Mojave

MA-300 MULTI-PATTERN
VACUUM TUBE CONDENSER MICROPHONE

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INTRODUCTION

Congratulations on your purchase of a Mojave Audio MA-300 Multi-pattern Vacuum TubeCondenser Microphone. Your MA-300 was carefully designed and constructed using only the finest materials. The MA-300 microphone is capable of delivering superb performance for many years. Your MA-300 was thoroughly tested and given a 24- hour factory burn-in prior to shipment.

The MA-300's capacitor capsule and electronics are adapted from mid-1950's design practice. The MA-300 utilizes a U.S. made, military-grade, low noise sub-miniature vacuum tube and a Jensen audio output transformer. By utilizing modern components, the microphone system emulates the performance of "classic" tube microphones without using esoteric, unreliable, or hard to find components.

For optimum performance from your microphone, please read this manual thoroughly and familiarize yourself with the proper use of the MA-300.

UNPACKING AND INSPECTION

Carefully unpack your MA-300 and verify that all of the accessories included with the microphone are accounted for. Do not discard any packing materials. If anything is missing or damaged, contact your dealer immediately.

Items included with the MA-300 are:

1. MA-300 microphone presentation case.
2. AC operated microphone power supply.
3. 16-foot microphone cable with 7-pin male and female connectors.
4. MA-300 shock mount
5. AC power cable for power supply: molded IEC business machine type with plug.
6. Carrying case for all above items.

Your Mojave Audio product is warranted to the original owner for a period of two years. Your product must be registered with Mojave at the time of purchase. During the warranty period Mojave Audio guarantees our product to be free from electrical and mechanical defects, and will repair or replace defective components, or replace the product at Mojave Audio's discretion. Questions? Contact us at support@mojaveaudio.com

Verify that the serial number of your MA-300 matches correctly with the one on your receipt. Make sure to register your microphone at mojaveaudio.com. When corresponding with Mojave Audio about your microphone or when service is required, we will need to know the serial number, so keep it handy.

GENERAL INFORMATION

The MA-300 is a multi-pattern vacuum tube microphone and requires a dedicated power supply and seven-pin cable set for operation. These items are provided with the microphone, along with a specially designed shock mount assembly. The capsule is a 3-micron, dual membrane gold- sputtered type. The vacuum tube head-amplifier delivers wide bandwidth and low noise operation. The MA-300 utilizes a sub-miniature vacuum tube, which necessitates the need for a dedicated power supply. The vacuum tube is military grade 5840W new old stock and will deliver excellent performance for many years. A specially designed, high-quality Jensen audio output transformer delivers an isolated, truly balanced output signal, minimizing the possibility of unwanted noise entering the preamplifier. As with all vacuum tube microphones, a warm-up period is advised for optimum performance; usually about ten minutes. The MA-300 includes a 15dB pad and a bass cut switch.

SAFETY INSTRUCTIONS

To avoid electrical shock and damage to the MA-300, use proper circuit protection. MA-300's purchased in the U.S. are set for 120V, 60 Hz operation. MA-300s purchased outside of the U.S. are set for the voltages of the country to which they are exported. This information is duly noted on the outside of the shipping box as well as on the voltage selector of the power supply. The MA-300 uses a line fuse for protection. Never replace this fuse with one of a higher current rating. Use only that type which was supplied with the unit. The power supply cord that is supplied with your MA-300 is a standard “business machine” type. It is good practice to examine the power cord regularly. Never use a cord that shows damage or that has exposed wires.

There are no user serviceable components inside the MA-300 microphone or its power supply. Always refer service to a qualified technician equipped to service this equipment. Never expose the MA-300 microphone, its power supply, or cable set to water or any environment that may create an electrical hazard. In the event of a malfunction, disconnect the MA-300 immediately and determine the nature of the malfunction before attempting to use it again.

To avoid tripping over the microphone cable, make certain that the cable is not in the way of foot traffic, or suspended in an unsafe manner. Make sure that the microphone stand is secure and not likely to fall.

OPERATION

When plugging the microphone in, the seven-pin XLR connectors between the microphone and the power supply should be inserted *gently* into their corresponding sockets. Rough handling, misaligned orientation, or trying to force the connections together too quickly could result in bent pins.

