

Z-80 Manual

Model: ZA-46

www.drzamps.com



This symbol warns the user of dangerous voltage levels localized within the enclosure.



This symbol advises the user to read all accompanying literature for safely operating the unit

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 dry cloth.
 - 7) Do not block any ventilation openings. Maintain at least 3 feet of distance around all sides of amplifier. Do not block any ventilation openings with items such as newspapers, tablecloths, curtains, etc.
 - 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 the 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) Avoid placing any liquids on or near the amplifier that may splash or drip such as those contained in bottles, cans, glasses, etc.
- *Dr Z amplifiers are capable of producing very high sound pressure levels which can cause temporary or permanent hearing damage.
- *If any screw that is actually on the amp chassis needs to be replaced contact Dr Z Amps for the proper size. Screw size is critical for inner chassis clearances.

General Information

In 2017 Brad Paisley found himself in possession of a vintage unicorn: a real-deal Vox AC80, at the time the most powerful amp the company had ever built, and also the rarest, numbering under 300 built. The first generation of these amps were built for the Beatles to use on their US stadium tours in the mid-60s in an attempt to elevate the Liverpool Lads' sound over the throngs of screaming fans. While in Cleveland on tour, Brad excitedly invited Dr. Z to hear the amp, both being die-hard Beatles fans, and Brad having a piece of both musical and amplifier history. That meeting ended with a question that would become an obsession over the next 6 years: "Could you build me another one, Z?"

The uncanny magic of the original Vox design was also its Achilles' heel. The AC80 had 4 individually cathode-biased EL34 power tubes, pushed to the brink of meltdown in order to achieve 80+ watts from the output section. The original cabinets were practically ovens for the tubes, providing poor ventilation and often going thermal while being pushed night after night. This caused Vox to rethink the design and supply the power section with a more reliable fixed-biased circuit in the second generation AC100 in the late 60s, but this design lost some of the harmonic response of the original, causing the company to shelve the amp soon after. Dr. Z set out to make his iteration firstly, and most-importantly, reliable enough to stand up to the rigors of Paisley's robust tour schedule. Starting with a stouter power transformer custom-spec'ed from Heyboer Transformers, he also reined the cathode values in, relieving the punishing voltages the EL34 tubes were under in the vintage design, and designed his own aluminum-welded chassis and head cabinet to allow for proper ventilation. Seeking to retain the unique vibe and distinct tone of the original cathode-biased design, but insuring it was bullet-proof, the amp now dubbed the Z-80 has been on Paisley's stage for 5+ years on the road, and has also found its way to numerous other Z artists' backline as a test of real-world reliability.

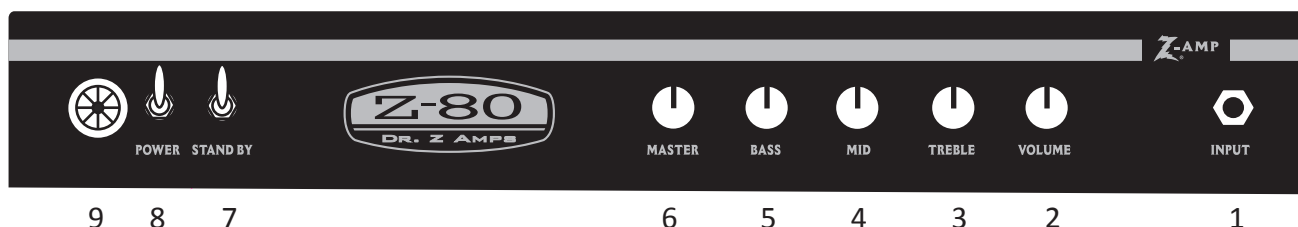
Dr. Z has never been satisfied to simply copy a design; the aim is always to bring a vintage tone into the present, meeting the demands and needs of today's player. Beyond improved reliability, refinement of the circuit was in order: a post-phase inverter master volume was tuned to control the brutal 80+ watts of clean, chiming power on tap. A Metro "Zero Loss" FX loop was added, allowing the player to dial up the grit and grind, but retain the clarity of their time-based effects and modulation. While the original Vox design was intended for bass guitar, Dr. Z massaged the Z-80's preamp to include a midrange control to dial in the range most important for guitar instead of the original's fixed resistor value, and ironed out some of the quirks in the tone stack by increasing gain and expanding frequency bandwidth.

Six years of relentless evolution has gone into the Z-80, having been built-up, then torn down to the tacks over half a dozen times; a testament to considerations taken for an amp Dr. Z considers a touchstone in his company's legacy. The Z-80 retains the original AC80's quad of individually cathode-biased EL34s, two 12AX7 preamp and one 12AU7 phase inverter, includes both a custom power transformer that exceeds the original's requirements and reliability, and is fitted with a replica output transformer designed around the original AC80 schematics, manufactured exclusively for Dr. Z by Heyboer Transformers. Hand-wired meticulously by Dr. Z himself, the Z-80 outperforms the original design requirements, has undergone the crucible of the road, and provides a dynamic, unmatched playing experience one can only achieve by buckling up and plugging into 80 watts of British Invasion-inspired power.

