REDSEVEN AMPLIFICATION

NGR-1

Manual

Rev 1.2 – Apr 2025

INTRODUCTION

The **NGR-1** is an innovative noise gate pedal featuring a fully analog signal path with digital control. While noise gates are nothing new in the world of guitar and bass, what sets the NGR-1 apart is its entirely fresh and unprecedented approach."

THE CONCEPT

A noise gate circuit can be designed in many different ways, using various technical approaches. For the NGR-1, we chose the VCA technique—and not just any VCA, but one of the best in the industry: a THAT Corporation™ VCA controller, which lies at the heart of the unit. For those unfamiliar, a VCA (Voltage Controlled Amplifier) is a small chip that can either attenuate or boost an incoming audio signal based on a trigger input. This is the basic principle behind most noise gates—and when properly tuned, it can be impressively transparent or even theoretically 'perfect'

WHAT'S NEW?

A typical noise gate pedal usually offers a threshold control, which sets the point at which the gate begins to reduce the audio signal down to near silence.

Some modern noise gates have introduced a 'sidechain input'—or in simpler terms, an external signal that triggers the gate based on the dynamics of another source, such as your picking intensity.

With the NGR-1, we've taken things a step further by introducing several additional features:

- **Full DRY buffered pass-thru**: no more external splitters or buffers required. You now can let your instrument pass thru NGR-1 without any tone loss or modification and NGR-1 will read incoming signal to dynamically interact with gate chip and cut signal consequentially.
- **Digital controlled VCA**, with storable threshold level per preset. Yeah, you read it correctly. No more wacky potentiometer. A screen is placed to make you comfortable with adjusting threshold level with an encoder and store it.

- **PRESETS, and MIDI**: again, you read this correctly.
  If you have a multi channel or multi function amp and you always felt awkward not being totally able to find a sweet spot for channels/modes? Stop doing this! Plus, if you have any midi board, you can set up to 32 different threshold levels according to sound you're using!
- **A/B mode:** rather than turning on/off NGR-1, footswitch can be configured to be a toggle switch between two global presets (two threshold levels). This way you can have a very high threshold for cleanish sounds, opposite to a lower threshold level for heavy stuff, while keeping NGR-1 always on.
- **Reduction/Gate mode:** VCA can be configured to act in two different ways when threshold point is reached up: "hard gate" which will cut completely dead silent your instrument or a "reduction" mode, which just lower the signal to have less of a drastic effect.
- **High voltage operation:** NGR-1 must be powered at 9V, while internal charge pump brings it to 30 volts operation. This means a nearly infinite headroom. This pedal can be placed in any amp's loop effects and can work with line level without any problem.

TECHNICAL DATA

Measurement: 120 x 65 x 42 mm / 4.7 x 2.6 x 1.6 inches
Weigh: 0,5Kg / 1.1lb
Power supply: 9 VDC – negative center **ONLY** @ 100mA.
Please use filtered power supply only. Make sure your power source is specific for instrument use and not a generic switching power supply.

⚠ **IMPORTANT:** Supplying the NGR-1 with more than 9V may result in permanent damage to the pedal. Please do not attempt to increase headroom, dynamics, or performance by using a higher voltage—this has already been carefully engineered. Internally, the NGR-1 operates at 30VDC, managed by its own internal circuitry."

SPECIFICATION

TOP TO BOTTOM

- **SEND & RETURN JACKS (gate circuit):** input/output for gate circuit. Bottom pointing arrow is for incoming signal, top arrow is for outcoming signal.
- **DC INPUT:** negative center **ONLY** @ 100mA
- **SCREEN:** all the information will be shown here.
- **ENCODER:** use this knob to move between various menu.
- **MIDI IN & THRU:** 3.5mm jacks for midi input and thru signals.
- **INPUT & THRU JACKS** (sidechain/buffer): to use NGR-1 in four cable method, wire your guitar at INPUT jack (right side) to the next pedal or to amp input from THRU jack (left side).
- **FOOTSWITCH:** multipurpose footswitch.

