BEFACO 520906 Morphader Quad Audio Module User Manual

MORPHER
USER MANUAL

Contents

POWERING THE MODULE

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

1. Disconnect your cabinet from the mains.
2. Triple-check the power cord polarity. The colored line on the cable (pin number one) is the -12V rail.

3. If you plug the module backward 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

Morpher is a performative tool designed to make multichannel CV and Audio crossfade easy and comfortable. Fading from one quad CV/audio scene to another.
The core of the module has four CV-controlled crossfaders, each with their individual control and a master fader to control them all. The module mixes the four crossfades at its fourth output, thanks to a clever normalization scheme. Each of them can be easily removed from the mix by plugging a cable at its own output.

MODULE REFERENCE

PANEL OVERVIEW
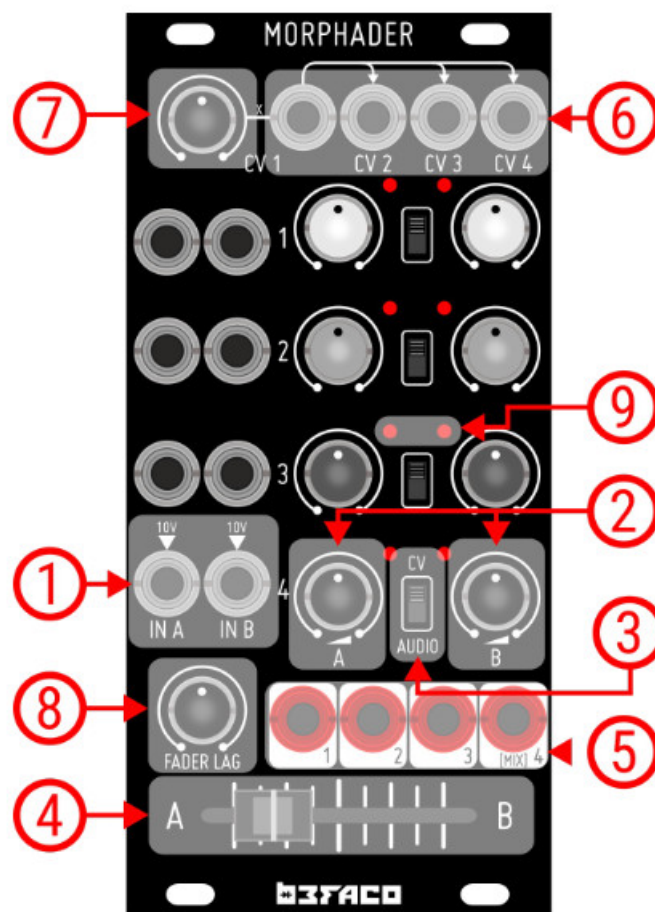
REFERENCE

1. A/B Inputs

   Main inputs of each crossfade channel. Any voltage between +/-10V is accepted. These inputs are normalized to 10V so the module can generate CV by itself when nothing is patched.

2. A/B Attenuators

   Attenuator controls for A/B Inputs. This controls the voltage present at the crossfade channel

3. CV or Audio Mode Selector

   Selects CV (linear) or Audio (equal power) behavior on the desired crossfade channel.

4. Master Crossfade Control

   This slider controls the A-B transition of all four crossfade channels at the same time. Channels with a CVsignal present at its CV Input won't be affected by this control.

5. 1-4 Outputs

   Outputs of every crossfade channel. With non of the rest of the outs patched, Output 4 works as a mix of all the channels.

6. 1-4 CV Inputs

   Control Inputs for each channel. By default, CV1 is normalized to the rest, but it will be replaced if an external CV signal is plugged at the desired input. The voltage range is 0-8V

7. CV1 Attenuator

   Attenuator control for the CV1 Input signal.

8. Fader Lag

   This pot will add some lag to the crossfade transition. It only affects the Master Crossfade Control.

   The time range is 0-15s

9. Crossfade Channel LED's

   Provides visual feedback of the crossfade position.

