Torpedo *Reload*

Guitar Connectivity... Perfected

User's Manual

V 1.0- 11/26/2012

Two notes
AUDIO ENGINEERING

Torpedo *Reload* User's Manual

Manual Version V 1.0- 11/26/2012.

The complete electronic version of this manual, as well as the Two Notes Audio Engineering software and hardware products, are subject to updates. You can download the most recent versions of the products on the following website: http://www.two-notes.com.

This manual describes the Torpedo *Reload* and provides instructions for its operation. It is highly recommended that you read this document before using the product. The contents of this manual have been thoroughly verified and it is believed, unless stated otherwise, to accurately describe the product at the time of shipment from the factory or download from our website.

Two Notes Audio Engineering is a registered trademark of:

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Contents

Part 1

Foreword

1 Safety instructions

Before using the product, it is necessary to carefully read and to bear in mind the following information. **Keep this document in a safe place as it is important for the protection of both user and product**. Should you suspect any malfunction of the device, always seek the assistance of a qualified technician.

1.1 Risk of electric shock

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

AVIS : RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR.

The warning panel located at the back of the unit lists all the messages related to your safety. All the internal parts of the unit **must only be manipulated by qualified technician**.

The triangle with a lightning bolt means that some parts of the product, even when the power is turned off or unplugged, can retain voltage high enough to cause serious electric shock. Any operation that requires opening the device should be left to a qualified technician.

1.2 Reader warning

The triangle with an exclamation mark highlights important messages concerning the correct use of the device.

1.3 Mains power

Please verify that the voltage required by the device matches the voltage of your country. If it is does not or if you are unsure, do not connect the machine to the wall outlet, as this may result in damages

to the machine and injuries to the user. This product should not be used during thunderstorms. In cases of severe weather with risks of lightning, unplug the mains power supply to reduce the risk of electric shock and fire. The mains power cable provided with the machine complies with the standards of the country where you purchased the product. If replacement is needed, please use a standard compliant cable.

1.4 Ground connection

For safety reasons, the machine needs to be plugged to a wall outlet providing a ground connection. If your electric installation does not provide a ground connection or if you are unsure, please ask a qualified electrician for help.

If your mains power cable doesn't match your wall outlet, ask a qualified electrician for help.

Never remove the outer or inner ground connection of the unit to prevent risks of electric shock or fire.

1.5 Conditions for safe use

The Torpedo *Reload* must never be used near a heat source, near a flame, in the rain, in damp areas, near any liquid of any sort. When transporting the unit, care needs to be taken to avoid any shocks that could cause damage that would require the assistance of a qualified technician.

1.6 Cleaning

Always use a piece of dry and soft cloth with no alcohol or solvents for cleaning. Please keep the unit clean and free from dust.

1.7 Maintenance

All maintenance operations must be performed by service centers approved by OROSYS SAS or by qualified technicians. Never try to repair the machine by yourself.

2 Declaration of conformity

Manufacturer: OROSYS SAS
Category of product: digital audio signal processor
Product: Torpedo *Reload*
Test Manager: Guillaume Pille
The Two Notes Torpedo *Reload* is certified to be compliant to the CE and FCC standards:

- EN 55103-1 : 1996 and EN 55103-2 : 1996.

- EN 60065 05/2002 + A1 05/2006.

- EMC directive 89/336/EEC and Low Voltage Directive 73/23/EEC.

- FCC Part 15 : 2008.

- ICES-003 : 2004.

- AS/NZS 3548 class B for Australia and New Zealand.

- IEC : 2008 - CISPR 22 class B.

3   Contents of the package

The shipped package contains:

1. One Torpedo *Reload* unit in a protecting sleeve,

2. One mains power cable,

3. One owner's manual.

The complete electronic version of this manual as well as the Torpedo Remote and BlendIR software programs are subject to updates. You can download the most recent versions of those products on the following website: http://www.two-notes.com.

4   Disposal of Waste Equipment by Users in Private Household in the European Union

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

5 Warranty

OROSYS SARL warrants that this TWO NOTES AUDIO ENGINEERING product shall be free of defects in parts and workmanship when used under normal operating conditions for a period of two (2) years from the date of purchase. This warranty shall apply to the original purchaser when purchased from an Authorized TWO NOTES AUDIO ENGINEERING dealer.

IMPORTANT: PLEASE RETAIN YOUR SALES RECEIPT, AS IT IS YOUR PROOF OF PURCHASE COVERING YOUR LIMITED WARRANTY. THIS LIMITED WARRANTY IS VOID WITHOUT YOUR SALES RECEIPT.

Defective products that qualify for coverage under this warranty will be repaired or replaced, (at OROSYS SAS's sole discretion) with a like or comparable product, without charge. In the event that warranty service be required, Please contact your authorized TWO NOTES AUDIO ENGINEERING dealer in order to obtain an RMA to return the complete product to the Authorized TWO NOTES AUDIO ENGINEERING Service Center closest to you, with proof of purchase, during the applicable warranty period.

Transportation costs to the service center ARE NOT INCLUDED in this limited warranty. OROSYS SAS will cover the cost of standard ground return transportation for repairs performed under this warranty.

This limited warranty becomes void if the serial number on the product is defaced or removed, or if the product has been damaged by alteration, misuse including connection to faulty or unsuitable ancillary equipment, accident including lightning, water, fire, or neglect; or if repair has been attempted by persons not authorized by OROSYS SAS.

Any implied warranties, including without limitation, any implied warranties of merchantability or fitness for any particular purpose, imposed under state or provincial law are limited to the duration of this limited warranty. Some states or provinces do not allow limitations on how long an implied warranty lasts, so the above limitations may not be applicable.

OROSYS SAS ASSUMES NO LIABILITY FOR PROPERTY DAMAGE RESULTING FROM ANY FAILURE OF THIS PRODUCT NOR ANY LOSS OF INCOME, SATISFACTION, OR DAMAGES ARISING FROM THE LOSS OF USE OF SAME DUE TO DEFECTS OR AVAILABILITY OF IT DURING SERVICE.

In case you must absolutely send your TWO NOTES AUDIO ENGINEERING product to any other location, it is of vital importance that you keep the original packing material. It is very difficult to avoid damage when shipping the product without that material. OROSYS SAS is not responsible for damages caused to the product by improper packaging and reserves the right to charge a reboxing fee for any unit returned for service without the original packing material.

THE FOREGOING CONSTITUTES THE ONLY WARRANTY MADE BY OROSYS SAS WITH RESPECT TO THE PRODUCTS AND IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED.

Part 2

Recommendation on the proper use of a loadbox with a tube amplifier

1   What is a loadbox ?

In the normal use of a tube amplifier, it is highly recommended that you always connect its power output to a speaker cabinet prior to powering it up. The speaker cabinet (4, 8 or 16 Ohms) must always be connected to the corresponding speaker output of your amplifier. Not doing so can lead to partial or complete destruction of the output stage of the tube amplifier.

Most tube amplifier makers protect their products with fuses or other protection systems, but some amplifiers still remain not or insufficiently protected. It is impossible to predict the behavior of *all* the amplifiers on the market in case of use without a load (a speaker cabinet or a load box).

The electronic term that describes the speaker cabinet with respect to the amplifier is the "load": we say the cabinet "loads" the amplifier. The term "loadbox" fits any product that embeds a load. The main parameter of the loadbox is its impedance, expressed in Ohms. An 8-Ohm loadbox must be plugged to the 8-Ohm speaker output of the amplifier.

The power sent to the load is turned into heat, so please follow the cooling recommendation of the loadbox — otherwise overheating may cause damage, both to the loadbox and to the amplifier.

The Torpedo *Reload* is a loadbox. This term indicates that the Torpedo *Reload* is a load which can electrically replace the speaker cabinet while dissipating (transforming into heat) the power coming out of the amplifier.

The embedded load in the Torpedo *Reload* is a reactive one: it embeds a specific circuit to simulate the complex impedance of a real speaker. This kind of system is widely used in the industry to silently test amplifiers.

> ⚠ **Always connect the speaker out of your tube amplifier to an appropriate load (speaker cabinet or load box). Torpedo *Reload*, once powered up, is such a load. Please note that you must always power up the Torpedo *Reload* before your amplifier.**

2 Which output volume for my amplifier ?

The correct use of your amplifier with a loadbox requires some precautions. Because of the silence while playing, it is much easier to accidentally run your amplifier beyond the reasonable limits set by the manufacturer than when using a real speaker cabinet with it. This can lead to faster tube wear and, in some cases, to more serious inconveniences.

> ⚠️ **When first testing the amplifier at high volume, monitor the color of the tubes and the general state of the amplifier. Red-glowing tubes or any appearance of smoke are signs of a problem that may result in partial or complete destruction of the amplifier.**

Keep in mind that the "sweet spot" - the perfect running point of the amplifier, the one that will give you the tone you're looking for - is rarely obtained at maximum volume. In addition, the volume control of the amplifier is usually logarithmic, which means the volume goes up quickly on the first half of the potentiometer rotation, reaches its maximum at 12 o'clock, and doesn't change much beyond this point. Therefore, you can reach the maximum volume of your amplifier even if the volume potentiometer is not set at maximum.

By reaching the maximum output power of your amplifier, you will hear a lot of distortion, which may not sound as well as you may hope. In fact, most amplifiers sound rather poorly at maximum volume. Always keep in mind that your amplifier may not have been conceived to be used at maximum volume for a long period of time. Running an amplifier at high volume will cause premature wear of the tubes and possible malfunctions or damages at the output stage.

> ⚠️ **The fact that the volume control of your amplifier is not set at maximum doesn't mean your amplifier is not running at maximum volume. A good habit is to keep the usual volume setup you would use in rehearsal or on stage, rather than just following what the volume potentiometer indicates.**

Part 3

About the Torpedo *Reload*

1   Introducing the Torpedo *Reload*

Two Notes Audio Engineering is proud to introduce the Torpedo *Reload*, the all-in-one analog interface for recording guitars and basses in the studio. This product has been developed through years of technical research, with great attention paid to the needs of guitarists, bassists and sound technicians who are confronted with the challenges posed by miking amplified instruments, whether on stage or in the studio. Our goal is to provide ease of use, reliability, versatility and, above all, perfect audio quality.

