CORSYNTH

C106 DUAL LOOPABLE VC AD ENVELOPE & MORE

USER MANUAL

C106 DUAL LOOPABLE VC AD ENVELOPE & MORE

The **C106 Dual Loopable VC AD Envelope & more** it's a really versatile module. It's not only a Dual Voltage Controlled Attack / Decay envelope, it's also a dual VC LFO, an audio generator, a complex contour generator, a dual pulse delay, a voltage controlled AD envelope with adjustable delay and more….

The core of this module are two loopable voltage controlled Attack / Decay envelopes that can be interconnected in different ways to create different functions.

Connection modes:

1 - Two independent Attack / Decay envelopes (single shot or looping)

2 - Envelope A triggers the Envelope B after reach the end of the Attack phase

3 - Envelope A triggers the Envelope B after reach the end of the Decay phase

4 - Envelope B triggers the Envelope A after reach the end of the Decay phase

5 - Envelope A triggers the Envelope B after reach the end of the Attack phase and Envelope B triggers Envelope A after reach the end of the Decay phase

6 - Envelope A triggers the Envelope B after reach the end of the Decay phase and Envelope B triggers Envelope A after reach the end of the Decay phase

Each envelope has four manual controls, Attack/Decay time and Attack/Decay shape, continuously variable from exponential to logarithmic. The A/D times can be voltage controlled using the three available modulation inputs, one for the Attack time, one for the Decay time and one that controls the Attack and Decay times simultaneously.

Attack / Decay times without voltage control:

Exponential Attack : from 0.5 ms to 7.5 s

Logarithmic Attack : from 5.5 ms to 68 s

Exponential Decay : from 4 ms to 10 s

Logarithmic Decay : from 37 ms to 94 s

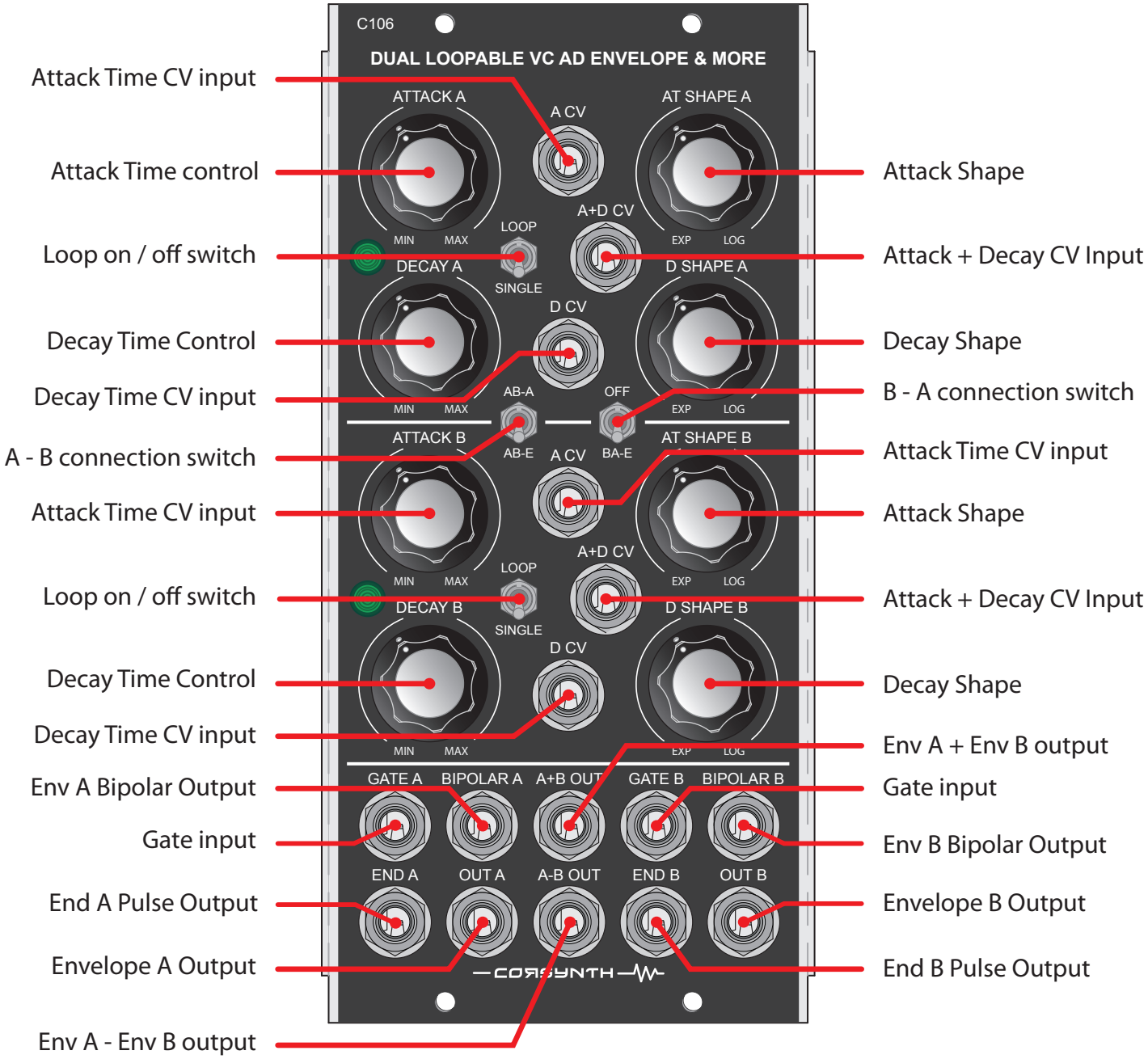
Each envelope has an envelope output (0 to 5V), a bipolar output (+/-5V), an END pulse output (outputs a short pulse every time the envelope reach the end of the Decay stage) and a gate/trigger input.

