

# McINTOSH MC 752 POWER AMPLIFIER

TECHNI-DATA QUICKSHEET

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## FEATURES

The MC 752 is a direct coupled stereo power amplifier designed to operate with loudspeakers having a nominal impedance of 4 ohms to 8 ohms. The amplifier is rugged and reliable.

The mechanical and electrical design of the MC 752 is the result of the many years of engineering and manufacturing experience held by the staff at McIntosh. This "know how", the meticulous attention to design and production details, makes the MC 752 one of the finest products ever produced by McIntosh Laboratory.

Some manufacturers of power amplifiers advertise that their products do not require or use protection circuits and that such circuits compromise performance. McIntosh Laboratory agrees that diligent measures are required to allow unrestricted performance, but we also insist that protection circuits are desirable and necessary to prevent amplifier or loudspeaker damage due to abnormal circumstance and that they actually enhance performance. The MC 752 incorporates seven protection circuits to enhance its performance, assure its reliability and to protect loudspeakers driven by the MC 752.

## POWER GUARD

Power Guard, a unique feature of McIntosh amplifiers, assures that each channel of the MC 752 will deliver full power free of clipping distortion. Clipping is caused when an amplifier is asked to produce more clean power output than its design characteristics can deliver with low distortion. Amplifiers that are overdriven are capable of delivering large quantities of power when they are clipping but they have more than 40% harmonic distortion. In this mode, the sound is grossly distorted and the extra energy content of the clipped signal will damage most loudspeakers. The McIntosh Power Guard circuit protects your ears and your speakers from this kind of damage.

The built in "waveform comparator" compares the wave shape of the amplifier output signal to the input signal. If the distortion content between the two signals exceeds 0.5%, the Power Guard circuit operates automatically to prevent the normal increase to 40% or more distortion. Operation is indicated when the left or right Power Guard lamps turn on. At the same time, an electronically controlled attenuator reduces the gain of the amplifier just enough to prevent clipping. As long as the amplifier operates without overload, the indicators remain off.

Power Guard assures that you get the maximum undistorted power output available from the amplifier, and it makes sure that you hear the full rated power of the amplifier at low distortion.

## SENTRY MONITOR

All power transistors have limits for the maximum amount of electrical current they can handle. The output transistors and power supply have been designed to allow very high current flow into properly matched load impedances. If, however, a short circuit or very low value of load impedance is applied to the output, destructive current levels could be reached if it was not controlled by the Sentry Monitor circuit. This circuit senses the dynamic operating condition of the amplifier output stage and controls the current flow confining it to non-destructive limits. Sentry Monitor assures that there is always the full undistorted and safe power output available from the amplifier.

## THERMAL SHUT-DOWN

All power transistors have limits for the maximum amount of heat they can tolerate. The MC 752 uses a highly efficient amplifying circuit which produces relatively little heat for the output power produced. The amplifier has oversized heat sinks to dissipate transistor generated heat. Under normal conditions, the transistors will operate well below their safe temperature limits. If ventilation is restricted by improper mounting or if amplifier efficiency is destroyed by operating it into a short circuit or a very low load impedance, extra heat will be produced. Thermal sensors within the MC 752 will shut down one or both channels if temperatures become excessive. This prevents the transistors from producing life reducing heat. When the temperature reduces to a safe value, the amplifier operation will return to normal.

## TURN-ON DELAY

A turn-on delay circuit delays amplifier operation for about 2 seconds after power turn on. This prevents pops or thumps from causing annoying noises or from damage to your loudspeakers.



**DIRECT CURRENT FAILURE PROTECTION**

All power amplifiers, which do not use output transformers to bypass DC (direct current), can destroy loudspeakers if there is a failure within the amplifier. Safety circuits are necessary to protect loudspeakers. The MC 752 has a DC detecting circuit connected to the output of each channel. Should any DC be present, the circuit clamps the power supply to zero voltage to prevent damage to

loudspeakers. The circuit returns to normal when the cause for DC is corrected.

**POWER LINE TRANSIENT SURGE PROTECTION**

High voltage surges are sometimes present on 120 volt power lines due to switching of heavy loads such as air conditioners or furnace motors. These surges can destroy critical electronic circuits. The MC 752 power supply circuit is arranged to restrict momentary surges to safe levels.

**PERFORMANCE LIMITS****PERFORMANCE GUARANTEE**

Performance limits are the maximum deviation from perfection permitted for a McIntosh instrument. We promise you that when you purchase a new MC 752 from a McIntosh Franchised dealer it will be capable of performance at or exceeding these limits or you can return the unit and get your money back. McIntosh is the only manufacturer that makes this statement.

**PERFORMANCE**

McIntosh audio power ratings are in accordance with the Federal Trade Commission Regulation of November 4, 1974 concerning power output claims for amplifiers used in home entertainment products.

**POWER OUTPUT**

100 watts minimum sine wave continuous average power output, per channel, both channels operating across 4 ohms 20 Hz to 20 kHz, with no more than .02% total harmonic distortion.

75 watts minimum sine wave continuous average power output, per channel, both channels operating across 8 ohms 20 Hz to 20 kHz, with no more than .02% total harmonic distortion.

**OUTPUT LOAD IMPEDANCE**

4 ohms, 8 ohms

**RATED POWER BAND**

20 Hz to 20 kHz

**TOTAL HARMONIC DISTORTION**

.02% maximum at any power level from 250 milliwatts to rated power per channel, both channels operating 20 Hz to 20 kHz.

**TYPICAL PERFORMANCE**

0.005%

**INTERMODULATION DISTORTION**

0.005% maximum at any power level from 250 milliwatts to rated power per channel both channels operating for any combination of frequencies 20 Hz to 20 kHz.

**FREQUENCY RESPONSE**

20 Hz to 20 kHz  $\pm$  .25 dB at rated power

**DYNAMIC HEADROOM**

2.6 dB across 40 ohms (182 watt music peaks)

1.4 dB across 80 ohms (105 watt music peaks)

**HUM AND NOISE**

-119 dB A weighted, -113 dB unweighted,

-91.5 dB IHF below rated output

**DAMPING FACTOR**

Greater than 40

**INPUT SENSITIVITY AND IMPEDANCE**

1.4 V; 22k ohms

**POWER REQUIREMENTS:**

120 Volts, 50/60 Hz

**SIZE:**

18-1/8" wide by 9-5/8" deep by 5-9/16" high

**FINISH:**

Chrome chassis with black ventilating cover

**WEIGHT:**

21 lbs.

**Delivery date: late March**

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