

POWER AMPLIFIER

REFERENCE 610T

MONAURAL
VACUUM TUBE
AMPLIFIER

REFERENCE 610T Amplifier

When the Reference 600 Power Amplifier was introduced in 1995 it set a new standard for High Definition® in music reproduction. In every meaningful category, the Reference 600 - 300 amplifier series remained at the pinnacle of audiophile performance. Now the REF600-300 legacy continues with a new flagship from Audio Research: the Reference 610T monoblock.

Like its predecessors, the 610T monoblock is based upon a push-pull, fully balanced vacuum-tube circuit using 6550C output tubes (16 in all).

But unlike the earlier models, the 610T uses two 6550C driver tubes, each controlling a bank of eight output tubes operating in unison. Input gain is provided by two 6N1P dual triodes and a 6H30 follower. This means fewer tubes to replace, and a much simpler biasing system: two bias adjustments instead of the 16 required in the REF600 series. Power output is rated at 600+ watts into 4, 8 or 16-ohm loads. Projected tube life is approximately 2000 hours.

Power supply energy storage has been increased to a whopping 1000 joules, with extensive film-cap bypassing of all electrolytics. In addition, interstage coupling caps are the new proprietary types first used in the REF3 preamplifier. Power-supply rectification is solid-state, while a total of six regulators are used: there is tube regulation of the input stage, with five additional solid-state regulators. The massive, custom output transformer is an ultra-wide-bandwidth design allowing a high damping factor and excellent current delivery. And, 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, with separate output taps for 4 - 8 -16 ohm speaker loads.

With the 610T, we decided to rethink the chassis from the ground up. Unlike previous Reference amplifiers that required abundant floor space and multiple fans for cooling, the



610T is a striking vertical design with tubes projecting above an anodized top plate. Dimensions are 14"W x 22"D x 21"H. The advantages of this design allow easier, next-to-speaker installation, silent convection cooling and better weight distribution. The "tower" chassis configuration (hence "610T") houses three different levels of circuit function. At the lowest level are the power and output transformers; on the second level are power-supply storage and regulation; and on top are the input and output tubes. A ventilated top cover with quiet Pabst fans is optional for CE compliance (these run off a 12V D.C. supply jack at the back of the chassis). Most owners will want to see the tubes in all their glory, and enjoy the benefits of silent convection cooling.

On the front of the 610T is a vacuum-fluorescent, multifunction display screen like that used on the REF3. The screen is addressable either via front-panel knobs, or by handheld remote. A variety of useful functions can be displayed on the screen: seven levels of illumination, including off; bias measurements for each output tube; A.C. line voltage level; logarithmic, scalable power output (0-10, 0-30, 0-100, 0-300, 0-600 watts); and total hours of tube life accumulated.

In addition to its innovative architecture and owner-friendly functionality, the REF610T sets new sonic standards as well. Just as the REF3 preamplifier provides remarkably clear sonic improvements over its predecessor, the REF2MKII, the improvements of the 610T over the older 600MKIII series are just as great, and of a similar quality. Transient speed, dynamic impact, soundstage focus and liquidity of detail are all remarkably improved. You will not have previously experienced a vacuum-tube amplifier capable of this level of resolution and control over any loudspeaker system. From massive dynamics to subtle nuance, solo voice to massed chorus, the 610T will likely never meet a commercial recording it can't handle with aplomb and deliver with musical passion - especially when driven by its Reference partner, the Reference 3 Preamplifier.

This amplifier is creating yet another sensation in the high-end audio world, from the company that saw the beginning of High Definition® in 1970: Audio Research.

Reference

610T

Specifications:

POWER OUTPUT: 600 watts continuous at 16 ohms from 20Hz to 20kHz. 1kHz total harmonic distortion typically 0.5% at	POWER BANDWIDTH: (- 3dB points) 15Hz to 150kHz.M FREQUENCY RESPONSE: (- 3dB points at 1 watt) 1Hz to 200 kHz.	INPUT IMPEDANCE: 200K ohms balanced. OUTPUT:4, 8, 16 ohms. OVERALL NEGATIVE FEEDBACK:	TUBES REQUIRED: 8 Matched pair 6550C Power Output; 1-6550C Regulator; 1- 6H30. Regulator Amplifier; 2- 6550C Driver; 2- 6NIP input, 1- 6H30 Follower.
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600 watts, below
.05% at 1 watt.

Approximate
actual power
available at
"clipping" 630
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.

INPUT
SENSITIVITY:
4.2V RMS
balanced for
rated output.
(24dB Gain into
8 ohms)

13dB.

POWER
REQUIREMENTS:
105-125VAC 60Hz
(210-250VAC
50Hz) 1700 watts
at rated output,
2300 watts
maximum, 800
watts at idle, 370
watts standby.

DIMENSIONS:
13.5" (34.3 cm)
W x 23" (58.4
cm) H x (20.8"
(52.8 cm) D.
Handles extend
1.5" (3.8 cm)
forward and
rearward.

WEIGHT: 170
lbs. (77.2 kg)
Net; Shipped in
pairs, 495 lbs.
(225 kg) per pair.

*Specifications
subject to change
without notice.*

audio research

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