ACME | Headphone Amplifiers & Line Drivers

Headphone Amplifier / Line Driver

Low-noise small-power audio drivers for headphones, OWS, smart glasses and portable audio

Product Positioning

This product group targets near-ear audio applications that need low noise, low power consumption, compact packages and enough driving capability. It can also support line-output and audio interface driving.

Core Value

- Optimized for low-power and compact devices such as OWS, smart glasses and headphone products.
- Low noise and sufficient output drive can improve near-ear listening quality.
- Analog input is convenient for connection to audio codecs, controller DACs or line outputs.
- Line drivers can support 2 Vrms line output to improve audio interface compatibility.

Representative Models / Directions

Model	Function / Spec Summary	Suitable Scenario
ACM3220	2.3 V-5.5 V, approx. 1 x 36 mW, low-noise headphone amplifier	Cost-sensitive /...
ACM3221	2.5 V-5.5 V, approx. 1 x 2.4 W, low-power headphone amplifier	OWS, smart glasses and...
ACM3232	Dual-channel line driver, 2 Vrms output	Audio line-out...
Low-Power Design	Suitable for long-battery-life wearable devices	Reduces standby...

Typical Applications

OWS / TWS Earbuds | Headphones | Bone-Conduction Audio | Smart Glasses | Portable Players | Line-Out Output

Reference: ACME official product page and public product selection materials. Final specifications should be verified with the latest datasheets.

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Customer Visit Talking Points

- If customers complain about noise floor, pop noise or insufficient volume, introduce headphone amplifier replacement options.
- For OWS or smart-glasses projects, focus on quiescent current, package size and output power.
- If 2 Vrms line output is needed, consider a dedicated line-driver solution.

Selection Checklist

- Confirm load impedance: 4 ohm / 16 ohm / 32 ohm etc.
- Confirm output power, noise floor and THD+N target
- Confirm supply voltage, standby power and package size
- Confirm whether single-ended, differential or line-out output is required

Recommended Sales Scenarios

- The customer project matches the typical applications in this category.
- The existing design has heat, noise, EMI, battery-life or BOM-complexity issues.
- The customer wants local alternatives, shorter debugging cycles or technical support.
- Use "model + application + pain point" to quickly narrow down a product direction.

Customer Requirement -> Recommended Direction

Customer Pain Point	Key Questions	Recommended Approach
Insufficient output power / SPL	Speaker impedance, target THD+N, supply voltage	Select from Headphone Amplifiers & Line Drivers by power class
Heat or battery-life issue	Battery cell count, playback time, heat-dissipation area	Consider Class-H / high efficiency / boost collaboration
Design-in risk	Package, lead time, software/debug support	Recommend mature models + demo + reference design first

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