www.WesAudio.com

_DIONE

User manual

EN

WesAudio

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Thank You for the purchase of _DIONE

_DIONE

Stereo Bus compressor with digital control over VST2/VST3/AAX/AU plugins.

With kind regards

Radoslaw Wesolowski

_DIONE is second product in new generation 500 series line created by WesAudio.

It implements famous bus compressor design made with best components available on the market. Unit is fully compatible with GCon protocol which allows complete parameters management over USB or through open specification 500 series frame – _TITAN. Besides its vintage and transparent nature, unit itself implements many modern features which brings extreme flexibility to shape your sound – like parallel compression or configurable harmonic distortion.

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1. 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.

2. Installation and compatibility.

WesAudio _MIMAS compressor module is designed to be installed into an API™ 500 Series compatible rack and cannot function stand alone, requiring the power source supplied by the rack system.

After unpacking your _MIMAS module, please check for any visible damage that may have occurred during transit. If there is any problem, please contact your dealer immediately for advice on what to do.

!!!Ensure the rack is completely powered down before attempting installation to prevent damage to the module.!!!

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).

Additional pins to support ng500 connector

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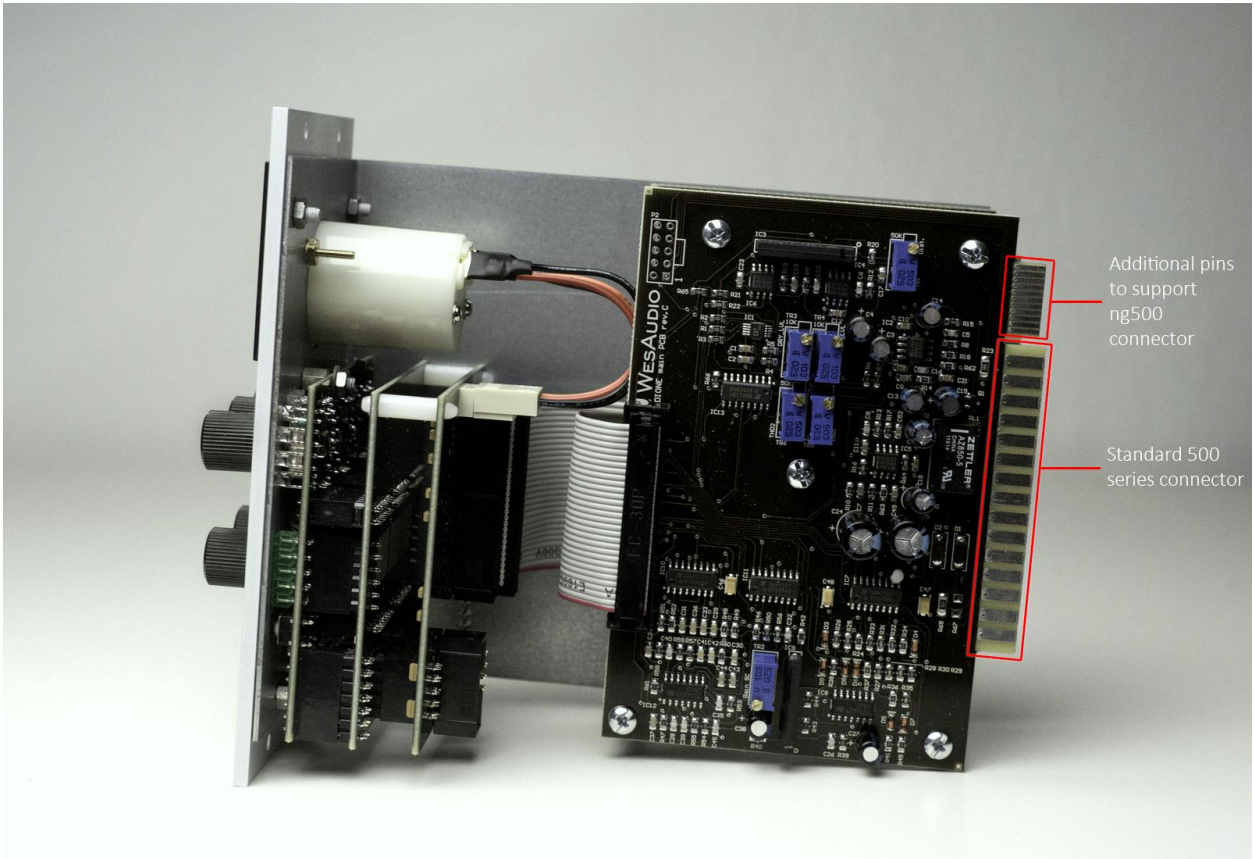
This extension is compatible with 500 series standardized plug type, however some manufacturers apply enormous screws to the plug itself, which prevent the device to fit in. Based on official research more then 90% of available 500 series racks will fit just fine. Currently known exceptions:

– Rupert Neve Designs 500 series Rack (confirmed)
– Aphex 500 series rack (not confirmed)

If you are in possession of any of those 500 series racks, please check note below:

IMPORTANT NOTE:

Each device can be ordered without special 500 series connector, however:
– The device compatibility with _titan frame is broken, and will not work.
– The device can be managed/recalled via direct USB connection without any problems.

3. Front Panel
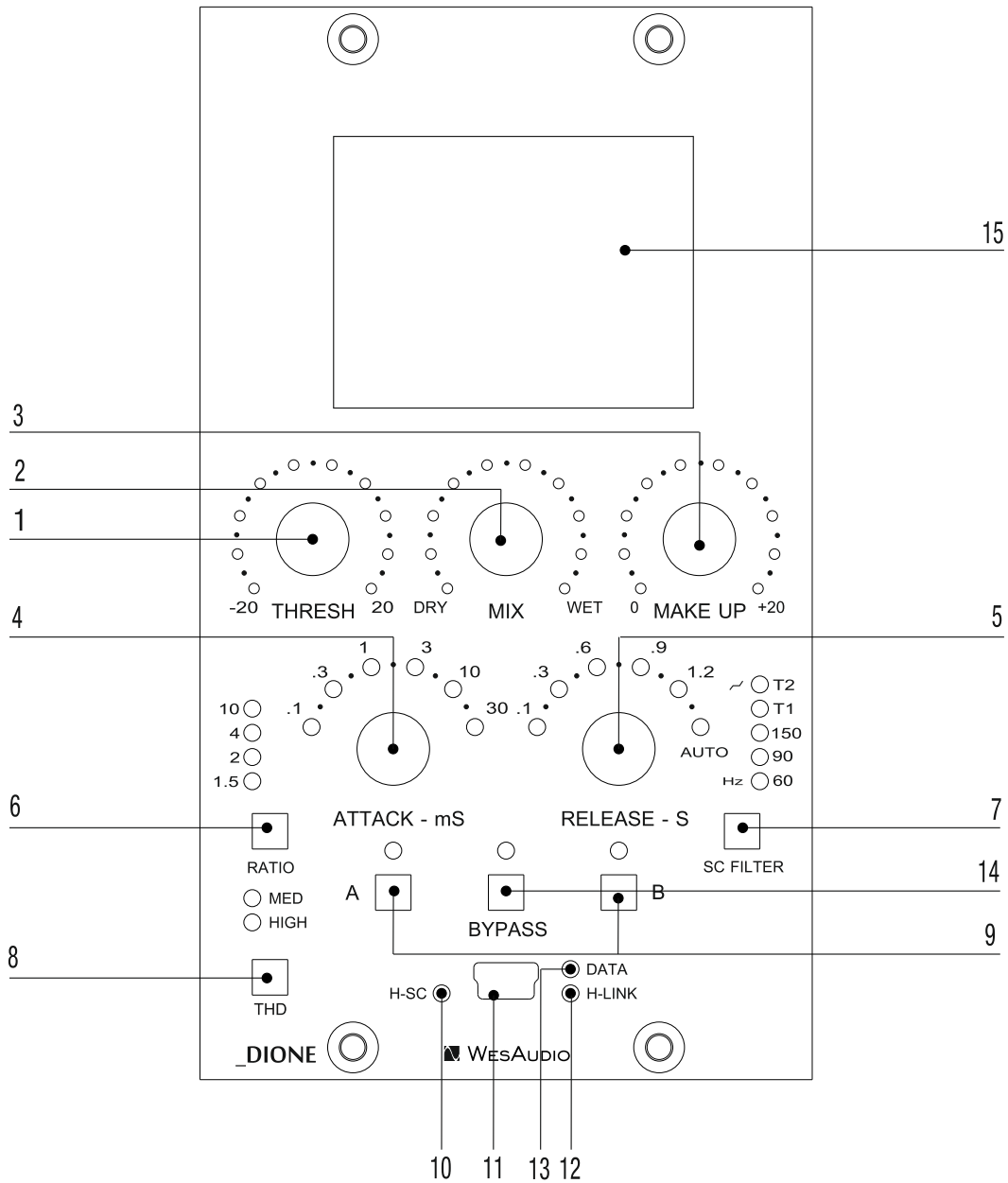
1 Threshold – sets the operating level for the knee of the compressor. Threshold is continuously adjustable from -15 dB to +15 dB.

