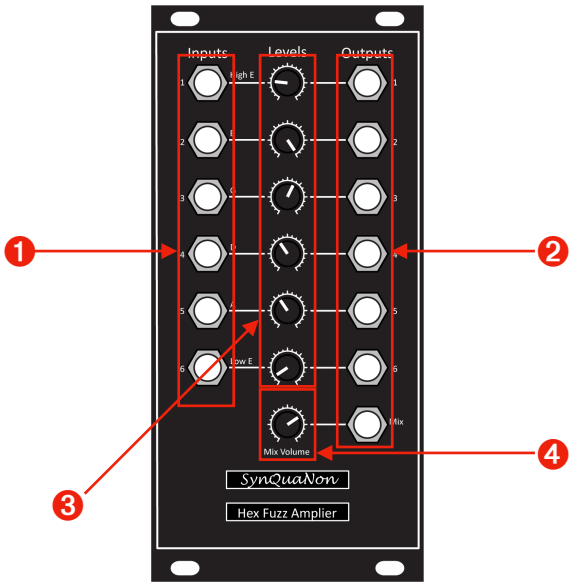
Hex Fuzz Amplifier

Introduction

Congratulations on your purchase of this SynQuaNon product! It is our belief 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.

Module front panel overview



❶ Inputs	DC-coupled audio inputs 1 - 6; accept +/- 12V signals.
❷ Outputs	DC-coupled audio outputs 1 - 7; up to +/- 12V signals.
❸ Gain controls	Individual potentiometers adjust gain from zero to maximum.
❹ Mix Volume	Adjusts gain of mix amplifier from unity to 10x.

Overview

The Hex Fuzz Amplifier module is quite versatile, creating a range of distortions from gentle overdrive to full-on fuzz.

The circuitry features op amp distortion and/or hard clipping with diodes. The diodes are user-customizable via plug-in headers on the back of the module. The module ships with a mix of Silicon and Germanium diodes (four per channel) as a starting point.

Gain controls allow you to adjust the gain from zero to full-scale in the amplified string outputs.

The six individual fuzz outputs are mixed together and presented as a seventh output. The output mixer amplifier has an adjustable gain of 1 - 10x (0 - 20dB)

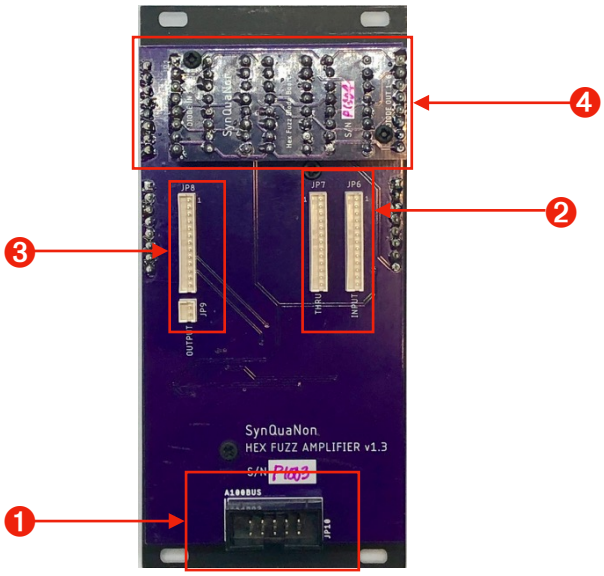
Ideal for guitar or bass single-string processing.

Hand-built in the USA.

Features

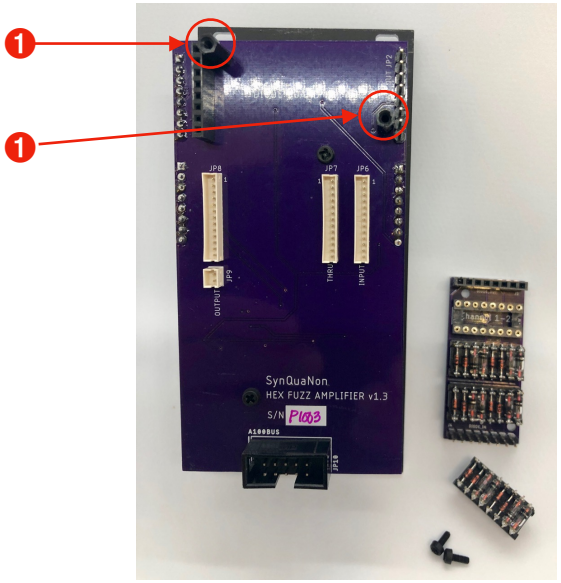
- User-customizable clipping diodes.
- Low-noise audio op-amps for optimal AC performance.
- Adjustable gain or attenuation to zero within each selected gain range. Output mixer with 0-20dB gain.
- SynQuaNon Bus audio input, through, and output headers on the back of the module. Input normalled to front panel jacks.
- Pairs well with 13-Pin Input Breakout, Hex VU Meter.

