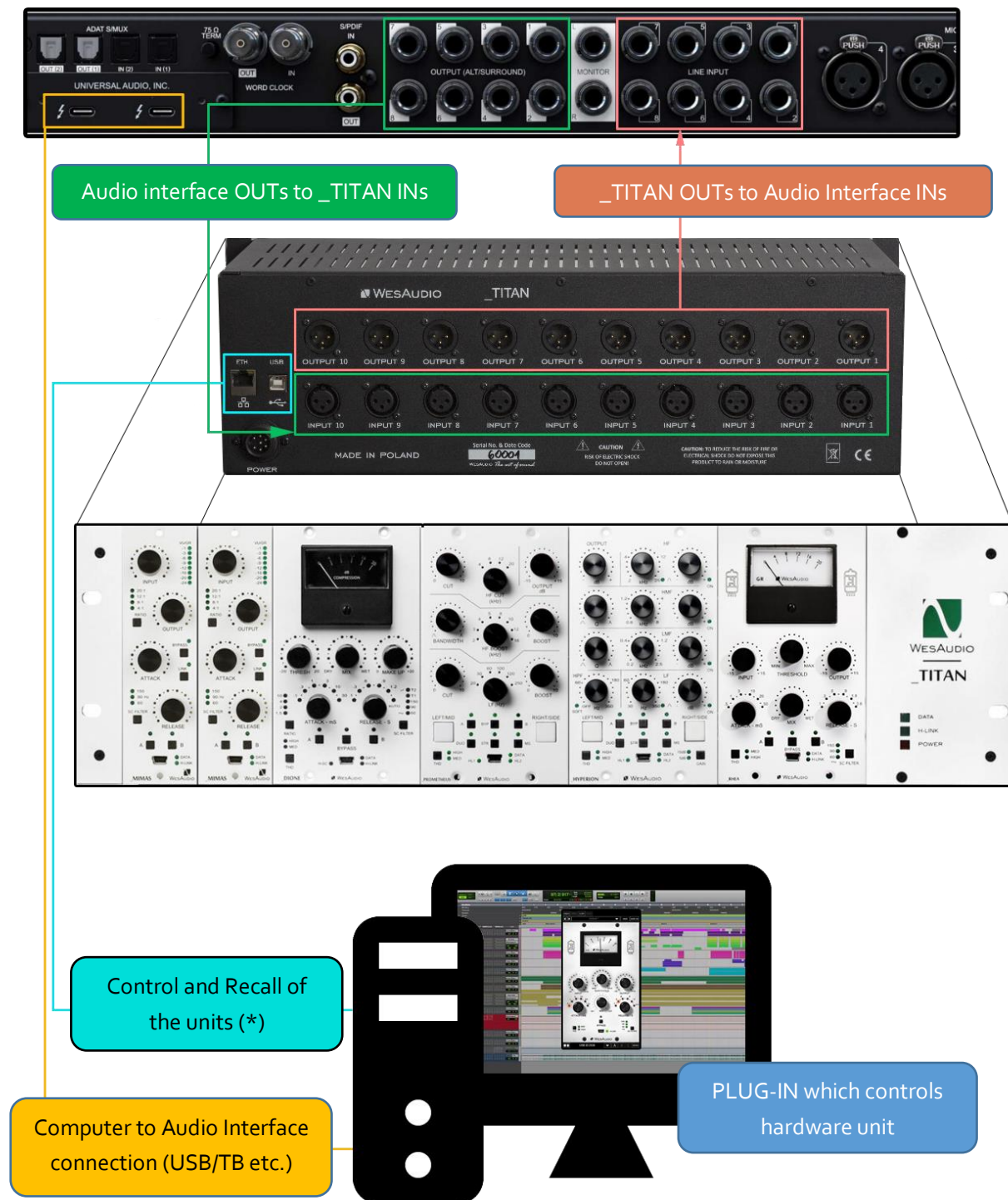
**NOTE:** This fields shows also connection status:

