

Morphor[®]

**Ensemble
Analogue 8 Voice BBD Chorus**

Table of Contents

Table of Contents	1
Warranty	2
Package Contents	3
Safety Instructions	3
Conformity	3
Installation	4
Introduction	5
Module overview	6
Principle	6
Controls & Connections	7
Technical Specifications	8
Support	8
Module Revision History	8
Manual Version	8

Warranty

THIS PRODUCT IS COVERED BY MORPHOR'S LIMITED WARRANTY, FOR TWO YEARS FOLLOWING THE DATE OF PURCHASE (PROOF OF PURCHASE/INVOICE REQUIRED).
THIS WARRANTY COVERS ANY DEFECT IN THE MANUFACTURING OF THIS PRODUCT.

THIS WARRANTY DOES NOT COVER ANY DAMAGE OR MALFUNCTION CAUSED BY INCORRECT USE - SUCH AS, BUT NOT LIMITED TO: POWER CABLES CONNECTED BACKWARDS, WRONG POWER SUPPLY VOLTAGES, BACKWARDS OR REVERSED EURORACK BUS BOARD CABLE CONNECTION, EXCESSIVE VOLTAGE LEVELS, ABUSE OF THE PRODUCT, REMOVING KNOBS, CHANGING FACE PLATES, EXPOSURE TO EXTREME TEMPERATURE OR MOISTURE LEVELS, OR ANY OTHER CAUSES DETERMINED BY MORPHOR TO BE THE FAULT OF THE USER ARE NOT COVERED BY THIS WARRANTY, AND NORMAL SERVICE RATES WILL APPLY.

THE WARRANTY COVERS REPLACEMENT OR REPAIR, AS DECIDED BY MORPHOR. PLEASE CONTACT OUR CUSTOMER SERVICE (SUPPORT@MORPHOR.IO) FOR A RETURN AUTHORIZATION BEFORE SENDING THE MODULE. THE COST OF SENDING A MODULE BACK FOR SERVICING IS PAID FOR BY THE CUSTOMER. CHANGES AND/OR MODIFICATIONS TO THE MODULE NOT APPROVED BY MORPHOR COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THE INSTRUMENT IS TO BE SHIPPED IN THE ORIGINAL PACKAGING ONLY. ANY INSTRUMENT SHIPPED TO US FOR RETURN, EXCHANGE, WARRANTY REPAIR, UPDATE OR EXAMINATION HAS TO BE IN ITS ORIGINAL PACKAGING! ALL OTHER DELIVERIES WILL BE REJECTED. THEREFORE, MAKE SURE YOU KEEP THE ORIGINAL PACKAGING AND TECHNICAL DOCUMENTATION.

PLEASE FOLLOW THE INSTRUCTIONS FOR USE OF THE INSTRUMENT CAREFULLY BECAUSE THIS WILL GUARANTEE PROPER OPERATION OF THE INSTRUMENT. DUE TO THE FACT THAT THESE INSTRUCTIONS TOUCH ON PRODUCT LIABILITY, IT IS ABSOLUTELY IMPERATIVE THAT THEY BE READ CAREFULLY. ANY CLAIM FOR DEFECT WILL BE REJECTED IF ONE OR MORE OF THE ITEMS HAS NOT BEEN OBSERVED. DISREGARD OF THE INSTRUCTIONS CAN VOID THE TWO YEARS COVERED BY WARRANTY.

Package Contents

In the Morphor Ensemble box you will find:

- The Morphor Ensemble module itself
- A 16-to-16-pin Eurorack power cable (already plugged in)
- 4 high-quality thumb screws
- An original Morphor brand sticker

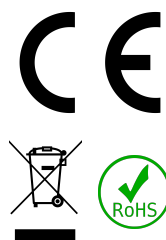
If any of the above items is missing, please contact your dealer or send an email to support@morphor.io.

Safety Instructions

- I. Never use the instrument in a humid or wet environment, nor near flammable goods. The instrument must never be operated outdoors but solely in dry rooms.
- II. No liquids or conducting substances must get into the instrument. Should this be the case, the instrument is to be disconnected from mains power immediately and examined, cleaned and possibly repaired by a qualified technician.
- III. Never expose the instrument to temperatures above +50° C or below -10° C. Before operation, the instrument should have a temperature of at least 10° C. Do not expose the instrument to direct sunlight. Do not install the instrument near heat sources like heaters, open fire places, central heating etc. Keep the top of the instrument clear in order to allow proper ventilation, otherwise the instrument could eventually overheat.
- IV. Never place heavy objects on the instrument.
- V. Transport the instrument carefully, never let it drop or fall over. Make sure that during transport and in use the instrument is supported properly and cannot drop, slip or fall over because people might get injured.
- VI. The instrument may only be used for the purpose described in this operating manual. Due to safety reasons, the instrument must never be used for other purposes.

