Connections

PWR: Accepts power from an external AC Adapter. See "Power Requirements" for more information.

MIDI IN: 7pin DIN connector that receives MIDI information from an external source (such as a MIDI footcontroller) which transmits MIDI commands.

MIDI THRU: 7pin DIN connector that passes on the MIDI information which is received at the **MIDI IN** jack to other MIDI devices.

INA & B: Standard 1/4" mono jacks that provide an audio signal to the GRX4 loop(s) from an external source such as; a *guitar*, an *effects loop send,* a *preamp output* or an *effect pedal/processor output.*

SND1 2 & 3: Standard 1/4" mono jacks that provide an audio signal to an external device such as an *effect pedal/processor input.*

SND4/NC: Instead of the **SND1 2 & 3** description above, this jack can also provide an isolated (prevents ground loop noise) normally closed latched or momentary type switching function to control amplifiers or effects that have footswitchable functions.

RTN1 2 3 & 4: Standard 1/4" mono jacks that accept an audio signal from an external device such as an *effect pedal/processor output.*

OUTA: Standard 1/4" mono jack that provides an audio signal from the GRX4 loop(s) to an external device such as; a *guitar amplifier input,* an *effects loop return,* a *power amp input* or an *effect pedal/processor input.*

OUTB/NO: Instead of the **OUTA** description above, this jack can also provide an isolated (prevents ground loop noise) normally open latched or momentary type switching function to control amplifiers or effects that have footswitchable functions.

INA BUFFER: To de-activate or activate (factory default) this <u>instrument level</u> ONLY buffer, power-off the GRX4 and remove the bottom cover (you don't need to remove the two screws next to the MIDI jacks to remove the bottom cover, just the other eight…). The buffer on/off pushbutton switch is near the INA jack…

Switch IN (near PCB edge) = Buffer ON
Switch OUT (away from PCB) = Buffer OFF

!!WARNING!! *DO NOT CONNECT ANY OUTPUT OF A POWER AMPLIFIER TO ANY JACK ON THE GRX4. THIS WILL DAMAGE THE GRX4 AND THE POWER AMPLIFIER.*

!!WARNING!! *DO NOT INSERT ANY PLUGS INTO THE INB OR RTN4 JACKS WHEN USING EITHER THE SND4/NC OR OUTB/NO JACK AS AN ISOLATED CONTROL FUNCTION. THIS CAN DAMAGE THE GRX4 & THE DEVICE BEING SWITCHED.*

Power Requirements

75mA@9.6VDC
Use Boss PSA Adapter Only
5.5mm/2.1mm Barrel Connector

Warranty

This product is warranted against failures due to defective parts or faulty workmanship for a period of one year after delivery to the original owner. During this one year period, Axess Electronics will make any necessary repairs without charge for parts and labor. However, shipping charges to and from the repair location must be paid by the owner.

This warranty applies only to the original owner and is not transferable.

This warranty does not cover damage to the product as a result from accident or misuse.

This warranty will be canceled at the sole discretion of Axess Electronics if the product has:

1. Any signs of tampering, unauthorized service, or modifications.
2. Any damage resulting from physical abuse or failure to follow the operating instructions.

Axess Electronics' liability to the owner and under this warranty is limited only to the repair or replacement of the defective product. Call or write to Axess Electronics prior to shipping the product for repair.

Axess Electronics reserves the right to make any changes and/or improvements to the design of this product without any obligation to include those changes in any previously manufactured units.

How To Reach Axess Electronics

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GRX4
Guitar Router/Switcher

- The **GRX4 Guitar Router/Switcher** is a passive, no noise, sonically transparent guitar audio router and switcher.

- Relays with gold-plated contacts route the audio signal with absolutely no tone coloration or degradation.

- The signal path is configured as a series chain of three bypass loops (which can also be used for parallel fx splitting when a plug is not inserted into the return jacks) and one full loop which can also be used for "A or B" switching, parallel FX mute switching or isolated NO/NC latched or momentary control function switching of a guitar amp's channels.

- An input (INA) buffer can be activated via an internal switch to optimize pickup tone and prevent HI-Z guitar signals from being loaded down or picking up noise (see the "Connections" section for more information).

- Capable of switching both instrument level (pedals) and line level (rack - with the buffer deactivated) audio signals.

- Can be used with any MIDI footcontroller capable of sending Control Change or Program Change messages.

- An infinite number of GRX4's can be used simultaneously or added to existing rigs with other switchers.

- Powered by a 9VDC Adapter (like those from Boss) with a 5.5mm/2.1mm barrel connector.

- Housed in a compact (7.50" x 4.75" x 1.50") and rugged .064" thick aluminum enclosure for years of reliable use and performance.

- Brushed finish with black anodize coating and laser-engraved printing.

Overview

The GRX4 has been designed to operate in one of two modes. Program Change mode allows the GRX4 to be used with MIDI footcontrollers that can only transmit MIDI Program Change messages or have run out of Control Change messages... Control Change mode is geared towards MIDI footcontrollers that have instant access switches and are capable of transmitting MIDI Control Change messages. The GRX4 has four (4) Control Change modes, CC1 - CC4.

When operating in Program Change mode, the GRX4 will respond to MIDI Program Change messages on the user selected MIDI Channel. The loops will either be latched or momentary, depending on the "Edit Loop Configuration". All MIDI Control Change messages will be ignored.

