behringer

behringer SWORDS Dual Analog Multi Mode Filter

behringer SWORDS Dual Analog Multi Mode Filter User Guide

Contents

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Safety Instruction

1. Please read and follow all instructions.
2. Keep the apparatus away from water, except for outdoor products.
3. Clean only with a dry cloth.
4. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
5. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
6. Use only attachments/accessories specified by the manufacturer.
7. Use only specified carts, stands, tripods, brackets, or tables. Use caution to prevent tip-over when moving the cart/apparatus combination.
8. Avoid installing in confined spaces like bookcases.
9. Do not place near naked flame sources, such as lighted candles.
10. Operating temperature range 5° to 45°C (41° to 113°F).

LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding Music Tribe's Limited Warranty, please see complete details online at community.musictribe. com/support.

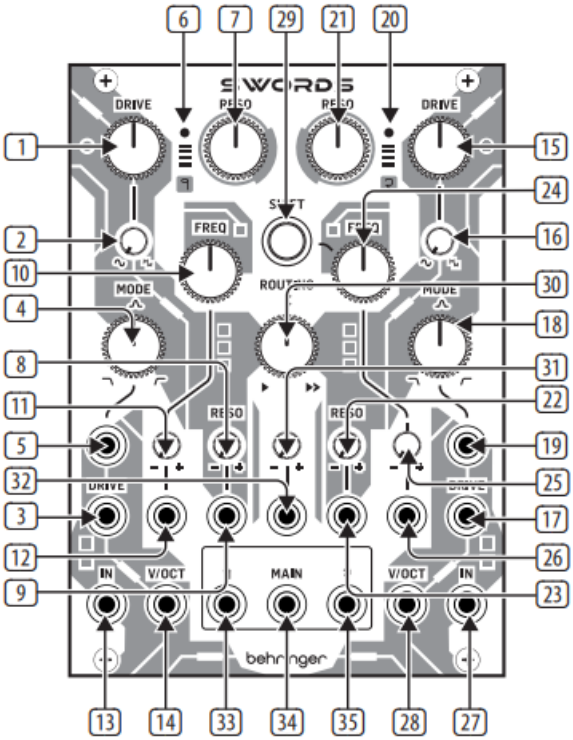
Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.

SWORDS Controls

Controls

- 1. & 15. DRIVE – use these controls to set the drive level on the input signal. 0 dB gain is obtained at around the 11 o'clock mark, and any position above this will increase the amount of distortion or wavefolding (depending on the setting of the response control (2 & 16). If a CV is applied to Drive CV input (3 & 17) then this control acts as a CV offset.
- 2. & 16. RESPONSE – use these controls to adjust the drive response between clipping and wavefolding. When the controls are fully counter-clockwise (CCW) then soft clipping will occur, depending on the level of the Drive controls (1 & 15). Turning the controls clockwise (CW) adjusts the response towards wavefolding.
- 3. & 17. DRIVE CV – use these 3.5 mm TS jack sockets to control the Drive via an external CV. Range is 0 V to + 8 V.
- 4. & 18. MODE – use these controls to continuously adjust the mode of the filter. Fully CCW give a low pass, 12 o'clock gives band pass and fully CW gives high pass.
- 5. & 19. MODE CV – use these 3.5 mm TS jack sockets to control the filter mode via an external CV source. Range is 0 V to +8 V.
- 6. & 20. INPUT LEVEL – these LEDs light when an input signal is present, and become brighter as the level rises. Input A lights in red, B in green.
- 7. & 21. RESO(NANCE) – use these controls to adjust the resonance of the filters, which emphasizes a band of frequencies around the cutoff point. At high levels this causes the filters to self-oscillate and the resulting sine wave can have its phase adjusted by the mode controls (4 & 18) or mode CV (5 & 19).
- 8. & 22. RESONANCE CV ATTENUVERTER – use these controls to attenuate (CW) or invert (CCW) the resonance CV inputs (9 & 23).
- 9. & 23. RESONANCE CV IN – use these 3.5 mm TS jack sockets to modulate the resonance via an external CV source. Range is 0 V to +8 V.
- 10. & 24. FREQ(UENCY) – use these controls to set the filter cutoff frequencies.
- 11. & 25. FREQUENCY CV ATTENUVERTER – use these controls to attenuate (CW) or invert (CCW) the frequency CV inputs (12 & 26).
- 12. & 26. FREQUENCY CV IN – use these 3.5 mm TS jack sockets to modulate the cutoff frequency via an external CV source. Range is 0 V to +8 V.

