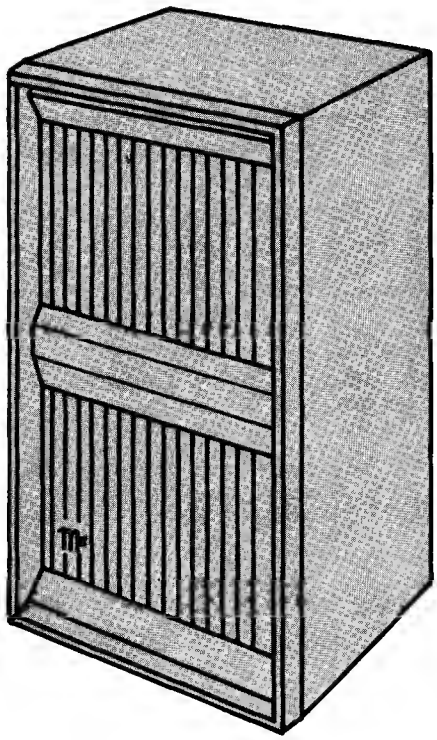
McIntosh

ML 10C

LOUDSPEAKER SYSTEM



SERVICE INFORMATION

SERIAL NO. BH1001 AND ABOVE

038-840

SPECIFICATIONS

SPEAKER SIZE

Woofer 10" dia. frame size (8-3/8" dia. radiator)
Mid-range 1-1/2" dia. dome radiator
Tweeter 1-5/8" dia. coaxial super radiator

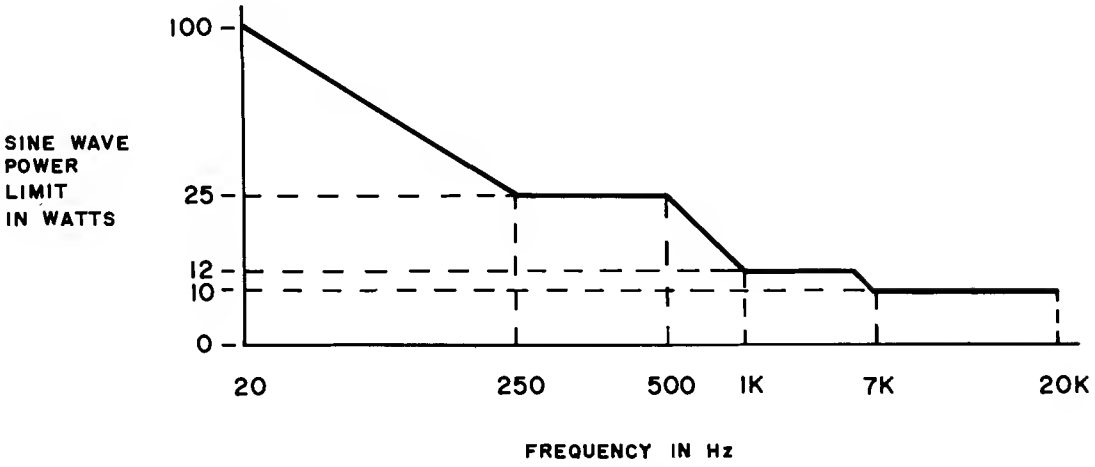
CROSSOVER FREQUENCIES

1000Hz & 7000Hz

IMPEDANCE

8Ω Nominal

POWER HANDLING: Sine wave steady state



Avoid operating the speaker system with sustained sine wave signals at power levels greater than the indicated limits. Permanent damage may result.

