

MANLEY

LABORATORIES, INC.

OWNER'S MANUAL

MANLEY 120 WATT MONOBLOCK AMPLIFIER

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INTRODUCTION

THANK YOU!...

for choosing the Manley 120 Watt Monoblock Amplifiers. Designed around the concept that less is more, the Manley 120 Watt Monoblock Amplifiers very fine components, with the shortest and cleanest signal path possible, and with the use of our own milling equipment we can provide you with an amplifier that looks as good as it sounds. We have developed a magnetics winding department right here at Manley Labs where we design and wind the audio transformers.

Thank you again, and please enjoy!

GENERAL NOTES

LOCATION & VENTILATION

The Manley 120 Watt Monoblock Amplifiers must be installed in a stable location with ample ventilation. Allow a minimum of 2 inches of clearance on the top and sides of the amplifier, such that a constant flow of air can flow throughout the ventilation openings. We also recommend that the amplifier and preamplifier be placed at least 10 inches apart. Do not place amplifiers directly on high pile carpet or any other surface that will block the ventilation holes.

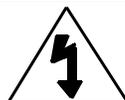
WATER&MOISTURE

SERVICING

The user should not attempt to service the amplifier beyond that described in the owner's manual. Refer all servicing other than biasing and tube replacement to Manley Laboratories

SPECIALNOTES

Tubes may become loose during transit. Straighten and press down each tube before plugging the amplifier into the mains socket. Furthermore, NEVER touch the tubes after the amplifier has been switched on, the tubes become very hot during operation and should only be handled after the power has been turned off and the tubes have cooled.



WARNING!



**TO PREVENT THE RISK OF ELECTRIC SHOCK
DO NOT OPEN THE CABINET
REFER SERVICING TO
QUALIFIED PERSONNEL**

MAINS CONNECTIONS

Your amplifier 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 colored 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 colors of the wires in the mains lead may not correspond with the colored marking identifying the terminals in your plug proceed as follows;

The wire which is colored 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 colored GREEN or GREEN and YELLOW.

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

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

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

CONNECTING YOUR AMPLIFIER

IMPORTANT: PLUG IN THE TUBES.

We do not ship the amps with the output tubes inserted to prevent breakage. Before plugging in anything, locate the 2 tubes (KT-90s or 6550s) packed with the amp and insert them in the two large tube sockets. The sockets are marked 1 and 2, the tubes are marked 1 and 2 - Put 1 in 1 and 2 in 2. This configuration is how the amps were tested and adjusted. Otherwise you will have to re-bias. You should remove these little labels from the tubes and amp chassis as they are not needed now and they may bake on permanently if the amp is run for a reasonable amount of time with them on. Verify that the smaller tubes are sitting straight in their sockets.

Setting up your amplifier is rather easy.

1. Connect all source components (turntable, CD, Tuner, Tape DAT, etc.) to your preamplifier.
2. Connect the interconnects from the output of the preamplifier or switching center to the RCA input on the top rear of the amplifier.
3. Connect the hot or "+" speaker cable to the red binding post and the common or "-" speaker cable to the black binding post (See diagram 2). Ensure that the other end of the cable is connected correctly to the speaker. Tighten the binding posts by hand. If you use a nut-driver (3/8") **do not over-tighten** the posts or you may break the connection inside the amplifier.
4. Insure that the "mains" switch on the front panel is in the "off" or "0" position.
5. Turn on Preamplifier and any source components you plan to use.
6. Plug amplifier into wall outlet.
7. Turn on the amplifier and allow it to 'warm up' a minute or so before playing any audio signal.
8. Turn up the volume and enjoy.

You have two amplifier modes - triode and ultralinear. Triode is about half power but is a less complex audio path which suits some peoples tastes and speakers. Quiet music or efficient speakers work well in this mode. Damping factor is slightly lower. Ultralinear is a more common amplifier mode that allows more power, higher damping factor and a wider range of speakers to be used. Before switching, turn off the amps to prevent thumps and unwanted noises. Try both - Use the mode that suits you. Best performance of tube amps is after they are well warmed up, generally about a half hour after powering.

You should get years of use from the tubes. Some statistically last less long and some last for 30 years. Checking bias every month usually will show you if they are drifting and performing within specification. Excess noise and microphonics, a tube turned white or not glowing are also big clues a tube needs to be replaced.

BIAS PROCEDURES

The Manley 120 Watt Amplifier uses a variable "fixed bias" system that requires very little attention. If you wish to adjust or check the bias, complete the following steps. For this procedure you will need a multimeter to read millivolts (less than 2 volt range) and a small flat screwdriver.

