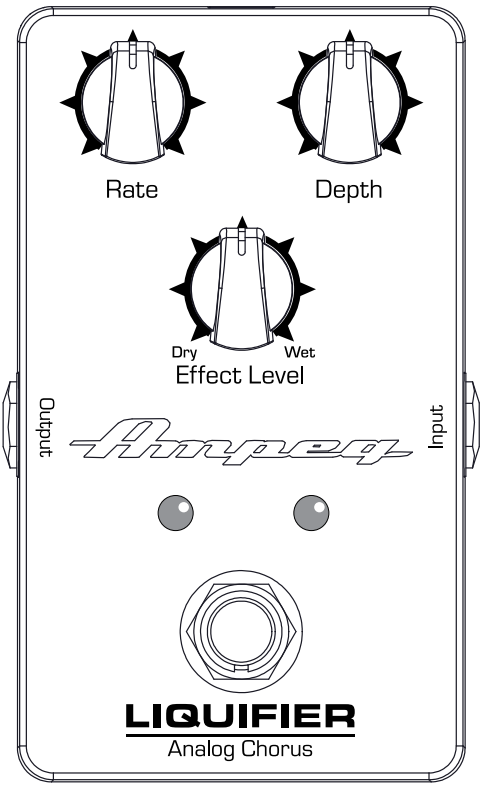
LIQUIFIER

Analog Chorus



Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, such as vases or beer glasses, shall be placed on the apparatus.
16. Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. The MAINS plug or an appliance coupler is used as the disconnect device, so the disconnect device shall remain readily operable.

NOTE: 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 the 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.

CAUTION: Changes or modifications to this device not expressly approved by LOUD Audio, LLC. could void the user's authority to operate the equipment under FCC rules.

This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible noise level exposures shown in the following chart.

According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent permanent hearing loss if exposure is in excess of the limits set forth here:

Duration, per day in hours	Sound Level dBA, Slow Response	Typical Example
8	90	Duo in small club
6	92	
4	95	Subway Train
3	97	
2	100	Very loud classical music
1.5	102	
1	105	Ryan screaming at Troy about deadlines
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

CAUTION

RISK OF ELECTRIC SHOCK! DO NOT OPEN!

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

The lightning flash with arrowhead symbol within an equilateral triangle means "electric shock hazard". It is intended to alert the user to the presence of uninsulated "dangerous" voltage within the product enclosure, that may be of significant magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle means "Warning/Caution!". It is intended to alert the user of the presence of important operating and maintaining (servicing) instructions in the literature accompanying the appliance.

WARNING — To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.

Apparatet må tilkoples jordet stikkontakt.

Apparaten skall anslutas till jordat uttag.

Correct disposal of this product: This symbol indicates that this product should not be disposed of with your household waste, according to the WEEE directive (2012/19/EU) and your national law. This product should be handed over to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling 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 effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, or your household waste disposal service.

Table of Contents

Introduction

The Ampeg Liquifier Analog Chorus pedal delivers incredibly rich tones thanks to its dual chorus circuit design.

Experience classic dreamy chorus or turn it all the way up to transport your tone to a new dimension. Featuring a roadworthy all-metal chassis and true bypass switching, the Liquifier Analog Chorus delivers all the lush sounds you've been dreaming of and more.

Like all Ampeg products, your Liquifier Analog Chorus pedal is designed by musicians and built using only the best of components. Each pedal is tested to confirm that it meets our specifications, and we believe that this pedal is the absolute best that it can be.

In order to get the most out of your new pedal, please read this manual before you begin playing. Best of luck in all of your musical endeavors!

And thank you for choosing Ampeg.

Features:

- Dual chorus circuit design delivers incredibly rich chorus tones for both bass & guitar.
- Dial in the perfect sound with Rate, Depth and Effect Level controls.
- True bypass, analog design with incredible signal-to-noise ratio.
- Roadworthy all-metal chassis construction.
- 9V DC supply or battery capable (not included).

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Liquifier Analog Chorus Top Panel Features

LIQUIFIER ANALOG CHORUS:

A chorus effect essentially copies the original signal, slightly alters the timing using delay and combines it with the original signal.

By adjusting various parameters, a wide range of effects may be produced. Just like a chorus of singers, the combination of multiple, slightly differing sources creates blurriness of both pitch and rhythm that makes the sound feel "wider" than the original alone.

