

McIntosh[®]
MC2500
**POWERFUL
PERFECTION**



Organ pipes photographed at Casadesus Recital Hall
State University of New York at Binghamton, N.Y.



MC2500

Perfection in Power Amplifiers

The McIntosh reputation for **QUALITY** is acknowledged world wide: quality performance, quality appearance, quality manufacture, and quality protection. Each component selected for use in a McIntosh is quality tested not only for performance but for maintaining that performance over the long life expected of a McIntosh. At McIntosh, everyone and everything is dedicated to continuation of proven—McIntosh quality.

Since 1949, McIntosh has continuously expanded the boundaries of power amplifier technology and performance with the introduction of each new design. What is considered to be "State of the Art" has been the starting line for McIntosh research, research that responds to the demands for quality performance improvements. The U.S. Patent Office has granted McIntosh 30 patents which recognize these unique and pace setting electronic designs. Current McIntosh amplifiers use one or more of these U.S. Patents: 4,065,682; 4,048,573; 3,526,847; and 3,526,846.

But, patents only verify the engineering superiority and design integrity. Quality is the desire that is expressed in performance promised—and delivered—over a long trouble-free life. McIntosh superior quality has been long recognized world wide.

The McIntosh (exclusive) Power Guard Music Protection Circuit

Improved recordings and recording techniques have imposed higher power demands on today's amplifiers. Poorly designed amplifiers, of which there are many, can present music listeners with 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 the 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 decreases the pleasure and enjoyment of listening. This form of distortion (clipped signal) also produces 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. Power Guard is a patented McIntosh design (U.S. patent #4,048,573).

McIntosh quality begins with careful design for cool operation

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. 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 with a McIntosh designed and manufactured auto-transformer.

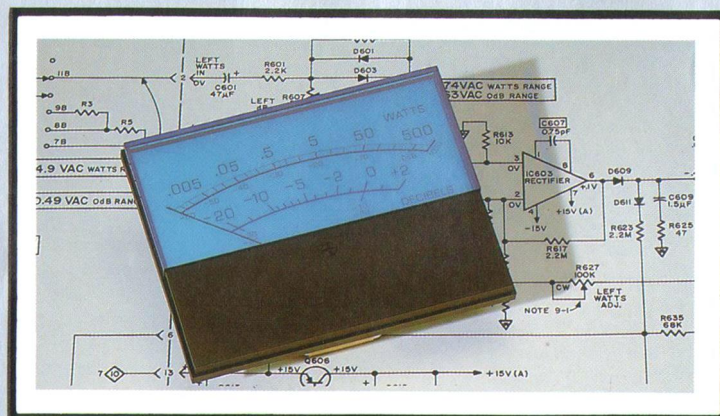


Bipolar Epitaxial Transistors were selected for the McIntosh output circuit because they have the best reputation for ruggedness and cool operation with high power capabilities. McIntosh research produced a cleverly inventive output circuit design that keeps the circuit components cool, extending the 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 #3526847.)

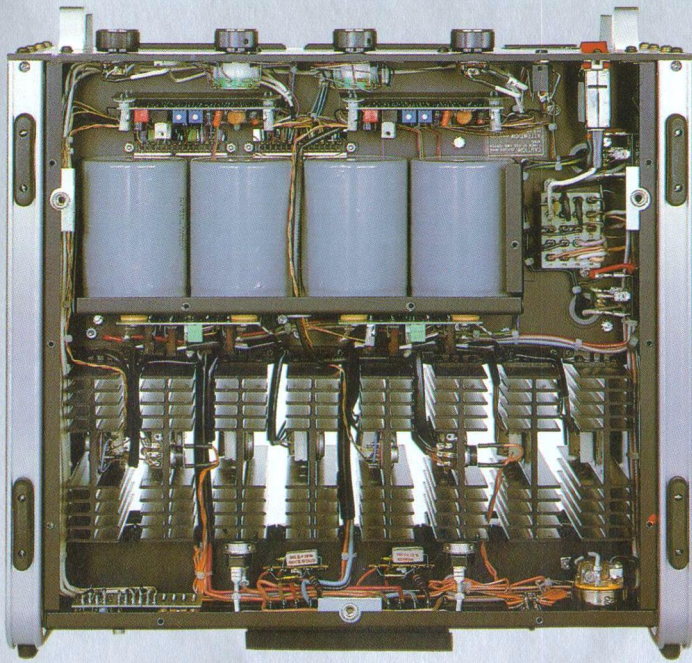
The McIntosh output stages are mounted on heat sinks that have 1990 square inches of cooling capability, the largest for equivalent power in the industry. The super sized heat sinks are placed in an air tunnel chassis design that occupies the entire space from the bottom of the amplifier to the top. Cooling air, flowing through the air tunnel, easily dissipates any life limiting heat generated.