2 Mix – WET/DRY signal mixer knob. Allows the parallel compression to be used.

3 Output – determines the level of the output signal leaving the compressor. It is used to recover compression lost signal.

4 Attack – controls the quickness of the compressor's response to changes. Sixs witchable attack rates: 0.1; 0.3; 1; 3; 10 and 30 ms.

5 Release – release time is switchable between 0.1, 0.3, 0.6, 0.9 and 1.2 seconds, or to automatic. If Auto is selected, the release time is dependent upon the duration of the program peak.

6 Ratio - this button determines deepness of the compression. A ratio 1.5:1 is the smaller and very gentle possible value of compression, while 10:1 is the biggest one.

7 SC Filter - this button determine three side-chain hi-pass filter frequency (60Hz,90Hz,150Hz) and two "Tilt" filters which are special "curve" designed filters.

8 THD – controls the harmonic distortion of the Wet signal only. Two switchable modes are possible :MED (1%THD) and HIGH (3%THD)

9 A/B – two slot memory buttons which can be used to compare two different compressor settings

10 H-SC LED – indicates that Host Side Chain mode has been activated. It means that compressor will be triggered by external signal sent through the USB.

11 USB – module control USB port

12 H-LINK LED – indicates state of host-module connection

13 DATA LED – indicates that data is being sent from DAW to device

14 Bypass – true bypass button

15 GR meter – analogue GR meter indicating current gain reduction.

4. Specifications

Frequency response:	20Hz-20kHz (0.1 dB)
THD+N (WET):	0.008% (1kHz,0 dBu)
THD+N (DRY):	0.004% (1kHz,0 dBu)
Input impedance:	10 kohm
Output impedance:	<100 ohm
Max gain:	21 dB
Crosstalk:	< -90 dB
Attack:	0.1,0.3,1,3,10,30 (ms)
Release:	0.1,0.3,0.6,0.9,1.2,Auto (s)
Ratio:	1.5,2.4.10
SC Filter:	60,90,150,T1,T2
THD (MID switch):	1%
THD (HIGH switch):	3%

5. Software

Software to manage HW units 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 go to download section in our website.

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*, then select any components which you would like to install**.

- If this is **FIRST** installation, please unplug all WesAudio devices from your machine.
- 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 its 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.

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).

5.1.3. HW Upgrade

Starting from Software release 2.1 HW upgrade can be triggered in GConManager application, which is kept 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".