- c. **ON – Font WHITE/Style: NORMAL:** Connection is established.
  - d. **OFF – FONT GRAY/Style: NORMAL:** Connection is NOT established.
  - e. **Connecting FONT GRAY/Style: ITALIC** – Connection process is ongoing. If “Connecting” state is visible for longer period of time (more than 5 seconds), and plugin has no control over the unit, that would mean:
    - i. HW unit is no longer connected to your Workstation.
    - ii. HW unit was disconnected or detached by operating system for some reason.
    - iii. Any other reason which should be consulted with [support@wesaudio.com](mailto:support@wesaudio.com).
  - f.
- 4) **Connection ID:** Unique Connection ID of connected HW unit.
  - 5) **Fast preset change (A/B/C):** Button switches between available setups A/B/C. Please note that this presets won’t switch any connection related parameters. That means Connection ID is shared between all available setups (A/B/C) and won’t be changed if any of those buttons is hit.
  - 6) **Undo:** Undo last parameter change (up to 20). Please note that setup change button (A/B/C) clears current history.
  - 7) **Redo:** Redo last parameter change (up to 20). Please note that setup change button (A/B/C) clears current history.
  - 8) **Copy/Paste fast preset (A/B/C):** Button copies currently active fast preset and store it to internal plug-in memory, this preset can be stored, by selecting another fast preset and hit “Paste”.
  - 9) **Menu:**
    - a. Reset parameters to default – sets all plug-in parameters to default.

## 6. Hookup diagrams

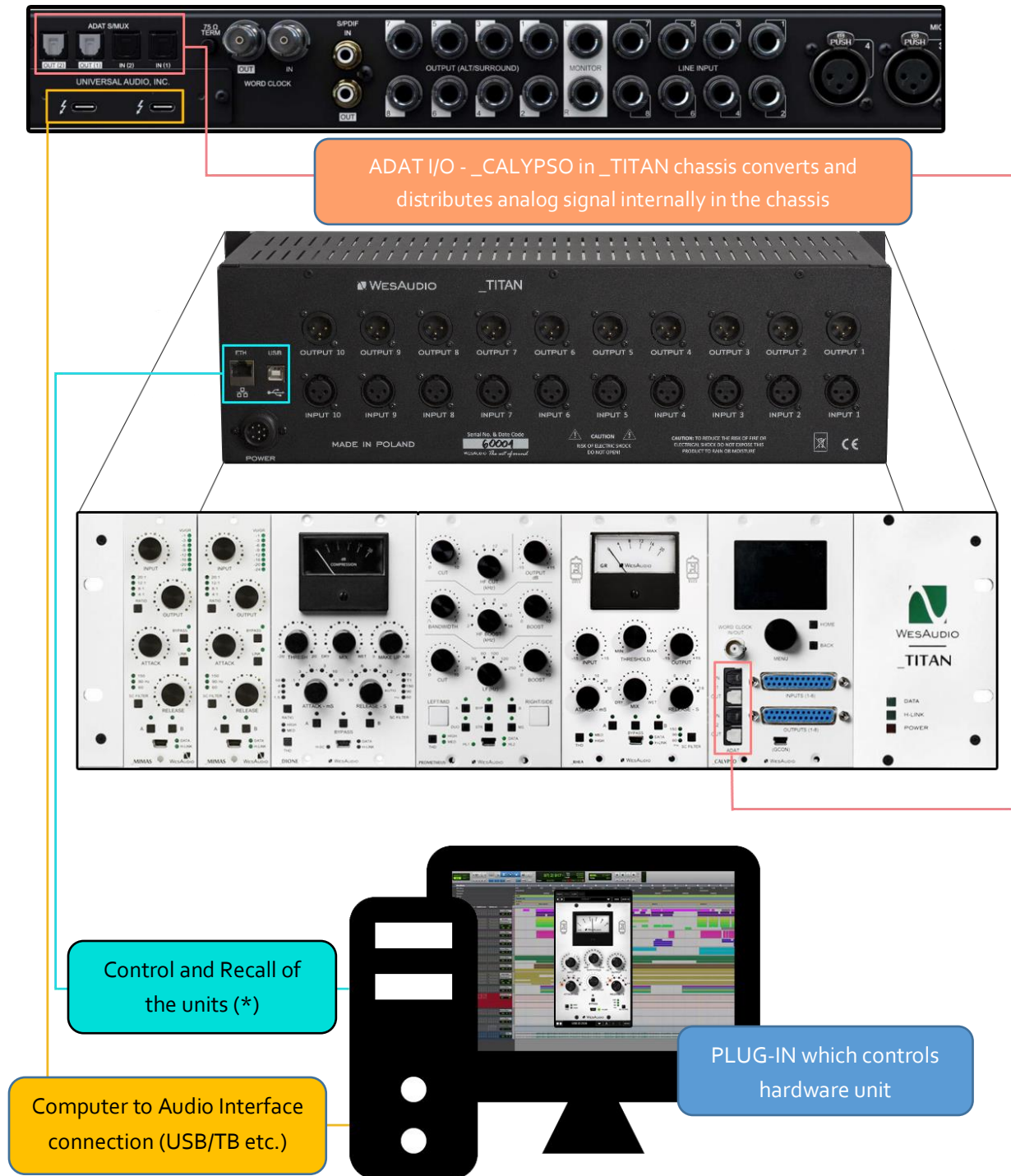
Below chapter shows possible hookup of the WesAudio devices and audio interface.

