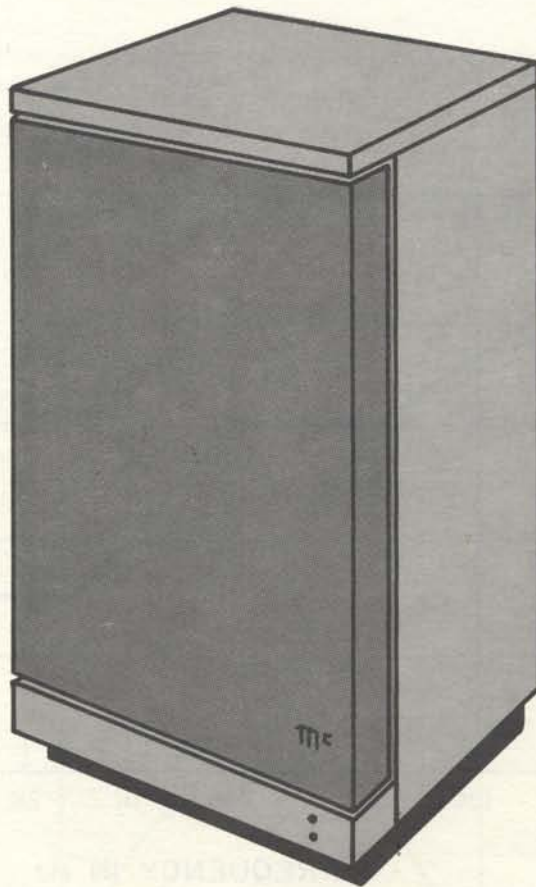


# McIntosh

## XR 5 ISOPLANAR RADIATOR



## SERVICE INFORMATION

SERIAL NO. CB1001 AND ABOVE

# SPECIFICATIONS

## SPEAKER SIZE

Woofer 12" dia. frame size (9-1/2" dia. radiator)  
Low mid-range 8" dia. frame size (6" dia. radiator)  
Upper mid-range 1-1/2" dia. dome radiator  
Tweeters two 2" / 5/8" dia. coaxial super radiators

