

THE WORLD'S FOREMOST ALL-TRIODE AMPLIFIER • UNPARALLELED IN SPECIFICATIONS AND PERFORMANCE

# THE FISHER

*Laboratory Standard*

## AUDIO AMPLIFIER

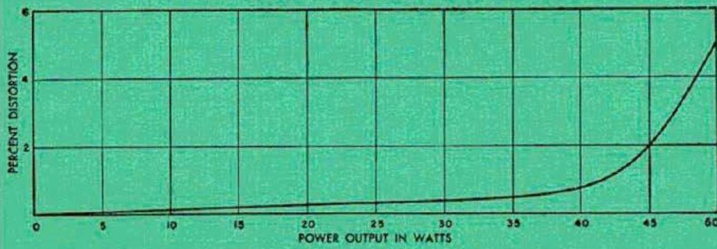
MODEL 50 - A

FISHER RADIO CORPORATION • NEW YORK

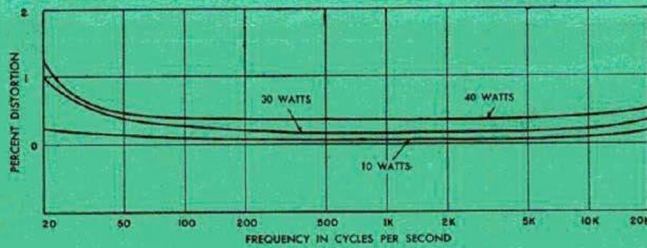
# THE FISHER LABORATORY STANDARD Audio Amplifier

## World's Finest All-Triode Amplifier

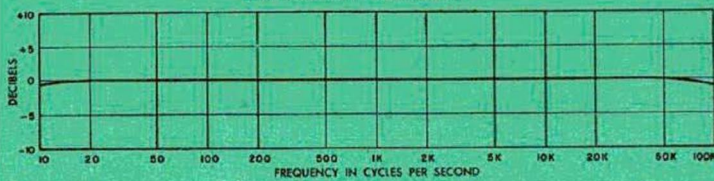
INTERMODULATION DISTORTION  
(MEASURED AT 40/7000 CYCLES, AT 4 TO 1)



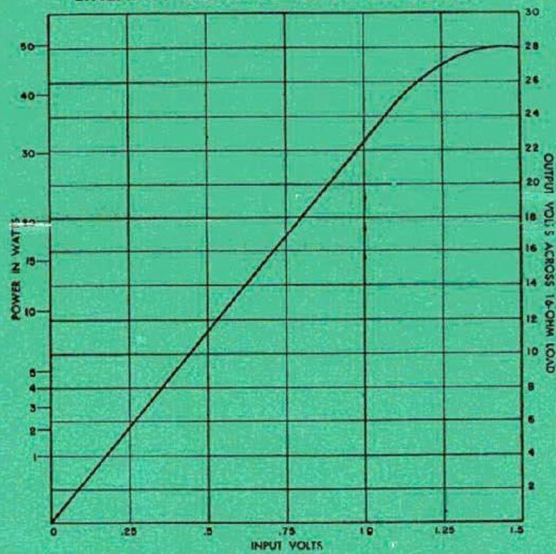
HARMONIC DISTORTION



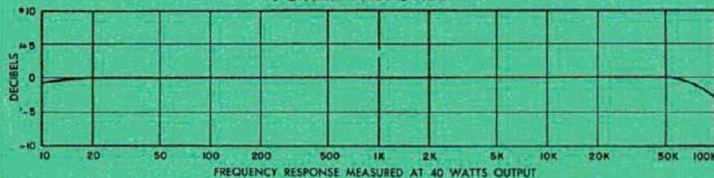
FREQUENCY RESPONSE



LINEARITY RESPONSE—INPUT VS. OUTPUT



POWER RESPONSE



THE FISHER Laboratory Standard Amplifier, Model 50-A, is a man's size unit designed to meet the requirements of *the most exacting user*. It was expressly engineered to satisfy these criteria: low internal impedance, low harmonic and intermodulation distortion at all power levels, extremely low hum and noise level, unusual reserve power-handling capacity, high efficiency, good transient response, wide frequency response, good linearity (output versus input,) compactness, long component life, straightforward circuitry, complete accessibility for easy servicing and moderate cost.

To achieve low internal impedance plus low distortion characteristics, triodes are used in the power output stage. Type 1614 tubes, connected as triodes, were chosen because of their low plate resistance, high plate dissipation, extreme uniformity from tube to tube, and low hum because of the indirectly heated cathode.

A special type of cathode-follower driver is used, which, with the well-regulated bias and high voltage power supply, produces an undistorted power output far exceeding 40 watts. The extremely stable power supply regulation also results in exceptional linearity, high power output and high efficiency. This is accomplished with an electronic regulator for the bias supply and high perveance rectifiers for the high voltage power supply (two 5V4 tubes.) The regulator maintains correct operating conditions for the power output tubes *regardless of extreme fluctuations in power line voltage*.

The output transformer is of grain-oriented steel and interleaved windings, giving full power output from 20 cycles to beyond 50,000 cycles, extremely low distortion at 40 watts throughout the audible range, and excellent transient response. Model 50-A features the comparatively high sensitivity of less than one volt input for full output. An input gain control permits adjustment for higher level input signals.

Approximately 20 db of feedback over four stages further reduces internal impedance and assures low distortion, noise and hum. Over-all response to beyond 100,000 cycles for completely stable feedback.

### TECHNICAL SPECIFICATIONS

HIGH OUTPUT, with less than .3% harmonic distortion at 40 watts. (.05% at 5 watts, .08% at 10 watts.) INTERMODULATION DISTORTION is below .4% at 10 watts, .8% at 40 watts and 2% at 45 watts (measured 40/7000 cycles at 4-1.) FREQUENCY RESPONSE is uniform within  $\pm .1$  db from 20 to 20,000 cycles and within 1 db from 5 to 100,000 cycles. POWER OUTPUT is constant within 1 db at 40 watts, 15 to 60,000 cycles. HUM AND NOISE is better than 92 db below full output. INTERNAL IMPEDANCE is .53 ohms at the 16-ohm tap, giving a damping factor of 31. EFFICIENCY is in excess of 55% at full output compared to 25%-30% of typical Class A circuits.

### GENERAL SPECIFICATIONS

Entire amplifier and power supply on one compact chassis. Cased and potted transformers, molded capacitors, terminal board assemblies and laced cables assure long life. Handsome, professional styling, with black, baked enamel transformer cases on  $\frac{1}{16}$ " etched aluminum chassis. Bottom cover. TUBE COMPLEMENT: 3-12AU7, 2-6S4, 2-1614 and 2-5V4G. OUTPUT IMPEDANCES: 8 and 16 ohms. Jack in output tube circuit to measure plate current. Separate, accessible bias control to adjust plate current. Accessible fuse. Auxiliary AC receptacle. SIZE: 8" x 14½" x 9" high. SHIPPING WEIGHT: 41 pounds.