

ADDAC System

ADDAC208 COMPARATOR & RECTIFIERS
USER'S GUIDE

Welcome to:

ADDAC208 COMPARATOR & RECTIFIERS USER'S GUIDE

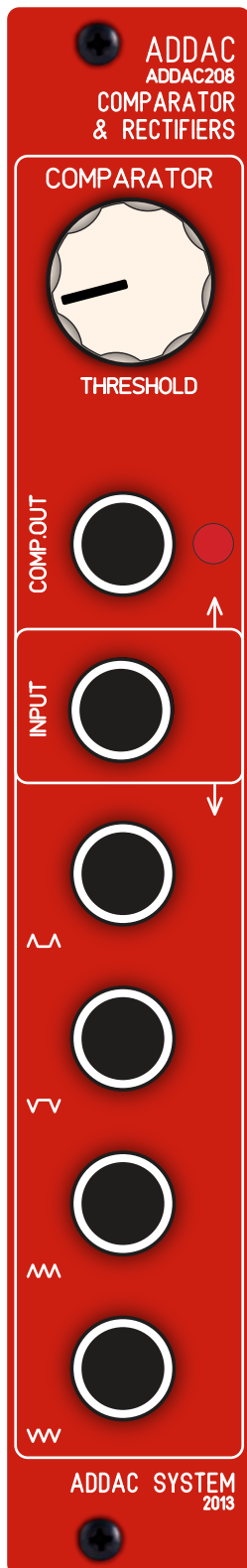
Revision.01 July,2013

PAGE INDEX

- 3. OVERVIEW
- 5. COMPARATOR SECTION
- 6. RECTIFIERS SECTION
- 7. TECH SPECS

ADDAC208 COMPARATOR & RECTIFIERS USER'S GUIDE

Revision.01 July.2013



OVERVIEW

DESCRIPTION:

A Comparator is an electronic circuit that compares two voltages and switches its output to indicate which is larger.

A Rectifier is an electronic circuit that is used to transform AC signals to an equivalent DC signal while removing one of its polarities, i.e. Positive rectification excludes negative signals and vice-versa.

Both sections can be used to change the shape of any waveform as well as its harmonic content.

FRONTPANEL:

- 1 Comparator Threshold Knob
- 1 Comparator Jack Output
- 2 Comparator Monitor Led
- 1 Common Signal Jack Input
- 4 Rectificated Outputs

FEATURES:

- 4HP totally analog module.
- Comparator with Threshold Knob
- 4 Precision Rectificated Outputs:
 - Positive Half Rectification
 - Positive Full Rectification
 - Negative Half Rectification
 - Negative Full Rectification

EXTRA FEATURES/ APPLICATIONS:

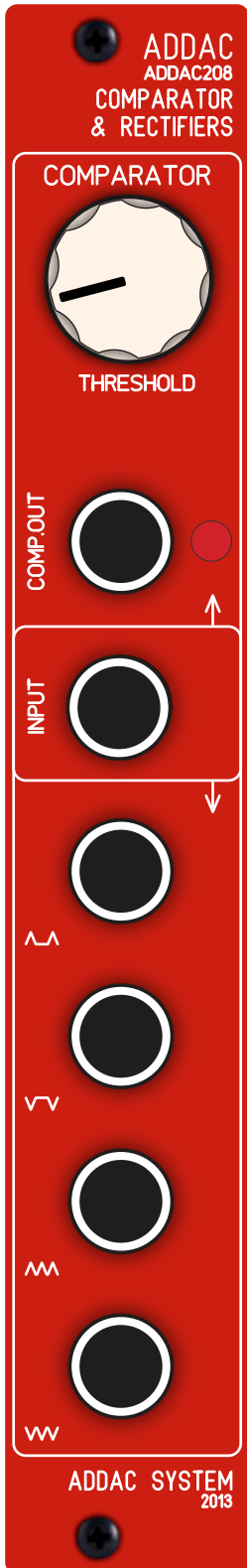
Comparator can be used with VCO's to create a Square Wave with PWM control

Comparator can also be used with complex audio signals for a "Fuzz" effect.

Full Rectification can be used to double a VCO frequency.

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Revision.01 July.2013



COMPARATOR

The Comparator Section operates between -10 or +10V.
Threshold is used to set the transition level also between $\pm 10V$.

The Output is always -10V if below Threshold and +10V if above Threshold.