FIRST USE
TWO CABLES MODE vs. FOUR CABLE MODE (2CM vs 4CM).

TIP: A noise gate pedal must be placed AFTER a noise source.

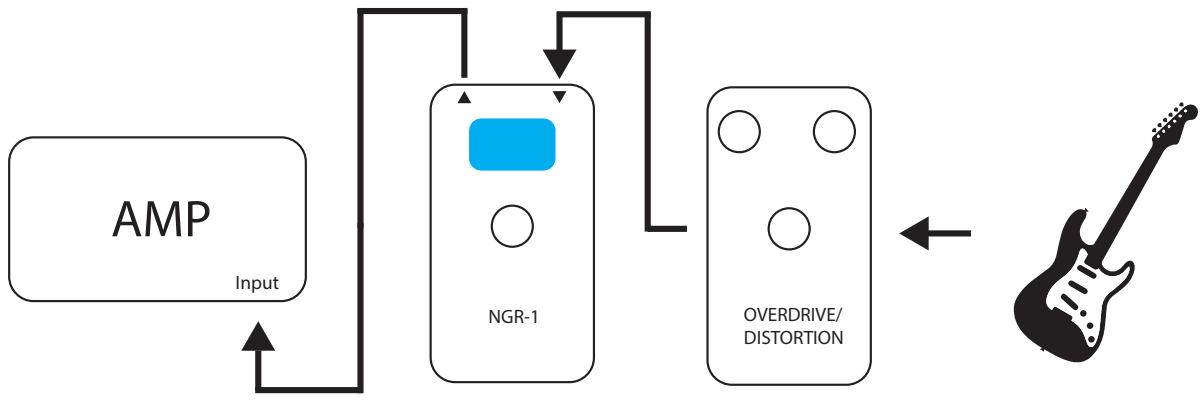
Two Cable Method (with clean amp/distortion pedals)

The easiest way to get started with the NGR-1 is to use it like a standard stompbox—especially if your main goal is to tame unwanted noise from your overdrive or distortion pedals.

In this setup, you'll be using only the GATE section of the pedal. This corresponds to the top row of jacks: the input jack (marked with an arrow pointing into the pedal) receives your signal, while the output jack (arrow pointing out) sends it forward in your chain.

Make sure to place the GATE section after your overdrive/distortion pedals.

When used this way, the internal GATE and TRIGGER are both activated by the same signal, emulating the behavior of a simple but effective noise gate design.



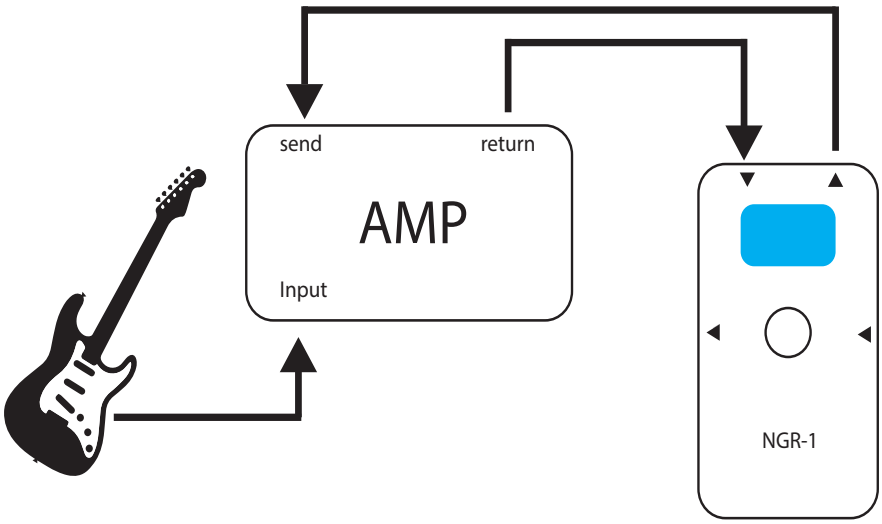
Two Cable Method (with distorted amp)

Another quick way to reduce amp noise is by placing the NGR-1 after your amp's preamp section—in other words, in your amp's effects loop (send/return).