The Torpedo *Reload* is the interface everyone involved in modern guitar and bass recording situations needs. It was designed at first as the perfect interface between a guitar or bass amplifier and a sound card, so you can send the best signal possible to our Torpedo *Wall of Sound III* plug-in, which embeds the Torpedo technology.

Recording your guitar or bass amplifier in silence has always been the purpose of the Torpedo products, but with the Torpedo *Reload*, Two Notes has striven to gather together all of the major functions and products you may need in a recording room:

- A **Hi-Z instrument D**I so you can record you guitar's signal directly;

- The most transparent **power attenuator and loadbox** with multi-impedance input and continuous volume setting from total silence to 0dB. Two Notes creates the **RE-ACT™** technology;

- A **re-amplifying interface** with a special function to perfectly adjust the level sent from the audio interface to the amplifier. Two Notes creates the **REPLAY™** and **MATCH™** functions.

Record your guitar using the DI, send the signal back to your amp using REPLAY™, drive your amplifier the way it should be driven and lower the level or simply make it silent with RE-ACT™, record the signal from the load box, and even use your own microphones and cabinets for a 3rd take - all simultaneously if needed!

This product has been thoroughly tested in professional studio and stage environments and is the alternative many musicians have been expecting for the professional sound capturing of their amplified instruments. The Torpedo *Reload* coupled with Torpedo *Wall of Sound III* will give you the elusive sound of the greatest recording studios and producers, any time, anywhere.

2   Front panel

Figure 3.1: Front panel of the Torpedo *Reload*

1	ON/OFF switch	4	Loadbox output level	7	Air vent	10	MATCH™ indicators
2	Hi-Z Instrument input	5	Speaker attenuator volume	8	Signal indicators	11	Heat warning
3	REPLAY™ level	6	Contour	9	Load impedance indicators		

3   Rear panel

Figure 3.2: Rear panel of the Torpedo *Reload*

1	Cooling fan	4	Loadbox output (balanced)
2	RE-ACT™ speaker input	5	DI output (balanced)
3	RE-ACT™ speaker outputs	6	REPLAY™ I/Os

4 The Torpedo *Reload* advanced functions

4.1 RE-ACT™

Attenuators are usually known for the negative impact they have on your tone in cases of heavy attenuation, which is mainly due to the fact that the load presented to the amplifier will vary depending on the attenuation level. On the contrary, the Reactive-Active technology (RE-ACT™) presents your amplifier with a consistent speaker's impedance no matter what level of attenuation you are at, thus preserving the specific character of your amplifier.

With a choice of 4, 8, or 16 Ohms, your amplifier (up to 150W RMS, 200W peak) will actually see real speaker impedance, and your tone will remain constant throughout the continuous attenuation curve.

The attenuated outputs and the loadbox output can be used at the same time, so you can simultaneously record the dry output from your amplifier's speaker output and perform a traditional miking of your cabinet(s). You can plug or unplug the speaker cabinet anytime without worrying about its impedance with regards to the amplifier's speaker output impedance, as the two are totally independent.

Another issue with amplifier attenuation has to do with how our ears perceive the sound. In effect, the lower the volume of the sound is, the less we hear low and high frequencies. That is because our hearing is way better at low volumes for the mid frequencies of the voice, for example. The CONTOUR parameter can be seen as a loudness compensation effect, but it can also be used as a creative effect. Turn the button to the left (Vintage) and you will get a rich, medium-centered tone with a lot of presence. Turn CONTOUR to the right (Modern) and you will get more bass and treble, a V-shaped tone to get those frequencies your ears cannot perceive at low volume. Or simply to get that ultra-tight metal tone or ultra-warm clean tone you are looking for...

4.2 Hi-Z instrument DI

Plug your guitar or bass into the DI input and send that signal to your microphone preamplifier connected to your recorder. If the DI signal is too strong for your preamplifier, you can connect the DI output to a Line input, by using an XLR-XLR cable or XLR (female) to Jack 6.35mm (1/4") TRS. At that stage what you want is clarity and Two Notes preserves your guitar's tone, as you will certainly want to re-inject it into your amp through the REPLAY™.

This DI signal is also suitable to feed any kind of amplifier-modeling software, that can be followed by the Torpedo *Wall of Sound III* plug-in.

4.3 REPLAY™

One of the most interesting options in studios nowadays: play the guitar one day, and mike the amplifier (or many different amps) another. The Torpedo *Reload* is your re-amplifying device of choice.

The REPLAY™ output follows a low-impedance unbalanced design to ensure the best conditions when sending the signal to the amplifier. The ground lifts will allow you to solve any grounding issues that may come up when you are setting up the kind of complex wiring you can use with the Torpedo *Reload*.

The most difficult part in re-amplification techniques is finding the output level on the DAW (Digital Audio Workstation) that matches the level of your guitar when it is directly connected to the amplifier. This problem is now solved, thanks to the Torpedo *Reload*'s unique MATCH™ feature.

4.4 MATCH™

This Two Notes innovation is *the* solution to the problem of level adjustment when re-amplifying. If the level is too high your amplifier will tend to over-saturate, if the level is too weak the tone will lack dynamics and liveliness.

MATCH™ compares the signal as it comes from the guitar (plugged to the DI input) with which it has been recorded (and sent to the REPLAY™ Line Input) so that what you send the amp is the ideal level only. Now you can be sure that the signal you send from the DAW is *exactly* what your guitar itself would be sending.

You may even perform a MATCH™ with two different signals: if you have a previously recorded track, for instance, but do not have the guitar with you — plug a similar guitar into the DI In and match it to the signal!

5   The Torpedo technology and Torpedo *Wall of Sound III* plugin

The **Torpedo technology** was created as a solution to the high pressure musicians commonly have to deal with: lack of time, limited gear availability, loud amplifiers they cannot play at desired volume, or bulky and heavy cabinets to carry. In addition, many musicians are more comfortable with their analog amplifier and effects pedals, and are reluctant to perform using digital modeling systems that may compromise their playing style and sound.

Two Notes has developed a unique technology based on an adaptation of convolution techniques. Starting with the measurement of an actual cabinet + microphone setup, the Torpedo products embedding digital processing can accurately reproduce the system as it was measured, as well as the microphone's position in space. In order to take full advantage of these digital algorithms, the audio design of the highest quality guarantees a huge dynamic range and tone fidelity, and concurs in bringing the ultimate playing experience.

The impulse response (IR) of a system describes it behavior under the form of a very detailed filter. The convolution technique uses IRs to simulate the behavior or particular systems, such as reverbs, speakers, EQ, etc.

It is the most accurate way to simulate sound signatures that are linear (i.e. without distortion) and time-invariant (i.e. no effect like modulation, compression, hysteresis...). It is particularly well suited for speaker miking simulation.

The Torpedo *Reload* comes with a Torpedo *Wall of Sound III* plugin license. Torpedo *Wall of Sound III* offers a "virtual" alternative to traditional miking to achieve a degree of realism never experienced previously with simulators. The musician simply plugs the Torpedo *Reload* in place of his/her cabinet, connecting the amplifier's speaker output to it and without modifying any of his/her usual settings (or connected effect pedals as applicable). From there, the Torpedo *Reload* Loadbox output signal can be sent to any microphone preamplifier and that signal recorded thanks to your DAW on a track embedding the Torpedo *Wall of Sound III* plugin.

Torpedo *Wall of Sound III* comes with a library of 24 cabinets and 8 microphones among the most commonly used models in the world. You will achieve perfect virtual miking by choosing one cabinet and one microphone, and fine-tuning the position of the microphone in front of the cabinet.

6   Torpedo *Wall of Sound III*, only a speaker simulation?

The Torpedo *Wall of Sound III* is a software plug-in you can embed in your recording program. The plug-in should be used on tracks containing guitar or bass signal recorded from a preamplifier (guitar,

bass, or any product with a line output) — or from a loadbox like the Torpedo *Reload* if you want to record the signal coming from the speaker output of your amp.

The role of this plug-in is to replace the following elements of the traditional guitar or bass setup:

- the guitar/bass power amplifier
- the speaker cabinet
- the microphone
- the microphone preamplifier

to provide a signal that is the closest possible to actual guitar/bass miking as achieved traditionally in a professional studio environment.

The miking is achieved in 3 steps with the Torpedo *Wall of Sound III* :

1. choose a power amplifier (or switch it off if you are using a loadbox), a speaker cabinet and a microphone (Amplifier, speaker and microphone section),

2. place the microphone in the virtual studio (Miking window and parameters),

3. shape the signal (Low Cut, Eq, Exciter and Comp sections).

With each step, Two Notes Audio Engineering implements its know-how to bring you the most advanced simulations on the market and ensure perfect realism both for the musician (playing sensations) and for the listener (sound quality).

Note: the evaluation version of Torpedo Wall of Sound III is limited to 8 microphones and 2 cabinets; the Torpedo Wall of Sound III Reload Edition offers 24 cabinets.

6.1   Tube Stage Output

The Torpedo *Wall of Sound III* handles any kind of instrument track. When using a guitar/bass preamplifier with other speaker emulators, the guitarist/bassist may miss the **power amplifier**'s contribution to the overall sonic texture. Many musicians get their sound from some particular use of that element and the Torpedo *Wall of Sound III* offers you the possibility to do the same.

Two Notes has developed an original tube stage modeling, which allows you to choose between 4 different tube models in Push-Pull or Single Ended configurations. You can push this tube stage like a conventional amplifier and look for that subtle yet particular distortion. If the Torpedo *Wall of Sound III* is used as a super-DI for keyboards, this feature that was originally developed for guitarists and bassists can also be very interesting to warm-up the sound of a synthesizer, organ or a digital piano.

6.2   Post FX section

During a guitar/bass sound miking session, it is a common practice to apply some essential processes on the signal before sending it to the recorder or the front mixing console.