Your MA-300 was thoroughly checked and burned-in before leaving the factory. Before using it for the first time, we recommend connecting the MA-300 to its power supply and letting it warm up for at least thirty minutes. Moisture build-up on the capsule or on the other high-impedance components within the microphone can cause random noise or static. The thirty-minute initial warm-up will drive out any residual moisture that may have collected on the internal components during shipping or storage.

Also note that if the MA-300 is being used with phantom powered microphones in a multiple microphone setup, phantom power may be applied to the channel connected to the MA-300 without ill effect, provided that your standard 3-pin microphone cables are wired properly.

A grounded power cord is used to connect the power supply to an electrical socket. MA-300 power supplies are shipped pre-wired for standard AC voltage in the country where the microphone is sold. If there is a need to change AC voltage (travel, sale to another country, etc.), an external switch allows the power supply to be configured for 100, 115 or 230 volts at either 50 or 60 Hz. Make sure the fuse is the proper value - 500 mA for 100-120 Volts AC and 250 mA for 230 Volts AC.

"Hot plugging" any vacuum tube microphone can damage the microphone's electronics, so always be sure to connect the microphone to the power supply with its multi-conductor cable before turning the power supply on.

AC LINE FUSE

A spare fuse is included with your MA-300 power supply, located in the fuse carrier just above the AC receptacle. To access the fuse, gently pry out the carrier with a flathead screwdriver. The fuse is mounted in the clip, and the spare is located is a small channel behind the cover. Replace the fuse with the same type as suppd with your microphone.

MAINS VOLTAGE	**FUSE TYPE**
100 Volts AC	T500mAL
120 Volts AC	T500mAL
220 Volts AC	T250mAL

In the rare event that you experience fuse failure, identify the cause of the failure before using the microphone again! The most common cause for a fuse to fail would be a damaged microphone cable or a broken or bent pin on a connector. The next most likely cause for fuse failure is operation of the power supply on incorrect voltage.

CARE OF YOUR MICROPHONE

Your microphone is a delicate precision instrument, and it should be treated as such. Here are some commonsense rules to keep your microphone healthy.

1. Be careful in your setup so that the microphone and/or power supply never falls to the floor. Never suspend the microphone from its cable and be sure to position the cable so that it cannot be tripped over. Falls to the floor have been the ruin of many a microphone and will void your warranty.

2. Never hot-plug the microphone (i.e. plug the microphone into an energized power supply), as the resulting voltage surges can damage the microphone's or following preamplifier's electronics and will void your warranty.

3. Keep the microphone, cable and power supply in a safe place, such as in its carrying case or a microphone locker, when not in use.

4. When plugging in the seven-pin cable between the microphone and power supply, orient the plug correctly and plug the connectors in gently. Rough handling or hurry-up plug-ins can result in bent or broken pins and will void your warranty.

5. Never connect the power supply to an AC power outlet that has a different voltage than what the power supply is set for. Doing so may cause damage to your microphone and will void your warranty.

6. Do not expose the microphone to dusty, smoky or humid environments.

7. Any repairs must be performed by Mojave's Repair Department or a qualified technician.

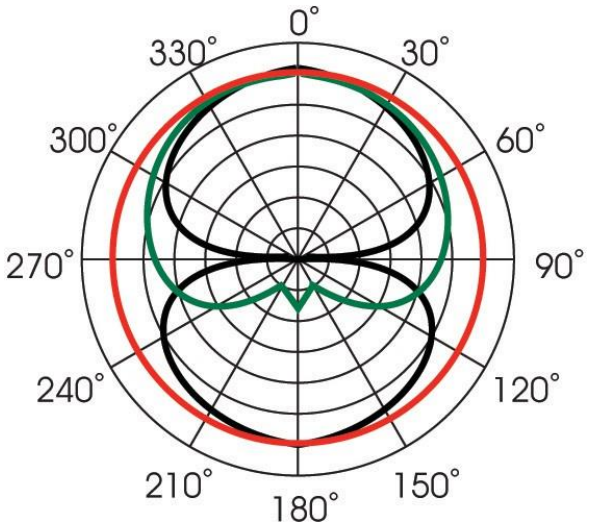
8. Use a soft, lint free cloth to remove fingerprints and other blemishes on the microphone body. Never use chemicals, solvents or detergents.

