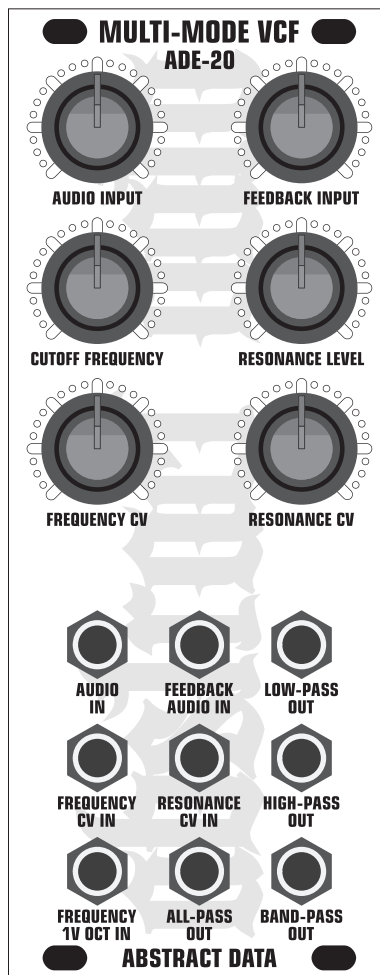


abstract data

INSTRUMENTS  EFFECTS

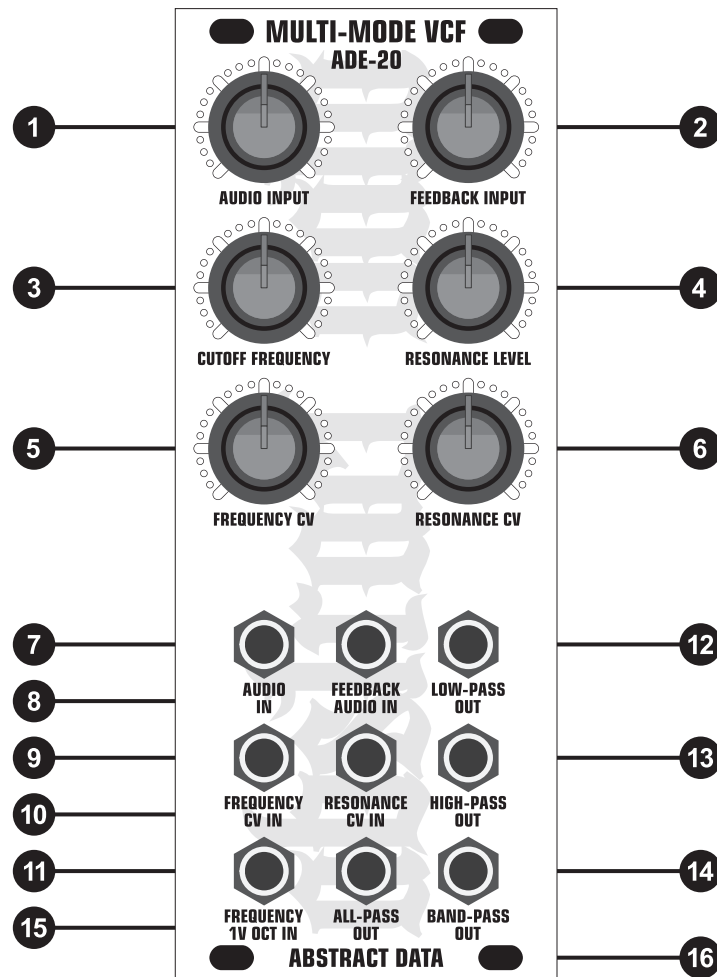
ADE-20 MULTI-MODE VCF

*2 Pole, 12dB, Multi-Mode, Voltage Controlled Filter with
Simultaneous Low, High, Band and All-Pass Outputs
and complete CV control*