Specifications:

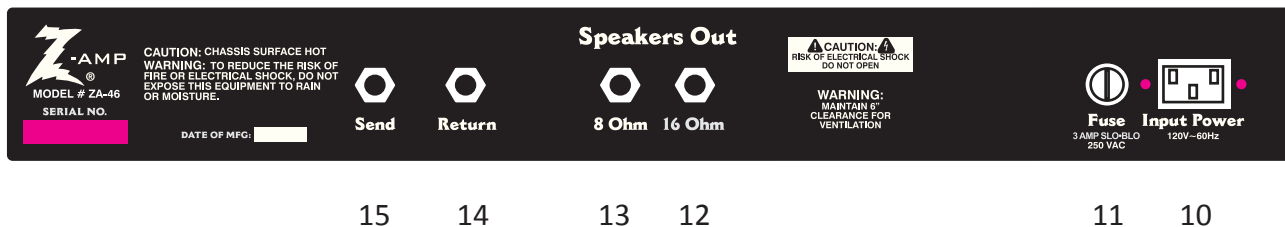
Power Output	80 watts
Output Tubes	4- EL34 (cathode biased)
Preamp Tubes	2- 12AX7, 1- 12AU7
Rectifier	Solid State diodes
Controls	Volume, Treble, Middle, Bass, Master
Speaker Outputs	8, 16 Ohm Outputs
Configurations	Head
Dimensions & Weight	Head: 22 ¾ " W X 9 ¾ " H X 10 " D, 40 lbs.

FRONT PANEL



- 1. Input:** Input jack for your guitar.
- 2. Volume:** Controls the amp input signal. As you turn the volume up natural overdrive will occur along with an increase in volume.
- 3. Treble:** Controls overall high frequency response.
- 4. Mid:** Controls the midrange response. At noon this roughly emulates the midrange content of a stock AC-style circuit with a fixed mid tone stack. Under 12:00 will scoop out midrange for a glassy tone and beyond noon will add mids and low mids for a fatter sound.
- 5. Bass:** Controls overall low frequency response.
- 6. Master:** Controls the overall volume of the amp.
- 7. Stand-By:** Leave in off position for 1 minute when powering up the amp. Turn on for play. Place in off position for extended break periods.
- 8. Power:** Switch up to turn on amplifier. Switch down to turn off amplifier.
- 9. Power Indicator:** Lights up when power is switched on. If LED fails replace with a 6.3 volt #44 Bayonet Base(BA9S).

REAR PANEL



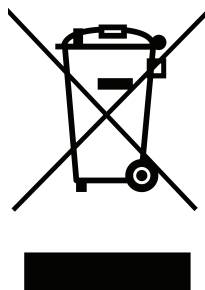
- 10. AC Inlet:** (Class I Wiring). This device is used for disconnection from power mains and must remain readily operable. The power indicator light does not indicate connection to power mains. The power cord must be disconnected to disconnect amplifier from power mains.
- 11. Fuse:** The fuse protects the amp from electrical faults. Replace only with the same rating and type stated below fuse holder (3A 250v SLO BLO). If the amp repeatedly blows the fuse contact your dealer or Dr. Z Amps.
- 12. 16 Ohm Speaker Jack:** Plug in the external or internal 16 Ohm speaker here. Always have a load connected to your amp. ONLY USE ONE SPEAKER OUT AT A TIME.
- 13. 8 Ohm Speaker Jack:** Plug in the external or internal 8 Ohm speaker here. Always have a load connected to your amp. ONLY USE ONE SPEAKER OUT AT A TIME.
- 14. Return Jack:** Plug the “out” of your effects chain to return the signal back to the amp.
- 15. Send Jack:** This will send the signal from the amp to the “in” of your effects chain.



MODEL: _____

SERIAL NUMBER: _____

INPUT VOLTAGE: _____



MADE IN USA



EC/EU Declaration of Conformity

Document: CE – ZA-46

Manufacturer: Dr. Z Amplification
17011 Broadway Ave.
Maple Heights, OH 44137 -3407
USA

We declare that the designated product (s)
DR. Z Z-80
is/are in conformity with the European Directives:

2014/30/EU EMC Directive of 26 February 2014

2011/65/EU RoHS Directive of 8 June 2011

2014/35/EU Electrical equipment designed for use within certain voltage limits

This declaration certifies compliance with the indicated directives but implies no warranty of properties. The safety instructions of the accompanying documentation shall be observed. This declaration of conformity is issued under the sole responsibility of the manufacturer.

Issuer: Dr. Z Amplification
17011 Broadway Ave.
Maple Heights, OH 44137 -3407
USA

Place, date: Maple Heights, OH USA , 13.OCTOBER.2023

Legally binding signature:

M.D. Zaite, General Manager, Dr. Z Amps



Dr. Z Amps 17011 Broadway Ave. Maple Heights, OH 44137 USA



DECLARATION OF CONFORMITY

We, Dr. Z Amps, declare, taking this declaration under our total responsibility, that guitar amplifier model Z-80 (ZA-46) is in conformity with EN 55013, EN 61000-3-2, EN 61000-3-3, and EN 55020 in accordance with the Directive 2006/95/EC of 12 December 2006, even more declaring that the CE marking was affixed in the year 2001.

10-1-2023

Michael Zaite, General Manager Dr Z Amps