AMP CENTRAL
Reactive load – I.R. Loader
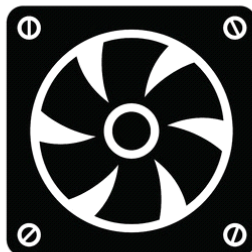
!!! ATTENTION !!!

Improper usage of the AMP CENTRAL

can result in permanent damage to your amplifier.

Read this document carefully before turning on the device.

How NOT to use the AMP CENTRAL

The Amp Central is a load device that takes the output of your tube based amplifier and transforms this energy by dissipating it into heat.
Since NO volume is perceived you might be tempted to turn the master volume of your amplifier to a very high, almost ear-killer and dangerous level, which is not recommended for various reasons.

Firstly, by doing this, the life of your power tubes will be incredibly reduced, and we all know that they are not 'cheap' nowadays.
Secondly, you're overheating Amp Central, for no benefit. A fan, inside the unit is placed to protect the load from overheating and it will automatically start as soon it will feel the need to.
Last but not least, most modern amplifiers are fine-tuned to suit to the preamp. 99.9% of the time, gain comes from there, there's no practical, sound-wise or "I have the biggest dick ever" reason to fully open master volume on your 100W. It's simply a wrong habit.

While Amp Central is safely rated up to 100W, we do recommend to use your amplifier at the same volume as you would use with a regular cabinet, or just a bit more perhaps.
Keeping care of your gear will result in a better sonic performance and a way longer life.

INTRODUCTION

What is the AMP CENTRAL?

The Amp Central is our answer for the modern guitarists who still love their tube based amplifiers, in every situation, even where low volumes are not allowed.
Amp Central, as the name suggested is a hub for connecting your amplifier to the outside world, without the need of a real cabinet and at any volume.

THE CONCEPT

Since a few years, digital systems became very popular in the guitar amplifier market, replacing a real amp in most of the "inconvenient" gig where a proper stage volume was not possible or for example, during exercise sessions late at night.
What is missing here is what we call the "total experience" of a real amp-speaker interaction, and we do think this combo is still unsurpassed in terms of the feeling under player's finger, but at the same

time we realize that needs are constantly moving and music is always evolving. What could we do to improve the experience of a "fake" or profiled amplifier, played with headphones, which in most cases yields bad results?

Well, we thought of a solution and we brought a couple of different technologies into the game, one very old and one not so old, respectively called **Dummy Load** (in our case a Reactive Load) and the **Impulse Response** technology.

It's a known fact your tube based amplifier needs to have a cabinet wired to the output jack when used, or at least a proper load, the potential penalty could be the reduction of the life of its output transformer.

With this in mind we built the very first stage of the Amp Central, by creating a proper Dummy Load, or better, a Reactive/Resistive Load, to mimic at the closest possible approximation of a real cabinet. We've gone fully analog with the best components available in the real world, something that audiophile experts will appreciate. No digital processing or equalization is applied there, since we do believe your amplifier needs a proper analog load to sound and feel at its best.

And where do we go from there? The amp is now safe and running, while no sound will come out of it. Well, at this point we decided to embrace digital world, with Impulse Responses*.

Basically, with Amp Central we wanted to offer the best of both worlds, offering you the possibility of playing your favorites amplifiers and not their simulations, with some Impulse Response of your favorite cabinets.
This will be YOUR and not someone else's sound. So your own amp(s) and possibly your own cab's I.R.(s).

*An Impulse Response is in layman's terms an equalization, or a "snapshot" of your favorite mic'ed cabinet, to be applied to the raw sound coming out of your loaded amplifier. T in return act as the complete sound (amp + cabinet + mic) as you should hear from your studio monitors, or headphones.

FIRST USAGE

We think it's better to start slow and to understand the workings of the Amp Central before diving in and trying the unit.

What you need to know to proceed in the safest way, is to consider the Amp Central as a normal guitar cabinet.

AMP CENTRAL HAS AN INTERNAL LOAD RATED UP TO 100W @ 8 OHM.

USE THE 8 ohm tap OUTPUT OF YOUR AMPLIFIER TO CONNECT IT TO THE AMP CENTRAL.

Hit the standby switch of your amplifier ONLY AFTER PLUGGING A CABLE FROM THE OUTPUT OF YOUR AMPLIFIER TO "FROM AMP OUT" of the Amp Central.

