REDSEVEN AMPLIFICATION

NGR-1

Manual

Rev 1.0 – Sept 2024

INTRODUCTION

NGR-1 is an innovative full analog signal path – digital controlled noise gate pedal. Noise gate is definitely not a new concept in guitar/bass world, but what is new is the never seen before approach to it.

THE CONCEPT

A noise gate circuit can be design in many different ways and using several technical approaches. For this matter, we chose the VCA technique and nothing but the best in the business, a THAT CORP™ VCA controller for NGR-1 heart. For those who don't know, a VCA (voltage controlled amplifier) it is a chip who can cut or amplify incoming audio signal based on another trigger signal. Yes, that's the very basic design of a noise gate, and if right tailored, can be rather transparent or theoretically "perfect".

WHAT'S NEW?

A rather standard noise gate pedal usually offers a threshold control, who set the point when gate starts to cut audio signal approximately to silence.
Some recent noise gate pedals introduced a "chain input", or in poor man words, an external signal to trigger the gate circuit. (according to your pick dynamics for example).
In NGR-1 we introduced few more features:

- **Full DRY buffered pass-thru**: no more external splitter or buffer 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

ATTENTION!! By powering NGR-1 with more than 9V, may cause the definitive death sentence of the pedal. Please, do not seek for more headroom, dynamics, or whatever, we already take this into account. NGR-1 operate at 30VDC internally.

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.

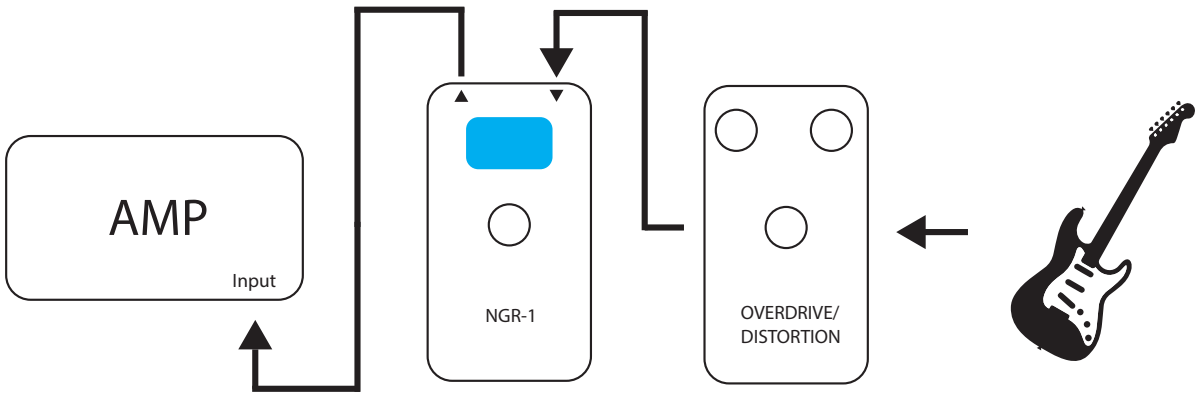
FIRST USE

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

Two Cable Method

The quickest way to approach NGR-1 is using it like any ordinary stompbox, with just two cables, in series, with any other pedal in your signal chain. For this operation, you want to use GATE portion of pedal only, which is top row jacks with two arrows, one pointing inside the pedal is your incoming signal, the other pointing out, is your outgoing signal.

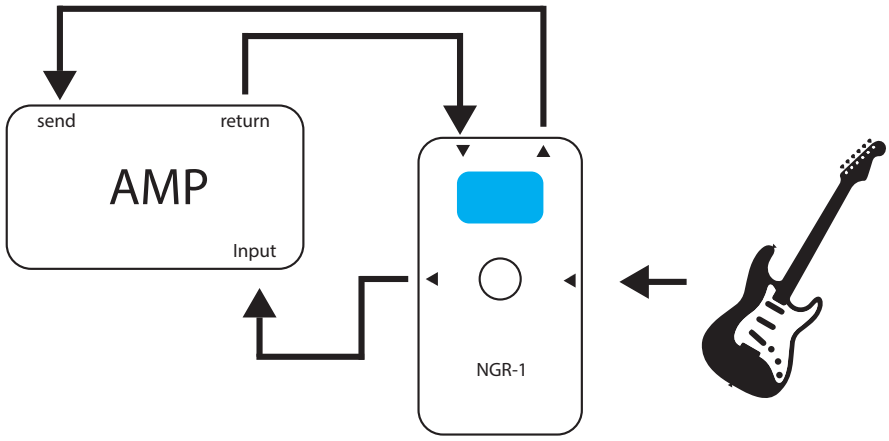
Utilizing NGR-1 like this, you have internal GATE and TRIGGER activate by same signal, which is how a very minimalistic but effective noise gate pedal works.