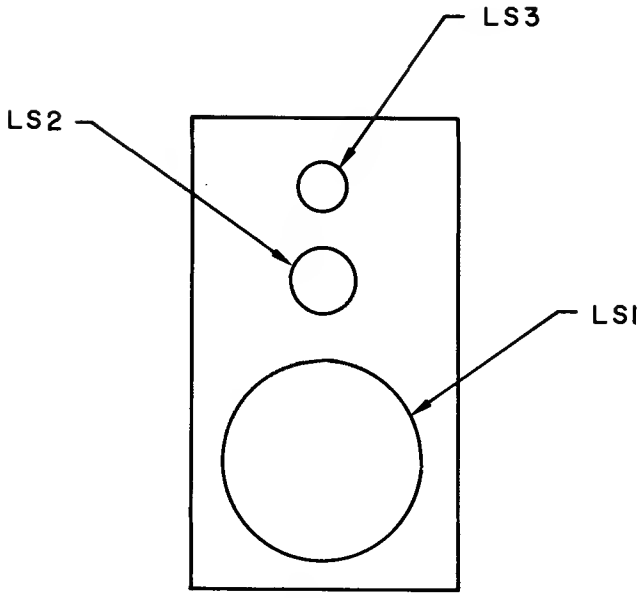
POWER HANDLING: Program Material

High energy peaks normal to orchestral music are easily and faithfully reproduced by the speaker system. These peaks are of relatively short duration and do not produce the heating effect caused by sustained tone operation. The ML-4 speaker system will handle up to 300 watts of orchestral music program material. Care must be taken, however, to use a power amplifier that has an adequate power rating. If a low power amplifier is used, the loudest passages may be "clipped" by the amplifier. This clipping will cause the speaker to sound distorted. The large harmonic content of a badly "clipped" signal can cause excessive heating and resulting damage to the high frequency speaker elements and crossover network.

OUTPUT LEVEL

In a reverberant room the system will nominally produce an 89dB sound pressure level when driven at a one watt level referred to 8Ω.

