

McIntosh®



McIntosh MC 2155
150 Watt Per Channel
Power Amplifier
Optional Walnut Veneer
Cabinet

The Word For

EXCELLENCE

Handcrafted with pride in the United States by dedicated highly trained craftspeople.



The MC 2155...150 WATTS OF PURE PERFORMANCE

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.

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.

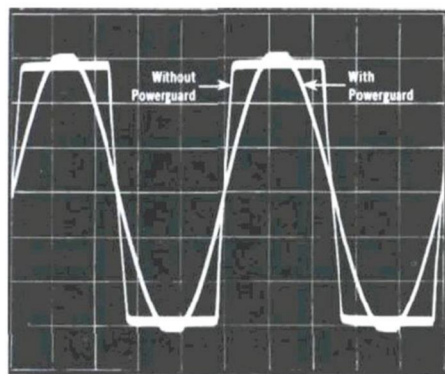
The McIntosh output circuit uses bipolar epitaxial output transistors in a cleverly inventive design that keeps the circuit components cool, extending the long trouble-free life of the components. The circuit has the ability to recognize the power demands of the program material and then to activate 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 #3526847.)

The McIntosh output stages are mounted on heat sinks that have 772 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 (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



Oscillogram of output waveform with and without Power Guard. Input overdriven for each trace 20 dB.

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).

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.

THE MCINTOSH AUTOMATIC TEST SYSTEM

The McIntosh Automatic Test System provides positive performance protection and extends the long trouble-free life of an amplifier. Each time the amplifier is turned on, the Automatic Test System electronically measures and verifies accurate performance at seven critical points in the amplifier's circuits. The Automatic Test System verification assures operational readiness before operation starts and limits any damage should there be component malfunction. Each time a test is verified an LED number indicator shows which test is being performed.

This Automatic Test System protects your investment.

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 panel of the MC 2155 is select glass, free from bubbles, flow marks and other faults. It is silk screened on the reverse side with thermal setting epoxy screen inks which practically become a part of the glass. Then it is built into a brightly polished and anodized frame. 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 glass, anodized aluminum and epoxy 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".

The MC 2150 front panel is an attractive combination of textured anodized aluminum and baked enamel. The knobs are machined of solid aluminum then anodized for permanence.

INSTALLATION WITH THE MC2155

The quality performance, quality appearance, quality manufacture and quality protection described for the MC 2155 are repeated in the MC 2150.

The "Pro-Panel" has an attractive baked enamel and gold anodized finish. Its versatility permits ease of custom installation, installation in the McIntosh furniture cabinet or can be easily converted to professional rack mounting with The deletion of the meters and and circuits are the only high performance models.

PROTECTION

1. When ordinary amplifiers are asked to exceed their design maximum, or have an accidental short circuit across the output or a severe impedance mismatch, the operating temperature of the output stages can rise very rapidly, leading to cataclysmic failure. McIntosh engineers developed the Sentry Monitor Circuit which monitors operating conditions of the output stages of the amplifier. If a McIntosh amplifier is asked to exceed its design parameters, the Sentry Monitor Circuit is activated which protects the output transistors and helps to prevent failure. The Sentry Monitor Circuit has been granted a 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

autotransformer, 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 at 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.

ADAPTABILITY



accessory adapters.
their associated controls
electrical differences between these two

