



# AXSGTR™ | Axess Electronics™

## User Manual

### OTS1 Patch-Box

The OTS1 is the first, and smallest, in a series of new patch-boxes meant to serve as a pedalboard's nerve centre. It's where all of the board's connections are consolidated; enabling a higher density placement of the pedals on the pedalboard, preserving the effect pedals jacks life, and accelerating and simplifying, the pedalboard setup/teardown time and process.

Ironically, the weakest link in every guitar rig, is the guitar itself - more specifically, its pickups! The hi-Z and low level signal they produce make them easily susceptible to loading and signal loss. So naturally — the OTS1 Patch-Box includes a buffer.

Buffers prevent the loading and loss of (1) high end frequency response (2) signal level, and (3) low end punch, due to cable capacitance and the imperfectly designed input stage/circuitry of some pedals. All of these problems still occur even if all of the pedals have true-bypass switching, which also adds inconsistent tone to the equation, every time a different pedal is turned on and off. Every additional pedal, and every extra foot of cable in a rig, results in more and more loading and loss, that only a buffer can prevent.

The OTS1 input buffer is Axess Electronics' version of a 'fabled' discrete Class-A buffer circuit that's been described by some as "ultra transparent, natural and musical, just like plugging the guitar straight into the amp".

## **AMPS, FX LOOPS AND CABLE METHODS**

The phrase 4 Cable Method (4CM) describes a specific way of connecting effects pedals using both an amplifier's input and its effects loop at the same time. Alternatively, 2CM describes the more traditional method of connecting all of the effects pedals in front of the amplifier's input.

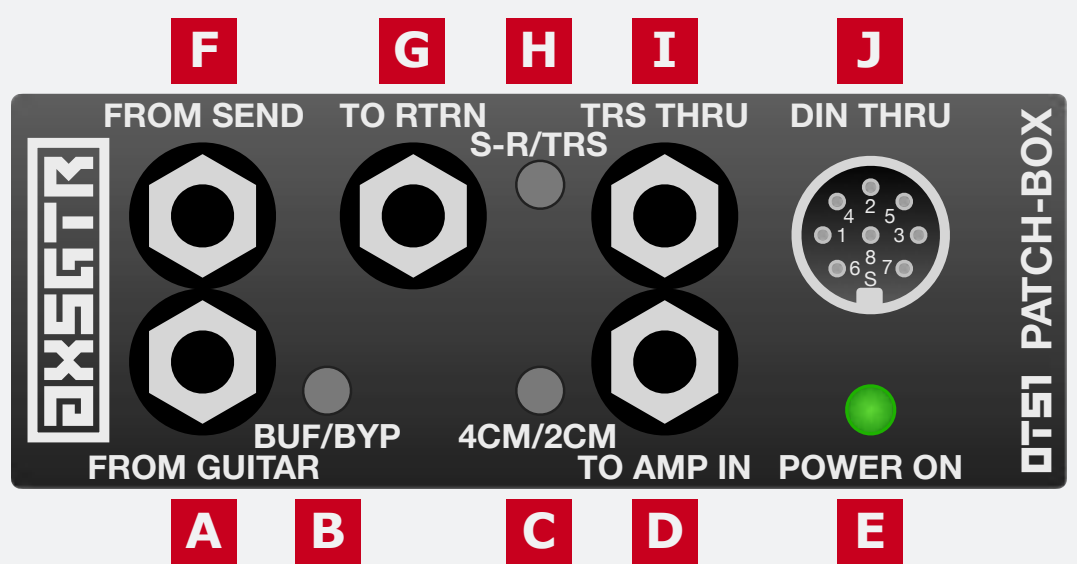
Running effects pedals either into the input of an amplifier, or in its effects loop (using the amplifier's send and return jacks) gives different tonal results. This is especially true in the case of time-based effects such as delay and reverb because of the way they interact with an overdriven amplifier.

The OTS1 Patch-Box allows the effects pedals on a pedalboard to be wired-up in advance for the 4CM. Then with the quick and simple press of a button — instantly reconfigure the entire pedalboard depending on if the amplifier being used has an effects loop (4CM) or not (2CM).

