

INSTRUCTION MANUAL

McINTOSH MODEL MC-30

30 WATT POWER AMPLIFIER

Type A-116B

Serial #15329 and Over

McINTOSH LABORATORY, INC

2 Chambers St. Binghamton, N. Y.

U.S.A.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Specifications for the McIntosh Model MC-30 Audio Amplifier

Power Supply	117/125 volts, 50/60 cycles
Power Consumption	135 watts at 30 watts output 105 watts at zero signal output
Power Output	30 watts continuous
Input Level	Input #1 (pin jack and screw terminals and pin 5 of pre-amp socket) .5 volts to 30 volts, with gain control Input #2 (pin 2 of pre-amp socket) 2.5 volts, (For use with McIntosh pre-amplifier equipment).
Frequency Range	20 to 30,000 cycles \pm .1 db at 30 watts output 15 to 50,000 cycles \pm .5 db at 30 watts output 10 to 100,000 cycles \pm 1 db at 15 watts output
Harmonic Distortion	Less than 1/3% at 30 watts output or less, 20 to 20,000 cycles
Intermodulation Distortion	Less than 1/2% if instantaneous peak power is below 60 watts for any combination of frequencies 20 to 20,000 cycles
Impulse Distortion	Negligible
Noise and Hum Level	90 db or more below rated output
Damping Factor	12 or better for 4, 8 and 16 ohm output, 16 for 600 ohms
Input Impedance	0.5 meg for 0.5 volt input and 0.13 meg for 2.5 volt input. 20 cycles to 40 Kc
Output Impedance	4, 8, 16 and 600 ohms (600 ohm is balanced to ground)
Phase Shift	20 cycles 3° 20,000 cycles 9°
Tube Complement	Pre-Amp: 12AX7 Phase Inverter: 12AU7 Voltage Amp: 12BH7 Driver: 12AX7 Output: 2—1614 Rectifier: 5U4-GA
Auxiliary Equipment connection ("Pre-Amp input" receptacle)	Designed to power C-8 and other McIntosh Pre-Amplifiers
Size	13" x 8" x 8" high, chassis type construction
Weight	30.5 pounds net
Finish	Chrome and Black

DESCRIPTION

The McIntosh Model MC-30 is a 30 watt high fidelity power amplifier designed for home entertainment systems and professional applications. The Model MC-30 is similar to the earlier McIntosh Model A-116 30 watt amplifiers and includes all of the rigid electrical specifications and features found in these earlier units plus: less than 1/3% harmonic distortion at any power output up to 30 watts and at any frequency in the audio spectrum, 20 to 20,000 cps; less than 1/2% intermodulation distortion if instantaneous peak power is below 60 watts for any combination of frequencies 20 to 20,000 cps; and noise and hum level 90 db or more below rated output. The famous McIntosh high efficiency output circuit is used to obtain the high standard of performance found in this amplifier.

The MC-30 may be operated from any signal source delivering 0.5 or more volts, or directly from a McIntosh Audio Compensator or Pre-Amplifier, such as the Models C-8, C-4, C-104, or C-108. Output impedances of 4, 8 and 16 ohms are provided for direct connection to loudspeakers. An additional 600 ohm output is present for use with lines, etc.

INSTALLATION

Location

The MC-30 should be located in a ventilated area. If the amplifier is housed in a cabinet or other enclosure, holes should be provided for air circulation.

Input Connections

1. When a McIntosh Audio Compensator or other McIntosh pre-amplifier is used with the MC-30, plug the pre-amplifier's output-power cord into the "Pre-Amp input" receptacle on the MC-30 and turn the "gain" control fully counter clockwise. This receptacle supplies the required plate and filament power to the pre-amplifier equipment as well as providing the necessary audio connection.

For pre-amplifier installation and operation refer to the pre-amplifier's instruction manual.