!!!! Do not attempt to connect your amplifier to the Amp Central in other "fancy" ways, your amp's life is important! We are not responsible for any improper usage that could potentially lead to damage !!!!

FRONT PANEL
(left to right)

- VIRTUAL CABINET SELECTOR: chose one of the sixteen preloaded I.R.'s.
- BANK/CAB: for the convenience of memory, the sixteen cabinets are divided in four files with four I.R.'s in each file. Toggle between them by turning the VIRTUAL CABINET ENCODER left or right.
- INPUT LEVEL: attenuation level of the output of your amplifier. This should be used in conjunction with the analog LED METERS and DAC CLIP meter. The goal is to reach a proper signal without any clipping. Turn it up until 0dB led starts to blink at the higher dynamics of your clean channel and then kick it back just a little.
- HEADPHONE LEVEL: this pot controls the output volume of your headphones. Everything coming into the Amp Central both from your amplifier or LINE IN will be affected by this control, using the heaphones output.
- RESISTEVE/REACTIVE: chose between a pure resistive load or a completely reactive one.
- HEADPHONES OUTPUT: connect your headphones here.
- AUX INPUT: connect to your PC, soundcard or whatever line level signal you want to hear through every output of the Amp Central.

BACK PANEL
(from left to right)

- LOOP FX: Stereo fx loop placed between the I.R. and the final outputs. Connect your favorite outboard effevts like delays, reverbs, etc. here.
- TO SPEAKER: this is the "through" jack for if you want to use a real cabinet. When the TO SPEAKER output is used, the internal load is bypassed, the amplifier will see only the real connected cabinet as the load. Be sure to match the impedance of the amplifier with your cabinet
- LINE OUT: the line level signal coming from the reactive load, without the I.R. processing applied.
- LINE OUT LEVEL: the volume control of the line out.
- FROM AMP OUT: this is where you must connect the output of your amplifier.
- MIDI INPUT/THRU: Midi input and thru ports for midi connection. Switch between the I.R. by sending Midi CC's to the Amp Central.
- USB: connect to your PC/MAC for uploading your own favorite I.R.'s.
- DC IN: 9 to 12V negative center and at least with a current output of 300mA.

INPUT SECTION and CALIBRATION

The very first thing we recommend to do when you start using the Amp Central is to set the proper input level in order to achieve the highest signal without any clipping.

To make this happen, we highly suggest to use the most dynamic sound at your disposal, which usually happens to be your clean channel, or at least the most clean sound you have at your disposal. You can follow these few steps:

- Start with the INPUT LEVEL of the Amp Central at 0;
- Set the output volume of your amplifier at 0 and hit the standby switch;
- Raise the output volume of your amplifier as loud as your normal gig/practice room levels;
- Increase the INPUT LEVEL of the Amp CENTRAL, while heavily strumming your guitar on your clean channel, until the LED METER starts to blink. There's three LEDs, indicating 0dB, +6dB and CLIP. The goal is to have your maximum dynamic level and only have the 0dB LED barely blinking. You don't want to hear more volume incoming at this point, since you will likely experience some very unpleasant clipping.

What to do with crunch or distorted sounds? By nature, a distorted sound is WAY more compressed, so the audio peaks are already smaller than a much cleaner sound, at the same SPL.

If you follow this procedure step by step using the cleanest sound at your disposal, without experiencing any clipping, you will have absolutely no problem with your dirty sounds.

What if my output signal from Amp Central is just too low but the LEDs are already blinking and I'm experiencing some clipping?

You would need to turn the INPUT knob back up a bit and raise the gain of your mixer/soundcard or whatever object you're using to amplify the Amp Central.

REACTIVE LOAD SECTION

Inside the Amp Central there's a reactive/resistive load, rated at 100W RMS, this means you can plug amps in that have a rating of up to 100W RMS of total output. We choose the best inductors/capacitors/resistors in the market, so of hi-fi quality, to ensure unsurpassed audio quality.

You need to connect your amp output into "FROM AMP OUTPUT" jack in order to use the Load part of the Amp Central.

If you want to take a line output signal of your loaded amplifier, without being processed by the internal I.R. Loader, you can take it from the "LINE OUT" and adjust the level using the dedicated pot on the back panel. When adjusting this, please be aware that the main XLR/jacks outputs will be not affected.

