

# **CERIATONE**

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## **A M P L I F I C A T I O N**

# **36W “TMB EF86”**

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## **36W Amplifier**

User's Manual

Thank you for the purchase of your Ceriatone guitar amplifier! Here, we hope to explain how best to use your new amp.

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### **1) About the 36W “TMB EF86”**

Our British series of amplifiers has been overwhelmingly popular, and is still the backbone of our amplifier line. The 18W is a particularly special amplifier to me, because it was our first offering under the Ceriatone brand!

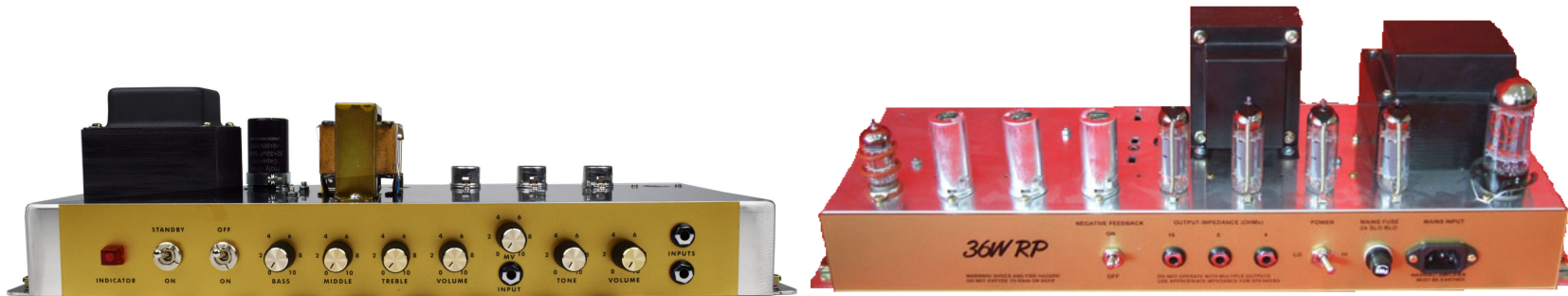
These amplifiers were a classic rock unsung hero, and they became a hot design in the DIY community with the advent of Internet discussion groups and forums. The 36W TMB EF86 (like it’s little brother 18W TMB) replaces the tremolo channel with a Plexi-inspired channel with full Treble, Middle, Bass tonestack and dedicated Master Volume. The Normal channel is replaced with an EF86 channel, inspired by chime of British combo amps of yore. The power section is also beefed up with a quad of EL84s and a GZ34/5AR4 rectifier

Most of all, we hope the 36W TMB EF86 becomes an integral part of your tone equation to exhilarate your playing and music.

Rock on!

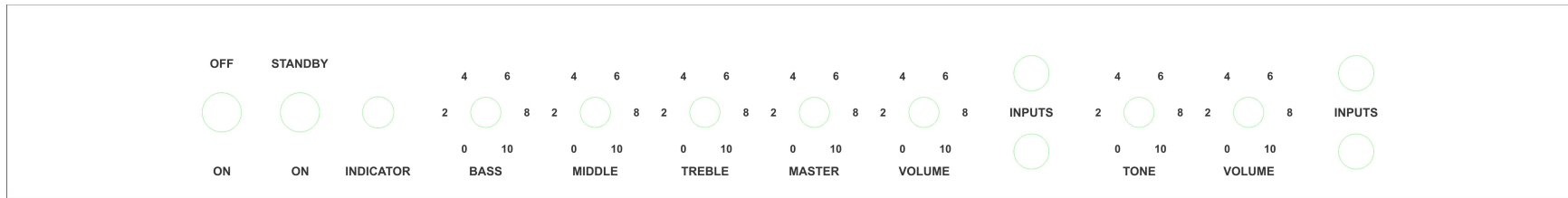
- Nik Azam

## 2) QUICK SETUP (for instant gratification)



- 1) Plug your guitar using a 1/4" instrument cable into the upper I input on the right of the front panel
- 2) Plug a suitable power cable from the amp's rear panel MAINS cable inlet to your wall power receptacle
- 3) Plug the amp into your speaker cabinet using 1/4" speaker cable
- 4) Set the IMPEDANCE SELECTOR to the match the impedance of your speaker cabinet
- 5) Set all rotary tone and gain controls on the front panel to 12:00 (clock face)
- 6) Set VOLUME controls at just above minimum
- 7) Set front panel POWER switch in the ON position (down position, with adjacent STANDBY switch in the "STANDBY" mode) for 30 seconds to allow tube filaments to warm up
- 8) Set front panel STANDBY switch to "ON" mode (down position)
- 9) **ROCK!!!!!!**

### 3) FRONT PANEL CONTROLS



From left to right:

- 1) **POWER** 2-way toggle switch
- 2) **STANDBY** 2-way toggle switch
- 3) **INDICATOR** LED
- 4) **BASS** control
- 5) **MIDDLE** control
- 6) **TREBLE** control
- 7) **VOLUME** control
- 8) **MASTER VOLUME** control
- 9) **INPUT** input 1/4" instrument jacks
- 10) **TONE** 6-way rotary selector
- 11) **VOLUME** control
- 12) **INPUT I and II** input 1/4" instrument jack

**POWER** two-way toggle switch powers the amp on and off. With the toggle switch in the DOWN ("ON") position, the amp is on. In the UP position, the amp is OFF.

