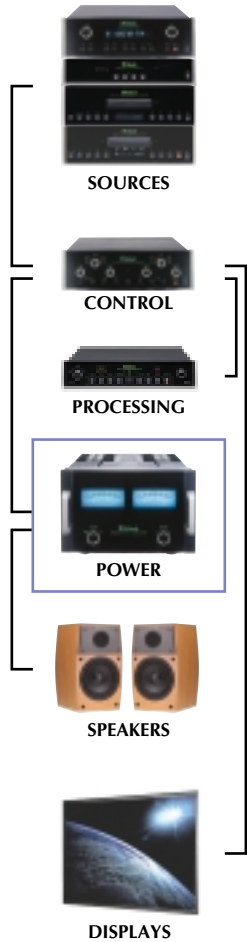


McIntosh[®]
THE GREAT AMERICAN POWERHOUSE



MC2102 Tube Power Amplifier



Almost 50 years ago Frank McIntosh and Gordon Gow invented and patented the McIntosh Unity Coupled Output Circuit. Two features differentiate it from other designs. First, the output tubes deliver power from both their plates (anodes) and their cathodes, not from their plates alone as in conventional circuits. Second, the output transformer's two bifilar primary windings give it one-half the turns ratio of conventional transformers, equating to one-fourth the impedance ratio. This allows a close coupling of the primary and secondary windings, resulting in wide bandwidth, flat frequency response, and low distortion. The MC2102 is at once a tribute to the past and present McIntosh.

See "SYSTEMS ENGINEERING" in the main brochure for more on McIntosh system architectures.

Featured Technologies

UNITY COUPLED CIRCUIT. The MC2102 contains two identical channels. Each channel has three amplification stages: input/phase inverter, driver, and output. It uses the famous Unity Coupled Output Circuit with eight KT88 or 6550 output tubes (four per channel) in a push-pull parallel configuration. Large transformers with grain-oriented silicon steel cores allow full power output down to 17Hz.

OUTPUT STAGE. The KT88/6550s operate with fixed bias. Because the tubes are additionally loaded in their cathodes they require a large drive signal (approximately 170V) for full output. This signal is provided by the 12AT7 driver. Boot-strapping the driver to the plate winding of the output transformer results in greater amplification than otherwise possible.

DRIVER STAGE. The driver stage is fed by the 12AX7A input/phase inverter. A resistance-capacitance step network couples these stages and minimizes low-frequency phase shift. The phase inverter has no coupling capacitors so no additional low-frequency phase shift is introduced.



Sidney A. Corderman

A BRIEF HISTORY Frank McIntosh, Gordon Gow, and Maurice Painchaud formed the original McIntosh Laboratory. Their goal was to produce the first High Fidelity audio power amplifier – one that would reproduce the entire audio range) with low distortion. The McIntosh 50W1 made its debut in 1949. It would take competitors nearly 20 years to match its performance.

In 1951 the brilliant MIT engineer Sidney Corderman joined the company as Chief Engineer. He was directly involved with the design of all McIntosh products until his retirement in 1993. Mr. Corderman was coaxed out of retirement in 1997 and has since ushered in a new era of McIntosh tube amplifier design.

Suggested MC2102 Companion Products

The McIntosh products shown at right are logical companions for the MC2102. Separate literature is available. Check with your McIntosh dealer for late additions.

C200 Preamplifier/Controller. One of the finest power amplifiers McIntosh has ever produced deserves an equally fine partner. The dual-chassis, fully balanced C200 is virtually devoid of any measurable noise.

MR85 AM/FM Tuner with Dual Tuners. Ideal for multiroom systems, the MR85 is available with a second tuner (the TM1 module) that operates independently. A thoroughly engineered broadcast monitor, the MR85 reveals the upper limits of AM and FM performance. The supplied RAA1 AM antenna can be positioned away from sources of interference (e.g., TV sets, fluorescent lights) for greatly improved AM quality.

Academy Series Loudspeakers. The Academy speakers satisfy the often contradictory demands of pure music versus movie sound. All Academy loudspeakers use the acclaimed LD/HP® driver – which significantly reduces bass distortion while increasing power handling. The **LS320, LS340, and LS360** feature arched bridge truss construction that is virtually immune to vibrations that distort sound. A special tweeter plate in the LS320 and LS340 reduces edge diffraction cancellation, while the five tweeters in the LS360 are wired in a Bessel Function array that acts as a point source. The **WS320** is the wall-mount sibling of the LS320 and comes in a paintable white finish. The compact **HT5** has a footprint less than 10 inches square. At 400 watts, the **PS112** is McIntosh's most powerful amplified subwoofer. It features arched bridge truss construction and a black glass control panel.



C200 PREAMPLIFIER/CONTROLLER



MR85 AM/FM TUNER

academy
LOUDSPEAKERS



LS320



LS340



HT5



WS320



PS112

Featured Technologies (cont'd.)