*Always use the 2CM no matter what, have absolutely no interest in the 4CM, or require additional ¼" connectivity?*

No problem, use the S-R/TRS push-button to isolate and convert the FROM SEND and TO RTRN jacks to two additional ¼" TRS thru-jack pairs for amplifier foot-switches or passive audio signal paths.

# AMPLIFIER/GUITAR SIDE DESCRIPTION



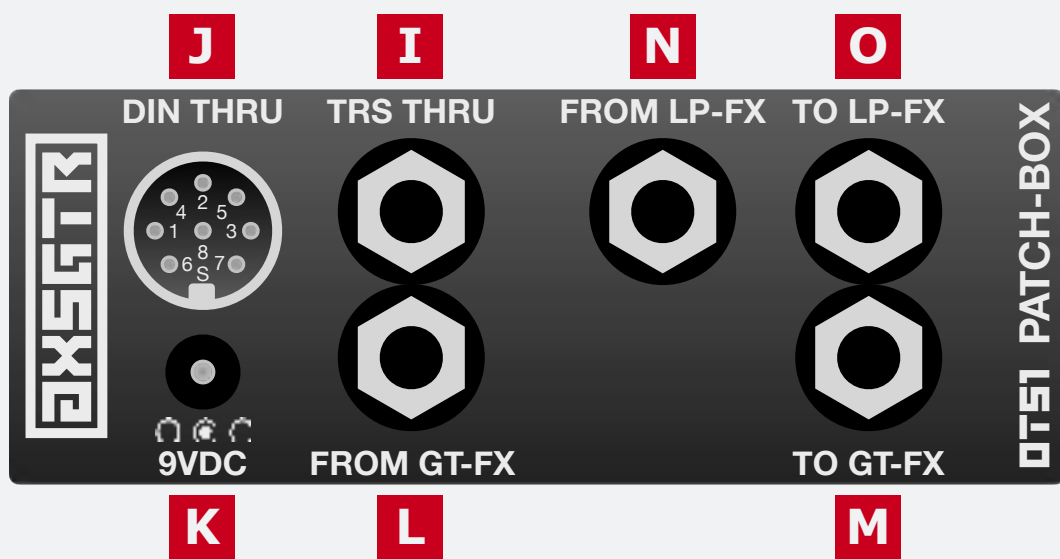
- A. **FROM GUITAR** is a ¼" input that has a switchable (on/off) buffer and serves as the primary guitar input.
- B. **BUF/BYP** is a push-button switch that either activates [IN] the FROM GUITAR input buffer or bypasses it [OUT].
- C. **4CM/2CM** is a push-button switch that reconfigures the pedalboard signal path when using an amplifier with an effects loop, the 4CM [IN], or one without, the 2CM [OUT].
- D. **TO AMP IN** is a ¼" output that feeds the pedalboard signal to the amplifier's input.
- E. **POWER ON** is a green LED and when it is lit up, it indicates the OTS1 Patch-Box is receiving power.
- F. **FROM SEND** is a ¼" passive input that accepts the signal from the amplifier's effects loop send jack.
- G. **TO RTRN** is a ¼" output that feeds the pedalboard signal back to the amplifier's effects loop return jack.
- H. **S-R/TRS** is a push-button switch that isolates [OUT] the FROM SEND and TO RTRN jacks to instantly configure them as two additional ¼" TRS thru-jack-pairs for amplifier foot-switches or passive audio signal paths, instead of configuring them as effects loop send and return jacks [IN].

**Note:** When TRS [OUT] is selected, the 4CM/2CM push-button switch must be in the 4CM [IN] position.

- I. **TRS THRU** is a pair of ¼" TRS jacks that are meant for an amplifier foot-switch or additional passive audio signal path.
- J. **DIN THRU** is a pair of 8-pin DIN jacks that are meant to be used for MIDI or a multi-pin amplifier foot-switch connection.

**Note:** Typically MIDI DIN plugs do not have a ground connection on the outer shield, but some amplifier multi-pin DIN foot-switch plugs might. As such, it is advisable to add a heat-shrink sleeve or equivalent insulation/tape around the body of DIN plugs, to ensure they do NOT short circuit to the OTS1 Patch-Box enclosure.

