



SOPOT

TRIPLE SIGNAL
SUMMATOR

Model of 1980

SALUT

Thank you for purchasing this Xaoc Devices product. Sopot [*'sɒpɒt*] is a triple summing mixer featuring three signal-adding sections, with the middle one optionally fed to the top and bottom ones. Sopot is a compact utility module useful in summing multiple stereo and mono sound sources (up to four signals for each section).

To better understand the device, we strongly advise the user to read through the entire manual before use.

INSTALLATION

The module requires 6hp worth of free space in the Eurorack cabinet.

Always turn the power off before plugging the module to the bus board using the supplied 16-pin to 10-pin ribbon cable, paying close attention to power cable pinout and orientation. The red stripe indicates the negative rail and should match the **-12V** mark on the bus board and the unit. Sopot is internally secured against reversed power connection; however, flipping the 16-pin plug **MAY CAUSE SERIOUS DAMAGE** to other components of your system because it will short circuit the +12V and +5V power lines. Always pay particularly close attention to the proper orientation of your ribbon cable on both sides!

The module should be fastened by mounting the supplied screws before powering up. However, before doing so, you may consider

selecting the desired attenuation in each of the three sections by appropriately setting the three jumpers at the back. A detailed explanation of their function is provided below.

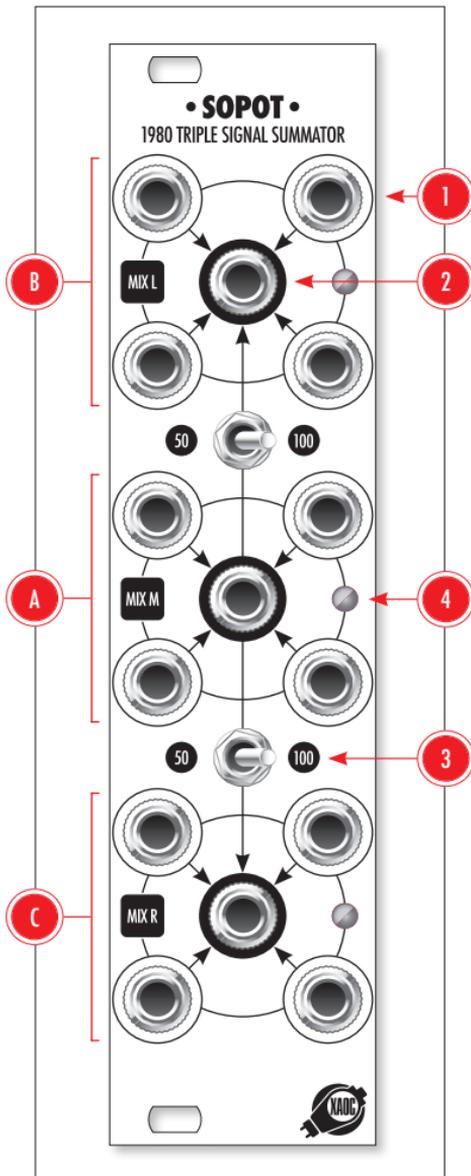
MODULE OVERVIEW

Sopot features three independent summing sections **A**, **B**, **C**. Each section has four inputs **1** and one output **2**. The middle section, marked **MIX M A**, may be optionally mixed into the upper one, **MIX L B**, and the lower one, **MIX R C**. Two 3-position switches **3** allow for including this additional submix in the upper and lower sections, or both (or neither). The switches offer three options: 50% attenuation, off, and 100% (no attenuation).

Each summing section features a soft clipping circuit to prevent unpleasant distortion. In addition, there is a signal level indicator **4** in each of the three summing sections. It shows the volume of the corresponding output using light intensity and color, gradually changing from green to yellow and red when the sum exceeds 16Vpp.

OPERATION

The main application of Sopot is combining up to four stereo sources (**MIX L** for the left channel, **MIX R** for the right channel) with up to four mono sources (**MIX M** fed to the upper and lower sections). Depending on the position of the two switches, the middle section's submix may appear in the stereo panorama as a centered source (**100/100**) or an off-centered one (**100/50** or **50/100**).



Sopot can also be used as three independent signal adders (both switches in the center position for off) or for processing various control voltages thanks to its DC-coupled signal path.

Please keep in mind that the signal amplitude in Eurorack is limited by the dynamic range of op-amps to $\pm 10V$, and it is physically impossible to sum four hot signals without clipping. Therefore, Sopot can handle sounds that mostly do not overlap (e.g., different voices of a rhythmic section). Still, attenuation may be necessary depending on the application (e.g., mixing continuous signals) and operating scenarios.

Attenuation may be set using three jumpers at the back of the module, one for each section. No jumper means unity gain (1:1), while a jumper in place sets the attenuation at $-12dB$ (1:4). Please note that the jumpers adjust the attenuation for the outputs of each section independently.

Even with attenuation set to 1:4, it is still possible to occasionally overdrive a summing mixer when the incoming signals are sufficiently hot. Therefore, each section features a special soft clipping circuit that offers smooth saturation of the peaks. It is the same solution we used in our Tallin dual VCA.

ACCESSORY

Our Coal Mine black panels are available for all of Xaoc Devices modules. Sold separately. Ask your favorite retailer. •

WARRANTY TERMS

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MAIN FEATURES

Three independent 4:1 summatoms

Middle section optionally fed to the upper and lower ones

Switch-selectable submix gain

High-quality, low noise design

Color signal level indication

TECHNICAL DETAILS

Eurorack synth compatible

6hp, skiff friendly

Current draw: +30mA/-20mA

Reverse power protection