INPUT

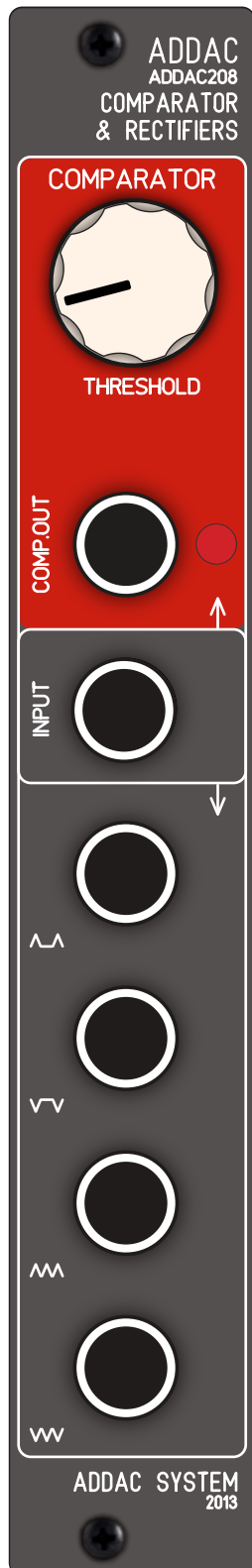
The Input jack allows any signal Audio or CV to be used.
The input signal is shared by both the Comparator and Rectifiers circuits.

RECTIFIERS

The small drawing illustrates the rectification type.

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Revision.01 July.2013



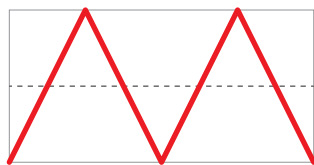
COMPARATOR SECTION

Here's some illustrations of the Comparator working method.

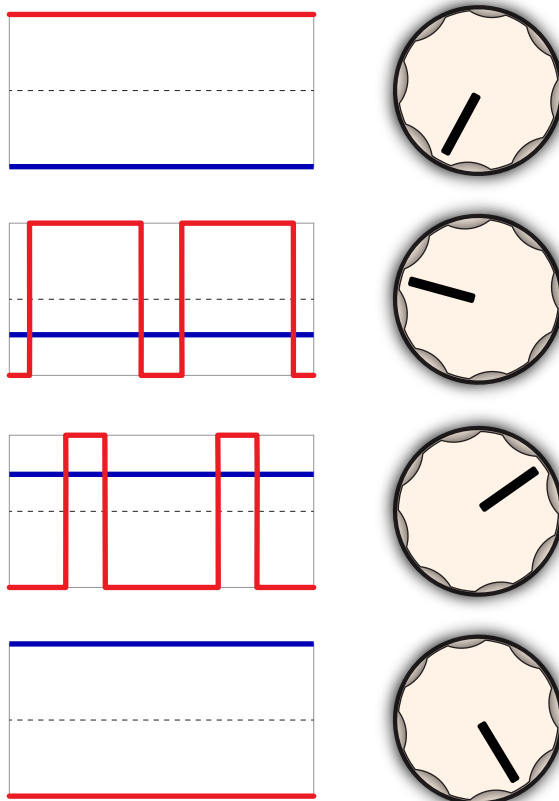
This section is extremely effective in generating a square wave with PWM control from a single waveform.

With more complex Audio signals this section will drastically change the harmonic properties of the source input creating a Fuzz like effect.