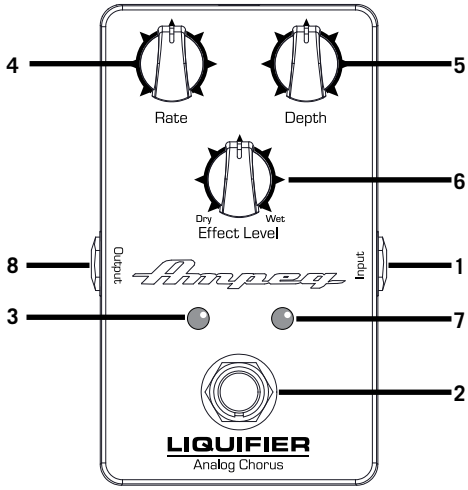
When used tastefully, chorus can add a very melodic presence to a bass line. It provides a soft, ethereal sweeping effect that is useful for thickening and for making a particular sound pop out of the mix. It can also be abused for all kinds of great, specialized effects!

But here's what makes the Ampeg Liquifier Analog Chorus pedal unique:

Instead of just a single delayed copy of the original signal, the Liquifier makes two copies... and one of those copies is a polarity-inverted mirror image.

What happens next is that two separate triangle waves vibrate the pitch of the copies. These waves are linked so that as one copy rises sharply in pitch, the other wave falls flat by the same amount. As the pitches crisscross each other, some high frequencies cancel each other out in a "comb-filtering" effect that rises.

When the two copies are matched exactly in their pitch-shift, they briefly disappear. This is also known as "through-zero flanging," a rarity in true-analog effects pedals.



All three signals – dry + delay + polarity-inverted mirror image – are blended together via the Effect Level knob. The result is signal movement that swirls in a 3-dimensional manner.

Now go impress your friends with this new-found knowledge!

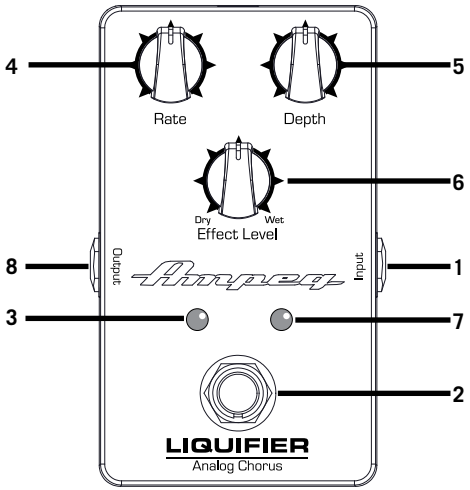
1. **INPUT:** The signal output from an instrument (active or passive) may be connected to this 1/4" input by means of an unbalanced shielded instrument cable.

   NOTE: Unplug the input cable when not in use, as the 9V battery will drain (and eventually die). Details on replacing the battery may be found on page 7.

2. **LIQUIFIER CHORUS ON/OFF SWITCH:** Engage this switch to activate the Liquifier Analog Chorus pedal. This pedal is true bypass meaning the signal will pass through from input to output with no circuitry in between when the switch is disengaged.

3. **ON/OFF LED:** This LED illuminates purple when the pedal is engaged.

Liquifier Analog Chorus Top and Rear Panel Features



4. **RATE:** Rotate this knob to adjust the speed of the low-frequency oscillator (LFO) from minimum (fully counter-clockwise) to maximum (fully clockwise).

5. **DEPTH:** Rotate this knob to adjust the amplitude of the rate from minimum intensity (fully counter-clockwise) to maximum intensity (fully clockwise).

6. **EFFECT LEVEL:** Rotate this knob to adjust the overall effect level from Dry (no effect, fully counter-clockwise) to Wet (100% effect, fully clockwise).

   Effect Level examples:

   9:00 – The swirling takes a subtle back seat to the dry signal.

   12:00 – With the Effect Level knob at noon, the signal becomes a glorious 3-way psychedelic swirl.

   5:00 (100% wet) – This results in pure, through-zero flanging.

7. **RATE INDICATION LED:** This green LED flashes to indicate the current rate.

8. **OUTPUT:** Typically, this 1/4" output jack connects to the input of an external power amplifier – or powered loudspeakers, as long as they have their own input controls to adjust the volume level – by means of an unbalanced shielded instrument cable.

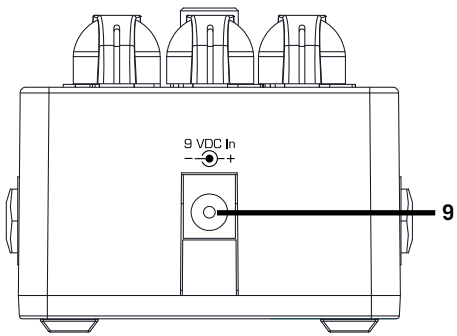
   However, it may be connected to an external mixer, recorder, or interface. In this way, you do not have to mic the speaker cabinet in order to add it to the main mix, or to record.

