



OWNER'S MANUAL

MANLEY REFERENCE MICROPHONES

**MANLEY LABORATORIES, INC.
13880 MAGNOLIA AVE.
CHINO, CA. 91710
TEL: (909) 627-4256
FAX: (909) 628-2482**

CONTENTS

<i>SECTION</i>	<i>PAGE</i>
INTRODUCTION	3
MICROPHONE CONTROLS	5
GENERAL NOTES	6
MAINS CONNECTIONS	7
POWER SUPPLY	8
WARRANTY	9
WARRANTY REGISTRATION	10

INTRODUCTION

THANK YOU!...

for choosing the Manley Laboratories *REFERENCE MICROPHONES*. This manual covers the following models: Reference Stereo Multi-Pattern Microphone, Reference Gold Microphone (mono), and Reference Cardioid Microphone. Please read over this manual carefully as it contains information essential to proper operation of this unit.

GENERAL NOTES

MANLEY microphones will beat all-comers on grounds of sheer naturalness of the sound without coloration or perceivable sonic signature. The design is optimised for extremely wide frequency response (10 Hz to 60 KHz) and exceptionally accurate transient response.

Visually impressive, the Mics inspire confidence in artists and producers. The microphone body is machined from brass providing excellent shielding properties, polished to a high lustre, then plated with 24 karat gold for an impressive finish. (Cardioid uses an aluminum casing.) We have chosen a very open weave stainless-steel grille for the capsule window for zero-loss acoustical transmission. You may notice that the capsule will move slightly when the Microphone is moved. This is a second defense to prevent unwanted vibrations from being picked up by the capsule. The capsule itself is mounted onto a neoprene-rubber shock-mount such as those used for aerospace gyroscopes.

The MANLEY GOLD REFERENCE MULTI-PATTERN MICROPHONES use our own design of large diaphragm capsule (1.25 inch overall, 1 inch diaphragm diameter) which are executed to precise tolerances made possible by modern micro-milling machinery available today in California. The capsule rings and back-plates are milled from solid brass and are mounted on Teflon insulator rings. The gold diaphragm film comes from Germany and is tensioned using proprietary techniques which ensures capsule-to-capsule constancy. We have found the 3 micron gauge gold film to exhibit inherently stable characteristics over years (unlike thinner diaphragms) while still maintaining the speed, "air", and ultra-high frequency response. (Cardioid uses 6 micron on its one "live" side.)

The tube electronics found in the MANLEY REFERENCE SERIES MICROPHONES consist of two triodes per capsule in cascade forming an entire gain-block. The tube employed is a dual-triode SOVTEK 12AX7LPS, easily obtainable and replaceable, mounted in a ceramic socket with pure silver pins. The output is coupled through a custom built output transformer of unparalleled quality and substantial physical size employing pure nickel laminations, "hum bucking" bi-filar windings, all encased in mu-metal. The polar pattern control is continuously variable between the OMNI, CARDIOID, and FIGURE 8 positions on the Gold series.

The base of the microphone holds a locking 3 (or 5 for stereo) pin gold XLR connector for the audio signal out enabling usage of your own preference of audio cable. A detachable threaded 4-pin connector for the 30 foot power supply cable carries the stringently filtered B+ and regulated heater voltages from the separate power supply. (Cardioid uses conventional system of one cable to the PSU where the audio is picked off there at the gold 3 pin XLR.)

Our precision suspension system is provided with each REFERENCE MICROPHONE. Because the entire working “guts” of the microphone may be removed for service in one piece from the housing, it is envisioned that the microphone need not be removed from the suspension. We also provide a very useful swivel of our own design with every REFERENCE; its T-bar handle and locking clutch action require no tools to adjust. The open mesh design of the mic allows all the highs to reach the capsule unimpared and allows the engineer to choose if, when and how much pop screen is appropriate. Vocal "pops" may distort the capsule without a pop screen. Air movement and wind can overload a good capacitor mic capsule much easier than loud levels. We strongly recommend a good 2 layer nylon pop screen with this mic on close vocals. A built in foam screen needs built in HF boost - Not here. And no MANLEY microphone would be complete without a genuine leather capsule protector with soft velour lining which slips (and ties) onto the end of the microphone to protect the capsule when not in use. Each GOLD REFERENCE MICROPHONE is packaged complete in a sturdy case.