Conformity

This device meets the requirements of the following standards and/or directives: 2014/30/EU, 2014/35/EU, 2009/125/EC, 2011/65/EU, 2012/19/EU, EN 60065, EN 55032, EN 55035. Please refer to the online Declaration of Conformity for detailed information regarding compliance.



Installation

Before you start

Morphor modules are designed to be used with an Eurorack-compatible case and power supply. We recommend you to use a case with an adequate high-quality power supply. Before installing the module in your case, you must ensure your power supply has a free Eurorack standard PSU connector (2x8 pin header connector) and sufficient available capacity to power the module:

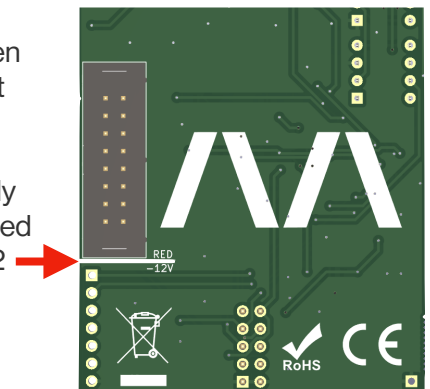
1. Make a separate sum of the +12 V, -12 V and +5 V maximum current draws respectively for all your modules, including the new one. The maximum current draw is specified in the manufacturer's technical specifications for each module. You can use a tool like [ModularGrid](#) to help you calculate the total values for your case.
2. Compare each of these sums to the specifications of your case's power supply.
3. Proceed only with the installation if none of the total values exceeds the power supply's specifications. Otherwise you must remove some modules to free up some capacity or upgrade your power supply to allow more capacity in your case. If you do not adequately power your modules, it may result in damage to your modules or power supply. If you are unsure, please contact us before proceeding.
4. Make sure your case has enough free space (HP) to fit the new module. To prevent screws or other debris from falling into the case and shorting any electrical contacts, do not leave gaps between adjacent modules, and cover all unused areas with blank panels. Similarly, do not use open frames or any other enclosure that exposes the backside of any module or the power distribution board.

Installing your module

Always turn off the power to the case and disconnect the power cable when installing or removing a module from your case to avoid injury or equipment damage.

The Morphor Ensemble uses the -12 V and the +12 V rail of the power supply (using a standard Eurorack 2x8 pin connector). The red stripe of the included ribbon cable (-12 V side) must be oriented on the same side as the “RED -12 V” marking on the module and on your Eurorack power distribution board.

The module draws a maximum current of 110 mA from the +12 V rail and maximum 80 mA from the -12 V rail.



Example rear side of a module



Introduction

Dive into the essence of analog warmth with the Morphor Ensemble, your gateway to an expansive sonic landscape.

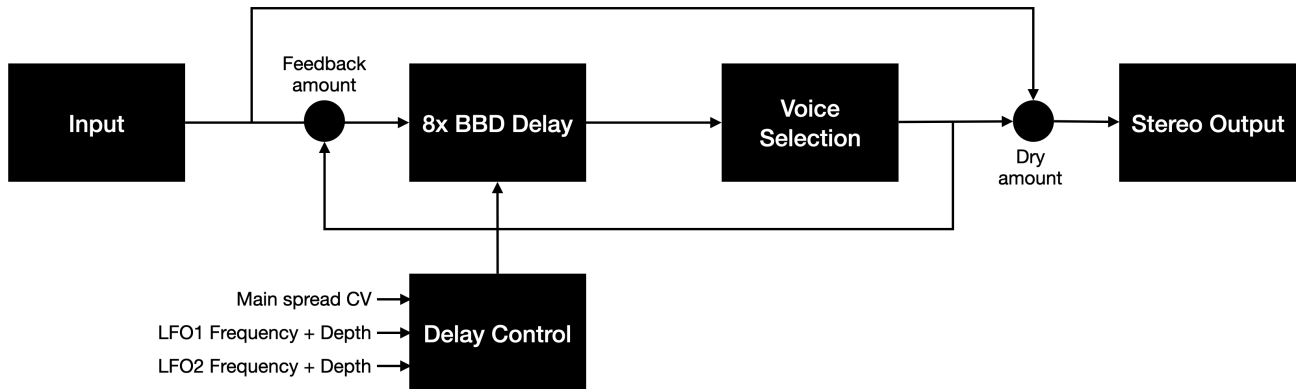
This 8-voice chorus effect module isn't just a piece of hardware; it's an invitation to explore the depths of sound with a fully analog signal path powered by eight BBD (Bucket Brigade Delay) devices. These iconic components are revered for their distinctive charm, promising to infuse your music with the rich, luscious tones that digital just can't replicate.