## CROSSOVER FREQUENCIES

250Hz, 1.4KHz & 7KHz

## IMPEDANCE

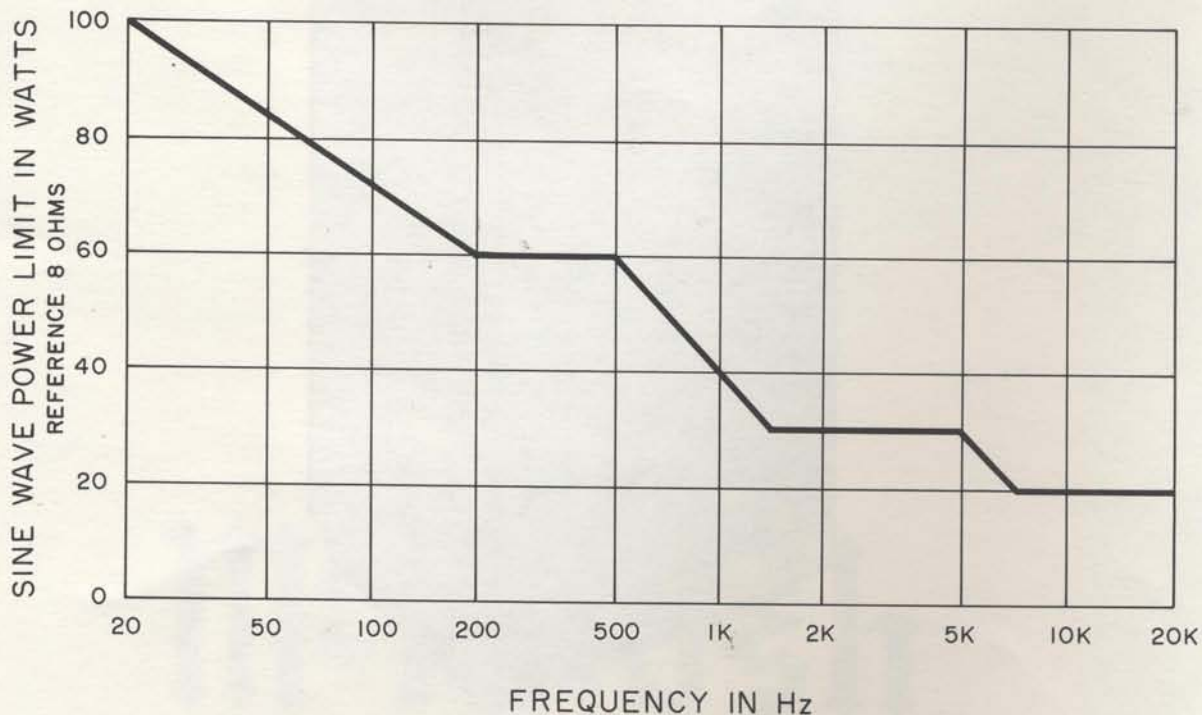
8Ω Nominal

## MAXIMUM POWER: Normal Orchestral Material

High energy peaks normal to orchestral music are easily and faithfully reproduced by the XR 5. These peaks are of relatively short duration and do not produce the heating effect caused by sustained tone operation. The XR 5 can be driven with an amplifier having up to 200 watts capacity provided the amplifier is not driven into clipping.

## MAXIMUM POWER: Sine Wave

Some music has unusual frequency content. This can be found in some "Rock" recordings of sustained guitar notes and electronically synthesized tones which have near sine wave properties. Various kinds of Test records and audio oscillators are also in this category. Avoid driving the XR 5 with sustained sine wave type signals at power levels greater than limits indicated below.



NOTE: This curve does not represent the speaker frequency response.

# SPECIFICATIONS

## OVERLOAD PROTECTION SYSTEM:

The fuse system is arranged to give the XR 5 the greatest possible speaker protection. The use of indicator lights helps you to see what is happening. In normal use the fuses will not blow and the indicator lights will not be seen, except for occasional flashes of the yellow light. At high power levels the lights and fuses work as follows:

**Yellow Light:** The yellow indicator light circuit is connected directly across the input terminals of the XR 5. It will begin to be visible only when the input power to the system approaches rated music power. The brightness of the light will fluctuate with the amplitude of the high power being fed to the system. This light serves only as a warning indicator. It is completely safe to operate the system under these conditions. The main fuse will blow if the system is driven excessively hard. If the fuse does blow and the system is still driven hard, the light will continue to fluctuate even though no sound will be heard.

**Red Light:** The red indicator light is connected directly across the high frequency fuse. This light will be visible only when this fuse protecting the high frequency speakers has blown. The brightness of the light will fluctuate with the amount of high frequency signal still being fed to the XR 5 after this fuse has blown. A fluctuating red indicator light will be accompanied by a severe loss of high frequencies. Power will no longer be delivered to the upper mid-range and tweeters until the fuse is replaced.

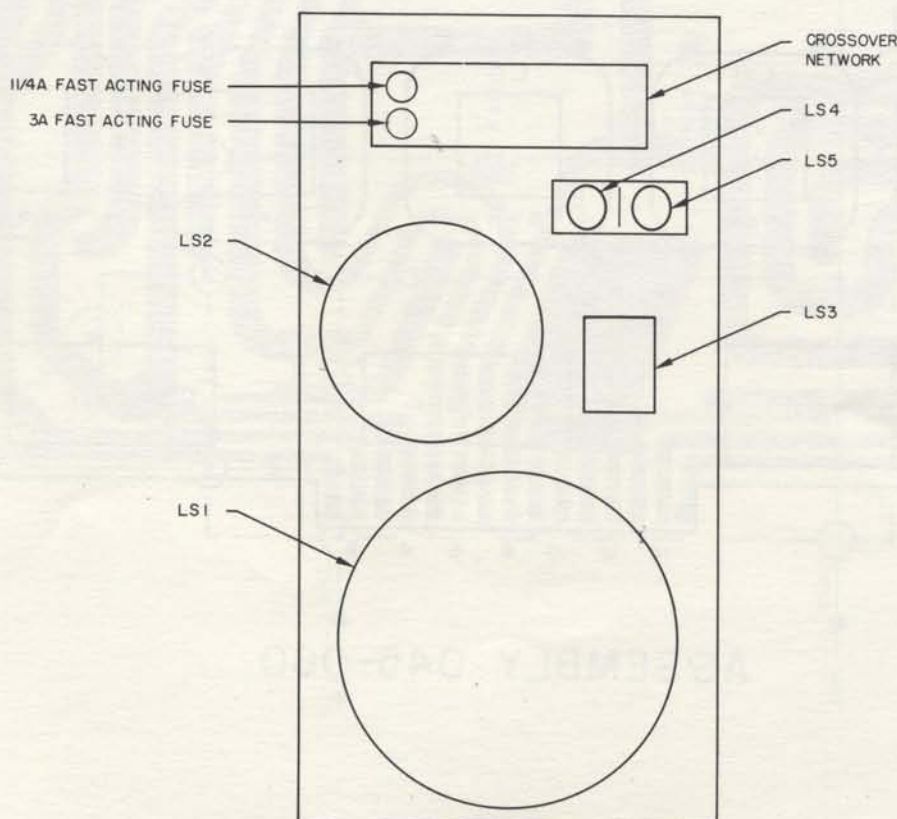
**Main Fuse:** This 3 amp fast acting fuse will blow when excessive power has been fed to the system. Replace this fuse with the same 3 amp fast acting type. Do not use Slo Blo fuses or fuses with other than 3 amp rating. To do so will void your warranty.