The McIntosh Power Meters

The lack of accurate performance in ordinary meters has presented difficult and complex problems. Ordinary meters are incapable of indicating the short interval information in a sound wave. The mass of the meter movement is too great to respond to the nearly instantaneous changes in music program material. That short interval information can have a duration as short as one-half of one thousandth of a second. Even if the meter were capable of such high velocity movement, the human eye could not perceive the information. McIntosh engineering solved both problems electrically. By developing new electronic circuits the meters are made to respond to short intervals with an accuracy of 98%! To permit the eye to see such high speed motion, the electronic circuits that drive the meter pointer are time stretched so the meter pointer position can register in the persistence of vision characteristics of the human eye. The peak-reading, peak-locking meter circuit is a patented McIntosh design (U.S. patent #4,065,682).



A variety of information can be displayed on the meters. You may elect to observe the delivered power in watts demanded by the musical program or you may elect to lock and hold only the highest power indications yet have continuous updating as higher powers are delivered or you may select from three different peak-reading, peak-locking decibel indications. Each selected function is indicated by illuminated nomenclature on the panel.



MC2500 (Bottom view)

The McIntosh always 'in style'

The appearance of a McIntosh speaks eloquently of precision, quality, premier performance and long, trouble-free life. Consider the construction and materials used in the front panel and knobs. Each constituent part is selected for long, wear-resistant life and stable attractive styling.

The MC 2500 front panel is an attractive combination of textured anodized aluminum and baked enamel. The knobs used are meticulously machined of solid aluminum then anodized and thermally and electrically isolated.

Anodizing is an electro-chemical process that leaves a color dyed and hardened surface that is impervious to attack from common household cleaning fluids, oils and acids from the skin and is highly wear resistant.

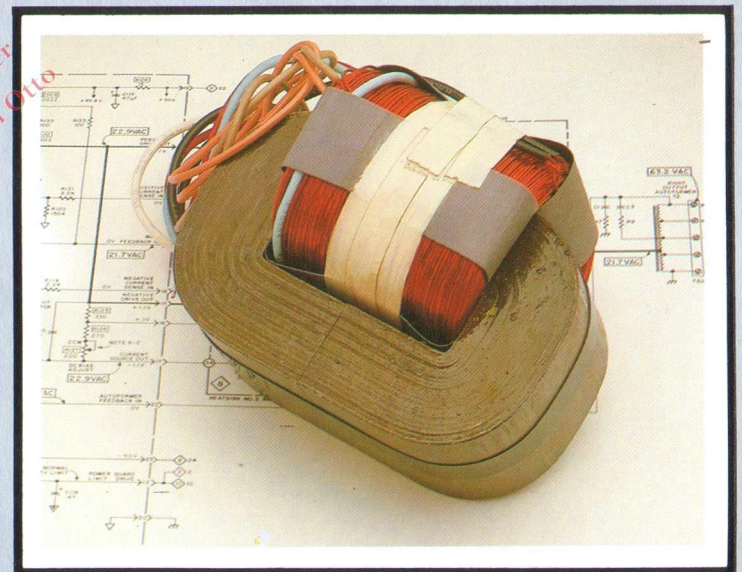
This handsome combination of anodized aluminum and baked enamel requires very little maintenance to keep that, "Just new" appearance. The subtle yet sophisticated styling is designed to complement any decorative scheme and will remain in "good taste".

Versatile McIntosh power amplifiers deliver full power — ALWAYS

The McIntosh autotransformer is a silent giant in insuring better performance and protection. Its use provides many unseen benefits. First, it is the ideal method of coupling the output circuit to the loudspeakers which are the load into which the output of the amplifier is fed. Frequently the loudspeaker can compromise amplifier performance by speaker impedance variations with frequency or by multiple speakers connected to the amplifier. Because transistors, used in amplifier output circuits are designed to work into an optimum low impedance load, the use of the McIntosh autotransformer matches these requirements best. Without the McIntosh autotransformer, variables, such as these, can cause output transistor heating, restricted performance and then circuit failure.

A second benefit of the McIntosh autotransformer is the protection provided in the event of a failure in the output circuit.

