

RED NOTE amplification

MODEL Micra

OWNERS MANUAL



GENERAL CHARACTERISTICS

Model Micra is a 15 watt, mono channel all tube high end amplifier, point to point wired, with headphone output, and a 10" Celestion speaker. Micra is a small and lightweight amp with the practical and busy musician in mind

The amp is built around a classic James tone stack as found in old Ampegs and some rare vintage Fenders. Micra is an extremely reliable, high quality, musical sounding amplifier handbuilt with top notch components.

SWITCHING THE AMPLIFIER ON AND OFF

Power Switch – This switch activates the filament circuit.

Standby Switch – This switch activates the high voltages to the tubes (B+)

To operate the amplifier, first switch on the filament circuit, wait for 30 seconds until the tubes warm up and then activate the standby switch. Reverse the sequence for switching the amplifier off Following this procedure will extend tube life

Standby switch is also useful during short breaks; using it instead of switching the power off will also extend the tube life

Please be sure the amplifier is connected to the speaker and the Headphone/Speaker selector located at the rear panel is in speaker position otherwise the signal is muted and routed to the headphone amplifier

FRONT PANEL CONTROLS



Input jack - Input jack give access to channel

Gain - This potentiometer controls the gain and works together with the volume control allowing fine tuning the exact amount of drive relative to "master volume". This control it's not intended to produce any overdrive, but to bring the output of different pick up level to the "sweet spot" range where the preamp tube gives colour to the sound

Treble - Turning up or down the potentiometer controls the amount of treble signal

Bass - Turning up or down the potentiometer controls the amount of bass

Volume - This potentiometer controls the signal feeding the power amp and balances the channel gain relative volume

REAR PANEL CONTROLS



Main Fuse - This fuse protects the power transformer primary and the value is 3A/250V Slow- Blown type. Please it is very important to change the fuse with the same type and value. Failing to do that will invalidate the warranty

AC Receptacle - Plug the power chord to the receptacle and be sure that the mains has a reliable ground connection. This is imperative for both personal safety and to keep the noise of the amplifier at minimums

HT Fuse - HT fuse protects the output transformer and other sensitive components in the event of an output tube short. If a tube fails the fuse will blow protecting expensive parts of the circuit. Fuse value is 500mA/250V. Using greater values will invalidate the warranty

Power Switch (on/off) - This switch activates the filament circuit.

Standby Switch (Standby/operate) - This switch activates the high voltages to the tubes (B+)

To operate the amplifier, first switch on the filament circuit, wait for 30 seconds until the tubes warm up and then activate the standby switch. Reverse the sequence for switching the amplifier off Following this procedure will extend tube life

Standby switch is also useful during short breaks; using it instead of switching the power off will also extend the tube life

Please be sure the amplifier is connected to the speaker and the Headphone/Speaker selector located at the rear panel is in speaker position otherwise the signal is muted and routed to the headphone amplifier

External speaker – This mono 1/4" jack is for external speaker cabinets. Its parallel connected to 8 Ohm combo internal speaker.

Speaker impedance – This switch selects the output transformer impedance tap.

Note about speaker loads.

Please connect the correct load to the amplifier. The internal and external speaker combination has to be the same as indicated by the speaker selector switch. If you cannot match the impedance try to combine impedances so the total load will be always greater than the indicated by the impedance selector switch; in this case you will have a different response from the amplifier but you will not harm it

If the external speaker is

8 Ohm, then the net impedance will be – 4 Ohm - Selector position – 4 ohm

16 Ohm, then the net impedance will be – 5,3 Ohm selector position – 4 Ohm

4 Ohm, then the net impedance will be – 2,6 Ohm **WARNING DO NOT CONNECT.** Such load combination is too low for both 4 and 8 Ohm

position. If you want to use a 4 Ohm external speaker system please disconnect the internal speaker and switch the selector to 4 Ohm

Headphone jack – This stereo 1/4" jack output is for dynamic headphones,

Headphone/speaker switch – This high quality mini switch mutes the power amp so you can use the amplifier with your headphones.

MAINTENANCE MANUAL

Although not complicated, maintenance in tube amplifiers it is not completely free:

- 1) Tube replacement
- 2) Bias adjustment

Tube replacement

Tubes wear, that is the price you have to pay for great tone. There are 8 tubes in your amplifier.

Position, type and function are as follows:

- V1 ECC83 – channel first and second gain stage
- V2 ECC81 – Phase inverter
- V5 6L6GC – Power amp positive cycle (matched pair)
- V6 6L6GC – Power amp negative cycle (matched pair)

MINIATURE DUAL TRIODES

V1,V2 - Are noval dual triodes, No adjustment is necessary when changing any of these tubes. All dual triode are self bias

Dual triodes had to be substituted when:

Having more than 2.000 hours of use

Evident malfunction of the tube such microphonic noise or other problems

POWER AMP PENTODES

V3,V4 are power pentodes. Power pentodes needs an exact bias voltage to perform correctly when substituted. ALWAYS USE MATCHED TUBES of the same type

What is bias?:

Bias is the most critic voltage in the amplifier

It is a negative voltage applied to the tube. This negative voltage controls current flow through the tube and sets his operating point. Bias set incorrectly with too much negative voltage applied to the grid can degrade sound quality delivering lots of crossover distortion (non musical distortion). The inverse situation is even worst: making the grid voltage less negative tube draws too much current and can damage the amplifier

BIAS ADJUSTEMENT

Micra is not Bias adjustable, the output tubes are biased through a power cathode resistor, it's self bias, so when changing tubes the circuit fill find itself the optimal bias point

However

Differences in manufacturers and batches can lead to a pair of tubes running too hot (too much current) and the cathode resistor value has to be increased, if the overcurrent is extreme, the plate (anode) of the tubes will glow orange/red and the lifespan of the tube will be reduced, in this situation the tubes can fail and short internally forcing the HT fuse to blow

If a set of new tubes are needed please give me a call or send me an e-mail and I will provide you a matched set that will be correct for the cathode resistor value of the amp

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