

INSTRUCTION MANUAL

McINTOSH MODEL C-8 and C-8P

**PROFESSIONAL
AUDIO COMPENSATORS**

Serial No. 10600 and above

McINTOSH LABORATORY, INC.

2 Chambers St. Binghamton, N. Y.

U.S.A.

INSTRUCTIONAL MANUAL McINTOSH MODEL C-8 and C-8P PROFESSIONAL AUDIO COMPENSATORS

The McIntosh Audio Compensator is a complete control unit for professional or home entertainment systems. The Audio Compensator supplies the necessary gain and equalization for use with low level phono-graph cartridges as well as the high output of radio tuners.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

| | |
|---------------------------------|---|
| Power Source | C-8: Any McIntosh power amplifier C-8P: Self-powered |
| Output | Main: 2.5 volts with rated input Tape: 0.5 volts with rated input |
| Input Sensitivity and Impedance | Tape and Tuner: 0.5V., 500K., Mic: 5MV, 100K Phono 1: 5MV, 100K Phono 2: 5MV, variable 6.8K-52K |
| Frequency Response | See Graphs |
| Harmonic Distortion | Less than 0.3% at 2.5 volts output, 20-20,000 cycles |
| Hum and Noise Level | Tape and Tuner: Better than 80 db below output Mic and Phono: Less than 2 microvolts at input terminals (—115dbm) |
| Size | C-8 and C-8P: 10 1/8" x 3 9/16" x 7 1/2" Front Panel: 11" x 4 1/4" (Knobs project 3/4") D-8A: 6" x 4 7/8" x 2 1/4" (Power supply section of C-8P) |
| Weight | C-8: 8 lbs. C-8P: 11 lbs., 6 oz. |

FRONT PANEL CONTROLS

| CONTROL | INPUTS AFFECTED | PURPOSE |
|--------------------------------------|----------------------|--|
| Selector | All | Select desired sound source |
| Volume | All | Control sound level |
| Aural Compensator | All | Produce loudness contours to compensate for human ear re- sponse (Fletcher-Munsen effect) |
| Bass and Treble Tone | All | Continuously variable control of low and high frequencies |
| Rumble Filter | Mic & Phono | Reduce very low frequency disturbances such as "rumble" and "wow" |
| Compensation Switches—Bass Treble | Phono Mic & Phono | Provide frequency compensation for phonograph recordings or tape heads |

INSTALLATION OF MODEL C-8 and C-8P PROFESSIONAL AUDIO COMPENSATORS

The C-8 or C-8P may be used in its own cabinet or may be easily mounted in any equipment cabinet by using the mounting templates supplied with this manual.

After these units have been secured in their desired location, proceed as follows:

1. Connect speaker to output of power amplifier.
2. Insert power amplifier line cord into one of the Auxiliary A. C. receptacles provided at the rear chassis of the Audio Compensator.

3. C-8: Connect inter-unit cable to socket labeled "PRE-AMP. INPUT" on McIntosh power amplifiers. Adjust gain control fully counterclockwise with MC-30 or MC-60. CAUTION: THE INTER-UNIT CABLE MUST NOT BE REMOVED FROM THE C-8.

C-8P: Insert cable of D-8A power supply into the octal socket on the C-8P. Connect audio cable provided between RETMA pin jack labeled "MAIN OUTPUT" on C-8P and 2.5V input of power amplifier. (Socket labeled "PRE-AMP. INPUT" on McIntosh power amplifiers. Adjust gain control fully counterclockwise with MC-30 or MC-60.)

4. The Audio Compensator output is 2.5 volts with rated input signal and the power amplifier should be adjusted for this input sensitivity. However, any amplifier requiring less than 2.5 volts input may be used since the gain control on the Audio Compensator is located at the output. Reducing this control will not increase either the distortion or noise level.

5. Turn the volume control on the Audio Compensator to "OFF."

6. Insert power cord of the Audio Compensator into a 117 V. A. C. power outlet.

7. Turn the volume control on the Audio Compensator clockwise until the power switch is activated. Allow thirty seconds for warm-up, then advance the volume control to "10."

8. C-8: Adjust the hum reducing potentiometer on the power amplifier for minimum hum.

C-8P: Adjust the hum reducing potentiometer on the power supply for minimum hum.

This adjustment will occur at one end of rotation. The C-8 and C-8P have a D. C. supply for the tube heaters and minimum hum will be achieved when the correct side of this supply is grounded.