In the Torpedo *Wall of Sound III*, you will find most of those essential processes for the control of your sound, no matter what situation and type of instrument:

- low-cut filter,
- 5-band graphic equalizer with two modes (guitar and bass),
- 1-band exciter to give the sound a certain character, or to add presence, or "air", in the sound,
- a powerful compressor to control the signal's dynamics.

6.3   The new Wall of Sound III

What could be better than sending your guitar's sound through the best cabinet & miking simulation on the market? Sending it through dozens of the best cabinets and microphones and mix them up! The WoS III Edition of the Torpedo *Wall of Sound III* is a multichannel cabinet + microphone simulator:

- Up to 100 cabs and microphones simultaneously in one single plugin

- Low CPU usage

- Ultra-low latency (max <0.26ms)

- Linked or independent dual channel mixing

- Enhanced user interface to manage all the channels

- 3rd-party Impulse Response (or IR) compliant, fast switch between the IR's

- Mix Two Notes cabinet files with any other IR files on the market

- Try all the cabinets FOR FREE and buy the ones you like in the built-in "Boutique".

Part 4

Connecting the Torpedo *Reload*

1   Overview

The Torpedo *Reload* offers a solution for silent and quality sound pick-up in many situations. The following illustrations show the most common situations theTorpedo *Reload* has been created for.
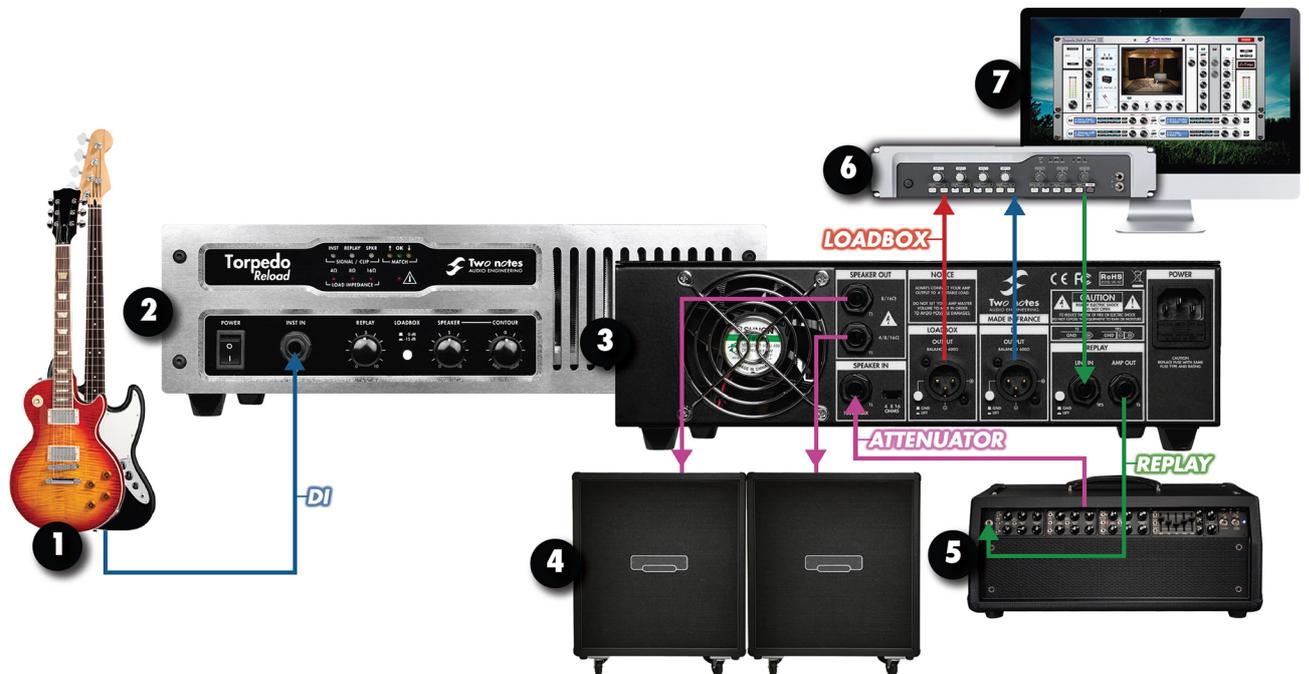
1	Guitar/bass	**3**	Torpedo *Reload* Rear	**5**	Guitar/bass amp	**7**	PC/MAC with Torpedo *Wall of Sound III*
2	Torpedo *Reload* Front	**4**	Speaker cabinets	**6**	Audio interface		

All functions work at the same time, but we will first show a variety of the more simple setups.

> ⚠ **Please keep in mind that tube amplifiers MUST be connected to an appropriate load (cabinet or loadbox). Always plug the speaker output from your amp to the speaker input of the Torpedo *Reload*, and select the matching impedance.**

2 LED indicators

You will find different LED indicators on the Torpedo *Reload* front panel:

- SIGNAL / CLIP: indicates the presence of a signal in either the DI, REPLAY™ or SPEAKER input (green color). The LED lights up red whenever that signal is too strong — if so, you need to lower the volume at the corresponding input.

- MATCH™: Increase the REPLAY™ potentiometer value if the up arrow lights up, and lower the value if the down arrow lights up. "OK" means that the level of the signal sent to the amplifier through the REPLAY™ Amp Out and that of the guitar's signal in the DI input are at matching volumes.

- LOAD IMPEDANCE: shows the selected impedance on the Torpedo *Reload*. This value must match the value of your amplifier's speaker output. Go to the back of the Torpedo *Reload* and select either 4, 8 or 16 Ohms.

  NB: The Torpedo *Reload* must be turned off when you select the impedance.

- TEMPERATURE (Heat warning): this last indicator will light up if the temperature inside the Torpedo *Reload* is too high, which activates the security load. If so, please lower the volume on your amplifier or stop playing for some time, so the temperature decreases.

3 DI recording

This first setup is what you will use when you want to connect your instrument to your sound card properly to do some recording and/or to feed an amp-modeler plugin. The Hi-Z (High Impedance) instrument input of the Torpedo *Reload* will handle your guitar or bass signal so you face no loss of dynamic or frequency:

1. Plug your guitar to the DI input and the DI output to your microphone preamplifier (or channel 1 on the mixer, or embedded preamplifier on your audio interface), and that preamplifier to Line channel input 1 on your audio interface.

2. Activate Track 1 for recording & live monitoring, select channel 1 as an input.

3. **Start recording!**

In any setup that involves a microphone preamplifier, it is important to set the correct gain on the preamplifier so the level of the recorded track is high enough. It is commonly recommended to set the gain on the preamplifier so the instrument's signal will hit -16dB FS to -18dB FS (i.e., dB Full Scale, the value indicated on your sound card and sequencer input meter).

4   Power attenuator and load box

4.1   RE-ACT™, how does it work?

Some attenuators are resistive, others are reactive, and most of them are passive.

Passive means that the attenuator's electronics does not require a power supply.

Resistive means that the power out of your amplifier is tamed by the presence of one or several resistors on the signal path. The load impedance plays a huge role on the sound, and a resistive attenuator will make the tone somewhat darker, with losses in the high and low frequencies.

Reactive means that reactive elements (transformers, coils and/or capacitors) are used instead of mere resistors. With this technology, the damping factor will decrease with the level of attenuation. Most of the time, a reactive attenuator means losses in character and fidelity, "muddy" sound and other unwanted effects.

Another downside of passive resistive/reactive attenuator is the way the listening level is controlled, usually by some step potentiometer, which does not allow for precise volume setting, and limits you to a set of fixed attenuations.

RE-ACT™ stands for "Reactive-Active Attenuator", which means it uses a reactive load and active overall schematics. In effect, the RE-ACT™ can be described as the conjunction of two elements:

- a reactive loadbox inherited from the critically acclaimed Torpedo *Live* series, followed by

- an ultra-low-distorsion, wideband, low-noise solid-state amplifier based on a widely used HiFi architecture.

The role of this system is to present a speaker-like impedance to your amplifier, get rid of the power, then re-amplify it to the desired volume. This design offers a number of advantages over resistive/passive ones:

- the amp is always connected to a fixed impedance, which is as close as possible to a real speaker impedance;

- as the impedance does not change with the attenuation, the tone of your amp stays the same;

- the volume you hear in the room can be set continuously, you get REAL master-volume control (SPEAKER parameter), after your amplifier's master volume;

- the speaker-output impedance of your amplifier is independent from the speaker impedance of the actual speaker cabinet you plug on the Torpedo *Reload*. This opens up a great many fun possibilities of cabinet mixing.

4.2   Connection

Connecting the *Reload* as an attenuator is really quite simple, provided you observe the following:

- Always match the value of the impedance on the Torpedo *Reload* (either 4, 8 or 16 Ohms) to your amplifier's speaker-output impedance.

- The Torpedo *Reload* will normally get warm during use, so you must not put it in a closed box or obstruct the air vents.

- You can connect one or two cabinets to the Torpedo *Reload*, or no cabinet at all if you want to use the loadbox only (silent playing and recording).

- The impedance of the cabinets you may plug to your amp is independent from the impedance of that amplifier. You can very well use the 8-Ohm speaker output of your amp while having one 8-Ohm cabinet and another 16-Ohm cabinet plugged to the Torpedo *Reload*! Please refer to "Possible post-attenuation speaker combinations", Part 7.2.3 for more information about cabinet matching.
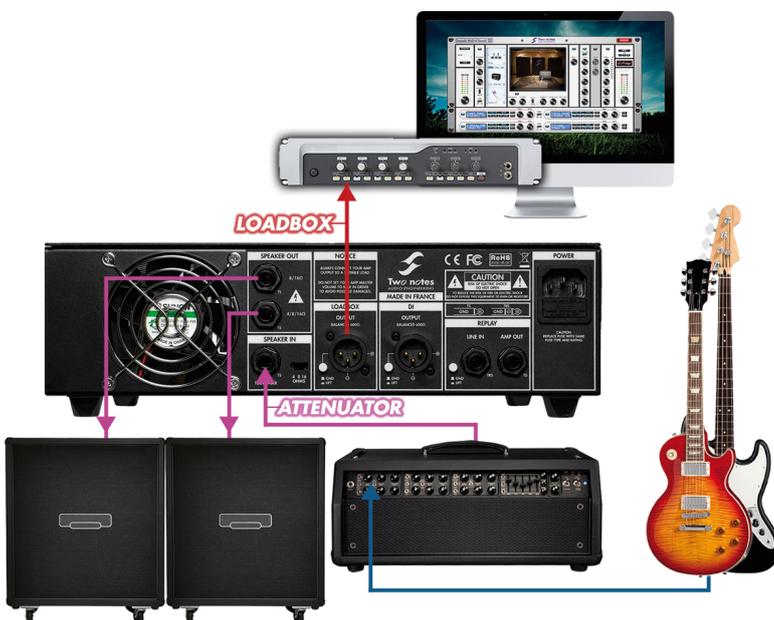
1. Connect your amplifier's speaker out to the Torpedo *Reload*'s SPEAKER IN.