## 6.1. Hookup diagram – analog cables with \_TITAN



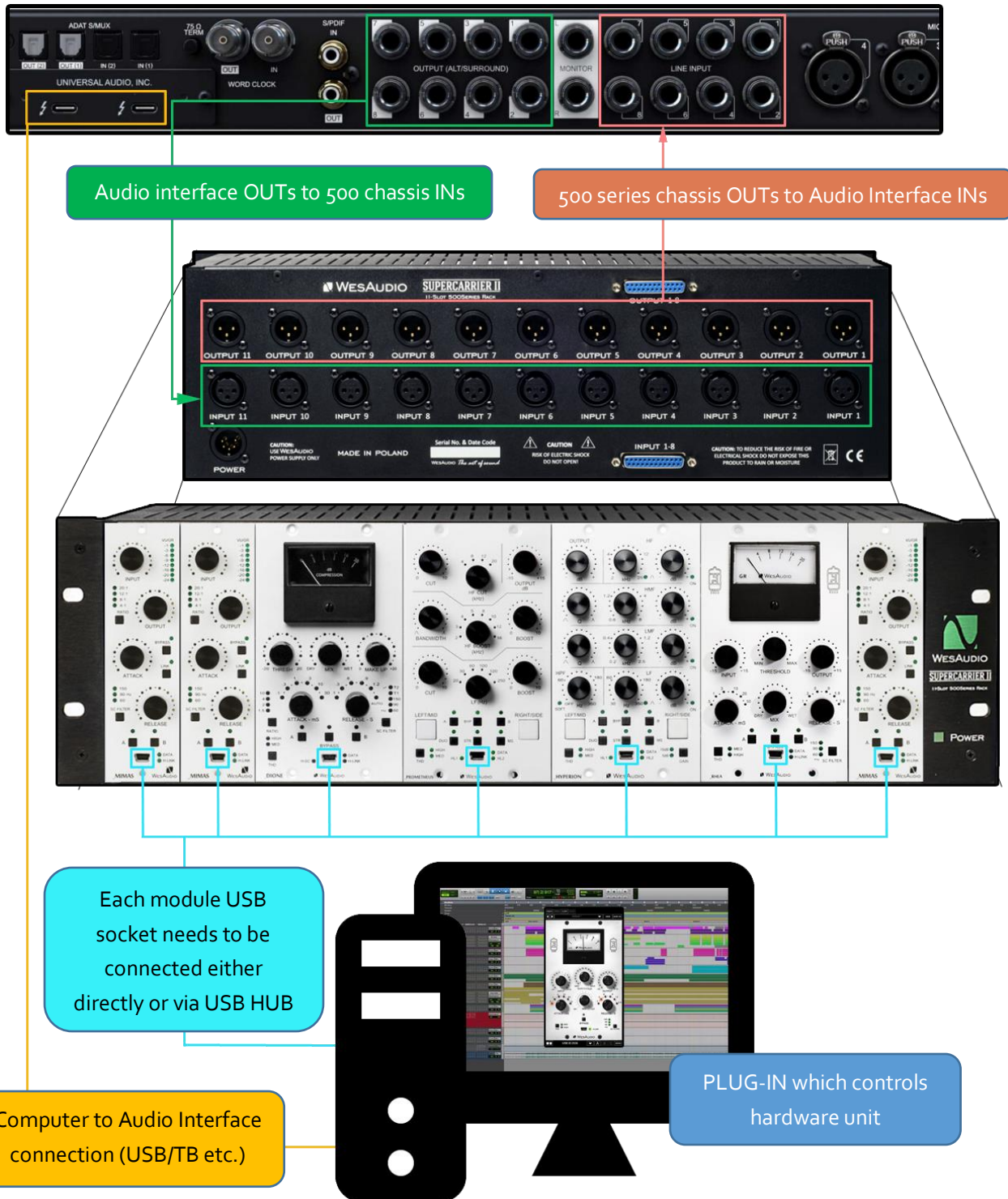
(\*) Please note that \_TITAN Ethernet connection doesn't require direct connection with the PC/MAC – You can also plug in the \_TITAN directly to the router and use your local network to access and control all units inside \_TITAN.