Four Cable Method

If you want to step the game up, you can start experiment with 4CM (four cables). Your instrument signal and its dynamics are read and processed by “THRU” portion of the pedal, while at the same time given to “GATE” portion who will cut the volume in another point of signal chain.

Why someone should want such a complex setup? Let’s make an example:



Your dual channel amp, a clean channel and a very distorted channel can’t live with same threshold level when a common noise gate is activated, because if the threshold is two low, noise from distorted channel is kept away but your clean channel is basically muted when you’re trying to hitting strings hard, while doing the opposite, clean channel start to breathe again and dirty channel still too noisy. 4CM is what you’re looking for.

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 will be included in the package, for easier chaining with other MIDI devices.

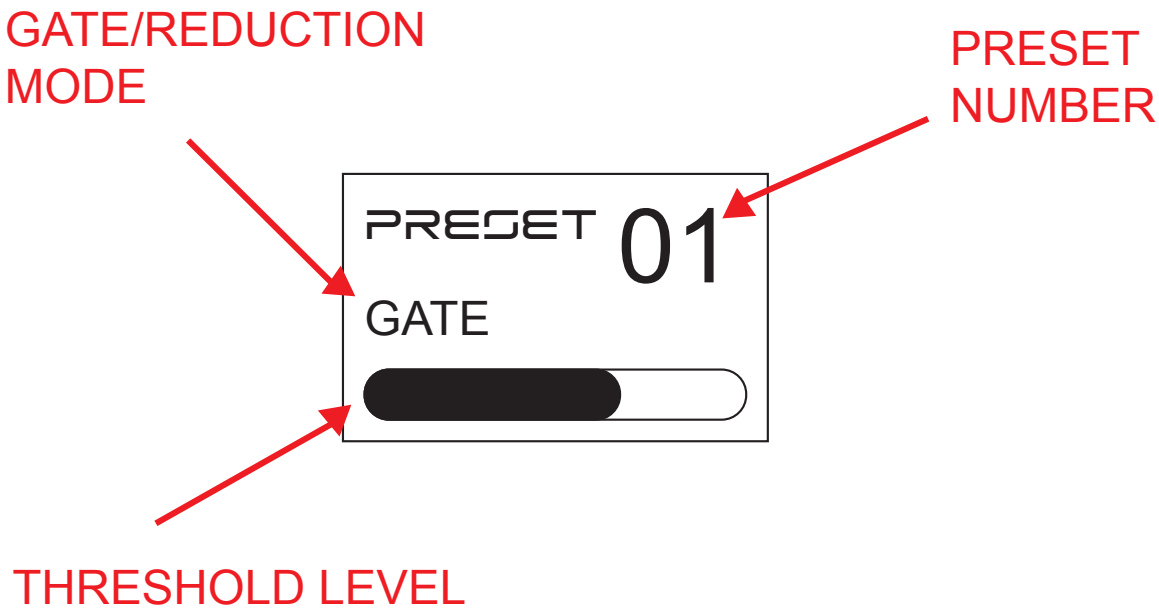
Full MIDI setup is available at MENU’ section.

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.