2. Make sure the impedance selected on the Torpedo *Reload* matches the value at your amp's output.

3. Connect a cabinet to the lower SPEAKER OUT jack.

4. Connect a second cabinet, if needed, to the higher SPEAKER OUT jack.

> ⚠ **The loadbox inside the Torpedo *Reload* remains active wether you have plugged a cabinet to it or not. We recommend using amplifiers with a maximum power rating of 150 W RMS (200 W peak). Basically, the loadbox turns your amplifier's power into heat. If the temperature inside the Torpedo *Reload* is too high due to an excess of power, DO NOT WORRY: the active security system will put your amp on a safe security load, while the Torpedo *Reload* cools down.**

> ⚠ **When you play your amplifier loud, you may hear some noise coming out of the Torpedo *Reload*. This is perfectly normal and there is no reason to worry. The sound is produced when power goes through the coil of the reactive load embedded in the Torpedo *Reload*. The vibration is related to what power comes out of the amplifier connected to the Torpedo *Reload* and to the signal's frequency content (i.e., notes played are heard). Your amplifier may also produce similar noise, at the output transformer's stage. Such noise is usually not heard, simply because it is normally covered by the sound coming from the loudspeaker.**

> ⚠ **The sound may be a little different depending on whether a Torpedo *Reload* is placed between your amplifier and your cabinet or not. That is normal, as the internal speaker impedance of the Torpedo *Reload* will be slightly different from your cabinet's. Most importantly, this slight difference is constant and does not depend on the attenuation level.**

4.3 Contour

The CONTOUR parameter will help you find the tone you are searching for, at low volume. This filter changes the attenuated speaker output, from more medium and vintage tones to more modern and mid-scooped tones. Basically, when playing at low volume, you may want to add that missing bass and treble, but we like to imagine a more creative way of using the CONTOUR, by modifying the tonal characteristics of your amplifier during a recording through traditional miking.

> ⚠ **CONTOUR has no effect on the DI, REPLAY™ or Loadbox outputs.**

5   Re-amplification using REPLAY™

Re-amplification techniques are commonly used nowadays, mainly to let the guitarist record a dry guitar in one place and time, and then have that dry recording sent to one or many amplifiers by a sound engineer who will take the time to find the right combination for the song. This way a guitar player who is equipped with a good quality DI and a DAW can take the time to quietly record at home without travelling to a studio, and eventually get a pro recording of a real amplifier. For more information about re-amping techniques, please read this Wikipedia article: `http://en.wikipedia.org/wiki/Re-amp`.

   With the Torpedo *Reload*, you can do both of those things: record the dry guitar with the DI, and then use the REPLAY™ to send that guitar track back to an amplifier. We will here present first a silent REPLAY™ (i.e., without actual cabinets plugged to the Torpedo *Reload*), and then the full setup for recording 3 different tracks at the same time.
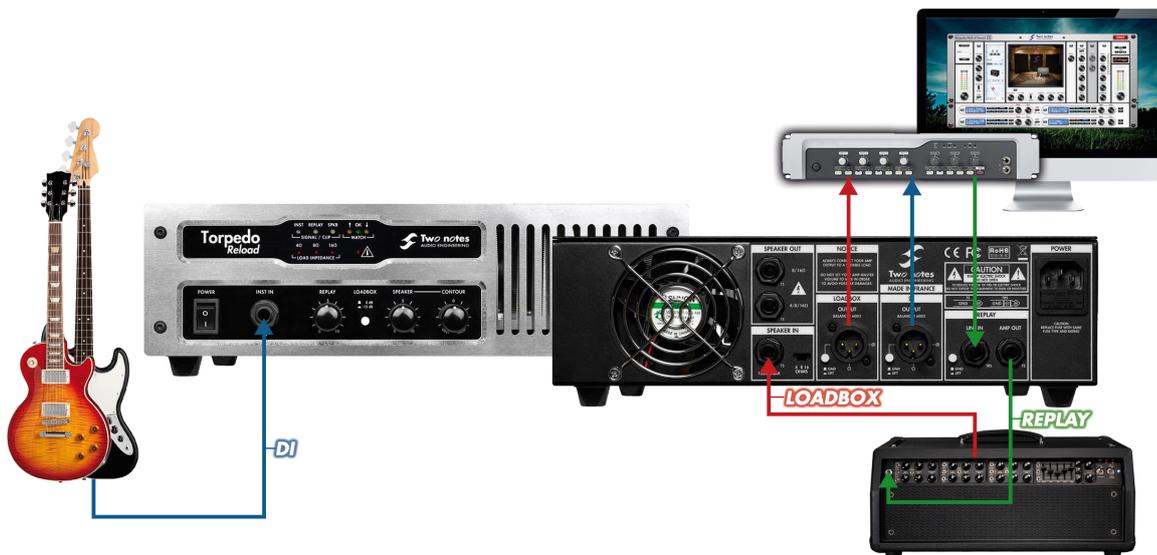
5.1   Silent REPLAY™

We shall assume here that the DI setup presented above ("3 Di recording") is already operational. On track 1 of your sequencer you have recorded the sound sample of a dry guitar signal.

1. Route Track 1 so its output is sent to your audio interface's output 3, if 1&2 are used as Master output. It is important you use a different output from the Master one. This way you can hear the replayed track on the Master output, while sending the dry track to another output. If you only have 2 outputs, you can use output 1 to send track 1 and output 2 to hear the newly recorded replayed signal.

2. Connect the interface's output 3 into the REPLAY™ input.

3. Connect the REPLAY™ output to your amplifier's input.

4. Connect your amplifier's output to the Torpedo *Reload*'s speaker input.

5. Connect the Torpedo *Reload*'s Loadbox to your second microphone preamplifier (or channel 2 of the mixer, preamp 2 on the audio interface).

6. Connect the preamplifier to the Line channel input 2 on your audio interface.

7. Activate Track 2 for recording & live monitoring, select channel 2 as an input

8. You can insert Torpedo *Wall of Sound III* on the track so you can perform (non-destructive) miking while recording the dry signal of the amplifier.

9. **Start recording!**

5.2   The full setup: DI + LOADBOX + miking

In the previous setup we decided to achieve a silent REPLAY™, but you can perform some traditional miking at the same time, with a controlled sound level thanks to the Torpedo *Reload*'s power attenuator.

1. Connect a cabinet to the Torpedo *Reload*'s speaker output, set the appropriate volume for the cabinet using the SPEAKER potentiometer.

2. Plug a microphone to your third preamplifier (channel 3 on the mixer, etc.), place the microphone in front of the cabinet.

3. Connect the preamplifier to the Line channel input 3 on your audio interface.

4. Activate Track 3 for recording and eventually live monitoring to hear the result in the Master, select channel 3 as an input.

5. **Record!**

When replaying with a high-gain amplifier, you may experience some unwanted noises, at a level higher than what you were used to with a guitar directly plugged into the amp. This is normal and mainly due to the amp's huge level of gain, whereas our setup here is more complex and more sensitive to every source of noise in it. The different ground lifts we add to the Torpedo *Reload* will help, but may not be enough. We recommend having the different products (instrument, Torpedo *Reload*, computer, amplifier) as far as possible from one another, while keeping the unbalanced connections as short as possible. A noise gate in the effects loop of the amplifier always helps a lot with this kind of issue.

5.3 MATCH™

The unique MATCH™ function will compare the signal sent from the guitar with the signal coming back from the audio interface. Use the REPLAY™ potentiometer to adjust the level of the track's signal.

1. We shall assume here that the silent REPLAY™ setup is operative. Activate the track-1 monitoring so the guitar's dry sound will come back to the audio interface into the REPLAY™ input. That way the Torpedo *Reload* will be able to compare the guitar's signal with the one sent by the audio interface.

2. Play the guitar so you see a LED on the MATCH™ panel light up. Increase or decrease the value of the REPLAY™ potentiometer until the OK green led lights up, and your level-matching is done!

MATCH™ works best if the latency of your digital audio interface is set to a value inferior to 20 milliseconds.

5.4 MATCH™without the original guitar

You cannot use the MATCH™ function because your are replaying tracks that were recorded at a different time and place? Try to get some information about the guitar/bass that was used. Find a guitar with similar pickups (single coils, humbuckers, active...) and use MATCH™ as if this were the guitar used during the initial guitar recording, to find the REPLAY™ potentiometer's correct value.

Part 5

Setting up Torpedo *Wall of Sound III*

1   Installation

1.1   On a PC using Windows™ OS or an Apple Mac™ using OSX™

Before installing the Torpedo *Wall of Sound III* software, make sure you have uninstalled any previous version of the software to avoid any possible problems.

1. Download the version of Torpedo *Wall of Sound III* you need from the Two Notes website using the link: `http://www.two-notes.com/en/software/torpedo-wall-of-sound-3/#download`.

2. Unzip the software if needed.

3. Launch the .exe (Windows™ version) or the .dmg (Mac™ version).

4. Follow the instructions on your screen.

1.2   Registering Torpedo *Wall of Sound III*

Torpedo *Wall of Sound III* requires registering on the Two Notes website. During the installation process, you will be asked to create a new profile, then you will be able to download a license and activate you plugin online. Offline activation is also possible — please follow the instructions given during installation.

