

MONOBLOCK AMPLIFIER



REFERENCE 210

MONAURAL
VACUUM TUBE
POWER AMPLIFIER

REFERENCE 210 Monoaural Amplifier

Following the successful introduction of the Reference 610T, it is time for a more affordable, compact amplifier to fill the void left by the discontinuation of the VTM200 and REF300MKII. We are pleased to announce the introduction of the new Reference 210 monoblock, a product which will allow a greater number of music lovers access to the Reference series of amplifiers.

The Reference 210 presents a familiar yet distinctive appearance. The chassis is enclosed, with a thick front panel the same height and width as the VT100/VTM200, but with a vacuum-flourescent display screen like the one featured on the REF3 and REF610T. The chassis is 19.5" deep (plus handles) and has an internal frame like the 150M, with a one-piece ventilated cover that wraps around the top and sides. The front panel is available in Natural or Black finishes.

The vacuum-flourescent display has the same functions as the display on the REF610T, but they are addressable only through the handheld remote control. Functions include the choice of six levels of illumination, plus off; bias measurements for each output tube; A.C. line voltage; logarithmic, scalable power output (0-10, 0-50, 0-100, 0-200 watts); and total hours of tube use.

The internal layout is all new, with the main circuit boards mounted horizontally instead of vertically. The transformers are mounted on a raised central channel running front to back; on one side of the channel is a large circuit board containing all of the audio stages, and on the other side is a large circuit board with the power supply, contributing to a very clean and attractive appearance. There is a small Papst fan mounted on the rear panel to circulate air over the audio stages. The 12V D.C. fan runs continuously at a fixed low speed whenever the amplifier is powered-up.

Power output is 210 watts continuous. Like the REF610T, the REF210 is based upon a push-pull, fully balanced vacuum-tube circuit running in partial cathode coupling mode, utilizing three matched pairs of 6550C output tubes. The REF210 uses two 6550C driver tubes, each controlling three output tubes operating in unison. The input stage uses direct-coupled JFETs, followed by a 6N1P vacuum-tube amplifying stage. As with the REF610T, the biasing system is very simple, with only two bias adjustments.

Power supply energy storage is a monstrous 787 joules, three-quarters the size of the REF610T. (Compare that with the REF300MKII's 448 joules.) Shared with the REF610T are new proprietary coupling caps and extensive film-cap bypassing of all electrolytics in the power supply. There is tube regulation of the input stage, with six additional solid-state regulators. Power supply rectification is solid-state with a total of seven regulators. The massive, custom output transformer is an ultra-widebandwidth design: the frequency response of the REF210 is an incredible 0.5Hz to 240kHz (-3dB). Also, as in the REF610T, 50% coupling of the output stage cathodes to the transformer yields both higher efficiency and better sound than conventional pentode or triode operation.

Input is balanced only, while the output has separate taps for 4-8-16 ohm speaker loads. As expected, there is a 20A IEC connector for power, but unlike the REF610T, the REF210 has a 12V trigger to allow remote turn-on.

Sonically the Reference 210 is simply stunning in every respect. Resolution of detail is uncanny, with a vivid, transparent, you-are-there quality that is captivating. The performers are not mere images, but have real body, weight and presence. The soundstage is unbounded, with palpable space and air. Fine dynamic shadings and crescendos alike are unrestrained. And, bass impact, speed and articulation are a revelation. Once you have heard them, you will not soon forget the magic of these amplifiers.

Be sure to schedule an appointment with your Audio Research dealer to audition the Reference 210 amplifiers soon - you will never regret it.

REFERENCE 210 Specifications:

POWER OUTPUT: 210 watts per channel continuous from 20Hz to 20kHz. 1kHz total harmonic distortion typically 0.5% at 210 watts, below .02% at 1 watt.

Approximate actual power available at "clipping" 240 watts (1kHz). (Note that actual power output is dependent upon both line voltage and "condition" i.e.: if power line has high distortion, maximum power will be affected adversely, although from a listening standpoint this is not very critical.)

FREQUENCY RESPONSE: (-3dB points at 1 watt) 0.5Hz to 240 kHz.

INPUT SENSITIVITY: 1.7V RMS Balanced for rated output. (27 dB gain into 8 ohms.)

INPUT IMPEDANCE: 200K ohms Balanced

OUTPUT TAPS: 4, 8, 16 ohms

OUTPUT REGULATION: Approximately 0.6dB 16 ohm load to open circuit (Damping factor approximately 14).

HUM & NOISE: Less than 0.3mV RMS -106dB below rated output (IHF-A weighted, input shorted, 16 ohm output). V

POWER SUPPLY ENERGY STORAGE: Approximately 787 joules.

POWER REQUIREMENTS: 105-130VAC 60Hz (260-250VAC 50Hz) 680 watts at rated output, 950 watts maximum, 380 watts at "idle," .15 watts off.

TUBES REQUIRED: 3 - Matched pair 6550C (Power output V1-6); 1 - Matched pair 6550C (Driver V8-9); 2 - 6N1P (Gain stage V7 and Regulator Driver V10); 1 - 6550C (Regulator V11).

DIMENSIONS: 19" (48.3 cm) W x 8.75" (22.2 cm) H x 19.5" (49.5 cm) D. Handles extend 1.5" (3.8 cm) forward.

WEIGHT: 74 lbs. (33.6 kg) Net; 89 lbs. (40.4 kg) Shipping.

Specifications subject to change without notice.