

## 16-pin to 13-pin Converter Box

User configurable 16- or 13-pin to 13-pin with foot controls

### Introduction

Congratulations on your purchase of this SynQuaNon product! We know that our products will enable you to find new and interesting ways to create custom sounds with your synthesizer and other SynQuaNon modules. Check out our full line at [www.synquanon.com](http://www.synquanon.com).

### 16-pin to 13-pin Converter Box Front View



### 16-pin to 13-pin Converter Box Rear View



## Overview

The SynQuaNon 16-pin to 13-pin Converter Box is an integral part of the new SynQuaNon 16-pin upgrade system for guitars with Roland/BOSS GK pickups. The system is complete with guitar-specific 16-pin internal connector cable assemblies, 16-pin guitar cables in various lengths and either a simple 16-pin to 13-pin Adapter Box or this 16-pin to 13-pin Converter Box. The 13-pin output of either box is then connected via a short stationary cable to the user's GK synths.

This upgrade eliminates all existing Roland/BOSS GK 13-pin connector & cable fragility, grounding and noise issues detrimental to live performance with robust connector, plug, and cable designs.

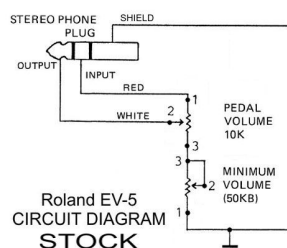
## Installation and Setup

Guitar installation is plug and play, remove the existing 13-pin guitar connector and unplug the two connectors on the GK Internal Board. The 16-pin replacement connector will be supplied with the appropriate connector plate for your guitar and bolts right in; plug the two connectors into the GK Internal Board and you're done!

The 16-pin to 13-pin intelligent Converter Box is meant to be mounted on a pedal board and allows remote foot control over SW1/SW2, SYN VOL, and MIX SW using standard foot switches and an expression pedal. The box senses when a TRS plug is inserted into any of the connectors and switches the circuitry from the guitar controls to the foot controls. Without any foot controls inserted the box defaults to all guitar controls. Only some or all controls can be substituted in this manner.

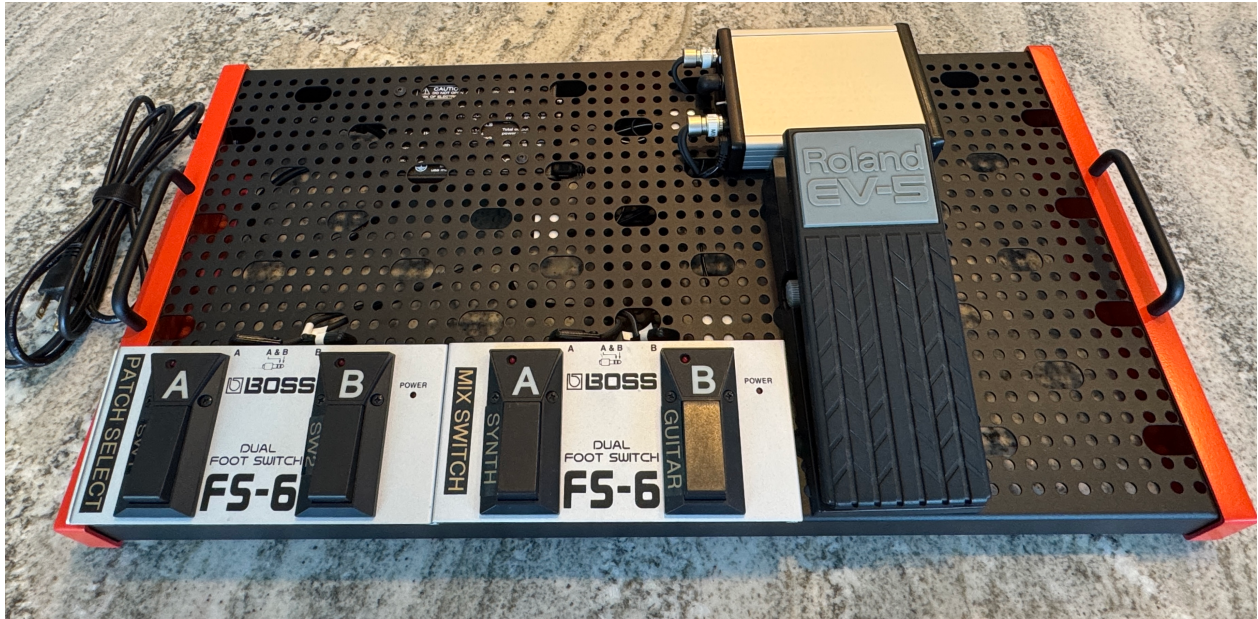
BOSS FS-6 and FS-7 foot switches are recommended, but any equivalent momentary switch to ground will work.

A Roland EV-5 expression pedal is recommended, but any expression pedal with the same wiring will work. Do not use active expression pedals!



## Sample Pedal Board Installations

There are many ways one can implement the foot switches and expression pedal for use with the intelligent 16-pin to 13-pin Converter Box. Below are an example using FS-6 foot switches and another using FS-7 foot switches.