- 13. & 27. IN – use these 3.5 mm TS jack sockets to feed audio into the filters.
- 14. & 28. V/OCT – use these 3.5 mm TS jack sockets to track the filter via an external 1 V/octave controller, such as a Behringer Swing keyboard.
- 29. SHIFT – use this button to couple the cutoff frequency of filter 2 to that of filter 1. Set the filter 2 frequency control (24) to 12 o'clock for direct coupling. Turning the filter 2 frequency control CCW transposes the coupling down; CW transposes it upwards. The internal LED is lit when shift is active.
- 30. ROUTING – this control has two functions: when inputs are patched to both filters via their input sockets (13 & 27) it controls how much of each filter's output is fed to the main out (34). At 12 o'clock they are at equal level. Turning the control CCW emphasizes filter 1; CW filter 2. If only filter 1 has an input patched to it then turning the control CCW will send just the output of filter 1 to the main output. At 12 o'clock the filter 1 input is sent to both filters, and they appear equally at the main output. Fully CW parallels the filters, so that filter 1's output is fed to filter 2, with only filter 2's output appearing on the main out.
- 31. ROUTING CV ATTENUVERTER – use this control to attenuate (CW) or invert (CCW) the routing CV input (32).
- 32. ROUTING CV IN – use this 3.5 mm TS jack socket to modulate the routing via an external CV source. Range is 0 V to +8 V.
- 33. FILTER 1 OUTPUT – use this 3.5 mm TS jack socket to access the output of filter 1.
- 34. MAIN OUTPUT – use this 3.5 mm TS jack socket to access the output as set by the routing control and CV (30 – 32).
- 35. FILTER 2 OUTPUT – use this 3.5 mm TS jack socket to access the output of filter 2.

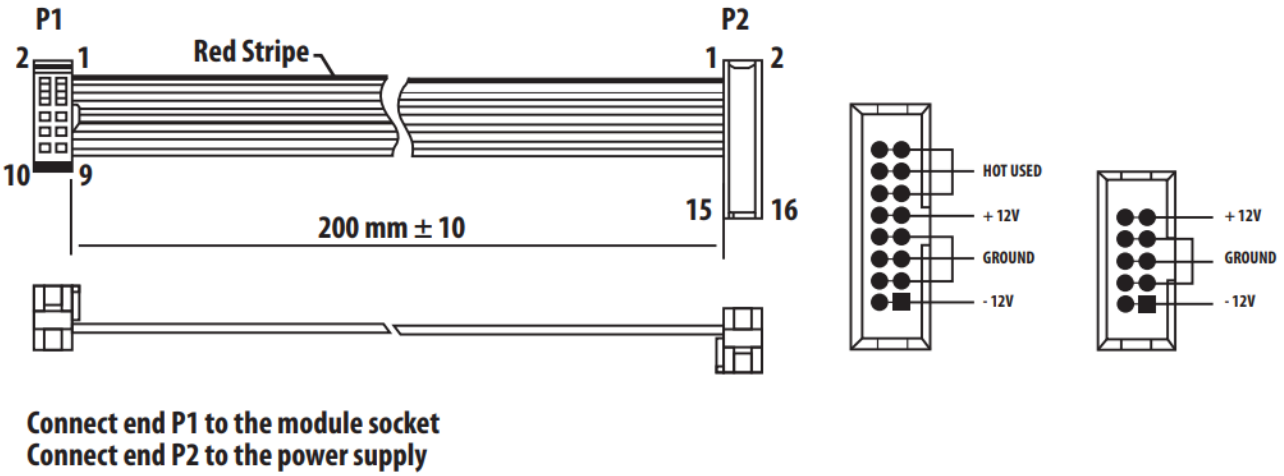


HINTS AND TIPS

- Set one of the filters into self-oscillation and control its note via a v/octave keyboard. Feed the output of that filter into the other, and use the second filter to wavefold the sine wave produced.
- Use an external CV source to modulate the filter mode while it is self-oscillating to obtain FM effects.

- Use the halfway points between low pass ad band pass and high pass and bandpass for spectral coloration.
- Patch the output of one filter into any of the CV inputs of the other for chaotic processing.
- Use the same modulation source on both filters, but invert it on one and attenuate it on the other, then pan the filters apart in stereo for an interesting autopan.

Power Connection



The module comes with the required power cable for connecting to a standard Eurorack power supply system. Follow these steps to connect power to the module. It is easier to make these connections before the module has been mounted into a rack case.