TO SPEAKER is where you want to connect your real world cabinet, in case you wanted to use one. When a cabinet is used, the internal Reactive Load will be fully bypassed, and the amplifier will only see the cabinet as its load.

Be sure not to use this output in any other way than connecting to a real cabinet with a proper speaker cable. Do not use an instrument cable with this output.

The AMP CENTRAL is rated at 8 ohm, so you need to connect an 8 ohm cabinet, or a couple of cabinets wired in parallel at 16 ohms each.

IMPULSE RESPONSE SECTION

The Amp Central will only read ".WAV", Mono, 24bit, 48kHz type I.R.'s. Any other attempt to load I.R.'s with different characterstics than this, will simply not be recognized. You can place only one I.R. in each of the sixteen available files when you connect the Amp Central to your PC/MAC. Please read the USB chapter on the next pages   for more information on this process.
Amp Central will cut the length of any I.R. to the total length of 20ms, which is the maximum ability of the internal DSP's calculations.
If you do some basic math, those 20ms will guarantee you a full frequency spectrum response, including the super low frequencies, even at 40-50hz.

VIRTUAL CABINETS (I.R.)

You have sixteen different Impulse Responses at your disposal to choose from. The Impulse Response section comes pre-loaded with original RedSeven Pro Cab series 4x12 I.R.'s, but of course you can upload your personal favorites, by connecting Amp Central to your PC/MAC through the back panel USB port. Please read the USB chapter on the next page for more information on how to do so.

HEADPHONES AND AUX INPUT

To maximize the experience with the Amp Central, we decide to add a comprehensive input/output section for monitoring. AUX IN is intended for your backing track/click track or whatever line level source you want to hear through the headphones output, along with the sound of your amplifier of course.
This is a great feature to improve your skills at late night for example, without connecting the Amp Central and amplifier to any soundcard. Just put your phone outputs into the Amp Central, and open YouTube to play along with your favorite tunes!
Everything coming out from the H.P. output will be affect by the H.P. LEVEL pot. This is a "master volume" for your headphones.
NOTE: some headphones could require more volume than the levels that are on tap. Each pair of headphones/IEM's are very different from one another and the input impedance of each model can vary a lot. In that case, you could be in need of a heaphone preamp.
NOTE: You could use the headphone output at gigs to send a copy of your guitar sound to your personal IEM mix, in order to have total control of your personal volume. Most of the personal IEM system let you to have two inputs: your instrument (that should be carried by the Amp Central) and the band, usually carried by FOH or stage mix personnel.

LOOP FX

An effects loop is usually placed between your amp's preamp and power amp, so this mean that only your preamp is processed by the effects, while the power amp is there only to amplify the signals. It's something quite useful for these modern times.
Some of the older amps had no fx loop, more modern ones, do have one, but in mono.

We decided to place a stereo fx loop in the AMP CENTRAL to let you insert you favorite external effects in the chain. The fx loop is placed between the IR LOADER section and the output of the Amp Central, so this means you're sending the already processed amp signal with the Impulse Response applied to your fx to be processed. To the most experts out there and also according to us, this is the best place to put your effects, but in a superior way than most conventional amp fx loops offer.
Not having the fx through your, speakers but after, would enable the entire audio spectrum to go thru them, and not having them heavy band-passed by the speaker itself.
NOTE: While the SEND section is stereo, only one I.R. can be loaded at a time, for both left and right. SENDS will simple make a buffered copy for your right and left effect inputs, to be returned to the stereo RETURNS.

So, what is the advantage of sending the signal in stereo instead of using only one mono send and then a stereo return?
Well, there are no advantages at all for a mono input devices, besides the facts that some effects want to see a stereo input signal to help make their algorithms work in a proper way.

If you have only one channel in your soundcard/mixer left, use only one output as one side of the stereo loop, this will work perfectly as you'd mic'd your amp with a single SM57 for esample, while placing a delay into your amp's fx loop.

USB and HOW TO CONNECT THE AMP CENTRAL TO PC/MAC

You can connect the Amp Central to your PC/MAC with a USB cable, to upload new I.R.'s by following the next steps:
- Power off the Amp Central by unplugging the power connector on the back of the unit;
- Connect a USB cable to the AMP CENTRAL first and then your PC/MAC after.
- The Amp Central will automatically be recognized as an external device (like your memory stick or hard drive for example) with the name AMPCENTRAL;
- Double click on it, and you'll see folders with names from 0 to 3. By clicking on each folder, you'll find four more folders, each one with an I.R. inside. This means a total of 16 files/folders are available, divided into four banks with four cabinets in each bank.