9. **POWER CONNECTOR:** This is where to connect the optional power supply.

⚠ Before plugging in the power supply, make sure that you are using the correct one for your country (see below).

NOTE: A power supply may be purchased at your local Ampeg Dealer or ordered directly from LOUD Audio, LLC. Be sure to ask for part number:

2045758-00: United States
2045758-01: Europe
2045758-02: Japan
2045758-03: United Kingdom
2045758-04: Australia
2045758-05: China
2045758-06: Brazil



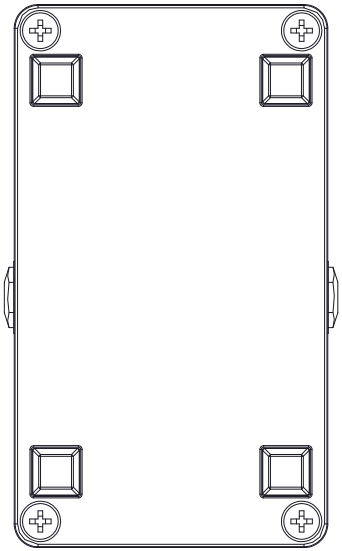
Liquifier Analog Chorus Bottom Panel Features

BOTTOM PANEL ACCESS

This is where the 9V battery is housed.

Removing the bottom is easy. Simply start by placing the pedal top down on a soft, dry cloth.

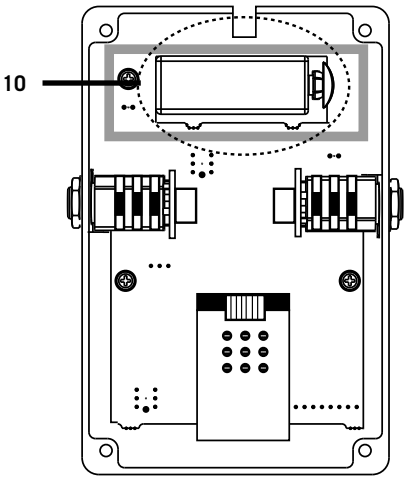
Remove each of the four screws by turning them counter-clockwise. Be sure to keep them in a safe place as you will need them again!



10. 9V BATTERY

The Liquifier Analog Chorus pedal may be powered by 9V battery instead of using a power supply. As seen in the illustration below, it tucks in nicely inside a compartment of the circuit board next to the edge of the pedal.

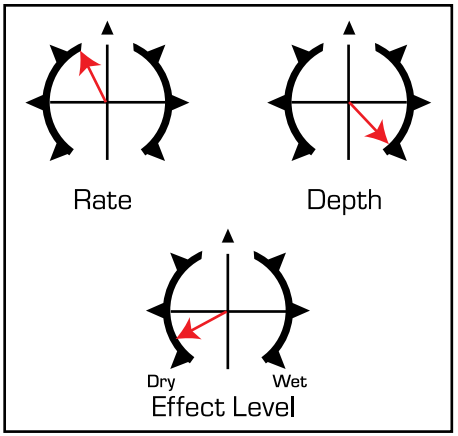
NOTE: Unplug the input cable when not in use, as the 9V battery will drain (and eventually die).



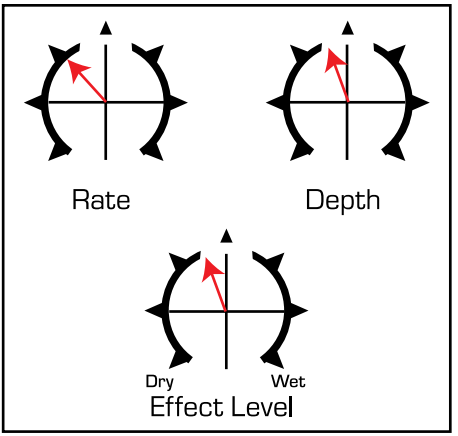
NOTE: When replacing the bottom of the pedal, line up the rectangular foam piece over the battery. Turn the screws clockwise to affix to the bottom to the pedal.