The STEREO version of our GOLD REFERENCE microphone is identical in every respect to the MONO GOLD REFERENCE but with two complete systems installed in one case with the upper capsule being fixed and the lower capsule being continuously ROTATABLE through 90° for M-S and X-Y BLUMLEIN-STYLE coincident pair recording technique. Each capsule has its own continuously variable PATTERN control and individual -10dB PAD switch for close miking of extra-ordinarily powerful brass and other instruments.

Custom versions for field use containing the ENTIRE MICROPHONE PREAMPLIFIER are also available to special order. These custom Mics are transformerless and are unbalanced at the outputs but will drive low impedance loads and long cables. Pin Out of this transformerless UNbalanced custom version is: pin 1 & 3 ground, pin 2 hot. There is a small control at the base of the mic that sets the output level. We suggest that the input stage receiving the Mic be capable of variable gain of at least plus and minus 24 dB for general purpose use. We recommend our STEREO 10 dB LIMITER / COMPRESSOR for these mics as it has 24 dB available gain, transformer balanced inputs and outputs and transparent limiting if needed. We can build a custom unit with M/S decoded outputs if ordered as such.

MICROPHONE CONTROLS

A - PATTERN SELECT CONTROL (GOLD MODELS)

This control provides the user with a choice of any typical polar patterns. Many high quality condenser Microphones give the user 3 or 4 patterns only. We chose to provide you with an infinite number of patterns via this control. For example, a setting between the "heart shaped" CARDIOID and FIGURE 8 will result in "SUPER-CARDIOID" and "HYPER-CARDIOID" patterns.

"TRICK": Remember from basic theory that PROXIMITY EFFECT is primarily affected by the polar pattern. Often with vocalists one wants a certain amount of bass boost associated with certain mics and certain distances. Rather than just hoping that the CARDIOID setting will do the right thing, this time try adjusting the PATTERN SELECT POT to "dial in" the amount of proximity effect for this particular vocal. More OMNI will give less PROXIMITY EFFECT while more FIGURE 8 will bring in more lows. In other words, while this is only true for close miking, the PATTERN SELECT can be an effective bass control.

NOTE: Compared to many Microphones, the Manley Reference Gold Microphones exhibit less proximity effect for a given close distance. This, we feel is a clear advantage. Most engineers we consulted preferred the options of bass control from the console rather than the typical situation where a few inches of distance can make or break a take. We also chose to allow the frequency response of the Reference Mics to extend below 20 Hz. Some mics seem to have a low frequency resonance that can be desirable at times while boomy or tubby at other times. Our goal was and is "flat and natural".

NOTE: You may also notice that as the pattern becomes more FIGURE 8 that certain air conditioning rumbles and room noise exhibit reduced pick-up.

B - 10 dB PAD SWITCH (ALL MODELS)

This tiny switch near the base of the Microphone Body reduces the signal by 10 dB. Rather than changing the capsule voltage or adding a resistor into the signal path we chose a better technique. We change the amount of negative feedback derived from a dedicated transformer winding. While the tube circuit will handle any signal the capsule can deliver the pad may be needed with some pre-amps. If you suspect that the mic is distorting, first try a different mic pre. The capsule is rated for 150 dB SPL but wind or air movement are exceptions. A pop filter will be needed for close vocals.

GENERAL NOTES

CONNECTIONS

GOLD MODELS - carefully connect the 4 pin power cables to the mic and power supply. Line up the groove and ridge of these connectors to prevent accidental damage. Next connect a known good mic cable. We designed this mic to allow the user their choice of high quality cable.

CARDIOID MODELS - connect 6 pins cable (supplied with mic) between PSU and mic. Audio comes from separate 3 pin XLR on the PSU.

