GNI

MUSIC

PATHFINDER'S USER'S MANUAL

INTRODUCTION

Thank you, and congratulations on your choice for GNI Music's products. Lots of work from engineers and professional musicians were spent in order to create really high-end pedals. These sections provide important information concerning the proper operation of our pedals. Please read, in order to feel assured you're ready to explore all available resources. Please, keep this book for future reference.

For more information and hints, check www.gnimusic.com.

WHAT IS SPECIAL IN LS1 - PATHFINDER?

Musicians usually need several effects to create rich performances. They can either purchase a single digital unit, which offers several effects and are easy to operate, or buy traditional individual effect pedals. The second choice is usually considered more professional. It allows the musician to fully customize it's set, and take advantage of specialized analog circuitry, avoiding digitally processed signals which become quite artificial sometimes.

The main disadvantage of pedalboards mounted with traditional pedals is that they are hard to use in some situations. It's impossible, for example, to turn one effect on and another off at the same time. The solution is the use of Line Selectors. Using one allows the musician to connect several pedals in loops (instead of a simple serial connection), and then turn entire loops on and off simultaneously.

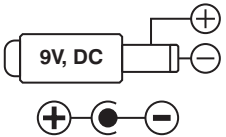
Most line selectors today are big pieces of equipment: powerful, but expensive and unpractical. GNI's PathFinder is the first compact line selector to offer a real solution, intelligent operation and great value.

It's very important to note that PathFinder has a microcontroller that switches several analog "paths" inside it. It means that there is no digital processing. From your signal's perspective, all the way from input to output is pure analog circuitry, designed to cause no losses or distortion.

POWERING UP

You need to power the LS1 with a 9v, DC, power supply through the jack in the back. Since LS1 consumes more current than GNI's other pedals, adaptors of 500 mA or bigger are recommended. Also due to its current, it can't be used with 9V batteries. The plastic "battery" cover on the bottom of the unit serves only to close it.. There is no connector inside.

Please, pay attention to the following specifications when purchasing a power supplyt. Not complying with them may cause permanent damage to the LS1 and void the warranty.



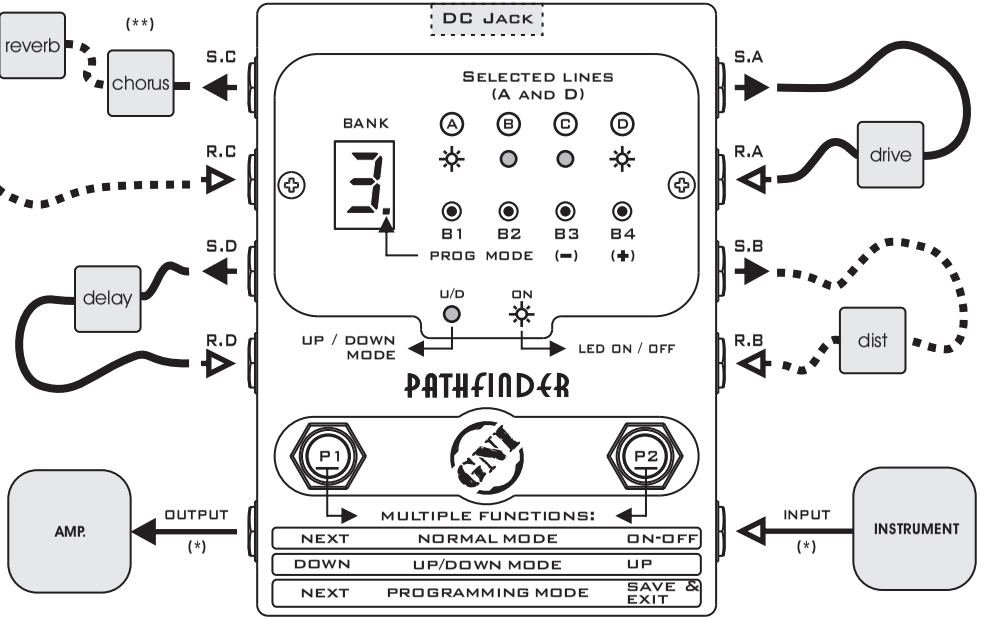
- **9V, DC, regulated adaptor.**
- **Polarity according to the figure.**
- **500 mA (recommended).**

WARNING: *Unregulated or 'switched mode' supplies may cause noise. Wrong tension values or reversed polarity may cause* ***permanent damage to the pedal, not covered by warranty****.*

CABLING

To take advantage of LS1, you must cable it properly. You can group pedals as you wish using 4 loops. "Banks" must also be programmed accordingly. How to do it is going to be explained ahead, but it's up to the musician finding the best way to group and connect effects.

ADVICE: *You'll need several cables of adequate lengths in order to connect your pedals. Each cable is a passive component which can interfere with the signal. So, make your connections with cables of good quality. Once everything is in place, finding and replacing a broken cable can be a very unfortunate task.*



CURRENT PATH: INPUT => LINE A (DRIVE) => LINE D (DELAY)=> OUTPUT

(*) YOU CAN HAVE PEDALS BEFORE "INPUT" / AFTER "OUTPUT", AND USE THEM INDEPENDENTLY

(**) YOU CAN HAVE MORE THAN ONE PEDAL PER LINE. "LINE C" EXEMPLIFIES THAT.