### 6.1.1. Hookup diagram – \_CALYPSO and \_TITAN



(\* Please note that \_TITAN Ethernet connection doesn't require direct connection with the PC/MAC – You can also plug in the \_TITAN directly to the router and use your local network to access and control all units inside \_TITAN.

### 6.1.2. Hookup diagram – 500 series chassis



### 6.1.3. Other examples

Please note that all WesAudio units regardless digital recall and control are still fully analog units and can be used in any recording or post processing stage of the production. For example, as any other units, WesAudio modules can be easily used during tracking!

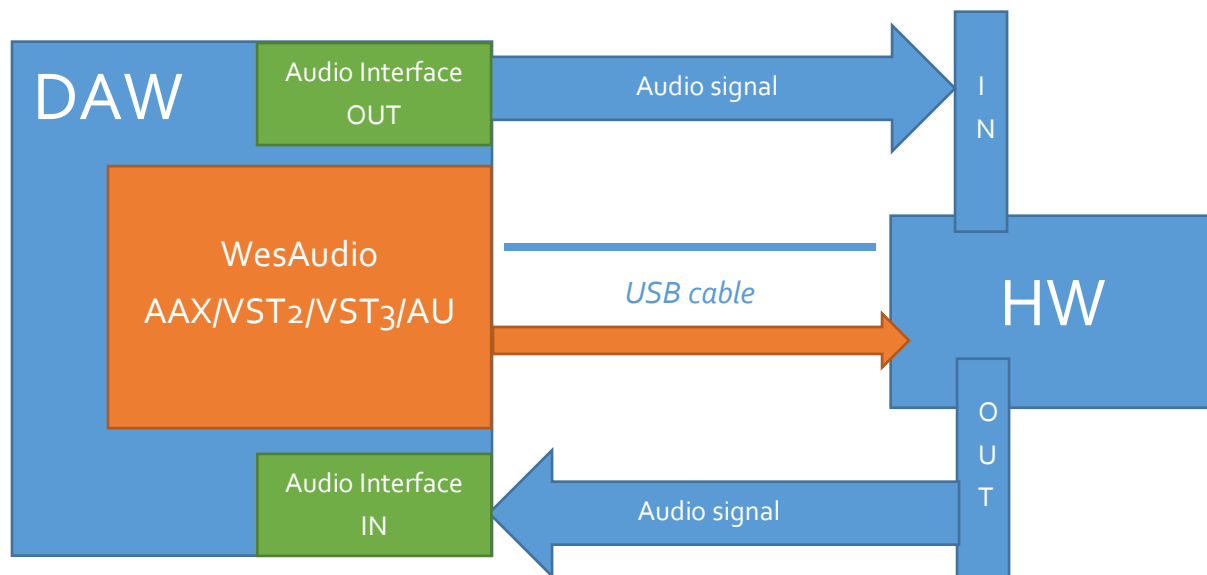


## 6.2. Setup for mixing

The configuration of devices is plain & simple, and its management side follows Plug&Play principles, so besides physical connection to your machine there are no other steps required.

### 6.2.1. HW insert/External effect in DAW

If you would like to work with WesAudio devices inside your DAW, audio signal has to be sent to & received from the HW unit. Below you can find steps which describe that process in details.



To set up you environment two steps are necessary:

- Device Control Setup:
  - Connect your workstation through USB cable and USB 2.0+ port (\*\*) with your hardware unit or \_Titan rack frame.
  - Insert on your track WesAudio plugin which matches with your HW and select your device from drop down list.
  - After connection state "ON" is light up, your device is ready to use, and saving your session activity will store all the settings as they are.
- Device Audio Setup:
  - Create any type of external effect which is supported in your DAW (e.g. "External effect" in Cubase/Nuendo, "Hardware Insert" in Pro Tools).
  - Configure "Send" to WesAudio HW unit IN.
  - Configure "Return" to WesAudio HW unit OUT.
  - Connect all the wires from you audio interface, to the unit IN/OUT.
  - Insert this effect **after**\* WesAudio plugin in insert chain.