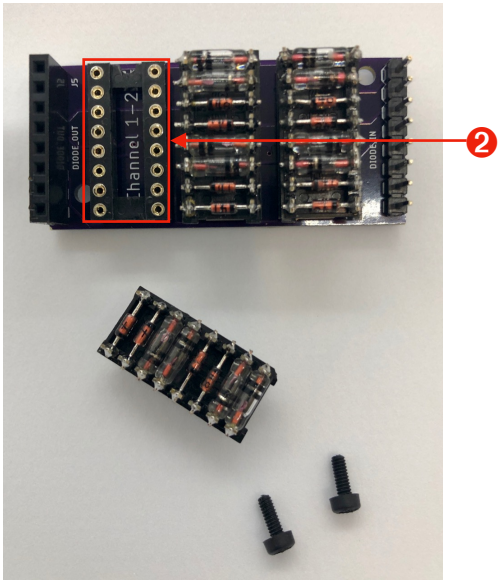
Module rear panel overview

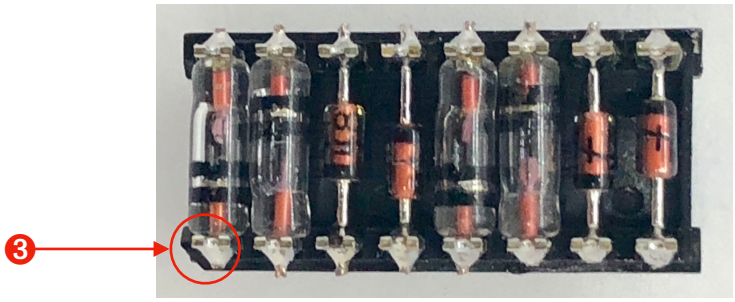


❶ A100 Bus	Keyed power connection with reverse polarity protection. Red stripe is on the left.
❷ Input and Through	SynQuaNon Audio Bus input connection for 6 inputs, normalled to panel input jacks. Through connector allows for module daisy-chaining.
❸ Output	Signals from output jacks are available on this header for patch cable-free connections to other SynQuaNon modules.
❹ Diode Module	Diode module carrier board.

Diode module overview







❶ Diode Module	Carefully remove the nylon screws and pull the Diode Module straight up to remove.
❷ Diode Carriers (3)	The three diode carriers are plugged into 16-pin IC sockets with labels for the channel pairs. Note the orientation of the IC sockets. Each carrier has two pairs of diodes for each channel. Note the alternating orientation. The two leftmost diodes are Germanium, followed by Silicon. Blank Aries Electronics 16-600-10 carriers may be obtained from Mouser or Digi-Key. Try other diodes or LEDs for tonal changes! For op amp distortion only, connect a wire between pins 1 & 16 and a wire between pins 5 & 12 only.
❸ Diode Carrier Notch	When reinstalling the diode carrier line this notch up with the IC socket end that has a circular cutout.

Technical Specifications + Downloads

Width	12 HP	Gain	66 dB (each channel)
Depth	41 mm		0 - 20 dB (mix volume)
Power	15 mA @ +12V		
	15 mA @ -12V		
	0 mA @ +5V	ModularGrid	Hex Fuzz Amplifier

Reverse power protection, resettable fuses, extensive power supply filtering.

Support

In case of difficulty:

1. Make sure power is available to the Eurorack and that it is turned ON.
2. Check the rear module power connection (turn OFF Eurorack power first)
3. Check patch cables for continuity or shorts.
4. Check level settings on front panel. Check gain select header on rear of module for proper gain range selection (turn OFF Eurorack power first).

For additional information please feel free to contact us at support@synquanon.com