## EFFECTS/PEDALBOARD SIDE DESCRIPTION



- I. **TRS THRU** is a pair of ¼" TRS jacks that are meant for an amplifier foot-switch or additional passive audio signal path.
- J. **DIN THRU** is a pair of 8-pin DIN jacks that are meant to be used for MIDI or a multi-pin amplifier foot-switch connection.

**Note:** Typically MIDI DIN plugs do not have a ground connection on the outer shield, but some amplifier multi-pin DIN foot-switch plugs might. As such, it is advisable to add a heat-shrink sleeve or equivalent insulation/tape around the body of DIN plugs, to ensure they do NOT short circuit to the OTS1 Patch-Box enclosure.

- K. **9VDC** is the external power supply jack and it accepts a standard 2.1mm x 5.5mm male barrel plug from a 9VDC wall-wart power adapter or pedalboard power supply with a NEGATIVE CENTER plug. Refer to the SPECIFICATIONS section for additional information.

**Warning:** To avoid immediate damage to this product, voiding the warranty, do NOT connect an AC-Voltage, or any other DC-Voltage power supply to this jack, other than that specified above and in the SPECIFICATIONS section.

- L. **FROM GT-FX** is a 1/4" passive input that accepts the signal from the last effect, in the chain of effects on the pedalboard, that is run in front of the amplifier's input.
- M. **TO GT-FX** is a 1/4" output that feeds the input of the first effect, in the chain of effects on the pedalboard, that is run in front of the amplifier's input.
- N. **FROM LP-FX** is a 1/4" passive input that accepts the signal from the last effect, in



the chain of effects on the pedalboard, that is run in the amplifier's effects loop.

- O. **TO LP-FX** is a ¼" output that feeds the input of the first effect, in the chain of effects on the pedalboard, that is run in the amplifier's effects loop.

## SPECIFICATIONS

Input Impedance: ~1Mohm

Output Impedance: ~100ohm

Max. Output: +8.7dBu/6.0Vp-p

Freq. Response: ±3dB 13Hz-20KHz

Operating Voltage: 9VDC (to 18VDC)

Maximum Operating Voltage: 20VDC

Typical Current Draw: <100mA@9VDC

Dimensions (LxWxH): 4.41x2.38x1.65in.

112x60.5x42.0mm

**Note:** The ¼" jacks are spaced for 'stubby' Switchcraft #380 plugs, standard straight ¼" plugs, and solderless ¼" plugs.

*Specifications are subject to change without notice.*

## CONNECTION DIAGRAMS

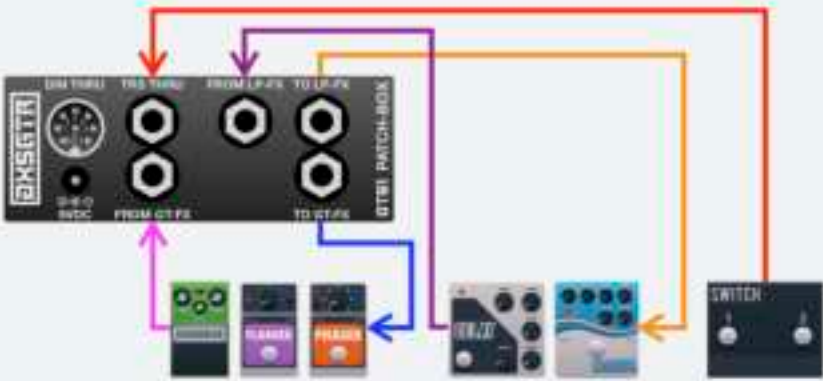
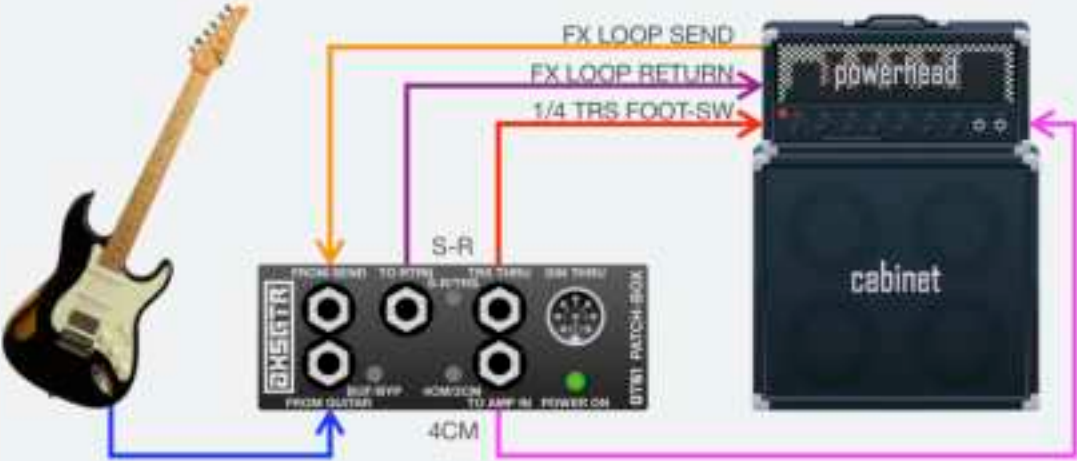
The following pages highlight some of the different ways the OTS1 Patch-Box can be utilized. Hi-res PDFs of the individual diagrams are also available on our [website](#).