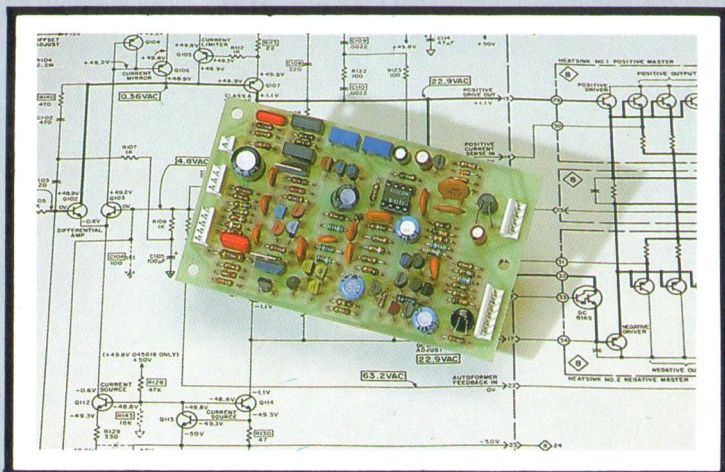
Should there be any direct current component in the output circuit, the autotransformer conducts any speaker damaging DC directly to ground. Your expensive loudspeakers are protected from this potentially damaging circumstance.



A third benefit of the McIntosh autotransformer, which not only provides the output transistors an ideal load and is the path that conducts any DC away from the loudspeaker, also contributes a flexibility in loudspeaker connecting capability not otherwise possible. For safe operation ordinary amplifier output circuits are usually restricted to operate into 4 or 8 ohms. In stereo, the McIntosh autotransformer perfectly matches the output circuit to 1, 2, 4 or 8 ohms. In mono, (the stereo amplifiers can be interconnected for mono operation while delivering twice the power) the autotransformers provide matching to 1/2, 1, 2, 4, 8 or 16 ohms. And, in addition, the autotransformer provides a 25 volt output in either stereo or mono, that may be used to feed multiple loudspeakers for background music and the like. Truly, the McIntosh autotransformer is an engineering marvel that enhances amplifier performance without any technical or performance drawbacks.

PROTECTION

1. The McIntosh Sentry Monitoring circuit constantly monitors the output signal. As long as the amplifier is asked to operate within its operating limits, the Sentry



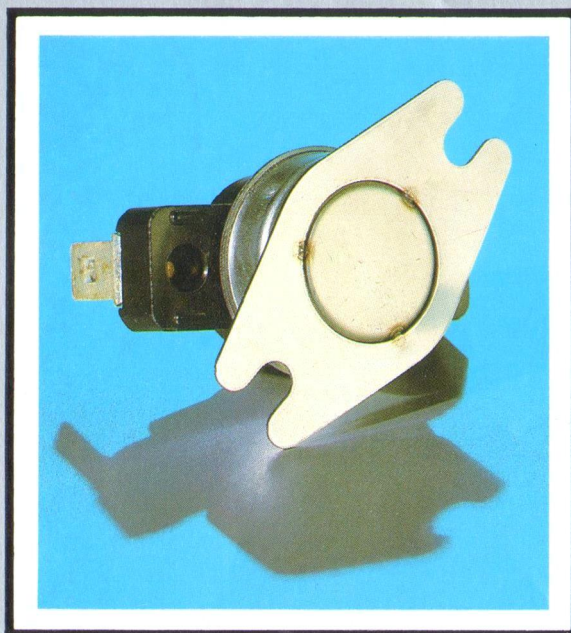
Monitoring circuit has no effect upon the program output. If the amplifier is asked to exceed its design maximum, or has an accidental short circuit across the amplifier output or has a severe impedance mismatch, the Sentry Monitoring circuit operates to control the signal to the output transistors to protect them from failure. The Sentry Monitoring circuit is a patented McIntosh design (U.S. patent #3,526,846).

McIntosh protects your investment.

PROTECTION

2. A heat sensing switch attached to the super sized heat sinks controls the AC power to the amplifier. As long as temperatures are normal it does not function; but, should the temperature of the heat sinks rise above normal, the AC power is disconnected automatically until the temperature returns to normal when the AC power is restored.

McIntosh protects your investment.



PROTECTION

3. In ordinary solid state circuits failure in the output stage can cause damaging direct current components to flow to the loudspeakers. With the McIntosh auto-transformer, matching the output circuits to the loudspeakers, any direct current component is shunted to ground. Your speakers are protected completely from this kind of amplifier failure.

