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JET ★ CITY
AMPLIFICATION

**JET CITY AMPLIFICATION
PICOVALVE
OWNER'S MANUAL**



- **DANGER: RISK OF ELECTRIC SHOCK, DO NOT OPEN**
 - **ATTENTION: RISQUE DE CHOC ELECTRIQUE!**
 - **NE PAS OUVIRIR!**
 - **ACHTUNG: STROMSCHLAG**
- GEFÄHRDUNG, NICHT AUFMACHEN!**

CAUTION: To reduce the risk of electric shock, do not remove cover or open rear panel. No user serviceable parts inside: refer handling to qualified personnel.

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



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to the important operating and maintenance instructions in the following document.

IMPORTANT SAFETY INSTRUCTIONS:

1. Read and keep these instructions .
2. Heed all warnings and follow all instructions .
3. Do not operate near water .
4. Clean only with a dry cloth .
5. Do not block any ventilation openings. Install in accordance with the manufacturer 's instructions
6. Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
7. Protect the power cable from being walked on or pinched at the plugs, convenience receptacles, and the point where they exit the unit.

Specifications

Pre-amp

- 2 x 12AX7

Power Amp

- 5 watt/2watt Output
- Class A/B, Fixed Bias (Internally Adjustable)
- 1 x 6L6

Controls

- Pre-amp Gain
- EQ – Bass, Middle, Treble
- Master Volume
- Stand-by switch - Toggle
- Power Switch – Toggle

Power Transformer

- Input Voltage – 100v/120v/230v/240v

Dimensions

- Unit – 12.4" W x 8.5" H x 6.9" D

Chassis Material –

- 16ga Rolled Steel

Protect Your Hearing

The US Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

Duration Per Day In Hours	Sound Level dBA
8	90
6	92
4	95
3	97
2	100
1.5	102
1.0	105
0.5	110
0.25	115

According to OSHA, any exposure in excess of the above permissible limits could result in hearing loss. Ear plug protectors in the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss if exposure is in excess of the limits set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high pressure sound levels such as this amplification system be protected by hearing protection while this unit is in operation.

8. Do not defeat the safety purposes 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 third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the outdated/obsolete outlet.
9. Use only attachments/ accessories specified by the manufacturer.
10. Unplug the amplifier during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power cable or plug damage, 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.

CONGRATULATIONS!

Your PicoValve was designed by the world-renowned tube amp designer Andy Marshall, in SEATTLE, WASHINGTON, and meticulously assembled to assure that it meets the highest quality standards and value. Andy Marshall dreamt up the PicoValve almost 10 years ago, and when his allies in Jet City approached him about working on a project together, he knew instantly this was the right time for PicoValve.

At only 5 watts, with a half-power switch, the PicoValve can bring that wonderful power tube distortion at reasonable volume levels for recording. Also included are a full tone stack with treble, middle, and bass controls for a full tonal range. You also get preamp and master volume controls for dialing up just the right amount of overdrive and output.

Thank you for purchasing a JET CITY AMPLIFICATION product!

Warning: This equipment is not for often transported and used, it shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.

BEFORE YOU ROCK

Before operating your PicoValve please make sure of the following:

- First, plug the PicoValve head into a speaker cabinet.
- Plug the power cable into the back panel and plug the cable into a power receptacle.
- Be sure that the STANDBY switch is on "STANDBY."
- Turn the POWER switch on the amplifier to "POWER" and wait about 30 seconds for the tubes to warm up.
- Turn STANDBY switch to "ON."
- Turn up your volume switch on your guitar and impress your friends with your amazing new tone.



WARNING: If a speaker or suitable "dummy load" is not plugged into the speaker jack, output transformer failure will occur. OUCH! This is not good and is NOT covered under warranty.

GENERAL OPERATION

The PivoValve is a single channel tube amp with a straightforward preamp design. It features a power section designed for maximum flexibility— you can use virtually any power tube to get exactly the tone you are after.

FEATURES

- THD's unique topology which allows the user to swap the power tube at will – use nearly any octal-based tube without the need to re-bias the amp
- Single channel with Preamp and Master Volume control
- 5 watts of tube power switchable to 2 watts
- Multiple speaker impedance outputs
- THD's signature steel cage design

- In an inspection of the product by Jet City Amplification shows that the defect in question is not covered by warranty, the inspection costs are payable by the customer.
- Products, which do not meet the terms of the warranty, shall be repaired exclusively at the buyer's expense. Jet City Amplification will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within six (6) weeks, Jet City Amplification shall return the unit to the customer C.O.D with an invoice that will include charges for the inspection and a separate additional charge for freight and packing costs. Such costs will also be billed separately when a customer has sent in a unit for repair with a written repair order form.

5 Warranty Transferability

This warranty is extended exclusively to the original buyer (customer of the retailer) and is not transferable to anyone who may subsequently purchase the product. No other person (retailer, consumer, etc) shall be entitled to give any warranty promise on the behalf of Jet City Amplification.

