



D-90B AMPLIFIER

When designing a high performance power amplifier, the engineer is faced with four primary criteria; 1) audio quality, 2) construction quality, 3) power and 4) cost. Audio Research successfully blends these criteria into an ideal combination in the D-90B vacuum tube stereo power amplifier.

With over twenty years of design experience, the D-90B incorporates the summed knowledge of both classic and contemporary vacuum tube technology.

As in classic vacuum tube designs, the D-90B boasts a high energy, ultra-stiff power supply. A regulation stage containing proprietary error correction circuitry minimizes distortion and provides a more accurate interface with low level stages and driver circuits. These power supplies have been combined with cross-coupled and fully balanced output circuitry to create a highly stable amplifier capable of providing its intrinsic performance into even the most difficult speaker loads.

Contemporary design features include "servo coupling" of the direct coupled stages so that once set, drift and consequent distortion are eliminated. An automatic self-compensating, floating bias keeps bias settings correct at the output stages, assuring smooth, non-distorted response regardless of fluctuations in line voltage. Extensive research into transformer technology has led to the creation of more efficient output transformers offering increased detail, wider bandwidth and more accurate staging of voices and instruments.

Consistent with Audio Research methodology, the D-90B uses only the finest materials in its construction. Included are special wiring; a single, military quality, double sided circuit board with enlarged foil paths for optimum signal transfer, and premium grade vacuum

tubes rated for industrial service. Premium grade components are critically evaluated for their sonic qualities and carefully selected for incorporation in signal carrying paths. A heavy, anodized aluminum front panel and chassis are designed for function and add to the overall ruggedness of the amplifier. This emphasis on unencumbered simplicity makes the D-90B an outstanding value to the listener who insists on sonic accuracy and quality craftsmanship.

Ultra-stiff power supplies with innovative error correction circuits, premium grade componentry, cross-coupled and accurately balanced circuitry with self-adjusting bias contribute to a power amplifier of utmost musicality. Extensive research and proper execution of all four primary design criteria have created an amplifier that displays all of the hallmarks intrinsic to the finest Audio Research designs; clarity, High Definition®, harmonic integrity and a musically accurate dynamic range.

The D-90B is designed to meet the needs of a wide variety of audio systems, offering peak performance at all times. Because it is a highly accurate music reproducer, it is suggested that it be used with components of commensurate quality in order to achieve best results. To fully appreciate the D-90B, please contact your local authorized dealer for a demonstration.



FEATURES

Direct coupled push-pull input driver circuitry is "servo" coupled with "IC" error correction for long term stability and minimum dynamic distortion.

Individual bias adjustments for all output tubes.

Low-surge start relay circuit to protect internal componentry from turn-on transients.

Input level controls located on rear chassis for level matching.

Sonically-selected components—Extensive use of selected low noise premium grade vacuum tubes, special resistors and capacitors and special wiring contribute to optimum sonic accuracy.

Other features include a military grade, double sided, plated through-hole circuit board and industrial grade components for long service life under continuous use. Front panel is two color anodized aluminum for permanent finish and lettering.

SPECIFICATIONS

Power Output:

80 watts per channel minimum continuous (both channels operating) at 16 ohms from 25Hz to 20kHz with less than 0.5% total harmonic distortion

Typically below .005% at 1 watt

Approximate actual power available per channel at "clipping" (both CH. OP, 1kHz): 90 Watts

Power Bandwidth:

(-3dB Points) 12Hz to 50kHz

Intermodulation Distortion:

Less than .3% at 1dB below rated output (100V p to p, 16 ohms)
(SMPTE method)

Input Sensitivity:

1.2V RMS for rated output (adjustable)

Input Impedance:

75K ohms, nominal at maximum gain

Output Regulation:

Approximately .3dB, 16 ohm load to open circuit
(Damping factor approximately 25)

Negative Feedback:

21.5dB

Slew Rate:

15 volts/microsecond

Rise Time:

5 microseconds

Hum & Noise:

Better than 90dB below rated output 20kHz
bandwidth unweighted

Power Supply Energy Storage:

200 joules

Power Requirements:

105-125VAC 60Hz (210-250VAC 50Hz) 800 watts
maximum
400 watts at "idle"
500 watts at rated power

Dimensions:

19" (49 cm) W (standard rack panel) x 7" (18 cm) H x
16.5" (42 cm) D (front panel back). Handles extend 1 $\frac{5}{8}$ "
(4.1 cm) forward of the front panel.

Weight:

64 lbs. (29 kg) Net; 80 lbs. (36.3 kg) Shipping

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Authorized Dealer