INPUT SIGNAL

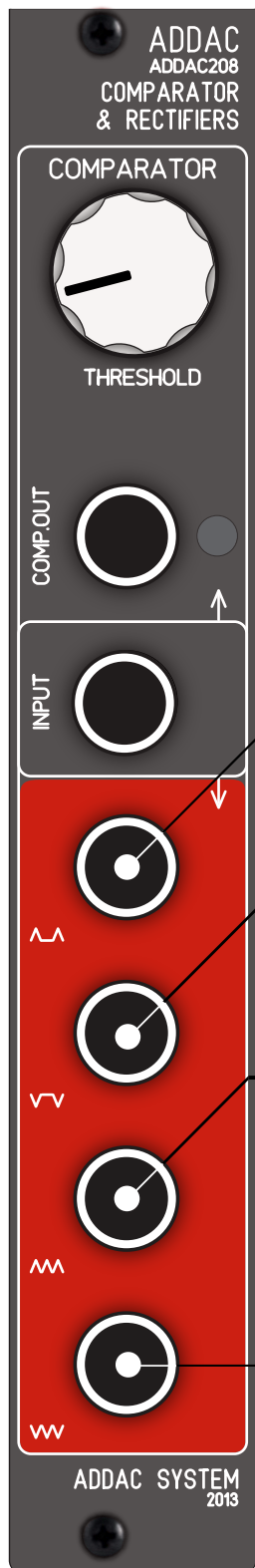


COMPARATOR OUTPUT



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Revision.01 July.2013

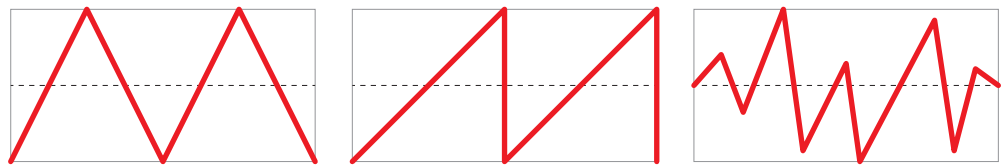


RECTIFIERS SECTION

Here's some illustrations of the Rectifiers working method.

Full Rectification is extremely effective in doubling any single frequency.

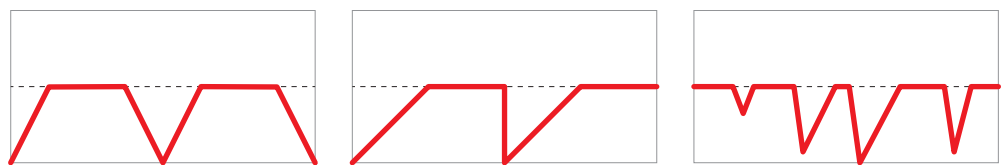
INPUT SIGNALS



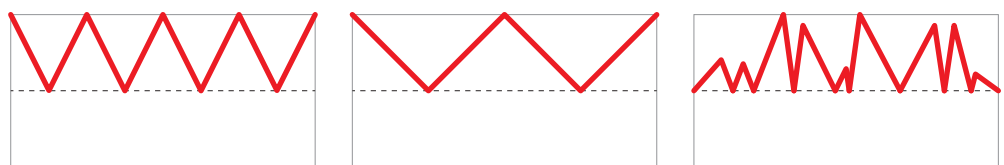
POSITIVE HALF RECTIFICATION



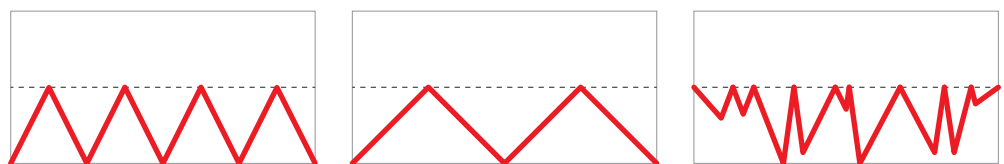
NEGATIVE HALF RECTIFICATION



POSITIVE FULL RECTIFICATION

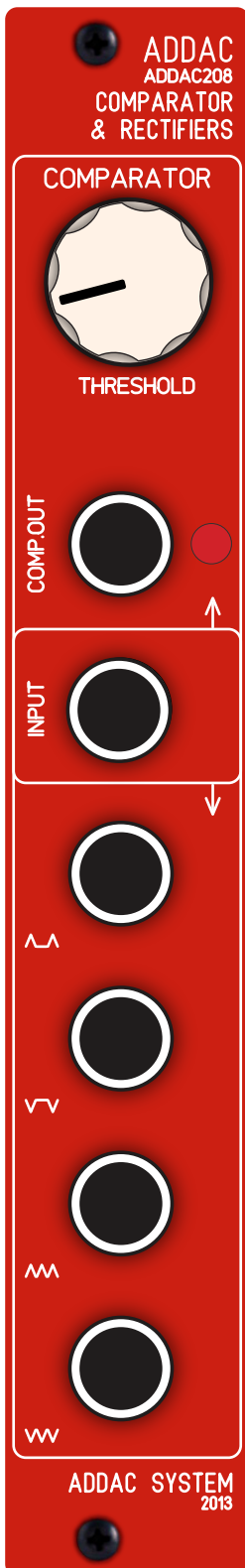


NEGATIVE FULL RECTIFICATION



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Revision.01 July.2013



TECH SPECS

MECHANICAL:

Format: Eurorack
Width: 4 HP
Depth: 2.5 cm

CONTROL VOLTAGE I/O:

CV inputs: $\pm 10\text{v}$
CV outputs: $\pm 10\text{v}$

ELECTRICAL:

Max current: 30mA
Compatible with +12v and +15v power supplies
Bus Board Cable: 8 × 2 IDC (Doepfer style) connector