

electro-harmonix

MIG-50 MKII

50W All Tube Guitar Amplifier

Congratulations on your purchase of the Electro-Harmonix **MIG-50 MKII**, an all tube, two channel, 50W guitar amplifier head. The EHX MIG-50 MKII is a reissue of the Sovtek MIG-50 with modern enhancements to both the electronics and mechanical design. The MKII circuit also improves upon previous iterations of the EHX MIG-50 reissue by overhauling the BRIGHT channel, tonestack, power amp, negative feedback, and the power supply to produce our best sounding and most reliable MIG-50 yet! The MIG-50 MKII comes installed with three 12AX7 preamp tubes and two 5881 power tubes.

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IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Clean only with a dry cloth.
- Do not block any ventilation openings.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 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.
- Protect the power cord from being walked on or pinched.

- Unplug this amplifier during lightning storms or when unused for long periods of time.
- **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- Do not expose this apparatus to dripping or splashing and ensure that no object filled with liquids is placed on the equipment.
- Maintain at least six inches of unobstructed air space behind the unit to allow for proper ventilation and cooling. Air must be capable of freely moving around the amplifier.
- This amplifier is capable of producing very high sound pressure levels which may cause temporary or permanent hearing damage. Use care when adjusting volume levels during use.
- Do not turn the amplifier on without a loudspeaker.
- Refer all servicing and maintenance to qualified service personnel including replacement of fuses and vacuum tubes. Changes and modifications not expressly approved by EHX can void the warranty.
- DO NOT attempt to remove the amplifier chassis. There are no serviceable parts.
- DO NOT use this apparatus near water.
- 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.
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- Apparatus is not for use in tropical climates.
- Only use attachments/accessories specified by the manufacturer.
- The appliance coupler shall remain readily operable.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT
EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.



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



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the product.

GETTING STARTED

BEFORE PLUGGING POWER INTO YOUR MIG-50 AMP MAKE SURE:

1. Both the POWER and STANDBY toggle switches are off, set to their DOWN position.
2. The AC voltage marked on the rear panel matches the wall voltage for your region or the AC voltage powering your amp.
3. The LOUDSPEAKERS output on the rear panel should be connected via a properly rated speaker cable to a speaker cabinet with the correct impedance (a 16 Ω cabinet to the 16 Ω jack or an 8 Ω cabinet to the 8 Ω jack, etc.). **WARNING:** Only connect one speaker output at a time! Running the amp into a speaker cabinet with mismatched impedances or with no cabinet at all could severely damage the MIG-50 and void your warranty. Be sure to select a cabinet that can handle the full rated **50W_{RMS}** power rating for your amp.

HOW TO POWER YOUR MIG-50 AMP:

1. Flip the POWER switch to the ON position. The lamp should light.
2. Give the tubes a few minutes to warm up, then flip the STANDBY switch to the ON position.
3. ROCK & ROLL!

FRONT PANEL

INPUT I Jack – This ¼" jack is the audio input for the normal channel. The input impedance is 1M Ω .

INPUT II Jack – This ¼" jack is the audio input for the bright channel. The input impedance is 1M Ω .

VOL I Knob – Controls the overall loudness of channel I, the normal channel.

VOL II Knob – Controls the overall loudness of channel II, the bright channel.

TONE Knobs – TREBLE, MIDDLE, BASS and PRESENCE controls are used to alter the amplifier's frequency response. Adjust to taste and experiment with different settings.

Lamp – Lights when the POWER switch is on. *Replacement part: Dial Lamp #47, T-3-¼, 6.3V, 0.15A, bayonet base*

REAR PANEL

AC INLET – Plug the standard IEC power cable into this jack.

FUSE (MAINS) – Within the AC inlet jack is the fuse holder. This fuse protects the power transformer and power switch in case of overload. To access the fuse, push and twist the fuse holder counterclockwise by hand or with a flathead screwdriver.