This step is not necessary because it is triggered during main installer execution, however if devices are not connected during this time, it is recommended to trigger it manually.
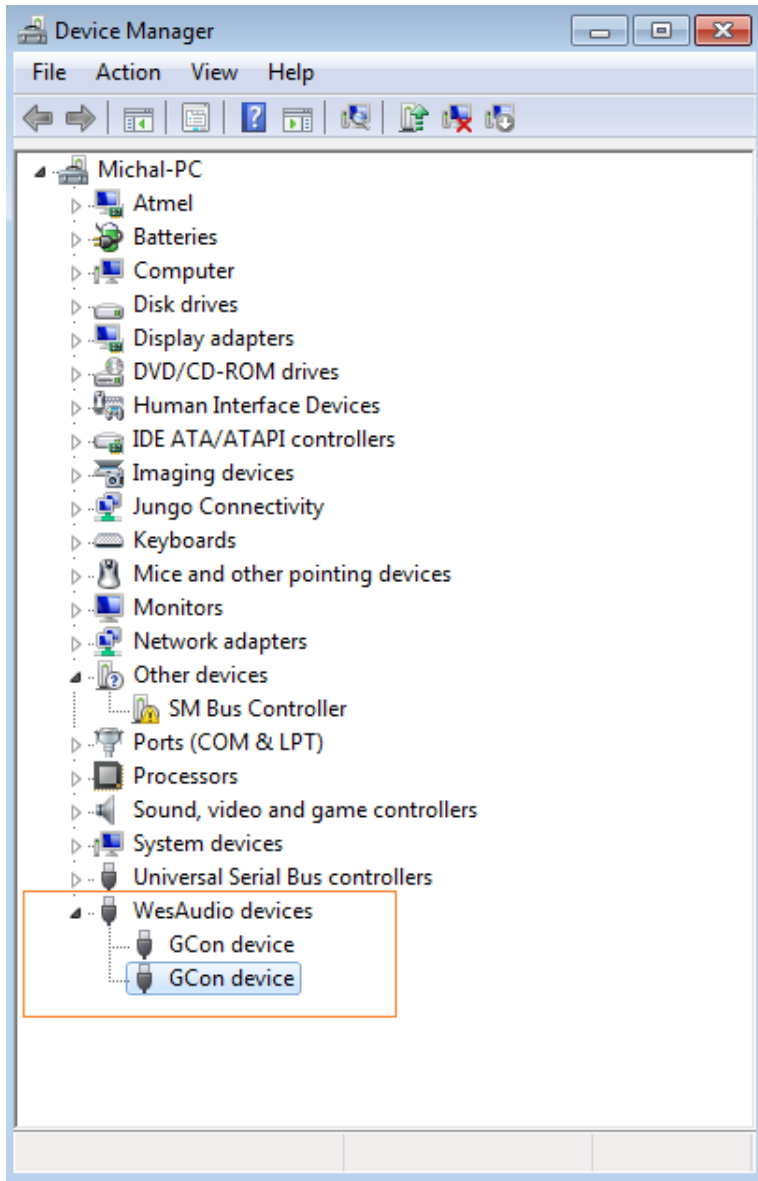
5.1.4.　　TROUBLESHOOTING

If anything would fail during installation procedure please contact our support at 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

* 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.*

5.1. Plugin structure

FAST SETUP CHANGE A/B/C

UNDO

REDO

CONNECTION STATUS

SELECT CONNECTION BUTTON

TOOGLE CONNECTION BUTTON

CONNECTION DETAILS

CONNECTION ID

1) **Connection status:** Show current status of connection:
   a. **ON –** Connection is established.
   b. **OFF –** Connection is NOT established.
   c. **Connecting –** Connection process is ongoing. If "Connecting" state is visible for longer period of time (more then 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 .
2) **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.
3) **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".
4) **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.
5) **Connection ID:** Unique Connection ID of connected HW unit.
6) **Fast setup change:** 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.
7) **Undo:** Undo last parameter change (up to 20). Please note that setup change button (A/B/C) clears current history.
8) **Redo:** Redo last parameter change (up to 20). Please note that setup change button (A/B/C) clears current history.

5.2.   Set up

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.

