A*B+C

USER MANUAL

3FACO

POWERING THE MODULE

THANKS FOR PURCHASING A MODULE FROM BEFACO!
BEFORE YOU PLUG THIS MODULE IN...

1. **Disconnect your system from the mains.**

2. **Triple check the power cord polarity.** The coloured line on the cable (pin number one) is the -12V rail.

3. If you connect the power supply to the module incorrectly you might burn it out and unfortunately this is not covered by the warranty.

4. If you have any questions about this product please send them to: befacosynth@gmail.com

INTRODUCTION

THE A*B+C IS A DUAL, FOUR-QUADRANT ANALOG MULTIPLIER WITH VC OFFSET.

Each section can perform the analog multiplication of two signals (A and B) and add an offset (C), allowing it to act as a dual voltage controlled attenuverter, dual ring modulator, dual VCA or four channel mixer .

The B inputs are routed to an attenuverter that multiplies the signal between -2 to 2, while the offset inputs (C) route through a unity gain attenuverter (multiplies the signal between -1 and 1). B and C inputs are normalised to 5v and 10v respectively, so the A inputs can be processed using just the potentiometers (see block diagram).

The output of the first section is normalized to the second one, so the second output can act as master to achieve (A1*B1+C1) + (A2*B2+C2).

- All inputs are DC Coupled.

- Attenuverters have exponential response.

- LEDs glow red when output is positive and green when negative.

TECHNICAL SPECIFICATION

- Current requirements: +12V: 40mA -12V: 40m.

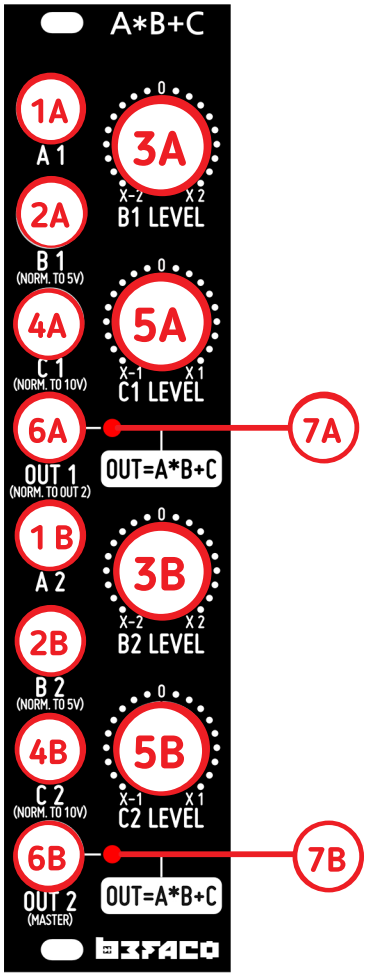
- Banana or mini-jack connectors available.

- 6 HP / 30 mm depth (including power connector).

- Signal-to-noise: 47dBu

MODULE REFERENCE

AN EXAMINATION AND DESCRIPTION OF THE VARIOUS FUNCTIONS OF THE MODULE



1A/B. A INPUTS

Inputs for the A channel. Can be audio or CV.

2A/B. B INPUTS

Inputs for the B channel. Can be audio or CV. This signal will be multiplied with signal in channel A.

Normalised to 5V.

3A/B. B INPUT ATTENUVERTER CONTROL

This knob controls the level of the attenuverter (attenuator-inverter) that applies to the B signal path before multiplication with channel A. The attenuverter sweeps from a multiplication factor of -2 to 2.

Attenuverter has an exponential response meaning the gain effect is more pronounced at the extremes.

4A/B. C INPUTS

Inputs for the C channel. This signal will be added to the signal in channel A.

Normalised to 10V.

5A/B. C INPUT ATTENUVERTER CONTROL

This knob controls the level of the attenuverter (attenuator-inverter) that applies to the C signal path before aqddition with channel A. The attenuverter sweeps from a multiplication factor of -1 to 1.

Attenuverter has an exponential response meaning the gain effect is more pronounced at the extreme

6A/B. OUTPUT

Output = A * B + C

7A/B. OUTPUT INDICATOR LEDS

LEDs glow red when output voltage is positive and green when output is negative.

BLOCK DIAGRAM | IMAGE SHOWING HOW THE VARIOUS PARTS OF THE MODULE INTERACT