2. When a signal source of 0.5 volts or more is used to drive the amplifier, such as the output from a tuner, tape recorder, or pre-amplifier, plug the source into the "0.5 volt input" pin jack receptacle or connect to the "0.5 volt" and "GND" screw terminals. Use the "gain" control to obtain the desired operating level.

If desired, the signal source may be wired to an octal plug for insertion in the octal "Pre-Amp input" receptacle. In this case connect the input lead to pin #5 and the ground lead to pin #1. When using this connection the source must not have a DC output component.

Output Connections

The MC-30 has output impedances of 4, 8 and 16 ohms available at either the screw terminal connector or the output socket. In addition, a 600 ohm output (balanced to ground) is available at the output socket. See schematic diagram for socket connections.

It is important that the loudspeaker or other load be properly matched to the amplifier if best performance is to be obtained. Because many loudspeakers do not have voice coil impedances exactly matching 4, 8 and 16 ohms, the following table lists suggested connections for best impedance matching.

Speaker Impedance	3.2 to 6.5 ohms	6.5 to 13 ohms	13 to 32 ohms
Connect To	4 ohms	8 ohms	16 ohms

WARNING: Output plugs wired for McIntosh 20W-2 and 50W-2 amplifiers must not be used with the MC-30 without rewiring the plug.

Power Connections

The MC-30 operates from any 110 to 130 volt 50-60 cycles power line. (When continuous use is contemplated on 120 to 130 line volts the transformer primary should be re-connected using the 125 volt tap.)

When the MC-30 is used with the McIntosh Pre-Amplifier equipment, tuners, or other associated equipment the MC-30 power cord is plugged into the receptacle at the rear of these units. When thus connected the power switch of these units controls the MC-30.

GUARANTEE

We guarantee the performance of this equipment and the mechanical and electrical workmanship to be free of serious defects for a period of 90 days. This guarantee does not extend to components damaged by improper use nor does it extend to transportation to and from the factory.

SERVICE INFORMATION

All McIntosh equipment is designed for long trouble free operation. All components are of highest quality and are conservatively operated. If trouble develops the amplifier may be serviced by your franchised dealer, a competent serviceman, or returned to the factory. Equipment will not be accepted at the factory unless factory return authorization is first received. The following chart of operating voltages and resistances is offered as a guide for servicing the unit. All voltages and resistances are measured to chassis except those with asterik (*). These are measured to chassis with pin #2 of either 5U4GA grounded. Voltages are measured with high impedance VTVM. **NOTE—UNIT MUST BE TURNED OFF WHEN MEASURING RESISTENCES.**

VOLTAGE AND RESISTANCE CHART

Tube	Pin No.	DC Volts No Signal	DC Volts 30W out	AC Volts 30W out	Resistance Unit Off
12AX7 (input)	1	120	102	1.5	380K*
	2	0	0	.42	27K (gain C.C.W.)
	3	1.1	1	.4	3.3K
	4 & 5	Filament	(6.3V AC to pin 9)	—	0 (hum C.C.W.)
	6, 7 & 8	—	—	—	—
	9	Filament	—	—	0
12AU7	1	240	210	10	40K*
	2	120	102	1.5	380K*
	3 & 8	129	108	.5	18K
	4 & 5	Filament	(6.3V AC to pin 9)	—	—
	6	240	210	10	40K*
	7	96	86	0	2.5K*
	9	Filament	—	—	—
12BH7	1	352	295	132	12.2K*
	2	0	0	10	220K
	3 & 8	18	15.5	.4	1.2K
	4 & 5	Filament	(6.3V AC to pin 9)	—	—
	6	352	295	132	12.2K*
	7	0	0	10	220K
	9	Filament	—	—	—