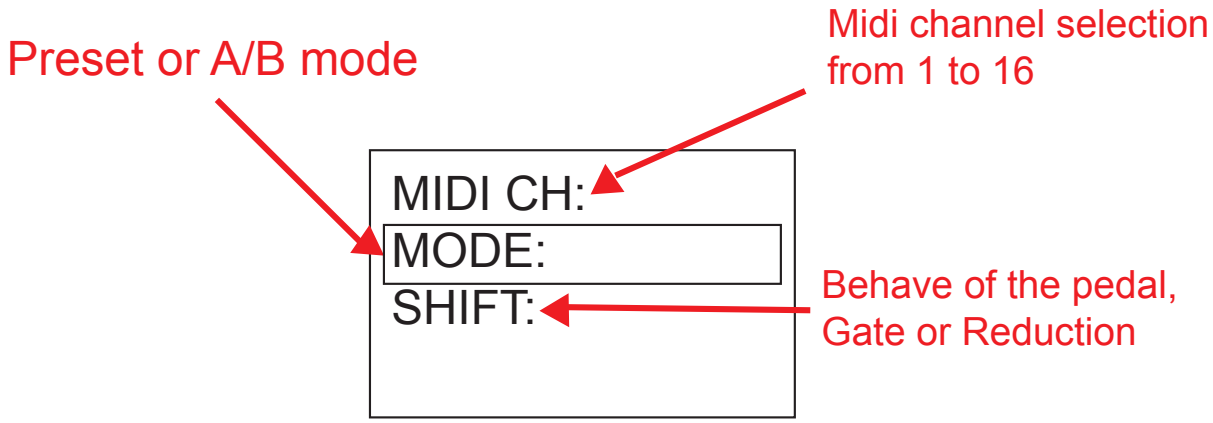
(Tip: HOW TO SAVE A PRESET)

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.

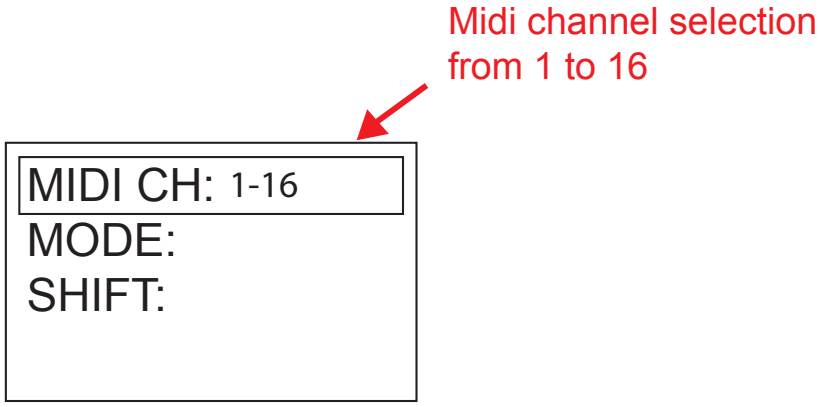
SETTINGS MENU

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 a full midi capability. While you can select MIDI CHANNEL from 1 to 16, you also can recall presets both via PC (program change) or CC (control change).



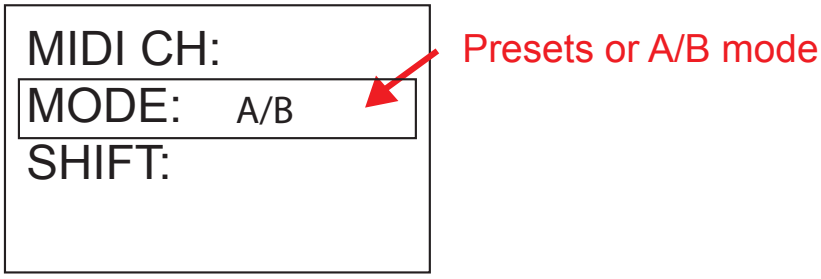
PC and CC numbers are fixed, and they are:

(Program Change)
Preset 1 = Program Change 1,
Preset 2 = Program Change 2.
Preset 3 = Program Change 3.
Preset 4 = Program Change 4.
etc.

(Control Change)
Preset 1 = Control Change 101 (OFF with value = 0, ON with value = 127),
Preset 2 = Control Change 102 (OFF with value = 0, ON with value = 127),
Preset 3 = Control Change 103 (OFF with value = 0, ON with value = 127),
Preset 4 = Control Change 104 (OFF with value = 0, ON with value = 127),
etc.