**Front Panel**



|        |                                                |                                    |
|--------|------------------------------------------------|------------------------------------|
| INPUT  | 16-pin or 13-pin connector (user configurable) | Standard is 16-pin LEMO compatible |
| OUTPUT | 16-pin or 13-pin connector (user configurable) | Standard is 13-pin GK compatible   |

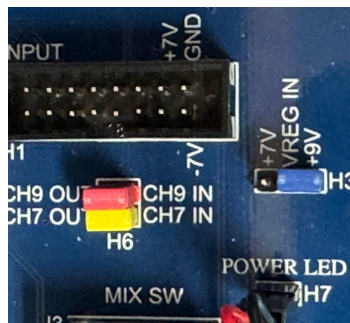
**Rear Panel**



|             |                                                   |                                              |
|-------------|---------------------------------------------------|----------------------------------------------|
| SW1/SW2     | TRS input for FS-6 or equivalent foot switch      | Defaults to guitar controls if not connected |
| SYN VOL     | TRS input for EV-5 or equivalent expression pedal | Defaults to guitar controls if not connected |
| BASS/GUITAR | Selects MIX CVs for bass or guitar                |                                              |
| MIX SW      | TRS input for FS-6 or equivalent foot switch      | Defaults to guitar controls if not connected |
| POWER       | 2.5mm 9V center negative power connection         |                                              |

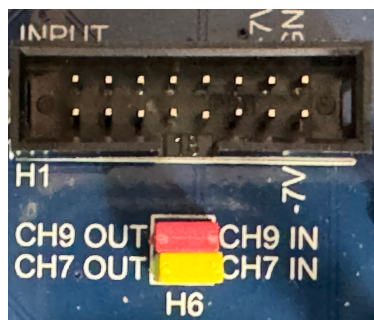
## Power Selection

The Converter Box may be powered by an external 9V pedal power supply or by a connected Roland/BOSS GK Synthesizer through the 13-pin output connection. To make the selection, remove the four front panel screws and gently pull the bezel and panel away from the box. Slide the top cover out to access the inside. Note the header H3 with a shorting block on the input side of the PCB; by default the external 9V power supply is selected. For GK power, move the shorting block to the +7V



## Channels 7 and 9

The 16-pin standard has two additional signal pins versus the 13-pin connector, namely CH7 and CH9. Channel 7 is reserved for the B1 string on a 7-string guitar, while Channel 9 is available for other audio signals, such as a microphone, Polybass, or piezo pickup. Header H6 presents these two signals from the 16-pin input connector for optional further processing. If a 16-pin output connector is used, the shorting blocks will route both signals to the output (this is not functional in the case of a 13-pin output connector).



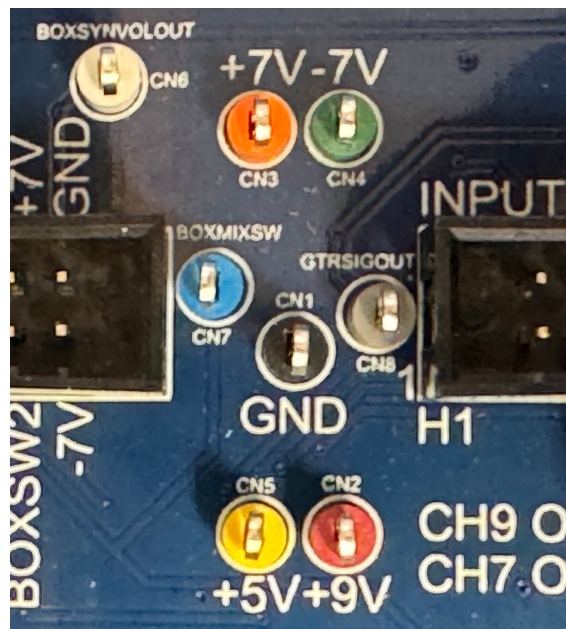
## Test Points

There are a number of test points on the PCB for troubleshooting purposes, Use a digital voltmeter between a given test point and the black GND test point to make measurements.

Power supply voltages can be checked at +7V (CN3 - Orange), -7V (CN4 - Green), +5V (CN5 - Yellow), and +9V (CN2 - Red).

The output SYN VOL is available at BOXSYNVOLOUT (CN6 - White), while the output MIX SW CV is measured at BOXMIXSW (CN7 - Blue).

Finally the traditional guitar pickup signal (pin 7 on the 13-pin connector) is available for monitoring on GTRSIGOUT (CN8 - Gray).



## Technical Specifications

- Power requirement: 9V center negative, 2.5mm connector
- MIX SW CVs
  - Guitar: 0.54V, 1.04V, 1.54V
  - Bass: 3.44V, 3.96V, 4.48V

## Accessories

Optional input and output connectors include the following:

- 16-pin connector with cable assembly
- 13-pin connector with cable assembly

To replace a front panel connector remove the four screws holding the bezel and panel in place. Pull the panel away slightly, just enough to slide the top box lid out, revealing the cable assembly connectors on the PCB board. Gently pull the connector straight up to unplug. Now remove the two bolts holding the connector plate to the front panel. Reverse the procedure steps to install the new connector with cable assembly, ensuring the connector is fully engaged.

## Support

In case of difficulty:

1. Make sure 9V power is available to the Converter Box and that it is turned ON.
2. Without any foot switches or pedal plugged in, verify that the guitar controls work correctly.
3. Check each foot switch to make sure the output goes from open circuit to ground when depressed.
4. Plug each switch in one at a time and verify proper operation.
5. Call us if you need help!

For additional information please feel free to contact us at [support@synquanon.com](mailto:support@synquanon.com)