**High Frequency Fuse:** This 1-1/4 amp fast acting fuse will blow when excessive high frequency power has been fed to the system. Replace this fuse with the same 1-1/4 amp fast acting type. Do not use Slo Blo fuses or fuses with other than 1-1/4 amp rating. To do so will void your warranty.

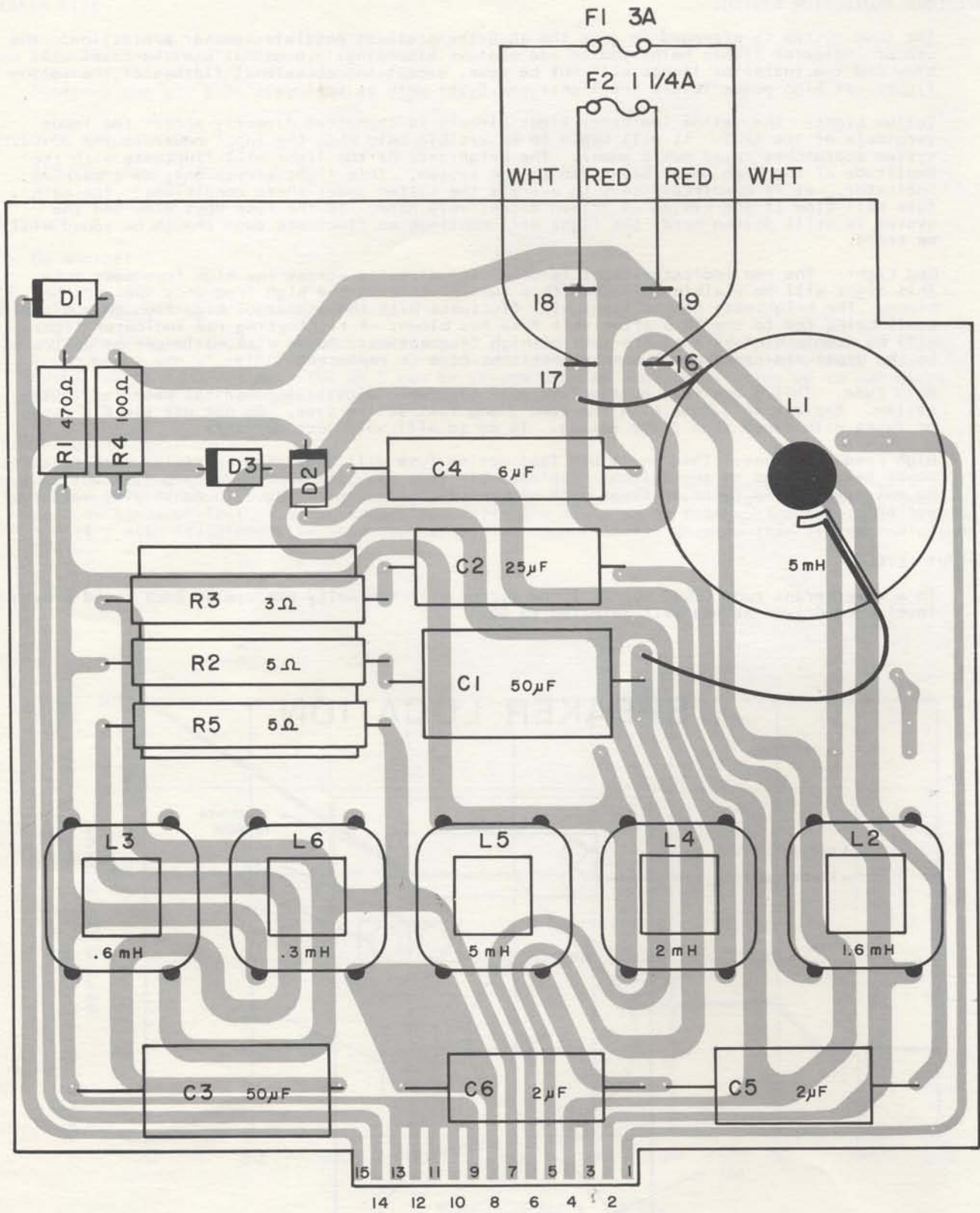
## OUTPUT LEVEL

In a reverberant room (2000 cu. ft.) the system will nominally produce an 89dB sound pressure level when driven at one watt referred to 8Ω.