TECHNICAL SPECIFICATIONS

TRANSDUCER TYPE:	Externally polarized, pressure gradient capacitor, dual-diaphragm
DIAPHRAGM:	1-inch diameter, gold sputtered
DIAPHRAGM THICKNESS:	3-micron
POLAR PATTERN:	Multi-pattern, continuously variable
FREQUENCY RESPONSE:	20 Hz-20kHz, + 3dB at 'Flat' setting. With bass cut switch, 6dB per octave attenuation below 100Hz in 'cut' setting
SENSITIVITY:	-37 dB re. 1V/pa
MAXIMUM SPL:	120 dB, 135dB with pad on
DISTORTION:	<1% @117dB SPL, <3% @ 125dB SPL with pad off < 1%@132 dB SPL, <3%@ 140dB SPL with pad on
SELF NOISE:	14dB nominal, not to exceed 16dB (A weighted)
IMPEDANCE:	200 ohms, transformer balanced
VACUUM TUBE:	5840 - pentode tube, wired for triode operation
SHIPPING WEIGHT:	14 lbs.
POWER REQUIREMENTS:	100, 115 or 220-240 volts AC at 50 or 60 Hz. Power consumption approximately 10 watts.

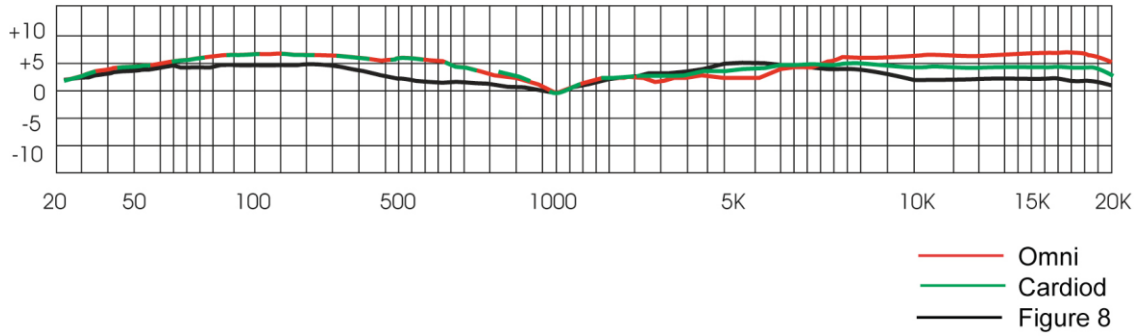
POLAR RESPONSE

Type: Multi-Pattern



FREQUENCY RESPONSE

20Hz – 20kHz, ±2.5dB



POLAR PATTERN SELECTOR

The continuously variable polar pattern selector is a rotary knob found on the front panel of the power supply. The selector allows the user to choose omnidirectional, cardioid and figure eight patterns or a point in between.

Omnidirectional: rotate fully counterclockwise. An omnidirectional polar pattern covers all directions and picks up all sound in a 360-degree radius. Useful for natural, ambient sound.

Cardioid: 12 o'clock position. Cardioid microphones pick up sound within 120 degrees of the direction they are facing. Useful for capturing one sound with a minimum of ambiance.

Figure Eight: rotate fully clockwise. Figure of Eight (bi- directional) microphones pick up sound from the front and rear while rejecting sound from the sides.

Occasionally a point in between will yield the most favorable result. For example, setting the selector to a 2 o'clock position can be an especially pleasant pattern for recording vocals. Also, for close miking of an acoustic guitar in cardioid, rotating the selector towards omni (counterclockwise) can reduce excessive proximity effect (unwanted bass buildup).

BASS CUT SWITCH

The bass cut switch, also known as a hi-pass filter, provides a 6dB per octave attenuation below 100Hz when engaged. This is very useful in removing unwanted low frequency information such as rumble or bass build-up due to proximity effect. Experienced engineers know that it is good practice to filter out low frequencies when it does not affect the audible sound. A good example of this would be recording vocals. Most singers do not have much information below 100Hz, so engaging a filter will help maintain the integrity of the signal.

15dB PAD

The 15dB reduces the signal before the head amplifier in the microphone. This is very useful for recording high SPL signals. If you are experiencing distortion, engaging the pad will likely be the solution. If you have the gain on your mic preamp all the way down and the signal is still overdriving your signal path, engaging the pad would be indicated.

WARRANTY

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Model Number: _____

Serial Number: _____

Date of Purchase: _____

Purchased: _____