ACME | Digital Audio Amplifiers

Digital Audio Amplifier

I2S / TDM digital-input Class-D amplifiers for mid- to high-power audio systems

Product Positioning

Designed for multimedia audio systems that need digital audio input, DSP tuning, low EMI and high-efficiency output. Typical use cases include Bluetooth speakers, soundbars, TVs, monitors, projectors, all-in-one PCs and smart speakers.

Core Value

- Digital input chain: I2S / TDM input helps reduce analog front-end interference and tuning complexity.
- Built-in DSP features such as EQ, DRC, DRB and low-volume bass enhancement support faster audio tuning.
- High-efficiency Class-D output helps reduce heat in battery-powered or high-power-density designs.
- Can support Class-H dynamic boost architecture together with a boost converter to improve battery life.

Representative Models / Directions

Model	Function / Spec Summary	Suitable Scenario
ACM8615M	1 x 22 W I2S digital audio amplifier	Compact mono...
ACM8622	2 x 14 W I2S digital audio amplifier	Low- to mid-power...
ACM8625M/P/S	Around 2 x 26 W / 2 x 40 W power class	Bluetooth speakers...
ACM8628 / ACM8629	Around 2 x 41 W / high-power solutions	TVs, professional...
ACM8687 / ACM8689	Audio algorithm upgrade series	Projects requiring...
ACM8635 / ACM8822	2.1 / multi-channel high-power solutions	Soundbars and...

Typical Applications

Bluetooth Speakers | Smart Speakers | Soundbars | TVs / Monitors | Projectors | All-in-One PCs

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 struggle with noise, tuning or EMI in traditional analog amplifier designs, propose a digital amplifier path.
- If the pain point is weak bass at low volume, short battery life or heat, position DSP + Class-H as a system solution.
- If the main controller already has I2S output, highlight fewer analog front-end components and simpler PCB debugging.

Selection Checklist

- Confirm channel configuration: 1.0 / 2.0 / 1.1 / 2.1 / 4-channel
- Confirm speaker impedance and target output power
- Confirm PVDD, I/O level and whether DSP GUI tuning is required
- Confirm EMI, noise floor, battery life and thermal targets

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 Digital Audio Amplifiers 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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