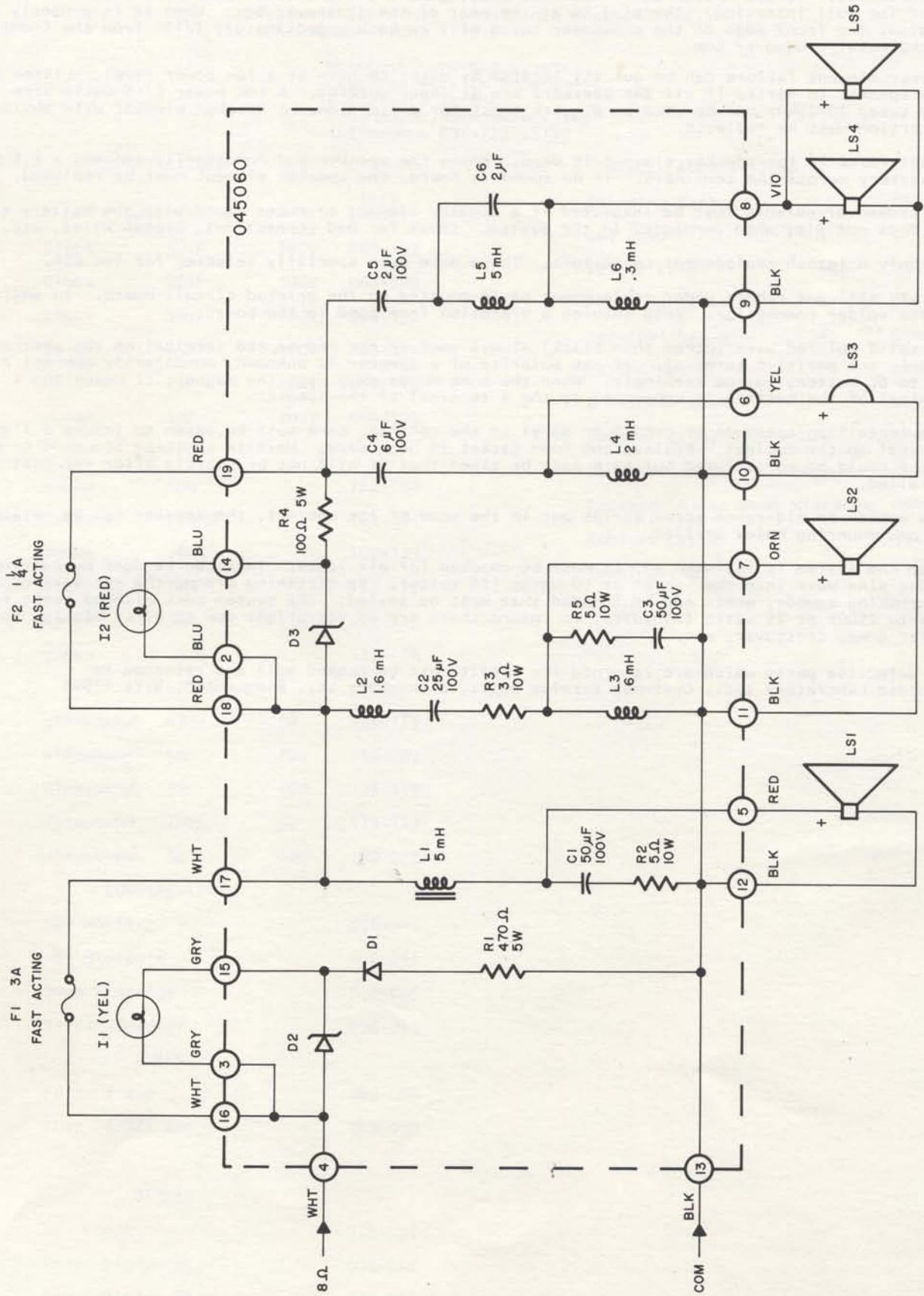
## SPEAKER LOCATION



# CROSSOVER NETWORK



ASSEMBLY 045-060



SYSTEM SCHEMATIC

# SERVICE NOTES

Before testing the system with audio signals, check both fuses and replace blown ones with exact replacements. If the system still does not play, remove the crossover panel and check the crossover board for full insertion. The plug is at the rear of the crossover box. When it is properly located, the front edge of the crossover board will be back approximately 1/16" from the front edge of the metal crossover box.

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 if a speaker element produces sound with the battery test but does not play when connected in the system. Check for bad connections, broken wires, etc.

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 panel in the cabinet, care must be taken to insure a tight air seal to the cabinet. Replace the 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 or mid-range 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, crossover, etc.

All defective parts which are returned for credit must be packed well and returned to McIntosh Laboratory Inc., Customer Service Dept., 2 Chambers St., Binghamton, N.Y. 13903

# 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				MISCELLANEOUS ITEMS	
Symbol Number	Description		Part Number	Shipping Carton	
C1	Elect	50 $\mu$ F	100V	066-192	033-226
C2	Elect	25 $\mu$ F	100V	066-189	058-064
C3	Elect	50 $\mu$ F	100V	066-192	058-065
C4	Mylar	6 $\mu$ F	100V	064-114	045-059
C5	Mylar	2 $\mu$ F	100V	064-125	Terminal Strip
C6	Mylar	2 $\mu$ F	100V	064-125	074-049
CHOKES				Fuseholder	178-099
L1	Choke	5mH		122-180	Crossover Gasket
L2	Choke	1.6mH		122-181	094-121
L3	Choke	.6mH		122-179	Speaker Gasket 12" Woofer
L4	Choke	2mH		122-177	094-124
L5	Choke	5mH		122-175	Speaker Gasket 8" Midrange
L6	Choke	.3mH		122-176	094-126
RESISTORS				Speaker Gasket Dome Midrange	094-127
R1	Wirewound	470 $\Omega$	5W	139-118	Cabinet Catch
R2	Wirewound	5 $\Omega$	10W	139-082	114-056
R3	Wirewound	3 $\Omega$	10W	139-110	Panel Catch
R4	Wirewound	100 $\Omega$	5W	139-117	114-055
R5	Wirewound	5 $\Omega$	10W	139-082	Hinge
LOUDSPEAKERS					114-054
LS1	12" Woofer			036-047	
LS2	8" Midrange			036-031	
LS3	Dome Midrange			036-035	
LS4,5	2-1/2" Tweeter			036-046	
FUSES					
F1	Fuse	3 amp		089-005	
F2	Fuse	1-1/4 amp		089-029	
DIODES					
D1	Si. Diode			070-031	
D2	Zener Diode	9V		070-066	
D3	Zener Diode	9V		070-066	

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REPAIRMENT PARTS

# McIntosh

McINTOSH LOUDSPEAKER DIVISION  
2 CHAMBERS ST., BINGHAMTON, N.Y. 13903