There are also another two common outputs with special functions :

A+B output: outputs the addition of the Envelope A and Envelope B. This function is really useful to create complex envelopes.

A-B output: outputs the subtraction of the Envelope A and Envelope B. Using this output you can get inverted envelopes, complex waveforms…

C106 Dual Loopable VC AD Envelope & More Front Panel Description



CONTROL DESCRIPTION

ATTACK A

This control sets the **Attack Time** of the Envelope A. The total Attack time is also dependent on the Attack Shape and the Attack CV.

Attack times without voltage control:

Exponential Attack : from 0.5 ms to 7.5 s
Logarithmic Attack : from 5.5 ms to 68 s

AT SHAPE A

This control defines the **Envelope A Attack curve** . The Attack Shape is continuously variable from exponential to logarithmic.

DECAY A

This control sets the **Decay Time** of the Envelope A. The total Decay time is also dependent on the Decay Shape and the Decay CV.

Decay times without voltage control:

Exponential Decay : from 4 ms to 10 s
Logarithmic Decay : from 37 ms to 94 s

D SHAPE A

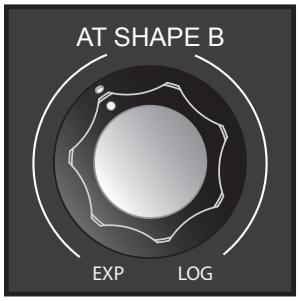
This control sets the **Envelope A Decay curve** . The Decay Shape is continuously variable from exponential to logarithmic.

ATTACK B

This control sets the **Attack Time** of the Envelope B. The total Attack time is also dependent on the Attack Shape and the Attack CV.

Attack times without voltage control:

Exponential Attack : from 0.5 ms to 7.5 s
Logarithmic Attack : from 5.5 ms to 68 s



AT SHAPE B

This control defines the **Envelope B Attack curve** . The Attack Shape is continuously variable from exponential to logarithmic.

DECAY B

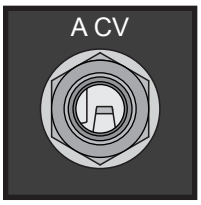
This control sets the **Decay Time** of the Envelope B. The total Decay time is also dependent on the Decay Shape and the Decay CV.

Decay times without voltage control:

Exponential Decay : from 4 ms to 10 s
Logarithmic Decay : from 37 ms to 94 s

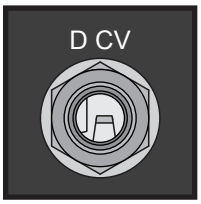
D SHAPE B

This control sets the **Envelope B Decay curve** . The Decay Shape is continuously variable from exponential to logarithmic.