McIntosh protects your investment.

PROTECTION

4. McIntosh gives you a money-back performance guarantee. We promise you that when you purchase a new McIntosh from a McIntosh franchised dealer, it will be capable of or can be made capable of performance at or exceeding its published performance limits or you can return the instrument and get your money back. McIntosh is the only manufacturer that makes this statement.

McIntosh protects your listening and your investment.

PROTECTION

5. To assure you of the McIntosh belief in design for long life, McIntosh goes beyond the ordinary guarantee. You are offered a McIntosh 3 Year Service Contract which protects you from the cost of repair for three full years. Should your McIntosh instrument fail, McIntosh will provide the service materials and labor needed to return the measured performance to the original performance limits. The SERVICE CONTRACT does not cover any shipping costs to and from the authorized service agency or the factory.

McIntosh protects your investment.

MC 2500 PERFORMANCE LIMITS

Performance Limits are the maximum deviation from perfection permitted for a McIntosh instrument. We promise you the MC 2500 you buy must be capable of performance at or exceeding these limits or you get your money back. McIntosh is the only manufacturer that makes this guarantee.

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

500 watts minimum sine wave continuous average power output, per channel, both channels operating into 1 ohm, 2 ohm, 4 ohms, or 8 ohms load impedance, which is:

22.4 volts RMS across 1 ohm
31.6 volts RMS across 2 ohms
44.7 volts RMS across 4 ohms
63.2 volts RMS across 8 ohms

MONO

1000 watts minimum sine wave continuous average power output into 0.5 ohm, 1 ohm, 2 ohms, 4 ohms, 8 ohms, or 16 ohms load impedance, which is:

22.4 volts RMS across 0.5 ohm
31.6 volts RMS across 1 ohm
44.7 volts RMS across 2 ohms
63.2 volts RMS across 4 ohms
89.4 volts RMS across 8 ohms
126.5 volts RMS across 16 ohms

OUTPUT LOAD IMPEDANCE

STEREO

1 ohm, 2 ohms, 4 ohms, and 8 ohms; separate terminals are provided for each output.

MONO-PARALLEL

0.5 ohms, 1 ohm, 2 ohms, and 4 ohms; obtained by connecting in parallel the appropriate terminals of both channels.

MONO-BRIDGED

2 ohms, 4 ohms, 8 ohms, or 16 ohms; obtained by connecting to the output terminals of both channels. The bridged output is balanced to ground. Neither side is grounded.

RATED POWER BAND

20 Hz to 20,000 Hz

TOTAL HARMONIC DISTORTION

STEREO

0.02% maximum harmonic distortion at any power level from 250 milliwatts to 500 watts 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 1000 watts from 20 Hz to 20,000 Hz.

INTERMODULATION DISTORTION

STEREO

0.02% maximum if instantaneous peak power output is 1000 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 2000 watts or less for any combination of frequencies, 20 Hz to 20,000 Hz.

FREQUENCY RESPONSE (at one watt output)

20 Hz to 20,000 Hz + 0 - 0.25 dB.
10 Hz to 100,000 Hz + 0.25 - 1 dB.

NOISE AND HUM

95 dB below rated output.

RATINGS

DAMPING FACTOR

Greater than 30

INPUT IMPEDANCE

50,000 ohms.

INPUT SENSITIVITY

Switchable: 0.75 volt or 2.5 volts—
Level control provided for higher input voltages.

POWER GUARD

THD not to exceed 2% with up to 20 dB overdrive at 1 kHz.

GENERAL INFORMATION

POWER REQUIREMENTS

120 volts 50/60 Hz 0.7 to 22 amps., 15 amps UL/CSA

SEMICONDUCTOR

COMPLEMENT

MC 2500

91 silicon transistors

35 silicon rectifiers and diodes

6 integrated circuits

MECHANICAL INFORMATION

Front panel measures 19 inches wide (48.26 cm) by 10½ inches high (26.67 cm). Chassis measures 17 inches wide (43.18 cm) by 10 inches high (25.4 cm) by 17 inches deep (43.18 cm), including connectors. Clearance in front of mounting panel including knobs 2 inches (5.08 cm)

FINISH

Front panel is anodized gold and black. Chassis is black baked enamel.

MOUNTING

Standard 19" (48.26 cm) rack mounting

WEIGHT

129 pounds (58.5 kg) net, 144 pounds (65.3 kg) in shipping carton

Franchised Dealer:



McINTOSH LABORATORY INC.
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607-723-3512