9. Turn the volume control on the Audio Compensator to off.

10. Insert inputs into their proper jacks at the back of the Audio Compensator, and all A. C. power cords into the A. C. outlets provided.

INPUT CONNECTING PROCEDURE

The inherent hum and noise voltages applied to the input of the Audio Compensator are —115 DBM, or less than 2 microvolts. To avoid lowering the signal to hum ratio of the Audio Compensator, by adding hum voltages to the input, extreme care must be taken in its installation. We offer the following recommendations as a guide to installation:

1. Connect inputs of Audio Compensator as outlined on the table below:

| CHANNEL | INPUT (FOR 2.5V OUTPUT) | GAIN | INPUT IMPEDANCE | USE |
|-------------------|----------------------------|------|----------------------|---|
| TAPE AND TUNER | 0.5V | 15db | 500K | Radio or TV Tuners, Tape recorders with self-contained equalizers. |
| MIC | 5MV | 53db | 100K | Low impedance microphone in conjunction with an input transformer such as McIntosh M-107. |
| PHONO 1 | 5MV | 53db | 100K | Magnetic phonograph cartridges. Tape recorder without self-contained equalizers (tape heads). |
| PHONO 2 | 5MV | 53db | Variable 6.8K-52K | Magnetic or constant amplitude phonograph cartridges. Tape heads. |

The signal from tape heads may be connected directly to one of the phono channels and the Audio Compensator used for equalization of the recorded tape. The NARTB tape playback curve (see graphs) may be reproduced as follows: Depress the Bass Compensation switch labeled "950," adjust the Bass tone control to —1 and the Treble tone control to —2.5.

OUTPUT CONNECTIONS

Three outputs are provided: one tape and two main outputs.

The tape output may be used for recording tape from any source connected to the Audio Compensator. The Selector switch, Bass and Treble compensation switches, and Rumble Filter are effective at this output. Adjustment of the Bass and Treble tone controls, Aural Compensator and Volume control may be made for monitoring and will not affect the recorded signal. The tape output delivers a signal of 0.5 volts.

The main outputs are available at the octal socket between pins #1 and #2 (pin #1 is ground), and at the RETMA pin jack labeled "MAIN OUTPUT." The inter-unit cable connecting the C-8 to any McIntosh power amplifier uses the octal socket output. The pin jack output may be used for driving a second power amplifier if so desired.

The main and tape output jacks are fed from cathode followers. The input impedance of devices connected to these outputs should be 50,000 ohms or greater, and the capacitive reactance of audio cables connecting these devices should not be less than 8,000 ohms at 20,000 cycles. This is the reactance of a capacity of 1000 mmf. Audio cable having a capacity of 25 mmf per foot may be 40 feet long, 13.5 mmf per foot cable may be 75 feet long.

| PIN NO. | V1 DC VOLTS | RESISTANCE |
|---------|----------------|------------|
| 1 | 108V | 500K |
| 2 | 0. | 0-100K |
| 3 | 1.02 | 4.3K |
| 4 | 0. | — |
| 5 | 10.7 | — |
| 6 | 108. | 450K |
| 7 | 0. | 1M |
| 8 | 1.16 | 1.8K |
| 9 | — | — |

| PIN NO. | V2 DC VOLTS | RESISTANCE |
|---------|----------------|------------|
| 1 | 185V | 120K |
| 2 | 108. | 450K |
| 3 | 111. | 400K |
| 4 | 10.7 | — |
| 5 | 0. | — |
| 6 | 185. | 120K |
| 7 | 19. | 1.1M |
| 8 | 57. | 100K |
| 9 | — | — |

| PIN NO. | V3 DC VOLTS | RESISTANCE |
|---------|----------------|------------|
| 1 | 135. | 370K |
| 2 | 0. | 110K |
| 3 | 1.22 | 1.6K |
| 4 | 0. | — |
| 5 | 10.7 | — |
| 6 | 345. | 10K |
| 7 | 36. | 1.1M |
| 8 | 122. | 110K |
| 9 | — | — |

