

# SMART PATCH



model: SP User Manual

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#### INTRODUCTION

Smart Patch is the brain of your pedalboard. Think of it as a central hub for all the audio connections in and from your board.

It's smart (as the name suggest) because it allow to connect the board to your amp or amps configuration without touching a single cable on your board.

Dual buffer, auto routing, polarity switch for the stereo amplifier, transformer isolated path, all the features are really at the disposal of the modern gigging guitarist.

#### POWER SUPPLY

Smart Patch operate at 9 volts negative center @100mA. Try to over-power the unit can be dangerous for his internal switching system.

NOTE: Smart Patch can operate in passive mode too, without any voltage applied. You're going to lose some key features as the dual buffer and polarity switch, but it will guarantees you a partial but safe operation.

## **TECHNICAL FEATURES**



(right side – amplifier side)

- **GUITAR INPUT:** this is where to insert the cable coming from your guitar.
- **OUTPUT:** output from your board to the input of your amplifier.
- **SEND:** incoming signal from your amplifier's effect loop send jack.
- **RETURN L (mono):** out coming signal to your amplifier's effect loop return jack.
- **RETURN R (stereo):** out coming signal to your second amplifier's effect loop return jack or to a second amplifier input.
- **SWITCH:** TRS audio pass thru.
- **MIDI THRU:** as described, thru a five din midi female connector.

(left side – pedalboard side)

- **PEDAL INPUT:** this is where your input fx chain starts, this output must be connected to the input of your first pedal.
- **OUTPUT:** output from your last pedal will be connected here (your last pre-amp pedal).
- **SEND:** this is where your loop effects fx chain starts, this output must be connected to the input of your first send/return pedal.
- **RETURN L (mono):** output from your last pedal will be connected here (your last loop effects pedal).
- **RETURN R (stereo):** output from your last pedal will be connected here (your last loop effects pedal, if it's a stereo one).
- **SWITCH:** TRS audio pass thru.
- **MIDI THRU:** as described, thru a five din midi female connector.

(front side – dip switches)

- **INPUT BUFFER**: this dip switch turns on/off the input buffer.
- **RETURN R BUFFER:** this dip switch turns on/off the output buffer.
- **RETURN B PHASE:** this dip switch flip 0/180° phase of the RETUNR R out.

# **PASSIVE MODE**

Reducing to the very basic concept of our Smart Patch, you can see it as an "interface" and as any interface it can be used only as a patch point for your board to the external world, so a passive interface.

What does this mean? With Smart Patch we wanted to do way more than a simple passive interface but doing that, we needed a power source. Which road was the better road? After a bit of thinking, we come up with a simple answer, and it was like "why not both ways"?

Basically, by turning off some of the key features as the dual buffer and phase reverse capability, you can use Smart Patch without any 9vdc source. The auto-routing features still there, so it basically built to last forever and to assure you the continuity of your audio signal also with no power!

In fact, if you are playing with one or both buffers turned on and all of sudden for some reason the 9vdc cable of Smart Patch is taken off or simply dead, you are going to listen simply nothing, or at least a little tone changing if you were using the buffers, but definitely no silent...how cool is that?

# **AUDIO FEATURES**

- **DUAL BUFFER:** Smart patch offer two completely bypassable hi-grade audio buffers, to prevent any tone loss due to high length cables or low quality ones. One buffer is placed right after the INPUT of the system, the second one is placed on the RETURN R, and it can be used as an output buffer if needed (please, take a look at connection examples in the next page). Using Smart Patch in passive mode automatically will bypass both buffers, to allow you a full passive audio system.
- **AUTO ROUTING:** Smart patch with a series of passive switching system is able to detect if you are using your amp fx loop or if you not, so it's able to route pedal chains in a single one if needed.

Why this? Let's suppose you own an amp with an effects loop with all your comp/drive/mod fx placed in front of it, and delay/reverb in the loop fx. You're going to attend a gig with a rental amp, let's say a Blackface with no fx loop: you're forced to rewire your board or don't use half of your fx chain. Smart Patch is able to re-route your entire board (so using both pre and post fx) without you touching a single cable, but only patching input and output in the right place. Cool...ya?