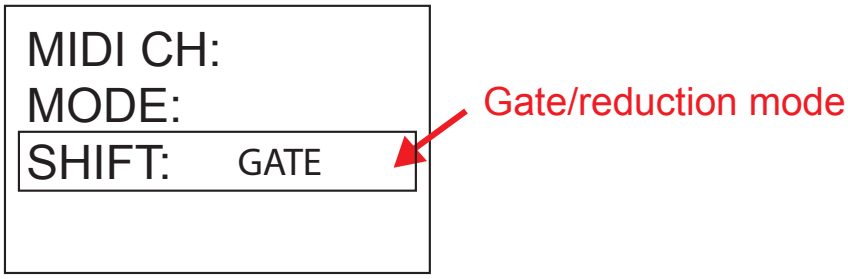
MODE SELECTION

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.

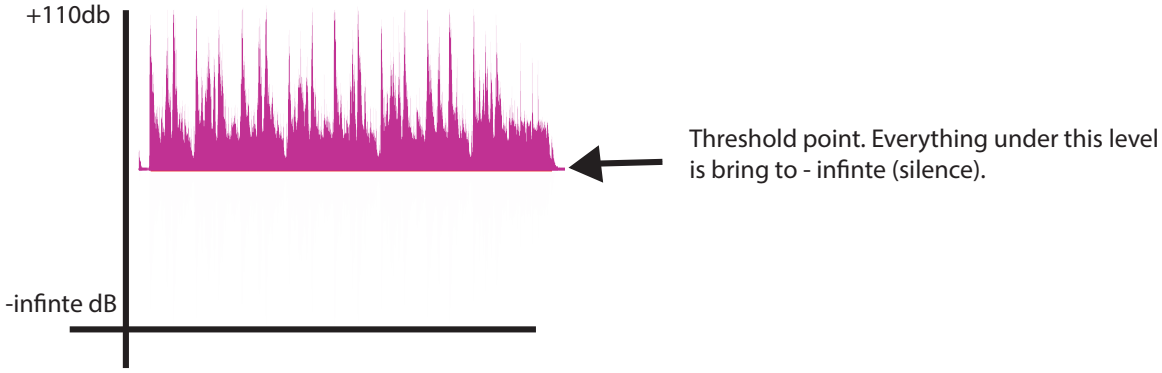


SHIFT SELECTION

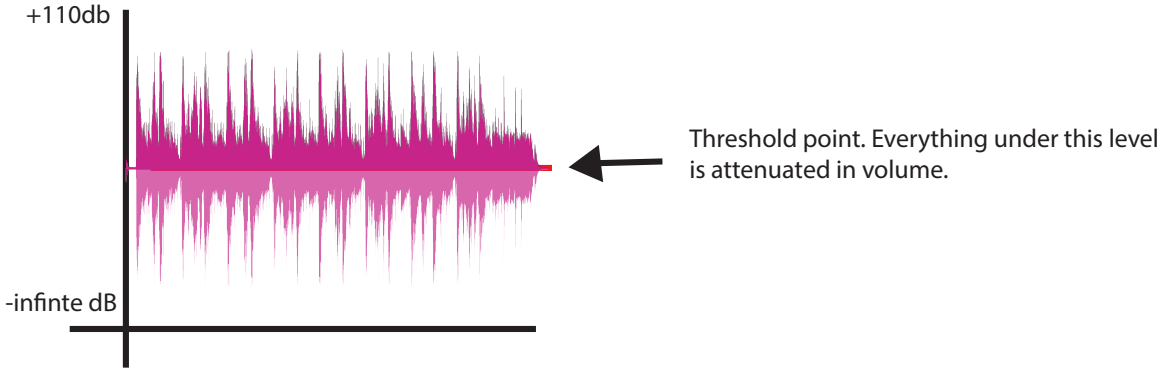
Noise gates are most of the time associated with heavy music styles, and so used in many rock, hard rock, metal and heavy metal genres. We didn't want to create a single use pedal, so we give user the ability so select between couple "shifts", or in more technical words, couple different ways in how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



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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