6 Claims for Damages

Failure of Jet City Amplification to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of Jet City Amplification exceed the invoiced value of the product.

7 Other Warranty Rights And National Law

The warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

outside of the box, and included with the returned product. Both the product in its original package and the Return Authorization Number must be shipped to the address indicated by Jet City Amplification at the time the call is made.

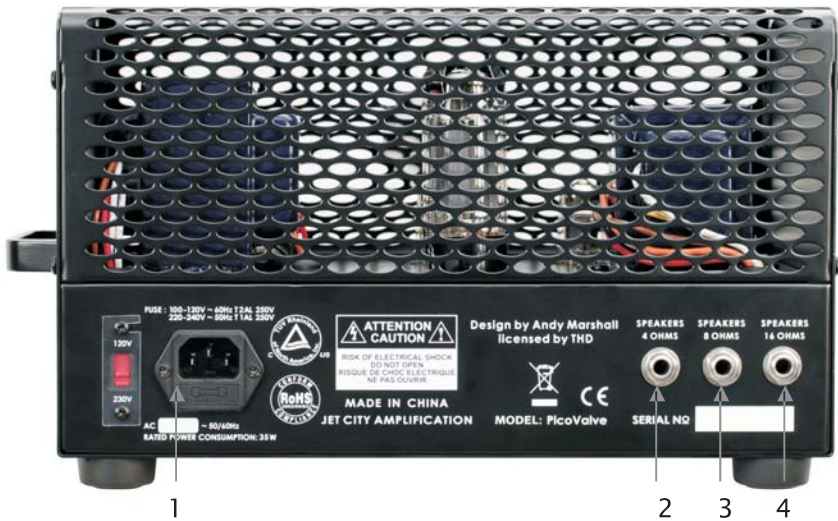
- Shipments without prepaid freight will not be accepted.

4 Warranty Regulation / Exclusions

- Warranty services will not be furnished if the product is not returned with the original sales receipt.
- Tubes and loudspeaker drivers are considered maintenance items and are excluded from all warranty claims.
- If the product needs to be modified or adapted in order to comply with technical or safety standards on a national or local level, in any country which is not the country for which the product was not originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. This warranty does not cover any such modification/adaptation, irrespective of whether it was executed properly or not. Under the terms of this warranty Jet City Amplification shall not be held responsible for any cost resulting from such a modification/adaptation.
- Free inspections and maintenance/ repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This applies to defects caused by normal wear and tear of items such as knobs, tolex and similar parts.
- Damages caused by the following conditions are not covered by warranty:
- Improper handling, neglect or failure to operate the unit in compliance with the instructions given in the Jet City Amplification user manual.
- Connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- Damages/defects caused by force majeure or any other condition that is beyond the control of Jet City Amplification
- Any repair or opening of the unit by unauthorized personnel (user included) will void the warranty.



- 1 Input Jack: Guitar cable goes here.
- 2 PREAMP GAIN: Adjusts the amount of gain (distortion) that the amplifier produces. Keep it low for crystal clear cleans , or dial it up for some tube grit.
- 3 Bright: This switch boosts the high frequencies. Perfect to "cut through" a loud band mix.
- 4 TREBLE: Part of the 3-band EQ for adjusting high frequencies
- 5 MIDDLE: Part of the 3-band EQ for adjusting middle frequencies
- 6 BASS: Part of the 3-band EQ for adjusting low frequencies
- 7 MASTER VOLUME: Allows you adjust how loud the amplifier's output will be
- 8 5W/2W switch: Allows you to have either 5 watts or 2 watts of output power
- 9 STANDBY switch: Used in conjunction with the main POWER switch (item 9). Use the STANDBY to "warm up" your amp's tubes before turning on the POWER switch. **Always put the amp in STANDBY before turning the main power switch on or off!**
- 10 POWER switch: This is the main power switch for the entire amp. **Be sure that your amp is switched off AND unplugged before moving it!** The pretty light glows when your amp is on.



- 1 Power Cord Out: Your PicoValve uses a standard 3-prong power cord, just like most computers
- 2 SPEAKERS 4 OHMS: Output jack for use with a speaker cabinet with a 4 ohm resistance rating
- 3 SPEAKERS 8 OHMS: Output jack for use with a speaker cabinet with a 8 ohm resistance rating
- 4 SPEAKERS 16 OHMS: Output jack for use with a speaker cabinet with a 16 ohm resistance rating

WARRANTY

1 Register Your Product Online

Please visit www.jetcityamplification.com within 30 days from the date of purchase as listed on the buyer's receipt to register your product. Doing so will enable you to receive the most current information about our company and products, directly from Jet City.

2 Warranty

- Jet City Amplification warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year from the original date of purchase, in accordance with the warranty regulations described below. If this product shows any defects within the specified warranty period that are not excluded under this warranty as described in section 4, Jet City Amplification shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case in which other parts are used which constitutes an improvement, Jet City Amplification may, at its discretion, charge the customer for these parts.
- If the warranty claim proves to be justified, the product will be returned to the customer freight prepaid.
- Warranty claims other than those indicated above are expressly excluded.