INPUT/PHASE-INVERTER STAGE. Mode selectors at the rear of the chassis choose balanced or unbalanced inputs. The selectors operate Silent Electromagnetic Switches located adjacent to the input circuits. When the balanced input is used a second 12AX7A receives the balanced signal. One section of the driver tube is a cathode follower that passes the positive phase signal. The other section inverts the negative phase signal. The two outputs are combined and fed to the input/phase-inverter stage. Common mode rejection is greater than 60dB at middle frequencies.

POWER SUPPLIES. The power transformer has two tapped primary and three secondary windings. The primary can be connected for 100V, 120V, or 230V. Thermistors cushion inrush current. Four, 1000 microfarad filter capacitors and a filter choke ensure extremely pure DC power. A medium-voltage secondary winding feeds the negative bias voltage supply and a low-voltage secondary feeds the filaments of the tubes and indicator lamps. This same winding feeds regulated DC power supplies for the meter circuit as well as control circuits.

ILLUMINATED PEAK-RESPONDING WATTMETERS. McIntosh wattmeters display the output in watts. They respond 95% full scale to a single-cycle tone burst at 2kHz. Response is almost 10-times faster than a professional VU meter. The "hold" feature provides a longer pause at the peak reading. The meter illumination can be switched off.

BALANCED CONNECTIONS. A premium feature not usually found in consumer audio gear, balanced connections guard against induced noise and allow long cable runs without compromising sound quality. A balanced connection between the MC2102 and the C200 Control Center provides 40dB more noise protection than would an unbalanced ("single-ended") connection.

REMOTE POWER CONTROL. This allows a McIntosh Control Center to turn the MC2102 and other system components on/off.

Why
Choose
McIntosh?

Consumer electronics products usually are viewed as short-term investments because they don't last or they quickly become obsolete in some way. But behind every McIntosh is a fifty-year heritage of excellence, proudly carried forward by every employee. No production lines, no "price-point" engineering, no planned obsolescence. McIntosh equipment is made to sound better and last longer.

When customers are presented with McIntosh products, criteria they have been conditioned to overlook – reliability, longevity, craftsmanship, ease-of-use, adaptability, pride of ownership – suddenly leap to the top of their list. The choice then becomes clear: **There is nothing like a McIntosh.**



MC2102 Tube Power Amplifier

Designed by co-founder Sidney A. Corderman and the McIntosh engineering staff

Dual monoblock (2-channel stereo) amplifier with all signal amplification by tubes

Patented Unity Coupled Circuit with bifilar-wound output transformers

Stereo: 100 watts per channel (8/4/2 ohms)

Mono parallel: 200 watts per channel (4/2/1 ohms)

Mono bridged: 200 watts per channel (16/8/4 ohms)
(8) KT88 or 6550 output tubes

(4) 12AX7A input tubes

(4) 12AT7 driver tubes

Ceramic tube sockets with gold-plated contacts

Air-pipe cooling at base for output tubes

Very low distortion

Wide power bandwidth

Long-life premium capacitors and resistors

Balanced and unbalanced inputs

Gold-plated input jacks

Gold-plated 200A multi-way output binding posts

Illuminated peak-responding wattmeters with hold

Remote power control connection to McIntosh Control Centers and Preamplifiers

Black drawn-aluminum transformer enclosures

Polished stainless-steel chassis

Glass front panel with illuminated nomenclature

RMS Power Output

Minimum sine wave continuous average power output from 20Hz to 20kHz

Stereo: 100 watts (8/4/2 ohms)
Mono parallel: 200 (4/2/1 ohms)
Mono bridged: 200 (16/8/4 ohms)

Total Harmonic Distortion

0.5% maximum at any level from 250 milliwatts to rated output

Intermodulation Distortion

SMPTE 0.5% maximum if instantaneous peak output does not exceed twice the output rating

Rated Power Band

20Hz to 20kHz

Frequency Response

20Hz to 20kHz, +0 / -0.25dB
10Hz to 100kHz, +0 / -3.0dB

A-Weighted Signal-to-Noise Ratio

100dB below rated output

Wide Band Damping Factor

>18

Output Load Impedance

2, 4, and 8 ohms, stereo
1, 2, and 4 ohms, mono parallel
4, 8, and 16 ohms, mono bridged

Input Impedance

20k ohms unbalanced
40k ohms balanced

Input Sensitivity

Balanced: 2.5V
Unbalanced: 5.0V

Tubes

(4) 12AX7: inputs and phase inverters
(4) 12AT7: voltage amp and drivers
(8) KT88 or 6550: outputs

Power Requirements

100V, 50/60Hz, 5.8A
120V, 50/60Hz, 5.0A
230V, 50/60Hz, 2.5A

Dimensions (h x w x d)

inch: 7.062 x 17.5 x 20
cm: 17.9 x 44.5 x 50.8

Weight

88 lbs. (40kg) net