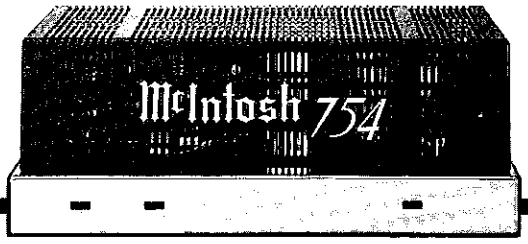

THE McINTOSH MC754 POWER AMPLIFIER

TECHNI-DATA QUICKSHEET

To achieve long trouble-free life in an amplifier it is essential to have cool operation. As little as one degree (centigrade) rise in temperature can reduce the operating life of the amplifier 10%. McIntosh has extended the life of its amplifiers by engineering for cool operation. Long life of a McIntosh is not just a claim. More than 80% of the McIntosh amplifiers produced since 1949 are still in service today. McIntosh cool operation requires a combination of careful design of the output circuit, containing the output circuit in a mechanical housing that permits the use of generous sized heat sinks to provide great heat dissipation capability along with chassis construction that permits adequate ventilation, then correctly matching the cool operating output circuit to the loudspeakers.

The McIntosh output circuit uses bipolar epitaxial output transistors in a cleverly inventive design that keeps the circuit components cool, extending the long trouble-free life of the components. The circuit has the ability to recognize the power demands of the program material and then to activate only as much of the output circuit as is needed to satisfy that demand. All this occurs without the crossover distortion found in conventional solid state output circuits. (The amplifier circuit is a patented McIntosh design U.S. patent #3,526,847.)

MAXIMUM PERFORMANCE IN A COOL OPERATIVE, MINIMUM SPACE REQUIRED DESIGN

The McIntosh output stages are mounted on heat sinks that have maximum surface area of cooling capability, the largest for equivalent power in the industry. The super sized heat sinks are placed in an air tunnel chassis design that occupies the entire space from the bottom of the amplifier to the top. Cooling air, flowing through the air tunnel, easily dissipates any life limiting heat generated.

POWER GUARD

All your music listening, including the severe demands of compact discs, is protected by the McIntosh patented* POWER GUARD circuit. Poorly designed amplifiers, of which there are many, can bring to your music a form of harsh unpleasant distortion due to amplifier overload (hard clipping). Clipping, which looks and acts like non musical square waves, is caused when an amplifier is asked to produce more power output, with low distortion, than it is capable of or designed to deliver. Amplifiers, when driven to clipping, can deliver up to 40% harmonic distortion, distortion that destroys the pleasure and enjoyment of listening. Clipped signals also produce extra heat energy which will damage most speakers. McIntosh leadership in engineering has developed the POWER GUARD circuit which — (1) dynamically prevents power amplifiers from being overdriven into hard clipping — (2) assures that the amplifier will produce its maximum output without increased distortion — (3) protects your speaker from excessive heating. And SPECTRAL FIDELITY testing reveals the MC754 with POWER GUARD to be superior in music performance by preventing amplifier overload and clipping.

SENTRY MONITOR

While the sound of your music is protected by POWER GUARD, the electrical components of the MC754 are protected by the patented* SENTRY MONITOR circuit. The SENTRY MONITOR circuit constantly samples the output signal and at signal levels up to rated output the circuit has no effect. If the power output exceeds design maximum, or in the event of a short circuit or severe mismatch the SENTRY MONITOR circuit acts to protect the output circuits and transistors from failure.

The low distortion and high stability of the power amplifier circuit will drive any type of dynamic or electrostatic speaker system to optimum performance. The McIntosh output circuit, protected by the SENTRY MONITOR, provides instantaneous protection. The amplifier is totally protected from output short circuits, open circuits and overloads. Additional protection is provided by temperature sensing devices on each output heat sink. The MC754 will perform reliably under the most rigorous operating conditions. The reserve power and complete protection of the output circuit allows safe operation with any speakers, dynamic or electrostatic!

GOLD PLATED INPUT AND OUTPUT CONNECTORS

The gold plated output barrier strip provides positive, locked interface for your choice of loudspeaker connecting cable.

McIntosh®
since 1949

* McIntosh research engineering and design for the MC754 Power Amplifier has developed circuits covered by these U.S. Patents: 4,065,682; 4,048,573; 3,526,847 and 3,526,846.

MC754 PERFORMANCE LIMITS

Performance limits are the maximum deviation from perfection permitted for a McIntosh instrument. We promise you that when you purchase a new MC754 from a McIntosh franchised dealer, it will be capable of or can be made 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

STEREO

100 watts across 8 ohms or 4 ohms is the minimum sine wave continuous average power output per channel for 20 Hz to 20,000 Hz with both channels operating.

MONO (Bridged):

200 watts across an 8 ohms load is the minimum sine wave continuous average power output from 20 Hz to 20,000 Hz, which is 40.0 volts RMS across 8 ohms.

OUTPUT LOAD IMPEDANCE

STEREO: 4 ohms or 8 ohms.

MONO: 8 ohms obtained by connecting across the output terminals of both channels.

RATED POWER BAND

20 Hz to 20 kHz

TOTAL HARMONIC DISTORTION

STEREO:

0.02% maximum harmonic distortion at any power level from 250 milliwatts to rated power per channel from 20 Hz to 20,000 Hz, both channels operating.

MONO:

0.02% maximum harmonic distortion at any power level from 250 milliwatts to rated power from 20 Hz to 20,000 Hz.

INTERMODULATION DISTORTION

STEREO:

0.02% maximum if instantaneous peak power output is 200 watts or less per channel with both channels operating for any combination of frequencies, 20 Hz to 20,000 Hz.

MONO:

0.02% maximum if instantaneous peak power output is 400 watts or less for any combination of frequencies, 20 Hz to 20,000 Hz.

FREQUENCY RESPONSE (at one watt output)

+0, −0.25dB from 20 Hz to 20,000 Hz

+0, −3.0dB from 12 Hz to 70,000 Hz

RATINGS

IHF DYNAMIC HEADROOM

2.3dB at 4 ohm load

1.6dB at 8 ohm load

DAMPING FACTOR

Greater than 90 at 8 ohms

INPUT IMPEDANCE

20,000 ohms

INPUT SENSITIVITY

1.4 volt, level control provides for higher input voltages; 2.5 volt position indicated

POWER REQUIREMENTS

120 volts, 50/60 Hz, 0.3 to 4.0 amperes

POWER GUARD

Clipping is prevented and total harmonic distortion does not exceed 2.0% with up to 20 dB overdrive at 1,000 Hz.

GENERAL INFORMATION

POWER REQUIREMENTS

120 volts, 50/60 Hz, 0.3 to 4.0 amperes

SEMICONDUCTOR COMPLEMENT

43 silicon transistors

27 silicon diodes

2 integrated circuits

SIZE

13 1/8″ (33.3 cm) wide, 9 5/8″ (24.4 cm) deep by 5 9/16″ (14.1 cm) high

FINISH

Chrome chassis with black ventilating cover

WEIGHT

21 lbs. (9.5 Kg) net

25 lbs. (11.3 Kg) in shipping carton

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McIntosh® since 1949

JRB-839 Preliminary

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