LAMM INDUSTRIES, INC.

INSTRUCTIONS FOR REPLACING THE FRONT END TUBES IN THE ML1.1 AMPLIFIER

Warning/Disclaimer:

This procedure involves readjusting the amps while they are on. There is a danger of high voltage shock (up to 450V) if the unqualified personnel perform the job (check the warning on the rear panel of the amp.) Only qualified personnel should perform the replacement to make sure that this procedure is done in the safest way possible.
LAMM INDUSTRIES, INC. is not responsible for any liabilities involved in this procedure.

Instructions:

- place the amp on its narrow side that does not have the input connectors
- unscrew the bottom cover
- prepare digital voltmeter
- turn the voltmeter on and select "DC voltage measurement"
- connect the negative (-) of the voltmeter to the ML1.1's grounding post
- insert shorting plug into the RCA input (use the shorting plug supplied with the amp)
- take out the tube that needs replacement (either 12AX7 or 12BH7) and replace it with the new one
- turn the amplifier on
- wait about 10-15 minutes
- using the voltmeter, measure voltage at test points TP107 and TP108, located on the same pc-board as the small tubes
- each of these measurements should be roughly around 260V DC+/- 10-15%
- both of the measurements should be very close in value to each other; this is much more important than the absolute value of the measurements themselves
- if this is not the case after the replacement, the voltages should be adjusted to make them as close as possible to each other
- for this purpose, use trimmer potentiometer R108 which is located on the component side of the same pc-board close to tube V101. This is a very sensitive multi-turn potentiometer, therefore, use the screwdriver supplied with the amp to rotate its shaft.
- since the new tube needs time to have its parameters stabilized, leave the amp on for at least 10-15 hours after the adjustment
- take the above measurements again and adjust this potentiometer to make voltages on both test points as close as possible to each other
- screw the bottom cover on and enjoy!

If you need to replace another tube, follow the same procedure.

NOTE: 12AX7 and 12BH7 are dual triodes, which means that two single triodes are housed in one glass envelope. If, after replacing either 12AX7 or 12BH7, you are unable to set identical voltage values at test points TP107 and TP108, it means that the parameters of two single triodes differ from each other to such a degree that the tube(s) cannot be used in the ML1.1. In this case you should use another tube(s).