In this setup, you'll again be using only the GATE section of the pedal. Use the top row of jacks: the input (arrow pointing into the pedal) receives the signal from your amp's effects send, and the output (arrow pointing out) returns it to the amp.

This configuration is especially effective for taming hiss or hum coming from high-gain amp channels.

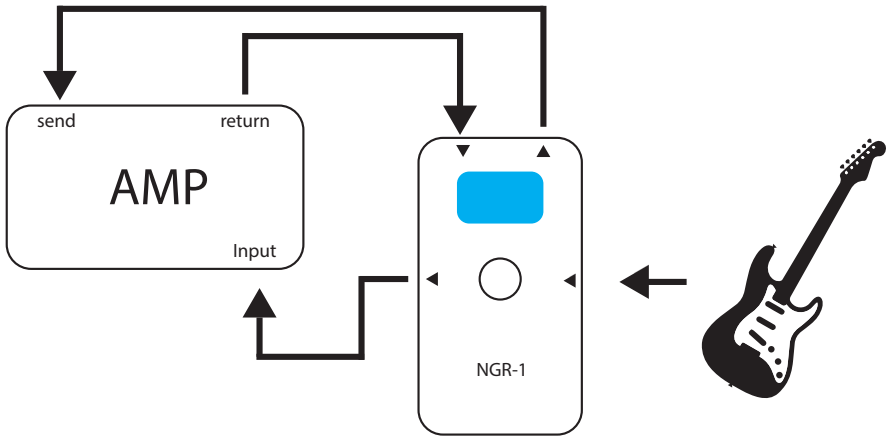
As before, the internal GATE and TRIGGER are driven by the same signal, functioning like a straightforward, no-fuss noise gate.



Four Cable Method

If you're ready to take things to the next level, you can start experimenting with a 4-cable method (4CM). In this setup, your instrument's signal and dynamics are processed through the 'THRU' section of the pedal, while at the same time being sent to the 'GATE' section—which controls volume at a different point in the signal chain.

But why go for such a complex setup? Let's break it down with an example:



Let's say you're using a dual-channel amp with a clean channel and a high-gain distorted channel. A standard noise gate with a fixed threshold just doesn't cut it—if the threshold is set too high, your clean channel gets muted even when you're playing hard. But if you lower the threshold to suit the clean channel, the distorted one remains noisy.

That's where the 4CM setup comes in. It allows the gate to cut noise later in the chain, while still reacting to your raw guitar signal captured at the front—giving you clean, dynamic control across both amp channels without compromise.