(Please refer to the picture on the previous page for reference)

Lines (A, B, C, D)

PathFinder can control 4 lines (A, B, C and D). Each line consists of a "send jack" and a "return jack", labeled "S.A" / "R.A" for line "A" and so on. In the example, signal passing through line "A" is sent by "S.A" to a "drive" pedal, and returns to PathFinder into "R.A". Note that you can have as many pedals as you wish in each line. Line C is an example of that: signal is sent (from "S.C") to a "chorus" pedal, then to a "reverb" pedal and returns to PathFinder (into "R.C").

Banks ("programs")

Each program ("bank") determines which lines are turned on and off. In our example, bank number 3 is selected, and represents "lines A and D enabled". You can create up to 9 programs, combining the lines as you wish. The only restriction is the sequence: always from A to D.

How to set up the banks will be explained ahead. Note that "all lines enabled" and "all lines disabled" are valid programs – the last one is an alternative bypass method.

Bypass ("on / off")

When PathFinder is "off", signal bypasses all lines and goes from input to output through a series of internal buffers. When it's turned on, signal passes in sequence through all lines signaled active by the corresponding leds. A bank programmed as "all lines disabled" has the same effect of bypassing all lines.

You can have other pedals before "input" and / or after "output", and use them independently.

"Two modes" (button B2)

You can use PathFinder in two distinct ways: "normal" and "up / down" modes:

- **Normal Mode** lets the user turn the unit on and off simply pressing the right pedal (P2). Left pedal (P1) switches to the next bank, and returns to the first when the last is reached.
- **Up** / **Down Mode** allows faster access to the banks. User can press the right pedal (P2) to go to the next bank, and left pedal (P1) to go to the previous one. To turn the unit on and off, both pedals have to be pressed at the same time. An alternative bypass method which doesn't require pressing both pedals at the same time is to create a "bypass" program (a program where all lines are disabled, as mentioned before).

You can easily switch between "normal" and "up / down" modes pressing button B2 ("mode"). When using "up / down" mode, "U/D" led turns on. PathFinder stores the current mode selection in non volatile memory, meaning when you power it off and on again, it will automatically be set to the last mode used.

Maximum Number of banks (buttons B3 and B4)

PathFinder comes from factory with 4 banks enabled. However, you might prefer to use *less* programs (minimum 2), specially in "normal mode", when you need to go all the way up to return to the first bank. Or you might want to use *more* (maximum 9) programs, specially in "up/down mode", when you are free to navigate the banks in both directions.

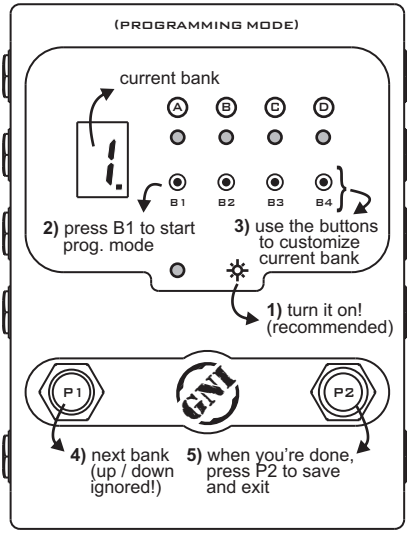
Pressing buttons B3 and B4 ("-" and "+") lets you reduce or increase the number of active banks. Please note that PathFinder needs to be in a bank equal or lower than the number you want to set as maximum. If you feel in doubt, go to bank 1 before experimenting with B3 and B4.

PROGRAMMING BANKS

Customizing PathFinder's programming is easy, and can be done in 5 steps. You can do it as many times as you wish, and you can always return to factorie's default using a simple RESET procedure described ahead.

Procedure:

Note: *PathFinder will allow you to program up to the last bank set. If you are currently working with 4 banks (factory default), but want to program all 9 banks, enable them by pressing B4 ("+").*



1) Turn PathFinder "on" before you start programming, so you can notice the changes as you make them.

2) Press B1 button ("prog"). Decimal dot in the display turns on, indicating "prog. mode". "Up / Down" mode is ignored.

3) Now you are in "programming monde". Press B1 to B4 to enable / disable the respective lines of the current bank.

4) Use left pedal (P1) to change to the next bank, and repeat step 3.

5) When you are done customizing all banks, simply press the right pedal (P2) to exit. Decimal dot turns off and normal operation resumes. All programming is saved in non volatile memory.

PATHFINDER'S MEMORY

PathFinder has very good memory. It remembers all your programming, the number of banks you use and the last mode used (standard or up/down). All this information is stored in non-volatile memory (EEPROM), meaning that the next time you turn PathFinder on, you won't have to customize everything again. No battery is necessary to keep this information.