Let's take a look this chart to visualize it in a very simple way:

	BANK 1
CABINET 1	

CABINET 2	
CABINET 3	
CABINET 4	

	BANK 2
CABINET 1	
CABINET 2	
CABINET 3	
CABINET 4	

	BANK 3
CABINET 1	
CABINET 2	
CABINET 3	
CABINET 4	

	BANK 4
CABINET 1	
CABINET 2	
CABINET 3	
CABINET 4	

To substitute an I.R., you simply can delete the existing one, and drag and drop or copy/paste the new one in the folder.

Remember: only one I.R. can be place into a cabinet folder. You cannot place two or more in a folder for the Amp Central, in that case, will not process the incoming signal.

Once you've uploaded your selection of I.R.'s, you need to eject the mounted AMPCENTRAL devicefrom your PC/MAC as you normally would do with any another external devices, by simply clicking the EJECT button.

FILE TYPES
The AMP CENTRAL can only read 48Khz, 24bit, MONO I.R.'s

Any other attempts to upload other I.R.'s will result in no sound. We highly suggest to make a copy of the AMPCENTRAL device before you copy/past or substitute I.R.'s.

OUTPUTS

On the back of Amp Central there are two sets of outputs. One is unbalanced (jack connectors), the other one is fully balanced. They are the same outputs but in a different format, XLR can be very convenient to quickly wire the Amp Central to FOH mixers or soundcards.

There's no global output volume since the INPUT knob will act as the one and only volume for the entire system.

If you're experiencing any clipping or an output signal that is too low, please check the "INPUT SECTION" of this manual in order to fully understand how to achieve a proper clip free and high level signal.

MIDI

Amp Central has a MIDI IN and MIDI THRU port, to change I.R.'s to your desire.

The first operation, is to choose the midi channel on which Amp Central will receive the midi signal, and in this case, you can use channel 1 to 16. The A.C. is shipped with default midi channel #1 as the default.

To change it you need to
- press "Virtual Cabinet" knob for three seconds until the BANK/CABINET blinks and immediately release it;
- select your desired midi channel, by following the instructions and by moving the "Virtual Cabinet" knob to the left or right;
- press the "Virtual Cabinet" knob again to store the desired midi channel.

MIDI CHANNEL LIST:

MIDI CHANNEL	BANK	CABINET
1	0	0
2	0	1
3	0	2
4	0	3
5	1	0
6	1	1
7	1	2
8	1	3
9	2	0
10	2	1
11	2	2
12	2	3
13	3	0
14	3	1
15	3	2
16	3	3

This is the Control Change list, one for each I.R.

Please remember, to select an I.R. on the desired CC, you need to send a value equal or greater than 64 for that desired Control Change:

Control Change	BANK	CABINET
100	0	0
101	0	1

102	0	2
103	0	3
104	1	0
105	1	1
106	1	2
107	1	3
108	2	0
109	2	1
110	2	2
111	2	3
112	3	0
113	3	1
114	3	2
115	3	3

TROUBLESHOOTING

- The Amp Central IS NOT TURNING ON

  Check the power supply first; sometimes it will be loose and because of that be incapable of making good contact with the power socket. Check the voltage AND polarity. Try to replace it.

- The Amp Central IS TURNING ON BUT WITH NO SOUND

  Check if your amp's standby is off. Make sure your guitar's volume is on 10. Be sure to have correctly plugged in every single cable. Turn off mute from your mixer/soundcard/recording device. Check the output signal with a led meter from a daw/mixer.

For any problems and at all times you can contact a qualified tech at: info@ HYPERLINK "mailto:info@shivaaudio.com" HYPERLINK "mailto:info@shivaaudio.com" HYPERLINK "mailto:info@shivaaudio.com"redeven-amplification.com
We will reply to you as soon as possibile.

WARRANTY DESCLAMER

Please, do not try to open the device in any case. For any problem contact your seller or write to us. Any inexpert person should not even think of doing anything inside of this unit. RedSeven

Amplification offer a standard two year full warranty for any component (except to wear subjects). By removing the top or by making any modification to the original state, you will violate the standard warranty and RedSeven Amplification will not be responsible for any damage to people, things or animals.

<div align="right">

Revision 1.1
September 2021

</div>