If possible use a short cable and a high quality micpreamplifier (with the phantom power turned off) located near the mic. This, usually, is the best for audio quality. Try to avoid running the mic signal thru a patch bay or extra connectors and wires. Attach the Mic securely to a good mic stand and lay the cables so that people can not trip over the cable or topple the stand. Connect the power supply to the wall outlet and turn on the supply. Let the mic warm up for at least 5 minutes before using.

If the 4 pin power or XLR connectors become loose over time, they can be easily tightened with a 1/16" allen key at the base of the mic.

WATER & MOISTURE

As with any electrical equipment, this unit should not be used near water or moisture. In rare situations moisture from breath may temporarily cause loss of output from condenser mics. Do not use a blower or heat to accelerate drying. Extreme humidity may compromise the performance of some high value (500 M Ω and 200 M Ω) resistors in the circuit. If liquid enters the unit, it must be immediately returned to your dealer for servicing.

SERVICING

The user should not attempt to service this unit beyond that described in the owner's manual. Refer all servicing to Manley Laboratories.

WARNING!

**TO PREVENT THE RISK OF ELECTRIC SHOCK
DO NOT OPEN THE POWER SUPPLY CABINET
OR REMOVE THE SHELL OFF THE MICROPHONE.**

----- **HIGH VOLTAGES** -----

**REFER SERVICING TO
QUALIFIED PERSONEL**

MAINS CONNECTIONS

Your unit has been factory set to the correct mains voltage for your country. The voltage setting is marked on the serial badge, located on the rear panel. Check that this complies with your local supply.

Export units for certain markets have a moulded mains plug fitted to comply with local requirements. If your unit does not have a plug fitted the coloured wires should be connected to the appropriate plug terminals in accordance with the following code.

GREEN/YELLOW	EARTH	terminal
BLUE	NEUTRAL	terminal
BROWN	LIVE	terminal

As the colours of the wires in the mains lead may not correspond with the coloured marking identifying the terminals in your plug proceed as follows;

The wire which is coloured GREEN/YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or coloured GREEN or GREEN and YELLOW.

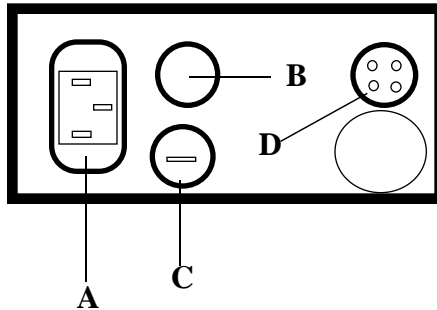
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked by the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked by the letter L or coloured RED.

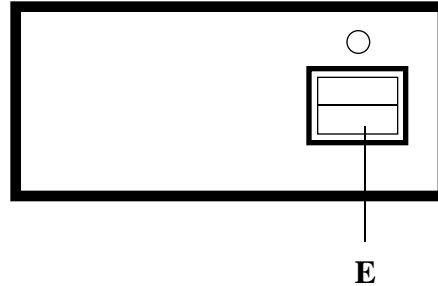
DO NOT CONNECT / SWITCH ON THE MAINS SUPPLY UNTIL ALL OTHER CONNECTIONS HAVE BEEN MADE.

POWER SUPPLY

GOLD PSU BACK



ALL MODELS: FRONT



A IEC POWER CONNECTOR: Connector for AC power input.

B FUSE HOLDER: Replace with 1A SLO-BLO fuse only.

C VOLTAGE CHANGEOVER SWITCH: Set for the correct mains voltage for your area by rotating the centre section with a flat screwdriver.

D MICROPHONE POWER CONNECTOR: Align notch with supplied cable and carefully insert. Tighten by turning outside barrel clock-wise.

E Power Switch: Pressing the top of this switch turns the supply on.