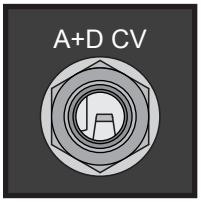
A CV (Envelope B)

Attack Time CV input. This signal is added to the Attack Time set by the Attack B potentiometer. This input accepts positive and negative signals (+/- 5V). A positive signal results in longer attack times and a negative signal results in shorter attack times.



D CV (Envelope B)

Decay Time CV input. This signal is added to the Decay Time set by the **Decay B** potentiometer. This input accepts positive and negative signals (+/- 5V). A positive signal results in longer decay times and a negative signal results in shorter decay times.



A+D CV (Envelope B)

Attack and Decay Time CV input. This signal is added to the Attack/ Decay Time set by the **Attack B and Decay B** potentiometers. This input accepts positive and negative signals (+/- 5V). A positive signal results in longer attack/decay times and a negative signal results in shorter attack/decay times.

LOOP ON/OFF SWITCH (Envelope B)

Loop mode: After reach the end of the Decay phase the envelope restarts automatically.

Single Shot mode: After reach the end of the Decay phase the envelope remain at 0 Volts until another trigger/gate signal is received.

GATE A

Envelope A Gate input. This input is used to starts the envelope. The envelope is a AD type so it doesn't matter if the signal received is a gate or a trigger. The envelope can be re-triggered at every moment of the Decay phase, if a Gate/Trigger signal is received during the Attack phase this signal will be ignored.

END A

End of Envelope A Pulse Out. A short pulse will be delivered every time the Envelope A reach the end of the Decay Phase. This pulse can be used to trigger envelopes, restart LFOs ....

ENVELOPE A BIPOLAR OUTPUT

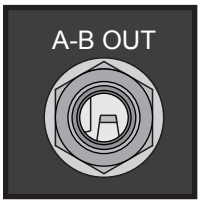
This output provides a bipolar version (+/-5V) of the Envelope A . This signal can be used as VC LFO, Audio Generator or even adding offset as 10Vpp envelope. If no envelope signal is pressent, this output will remain at -5V so it can be use as voltage source.

ENVELOPE A OUTPUT

Envelope A output

ENVELOPE A + ENVELOPE B OUTPUT

Outputs the addition of the Envelope A and Envelope B. This function is really useful to create complex envelopes.

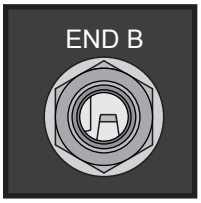


ENVELOPE A - ENVELOPE B OUTPUT

Outputs the subtraction of the Envelope A and Envelope B. Using this output you can get inverted envelopes, complex waveforms that can be used as modulation source or audio source...

GATE B

Envelope B Gate input. This input is used to starts the envelope. The envelope is a AD type so it doesn't matter if the signal received is a gate or a trigger. The envelope can be re-triggered at every moment of the Decay phase, if a Gate/Trigger signal is received during the Attack phase this signal will be ignored.

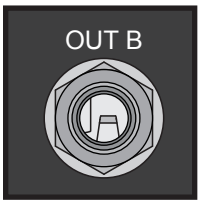


END B

End of Envelope B Pulse Out. A short pulse will be delivered every time the Envelope B reach the end of the Decay Phase. This pulse can be used to trigger envelopes, restart LFOs ....

ENVELOPE B BIPULAR OUTPUT

This output provides a bipolar version (+/-5V) of the Envelope B . This signal can be used as VC LFO, Audio Generator or even adding offset as 10Vpp envelope. If no envelope signal is pressent, this output will remain at -5V so it can be use as voltage source.