Tube	Pin No.	DC Volts No Signal	DC Volts 30W out	AC Volts 30W out	Resistance Unit Off
12AX7	1	440	375	98	205*
	2	-42	-41	132	1.1M
	3	-42	-42	132	150K
	4 & 5	Filament	(6.3V AC to pin 9)	—	—
	6	440	375	98	205*
	7	-42	-41	132	1.1M
	8	-42	-42	132	150K
	9	Filament	—	—	—
1614	1	0	0	0	0
	2	Filament	(6.3V AC to pin 7)	—	—
	3	440	375	98	205*
	4	440	375	98	205*
	5	-42	-42	132	150K
	6	—	—	—	—
	7	Filament	—	—	—
	8	.8	5.5	98	19
5U4	1	—	—	—	—
	2	Filament 460	410	8.8 (ripple)	0*
	3	—	—	—	—
	4	—	—	370	44
	5	—	—	—	—
	6	—	—	370	44
	7	—	—	—	—
	8	Filament	(5.0V AC to pin 2)	—	0*

U. S. Patents No. 2,477,074; 2,545,788; 2,646,467; 2,654,058 others pending

McINTOSH LABORATORY, INC.

2 Chambers Street

Binghamton, N. Y., U.S.A.

In Canada: Manufactured Under License by McCurdy Radio Industries, Ltd.
22 Front Street West, Toronto, Canada

Output Connections
Using Octal Socket

4 ohms - pins 1 and 2
8 ohms - pins 1 and 3
16 ohms - pins 1 and 4
600 ohms - pins 7 and 8
(pin 6 is CT and ground)
70.7 Volts - pins 5 and 6
(pin 6 is ground)