Beyond its core, the Morphor Ensemble boasts an array of features designed to ignite your creativity. With the ability to select the number of active voices, adjust the spread and feedback through CV control, it offers unprecedented flexibility. Twin LFOs, each with its unique range and modulation capabilities, work in tandem with a dry signal mixer, opening the door to everything from subtle texture enhancements to mind-bending sonic transformations.

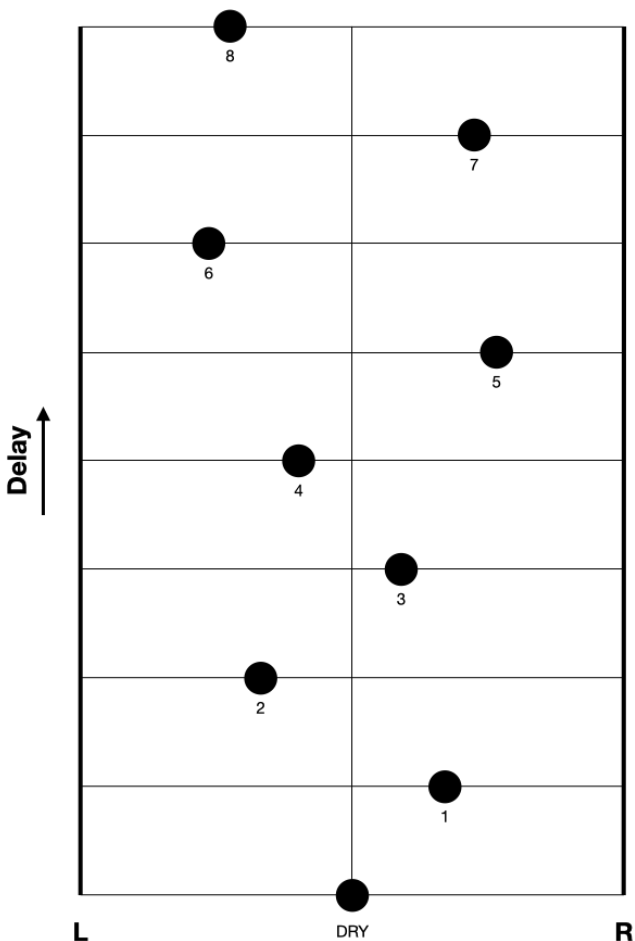
Whether you're a purist seeking the genuine analog experience or a sonic adventurer hungry for the next auditory frontier, the Morphor Ensemble stands ready.

Happy morphing!