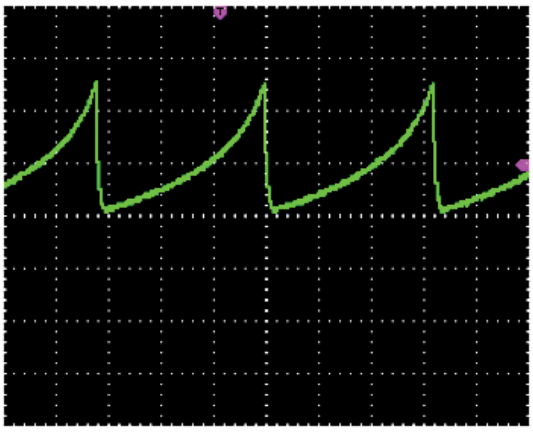


ENVELOPE B OUTPUT

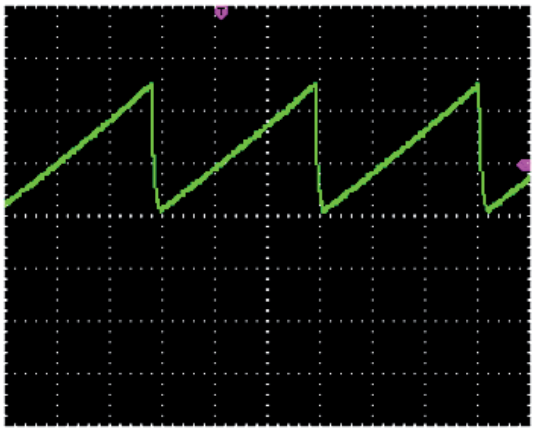
Envelope B output

ATTACK / DECAY RESPONSE CURVE

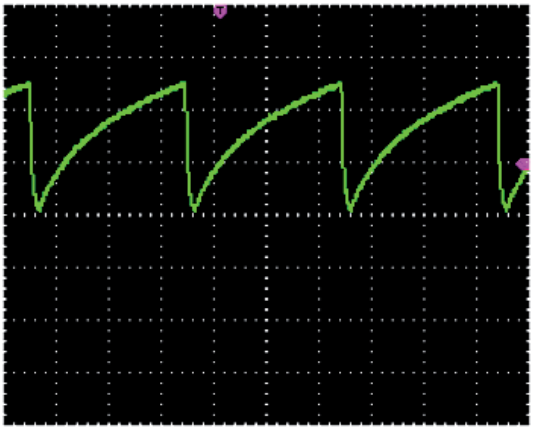
Exponential Attack



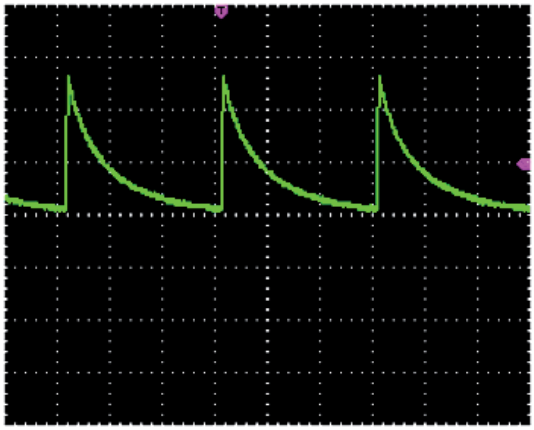
Linear Attack



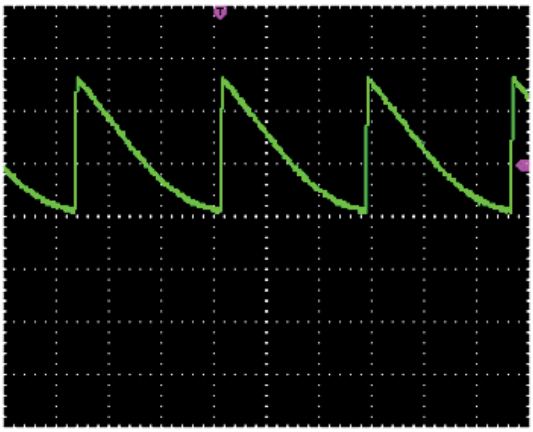
Logarithmic Attack



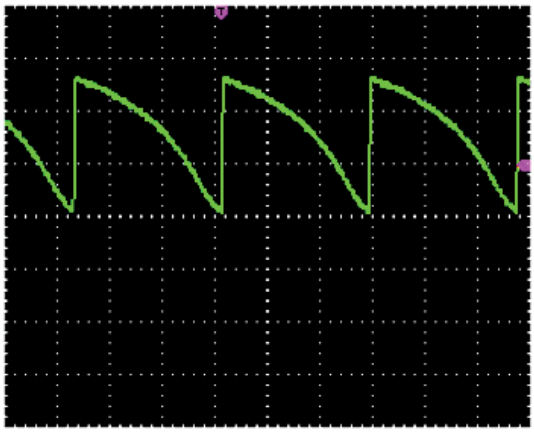
Exponential Decay



Linear Decay

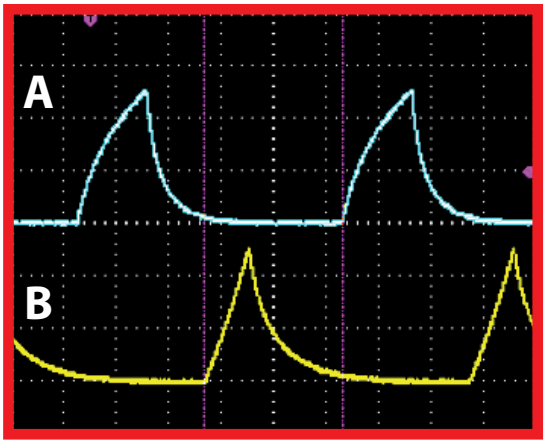


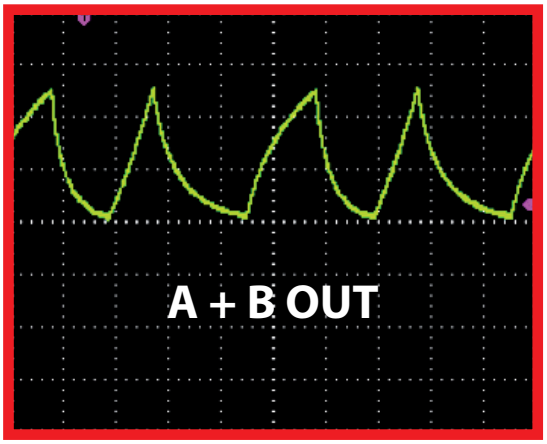
Logarithmic Decay