MIDI

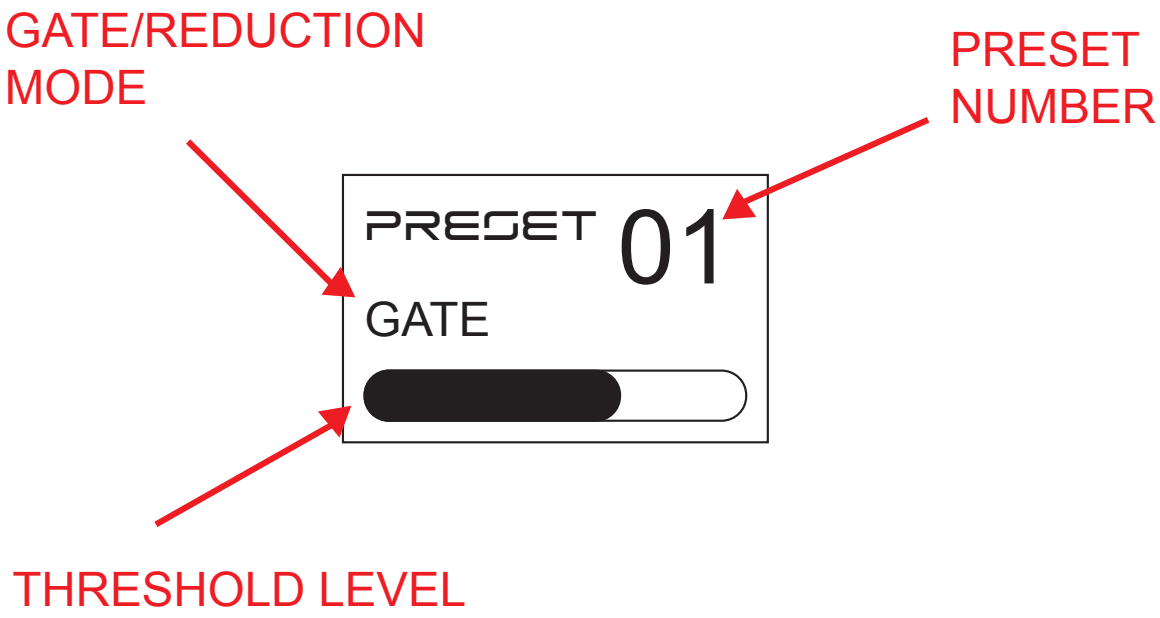
NGR-1 can be operated remotely with MIDI. An input and thru ports via two 3,5mm jacks are available on left side of the pedal.
3,5mm male to standard 5PIN female adapters are included in the package, for easier chaining with other MIDI devices.
Full MIDI setup is available at MENU' section.

MENU’

HOME SCREEN

Once the pedal is powered, you will find this home screen, with following info:

- Preset number 1-16 plus A and B (let’s talk about this later);
- Shift mode: gate or reduction;
- Threshold level.

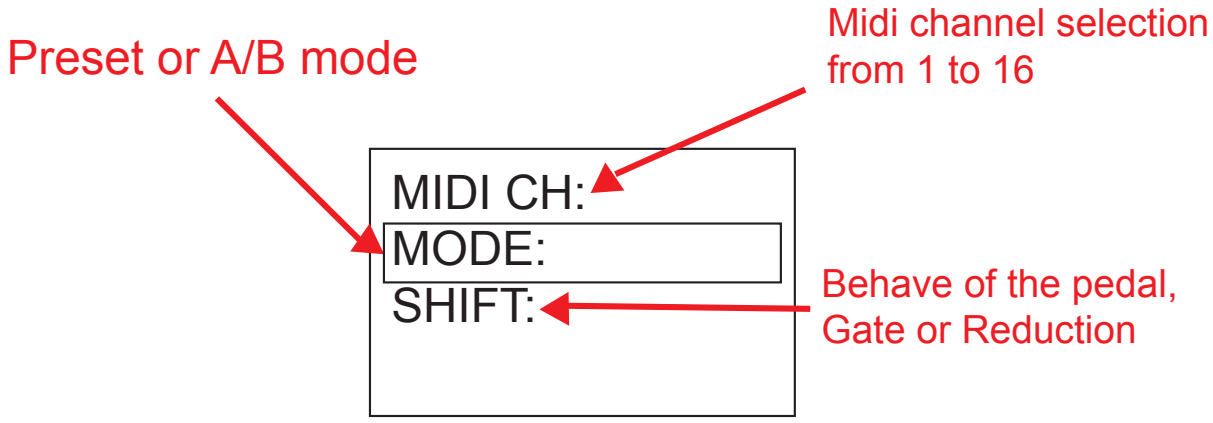


(Tip: HOW TO SAVE A PRESET)
In home screen, by turning left/right the encoder you have access to threshold level. Once the threshold is set, you can ***double click*** the encoder to ***save*** actual threshold level.

To quickly change presets, you need to press the encoder, and ***while pressing turning left or right*** to increase or decrease preset numbers.