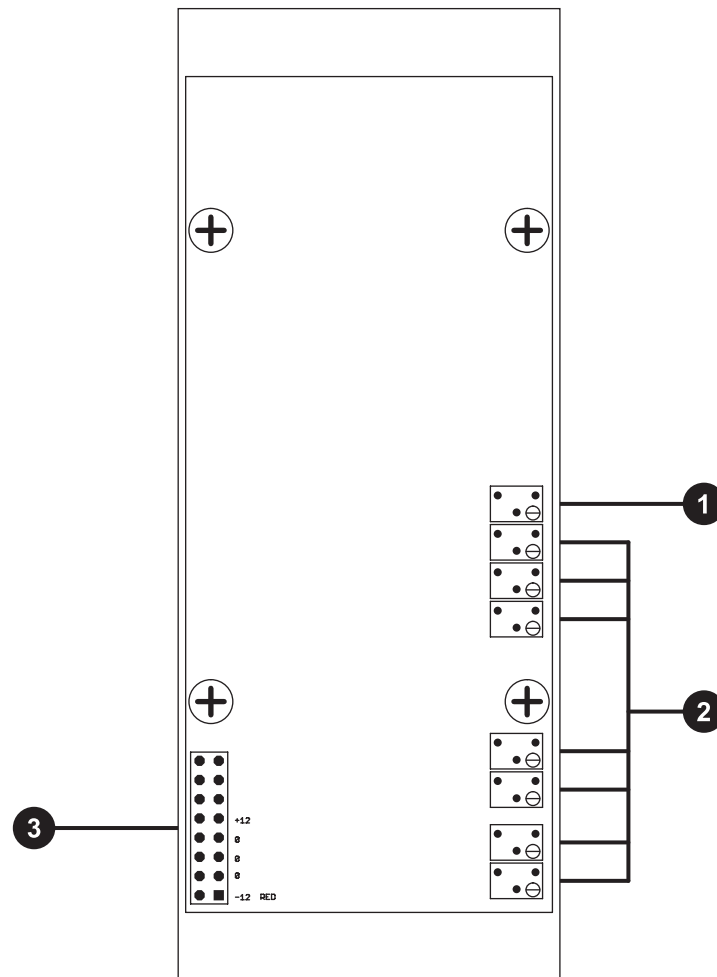
USER GUIDE

1: Front



- 1 **AUDIO INPUT:** Pre-effect gain/attenuation up to +/- 50% at AUDIO INPUT
- 2 **FEEDBACK INPUT:** Pre-effect gain/attenuation up to +/- 50% at FEEDBACK AUDIO INPUT
- 3 **CUTOFF FREQUENCY:** Sets the Cutoff/Band-Pass Frequency for all filter types
- 4 **RESONANCE LEVEL:** Sets the Resonance Level for all filter types - right up to self-oscillation
- 5 **FREQUENCY CV:** Sets the external CV input level for CUTOFF FREQUENCY from 0% to 100%
- 6 **RESONANCE CV:** Sets the external CV input level for RESONANCE LEVEL from 0% to 100%
- 7 **AUDIO IN:** AC-coupled input for main audio. Accepts up to +/-10V AC signals
- 8 **FEEDBACK AUDIO IN:** AC-coupled input for feedback insert. Accepts up to +/-10V AC signals
- 9 **FREQUENCY CV IN:** DC-coupled CUTOFF FREQUENCY CV input. Accepts up to +/-10V AC/DC signals
- 10 **RESONANCE CV IN:** DC-coupled RESONANCE CV input. Accepts up to +/-10V AC/DC signals
- 11 **FREQUENCY 1V OCT IN:** DC-coupled CUTOFF FREQUENCY CV input. Scaled to 1 Volt per Octave
Accepts up to +/-10V AC/DC signals
- 12 **LOW-PASS OUT:** AC-coupled Low-Pass filter Output
- 13 **HIGH-PASS OUT:** AC-coupled High-Pass filter Output
- 14 **BAND-PASS OUT:** AC-coupled Band-Pass filter Output
- 15 **ALL-PASS OUT:** AC-coupled All-Pass filter Output
- 16 **MOUNTING HOLES:** Accepts M2.5 or M3 screws in Doepfer or Analogue Systems spacing width