1. Turn the power supply or rack case power off and disconnect the power cable.
2. Insert the 16-pin connector on the power cable into the socket on the power supply or rack case. The connector has a tab that will align with the gap in the socket, so it cannot be inserted incorrectly. If the power supply does not have a keyed socket, be sure to orient pin 1 (-12 V) with the red stripe on the cable.
3. Insert the 10-pin connector into the socket on the back of the module. The connector has a tab that will align with the socket for correct orientation.
4. After both ends of the power cable have been securely attached, you may mount the module in a case and turn on the power supply.

Installation

- The necessary screws are included with the module for mounting in a Eurorack case. Connect the power cable before mounting.
- Depending on the rack case, there may be a series of fixed holes spaced 2 HP apart along the length of the case, or a track that allows individual threaded plates to slide along the length of the case. The free-moving threaded plates allow precise positioning of the module, but each plate should be positioned in the approximate relation to the mounting holes in your module before attaching the screws.
- Hold the module against the Eurorack rails so that each of the mounting holes are aligned with a threaded rail or threaded plate. Attach the screws part way to start, which will allow small adjustments to the positioning while you get them all aligned. After the final position has been established, tighten the screws down.

Specifications

Inputs

- Drive CV 3.5 mm TS jack, -8 V to + 8 V range, impedance 50 kΩ x 2
- Mode CV 3.5 mm TS jack, -8 V to + 8 V range, impedance 50 kΩ x 2
- Frequency CV 3.5 mm TS jack, -3 V to + 5 V range, impedance 50 kΩ x 2
- Resonance CV 3.5 mm TS jack, -8 V to + 8 V range, impedance 50 kΩ x 2
- Routing CV 3.5 mm TS jack, -8 V to + 8 V range, impedance 50 kΩ
- Audio In 3.5 mm TS jack, -8 V to + 8 V range, impedance 50 kΩ x 2
- V/Octave In 3.5 mm TS jack, 5 V peak to peak, impedance 50 kΩ x 2

Outputs

- Outputs 3.5 mm TS jack, DC coupled, impedance 1 kΩ x 3

Controls

- Drive x 2
- Response x 2
- Frequency x 2
- Resonance x 2
- Mode x 2
- Routing

Attenuverters

- Frequency x 2
- Resonance x 2
- Routing
- Buttons Shift
- LEDs Drive x 2
- Power Consumption 150 mA (+12 V) / 140 mA (-12 V)

Physical

- Dimensions (W x H x D) 91.12 x 128.50 x 51.9 mm (3.59 x 5.06 x 2.04″)
- Eurorack 18 hp
- Weight 0.218 Kg (0.48 lb)

FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION

Behringer SWORDS

- Responsible Party Name: Music Tribe

- Commercial NV Inc.
- Address: 122 E. 42nd St.1, 8th Floor NY, NY 10168,
- United States
- Email Address: **legal@musictribe.com**

FCC STATEMENT

SWORDS
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

  Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Important information

Changes or modifications to the equipment not expressly approved by Music Tribe can void the user's authority to use the equipment.

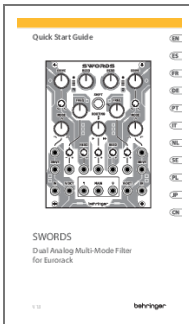
CE Hereby, Music Tribe declares that this product is in compliance with General Product Safety Regulation (EU) 2023/988, Directive 2014/30/EU, Directive 2011/65/EU and Amendment 2015/863/EU, Directive 2012/19/EU, Regulation 519/2012 REACH SVHC and Directive 1907/2006/EC.

- Full text of EU DoC is available at **https://community.musictribe.com/**
- EU Representative: Empower Tribe Innovations DE GmbH Address: Otto-Brenner-Strasse 4a, 47877 Willich, Germany
- UK Representative: Empower Tribe Innovations UK Ltd. Address: 5 Brindley Road Old Trafford, Manchester,
- United Kingdom, M16 9UN

FAQ

Q: Where can I find the warranty information for the product?
A: For the applicable warranty terms and conditions and additional information regarding Music Tribe's Limited Warranty, please visit **community.musictribe.com/support**.

Documents / Resources

	behringer SWORDS Dual Analog Multi Mode Filter [pdf] User Guide V 1.0, SWORDS Dual Analog Multi Mode Filter, SWORDS, Dual Analog Multi Mode Filter, Analog Multi Mode Filter, Multi Mode Filter, Mode Filter, Filter

References

- Music Tribe
- Music Tribe
- Music Tribe
- User Manual