Now you are ready to work in the Box with external audio units with all digital usability features provided by your DAW.

### 6.2.2. Direct output in DAW

WesAudio devices and its plugin management functionalities are perfect solution to hybrid mixing when on some stage signal is sent to analog world and summed outside DAW. In that approach:

- Connect your HW with your machine using **USB cable and USB 2.0+ port in your workstation (\*\*)** or \_Titan rack frame.
- Insert on your track WesAudio plugin which matches with your HW and select your device from drop down list.
- set up track/aux output to audio interface output which routes signal to the WesAudio device.

From now on you can use automation and recall features in analog domain!

*\* **THIS IS IMPORANT ONLY FOR AUTOMATION:** In practice audio signal and plugin parameters are mediated through whole insert chain in order, so by keeping Plugin after external effect could cause small latency (equal audio interface latency) which is causes by ASIO buffer setting (it is most pessimistic case and most probably it would be anyway smaller, but it depends on HOST(DAW) implementation). In simpler worlds such latency would be exactly the same, as time which is need to get audio to your audio interface and back. Keeping your plugin before external effect, would "compensate" this unwanted effect, and your device will apply parameters before audio signal gets through it.*

*\*\* **PLEASE NOTE:** Officially supported interface is USB 2.0 – please check your USB HUB to be compatible with this particular USB revision.*

## 6.4. Memories

Parameter storage could be summarized like this:

- \_RHEA unit has **TWO** separate fast presets which can be triggered via A/B buttons.
- \_RHEA plugin can store **UNLIMITED** number of configurations, when each preset can contain **THREE** instant configuration changes (A/B/C – fast presets).

### 6.4.1. Synchronization upon connection

When new plugin instance is loaded into DAW, its state is unmodified, that means that no parameters are yet modified. When user will initiate connection to hardware unit by setting Connection ID, Plugin will download current state of parameters from the unit including any available fast configuration presets (e.g. A/B). For instance, if connection between \_RHEA plugin and \_RHEA hardware will be triggered, and plugin will be in unmodified state, all parameters states will be downloaded to the plugin, including A and B presets states.

## 6.5. Automation

WesAudio devices are capable to follow any automation triggered from your DAW. Our devices were tested against high performance peaks.

### 6.5.1. Automation record

Besides normal automation feature all knobs are touch sensitive, and this brings possibility to record automation using Hardware unit itself. Just enable automation record in your DAW and start moving HW knobs!

## 6.6. Pro Tools Integration

Starting from software release 2.1 WesAudio plugins integrates with Pro Tools using all powerful features:

- PT11+ Gain reduction meter is integrated in the mix view,
- PT10+ engaging bypass mode from mixer or edit view will now enable hardware bypass on the unit,
- Making plugin instance “inactive” will force the plugin to unload, and because of that it will also disconnect from the hardware. It means that new plugin instance can be used to connect to the same hardware unit where all previous settings are stored through inactivated plugin – very useful to work with one unit on multiple sources keeping all the settings recallable with one mouse click,
- PT12+ - Commit Functionality – Pro Tools commit functionality can be used also to print hardware inserts and it is 100% compatible with WesAudio plugins. When commit is triggered for HW Insert and WesAudio plugin, plugin will disconnect from its source and save all the settings. As a result You will get:
  - printed track through analogue processor,

- hardware settings stored on inactivated track through plugin instance,
- new plugin instance can be used to connect to the same hardware on different tracks,
- inactive track can be re-enabled any time, and WesAudio plugin will reconnect to hardware automatically restoring all the settings (please remember that one instance of the plugin can be connected to the hardware at the same time).