**STANDBY** applies high voltage to the vacuum tube anodes (and screen grids) during use of the amp. To ensure long tube life, first power the unit on with the STANDBY toggle switch in UP position for approximately 30 seconds. You can then switch to DOWN (“ON”) to use the amp. With the toggle switch in the UP position, the amp is in STANDBY mode. In the DOWN position, the amp is in OPERATE mode

**INDICATOR** will illuminate when the amp is powered by turning the front panel POWER toggle switch to the ON position. If INDICATOR does not turn on, check your power cable connections, and then the fuse on the rear of the unit.

**BASS** adjusts low frequencies

**MIDRANGE** adjusts the mid frequency response

**TREBLE** adjusts the high frequency response

**VOLUME** sets the overall gain and distortion level of the TMB channel of the amp.

**MASTER VOLUME** sets the overall volume level of the TMB channel of the amp.

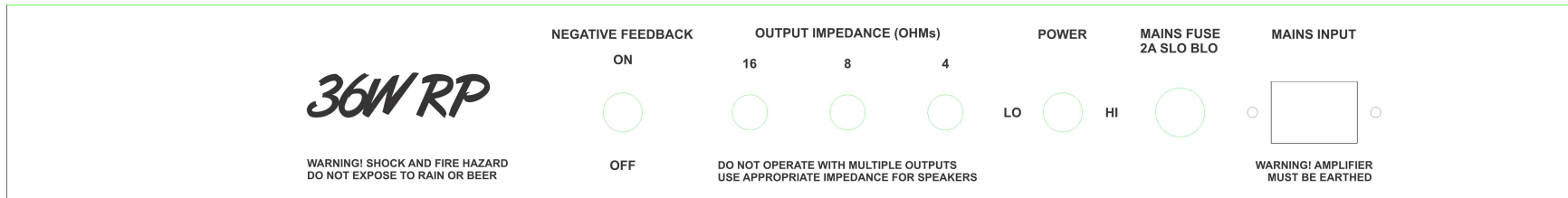
**INPUT** ¼” jack for instrument cables. Plug your guitar in here for the TMB Channel. The UPPER input is higher gain, whereas the LOWER input is lower gain.

**tone** is a 6-way rotary selector adjusting the frequency response of the EF86 channel. Counterclockwise has the most bass, and clockwise is the brightest.

**VOLUME** sets the overall volume and gain of the EF86 channel of the amp.

**INPUT I and II** are ¼” jacks for instrument cables. Plug your guitar in here for the EF86 Channel. The UPPER input is higher gain, whereas the LOWER input is lower gain.

## 4) REAR PANEL CONTROLS



From left to right:

- 1) **NEGATIVE FEEDBACK** 2-way toggle switch
- 2) **OUTPUT IMPEDANCE** ¼" speaker jacks (x3)
- 3) **POWER** 2-way toggle switch
- 4) **MAINS FUSE**
- 5) **MAINS** IEC cable inlet

**NEGATIVE FEEDBACK** toggle switch adds or defeats negative feedback in the power amplifier. UP engages negative feedback, which will tighten the response of the amp and decrease breakup and harmonic content. DOWN defeats the negative feedback, which eases the transition to breakup, and increases the bandwidth of the power section.

**OUTPUT IMPEDANCE** ¼" speaker cable jacks. Use a ¼" speaker cable to connect your speaker cabinet to the amplifier using these jacks. If you use one speaker cabinet, either jack is acceptable. Plug your cabinet into the jack that matches the total impedance of your cab to the number above the jack (16, 8, or 4 Ohms)

**NOTE** – *never turn your amplifier to OPERATE mode ("ON" / DOWN position on STANDBY) without connecting the amplifier to a speaker cabinet or suitable dummy load! Failing to do so may damage your amplifier!*

**POWER** switches the power output of the power amp. For the 36W, half mode is approximately 18W. LO mode configures the power tubes to run in triode operation, and this negates any need to reconfigure the OUTPUT IMPEDANCE.

**MAINS FUSE** slow-blow fuse – used to protect your amplifier from voltage spikes or excessive current draw. Replace only when necessary with 2A Slo-Blo

**MAINS** IEC cable inlet – plug a suitable IEC power cable into this inlet to power your amplifier

## 5) TUBE COMPLIMENT AND BIAS ADJUSTMENT



From left to right:

- V1 – EF86 (input stage EF86 channel)
- V2 – 12AX7/ECC83 (Input stage TMB channel)
- V3 – 12AX7/ECC83 (phase inverter)
- V4 – 12AX7/ECC83 (TMB Stage 2 and cathode follower)
- V5-8 – EL84
- V9 – GZ34/5AR4

***Amplifier is cathode-biased and requires NO BIAS ADJUSTMENT when installing new power tubes!***



## 6) FREQUENTLY ASKED QUESTIONS

*How do I hook up this thing?*

- See Section 2, beginning on page 3.

*Can I substitute different tube types?*

- Although you can try 12AT7s, 12AU7s, 5751s without any harm, the design is optimized for 12AX7s, and are therefore the only recommended tube in the preamp positions. You must use EF86, EL84, and GZ34/5AR4 tubes.

*Do I need to use a matched and balanced phase inverter?*

- It is not necessary. Feel free to experiment with different tubes (of the same type) in your amp, though!

*I've read that the components used in this type of amplifier are really important. What is inside my amplifier?*

- We use a combination of parts custom-made for us to our specifications (power transformer, output transformer, choke, high-temperature / low-ESR electrolytic capacitors) and those used in our British series (1/2W carbon composition resistors, 1W carbon film resistors, TAD Mustard capacitors, high-voltage silver mica capacitors, Belton tube sockets, and Alpha potentiometers, Cliff jacks). Finally, we occasionally use NOS components from our vast surplus parts collection in locations they work well and complement the voicing or enhance the performance of the amplifier.

## 7) SETTINGS TEMPLATES