*Follow us on [Instagram](#) and [Twitter](#) at [@axsgtr](#) to see how other people are using their OTS1 "Out In The Wild" and tag us using [#axsgtr](#) and [#axesselectronics](#) OR contact us for help by email or via our website, as follows;*

[info@axesselectronics.com](mailto:info@axesselectronics.com)

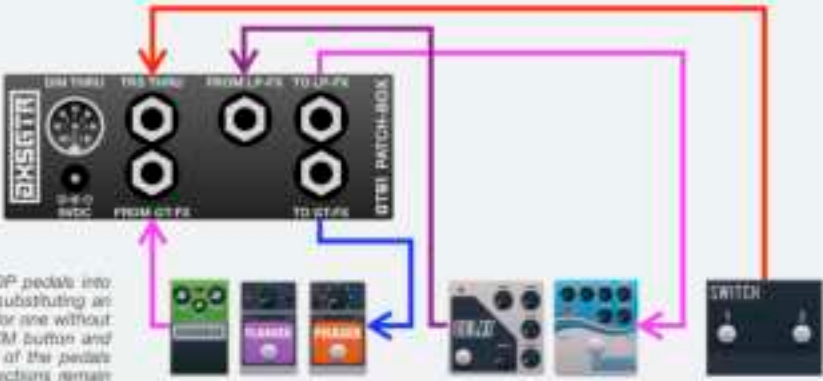
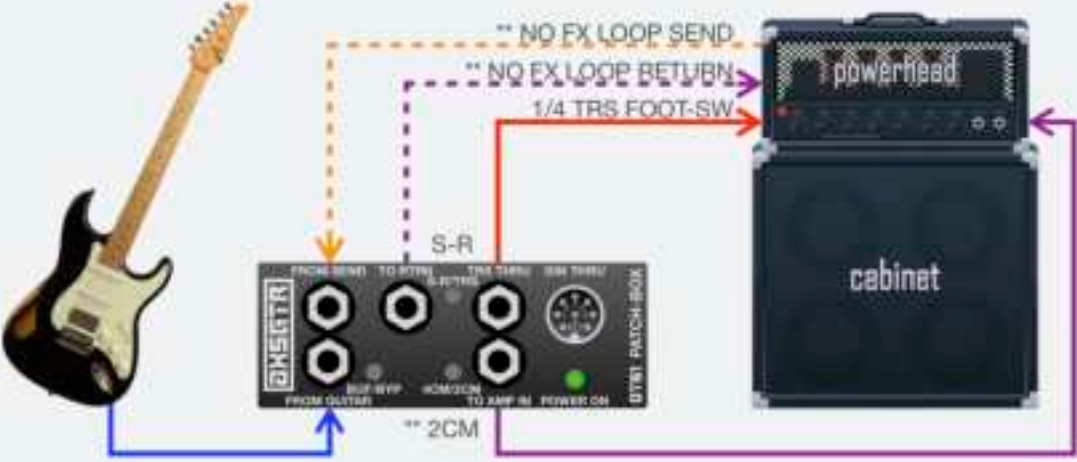
[axesselectronics.com](http://axesselectronics.com)

4CM (CABLE METHOD) PEDALS IN FRONT, IN FX LOOP, AND A FOOTSWITCH



The signal path is color-coded for your viewing pleasure.