GUARANTEE

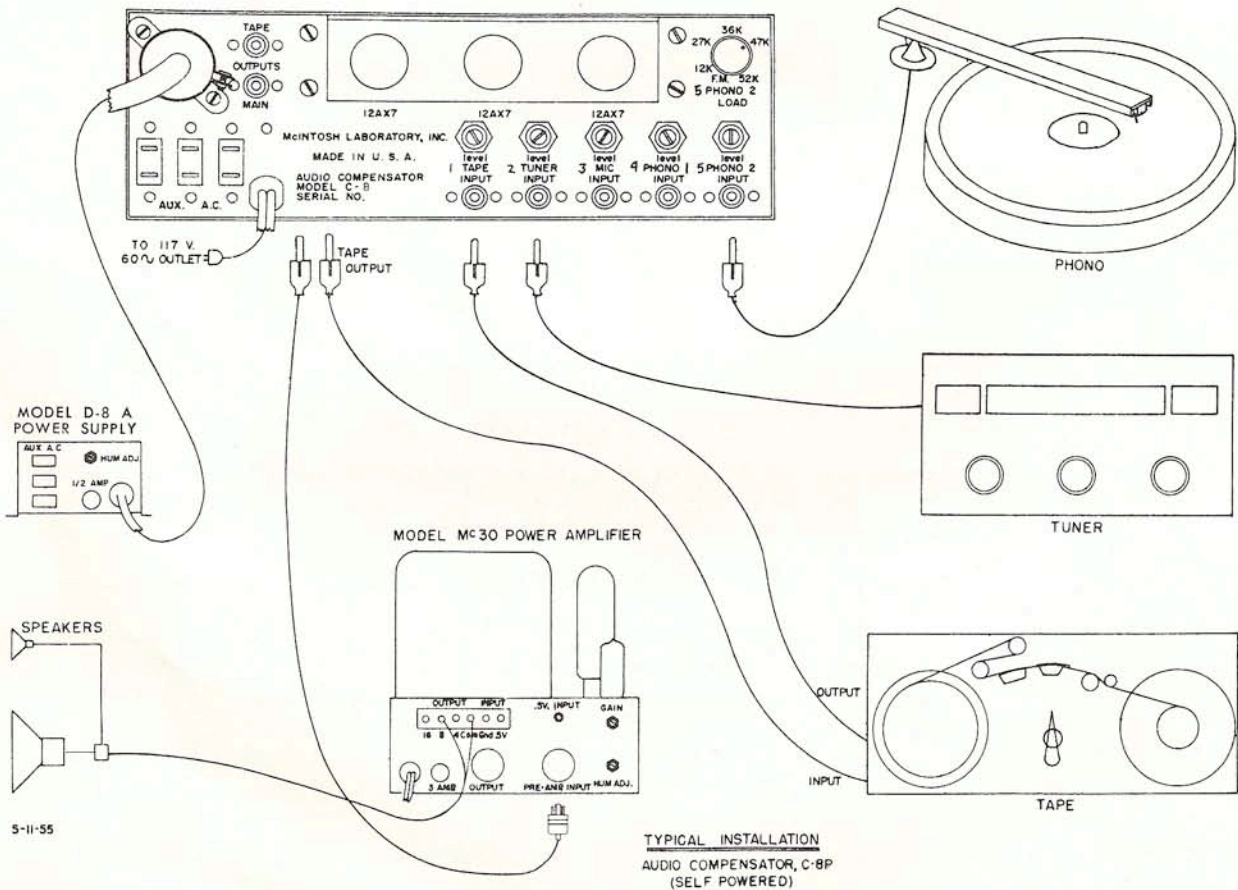
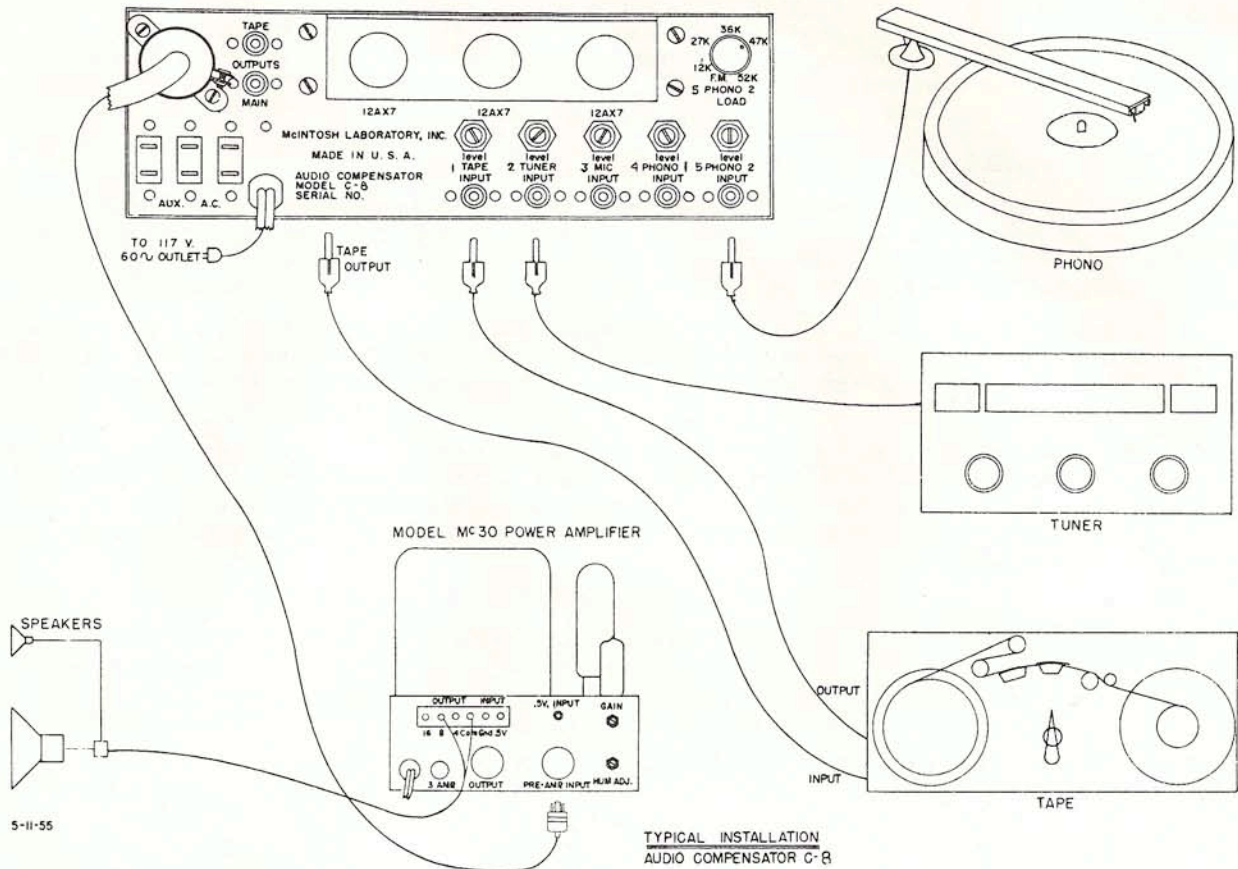
We guarantee the performance of this equipment and the mechanical and electrical workmanship to be free of serious defects for a period of 90 days. This guarantee does not extend to components damaged by improper use, nor does it extend to transportation to and from the factory.

