

# 2hp – 3 to 1

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- [Manual PDF](#)
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## [Download the 2hp 3:1 Manual \(PDF\)](#)

(Replace with actual PDF link as needed; the manual pages are in your screenshots.)

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# 2hp 3:1 Cheat Sheet

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## Overview

- 3:1 is a voltage-controlled gate switch.
  - Routes one of three gate/trigger inputs to a single output, or sums multiple gates for **polyrhythms**.
  - Has both **selective switching** and **gate summing** (mixing) modes.
  - Voltage control over input selection enables creative rhythmic patching.
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## Panel Reference

#	Label	Type	Function	Voltage Range
1	<b>IN 1</b>	Input Jack	Gate/Trigger Input Channel 1	Threshold 2.5V
2	IN 1 LED	LED	Indicates IN 1 is selected	—

#	Label	Type	Function	Voltage Range
3	<b>IN 2</b>	Input Jack	Gate/Trigger Input Channel 2	Threshold 2.5V
4	<b>IN 2 LED</b>	LED	Indicates IN 2 is selected	—
5	<b>IN 3</b>	Input Jack	Gate/Trigger Input Channel 3	Threshold 2.5V
6	<b>IN 3 LED</b>	LED	Indicates IN 3 is selected	—
7	<b>MODE</b>	Toggle Switch	Left: Output selected input; Right: Sum selected inputs (outputs 5ms triggers)	—
8	<b>SEL CV</b>	Input Jack	CV input for selection (adds to SEL knob)	0V–5V
9	<b>SEL</b>	Knob	Manually select input (far left=IN 1, far right=IN 3/all if SUM)	—
10	<b>OUT LED</b>	LED	Indicates activity at OUT	—
11	<b>OUT</b>	Output Jack	Gate/Trigger Output of selected/summed inputs	0V–5V

## How To Use

### 1. Basic Switching Mode

- Set **MODE** toggle LEFT.

- Use **SEL** knob (and/or **SEL CV** jack) to choose which IN (1/2/3) is routed to **OUT**.
- Output mirrors currently selected **IN**.

## 2. Gate Summing (Mixing/Polyrhythm) Mode

- Set **MODE** toggle RIGHT.
- The more you turn **SEL** right, the more inputs are summed at **OUT**:
  - Full left: IN 1 only
  - Full right: IN 1 + IN 2 + IN 3
- **OUT** outputs 5ms triggers whenever active gate(s) are summed (pulse width = 5 ms).

## 3. CV Control

- Patch a CV/gate/step sequencer into **SEL CV** for dynamic input switching or summed patterns.
  - **SEL CV** range: 0V–5V (adds to manual **SEL** knob position).
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## Voltage Ranges

- **Inputs (IN 1–3)**: Accept gates/triggers, threshold at 2.5V.
  - **Output (OUT)**: 0V (low) or 5V (high/trigger).
  - **CV Input (SEL CV)**: 0V–5V; controls selection (summed with **SEL** knob).
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## Installation

- **Format**: 2HP Eurorack
  - **Depth**: 47mm (skiff friendly)
  - **Power**: +12V: 32mA; -12V: 3mA
  - **Connect power with red stripe facing the front**.
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## Quick Tips

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- **Sequenced switching:** Drive SEL CV with a stepped sequence for evolving patterns.
  - **Layered triggers:** In SUM mode, send drums/clock/gates to all three inputs for complex polyrhythms.
  - **Fast rhythm combos:** Use SUM mode to combine different clocks into one bursty output.
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