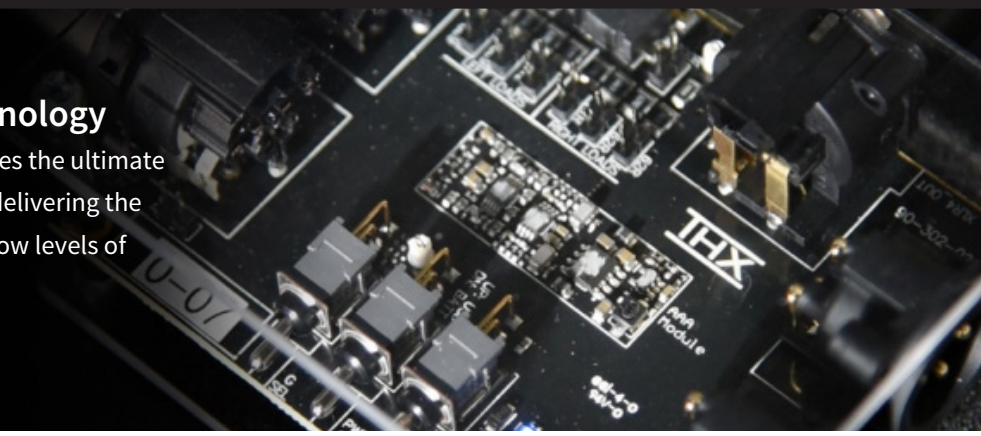
# THX ACHROMATIC AUDIO AMPLIFIER



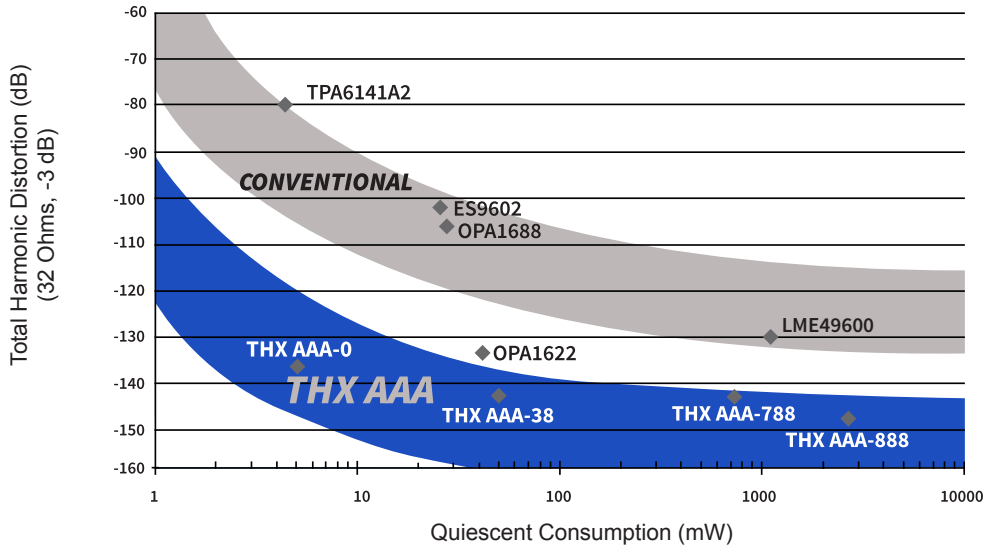
## World's Most Linear Amplifier Technology

THX Achromatic Audio Amplifier (THX AAA™) ensures the ultimate no-compromise headphone audio experience by delivering the world's highest fidelity audio with infinitesimally low levels of noise, distortion and power consumption.