100VAC (Japan)..... 3A / 250V slow-blow 5x20mm fuse
117VAC (US/Canada)..... 3A / 250V slow-blow 5x20mm fuse
230VAC (EU/Australia) 1.6A / 250V slow-blow 5x20mm fuse

WARNING: The AC voltage rating is marked on the amplifier's chassis. Failure to use the appropriate fuse could damage the amplifier.

FUSE (VALVE) – This 1A fast-blow 5x20mm fuse's purpose is to protect the audio circuitry in case of overload. If this fuse blows then any of the preamp or power amp tubes could be at fault. To access the fuse, push and twist the fuse holder counterclockwise by hand or with a flathead screwdriver.

LOUDSPEAKERS – These output jacks are for 4 Ω , 8 Ω , or 16 Ω loudspeaker connections only.

WARNING: Only connect one loudspeaker output at a time. A loudspeaker must always be connected while the amp is powered and there is signal present at the input. Failure to do so may damage your amp and void the warranty. Read more about speaker cabinet impedance on page 7.

BIAS ADJUST – This trim pot allows you to bias your power tubes without needing to expose yourself to the dangerously high voltages contained within the amp or take your amp to a technician just to replace some tubes. See HOW TO ADJUST POWER TUBE BIAS section below for more instructions on using this control.

FUSE (BIAS) – This 800mA fast-blow 5x20mm fuse should blow if a power tube fails or starts to show signs of wear/old age. To access the fuse, push and twist the fuse holder counterclockwise by hand or with a flathead screwdriver.

HOW TO ADJUST POWER TUBE BIAS

To adjust the bias of your tubes, you will first need a digital multimeter capable of reading DC millivolts and a small flathead screwdriver. If you are uncomfortable with using these types of tools or do not understand what power tube bias is, please refer to a professional technician. We also encourage you to research the subject yourself as there are plenty of resources written online and books published by the likes of Randall Aiken, Rob Robinette, and Merlin Blencowe, to name only a few.

WARNINGS:

- 1) Power tubes get very **HOT!** Allow the tubes to cool for at least 5-10 minutes before trying to remove them.
- 2) **Only use 6L6/5881/KT66 or EL34/6CA7/KT77 style tubes.** Using other style tubes may damage your tubes or the amp and void your warranty.
- 3) Only the MIG-50 MKII amplifier can accommodate EL34/6CA7/KT77 tubes. If you own a MIG-50 manufactured before 2022, DO NOT ATTEMPT TO USE EL34 TYPE TUBES. You may damage your tubes or the amp and void your warranty.

After installing your new power tubes...

1. Make sure there is nothing plugged into either input on the amp. Turn all controls down to their minimum positions (zero). Turn the amp on by flipping the POWER switch to its ON position. Wait 30 seconds and flip the STANDBY switch to its ON position.
2. Set your multimeter to read DC millivolts. Insert the black test probe into the negative test point marked (-). Insert the red test probe into the positive test point marked (+).
3. Use your flathead screwdriver to turn the ADJUST trim pot while viewing the reading on your multimeter. Consult the table below for the recommended settings for your power tubes. Your MIG-50 MKII shipped with Sovtek 5881WXT tubes.

RECOMMENDED BIAS SETTINGS

Tube	Range	Recommended Setting	Absolute Maximum
6L6 / 5881	55-70mV	62mV	75mV
6L6GC	70-85mV	82mV	90mV
5881WXT	60-75mV	71mV	80mV
KT66 / KT77	60-75mV	68mV	80mV
EL34 / 6CA7	60-75mV	68mV	80mV

WARNING: Setting the bias higher than the absolute maximum may destroy your tubes or your amp and will void your warranty.

4. Allow the amp to warm up for at least 5-10 minutes and readjust the bias to the desired setting.
5. Plug an instrument in and play through the MIG-50 MKII. Adjust the bias to taste, if necessary.