Liquifier Analog Chorus Suggested Settings

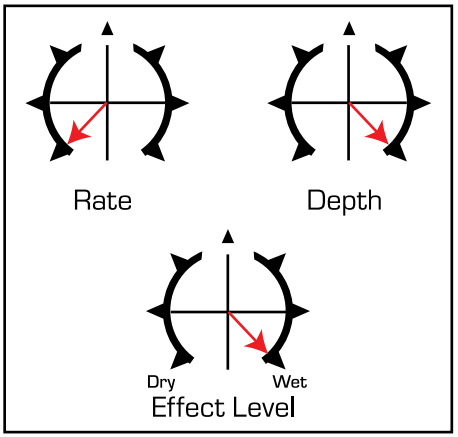
Believing (Don't Stop)



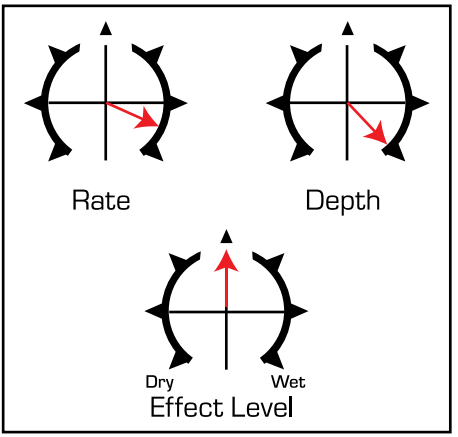
Nice & Easy



Space Invaderz

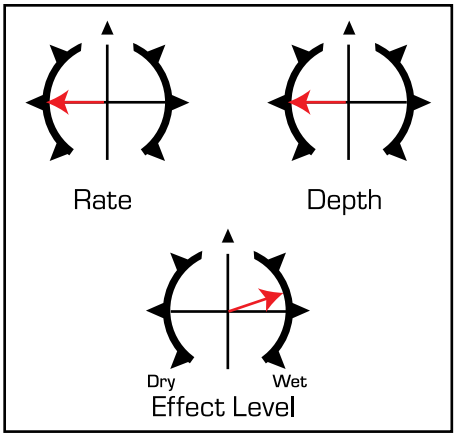


Nice Tremolo

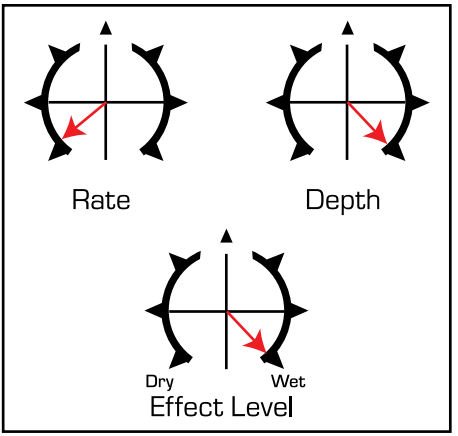


Liquifier Analog Chorus Suggested Settings Continued...