- **SPLITTING:** Smart Patch can also split your signal into two. You wanna do a biamp system? No problem, turn on the output buffer and patch your second amplifier into RETURN R (stereo).
- **ISO TRANSFORMER:** RETURN R (stereo) have a ground isolation thru a high quality 1:1 transformer to prevent the second amplifier to have any ground loop issue.
- **PHASE REVERSE:** this switch allows you to perfectly phase reverse (180°) your second amplifier, using RETURN R (stereo) output. Sometimes two amplifiers cannot be phase aligned, so we have taken care of it. How to know if my amps are phase aligned? Simply, trust your ear: connect both amplifiers, and set them for the same amount of volume and then play a chord. If something sound wired, with the lack of bass or you're experiencing a comb filter issue, your amps are out of phase, and you need to flip the switch so they will sound "right". In the opposite, if your amps sound worst after the switch flipping, turn it on the off position, and enjoy your perfectly in phase amps.

#### **CONNECTION EXAMPLES**

Please note that all the examples below are intended with a 9v power source. No TRS/MIDI thru are shown, since it's really straightforward.

**Example 1** – Simple "in-line" board connection.

Signal comes from your guitar, to your board, and back to the input of your amplifier. *TIP: You can turn on/off the input buffer according to your taste, but we suggest to do it*.



## **Example 2** – Simple two chains mono setup.

Signal comes from your guitar, to your board, and back to the input of your amplifier. *TIP: You can turn on/off the input buffer according to your taste, but we suggest to do it* Signal comes from send of your fx loop again into the interface (SEND), second chain of pedals and the from RETRURN L of Smart Patch back to fx loop return.



## **Example 3** – Simple two chains stereo setup.

Signal comes from your guitar, to your board, and back to the input of your amplifier. *TIP: You can turn on/off the input buffer according to your taste, but we suggest to do it* 

Signal coming from send of your fx loop into again the interface (SEND), second chain of pedals and the from RETURN L of Smart Patch back to fx loop return.

RETURN R is patched on the FX return loop of your second amplifier.

TIP: You can turn on/off the RETURN R buffer according to your taste, and also phase reverse this output.



#### **Example 4** – Two chains setup with an amp (no loop fx).

Signal comes from your guitar, to your board, and back to the input of your amplifier thru RETURN L jack. This allow Smart Patch to rewire the two chains of pedals into a single one (first one into the second one) and to connect the entire four cable system with only to cables.

<u>TIP: You can turn on/off the input buffer according to your taste, but we suggest to do it.</u>

<u>TIP: You can use also RETUNR R instead of RETURN L and turn on/off the RETURN R buffer according to your</u> taste, and also phase reverse this output.



## **Example 5** – Two chains setup with two amplifiers (no loop fx).

Signal comes from your guitar, to your board, and back to the input of your first amplifier thru RETURN L jack. Second amplifier will be connected to RETURN R. <u>TIP: You can turn on/off the input buffer according to your taste, but we suggest to do it.</u> <u>TIP: You can use also RETUNR R instead of RETURN L and turn on/off the RETURN R buffer according to your taste, and also phase reverse this output.</u>



# **Example 6** – One chains setup with two amplifiers

Signal comes from your guitar, to your board, and back to the input of your first amplifier thru RETURN L jack. Second amplifier will be connected to RETURN R. <u>TIP: You can turn on/off the input buffer according to your taste, but we suggest to do it.</u> <u>TIP: You can use also RETUNR R instead of RETURN L and turn on/off the RETURN R buffer according to your taste, and also phase reverse this output.</u>



## TROUBLESHOTTING

#### • Smart Patch is not turning on.

Please, check you power supply and be sure it will output 9V with negative center connector with a multimeter. If the problem persist, contact RedSeven Amplificaton.

#### • Smart Patch is turning on but with no sound.

First of all, check and double check all of your cables, and we mean, ALL OF THEM. 99% of the time the problem is a faulty cable or a wrong cabling. Then check your external effects by trying them in series as any traditional overdrive. If the problem persist, contact RedSeven Amplificaton.

#### • Smart Patch works only when power is disconnected.

You probably have input and/or output buffer turned ON but there's no 9V incoming into Smart Patch, you're using it in passive mode. Check your power supply, the problem will sit there.

For any problem and in any moment you can contact a qualified tech at: <u>info@redseven-amplification.com</u>

We will replay to you as soon as possibile.

#### WARRANTY DESCLAMER

Please, do not try to open this object in any case. For any problem contact your seller or write to us. RedSeven Amplification offer a standard two year fully warranty for any component (except to wear subjects). Making any modification to the original state will violate standard warranty and RedSeven Amplification will not responsible for any damage to people, things or animals.

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