2: Rear



- 1 1V OCT CALIBRATION:** User adjustment and fine-tuning of 1V OCT response
This single trimmer can be adjusted clockwise to increase the frequency range available with 1V OCT tracking (i.e. if the tuning is flat) or it can be adjusted counter-clockwise to decrease the frequency range available with 1V OCT tracking (i.e. if the tuning is sharp)
(Please see 'CALIBRATION' on page 4 of this guide)
- 2 MAIN CALIBRATION:** Factory calibration for overall filter response and performance
Please do not make any changes to the settings of these trimmers
(Please see 'CALIBRATION' on page 4 of this guide)
- 3 POWER CONNECTOR:** Doepfer-style 16-pin IDC Socket. The ADE-20 uses the Doepfer standard for power connection and cable orientation. The RED stripe on the supplied power cable connects to the NEGATIVE (-12V) rail on the ADE-20 with the RED stripe facing DOWN. This is marked on the back of the ADE-20 PCB as "-12 RED"
(Please see 'PRECAUTIONS' on page 4 of this guide)

HARDWARE:	Controls (Left):	AUDIO INPUT (+/-50% Gain/Attenuation) CUTOFF FREQUENCY (Manual) FREQUENCY CV (External)
	Controls (Right):	FEEDBACK INPUT (+/-50% Gain/Attenuation) RESONANCE LEVEL (Manual) RESONANCE CV (External)
	Inputs (Audio):	2x AC, approx. +/-10V max. (3.5mm)
	Inputs (CV):	3x AC/DC, approx. +/-10V max. (3.5mm) (1x scaled to 1V OCT for Frequency Cutoff)
	Outputs (Signal):	4x AC: Low, High, Band and All-Pass (3.5mm)
	Power Requirements:	+/-12V via 16-pin, Doepfer-style IDC connector
	Current Draw:	90mA average
	Dimensions:	10HP (W); panel to IDC connector 35mm (D)
	Supplied Accessories:	1x 16-pin, Doepfer-style cable, 4x M3 screws

CALIBRATION: Each ADE-20 is calibrated before shipping to provide the best balance between sound and performance. This includes maximizing the range of self-oscillation, getting the best sine wave shape and ensuring the filter responds quickly to changes in Resonance at low frequencies. Because the ADE-20 uses 'discrete' OTAs (Operational Transconductance Amplifier) there are some performance characteristics that set it apart from other 'chip-based' filters. Firstly, the 1V OCT tracking is limited to approximately 1 to 2 octaves. This can easily be fine-tuned or re-calibrated by the user. *(Please see '1V OCT CALIBRATION' on page 3 of this guide)* Secondly, under certain settings, there may be a small amount of 'bleed' from the CV Inputs appearing at the Filter Outputs. This is generally only noticeable when modulating the Cutoff Frequency at audio rates with high Resonance levels and low Audio Input levels (or no Audio Input). This is a common trait of discrete OTA designs and most users believe that this benefits the overall character and sound of the filter. For more advice on calibrating the ADE-20 please contact Abstract Data.

PRECAUTIONS: The ADE-20 uses the Doepfer standard for power connection and cable orientation. The RED stripe on the supplied power cable connects to the NEGATIVE (-12V) rail on the ADE-20 with the RED stripe facing DOWN. This is marked on the back of the ADE-20 PCB as "-12 RED". *(Please see 'POWER CONNECTOR' on page 3 of this guide)* The ADE-20 has diode and polyfuse protection built in but an incorrectly connected cable may still cause damage to the module or the power supply. The rear panel of the ADE-20 has exposed parts and connections. Please ensure when handling the ADE-20 that the unit is held by the sides of the front panel or the sides of the PCB.

CREDITS: Rory Dow
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Tom Wiltshire