Additional video tutorials on how to install and register Torpedo *Wall of Sound III* can be found on the Two Notes website: `http://www.two-notes.com/en/software/torpedo-wall-of-sound-3/#tuto`.

2   Using Torpedo *Wall of Sound III* with an amplifier or a preamplifier

Torpedo *Wall of Sound III* is a plugin you can embed in your DAW (Digital Audio Workstation) sequencer as an insert effect on a guitar or bass track.

It is designed to work perfectly with a guitar or bass preamplifier's line output or with a tube amplifier and the Torpedo *Reload*. The following schematics illustrate the way you should wire your system up.

> ⚠ **Please note that some amplifiers or preampliers have a "frequency compensated" output. Such output embeds a small circuit to emulate a miked speaker. Please do not use this output, or deactivate the speaker emulation if possible, to get the best of your Torpedo *Wall of Sound III* software.**
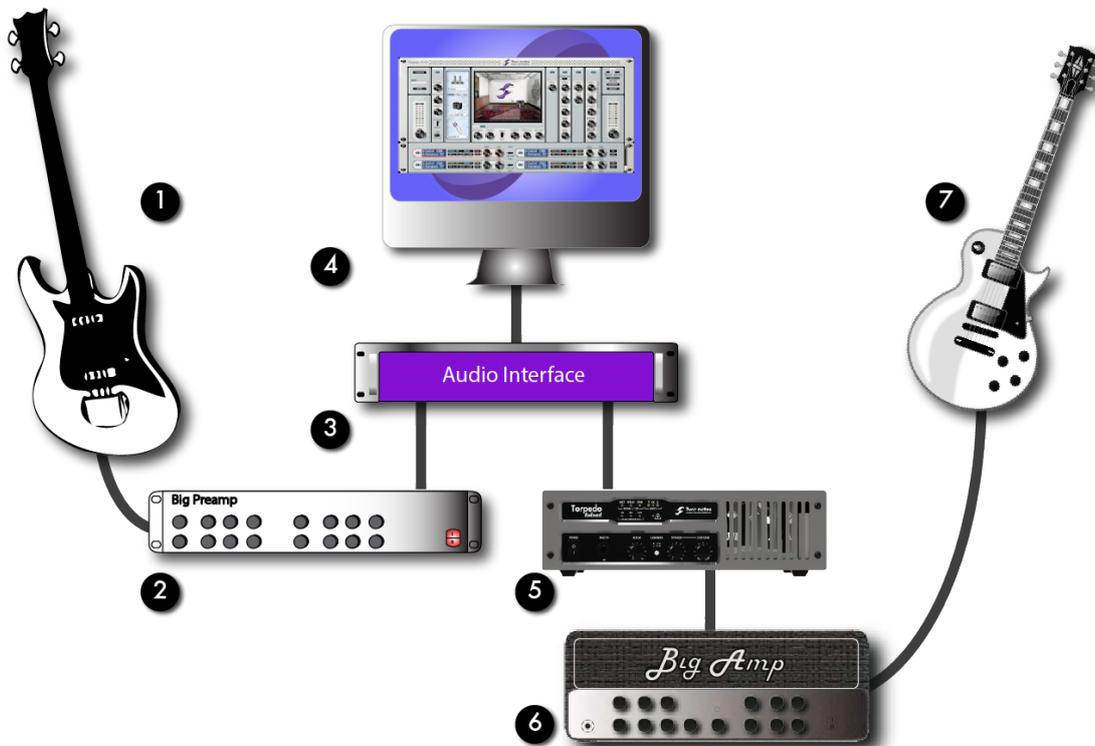
1	Guitar or Bass	3	Audio Interface	5	Torpedo *Reload*	7	Guitar or Bass
2	Guitar or bass preamplifier	4	PC/MAC with Torpedo *Wall of Sound III*	6	Guitar or bass amplifier		

> ⚠ **Please keep in mind that the overall quality of the total sound chain is always determined by its weakest component. The best performance will be achieved with a perfect adaptation (impedance, level...) of your preamp or Torpedo *Reload*'s output signal to your audio interface. Your guitar or bass preamplifier may not deliver true line-level signals and may use either line, microphone, or "something in-between" signals. Make sure the signal you put in the simulation is the best one possible so you get the most out of your Torpedo *Wall of Sound III*.**

3   Using Torpedo *Wall of Sound III* with a software or hardware amplifier emulator

You may want to use Torpedo *Wall of Sound III* in order to replace the speaker simulation of a plug-in or hardware amplifier emulator. This may be a good idea, if you keep in mind the two cases you may encounter and follow our recommendation:

1. If the amplifier emulator embeds separate pre-amplifier and power-amplifier simulations: bypass the speaker simulation AND the power-amplifier section of the amp emulator, and switch the Torpedo *Wall of Sound III*'s power-amp simulation on.

2. If it is not possible to bypass the power-amp simulation on the Amplifier emulator, switch off the power amp on the Torpedo *Wall of Sound III* plug-in.

The two cases can be summed up as follows:

Amplifier Emulator			Torpedo PI-101	
Preamp status	Power Amp status	Speaker status	Power Amp status	Speaker status
ON	OFF	OFF	ON	ON
ON		OFF	OFF	ON

Obviously, if the speaker simulation on the amplifier emulator cannot be bypassed, we do not recommend using that simulation with Torpedo *Wall of Sound III*.

4   Software and cabinets update

Every time you start a session using the Torpedo *Wall of Sound III* plug-in, the plug-in will automatically check for any newer version of the software and for a new license — if you buy new cabinets, for instance. Every time an update is available form the Two Notes website, the plug-in will show a window where you will have the choice to install the new software and cabinets or to do so later. that function requires that your computer be connected to the Internet. If you prefer not to have your studio computer connected, simply check the Two Notes website or read the Two Notes newsletter so you can be informed of the latest updates.

Part 6

Using Torpedo *Wall of Sound III*

1   Torpedo *Wall of Sound III* interface

1 Presets	**5** Miking	**9** Compressor	**13** WoS section
2 Main input gain	**6** Low cut	**10** Setup parameters	
3 Power amp parameters	**7** EQ	**11** La Boutique (the store)	
4 Power amp, speaker and microphone selection	**8** Exciter	**12** Main output volume	

2 Routing of Torpedo *Wall of Sound III*: stereo and mono to stereo track

Torpedo *Wall of Sound III* is designed to work with **stereo / dual mono signals**, so you can insert it on a stereo track or a stereo bus. With Torpedo *Wall of Sound III* you can handle as many as 100 different cabinets and microphones simultaneously. The 100 cabinets are displayed on 50 **channels**. In other words, one channel contains two cabinet-miking configurations. Each channel offers independent controls for pan and volume.
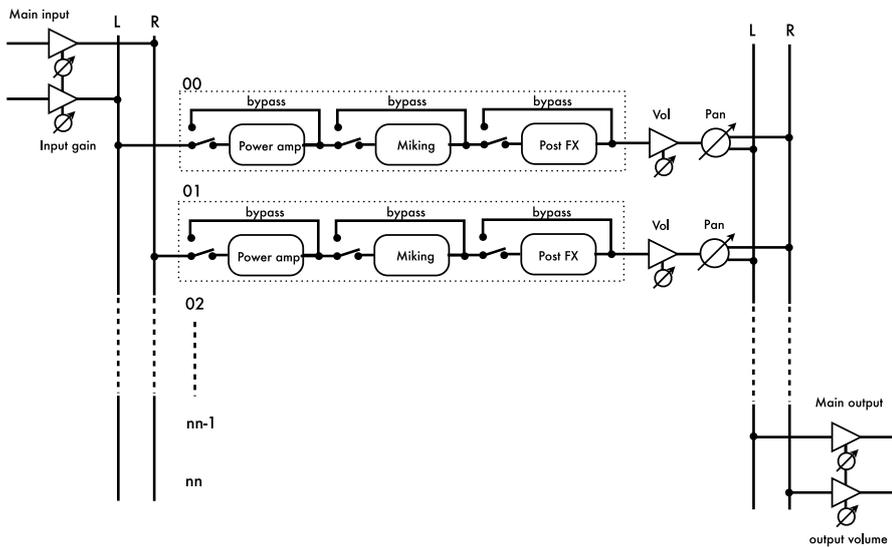

Figure 6.1: On a stereo track

With certain software sequencers such as Logic Audio™, you will be able to load the plug-in as a mono to stereo plug-in. That way, the mono input channel is sent to the plug-in's two channels:
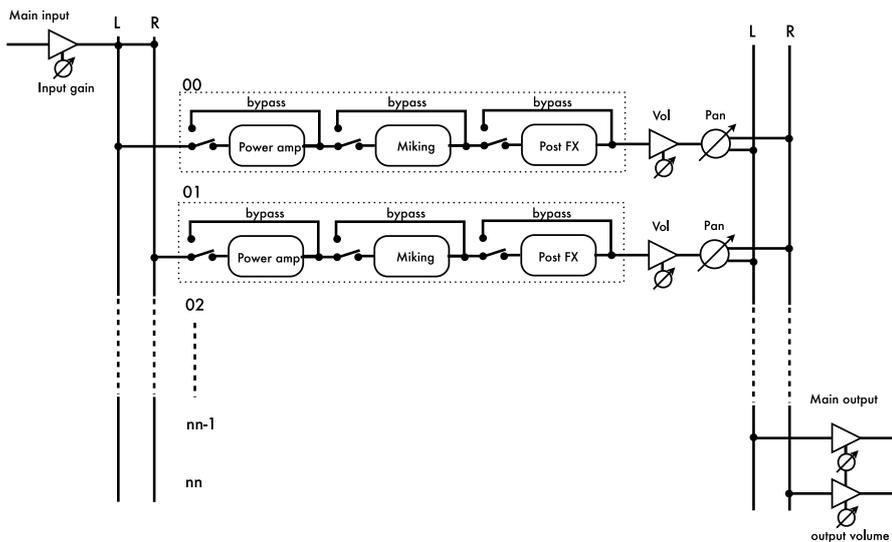

Figure 6.2: On a mono to stereo track

3 Routing of the Torpedo *Wall of Sound III*: mono track

If you insert the plug-in on a mono track (in other words, mono in/mono out), the channels will take the same input and process it in parallel.