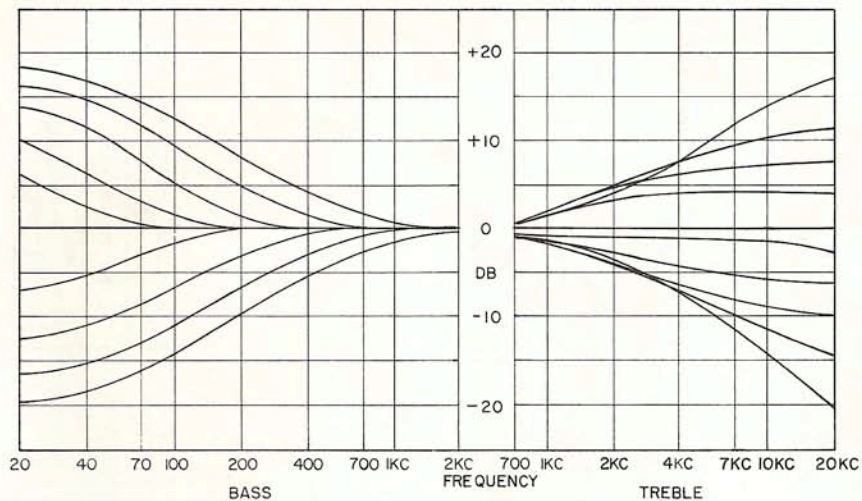
McINTOSH LABORATORY, INC.

2 Chambers St.

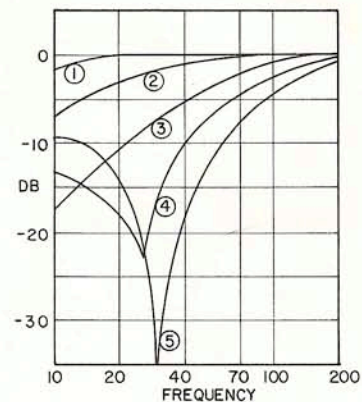
Binghamton, N. Y., U.S.A.