FUNCTIONAL STRUCTURE

Morpher is based on four pairs of signals (1- 4). Each pair has two inputs (A-B) that will morph from each other into its designed Output (crossfade). All this is controlled either by the main crossfade control or its own CV Input
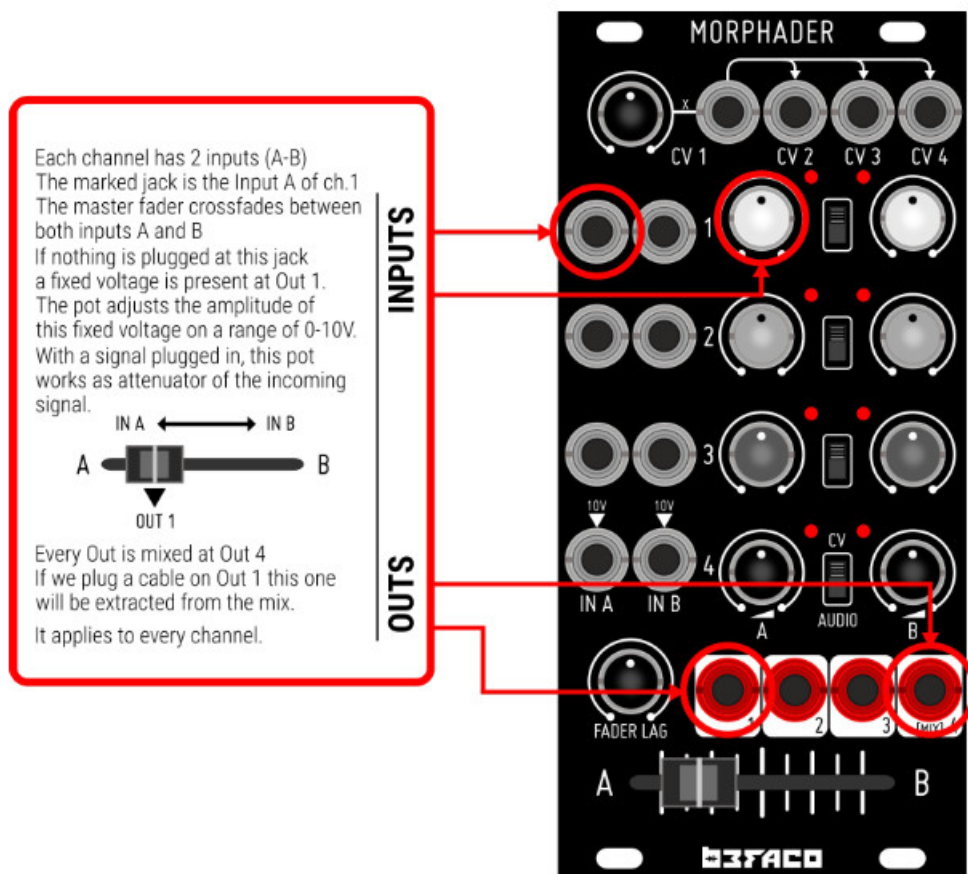All inputs are normalized to 10V, allowing it to fade from two fixed voltages selected with its attenuator.
Tip: you can make a fade between a signal and a fixed voltage if only one of the inputs is connected. This is quite interesting when working with CV signals as you can create transitions from a moving parameter to a fixed value and vice versa.
Outputs are all summed into the fourth output, allowing complex signal scenes to morph easily.
Each channel will be disconnected from this mix when a cable is plugged into that individual out.
The LEDs on each channel provide visual feedback of the crossfade position.

REFERENCE

Each channel has 2 inputs (A-B)
The marked jack is the Input A of ch.1
The master fader crossfades between
both inputs A and B
If nothing is plugged at this jack
a fixed voltage is present at Out 1.
The pot adjusts the amplitude of
this fixed voltage on a range of 0-10V.
With a signal plugged in, this pot
works as attenuator of the incoming
signal.

IN A ←——→ IN B

A ▬▬▬▭▬▬▬▬▬▬ B
▼
OUT 1

Every Out is mixed at Out 4
If we plug a cable on Out 1 this one
will be extracted from the mix.

It applies to every channel.

CV / AUDIO MODE

Each crossfade can work either for CV or audio signals. This can be selected independently for each one with the switch located between the attenuators.

In CV mode the transition between the signals is made linearly in order to preserve the original shape of the signals.

In Audio mode, the module makes the fade between the signals following an exponential crossfade shape, which is designed to maintain equal power of the signals during the transition.
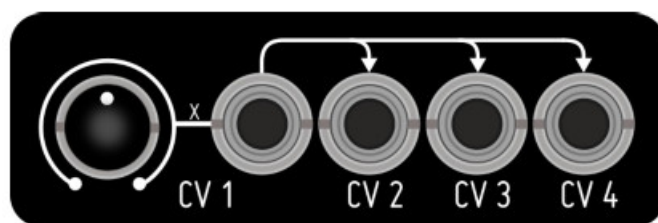
CV INPUTS

Morpher counts with four CV inputs, one for each crossfader channel.

With these inputs, the crossfade of each channel can be controlled with external CV signals (0-8V range).

By default, CV1 is normalized to the rest, but it will be replaced if an external CV signal is plugged at the desired input.

CV inputs from 2 to 4 will disconnect its related crossfade channels from the Master Crossfade Control. This won't affect CV1, as its value is summed to the Master Crossfade Control value.

MASTER CROSSFADE CONTROL

This slider controls the crossfade of all the channels at once.

Except for crossfade channel 1, it won't have any effect if a CV signal is present at the channel's CV Input.