## THX AAA Features

- Patented feed-forward error correction topology that nulls conventional distortion mechanisms
- Reduction of harmonic, intermodulation, and crossover distortion by up to 40dB, resulting in a realistic and fatigue-free listening experience
- Enables maximum output power for greater dynamic range and sound pressure level (SPL)
- A convenient modular solution which includes power supply, and can operate from a single 3.6V battery
- Minimal bias current and highly efficient power management to optimize and extend device battery life
- Scalability that allows incorporation into any headphone amplifier design, with the flexibility to match the required fidelity, output power, and price point

## Comparing THX AAA™ to Conventional Headphone Amplifiers




**Discover how THX AAA can be seamlessly integrated today.**

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## Design Specifications

| | | MOBILE/WIRELESS PRODUCTS | AUDIOPHILE MOBILE | | | AUDIOPHILE HIGH POWER | | |
|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | | **THX** | **THX** | | | **THX** | | |
| **Series** | | **AAA Catalyst** | **AAA Frontier** | | | **AAA Vanguard** | | |
| **Model Number** | | **THXAAA-0** | **THXAAA-28** | **THXAAA-38** | **THXAAA-78** | **THXAAA-688** | **THXAAA-788** | **THXAAA-888** |
| Format | | Ref Design | Ref Design | | | Ref Design | | |
| Description | | Stereo Amplifier with Power Supply | Stereo Amplifier with Power Supply | | Stereo Amplifier | **Stereo Amplifier with Power Supply** | | Dual-Mono Amplifier |
| Target Module Application | | Bluetooth, wireless, noise-canceling headphones or earphones. | Mobile Amp, DAC+Amp, or high res media player. | | | High Power desktop Amp or DAC+Amp. | | |
| Key Feature #1 | | Tiny battery / very long battery life | High fidelity at medium output power | | Highest output power for mobile | High fidelity and high output power | | **Highest fidelity in the world, and extreme output power** |
| Key Feature #2 | | High Fidelity | Lower cost than AAA-38 | Long Battery Life | High fidelity | **Lower BOM cost than AAA-788** | Lower BOM cost than AAA-888 | **Ultra-low crosstalk** |
| Circuit Dimensions | mm | 14 x 35 x 2 | 15 x 34 x 2 | | 15 x 28 x 2 | **34 x 34** | | **32 x 39** (x2 pieces for stereo) |
| Supply Voltage | Vdc | +2.5..5.5 | +2.5..5.5 | | +/- 6V | **+/- 15** | | **+/- 18V** |
| Test Condition | | 3.6 V Li-Ion Battery | 3.6 V Li-Ion / 5V | | +/- 6V | **+/- 15** | | **+/- 18V** |
| Output Power 16 Ω/ch | mW | 63 | 105 / 135 | | 400 | **1750** | | **6000** |
| Output Power 32 Ω/ch | mW | 45 | 90 / 169 | | 350 | **1850** | | **3900** |
| Output Power 300 Ω/ch | mW | 8 | 15/30 | 16/35 | 47 | **275** | 300 | **465** |
| THD (16 Ω, -3 dB 1 kHz) | dB | **-133** | -127 | **-137** | **-133** | **-135** | -135 | **-140** |
| THD (32 Ω, -3 dB 1 kHz) | dB | **-137** | -131 | **-142** | **-135** | **-135** | -140 | **-147** |
| THD (300 Ω, -3 dB 1 kHz) | dB | **-137** | -136 | **-142** | **-137** | **-138** | -145 | **-150** |
| Output Noise Voltage (A-wt) | uVms | 2.6 | 1.4 | 1.3 | 1.4 | **2.0** | 1.8 | 1.6 |
| SNR (A-wt) | dB | 113 | 124 | 125 | 128 | **133** | 134 | 137 |
| Stereo Quiescent Power Consumption (3.6V li-ion) (including power supply) | mW | **5.0** | 56.7 | 49.1 | . | . | . | . |
| Li-ion Battery Size for 12 hrs play time | mAh | **32** | 224 | 198 | . | . | . | . |
| Stereo Quiescent Power Consumption +/- VDC | mW | - | - | - | 177 | **900** | 750 | **2770** |

Noteworthy
**Extreme**