Nevertheless, as the output is mono, the PAN parameter on every channel is deactivated.
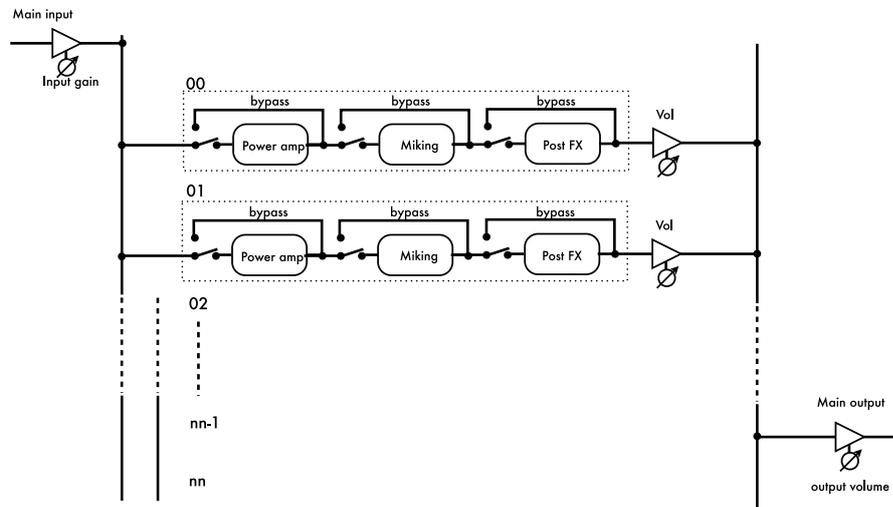
Figure 6.3: On a mono track

If you have several mono tracks, always think of the possibility of sending them to a stereo bus. For example, you may have your left and right guitars sent to the left and right channels of one Torpedo *Wall of Sound III* by simply panning the individual tracks left and right. What you will see is that the guitars sent to the left channel of the plug-in will be processed on the left part of the channel area on the Torpedo *Wall of Sound III*, and the guitars sent to the right channel of the plug-in will be processed on the right part of the channel area.

4 General controls

- You can change the parameters of the Torpedo *Wall of Sound III* either by clicking on the controls, pointing at a parameter and moving the mouse wheel, or double-clicking to enter a value.

- "alt"+click on a potentiometer to reset its value to the default value.

- On the "studio window", simply click on the microphone to move it around the room.

5 Input gain and output volume controls
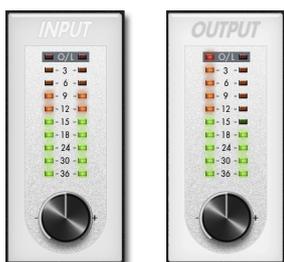
Those potentiometers control the input gain and the output volume of the plug-in. It is absolutely critical that you avoid any saturation of the input or output signals or you may considerably reduce audio quality.

6   Presets

- **Preset list**: Click on the list to select the preset you want to load.

- **SAVE**: Click on the "SAVE" button to save the current preset.

- **COMPARE**: The "COMPARE" button controls an evolved compari-
  son function developed by Two Notes Audio Engineering. Think
  about it as a temporary set of parameters, re-initialized after
  each startup of the unit. It can be used to quickly and easily
  compare two sets of parameters. It can be compared to the
  "Clipboard" filled by the "Copy" function on our personal comput-
  ers.

The COMPARE workflow:

1. At startup, the normal set of parameters and the temporary one are the same.

2. You can switch between the temporary set and the normal one by briefly pressing the "COM-
   PARE" button.

3. Any modifications made to either normal or temporary set are saved respectively in the normal
   or temporary set, without affecting the other. You have two separate sets of parameters at
   hand.

4. You can copy the normal set to the temporary one by pressing the "COMPARE" button for about
   2 seconds. The "COMPARE" button flashes, indicating that the copy has been made.

5. Any changes made in a parameters set (normal or temporary) are automatically saved in this
   set without affecting the other. You have two different and separated parameters sets at your
   disposal.

Let's look at an example:

1. Make sure the "COMPARE" button is off. Select a preset, add some modifications as desired: you
   now have a new, particular set of parameters.

2. Save this current ("normal") set of parameters over the temporary one (see above). Now the
   two sets are identical.

3. Make some more changes, for example change the speaker model. Now the two sets are
   different: you can hear the difference by switching between the two (see above).

Another interesting way of using this feature is this: The temporary set of parameters is not de-
pendent on any particular preset. When on the normal set of parameters, if you load a preset, the
content of the temporary set will not be affected. Thus, you can copy a preset into the temporary
set, then load a second one, and compare the two.

This constitutes a simple and fast way of comparing either a full preset to another, a modified
preset to the original one, or only changes affecting a single parameter.

7   Power Amp

- **Power Amp**: Activate the power-amplifier simulation by turning this parameter "On".

- **Master Volume**: Set up the output volume of your virtual power amplifier.

- **Presence**: This setting affects the tube-stage frequency.

- **Depth**: This setting affects the tube-stage frequency (bandwidth).

- **Pentode/Triode switch**: Select how the tube is used, either in triode or in pentode mode. Pentode mode has more headroom and volume than triode.

- **Link**: Activate the link function of the power amp. All the cabinets and microphones you can choose will share the same power-amp section. This can be used for an artistic purpose or for CPU-saving optimization.

8   Power amp, cabinet and microphone selection

In this section, you can choose which simulated power amp, speaker cabinet and microphone you want to use. You have 8 tube-stage configurations, 8 microphones and over 50 speaker cabinets available. You can try the Two Notes speaker cabinets available at will on the built-in store ("Boutique"), and then buy the ones you prefer. (Get discounted pricing options as you buy more cabinets at a time.) Find more information on `http://www.two-notes.com/en/software/torpedo-wall-of-sound-3/`.

Furthermore, the "User" tab gives you access to your own Impulse Responses (IR) (.tur files, measured with the **TORPEDO Capture** or **BlendIR** software), to IRs shared by other Torpedo *Wall of Sound III* users, or to "standard" third-party IRs (.wav or .aiff files), either downloaded or purchased.

This function expands the sonic and creative possibilities to infinity, do not hesitate to use audio files with no direct link to speaker measuring, you will experiment totally new sonic textures.

- **Amplifier list**: Choose the circuit topology for the power amplifier (Push Pull ou Single Ended) and the tube models (6L6, EL34, EL84, KT88) used by the simulation

- **Cabinet list**: Determine the speaker cabinet model used for the simulation. You can choose between guitar, bass or user cabinet (please read section 15 below for further information).

- **Microphone list**: Determine the microphone model used for the simulation.

9 Miking

In the "MIKING" section, you take the place of the sound engineer looking at his record room through the glass window. By using this section, you will find the "sweet spot", the perfect microphone position for your take. You will also be able to control speaker saturation and balance between simulated and non-simulated sound.

The first two parameters determine the microphone's position. You can move the microphone over a trapezoidal plane that is shown on the studio visualization. Simply click on the microphone to move it around, or fine tune its position with the potentiometers.

- **Distance**: Determine the distance between the simulated cabinet and microphone. Placing a microphone close to the cabinet will result in a precise sound with a large amount of proximity effect (depending on the chosen microphone model). When you move the microphone away from the cabinet, you increase the proportion of the studio's acoustics (early reflections) in the overall sound texture.

Furthermore, depending on the cabinet model used, and especially with the ones including multiple speakers, moving the microphone away can bring some higher frequencies back. This is simply due to the directivity of the loudspeakers. At maximum positioning (100%), the microphone is placed 3 meters (10 feet) away from the cabinet.

- **Center**: Determine the distance between the axis of the loudspeaker and the microphone (placed at right angle). The in-axis position (0%) allows for a maximum amount of treble sounds, which are highly directional. Moving the microphone away from the axis decreases the treble to the benefit of the bass response. At maximum positioning (100%), the microphone is placed at the edge of the speaker when Distance is 0%, and 1 meter (3 feet) away from the axis when Distance is 100%.

- **Position**: in standard sound capture, the microphone is usually placed in front of the cabinet. However, placing the microphone behind the cabinet can be quite interesting. The sound is usually softer and darker. This is particularly obvious with closed cabinet, and less with open ones.

- **Variphi**: The Variphi parameter is a one-of-a-kind control, exclusive to the TORPEDO technology. It allows you to modify the frequency content of the signal, using the properties of the sum of two signals with different phase levels. You are emulating a situation where two microphones are used, and the Variphi parameter controls the distance (hence the phase relation) between the two microphones. To easily hear this effect, we recommend starting with a crunch/saturated sound on your amplifier and changing the Variphi parameter. You will hear a periodic change in the signal with frequency modifications. Using Variphi, you will fine-tune the frequency content of the signal, whether you are looking for a "mid-scooped" or a "full" sound. Note that this parameter is always active. The "OFF" position is not a 0 value, but a first shift-phase value between the first and the second virtual microphones.

- **Overload**: A loudspeaker is essentially a system designed to faithfully reproduce the sound transmitted by the amplifier. However, a loudspeaker does have some particular audio properties of its own, including some that depend on the level of power applied. The "Overload" parameter reproduces the natural saturation that occurs when the loudspeaker is driven too hard. At maximum value, you get the sound of a loudspeaker coming close to destruction.

- **Dry/Wet**: Combine the dry, unprocessed sound, with the simulated one. This parameter is particularly interesting on clean sounds, or to search for new and original tones.

10   EQ

This is a simple yet powerful 5-band EQ. Shift the band frequencies by changing the mode (guitar or bass) so as to focus on the signal frequencies pertinent for the corresponding instrument.

- **EQ Mode**: Off, Guitar or Bass. Please refer to the following table for references between the band and the cut frequencies in each mode.