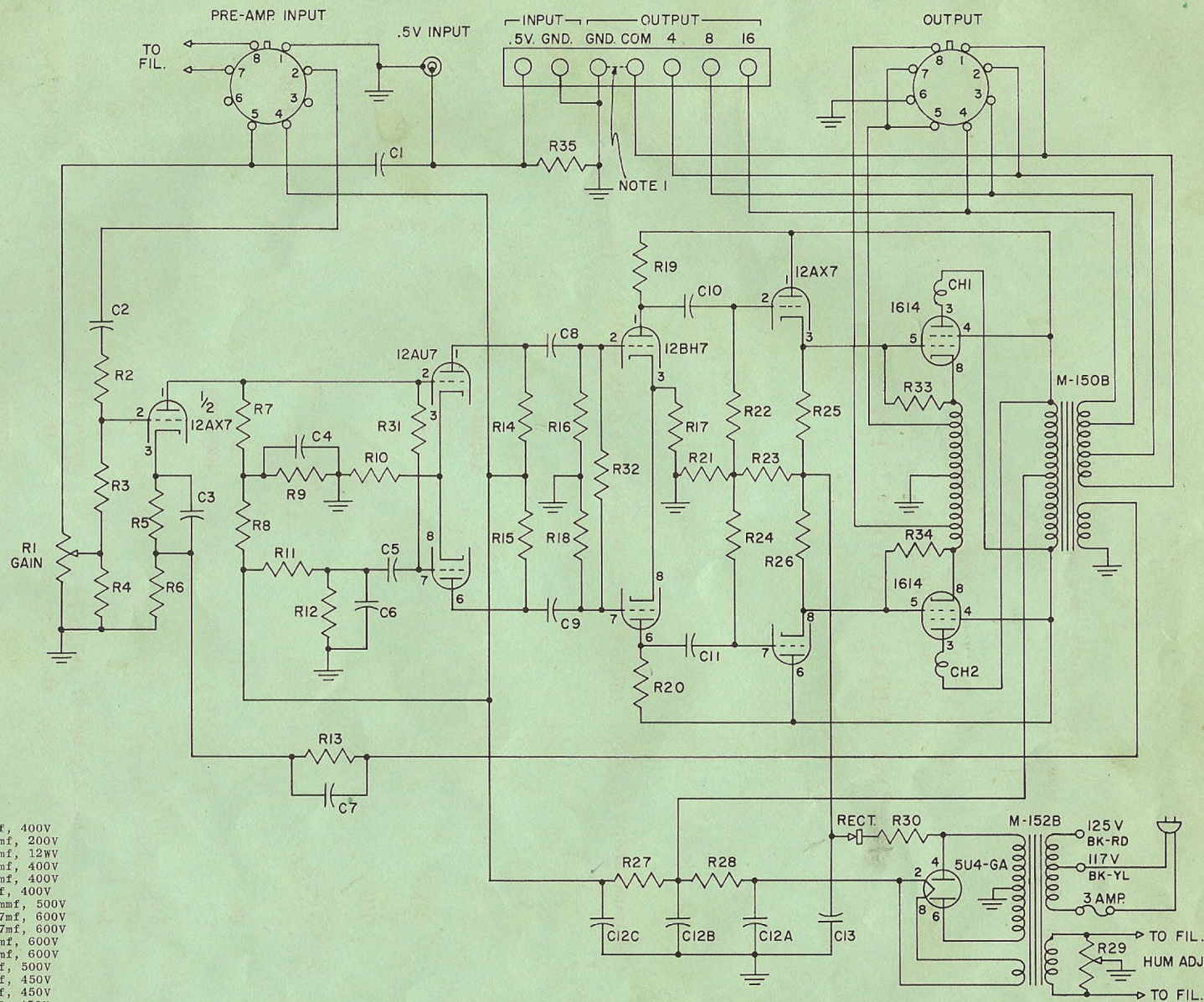
Pre-Amplifier Input
Socket Connections

Pin 1 - ground
Pin 2 - pre-amp input (2.5V)
Pin 3 - not used
Pin 4 - +310V at 3.5 ma.
Pin 5 - .5v input
Pin 6 - not used
Pins 7 and 8 - 6.3V at 1 amp.

Note 1 - This jumper strap
may be removed if ungrounded
low impedance outputs are
desired.

R1 500K Pot., Gain Adj.
R2 100K
R3 27K
R4 3.3M
R5 3.3K
R6 68 ohms, 5%
R7 100K
R8 330K
R9 680K
R10 18K, 1W
R11 1.2M
R12 1M
R13 2.2K, 5%
R14 27K, 5%
R15 30K, 5%
R16 220K
R17 1.2K
R18 220K
R19 12K, 2W*
R20 12K, 2W*
R21 120K, 5%
R22 1M
R23 820K, 5%
R24 1M
R25 220K
R26 220K
R27 10K, 10W
R28 150 ohm 10W
R29 250 ohm Pot.
R30 3.3K
R31 2.2M
R32 330K
R33 220K
R34 220K
R35 180K
*Matched to within 1%

C1 .1mf, 400V
C2 .47mf, 200V
C3 100mf, 12WV
C4 .22mf, 400V
C5 .22mf, 400V
C6 .1mf, 400V
C7 470mmf, 500V
C8 .047mf, 600V
C9 .047mf, 600V
C10 .25mf, 600V
C11 .25mf, 600V
C12A 40mf, 500V
C12B 80mf, 450V
C12C 20mf, 450V
C13 10mf, 450V



SERIAL NOS. 15329 AND ABOVE

McINTOSH LABORATORY, INC.

SCALE:	APPROVED BY:	DRAWN BY J.W.C.
DATE 5-15-56		REVISED
MODEL MC-30, TYPE A-116B, POWER AMPLIFIER		
		DRAWING NUMBER MC-30-4

Warranty

McIntosh Laboratory warrants the electrical and mechanical workmanship and components of this equipment to be free of serious defects for a period of 90 days provided the enclosed warranty card is duly completed and returned to McIntosh Laboratory.

McIntosh Laboratory further warrants the transformers supplied as components of this equipment to be free of manufacturing defects for a period of 1 year from the date of shipment from the factory. McIntosh Laboratory will replace at no charge any such transformer failing to meet this warranty period.

This warranty does not extend to components or transformers damaged by improper use, nor does it extend to transportation to and from the factory.

Frank H. McIntosh.

McIntosh Laboratory, Inc.

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BINGHAMTON, NEW YORK