The crossfade can be slewed via Fader Lag control, expanding the time to reach from A to B up to 15s. Pay attention that when Fader Lag is applied the transition will follow an exponential shape when fading from A to B and logarithmic when coming back from B to A which can affect slightly to the time perception of the transition depending on the type of signals present on the crossfade.
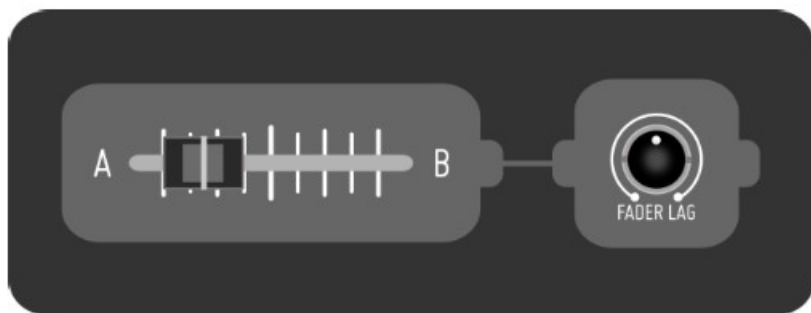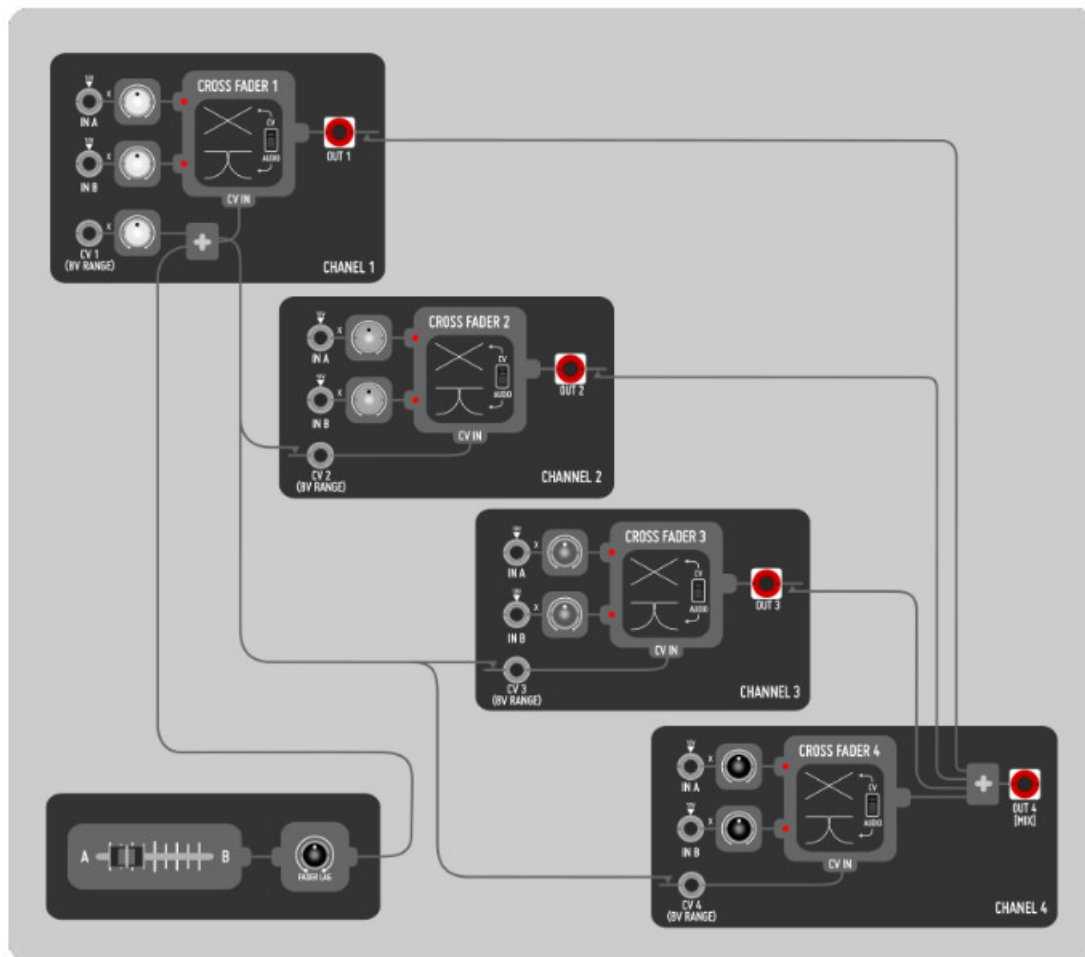
MISCELLANEA

SPECS & CREDITS

* Size: 12HP * Depth: 32mm * +12v: 50mA * -12v: 50mA	Designed with care and love by the Befaco Team. Thanks a lot to all beta testers and friends that tried the module and provided loads of valuable information!

BLOCK DIAGRAM

Documents / Resources

BEFACO 520906 Morphader Quad Audio Module [pdf] User Manual
520906 Morphader Quad Audio Module, 520906, Morphader Quad Audio Module