5.2.1.   HW insert/External effect

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 those terms in details.
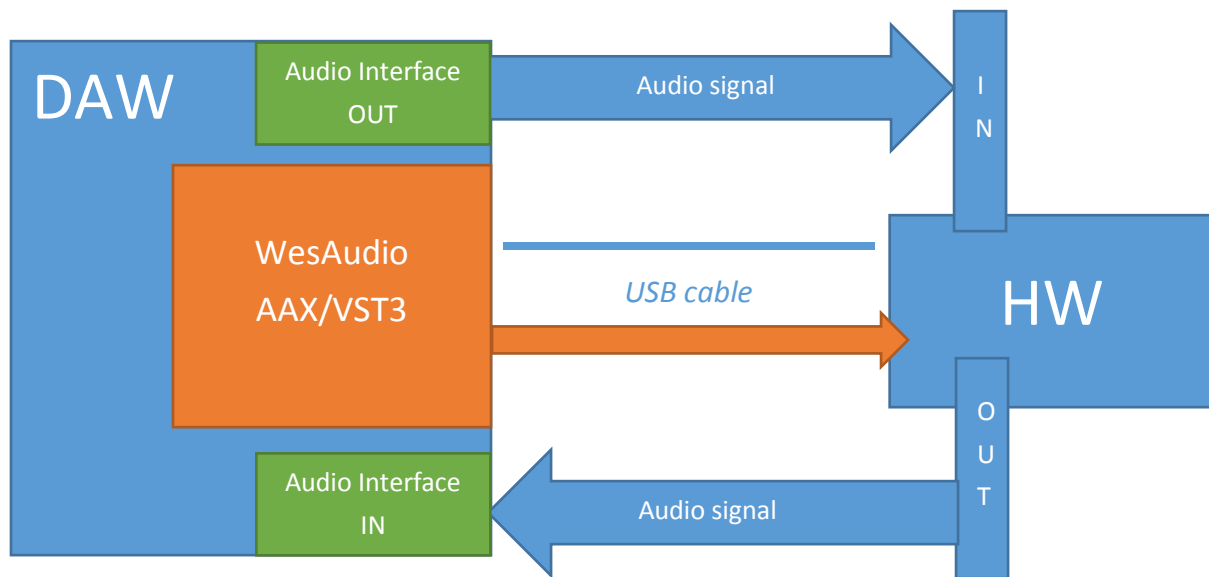
To set up you environment two steps are necessary:

- Device Control Setup:
  - 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.
  - After connection state "ON" is light up, your device is ready to use, and saving your session will store all the settings as they are.
- Device Audio Setup:
  - Create any type of external effect which is supported for you 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.

5.2.2.   Direct output

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 & SIDE CHAIN FEATURE:** 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.**

5.3.   Presets.

5.3.1.   Unit Memory vs Plugin Settings

It is very important to notice, that HW memory unit which stores A/B settings, and plugin presets works as separate forms of persistence implementation. That means if HW unit is connected to work with the Plugin, all settings from Plugin are applied to the device, and HW setup will get back to previous state after Plugin will initiate disconnection. So in practice HW unit memory isn't affected by the software at all.

Parameter storage could be summarized like this:

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

5.3.2. Pro Tools "Compare" functionality

Each device plugin type (e.g. __dione) implements compare functionality which can be used to easily compare current settings with saved state. That functionality is implemented, but there is one thing to note:

- HW unit ID, which is selected from drop down menu during plugin connection is stored in a plugin settings (session file or settings file), and if such ID is selected after plugin state is saved, hitting compare button would cause disconnection, and reconnection when it is hit back again. Such behavior is triggered by Pro Tools host implementation which doesn't inform if plugin state is loaded via "Compare" button, or via normal settings load. To avoid this situation, it is recommended to save preset state after plugin is connected with the Hardware.
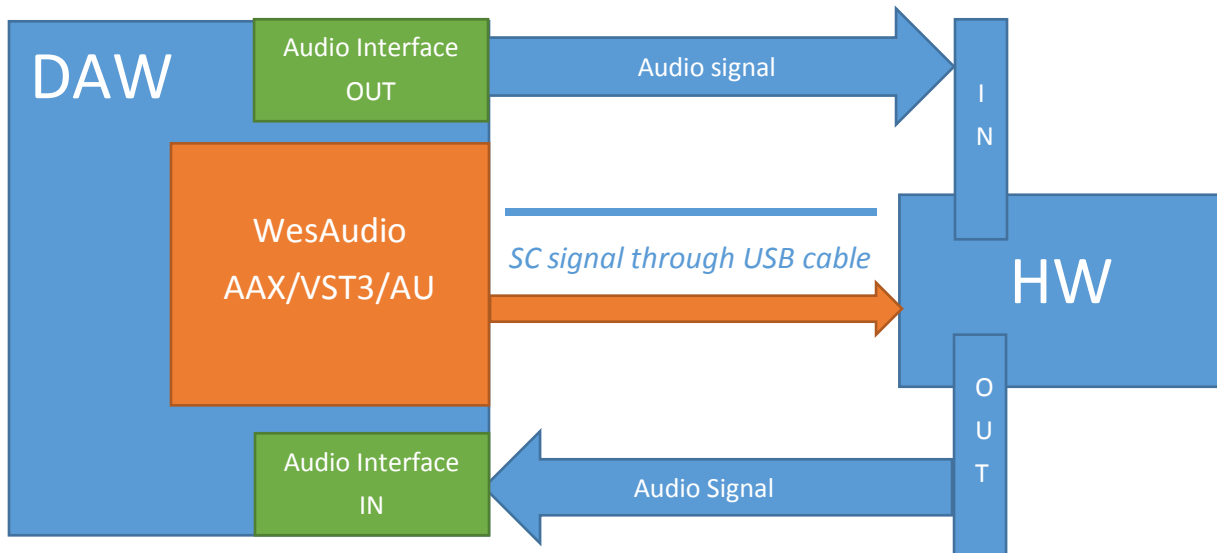
5.4. Automation

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

5.4.1. 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!

5.5. Side Chain

Side chain feature allows sending side chain signal from your DAW (from plugin itself) to HW unit to trigger it. There are no additional actions required to enable this feature on HW side, it is enough to configure side chain signal in WesAudio plugin (exactly the same way any other plugin configures SC). Below you can find high level picture describing possible connection of HW unit to work with side chain feature (Please note that below picture shows only one possible setup, in practice audio signal can be sent from any source).

5.5.1.   Reaper note about automatic Side Chain detection in VST3

Reaper Side Chain feature works little bit different compared to other VST3 hosts. When user will set side chain signal to be sent to any of WesAudio devices, this will activate Side Chain in the hardware, meaning that only signal sent directly though USB will trigger the compressor. However if that signal path will be removed from the track through "routing" section, Plugin is not notified about this change, and thus it will remain in Side Chain mode. To disable side chain, please go to plugin in/out matrix and disable auxiliary inputs (e.g. "Mono Aux In"). This manual action will disable side chain in the hardware itself.

5.6.   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 – new 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:
  - o   printed track through analogue processor,
  - o   hardware settings stored on inactivated track through plugin instance,

- o new plugin instance can be used to connect to the same hardware on different tracks,
- o 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).

5.7.   Multi Host Support

Devices connected through direct (front panel) USB cable will be detected in one HOST application at the same time. First HOST application which will start any WesAudio plugin will enable GCon communication engine, and from now on it will serve as a master. Master application opens all available WesAudio units and keeps all device handles for communication purposes. That activity will prevent other HOST applications started at the same time to communicate with WesAudio units using direct USB connection. Such situation may happen in practice when two different hosts are started at the same time and connected through ReWire interface, in that approach only one host can serve as plugin host for WesAudio products.

5.8.   GCon Manager

GCon Manager is generic application which implements configuration management over compatible units.