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

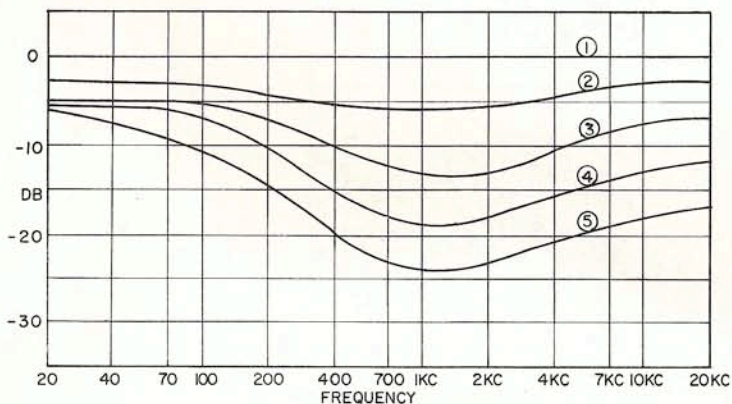




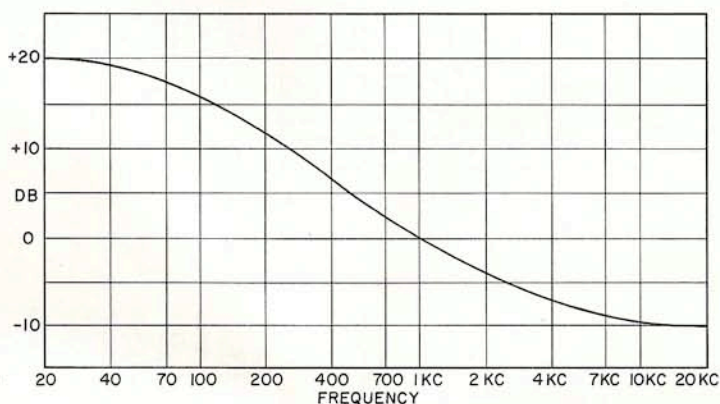
TONE CONTROLS
(ALL CHANNELS)



RUMBLE FILTER
(MIC & PHONO CHANNELS ONLY)

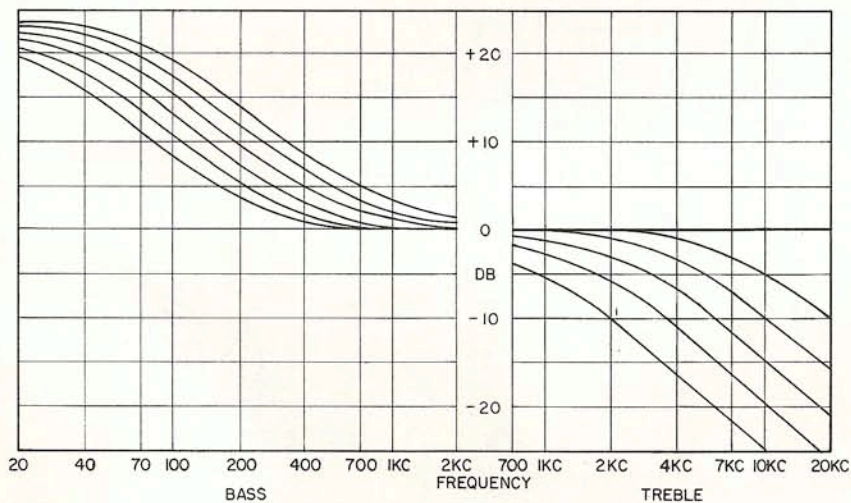


AURAL COMPENSATOR
(ALL CHANNELS)



NARTB TAPE
PLAYBACK COMPENSATION
(PHONO CHANNELS ONLY)