## 6.7. GCon Manager

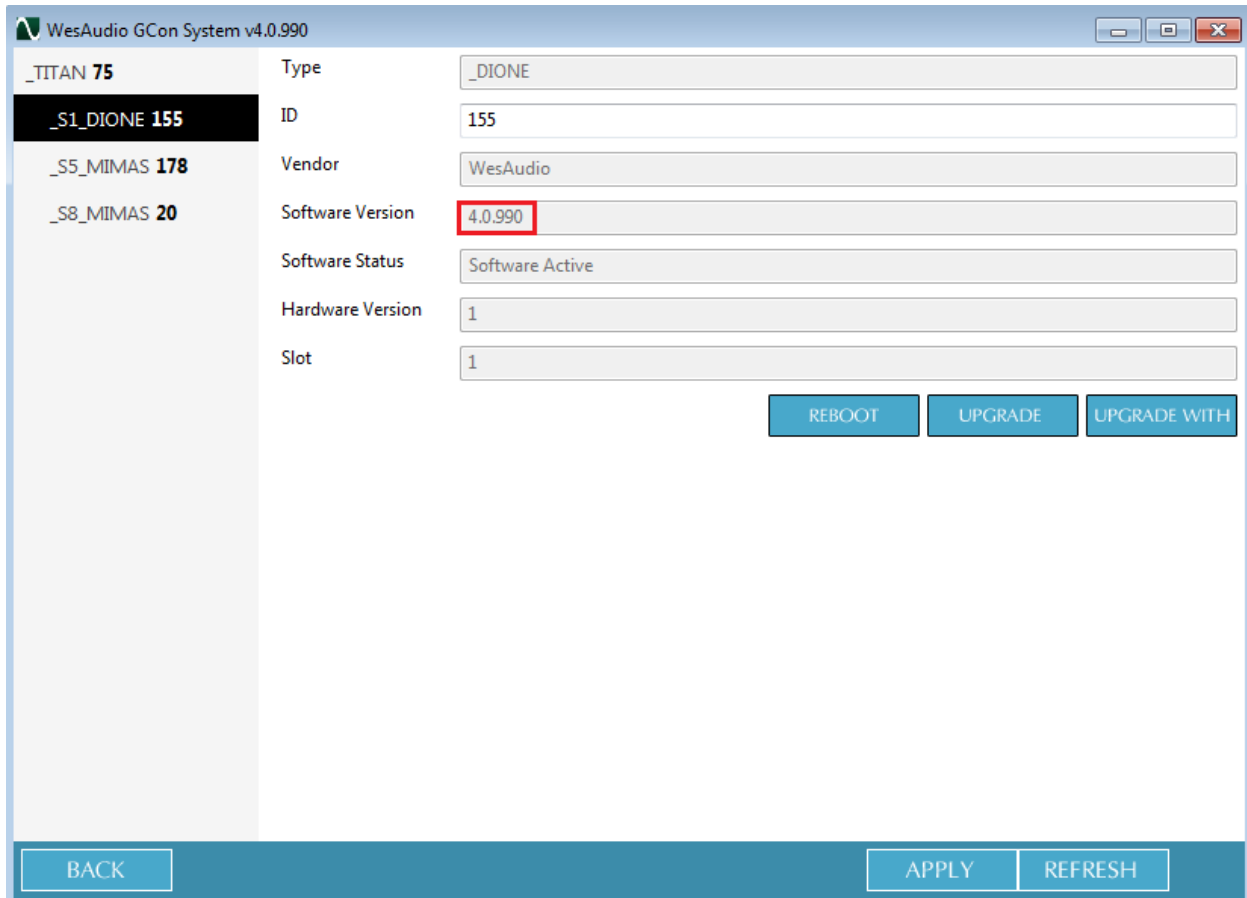
GCon Manager is generic application which implements configuration management over compatible units. It can be found in Application folder data:

- For OSX: “/Applications/WesAudio/GConManager”
- For WINDOWS: folder specified during installation phase, by default in: “c:/Program Files x86/WesAudio/GConManager.exe”.

GConManager can be also starting via clicking on WesAudio “Tray” Icon and selecting “Open GConManager”.