2CM (CABLE METHOD) ALL PEDALS IN FRONT AND A FOOTSWITCH vs 4CM

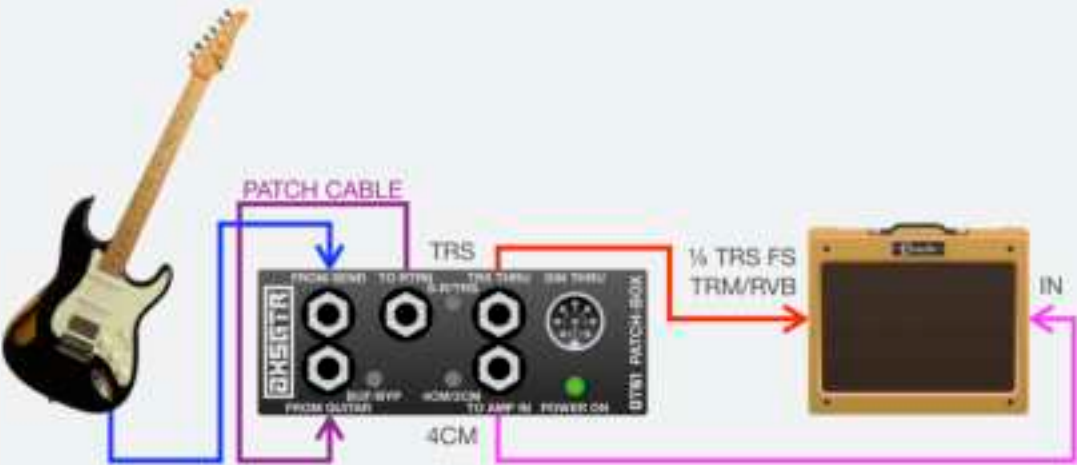


\*\* Instantly re-route the FX LOOP pedals into the front of the amplifier when substituting an amp with an effects loop (4CM) for one without (2CM), by pressing the 4CM/2CM button and selecting the 2CM position. All of the pedals and all of the pedalboard connections remain unchanged! All of the necessary color-coded signal path changes are taken care of by within the OTS1 Patch-Box, automatically.

PEDALS IN FRONT 2CM: PEDALS IN FRONT \*\*  
4CM: PEDALS IN FX LOOP

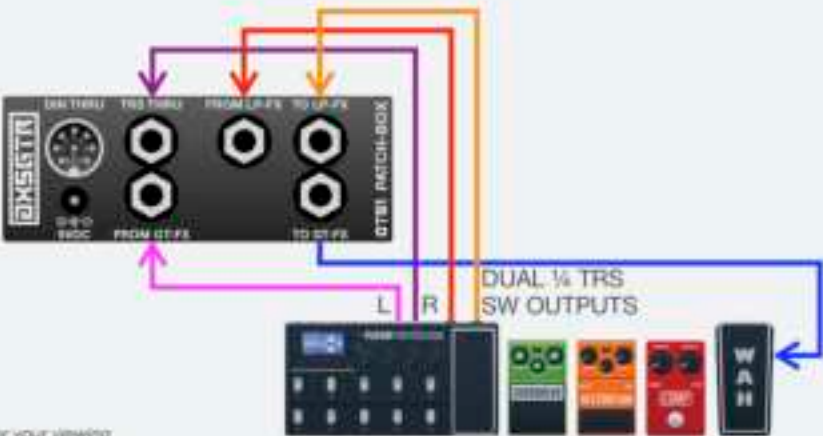
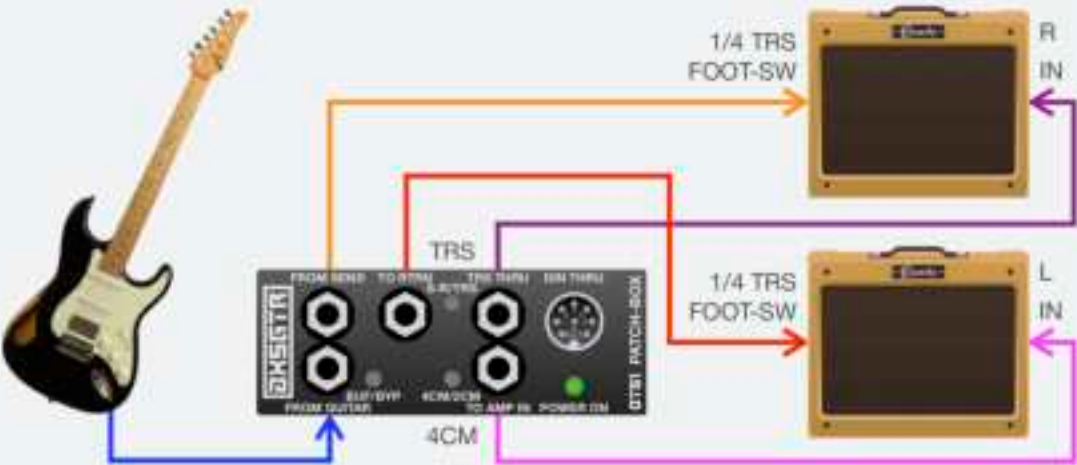