- **Low, LMid, Mid, HMid, High**: band frequencies, from lowest to highest.

Band	Guitar Mode	Bass Mode
Low (shelf)	120Hz	50Hz
LMid (peak)	360Hz	120Hz
Mid (peak)	800Hz	360Hz
HMid (peak)	2000Hz	800Hz
High (shelf)	6000Hz	4000Hz

11   Exciter

An exciter is very useful to give a sound a certain character, or to add presence, or "air", in the sound. The integrated exciter will allow you to add such features to your tone.

- **Exciter**: Switch the exciter ON or OFF.

- **Gain**: Control the amount of effect applied to the sound.

- **Freq**: Control the center frequency of the exciter. For example, presence for guitar is usually found at 2 or 3 kHz. Air can be added by placing this frequency at 6 or 8 kHz.

12   Comp

Using a compressor will reduce the dynamics of your sound, or control transients, or even to create special effects, such as pumping. The parameters of the TORPEDO compressor are equivalent to a standard studio compressor.

- **Compressor**: Turn the compressor ON or OFF. When ON, you may visualize on the bargraph the level of compression applied to the signal, in dB scale.

- **Threshold**: Control the signal level above which compression occurs.

- **Ratio**: Control the compression ratio.

- **Attack**: Control the attack time, in milliseconds.

- **Release**: Control the release time, in milliseconds.

- **Make-up Gain**: Control the make-up gain added at the compressor's output.

13   Setup

- **PRESETS**: Determines the default *Presets* folder where to store the preset files. This folder is valid for any instance of the plug-in.

- **IMPULSES**: Determines the *Impulses* folder where third-party cabinet files (in .wav and .aiff formats) and user files (.tur) are located for each instance of the plug-in (see below how to add new cabinets). This setting is saved with the current session of your plug-in host and you can save it with a Torpedo *Wall of Sound III* preset.

- **GUI SIZE**: Changes the size of the graphical interface window, from S (smallest size) to XL (biggest size), as best suits your screen's resolution.

- **INFOS**: Gives access to "About", "Hotkeys", "User's manual", "Check for updates" and "License info".

- **La Boutique**: Launches the Two Notes online store. Read more about the Boutique in the "Want more cabs?" section.

After the first installation of the Torpedo *Wall of Sound III*, the default *Presets* folder is located in:

- "Program Files/Two Notes Audio Engineering/Presets" on default Windows installation.

- "/Library/Application Support/Two Notes Audio Engineering/Presets" on default MAC installation.

14   Wall of Sound section

In this section you will be able to add the channels you need to achieve the sound you have in mind, using as many cabinets and microphones as you need (up to 100 over 50 channels)). Each channel is a combination of a power amp, a cabinet and a microphone. On every WoS section line, you will find two independent or linked channels that can be panned the way you want.

- **ON**: Switches the designed channel ON or OFF.

- **Display screen**: Displays the channel number (from 00 to 99), the cabinet and microphone names.

- **Quick bypass buttons**: Switches the designed section(Power Amp, Miking...) ON or OFF.

- **Solo**: Puts the selected channel in SOLO mode.

- **Mute**: Mutes the selected channel.

- **PAN**: Determines where the channel will be placed across the stereo field.

- **VOL**: Determines the output volume of the selected channel.

- **LINK**: Links a line of channels to achieve tuning on both channels simultaneously. Useful when you work with stereo signals.

- **DEL**: Deletes a pair of channels.

- **ADD**: Adds a pair of channels.

To activate a channel for editing, simply click anywhere on the channel zone (the red zone shown on the figure above for channel 00). You can navigate through the channels by pressing the arrows of your computer's keyboard.

15   Want more cabs?

- **Two Notes cabinets**:

  Torpedo *Wall of Sound III* embeds the new Two Notes *Boutique*. This is an online store that gives you access to all of the Two Notes virtual cabinets, captured with a set of 8 microphones. Make sure you have a working Internet connection and click on **La Boutique**:
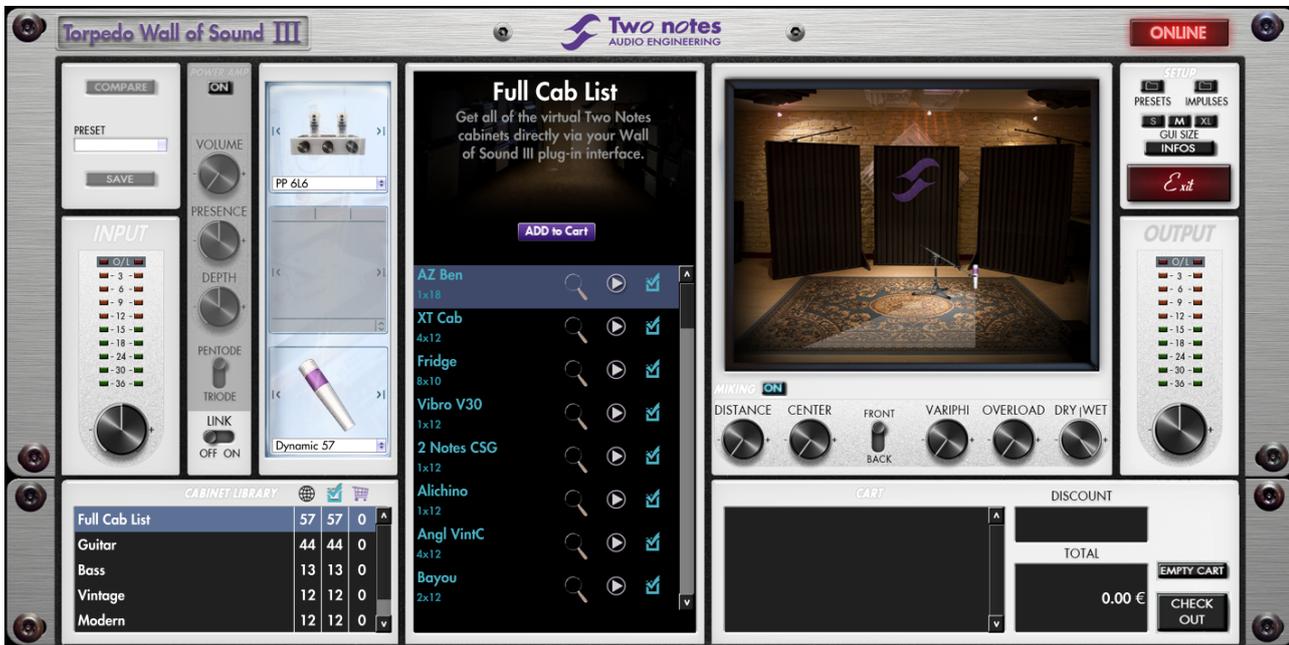
On the bottom left you find all of the cabinet collections, which are simple filters: selecting a collection lets you see only the cabinets you may have an interest in. For example only bass or vintage cabinets.

On the center panel you can:

- – browse the cabinets,
- – launch a real-time preview of the cabinet by pressing the "play" button,
- – get a closer look to the cabinet.

When previewing a cabinet, you can move the microphone while playing any track so as to listen to the tone of that particular cabinet.

On the bottom right side of the Boutique interface you will find the cart. By pressing the "ADD" button on the cabinet panel, you will see the selected cabinet(s) appear on that panel. Depending on how many cabinets you wish to buy, you can get a discount. E.g., with more than 50 cabinets at a time, you get the biggest -60% "PROFESSIONAL" discount.

Once you have put all the cabinets you need in you basket, simply click on "Check out" to be redirected to the Two Notes Store. The secured payment process uses your Internet Browser. No billing or information on the payment method is stored on the plug-in, so as to ensure maximum security.

- **.tur files**:

  .tur are proprietary files created with the Two Notes Audio Engineering **TORPEDO BlendIR** software. The software is available for download from the Two Notes website. With TORPEDO BlendIR

you are able to use the TORPEDO technology to capture the sound signature of your own cabinet and microphone in the deepest details.

To add a .tur file to your list, simply move the file to the root of the default Impulses directory, or select another folder (see part 6.13) that will be saved with the current session of your plug-in host. Please note that the files must reside at the root of that folder, without any subfolders. The cabinet list in the plug-in will be automatically refreshed.

Please note that with .tur files you do not have access to the microphone positioning parameter.

- **3rd-party IR files in .wav or .aiff format**:

  The Torpedo *Wall of Sound III* complies with third-party Impulse Responses (IRs) in .wav or .aiff format.

  To add a .wav or .aiff file to your list, simply move the file to the root of the default Impulses directory or select another folder (see part 6.13) which will be saved with the current session of your plug-in host. Please note that the files must reside at the root of that folder, without any subfolders. The cabinet list in the plug-in will be automatically refreshed.

  Note: with 3rd-party files you do not have access to neither microphone positioning nor overload parameters.