1. Looking at the front section of the top plate of the amplifier, you can see 2 red tip jacks and 1 black tip jack. To measure the current draw of each output tube place the positive probe (red) into the red tip jack for the tube you wish to measure and the negative probe (black) in the black (GROUND) tip jack and set the meter to read 'millivolts'.
2. Each of the two (2) output tubes can have its own bias adjusted by altering its own bias adjust pot. The numbering sequence for the 2 output tubes runs from left to right, as do the corresponding tip jacks (measurement points). The bias adjust pots are located on the top side of the amplifier, therefore it will NOT be necessary to remove the bottom cover to changing the bias. They also read left to right.
3. The first step to setting the bias is to turn on the amplifier and insure that there is zero signal input. Mute your preamplifier. Don't play tunes. Also, you MUST leave your loadspeakers connected as these provide an ideal load on the output. Never operate your amplifiers without a suitable load or speakers attached. It is recommended that you leave the amplifier on long enough to ensure that the tubes have reached their stable current draw.
5. Set your meter to read VOLTS DC. You will be measuring less than 1 volt so set your meter for a low range if it is not an autoranging meter. Place the probes in the first red tip jack (negative probes remains in the black tip jack for whole biasing procedure) and adjust the first bias trim pot located on the left side top deck of the amplifier until you measure approx. 300 mVDC (0.300 VDC). Since you are measuring across a 10 ohm cathode resistor, this would correspond to a 30 mA bias current. Settings between 275 mV and 300 mV are perfectly OK but try to have each tube the same.
6. If you are unable to bring the bias voltage down to 300 mV on any tube then we recommend that the tube be carefully watched or replaced.
7. Follow step five with the other tube. Then go back and recheck again. Check and set the bias on your amplifiers every day for the first week or any time you retube. Then check every week, then every month. A red glowing area on the side of the tube usually indicates it is drawing way too much current. If you see a red spot on the side of the tube, check and reset your bias immediately.

OPERATIONAL NOTES

SWITCHING ON

The power switch is located on the lower left hand corner of the front panel. Push the top of the rocker switch (1) to turn on the amplifier and the bottom of the rocker to turn off the amplifier. The LED on the right side of the front panel will illuminate indicating that the amplifier is operating. Do not turn on and off the amplifier in rapid succession.

RUNNING

It is not recommended that you leave your amplifier permanently switched on. This only wastes electricity and tube life. Your amplifier has solid state rectification and reaches peak operating condition in approximately 30 minutes.

TUBELIFE

As with all tubes, their quality degrades with age. This is due to cathode emission, a natural process found in all tubes. We recommend that you have your amplifier checked every 3-4 years, depending on usage, sometimes the amplifier will require re-tubing after this time has elapsed, although we have many cases of extreme long life recorded-- 40,000 hours and still counting!.

SPECIAL NOTE

The Manley 120 Watt Monoblocks are equipped with a voltage change-over switch located under the bottom cover. Insure that this switch is set at 110 if your mains voltage is 100,110,120, or 127 Volts. Set this switch to 220 if your mains voltage is 220, 227, or 240 Volts.

Changing the light bulb:

The lamp which back-lights the Manley insert on the faceplate is a fuse-lamp style lamp. Should it burn out, turn off and unplug the amplifier from the mains first. Then remove the bottom cover. Carefully pry out the old lamp from its clips and replace with one of the same type. Although it looks like a fuse, it is really a light bulb!! Don't put a fuse in there!!

The fuse lamp is 1 1/4" x 1/4" 8Volts, 300mA.

Fuses:

Always replace with same type and rating. Should the B+ fuse blow (the fuse nearer to the output binding posts) this usually indicates a tube has blown. One should visually inspect the pcb to look for any burnt resistors a blown tube may have taken out. Also a good test is to measure the resistance of each cathode resistor. This is done in a similar fashion to checking the bias, except do this test with the amplifier turned OFF, and set your meter for Ohms. Each cathode resistor should measure 10 ohms.

SPECIFICATIONS

Vacuum Tubes:	2 x KT-90 or 6550 (or good KT-88), 1 x 5751, 1 x 7044	
Output Power	120 Watts tetrode, 65 triode	
Frequency Response, +/- 1 dB	20 Hz - 50 KHz	
Input Sensitivity	1 Volt nominal	
Input Impedance	100 KOhm	
Load Impedance	5 Ohm. Factory preset for 5 Ohm	
S/N Ratio @100W	-100 dB	
Power Consumption	120 Watts	Quiescent
	360 Watts	Full Power
Mains Fuse	100, 110, 120V	4 A (Slo-Blo)
	220, 240 V	2 A (Slo-Blo)
Dimensions	W=12, D=10, H=6 inches	
	W=19, D=12, H=6 (panel=3.5) (rack mount version)	
Shipping Weight	27 lbs (each)	

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.
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 labor. 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 it 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 _____

ADDRESS _____

CITY, STATE, ZIP _____

TELEPHONE NUMBER _____

Serial #'s of Associated Manley Laboratories Equipment _____