VERSATILE MCINTOSH POWER AMPLIFIERS DELIVER FULL POWER - ALWAYS

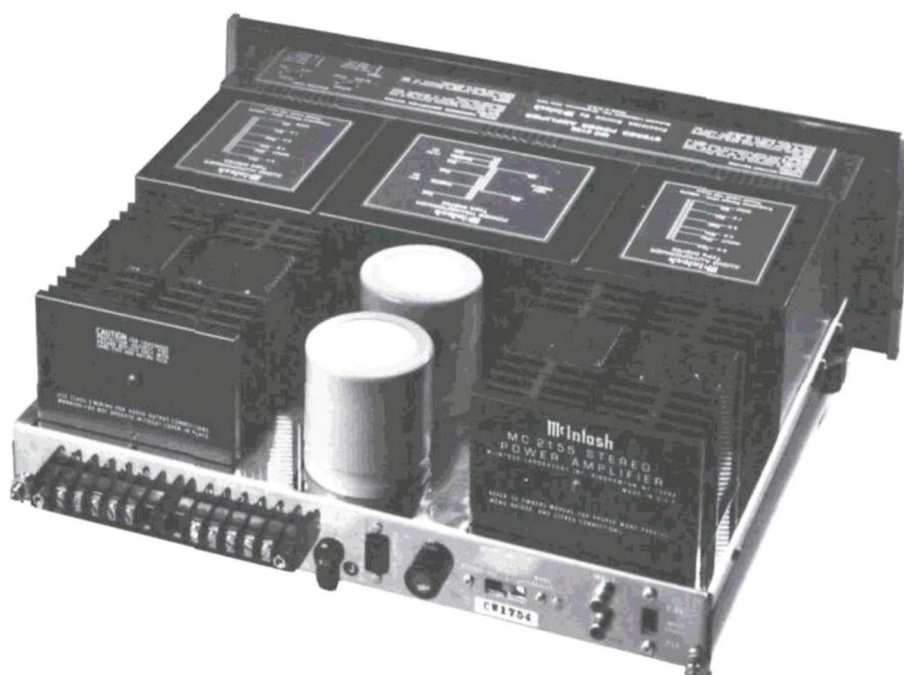
The McIntosh autotransformer is a silent giant in insuring better performance and protection. Its use provides many unseen benefits. First, it is the ideal method of coupling the output circuit to the loudspeakers which are the load into which the output of the amplifier is fed. Frequently the loudspeaker 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 $\frac{1}{2}$, 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.



The continuous improvement of its products is the policy of McIntosh Laboratory Incorporated, who reserves the right to improve design without notice.

MC2155/MC2150 PERFORMANCE LIMITS

Performance Limits are the maximum deviation from perfection permitted for a McIntosh instrument. We promise you that when you purchase a new MC 2155 or MC 2150 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

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

12.2 volts RMS across 1 ohm
18.3 volts RMS across 2 ohms
24.5 volts RMS across 4 ohms
34.6 volts RMS across 8 ohms

MONO

300 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:

12.2 volts RMS across 0.5 ohm
17.4 volts RMS across 1 ohm
24.5 volts RMS across 2 ohms
34.6 volts RMS across 4 ohms
49.0 volts RMS across 8 ohms
69.3 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 ohm, 1 ohm, 2 ohms, and 4 ohms; obtained by connecting together the appropriate terminals of both channels.

MONO-BRIDGED

2 ohms, 4 ohms, 8 ohms, or 16 ohms, balanced to common connections.

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 150 watts from 20 Hz to 20,000 Hz both channels operating.

MONO

0.02% maximum harmonic distortion at any power level from 250 milliwatts to 300 watts from 20 Hz to 20,000 Hz.

INTERMODULATION

DISTORTION

STEREO

0.02% maximum if instantaneous peak power output is 300 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 600 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 ± 0.25 dB.
10 Hz to 100,000 Hz $\pm 0.25 - 1$ 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

Clipping is prevented and THD does not exceed 2% with up to 20 dB overdrive at 1 kHz.

GENERAL INFORMATION

POWER REQUIREMENTS

120 volts 50/60 Hz 0.7 to 12 amps.

SEMICONDUCTOR COMPLEMENT

MC2150	MC2155
72 silicon transistors	81
37 silicon rectifiers and diodes	47
9 integrated circuits	14

MECHANICAL INFORMATION

MC 2150 SIZE

16 inches wide (40.7 cm) by 5-7/32 inches high (13.2 cm), by 14-1/2 inches deep (36.8 cm), including connectors. Knob clearance required is 1 inch (2.5 cm) in front of mounting panel

FINISH

Front panel is anodized gold. Chassis is chrome and black

WEIGHT

58 pounds (26.3 kg) net, 71 pounds (32.2 kg) in shipping carton

MC 2155 SIZE

16 inches wide (40.6 cm) by 5 7/16 inches high (13.8 cm), by 14-1/2 inches deep (36.8 cm), including connectors. Knob clearance required is 1-3/16 inches (3 cm) in front mounting panel

FINISH

Front panel is anodized gold and black with special gold/teal nomenclature illumination. Chassis is chrome and black

WEIGHT

65 pounds (29.5 kg) net, 77 pounds (35 kg) in shipping carton

Franchised Dealer:



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