AEA 1029

STEREO VCA COMPRESSOR

OWNER'S MANUAL

WELCOME

Congratulations on your purchase of the AEA 1029 Stereo VCA Compressor, AEA's first compressor.

After the success of our stereo R88 and our history-making clean, musical preamps, we at AEA decided that we wanted to give users the opportunity to have the full AEA philosophy in their signal chain. At AEA, we put the same thought and care into our new compressor as we put into the development of our microphones, preamps, and DIs: sonic quality comes first.

The 1029 fits perfectly into the AEA lineage; it is simultaneously clean and musical, and the controls are logical and intuitive.

Your 1029 is 100% handcrafted in Pasadena, California. AEA is a family-owned company with a small crew of skilled technicians, many of whom are musicians themselves. Proudly independent, we still manufacture all our ribbon microphones, preamps, DIs, and compressors by hand, in-house, from locally sourced parts. We hope the 1029 helps capture many magical musical performances.

Read this manual thoroughly to make sure you get the best sound and longevity from your new compressor. We invite you to become part of the AEA community by sharing your experiences with the 1029 via email, phone, or our social media channels.

The AEA Team

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WHAT'S IN THE BOX

ALONG WITH YOUR 1029 COMPRESSOR YOU SHOULD FIND:

- This Manual
- 5-Pin XLR Switching Power Supply
- IEC Cable
- Rubber Bumpers (for desktop use)
- 1 x 8/32 3/8" Screw (for mounting in a universal rack tray)

WARRANTY

Your 1029 comes with a one year limited warranty on parts and labor*. **Registering your product within 90 days will extend the warranty to three (3) years.** Scan the QR code or visit our website to register.

*AEA is not responsible for shipping costs.

INTRODUCTION

The 1029 is a half-rack, super-clean, stereo VCA compressor/limiter. Specifically engineered for stereo microphone pairs, the 1029 provides clean and transparent compression when tracking or serves as an outboard compressor for stereo signals recorded with any stereo technique. This unit can be used as a single mono unit if desired (though not dual mono).

The 1029 is a high-quality utility compressor providing a pure and transparent signal path for all stereo signals. The 1029's combination of VCAs configured in a feed-forward topology, Fred Forssell discrete op-amps featuring a complementary pair of new old stock Toshiba JFETs, and ultra-low noise, low-distortion op-amps create an extremely powerful and useful tool in a compact unit.

As with all AEA electronics, the circuit in the 1029 was designed by Fred Forssell.

SUPPORT

If you should encounter any problems with your 1029 Compressor or have questions regarding specific applications, please contact our customer support team at support@ribbonmics.com for the quickest response.

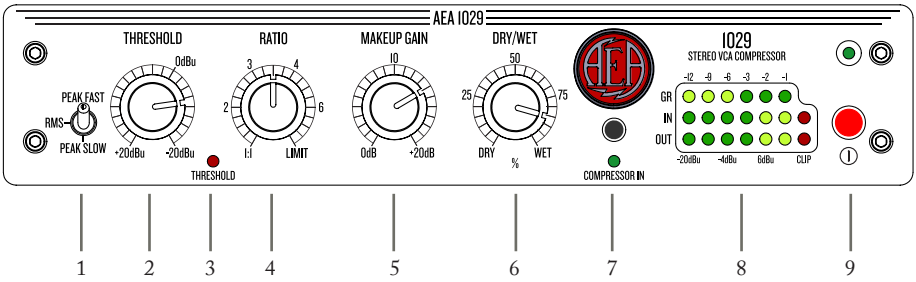
To contact us by phone, please call +1 626-798-9128 from 9:00 a.m.- 5:00 p.m. PST Monday-Friday.

AEA's repair center is located at:

1029 N. Allen Ave, Pasadena, CA 91104, U.S.A.

GENERAL GUIDELINES

FRONT PANEL GUIDE



1) Peak/RMS Switch: Switches between peak detector and average detector.

Peak Fast: 4ms Attack, 17ms Release
RMS: 12ms Attack, 50ms Release
Peak Slow: 4ms Attack, 200ms Release

2) Threshold: The dBu input level at which the audio begins to compress. Clockwise gives you more compression.

3) Threshold indicator: The Threshold LED illuminates when the input signal to the sidechain goes above the threshold. Note: the LED will illuminate whether or not compression is actually occurring. The gain reduction meters on the right-hand side of the unit (8) show you whether or not compression is occurring.

4) Ratio: The ratio at which audio above the threshold is compressed. Variable from 1:1 to limiting.

5) Makeup Gain: Gain is added only to the wet signal, post-compression. Variable from 0 dB to 20 dB.