When operating in one of the four Control Change modes, the GRX4 will respond to MIDI Control Change messages on the default MIDI Channel. The MIDI Program Change Channel and Loop Configuration will be cleared and disabled, all Program Change messages will be ignored.

Basic Operation

Connect a MIDI footcontroller and the effects and/or amp to be routed/switched/controlled to the GRX4 as described in the "Connections" section.

Apply power to the GRX4 first, then to the effects and amp. Ensure the effects are active and use the MIDI footcontroller to access the four loops... When done, remove power from the amp and effects first, then from the GRX4.

To edit a preset in Program Change mode, select the preset to edit using the MIDI footcontroller. Press and/or hold the **EDIT** switch until the desired combination of loops (on/off) is selected. The preset is automatically stored in the GRX4's EEPROM memory. As a safety feature, only the LEDs will change when holding the **EDIT** switch down. The loops will switch after the **EDIT** switch has been released.

!!ATTENTION!!

ON POWER-UP, ALL LOOPS ARE OFF (BYPASSED).

ON POWER-UP, IN PROGRAM CHANGE MODE, THE EDIT SWITCH HAS NO EFFECT UNTIL A PRESET IS SELECTED USING THE MIDI FOOTCONTROLLER.

THE EDIT SWITCH HAS NO EFFECT WHEN IN ONE OF THE FOUR CONTROL CHANGE MODES.

Edit Program Change Channel

This allows the selection of which MIDI Channel the GRX4 will receive MIDI Program Change messages on.

Power-off the GRX4. Press and hold the **EDIT** switch and apply power to the GRX4. Wait for all the LEDs to flash one time and release the **EDIT** switch. You are now in "Edit Program Change Channel". Pressing the **EDIT** switch will allow you to scroll through the sixteen different MIDI Channels. To save your selection in the GRX4's EEPROM memory, simply power-off the GRX4.

CHANNEL	L4-LED	L3-LED	L2-LED	L1-LED
Channel #1	○	○	○	○
Channel #2	○	○	○	●
Channel #3	○	○	●	○
Channel #4	○	○	●	●
Channel #5	○	●	○	○
Channel #6	○	●	○	●
Channel #7	○	●	●	○
Channel #8	○	●	●	●
Channel #9	●	○	○	○
Channel #10	●	○	○	●
Channel #11	●	○	●	○
Channel #12	●	○	●	●
Channel #13	●	●	○	○
Channel #14	●	●	○	●
Channel #15	●	●	●	○
Channel #16	●	●	●	●

Edit Loop Configuration

This allows the selection of which loops are latched and which are momentary, when in Program Change mode. *Please note that the ability to make loops 1 - 3 momentary has been included for customization purposes only. Typically, only Loop 4 might need to be configured for momentary switching if used as a control function...*

Power-off the GRX4. Press and hold the **EDIT** switch and apply power to the GRX4. Wait for all the LEDs to flash two times and release the **EDIT** switch. You are now in "Edit Loop Configuration". Pressing the **EDIT** switch will allow you to scroll through the different loop configurations. To save your selection in the GRX4's EEPROM memory, simply power-off the GRX4.

CONFIGURATION	L4-LED	L3-LED	L2-LED	L1-LED
L4/3/2/1 Latched	○	○	○	○
L4 Mom & L3/2/1 Lat	●	○	○	○
L4/3 Mom & L2/1 Lat	●	●	○	○
L4/3/2 Mom & L1 Lat	●	●	●	○
L4/3/2/1 Momentary	●	●	●	●

Edit Operating Mode

This allows the selection of the GRX4's operating mode.

Power-off the GRX4. Press and hold the **EDIT** switch and apply power to the GRX4. Wait for all the LEDs to flash three times and release the **EDIT** switch. You are now in "Edit Operating Mode". Pressing the **EDIT** switch will allow you to scroll through the different modes of operation. To save your selection in the GRX4's EEPROM memory, simply power-off the GRX4.

MODE	L4-LED	L3-LED	L2-LED	L1-LED
Program Change	○	○	○	○
Control Change CC1	○	○	○	●
Control Change CC2	○	○	●	○
Control Change CC3	○	●	○	○
Control Change CC4	●	○	○	○

MIDI Implementation

Model & F/W:	GRX4 Version 2 Revision 3	
MIDI Channel: (Received)	Default:	16[1]
	Changed:	1 - 16[2]
Control Change: (Received)	80 - 83[3]	*L1 - L4 Latching*
	104 - 107[3]	*L1 - L4 Momentary* — CC1
	84 - 87	*L1 - L4 Latching*
	108 - 111	*L1 - L4 Momentary* — CC2
	88 - 91	*L1 - L4 Latching*
	112 - 115	*L1 - L4 Momentary* — CC3
	92 - 95	*L1 - L4 Latching*
	116 - 119	*L1 - L4 Momentary* — CC4
		Control Value 0 = Off
		Control Value 127 = On
Program Change: (Received)	1 - 128	*Selects memory locations 1 to 128*

Notes:
1. Fixed for Control Changes.
2. User selectable for Program Changes, stored in EEPROM.
3. The GRX4 is shipped from the factory in Control Change CC1 operating mode.
4. For DMC Ground Control users:

   CC1 = GCX#1 Loops 1 - 4
   CC2 = GCX#1 Loops 5 - 8
   CC3 = GCX#2 Loops 1 - 4
   CC4 = GCX#2 Loops 5 - 8