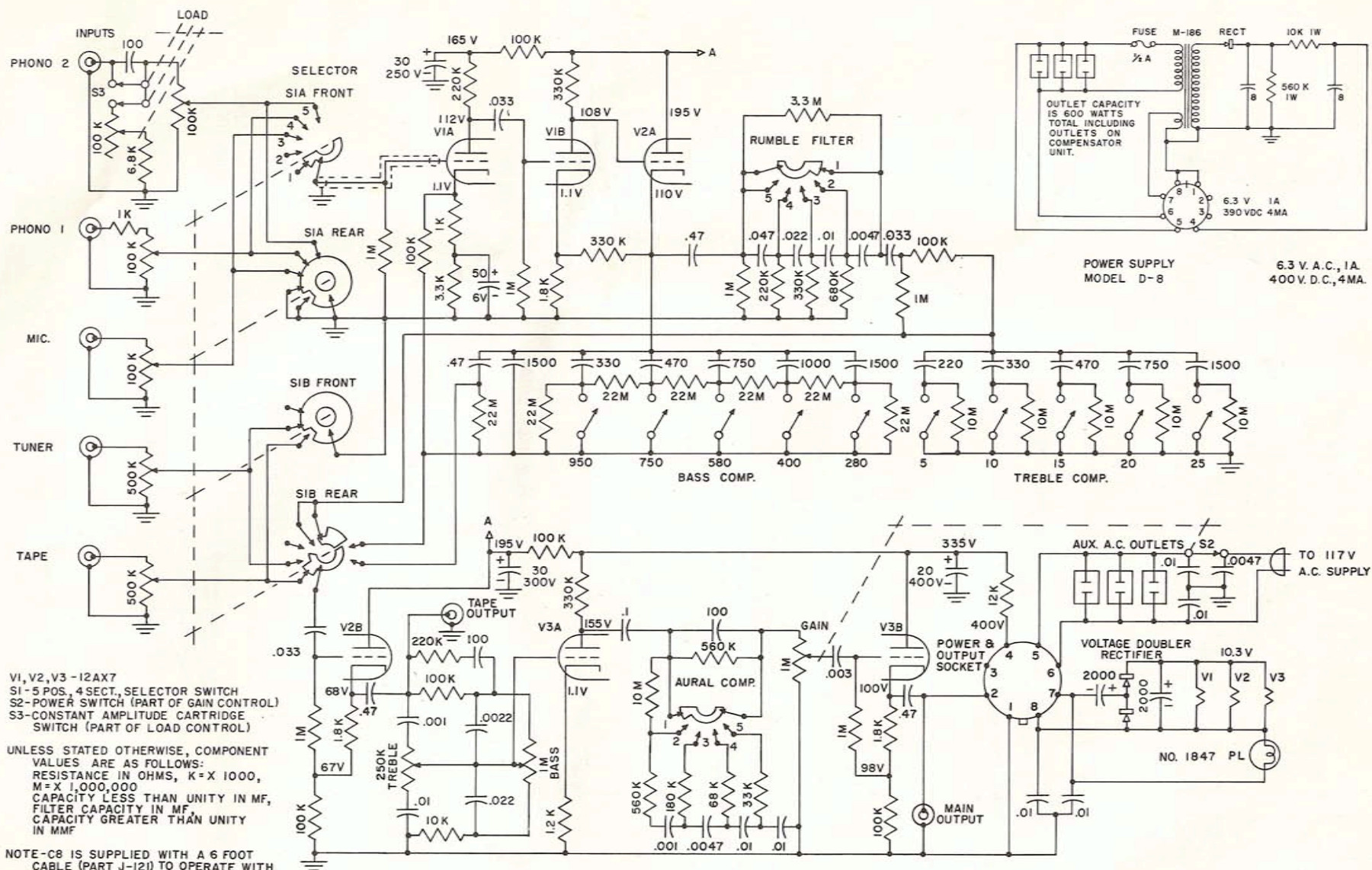
BASS SWITCH "950" DEPRESSED
BASS TONE -1
TREBLE TONE -2.5



(PHONO CHANNELS ONLY) COMPENSATION CONTROLS (MIC & PHONO CHANNELS ONLY)

CONTROL CURVES FOR MODEL C-8
AUDIO COMPENSATOR

McINTOSH LABORATORY, INC.



SERIAL NO. 10600 AND UP

| REVISIONS | | | McINTOSH LABORATORY, INC. 320 Water St., Binghamton, N.Y. | |
|-----------|----------|------|--|--------------------|
| NO. | DATE | BY | D-8A POWER SUPPLY | |
| 1 | 12-20-56 | J.W. | DRAWN BY J.W.C. | MATERIAL |
| 2 | | | CHK'D | DATE 9-26-56 |
| 3 | | | TRACED | APP'D SAE |
| 4 | | | | DRAWING NO. D-8A-1 |
| 5 | | | | |