5.8.1.   How to check firmware upgrade.

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:
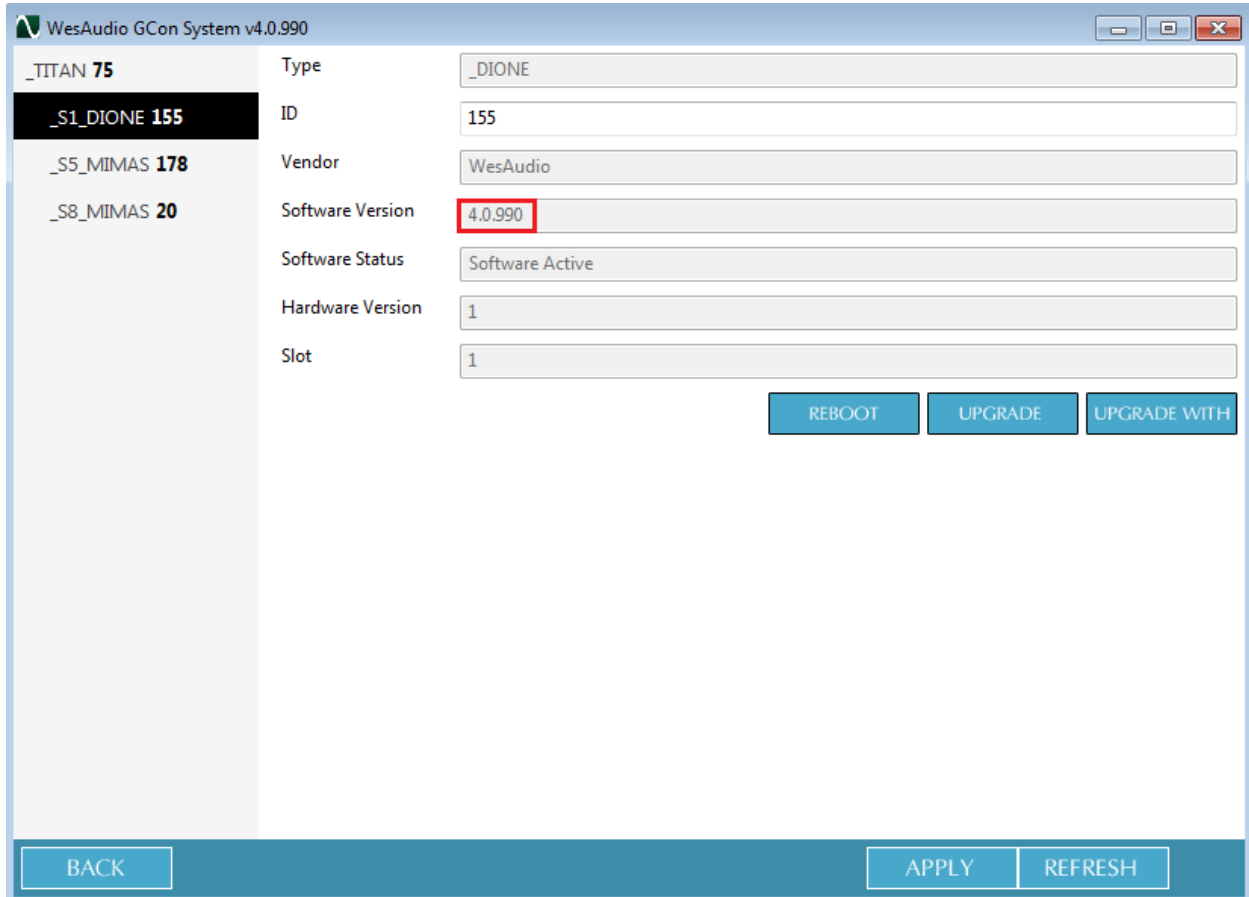
5.8.2.   How to perform firmware upgrade.