SPECIFICATIONS GOLD SERIES

MICROPHONE TYPE:	DUAL LARGE DIAPHRAGM CAPACITOR
POLAR PATTERNS:	CONTINUOUSLY VARIABLE
DIAPHRAGM SIZE:	1 INCH ; 1.25 INCH OVERALL
DIAPHRAGM THICKNESS:	3 MICRON; GOLD SPUTTERED
FREQUENCY RESPONSE	10 HZ to 30 KHZ, AMPLIFIER to 60 KHZ
MAXIMUM INPUT SPL:	150 dBSPL AT CAPSULE
SENSITIVITY:	19mV/Pa
AMPLIFIER TYPE:	2 TRIODE GAIN BLOCK LO Z OUTPUT
ACTIVE COMPONENTS	1) 12AX7LPS TUBE (2 for STEREO MICS)
OUTPUT TYPE :	TRANSFORMER WITH FEEDBACK LOOP
OUTPUT POLARITY:	BALANCED XLR, PIN 2 HOT, PIN 3 LOW
AMPLIFIER DISTORTION:	LESS THAN .05 %
AMPLIFIER NOISE:	TYPICALLY -120 dB EIN (TUBE DEPENDENT)
BODY:	24 KARAT GOLD OVER MACHINED BRASS

WARRANTY

All Manley Laboratories equipment is covered by a limited warranty against defects in materials and workmanship for a period of 90 days from date of purchase to the original purchaser only. A further optional limited 5 year warranty is available to the original purchaser upon proper registration of ownership within 30 days of date of first purchase.

Proper registration is made by filling out and returning to the factory the warranty card attached to this general warranty statement, along with a copy of the original sales receipt as proof of the original date of purchase. Only 1 card is issued with each unit, and the serial number is already recorded on it.

If the warranty registration card has already been removed then this is not a new unit, and is therefore not warranted by the factory. If you believe this to be a new unit then please contact the factory with the details of purchase.

This warranty is provided by the dealer where the unit was purchased, and by Manley Laboratories, Inc. Under the terms of the warranty defective parts will be repaired or replaced without charge, excepting the cost of tubes. No warranty is offered on tubes, unless:

1. a Manley Laboratories preamplifier is used with a Manley Laboratories amplifier, and
2. the warranty registration card is filled out.

In such a case a 6 month warranty on tubes is available with the correct recording of the serial number of the preamplifier on your warranty registration card.

If a Manley Laboratories product fails to meet the above warranty, then the purchaser's sole remedy shall be to return the product to Manley Laboratories, where the defect will be repaired without charge for parts and labour. The product will then be returned via prepaid, insured freight, method and carrier to be determined solely by Manley Laboratories. All returns to the factory must be in the original packing, (new packing will be supplied for no charge if needed), accompanied by a written description of the defect, and must be shipped to Manley Laboratories via insured freight at the customer's own expense. Charges for unauthorized service and transportation costs are not reimbursable under this warranty, and all warranties, express or implied, become null and void where the product has been damaged by misuse, accident, neglect, modification, tampering or unauthorized alteration by anyone other than Manley Laboratories.

The warrantor assumes no liability for property damage or any other incidental or consequential damage whatsoever which may result from failure of this product. Any and all warranties of merchantability and fitness implied by law are limited to the duration of the expressed warranty. All warranties apply only to Manley Laboratories products purchased and used in the USA.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

WARRANTY REGISTRATION

We ask that you please fill out this registration form and send the bottom half to:

MANLEY LABORATORIES
REGISTRATION DEPARTMENT
13880 MAGNOLIA AVE.
CHINO CA, 91710

OR you may fax in to: (909) 628-2482

Registration entitles you to product support, full warranty benefits, and notice of product enhancements and upgrades. You MUST complete and return the following to validate your warranty and registration. Thank you again for choosing Manley Laboratories.

MODEL _____ SERIAL No. _____

PURCHASE DATE _____ SUPPLIER _____

PLEASE DETACH THIS PORTION AND SEND IT TO MANLEY LABORATORIES

MODEL _____ SERIAL No. _____

PURCHASE DATE _____ SUPPLIER _____

NAME OF OWNER _____

NAME OF STUDIO _____

ADDRESS

CITY, STATE, ZIP

TELEPHONE NUMBER

COMMENTS?????!!!!!! _____