RESET PROCEDURE

At any time, you may wish to restore PathFinder to its factory settings. Also, in rare occasions, data stored in non-volatile memories may get corrupted and cause strange behaviors. In both situations, the easiest procedure is resetting PathFinder to its original state following these steps:

1) Unplug the power chord.

2) Hold the left pedal (P1) pressed and reconnect the power chord. (You can release P1 now. You'll see leds and display being turned on. The pedal will perform a self-programming of its original EEPROM contents.

3) If you see “E” blinking at the display, it means some error occurred. Try repeating the procedure. If fails persist, contact GNI or it's representative.

4) If you don't see “E” blinking, PathFinder was successfully reset to factory's standard. Remove the power chord and connect it again to start using the pedal normally. If strange behavior persists, contact GNI or it's representative.

ALTERNATIVE USES FOR PATHFINDER

WARNING: *Following examples will show how to use PathFinder as an instrument or amplifier selector. PathFinder has not been originally developed for these forms of use. The following examples have been tested by GNI and proven to work for other customers. However, GNI can not guarantee the quality of the results or assume any responsibility for damage caused to the pedal itself and / or other hardware connected to it. Try these "hacks" if you understand what you are doing, and keep in mind GNI offers no support and assumes no responsibility if things don't work as expected.*

PathFinder as INSTRUMENT selector

Instruments are signal sources. It's possible to input their signals directly into **return** jacks of a line. The following example explains how to do it:

Example: connecting "guitar A" in loop A, "guitar B" in loop B and "guitar C" in the normal input jack:

- Insert a disassembled plug (you can buy it, or disassemble from an old cable) in send jacks of both lines (S.A and S.B). This is necessary to "fool" PathFinder into thinking there is a pedal connected to the lines.
- Connect "guitar A" to R.A, "guitar B" to R.B and "guitar C" to the main input jack.
- Operation and restrictions:
  - ⇨ When you bypass, or selects a bank which does NOT use "A" or "B", signal from the main input ("guitar C") will be used.
  - ⇨ To use "guitar A", turn PathFinder "on" and select a bank using line "A". For "guitar B", use a bank with line "B" enabled.
  - ⇨ You can only use one instrument at one time. For example, when you use guitar B (line "B") signals coming from the main input jack (guitar C) and line "A" (guitar A) will be lost.

PathFinder as AMPLIFIER selector

Amplifiers are signal sinks. You can send the signal coming out from a line's **"send"** jack directly to the amplifier. However, you need to send this same signal back into the line's return jack. The following example explains how to to it:

Example: connecting "amp C" in loop C, "amp D" in loop D and "amp E" in the main output jack:

- You need to split signals in the "send" jacks. You can use (for example) a splitter "Y" cable: 1 male to 2 female ¼" adaptor, all mono.
- Insert the splitter in line C's send jack (S.C).
- Now you have 2 copies of the signal coming out from line C:
- Connect one of the splitter's female jacks to R.C, using a standard cable of appropriate length. Now, PathFinder can find it's own signal (previously split) returning to it.
- Connect the other female jack to "amplifier C"
- Repeat the procedure to line D: split the signal in S.D, cable it back to R.D, and connect the other female jack to "amplifier D".
- Connect "amplifier E" to PathFinder's main output jack.
- Operation and restrictions:
  - ⇨ Whenever you bypass, signal will not pass through lines C and D, so, amps connected to those lines should be silent. However, some residual audio might be audible, depending on the signal's characteristics, strength and levels in use.
  - ⇨ To use amps "C" and "D", turn PathFinder on and choose a channel where the respective lines are enabled. If you followed instructions correctly, you can use all amplifiers at the same time.
  - ⇨ Since amplifier "D" is connected directly to the output, it will be always "on". If you don't want it, you can simply leave main output disconnected.

TROUBLESHOOTING

All pedals are tested before leaving GNI's facility. If you are finding difficulties, please pay attention to the following details. Most small problems are easy to solve with a simple checklist:

- Try to isolate the problem: does the bypassed signal function correctly? Is the problem in any specific line?
- PathFinder requires many cables. Pay attention to broken ones.
- Check if you haven't missconnected "send" and "return" jacks.
- Try reseting PathFinder.
- If using DC adaptor, be sure it respects our specs. Reversed polarity, wrong tension, etc. may damage the circuitry and compromise warranty.
- Check volume levels.
- Keep your unit away from other electrical devices. TVs and other home appliances can cause interference and noise.
- Don't play very close to the amplifier, or directly facing it, in order to avoid feedback noise.

If you've carefully checked your setup and problems persist, please contact our technical representative at your country for further support and warranty. If you can't find our representative's information, please go to our website (www.gnimusic.com) and contact us directly.

SPECIFICATIONS

- Power supply: DC adaptor only. See our specs for details.
- Bypass mode: Series of 100% analog buffers
- Input impedance: 500 kΩ
- Output impedance: 5 kΩ
- Size: 58.6 x 141 x 110 (mm)
  2.30 x 5.55 x 4.33 (in)
- Weight: 810g (1.8lb)

Specifications may change without notice.