SPEAKER LOCATION

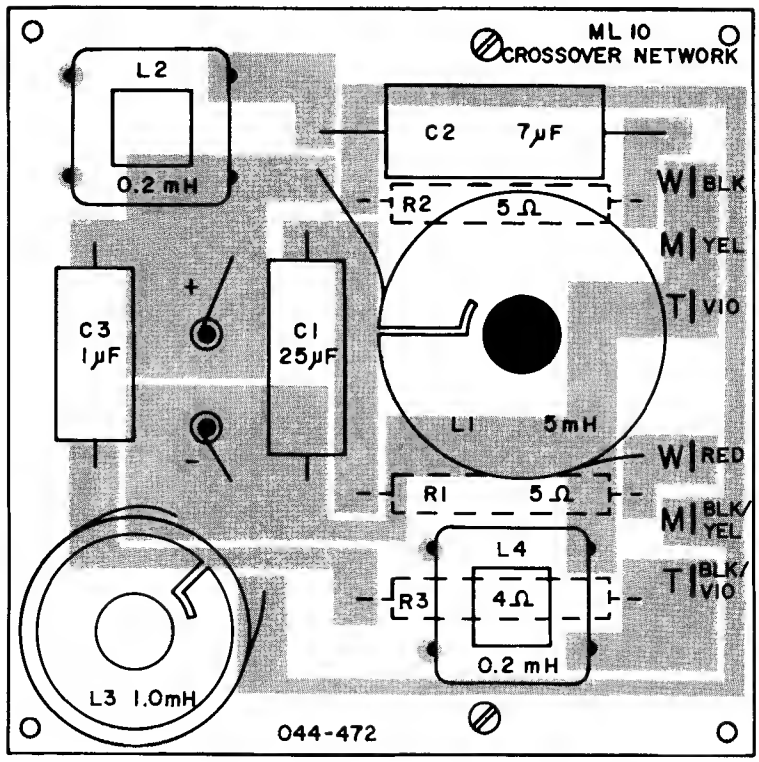


REMOVE LS1 TO SERVICE CROSSOVER NETWORK

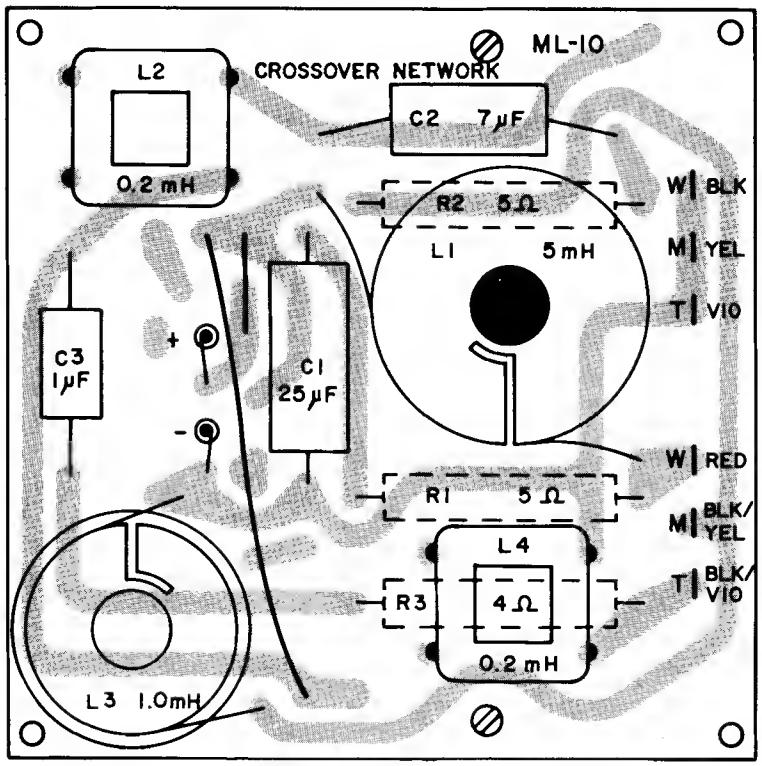
SCHEMATIC NOTES

1. In early units LS3 is 036-005 16Ω impedance. LS3 may be replaced with 036-012 8Ω impedance. Acoustic output will be the same.

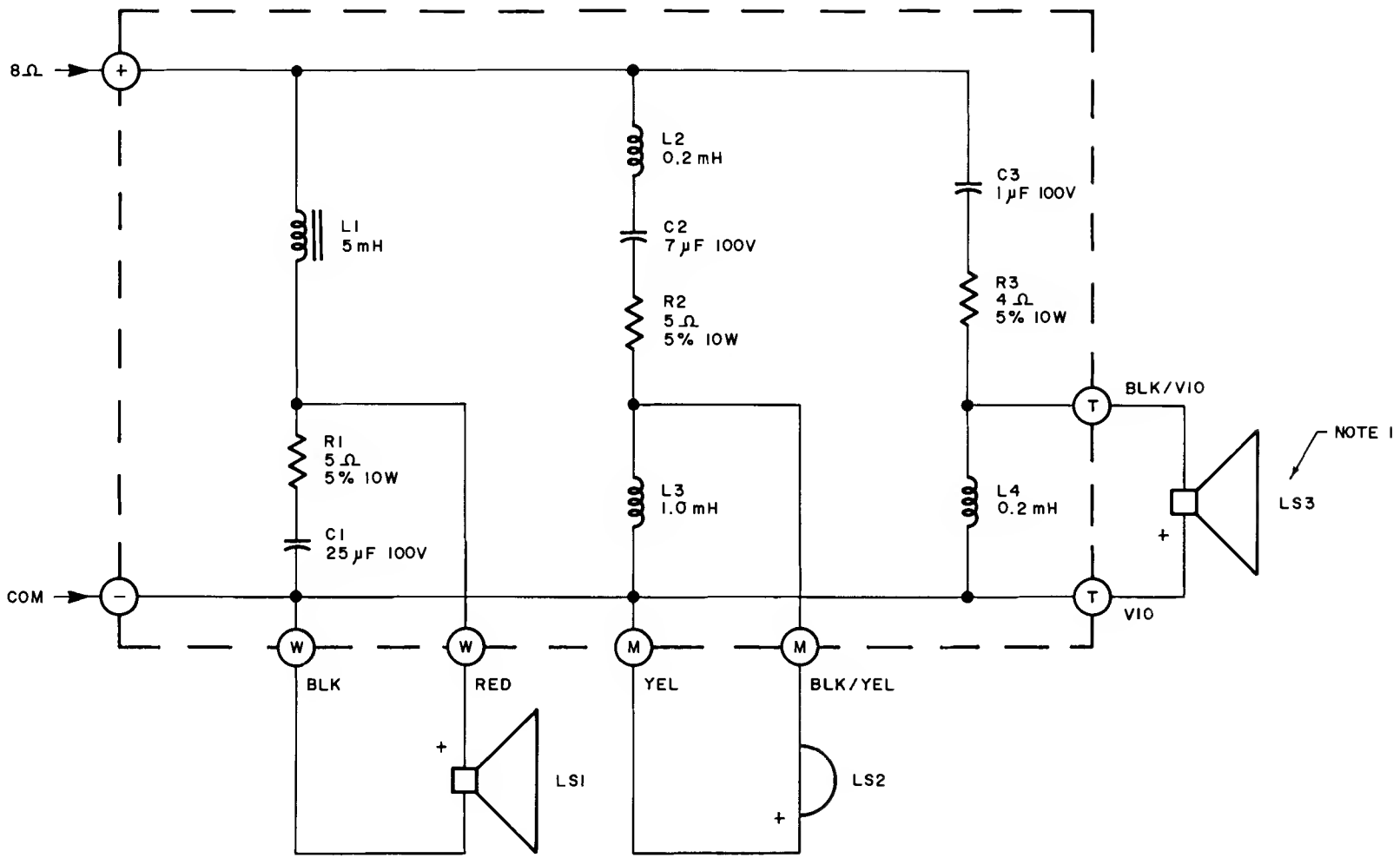
CROSSOVER NETWORK



TWO DIFFERENT CIRCUIT BOARDS HAVE BEEN USED.
THE SCHEMATIC IS THE SAME FOR BOTH.



