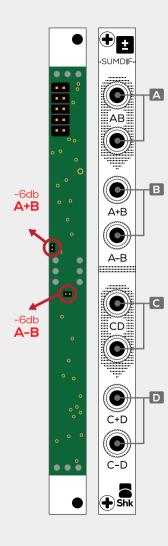
( critical damp b-4, resonne W under damped 52 14k. wt) pos direction over damped 62 24ka  $v = \sqrt{\frac{T}{\mu}} \qquad \begin{array}{c} \mu = \frac{n \cos s}{lag d h} \quad \beta_{one} = \frac{1}{2} \\ \rho_{ine} = \frac{1}{2} \end{array}$ W= ]= )+ Pipe 2 Vpw Sm - displacement f= y AV x: 133 displacement pressure Ps fort fifz lipe 1 F= Ar (n= 32,3) displacence 40 12 atopen,  $S_{1,n}^{i} \theta = \frac{V}{V_s} \frac{V_s}{V} = nach \#$ w25,2 2  $f = f \frac{v \neq v_d}{v \neq v_s} \qquad B = (10) \log \frac{1}{L_s}$ Q=L m W= Stpdv Log x= Log x - Lo transformation Log x= y <=> 0 Phet = Pobs - Prod Prediotion = 5EAT 517. -8 w P1 - m1 - 4

# SUMDIF User Manual

 $\frac{(c_{1}, p_{1}, p_{2}, p_{3})}{P_{1} V_{1}^{2} = P_{1} V_{1}^{2} \left( \frac{(c_{1}, c_{2}, b_{3})}{(c_{1}, c_{2}, b_{3})} \right) \left( \frac{V_{1}}{N} + \frac{V_{2} R^{2}}{N} \right)$  $\begin{array}{c} \zeta_{P} \\ S_{D_{R}} \\ S_{R} \\ T_{R} \\ R \end{array} = \begin{array}{c} \Delta S = \int_{1}^{2} \frac{d \theta}{T} \\ \overline{T} \\ \overline{T} \\ \overline{T} \\ \overline{T} \\ \overline{T} \\ \overline{T} \end{array}$ 61.m 32R 72R 4R AS= Q Sect AT 3R - 1- 91 1. . .



### About

SumDif is a dual adder / differentiator module capable of handling both CV and audio signals. If you send a 3V signal at the A input and a 1V signal at the B input, then the A+B will output 4V while A-B will output 2V. Numerous applications, like unity mixing, buffering and inverting, can be achieved; you can also experiment with Mid/Side audio processing! The SumDif has a precision signal path and can process V/oct signals perfectly. The two jumpers on the back side allow to reduce the A+B and A-B outputs gain by 6dB.

- A&B Inputs
- B A&B Outputs
- C C&D Inputs
- C&D Outputs

## Installation

SumDif requires a standard 2x5 pins eurorack connector. Make sure the red stripe on the ribbon cable is oriented up. matching with the white dot on the board.

#### **Technical Info**

Size 2 HP

Depth 40 mm

**Current Draw** 15 mA @ 12V 15 mA @ -12V

#### Credits

Product design & engineering : François Gaspard

Product & brand design : Madelnside<sup>™</sup> / Steve Hackx

#### www.shakmat.com