



# **JET CITY AMPLIFICATION JCA20HV OWNER'S MANUAL**

**Thank you for your support!**

Your JCA20HV was designed by the world-renowned tube amp designer Mike Soldano, in SEATTLE, WASHINGTON, and meticulously assembled to assure that it meets the highest quality standards and value.

- **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.
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, and the point where they exit the unit.
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 If the provided plug does not fit into your outlet, consult an electrician for replacement of the outdated/obsolete outlet.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. Unplug the amplifier during lightning storms or when unused for long periods of time.
10. Refer all servicing to qualified service personnel. Servicing is required when the product has been damaged in any way, such as power cable or plug damage, liquid has been spilled or objects have fallen into the product, the product has been exposed to rain or moisture, does not operate normally, or has been dropped.

Before operating your JCA20HV please make sure of the following:

- First, plug the JCA20HV head into a speaker cabinet.
- Plug the power cable into the back panel and plug the cable into a power receptacle. Turn on the power switch on the amplifier and wait about 30 seconds for the tubes to warm up.
- Turn on the standby switch.

- 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 may occur.

The JCA20HV is a 20 watt, single-channel guitar amp head, voiced by SOLDANO for great vintage rock tones.

The tone controls are interactive; each control will affect the others. This gives you the flexibility to dial in all the unique and subtle tones you've been searching for.

JCA20HV also has a presence control that lets you add high-end sparkle, and a depth switch which boosts the low end. Other features include a post-EQ solid state effects loop and multiple speaker impedance outputs.

Controls:

Input Jack: Guitar cable goes here (the other end should probably be in the guitar)

**GAIN:** Adjust the amount of gain (distortion) that the amplifier produces. Keep it low for clean tones, or dial it up for some tube grit.

**BASS:** Part of the 3-band EQ for adjusting low frequencies

**MID:** Part of the 3-band EQ for adjusting middle frequencies

**HIGH:** Part of the 3-band EQ for adjusting middle frequencies

**MASTER:** will let you adjust how loud the output will be.

**PRESENCE:** adds an overall brightness, which can be handy when trying to cut through in a 'dead' room.

**DEPTH:** enhances the amplifier's low-end frequencies to give extra heaviness to your sound.

**STANDBY switch:** Used in conjunction with the main POWER switch. 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.**

**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.**

## 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.

Tube amps carry significant voltage, even when turned off. DO NOT remove the chassis from the cabinet unless you are a trained tech. The dangerous voltages are a risk if you start messing with wires and transformers but is perfectly safe to change your own 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
- There’s no sound from the amp!

“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.

JCA20HV is a Fixed-bias amp which allows you to “plug and play” EL84 power tubes without needing a bias adjustment.

## SPEAKERS AND IMPEDANCE

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").

JCA20HV has outputs on the back marked "16 ohm" and "8 ohm." Use the correct output for your speaker configuration. If your speaker cabinet is listed as "16 ohms" use the "16 ohm" output from the JCA20HV.

Speaker cabinets often have a set of  $\frac{1}{4}$ " 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 closes to, but lower than, the number (for a 5.33-ohm load, use the 4-ohm output).

## **WARRANTY**

### **1 Register Your Product Online**

Please visit [www.jetcityamplification.com](http://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](http://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 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.
- 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.

## **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.

## Specifications

### Pre-amp

- 3 x 12AX7

### Power Amp

- 20 watta
- Class A/B, Fixed Bias (Internally Adjustable)
- 2 x EL84

### Power Transformer

- Input Voltage – 100v/120v/230v/240v

Technical specifications and appearance are subject to change without notice. The information contained herein is correct at the time of printing. The names of companies, institutions or publications pictured or mentioned and their respective logos are registered trademarks of their respective owners. Their use neither constitutes a claim of the trademarks by Jet City Amplification→ nor the affiliation of the trademark owners with Jet City Amplification→. Jet City Amplification→ accepts no liabilities for any loss, which may be suffered by any person who relies wholly, are part upon any description, photograph or statement contained herein. Colors and specifications may vary slightly from product. Products are sold through Authorized Re-Sellers only. Distributors and dealers are not agents of Jet City Amplification and have no authority to bind Jet City Amplification by any expressed or implied undertaking or representation.