PRE-BUFFER FUZZ AND PEDALS IN FRONT WITH 1/4 TRS FOOT-SWITCH



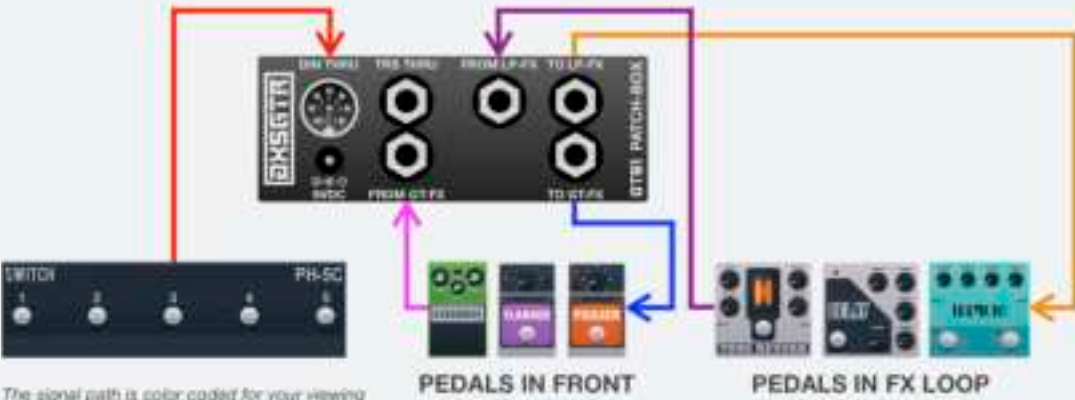
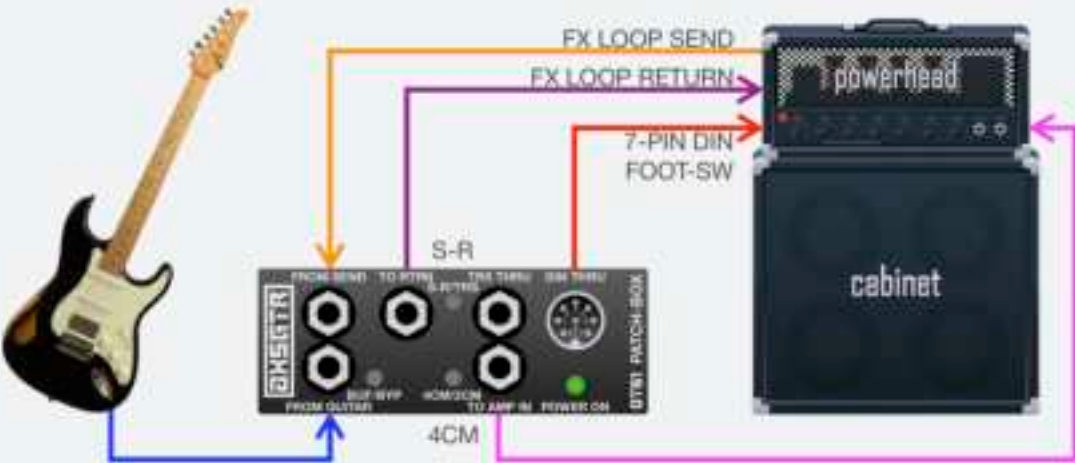
The signal path is color coded for your viewing pleasure.