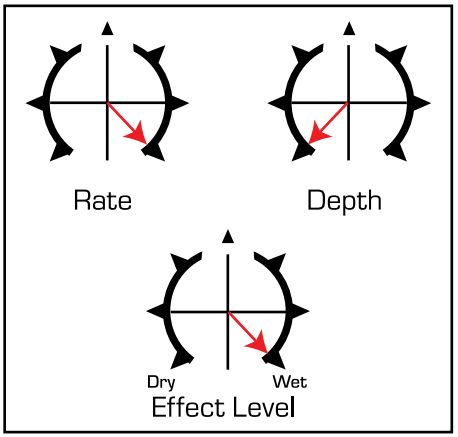
Hollow



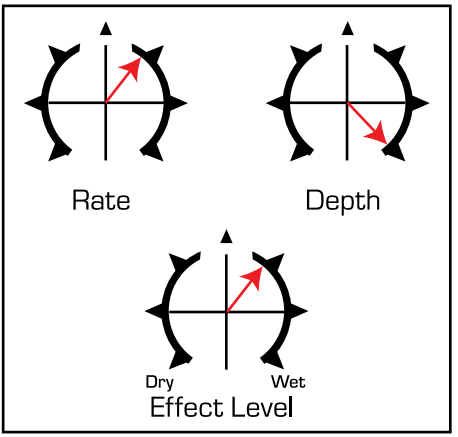
In & Out



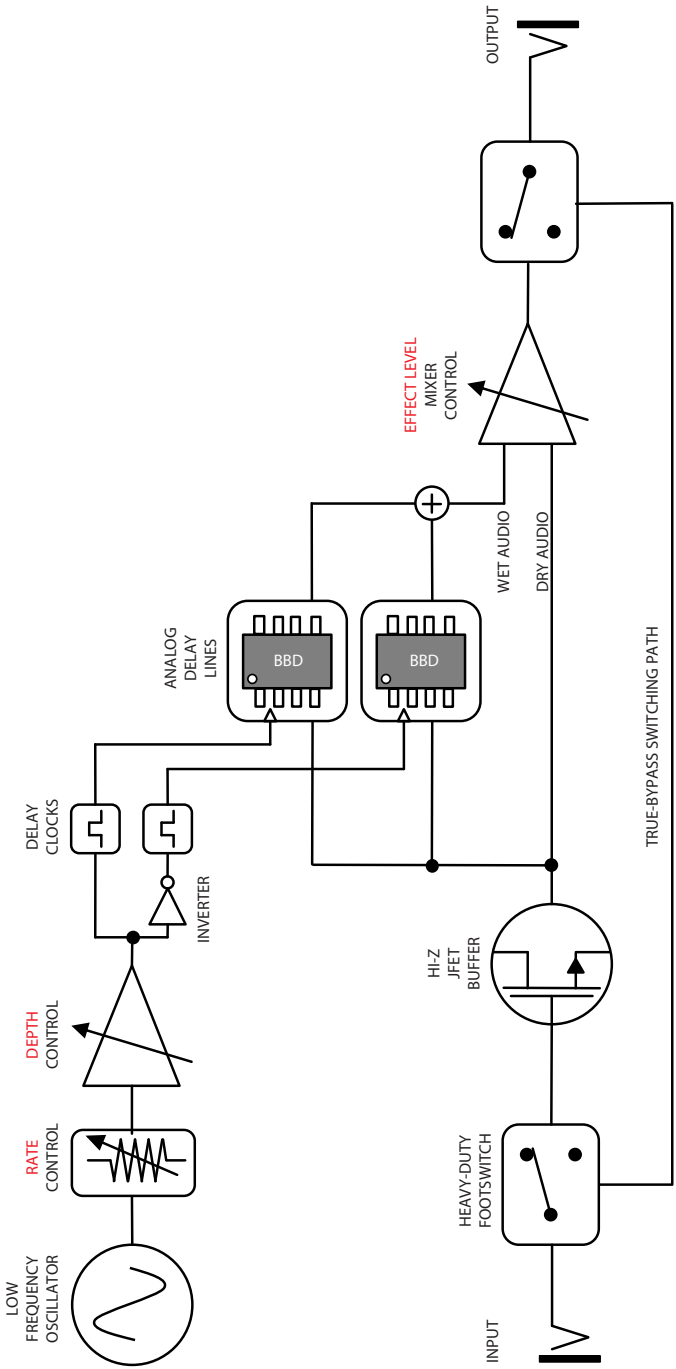
Inverted



Warbly



Liquifier Analog Chorus Block Diagram



LIQUIFIER ANALOG CHORUS TECHNICAL SPECIFICATIONS

Signal-to-Noise Ratio	82 dB (Effect Level 100% wet) 94 dB (Effect Level 100% dry)
Maximum Gain	+0 dB (Unity)
Maximum Input Level	1.1 Vrms (3.0 V peak-peak) before clipping (1.00% distortion), 100 Hz input
Frequency Response (Input Level 1.00 V peak-peak)	100 Hz – 5 kHz, ±3.0 dB (100% Wet) 20 Hz – 20 kHz, ±0.5 dB (100% Dry)
Impedances	1 MΩ (Input) 200 Ω (Output)
Power Requirements	Internal: 9 V Battery External: 9 VDC, ≥60 mA
Maximum Current Draw	56 mA at 9VDC
Size (H x W x D)	2.2 in x 2.6 in x 4.5 in 56 mm x 66 mm x 114 mm
Weight	0.6 lb / 0.3 kg (approximately)
	All specifications subject to change

Service Information

If you are having a problem with your Liquifier Analog Chorus, you can go to our website (www.ampeg.com) and click on Support for service information, or call Technical Support at 1-800-898-3211 Monday-Friday during normal business hours, Pacific Time, to receive assistance. If you are outside of the U.S., contact your local distributor for technical support and service.

The Liquifier Analog Chorus is housed in a corrosion resistant die-cast zinc chassis, so be sure to clean it with a dry lint-free cloth. Never spray cleaning agents on the Liquifier Analog Chorus. Avoid abrasive cleansers which would damage the finish.

Ampeg continually develops new products and improves upon existing ones. For this reason, the specifications and information in this manual are subject to change without notice.

www.ampeg.com
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16220 Wood-Red Road NE • Woodinville, WA 98072
Part No. SW1231 Rev. A 03/18

LIQUIFIER

Analog Chorus

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