3 Return Authorization Number

- To obtain warranty service, the buyer (or his authorized dealer) must call Jet City Amplification or Authorized Jet City Amplification Distributor (current list and contact information can be found at (www.jetcityamplification.com) during normal business hours before returning the product.
- All inquiries must be accompanied by a description of the problem. Jet City Amplification will then issue a Return Authorization Number (RA Number).
- Once the RA Number has been obtained, the product must be returned in its original shipping carton. The return Authorization Number must be printed clearly on the shipping label on the

ACHIEVING YOUR PERFECT TONE

Just like its big brothers at THD, the PicoValve also features the unique topology allowing the changing of the power tube at will – it can use nearly any octal-based tube without the need to re-bias the amp.

Here some basics to get you started:

- The included 6L6 power tube delivers a nice all-around warmth and clarity.
- If you're looking for a tighter and more articulate bottom end, use a 6550.
- For a tone somewhere between the two, try a KT66.
- If you'd prefer your tone a bit more "British" with a grittier, more midrange breakup, pop in an EL34.
- REMEMBER TO EXPERIMENT: This is how you will get the most out of your new amplifier.

TUBE AMP BASICS

Solid state amplifiers are really not much different from your standard household electronics; you just plug them in and go. Tube amps, however, are significantly different. Let's try to answer some common questions about proper tube amp use.

1. **Can you really die from messing around with the guts of tube amp?**

Yes, you can. Tube amps carry significant voltage, even when turned off. DO NOT mess with the insides of a tube amp unless you are a trained tech.

2. **OK, question 1 scared me. Can I safely change my own tubes?**

Yes, you can. The dangerous voltages are only a problem if you start messing with wires and transformers. It is perfectly safe to change your own tubes.

3. **How often should I change tubes?**

There is no set timeline for changing tubes. If you play every day, a good rule of thumb is to replace your power tubes once a year and your preamp tubes every other year. However, it is entirely possible for tubes, particularly preamp tubes, to last decades.

Here are some signs that you need to change your tubes:

- Excessive noise like squealing, humming, or hiss
- Little or no high end/treble
- Muddy low end or loss of clarity; amp sounds "muddy"
- Mysterious fluctuations in the amp's overall volume
- Amp doesn't work!

4. **What the heck is "biasing" and do I need to do it?**

"Biasing" is a technical term that has to do with things like "voltage applied to the grid" and "moving the operating point into a more linear range." If you didn't understand that, then don't attempt this yourself!

Your PicoValve basically bypasses all of this. It is designed specifically to allow you to quickly and easily switch power tubes. No extra biasing or other adjustments are necessary— just plug the tube in and rock out!

SPEAKERS AND IMPEDANCE

Every guitar amplifier actually consists of two primary parts: amp and speaker. In combos, the speaker has already been matched to the amp. Since the PicoValve is only the amp, you will need to connect it to suitable speakers. There are some basic ground rules for this.

1. What are the best speaker cabinets for my PicoValve?

Why, Jet City cabinets, of course! The single speaker JCA12S, dual speaker JCA24S, and quad speaker JCA48S were all designed to get maximum tone out of our amps.

2. What is "impedance" and why is it important?

Every speaker cabinet has an impedance rating listed in ohms. Think of the impedance as the speaker cabinet's resistance to an amp's power. The higher the cabinet's impedance, the more the amp has to work to push power through it. The goal in any amp/cabinet configuration is the match the amp's speaker output impedance with a speaker's impedance (sometimes called "load").

3. OK, how does that relate to my PicoValve?

Your amp has outputs on the back marked "16 ohms," "8 ohms," and "4 ohms." You need to pick the correct output for your speaker configuration. To be specific, if your speaker cabinet is listed as "16 ohms" then use the "16 ohms" output on your PicoValve.

Things get a bit more complicated when you want to use more than one speaker cabinet. Speaker cabinets often have a set of ¼" jacks labeled "series" or "parallel." This allows you to run a speaker from your head to one cabinet and then from that cabinet to another one. When you use the "series" output, the load increases so you add each cabinet's impedance to determine the overall load (two 8-ohm cabs in series = 16-ohm load).

When you use the "parallel" output, the load decreases. If all

cabinets have the same impedance, then divide that impedance by the number of cabinets (two 8-ohm cabs in parallel = 4-ohm load). If the cabinets are of different impedance, then multiply the impedances together and divide this by the sum of the cabinet impedances (one 8-ohm cab and one 16-ohm cab in parallel = 5.33-ohm load). In case of an awkward number, default to the impedance closest to, but lower than, the number (for a 5.33-ohm load, use the 4-ohm output).

4. Um...could you make that a little easier?

Sure! Just read the chart below to find what your speaker configuration.

Connect your PicoValve to:

Single JCA12S	amp's 16-ohm out to cab's only input
Single JCA24S	amp's 8-ohm out to cab's 8-ohm in (mono mode)
Single JCA48S	amp's 16-ohm out to cab's 16-ohm in (mono mode)