TUBE AMPLIFIER BASICS & MAINTENANCE

Whether you're new to tube amps or an experienced player, here are some tips for maintaining your MIG-50 MKII amp:

Backup Tubes

Tubes fail over time and that's normal. It's a good idea to keep a spare set of preamp and power amp tubes on hand in the case one or more tubes fail. You do not need to use the exact same tubes when replacing old or broken ones, but always be sure to buy your power tubes as a **matched pair** and only use the power tube types listed in the table above in the HOW TO ADJUST POWER TUBE BIAS section. Feel free to try different tube types out, both preamp and power amp, when trying to find your sound! For reference, your MIG-50 MKII amplifier shipped with the following tubes (when facing the rear of the amp, right to left):

Tube	Make/Model	Function
V1	Mullard CV4004/12AX7	Channels I & II first gain stage
V2	Tung-Sol 12AX7	Second gain stage and EQ
V3	Tung-Sol 12AX7	Phase inverter
V4 & V5	Sovtek 5881WXT	Power tubes

Fuses

As with tubes, it's a good idea to keep backup fuses on hand, though, if a fuse blows then it's usually indicative of a problem within the amp. Fuses are electrical safety devices that operate to provide overcurrent protection of an electrical circuit. What this means is that if a circuit draws more current than what the fuse is rated for, the fuse will open ("blow") before the circuit has a chance to draw enough current to destroy itself. So, if you have a blown fuse, that means the circuit is operating outside of its normal conditions and should likely be examined. There are two main types of cartridge fuses – fast-blow, which means the fuse opens instantly upon overcurrent, and slow-blow, which has a time delay before blowing upon overcurrent. It is not a good idea to swap fast- and slow-blow fuses. Always use the intended type!

The MIG-50 has three 5x20mm cartridge fuses:

Fuse	Rating	Protects
MAINS	3A / 250V / slow-blow	Power transformer
VALVE	1A / 250V / fast-blow	Power supply & audio circuitry
BIAS	800mA / 250V / fast-blow	Power tubes

Removing Tubes

The first few times you remove the vacuum tubes from their sockets, especially the preamp tubes, it may be difficult due to the tight hold of the new tube sockets. Just be patient and take your time removing the tubes. Glass breaks, so be careful! Always make sure the amp is off and the tubes have had time to cool down before touching them.

Speaker Cabinet Impedance

It is important to match the loudspeaker output (4Ω, 8Ω, or 16Ω) to the impedance of your cabinet. If you do not know the impedance of your cabinet, use the 8Ω output on the MIG-50 MKII. As a rule of thumb, you want the speaker output impedance on the amp to be **equal to or smaller** than the input impedance of your speaker cabinet. So you can connect the 8Ω output to a 16Ω cabinet (or the 4Ω output to an 8Ω cabinet), but never the 16Ω output into an 8Ω cabinet (or the 8Ω output to a 4Ω cabinet). You can hook up the 4Ω output to a 16Ω cabinet, but it is not recommended due to the wider impedance mismatch. Just try to match the impedances the best you can.

Using Both Inputs

Yes, you can use a switching box or a Y-cable to utilize both inputs of your MIG-50 MKII at the same time. Use the VOLI and VOLII controls to blend the sounds to taste.

WARRANTY INFORMATION

Please register online at <http://www.ehx.com/product-registration> or complete and return the enclosed warranty card within 10 days of purchase. Electro-Harmonix will repair or replace, at its discretion, a product that fails to operate due to defects in materials or workmanship for a period of one year from date of purchase. This applies only to original purchasers who have bought their product from an authorized Electro-Harmonix retailer. Repaired or replaced units will then be warranted for the unexpired portion of the original warranty term.

If you should need to return your unit for service within the warranty period, please contact the appropriate office listed below. Customers outside the regions listed below, please contact EHX Customer Service for information on warranty repairs at info@ehx.com or +1-718-937-8300. USA and Canadian customers: please obtain a **Return Authorization Number (RA#)** from EHX Customer Service before returning your product. Include—with your returned unit—a written description of the problem as well as your name, address, telephone number, e-mail address, RA# and a copy of your receipt clearly showing the purchase date.

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The CE logo indicates that this product has been tested and shown to conform with all applicable European Conformity directives included in IEC 62368-1.



The WEEE or "trashcan" logo indicates that this product is made up of electronic components that should not be trashed alongside household waste but instead should be recycled by a proper electrical waste facility.