16   Hotkeys

Direction arrows	Change channel focus
SHIFT + C	Copy the selected channel
SHIFT + V	Paste to the selected channel
SHIFT + change parameter	Link, change the counterpart parameter on the second channel
CTRL + change parameter	Fine control
ALT + click on a parameter	Set default value

Part 7

Specifications

1   Torpedo *Wall of Sound III* specifications

1.1   Available Power Amplifiers

Designation	Characteristics
SE 6L6	Configuration Single Ended - Class A with 6L6
SE EL34	Configuration Single Ended - Class A with EL34
SE EL84	Configuration Single Ended - Class A with EL84
SE KT88	Configuration Single Ended - Class A with KT88
PP 6L6	Configuration Push-Pull - Class AB with 6L6
PP EL34	Configuration Push-Pull - Class AB with EL34
PP EL84	Configuration Push-Pull - Class AB with EL84
PP KT88	Configuration Push-Pull - Class AB with KT88

1.2   Available Microphones

| Designation	Inspired by
Dynamic 57	Dynamic microphone Shure™ SM57
Dynamic 421	Dynamic microphone Sennheiser™ MD421
Knightfall	Condenser microphone Blue™ Dragonfly
Condenser 87	Condenser microphone Neumann™ U87
Ribbon160	Ribbon microphone Beyerdynamic™ M160N
Ribbon121	Ribbon microphone Royer™ R121
Bass 20	Dynamic microphonee Electrovoice™ RE20
Bass 5	Dynamic microphone Shure™ Beta52

1.3 Available Cabinets

Designation	Inspired by
Default factory GUITAR cabinets	
2Notes CSG	Two Notes Custom 1x12" ElectroVoice® EVM12L
Angl VintC	Engl® 4x12" Celestion® V30
Blonde 63	Fender® Bassman '63 Blonde Tolex Piggy Back 2x12"
Brit 65C	Marshall® 1965A 4x10" Celestion® G10L-35 closed back
Brit VintO	Marshall® Slash Signature 4x12" Celestion® V30 open back
Calif StdC	Mesa/Boogie® Rectifier® Standard 4x12" Celestion® V30 closed back
Eddie	Peavey® 5150 2x12" Sheffield 1200
Free Rock2	VHT® Deliverance 2x12" Eminence® P50E
Green Tri	Hughes&Kettner® Triamp 4x12" Celestion® Greenback
Jazz 120	Vintage Roland® JC120 2x12"
JubilGreen	Marshall® 2550 2x12" Celestion® Greenback
Kerozen	Diezel® 4x12" Celestion® G12K-100
Silver77	Vintage Fender® Twin Reverb® 2x12" orange JBL®
SilverJen	Vintage Fender® Twin Reverb® 2x12" Jensen® C12K
The One	Brunetti® Neo1512 1x15" + 1x12"
Vibro Utah	Vintage 1961 Fender® Vibrolux® 1x12" original Utah speaker
Default factory BASS cabinets	
2Notes CSB	Two Notes Custom 1x15"
Alu XL	Hartke® XL 4x12"
AZ Ben	SWR® Big Ben 1x18"
AZ Work	SWR® WorkingMan 4x10"
Calif Low	Mesa/Boogie® 2x10"
Fridge	Ampeg® 8x10"
Heaven Bot	David Eden® 1x15"
Marco	Markbass® 2x10"

2   Torpedo *Reload* specifications

2.1   Internal circuit diagram
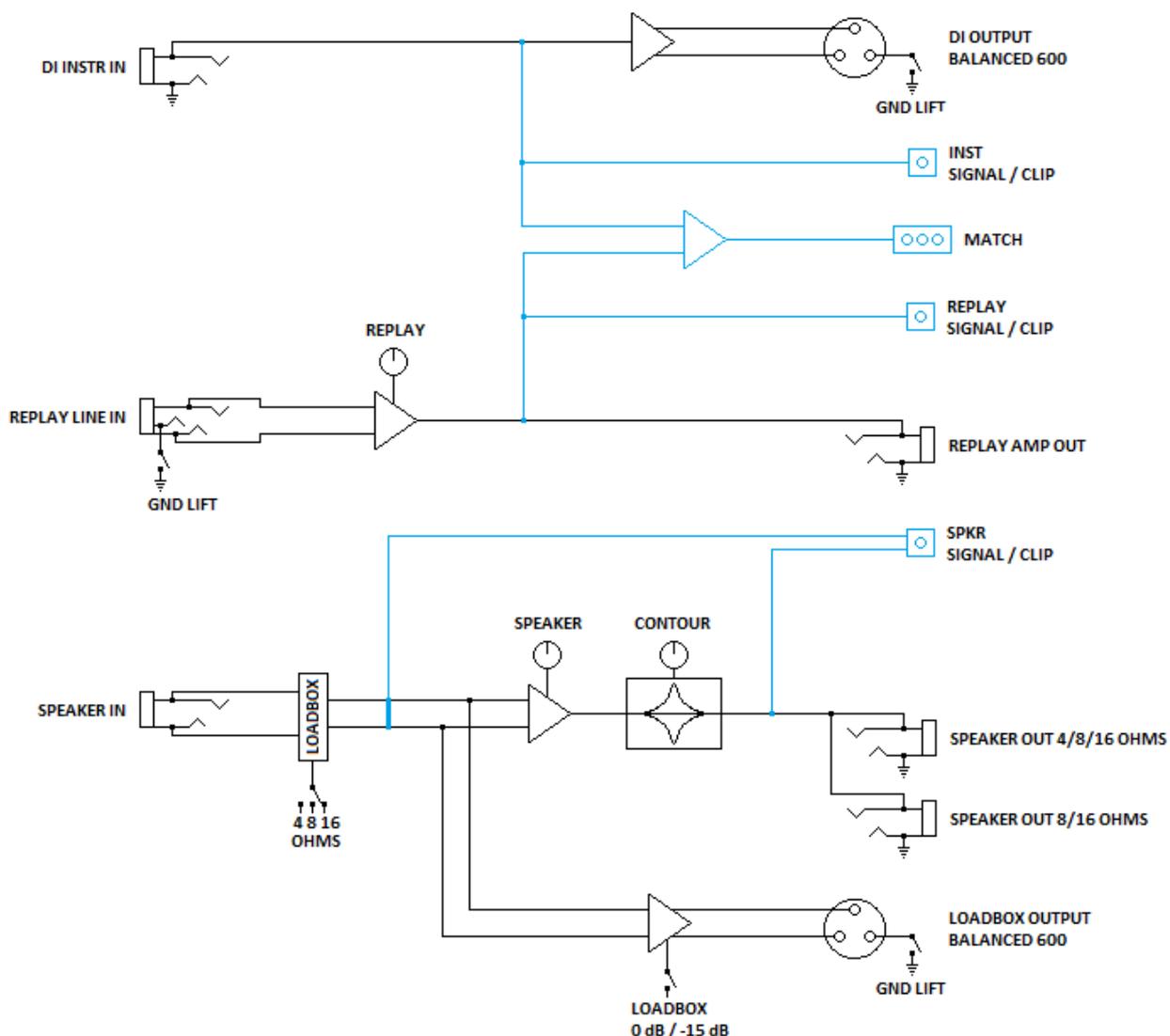
2.2   Audio connections
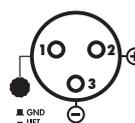
You can connect the balanced outputs to a device embedding unbalanced I/Os. In that case, you should use either mono plugs or stereo ones by bridging the Ring and Sleeve. For example, if

you wish to use an XLR-to-JACK cable on the Loadbox output, make sure that pin 1 and 3 of your XLR connector are bridged.

2.3 Possible post-attenuation speaker combinations

Cabinet 1 impedance (Ohms) Speaker output 1	Cabinet 2 impedance (Ohms) Speaker output 2	Total impedance (Ohms) (must be < 4 Ohms)
16	No cabinet	16
16	16	8
16	8	5,3
8	No cabinet	8
8	8	4
4	No cabinet	4

2.4 Technical data

Designation	Characteristics
Speaker Input	Jack 6.35mm (1/4") unbalanced (TS, Tip/Sleeve) Maximum input voltage: 140 Volts AC (45 dBu) Security load: 220 Ohms / 10 Watts
Loadbox	Reactive load, nominal impedance: 4 or 8 or 16 Ohms switchable Maximum continuous admissible power: 150 W (assuming proper ventilation) Maximum temporary admissible power : 200 W (assuming proper ventilation)
Speaker Output	2 X Jack 6.35 mm (1/4") unbalanced (TS) Minimal load: 4 Ohms Maximum output level: • 29 dBu @ 16 Ohms • 28.5 dBu @ 8 Ohms • 27 dBu @ 4 Ohms Maximum output power: • 25 W @ 16 Ohms • 50 W @ 8 Ohms • 70 W @ 4 Ohms
Loadbox Output	Balanced male XLR Output Impedance: 600 Ohms Ground/Lift switch Attenuation (speaker input to balanced loadbox output): 24.5 dB Maximum output level (balanced): 20.5 dBu Noise: under -98 dBu from 20 Hz to 20 kHz Frequency response @ -1dB: 5 Hz to 24 kHz

Designation	Characteristics
REPLAY™ Input	Jack 6.35mm (1/4") balanced (TRS, Tip/Ring/Sleeve) Maximum input level: 36 dBu Input impedance: 20 KOhms Ground/Lift switch
REPLAY™ Output	Jack 6.35 mm (1/4") unbalanced (TS) Impedance: 300 Ohms Gain (In to Out): 0 to -inf dB, adjustable by potentiometer Maximum output level: 19 dBu Noise: under -98 dBu from 20 Hz to 20 KHz Frequency response @ -1dB: 0 Hz to 18 kHz
DI Input	Jack 6.35 mm (1/4") unbalanced (TS, Tip/Sleeve) Impedance : 1 MOhms
DI Output	Balanced male XLR Impedance: 600 Ohms Ground/Lift switch Gain (In to balanced Output): 6 dB Maximum in/out level: 20 dBu Noise: under -98 dBu from 20 Hz to 20 kHz Frequency response @ -1dB: 0 Hz to 18 kHz
Thermal security	Cooled by temperature-controlled fan Thermal security: when overheating, the loadbox gets disconnected (leaving only a 220-Ohm security load) and the signal is muted.
Power supply	IEC60320 C14 power connector Input voltage: depending on your country of residence, from 100V to 230V, 50 to 60Hz Power: approx. 100 W Max
Dimensions	Width: 320 mm Depth: 178 mm, 200 mm including connectors and knobs Height: 89 mm Weight: 4.5 kg

Part 8

Technical support

Should you encounter a problem with your Torpedo *Reload* or need help regarding any technical aspects, please note that Two Notes Audio Engineering has developed on-line services to provide you with fast and efficient technical support, the Two Notes Help Desk which you will find at this address:

http://support.two-notes.com/

1   Two Notes Website

On the http://www.two-notes.com website, you will find:

- news about the company and the products (news on the homepage),

- comprehensive information about the Torpedo *Reload* and its many applications (FAQ),

- firmware and software updates to download (products/Torpedo *Reload*/downloads),

- access to the Two Notes Store where you can buy new cabinets,

- the Torpedo BlendIR software (products/Torpedo *Reload*/downloads),

- an official forum where you can share tips and advice with other Torpedo users (forum).

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http://www.two-notes.com/