6) Dry/Wet Blend Control: Blends the wet (compressed + makeup gain) signal and the dry (uncompressed) signal together. Counter-clockwise is dry, and clockwise is wet (more compression).

7) Compressor In Switch: Pressing the 'Compressor In' button switches the compressor into the audio circuit. When the switch is out or the unit is off, the relays are in the bypass position; high-quality relays connect the input XLRs to the output XLRs

8) Metering Section

GR: The gain reduction meter illuminates from right to left to show the amount of reduction in (wet) signal level.
IN: These meters show the summed input signals, from left to right. CLIP LED illuminates at +22 dBu; 4 dB before actual clipping.
OUT: These meters show the summed output signals, from left to right. CLIP LED illuminates at +22dBu; 4dB before actual clipping.

9) Power switch: The red power switch turns the unit on. The LED above the power switch indicates that the unit is indeed on.

To maintain the best performance from your new AEA 1029 compressor, take note of these two requirements:

1) Never place the compressor in close proximity to electromagnetic fields or hot surfaces. Electromagnetic fields created by power transformers, motors, or RF transmitters can potentially damage or interfere with the compressor's functionality. Make sure to keep your unit away from these sources in addition to hot surfaces.

2) Before turning on the power, all connections to the 1029 should be made. Be sure to examine your signal chain before powering up the 1029 to ensure sudden loud noises are not emitted, which could damage your system or hearing.

REAR PANEL CONNECTIONS

The 1029's rear panel supplies one Neutrik 3-pin XLR input per channel. Line-level input connections are made via female XLR connectors with Pin-2 + or high, Pin-3 – or low, and Pin-1 ground.

The output of the 1029 emulates a transformer-coupled output and can be used as either a balanced or unbalanced signal (depending on how your cable/system is configured).

When balanced, the maximum output level before clipping is +26 dBu; when unbalanced, the maximum level before clipping is +22 dBu. (These are as measured into a 600 Ohm load; the recommended load is > 10K Ohms; 0 dBu = 0.7746 V rms.)

When unbalancing the XLR Output, pin-3 must be tied to ground at the receiving end (i.e. the input of the following device). Do not tie pin-3 to ground directly at the output of the 1029.

We actively encourage users to visit **AEAribbonmics.com** to access our comprehensive collection of in-depth articles and tutorials featuring AEA products along with a library of audio and video demonstrations of our products in action.

BASIC OPERATION

The AEA 1029 can be used as a stereo unit, compressing signals from:

- Stereo microphones (like the AEA R88 or N28)
- Stereo pairs of microphones (like the N8 stereo pair)
- Mono microphones (by leaving one channel unused)
- Stereo buses

THE 1029 IN USE

The 1029 was designed for intuitive user interfacing. We find that starting with Threshold, Ratio, and Makeup Gain counter-clockwise and Dry/Wet clockwise is a good place to begin.

First, note that the 1029 is normally in bypass mode, so if the unit is turned off, you will get a pure dry signal through the unit. Ensure the unit is turned on before you confidently begin turning knobs and making judgments about the transparency of the unit.

As audio is traveling through your unit, increase the Threshold to the point where the Threshold LED is illuminating. If your intentions are mild compression or limiting, set the Threshold so the LED is illuminating just at the louder dynamic portions of the song. If you intend to add a more intense compression, turn the Threshold even more.

Next, set the Ratio to the desired level, using the Gain Reduction meters on the right to see how much compression is being applied.