ASSEMBLY 044-472



SYSTEM SCHEMATIC

SERVICE NOTES

Speaker element failure can be quickly located by using FM hiss at a low power level. Listen at each speaker to verify if all the speakers are at least working. A low power (1-5 watt) sine wave sweep 20-20kHz can be used as a quick check for distortion. A speaker element with obvious distortion must be replaced.

To determine if the speaker element is dead, remove the speaker and momentarily connect a 1.5 to 6V battery across the terminals. If no sound is heard, the speaker element must be replaced.

The crossover network must be inspected when burned out speaker elements are replaced. The network must also be inspected if a speaker element produces sound with the battery test but does not play when connected in the system. The woofer must be removed to get to the crossover. Check for bad connections, broken wires, etc. Be sure to check the resistors mounted on the plate underneath the printed circuit board. A broken lead on these resistors can also be the cause of intermittent or partial failure of the system.

When a system has been driven excessively hard by a "clipped" amplifier for long periods of time, the dome mid-range may appear to have weak or no output. In addition to a burned out mid-range, the 7μF capacitor may also be damaged. This will be evident if a new mid-range has been installed and also appears to have weak or no output.

Use only McIntosh replacement capacitors. These have been specially selected for low ESR.

Use RTV silicone rubber under replacement parts mounted on the printed circuit board. In addition to the solder connections, this insures a vibration free bond to the board.

The solid colored wire (other than black) always goes to the red marked terminal on the speaker. This is the positive terminal. If the polarity of a speaker is unknown, momentarily connect a 1.5 to 6V battery to the terminals. When the cone moves away from the magnet, it means the + terminal of the battery is connected to the + terminal of the speaker.

When installing speakers or crossover network in the cabinet, care must be taken to insure a tight air seal to the cabinet. Replace the black caulking material or foam gasket if necessary. Mortite caulking compound or equivalent could be substituted but care must be taken that it will not be visible after the part is installed.

If a woofer screw strips out in the wood of the cabinet, the speaker can be rotated and new mounting holes drilled.

After the system is reassembled, it must be checked for air leaks. This can be done by putting a 20Hz sine wave into the system at 50 watts (20 volts). By listening around the speakers closely for hissing sounds, areas can be located that must be sealed. The system must also be swept from 20Hz to 250Hz at 25 watts (14 volts) to insure there are no vibrations due to wires hitting the woofer cone, etc.

All defective parts must be packed well and returned to McIntosh Laboratory Loudspeaker Division.

REPLACEMENT PARTS

All parts not listed are common items obtainable from radio parts jobbers.

Replacement parts may be obtained when ordered by PART NUMBER from:

McIntosh Laboratory, Inc.
Customer Service Department
2 Chambers Street
Binghamton, New York 13903
(telephone 607-723-3512)

CAPACITORS

Symbol Number	Description			Part Number
C1	Elect.	25μF		066-189
C2	Mylar	7μF	100V	064-123
C3	Mylar	1μF	250V	064-104

CHOKES

L1	Choke	5mH		122-124
L2	Choke	.2mH		122-123
L3	Choke	1mH		122-134
L4	Choke	.2mH		122-123

RESISTORS

R1,2	Wirewound	5Ω		139-082
R3	Wirewound	4Ω		139-086

LOUDSPEAKERS

LS1	10" Woofer	036-028
LS2	1-1/2" Dome Midrange	036-027
LS3	2-1/4" Tweeter	036-012

MISCELLANEOUS ITEMS

Terminal Red	084-086
Terminal Black	084-087
Shipping Carton	033-176
Grille	030-012
Front Panel Assy.	044-364
Speaker Gasket 2-1/4"Tweeter	094-096
Speaker Gasket 1-1/2"Dome	094-103
Speaker Gasket 10" Woofer	094-093
Network Gasket	094-106
GRILL ADAPTERS	114-053

McIntosh

McINTOSH LOUDSPEAKER DIVISION

2 CHAMBERS ST., BINGHAMTON, N.Y. 13903