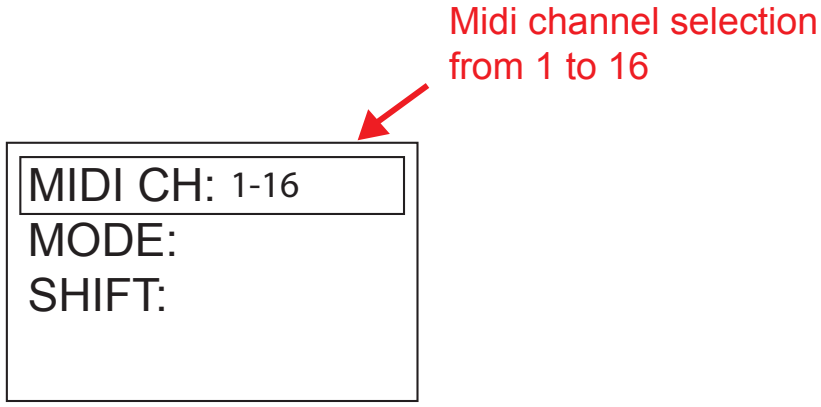
SETTINGS MENU

To enter settings menu, you need to ***press the encoder and footswitch at same time***, and screen now looks like this:



In order to navigate thru settings menu, you can turn left/right the encoder. In order to modify one specific menu voice you need to place rectangle selection on top of desired voice, press and it will be selected, then turn left/right again to modify it. To store the selection, press the encoder again.
To exit the menu, press back.
Tip: please remember everything within the main menu is stored GLOBALLY and not per preset.

MIDI CHANNEL SELECTION
NGR-1 has midi capability. You can select MIDI CHANNEL from 1 to 16.

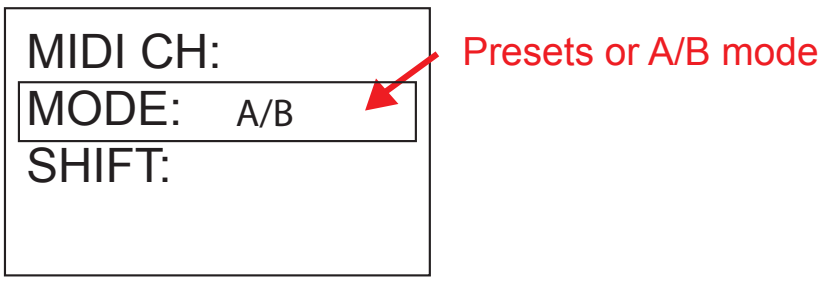


PC numbers are fixed, and they are:

Preset 1 = Program Change 1,
Preset 2 = Program Change 2.
Preset 3 = Program Change 3.
Preset 4 = Program Change 4.
Etc.

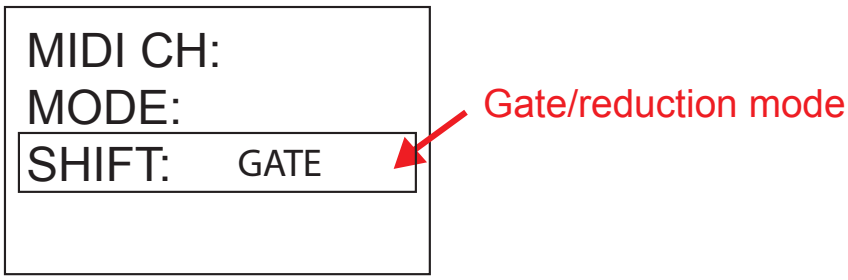
MODE SELECTION

We found a smart way to add features to this pedal: while PRESET mode is self explanatory, A/B mode can't be understood at first.
The idea behind it is to have couple global presets, called A and B to have quick access to both without using your hands.
When A/B mode is selected, HOME screen will show you A or B instead of standard 1 to 16 PRESET number, and footswitch will toggle between A and B presets, by keeping NGR-1 always on.
Think about couple sounds you have in your board that might need different gate levels, but it's a pain in the ass to move that knob around for whole gig: et voilà, problem solved! Every time you need one or the other, simply press NGR-1 footswitch.