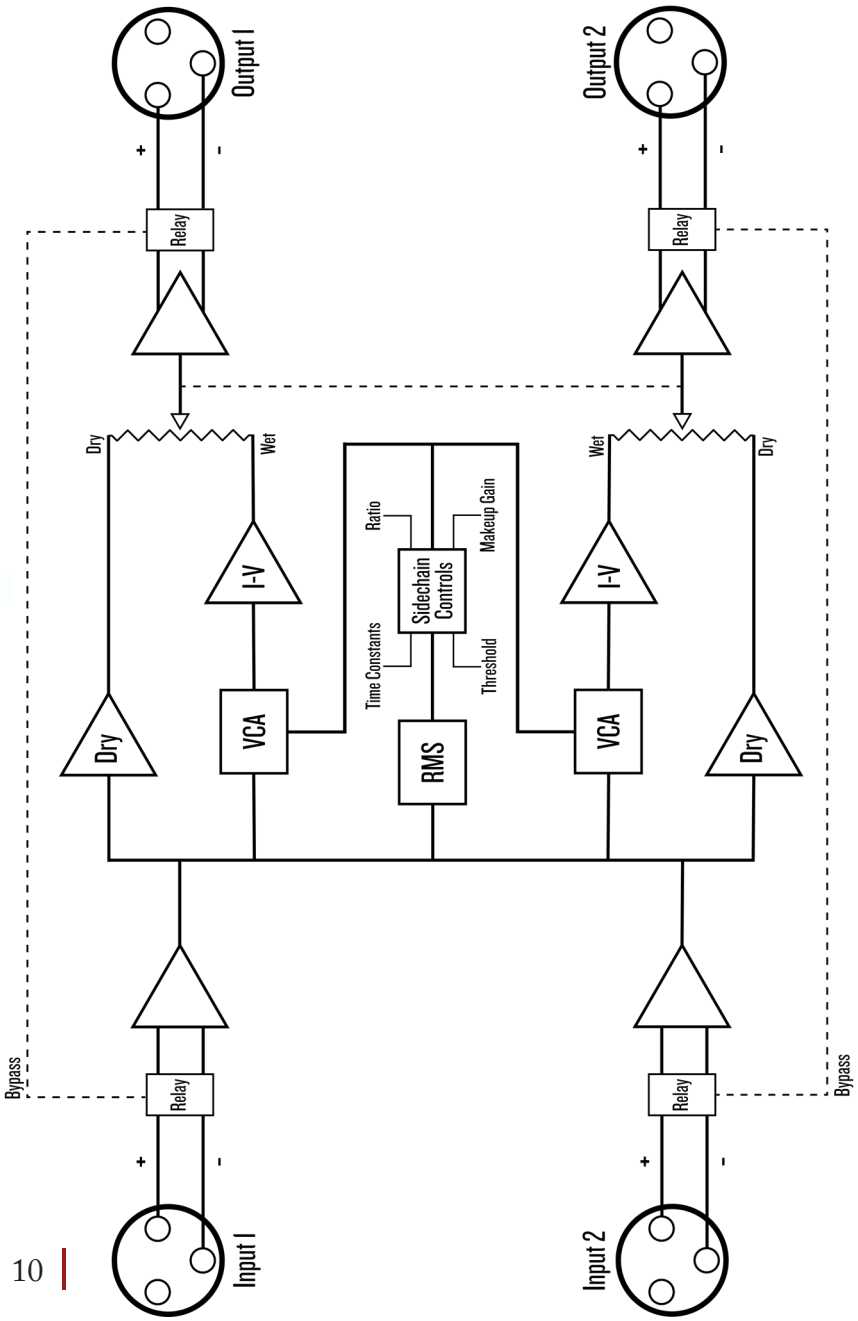
Then set the Makeup Gain to a level where the Output level matches the Input. This ensures you're adding compression to the mix and not compression + gain.

Optionally, you can turn the Dry/Wet knob counter-clockwise for parallel compression, which can add a bit more naturalness to the recording.

Finally, go back to the left-hand side and switch between the 3 different time constant settings. 'Peak Fast' for fast attack and fast release, 'RMS' for an "averaging" mode, and 'Peak Slow' being fast attack and slower release.

Bypass as needed using the 'Compressor In' button under the AEA logo.

BLOCK DIAGRAM



SPECIFICATIONS

Input Impedance:	10 kΩ Actively Balanced
Max Input Level:	+26 dBu
Input CMRR:	Better than 70dB (22Hz to 22kHz)
Output Stage:	50 Ω Active Balanced Floating
Max Output Level:	+26 dBu Balanced Load +22 dBu Unbalanced Load
Minimum Load Impedance:	600 Ω
Signal-to-Noise Ratio	Dry: -97dBu, Wet: -91dBu
Frequency Response	
Dry:	10 Hz to 200 kHz (+0 dB, -0.05 dB)
Wet:	10 Hz to 200 kHz (+0 dB, -0.1 dB)
Input and Output XLR Polarity:	Pin 2 +, Pin 3 -
Absolute Phase:	Non-inverting
Attack and Release Times	
Peak Fast:	4ms attack, 17ms release
RMS:	12ms attack, 50ms release
Peak Slow:	4ms attack, 200ms release
LED Signal Level Indicators	
7 Segment LED Meters:	-20, -12, -4, 0, 6, 10, 20 (6dB before clipping)
Gain Reduction Indicator	
6 Segment LED Meter:	-1, -2, -3, -6, -9, -12dB gain reduction
Power Consumption:	6 Watts
Line Voltage:	100 to 240 VAC
Dimensions:	Half-rack wide (8.5 in), 1 rack unit high (1.8 in) 8 in deep (measured with knobs) (21.59 cm x 20.32 cm x 4.6 cm)
Weight:	2lb (~893 g)
Power Supply Weight:	1 lbs 1 oz (0.483 kg)
Power Supply Length:	7 feet 8.5 inches (2.3 m)

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In compliance with the following requirements: RoHS2 Directive: 2011/65/EU