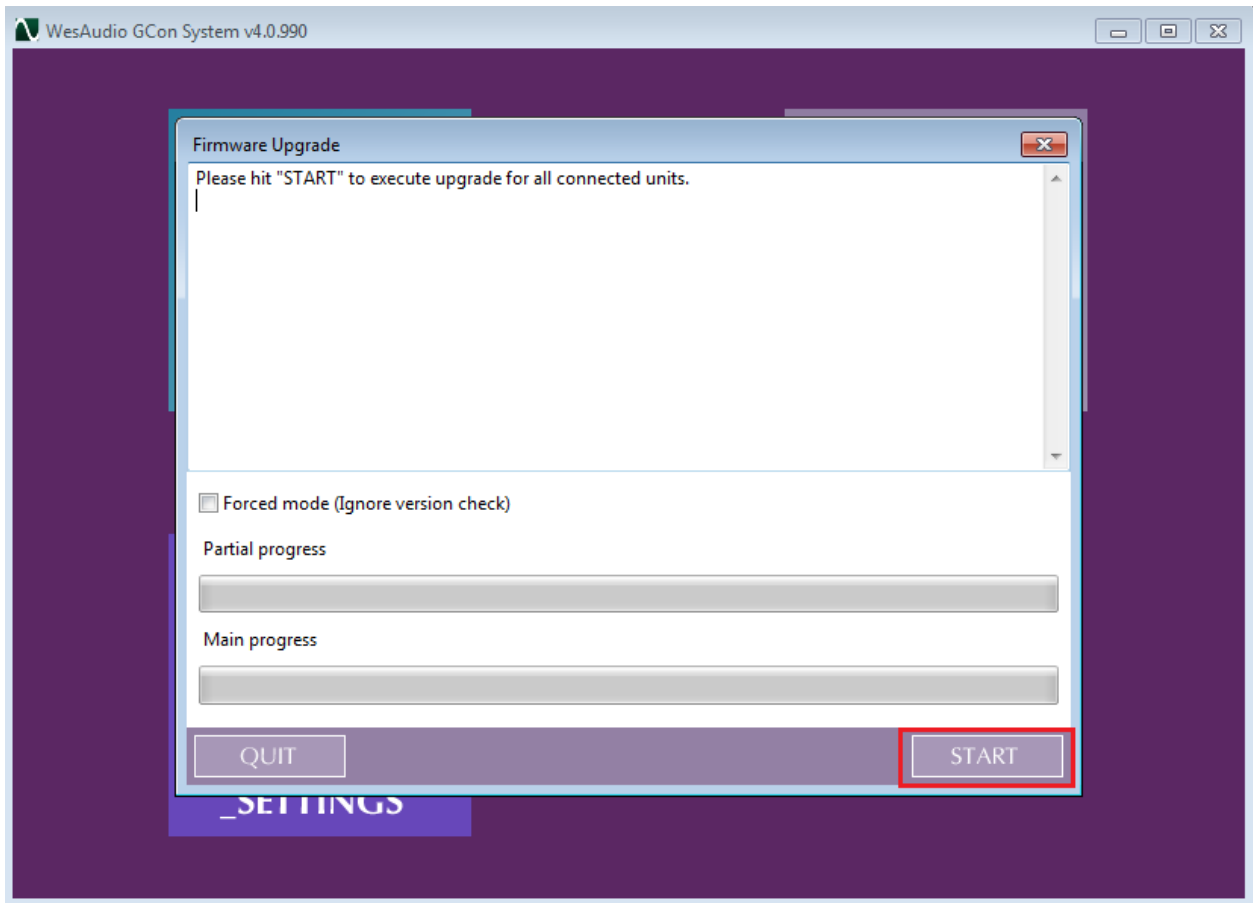
### 6.13.1. How to check firmware version

Each device reports to your workstation with particular version, which indicates compatibility between your host application and remote module. To check firmware upgrade please to GCon Manager CONFIG application:



### 6.13.2. How to perform firmware upgrade

To perform firmware upgrade go to GConManager upgrade application and hit "Start" button. This will trigger upgrade operation for all modules which are not up to date with your host software.



More information can be found in this movie:

<https://www.youtube.com/watch?v=RG1t176BfKE>

## 7. Factory reset

Factory reset procedure re-writes firmware into internal flash memory – it doesn't affect anyhow unit configuration. To proceed with factory reset, please follow below steps:

- 1) Connect unit either:
  - a. Through front panel **USB** socket
  - b. Or keep the unit in **ng500** chassis - **\_TITAN**, but please note that chassis has to be connected to the PC/MAC either via USB or Ethernet cable.
- 2) POWER OFF your 500 series chassis.
- 3) PRESS THD Button
- 4) While keeping THD button pressed, POWER ON your 500 series chassis.
- 5) LEDs should present a strange pattern.
- 6) Now open GConManager:
  - a. WIN: C:/Program Files (x86)/WesAudio/GConManager.exe
  - b. MAC: /Applications/WesAudio/GConManager.app
  - c. Or click on the WesAudio "Tray" icon, and select "Open GConManager"
- 7) Go to **\_UPGRADE** application.
- 8) Hit start!

