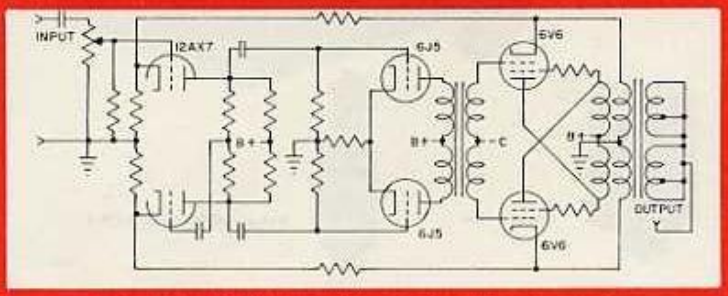
McIntosh 20 W-2 AMPLIFIER features

- Power output: 20 watts continuous; 40 watts instantaneous peak.
- Power output: 25 watts intermittent; 50 watts instantaneous peak intermittent.
- Efficiency: final stage 60% at 20 watts, 70% at 28 watts.
- Gain: Basic Amtplifier 40db, 70db with pre-amp, 90db maximum with transformer.
- Frequency range: 20 to 20,000 cycles + or − .05db, 10 to 100,000 cycles + or − 3db.
- Distortion: less than ½% 20 to 20,000 cycles for 20 watts output.
- Intermodulation Distortion: less than 1% 20 to 20,000 cycles for instantaneous peak power to 40 watts.
- Noise Level: 80db below full output, 65db when pre-amp used.
- Damping factor: 10 or better. Can be made infinite or generator resistance negative if required.
- Input Impedance: 100,000 ohms, with transformer 50, 250, 600 or 20,000 ohms.
- Output Impedance: 4, 8, 16, 32 or 600 ohms balanced-connection to octal plug.
- Tube Complement: Rectifier 1-5Y3, Amplifier 1-12AX7, 2-6J5, 2-6V6G.
- Dimensions: consists of 1 unit 8⅛" x 6¾" x 5¼".
- Weight: complete amplifier 27 lbs., shipping weight 30 lbs.
- Power Consumption: 70 watts zero signal output 117 volts, 60 cycles line power input. 115 watts at 20 watts output.



McIntosh Circuit—Patents 2477074 and 2,545,788, others pending

Portable Cover

Wall Mounting Brackets

Relay Rack Panel & Mounting Bracket

The McIntosh amplifier circuit is fundamentally new. It provides practically 100% coupling between primary windings of the output transformer, by winding the primary wires together or bifilarly. Static magnetic fields due to DC plate current are cancelled and the AC fields add in phase in the McIntosh circuit. Because of this, the *high efficiency* of class "B" amplification can be used for the first time with high quality performance. Wave form distortion due to switching transients between each half of the class "B" amplifier is eliminated at any audio frequency. The output tubes may be considered to use the same winding or to "take turns" on a single winding instead of the conventional condition of 1 primary for each tube.

The McIntosh has an inherent large advantage over conventional circuits. By bringing the output tubes electrically four times closer together the impedance is ¼ that of the conventional circuit. The coupling to the secondary is improved by a similar factor of 4 to 1 since the primary to secondary turns ratio has been reduced 2 to 1. The McIntosh "take turn" primary therefore has 16 to 1 advantage over the conventional "push pull" primary.

The ½ cathode, ½ plate loading provides a feed back factor of 12db which with an additional loop feed back offers the lowest distortion, most stable power amplifier made. Low impulse distortion has required a number of circuit considerations including the bifilar choke drive coil as indicated in the schematic diagram. This prevents the usual bias changes due to transient or impulse program material.

The circuit permits the maximum possible efficiency of wide band amplifiers and yet operates at full output with substantially less than 1% distortion at all frequencies 20 to 20,000 cycles.

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