Module overview



Principle

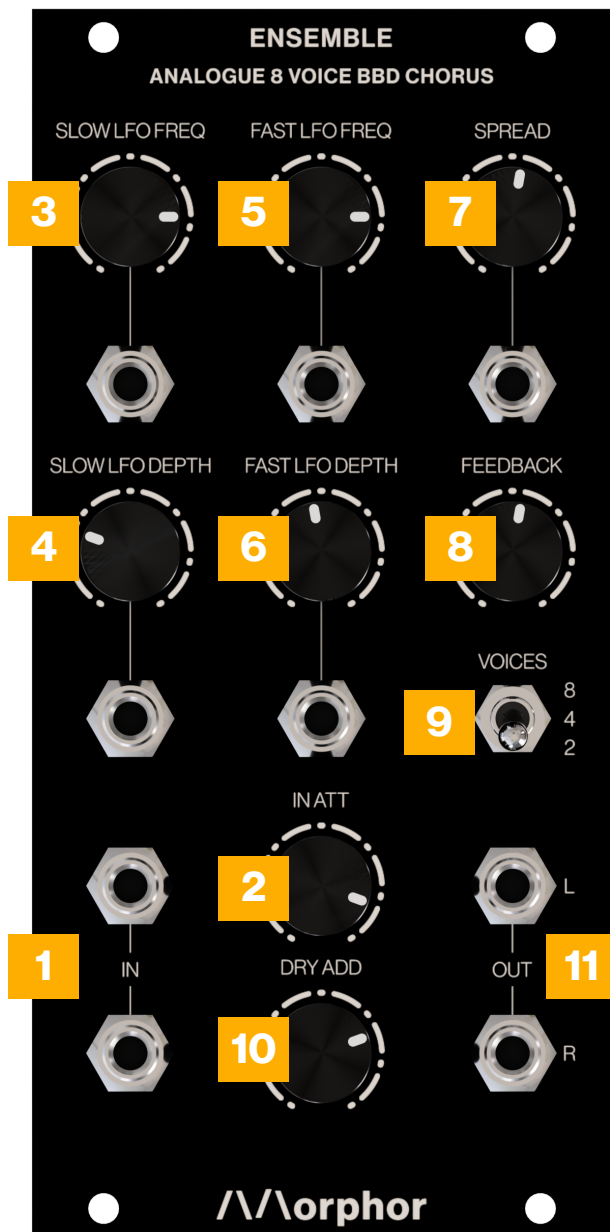


The ensemble effect creates a similar effect of many voices playing in unison. The module achieves this by playing delayed copies of the original signal. The different voices are spread out over the left and right channel in the configuration shown in the figure. This way an impressive stereo effect is created, truly bringing your sound to life.

The amount of voices can be selected with options for voice 3+4, the first 4 or all voices active. The dry signal can be added to the output with an adjustable amount.

By modulating the delay-time between the voices and the overall feedback interesting effects can be created. Phase interactions introduce 'comb filter'-like effects and vibrato can greatly humanize any sound.

Controls & Connections



MONO INPUT(S) [1]

Insert your mono audio signal(s) here. If using more than 1 input, both signals are summed together.

INPUT ATTENUATION [2]

Use this attenuator for the input signal(s).

SLOW LFO 1 [3+4]

Upgrade the chorus effect by adding some more variation in the delay times with this built-in (triangle) LFO. The frequency [3] and depth [4] of this delay modulation can each be adjusted with a knob and bipolar CV jack (-5 V , +5V).

The frequency of this slow LFO ranges from 0 to 5Hz. This type of modulation is perfect for vibrato effects.

FAST LFO 2 [5+6]

This second faster LFO has the same controls as the slow one but with a frequency range of 0 to 20Hz.

SPREAD [7]

Change the delay times between the eight voices to create a broad range of effects. Slightly broaden your sound or go all out with phase cancellation. The spread can be adjusted through a knob and an additional bipolar CV jack (-5 V , +5V).

FEEDBACK [8]

Add an adjustable amount of feedback to the signal path to generate reverberation effects.

VOICE AMOUNT SELECTION [9]

In addition to the dry voice you can choose to add a variable amount of voices with this switch. Add 2 or 4 voices or go for the full ensemble effect with 8 voices.

DRY AMOUNT [10]

The amount of dry signal mixed into the final output.

STEREO OUTPUT [11]

The chorus effect audio output signal, with fixed panoramic spread. If the right output jack is not plugged in, all voices are summed to a mono signal on the left channel output.

Technical Specifications

module width	12 HP (60.6 mm)
module height	3 U (128.5 mm)
module maximum depth (incl. power cable)	40 mm
module mass	167 g
maximum current draw	110 mA @ +12 V 80 mA @ -12 V
input impedances	100 kOhm
output impedances	1 kOhm
front panel	2 mm anodized aluminum

Support

To provide the best possible performance with the highest quality and reliability for music professionals, all Morphor's products are designed, manufactured and tested in-house with the highest possible standards. In case your module is not functioning as it should, make sure to check your Eurorack power supply and all connections first.

If the problem persists, contact your dealer or send an email to support@morphor.io. Please mention your serial number, which can be found on the module's rear side.

Module Revision History

Revision 1.0 - initial release

Manual Version

04/05/2023 - initial release

28/03/2024 - fix typo's, update descriptions

<https://www.morphor.io>



Designed & made in Belgium