## 8. Troubleshooting

### 8.1. Module is frozen and doesn't react to encoder moves

If module doesn't react to any changes to the knobs on the front panel, first necessary step is to re-write firmware into the flash memory. To do so, please go to [Factory reset](#) chapter for further details. If it doesn't help please contact our support team at: [support@wesaudio.com](mailto:support@wesaudio.com).

### 8.2. Module passes signal only when bypassed

This is very common issue and in most cases the root cause lies in the connection of the unit and audio interface. If that will happen it should be checked if audio interface input isn't connected to the chassis input and if audio interface output isn't connected to chassis output. As this initially would seem to be entirely wrong and shouldn't work at all, as all our units implement "True Bypass" via relays, unit will pass signal when bypass is engaged. The reason for that is that relay is in fact hard wiring input to the output, and thus unit will pass the signal, as it doesn't go through any active circuit of the unit.

### 8.3. Module can't connect to a plug-in

This is a wide topic, and there may be at least several root causes, but there are few things that should be checked. However first and most important thing is to double check that GConManager doesn't list this

device in the \_CONFIG app. If this is the case, it means that WesAudio unit can't connect on the OS level, and some of the below steps may help:

- First of all double check if module connection is properly executed, this procedure is described [here](#).
- USB specification indicates that USB 2.0 works up to 5 meters. This is however not entirely true, as it strongly depends on the peripherals that unit is connected to. Even if our modules are USB 2.0 compatible, your USB port could support USB 3.0 – USB is backward compatible protocol, so it maybe that USB 3.0 cable length limit should be considered which is 2 meters. We would recommend to have USB cable up to 2 meters to remove those limitations from the equation.
- USB HUB is very common root cause to those problems, if module can't connect via HUB – just for the sake of the test, it is mandatory to connect unit directly to PC/MAC to verify if the problem isn't caused by it.
- Please note for any system warnings attached to “WesAudio Tray Icon”.

## 8.4. Module disconnects by itself

As USB controllers have limited capacity it could be a reason of random unit disconnection. Usually, it happens when a lot of USB devices are plugged in to the PC/MAC. The usual behavior would be that unit works normally, and after reboot it doesn't, but it strongly depends on the OS implementation so exact reaction could be little bit different. If this is suspected, just for the test, it would be good to disconnect most of the devices from the USB ports, reboot PC/MAC and double check the connectivity from stability point of view. If it will lead to the conclusion that this is the root cause of the problem, we would recommend to use decent USB hub, and ideally TB/USB dock station which tends to offload a lot of responsibilities from our PC/MAC.

## 8.5. Module can't connect anymore

If unit was working fine, and suddenly it can't connect (it is not visible in GConManager \_CONFIG app) that could lead to the conclusion that some devices were added to our USB line, and we could have problems with USB controller inside PC/MAC. In that case please check description in above chapter “Module disconnects by itself”.

## 8.6. (WINDOWS) Unit can't connect to a plug-in.

It is possible that we have some problems on installation level, to verify that, please check [this chapter](#).



## 9. Abbreviations and terms

GCon – high speed communication protocol which allows full management and recall of analog devices. Please note that this is just management protocol, audio signal transfer is not in scope of its capabilities.

NG500 – Next generation 500 series.

NG500 connector – special connector which extends standardized 500 series connector with additional pins.

## 10. Warranty

All WesAudio products are built to the highest standards and should provide reliable performance for many years, subject to reasonable care, use, transportation and storage.

**WesAudio warrants all of our products to be free of defective parts and workmanship for a period of two years.**

This warranty period begins at the original date of purchase and is transferable to any person who may subsequently purchase the product during this time. This warranty excludes the following conditions: normal wear and tear, misuse, customer negligence, accidental damage, unauthorized repair or modification, cosmetic damage and damage incurred during shipment. During the time of this warranty, WesAudio will repair or replace, at its option, any defective parts or repair defective workmanship without charge, provided the customer has appropriate proof of purchase and that the product has its original factory serial number. In all warranty claims the customer is responsible for shipping costs to the WesAudio facility, and WesAudio pays for return ground shipping.

## 11. History

Editor	Version	Date	Description
Michal Weglicki	V1	31.07.2021	Document created.

