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HIGH DEFINITION®

REFERENCE 160M  
VACUUM TUBE POWER AMPLIFIER

SOUND HAS NEVER BEEN SO TRANSPARENT



PRESS RELEASE

## REFERENCE 160M VACUUM TUBE AMPLIFIER

After two years in development, the new Reference 160M (REF160M) Monoblock Power Amplifier is built like no other, looks like no other, and sounds like no other amplifier that you have ever heard, but it is unmistakably Audio Research. It features a refined audio topology with fewer and better components in the signal-path than in previous designs, switchable Ultralinear/Triode operation, proprietary auto-bias, output tube monitoring and protection, an advanced power meter, and much more. This array of features has never been offered before in an Audio Research amplifier.

The designers at Audio Research wanted to create a new style that would complement the look of the REF6 preamp while also featuring a transparent faceplate that allows a view of the glowing KT150 vacuum tubes. While this window allows you to see the output tubes, it also incorporates an innovative dual-layer construction with distinctively etched markings that create an integrated power meter. The power meter's output-level markings illuminate via hidden LEDs, and the illumination brightness is adjustable.

Livio Cucuzza, the creative genius responsible for Audio Research's new aesthetic, comments, *"The new REF160M is the apex of the Audio Research design language, and the first step in a new era of products. With its transparent meter, we are giving shape to the most renowned Audio Research sound characteristic: transparency. As an enthusiast and Audio Research customer, I can say that REF160M is the coolest tube amplifier on the planet!"*

The REF160M includes a sculpted cover with an integrated fan to cool the heat generated by the four (4) KT150 output tubes and two (2) 6H30 driver tubes. Solid-state power regulation was chosen to provide increased efficiency, stability, and reliability. The power supply stage uses a newly developed High Energy Capacity Transformer and a hefty bulk storage-capacity network to provide extremely high current on demand for transient peaks and intense dynamics, as well as for prodigious bass depth and authority.

It is understood that the best path is the shortest path. Audio Research engineers created a new audio circuit topology with the shortest signal path and the fewest components. Those components are not only the best available, many are custom made for Audio Research. Incorporating these quality components is a special 4-layer circuit board that lowers the noise floor to unprecedented levels, and a design which was previously reserved for use in our preamplifiers. The result is a new benchmark in musicality in every criterion of sound quality.

The REF160M also features a proprietary auto-bias circuit that works with various tubes types, including 6550, KT88, and KT120, in addition to the supplied KT150 and works constantly to maintain precise bias of the output tubes, while also adjusting for tube wear. There is no need to check or adjust bias ever again.

Audio Research has been deeply enamored with the KT150 output tube as we feature it in all of our amplifiers, from the VSi75 to the REF750SE. The KT150's performance is unparalleled and its 3,000-hour life allows for years of uninterrupted listening. It is important to know that the tubes supplied by Audio Research are burned in for 48 hours before measuring and grading using our "Certified Matched" process. Time consuming and expensive, the process and burn-in are critical as new tubes drift significantly over those first 48 hours. Complete tube sets are then assembled with the greatest care for each model.

A built-in tube hour meter allows the owner to monitor tube usage, while the amp's tube protection circuit features separate high-quality fuses for each output tube and are located inside the amp for replacement, if ever necessary. The REF160M tube status indicators on the front panel will indicate if a fuse is blown, and which one.

Some music lovers prefer or require a tube amp that provides higher power and operates in Ultralinear mode, while others (usually with high efficiency loudspeakers or those who listen at lower levels) prefer Triode operation, which produces less power. The REF160M is the first amplifier from Audio Research to directly address these varying needs by providing a front panel switch to allow the user to select the preferred mode of operation. The REF160M will provide a conservatively rated 150 Watts in Ultralinear mode and 75 Watts in Triode mode.

Designed to not only meet the demands for the absolute highest sound quality, convenience, reliability, and worry-free operation, the REF160M is Audio Research's first Reference-series amplifier to include single-ended (RCA) inputs in addition to balanced (XLR) inputs so that it can connect easily in any system. The amp also has a RS-232 input and 12V trigger to allow the REF160M to be powered-on remotely.

As much as we discuss its new flexibility and features, the REF160M exists to advance our love and understanding of reproduced music. Hearing it for the first time is a startling and energizing musical experience. As Warren Gehl (Audio Research's aural evaluator) stated, "*The REF160M elicits the most compelling musical realism of any Audio Research amplifier to date*".

The new REF160M breaks new ground sonically, aesthetically and operationally, and will be available in Natural (Silver) or Black finishes.

## TECHNICAL SPECIFICATIONS

**POWER OUTPUT:** 140 watts continuous from 20Hz to 20kHz. 1kHz total harmonic distortion typically 1% at 140 watts, below 0.04% at 1 watt. (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 critical)

**POWER BANDWIDTH:** (-3dB Points) 5Hz to 70kHz.

**FREQUENCY RESPONSE:** (-3dB points at 1 watt) 0.5Hz to 110kHz.

**INPUT SENSITIVITY:** 2.4V RMS Balanced for rated output. (25.5 dB gain into 8 ohms).

**INPUT IMPEDANCE:** 200 k ohms Balanced.

**OUTPUT POLARITY:** Non-inverting. Balanced input pin 2+ (IEC-268).

**OUTPUT TAPS:** 16 ohms, 8 ohms, 4 ohms

**OUTPUT REGULATION:** Approximately 0.6dB 16 OHM LOAD TO OPEN CIRCUIT (Damping factor approximately 14).

**OVERALL NEGATIVE FEEDBACK:** 14dB

**SLEW RATE:** 13 volts/microsecond

**RISE TIME:** 2.0 microseconds.

**POWER REQUIREMENTS:** 105-130VAC 60Hz (210-250VAC 50Hz) 400 watts at rated output, 700 watts maximum, 260 watts at “idle”, 1 watt off

**TUBES REQUIRED:** 2 matched pair KT150 (Power output V1-4); 2 6H30 (Gain stage V5 and V6).

### **DIMENSIONS:**

Width 17.25” (43.8 cm)

Height 10” (25.4 cm)

Depth 18” (45.7 cm)

Handles

Extended 1.63” (4.1 cm)

**Weight:** 56lbs (25.5 kg) Net; 73lbs (33.2 kg) Shipping