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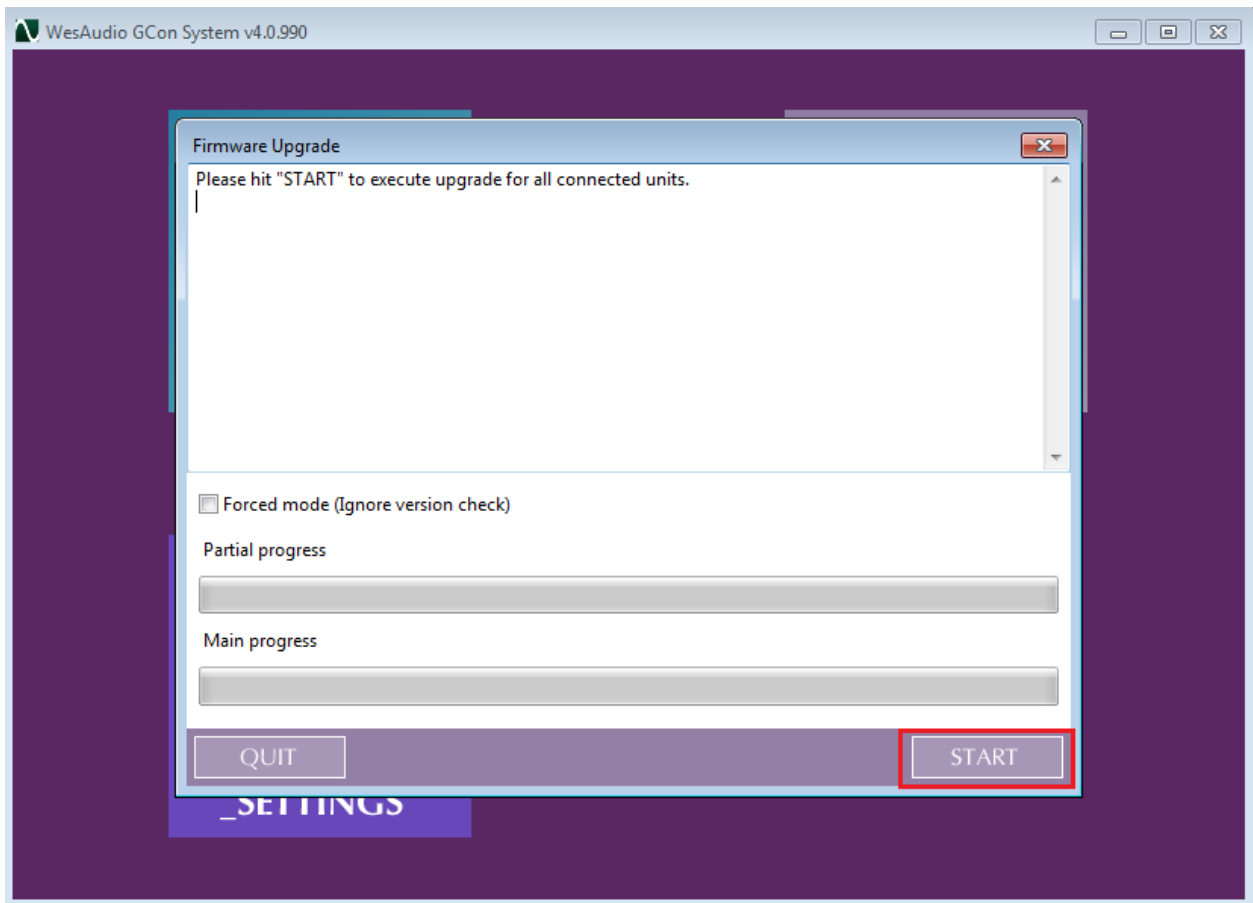
6. LEDs

Unit supports two modes of operation when it comes to LEDs:

- Normal mode – when LEDs are lid in clockwise direction showing overall level of particular parameter.
- Single LED indicator, when each parameter is visualized as single led trying to achieve similar effect as Knob with indicator. Please note that in this mode, LED won't bright up upon touching, however your touch sensitive encoders are still working as expected in scope of DAW automation.

Those modes can be switched using front panel bypass button, by keeping it for 3 seconds.

7. 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