STEREO MULTI-FX & PEDALS IN FRONT WITH DUAL 1/4 TRS AMP SWITCHING



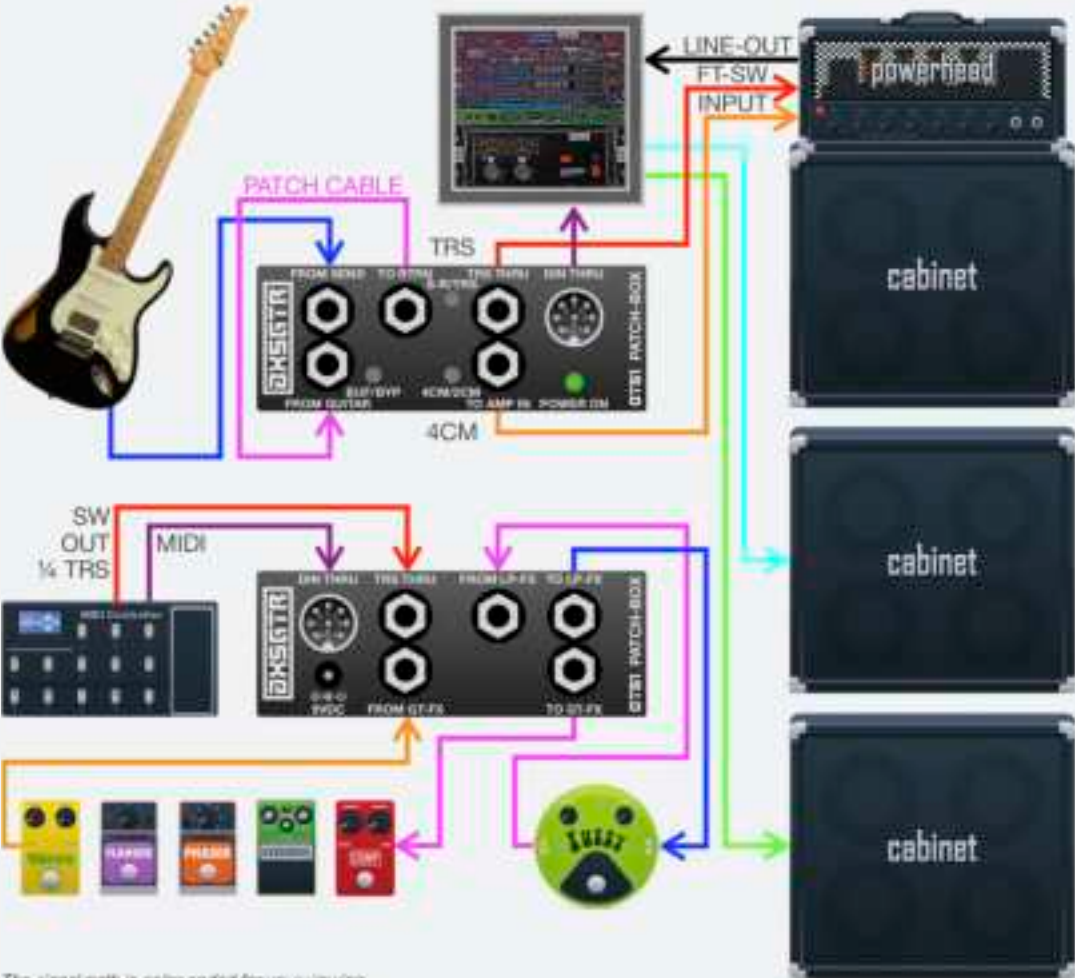
The signal path is color coded for your viewing pleasure.

4CM (CABLE METHOD) & PROPRIETARY MULTI-PIN DIN AMPLIFIER FOOTSWITCH



The signal path is color coded for your viewing pleasure.

PRE-BUFFER FUZZ AND MIDI CONTROLLED RACK WITH WET/DRY/WET 412s



The signal path is color coded for your viewing pleasure.