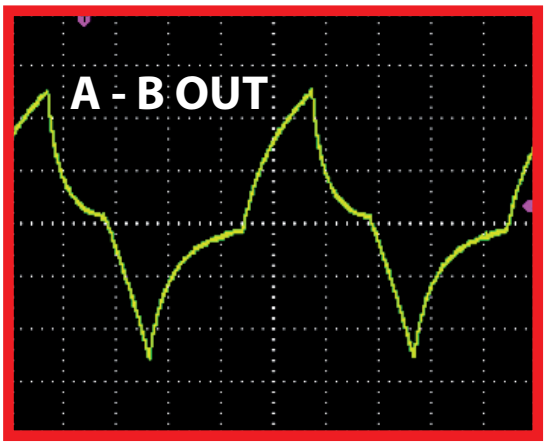


CONNECTION EXAMPLES

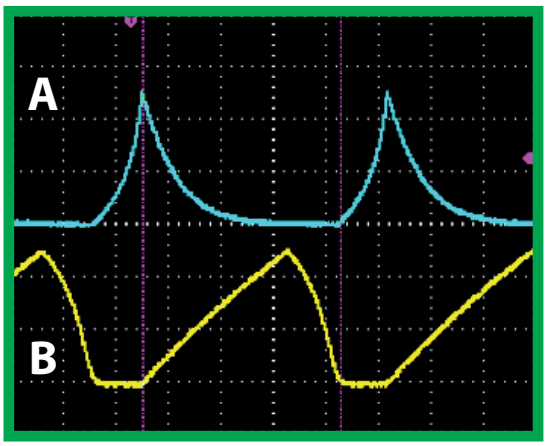
AB-E MODE + BA-E MODE

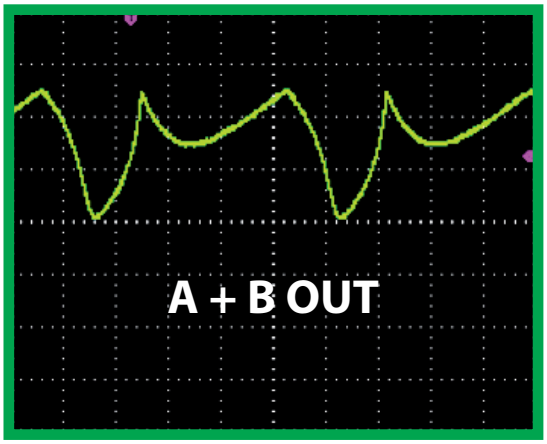


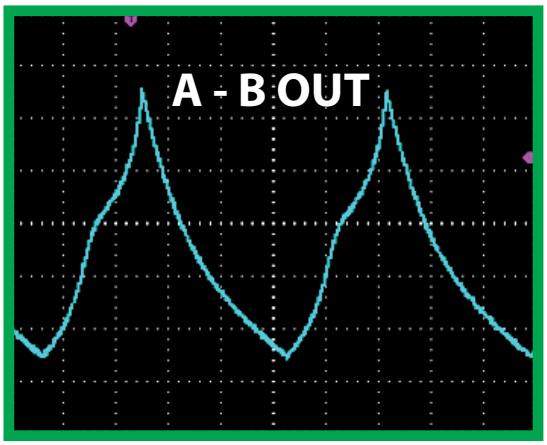




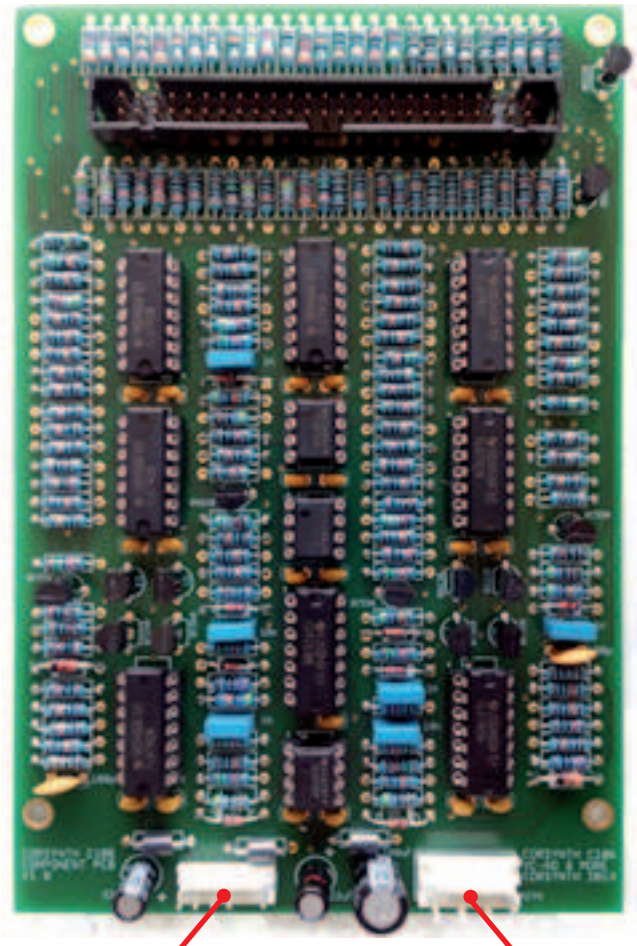
AB-A MODE + BA-E MODE



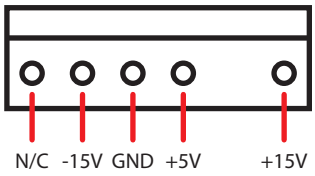




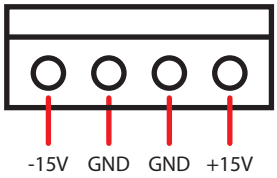
POWER CONNECTORS



Synthesizers.com



MOTM



IMPORTANT !!!!

This module has two power connectors (Synthesizers.com and MOTM). Only one is needed to power the module. (Synthesizers.com or MOTM).

Never connect both at the same time.

Synthesizers.com power connector

MOTM power connector

TECHNICAL DATA

Module Format : 5U, MU format (Synthesizers.com, Moog)
Module Width : 2 MU (Moog unit)
Module Depth : 56 mm (2,2 inches)
Power : +15V@67mA , -15V@68mA
Power connectors : Synthesizers.com , MOTM (4 pin)
Signal level : Envelope 5Vpp (0V / +5V) , Bipolar 10Vpp (+/- 5V)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CORSYNTH