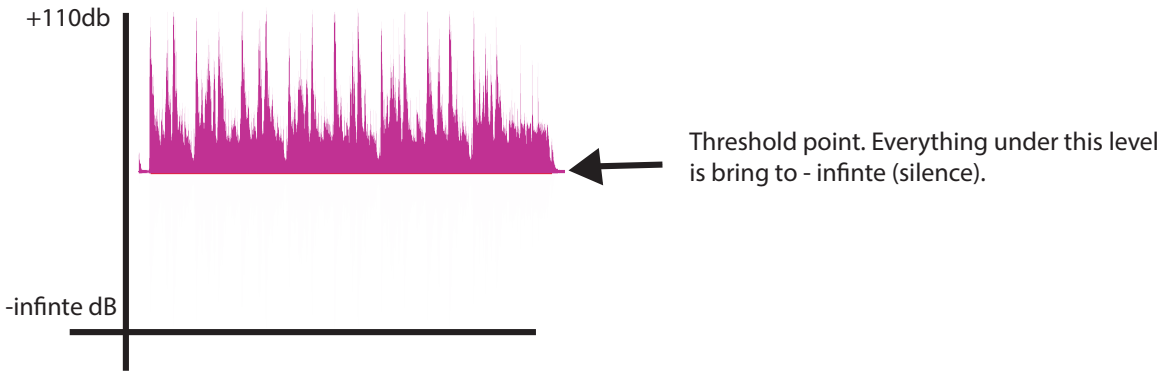


SHIFT SELECTION

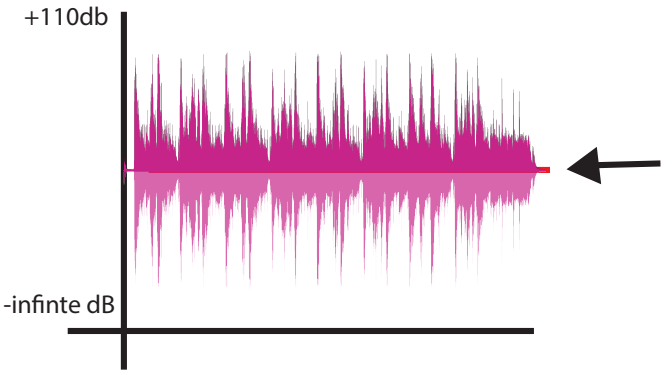
Noise gates are most of the time associated with heavy music styles, and so used in many rock, hard rock, metal and heavy metal genres. We didn't want to create a single use pedal, so we give user the ability so select between couple "shifts", or in more technical words, couple different ways in how VCA will turn down your signal.



GATE: is the most known mode, at the reach of threshold amount, gate circuit will cut down to minus infinite audio signal. Perfect for super fast palm mute style, heavy music or anything need noise to total silent in few ms.



REDUCTION: same principle of gate, but just attenuating the signal to a certain amount when threshold level is reached. This mode is perfect to keep way more dynamic on your playing, without having those artifacts due to heavy gating process.


+110db
-infinte dB
Threshold point. Everything under this level
is attenuated in volume.

TROUBLESHOTING

- NGR-1 is not powering up: please check you're using a 9V negative center power supply at minimum 100mA.
- I'm not able to store a preset: please check pg.8 of this manual.
- I'm not able to bypass the pedal, it shows A or B on main screen and pedal won't bypass: please check pg.10 of this manual.
- I'm not sure on how to correctly wire NGR-1: please check pg.6 of this manual.

If other problems persist or you have other doubts, please feel free to email us at info@redseven-amplification.com

WARRANTY DISCLAMER

Any attempt to open, to repair or to modify any NGR-1 aspect will permanently void standard warranty.
NGR-1 operate internally at 30VDC form a single 9VDC source, but it's mandatory to not overpower the pedal.
Keep it in a safe/not humid environment. Keep it far away from water.
NGR-1 can operate between 0 and 40°C.

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