

NAU83G60 Smart Amplifier with KLIPPEL CONTROLLED SOUND

Description

NAU83G60 is a stereo 2x30W smart amplifier with integrated low latency Advanced Audio DSP running the KCS (KLIPPEL Controlled Sound) nonlinear adaptive speaker control algorithm. KCS provides highly accurate mechanical and thermal speaker protection while the nonlinear control system reduces harmonic and intermodulation distortion generated by speaker nonlinearities. Thanks to active DC compensation, the voice coil can be operated at its ideal rest position for maximum bass output. NAU83G60 voltage and current sensing enables continuous identification of speaker parameters. Hence, parameter variations caused by aging, production variances or climate changes can be compensated.

While conventional linear speaker protection algorithms cripple where it matters the most – at high amplitudes – this is where NAU83G60 with KCS truly shines. Its unique feature-set allows operating speakers safely at their physical limits. This enables increased loudness and deeper bass with higher sound quality for consistent best-in-class performance.



Key Features

Powerful Stereo Class-D Amplifier

- Stereo 30W Output Power @ 4Ω load, < 10% THD+N, 24V
- Mono 60W Output Power in PBT mode @ 2Ω load, < 10% THD+N, 24V
- 0.05% THD+N @ 8 Ω Load, 1W Output Power
- Operating Voltage, VBAT: 5V ~ 24V

High-Quality Audio

- 2 x 15-band PEQs
- Crossover and Audio Mixer for Ultrasonic Bypass Mode
- Up/Down Sampling Converter

Battery Limiter Control

- Automatic Level Control (ALC) and Under Voltage Lockout Prevention (UVLOP)

Audio Data / Control / Clock Interface

- High Speed I2C mode (up to 1Mbps)
- I²S / PCM / TDM (up to 8 channels & 192KHz Sampling)

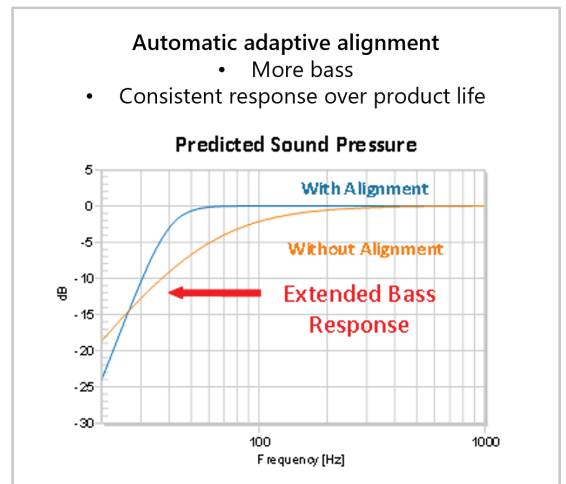
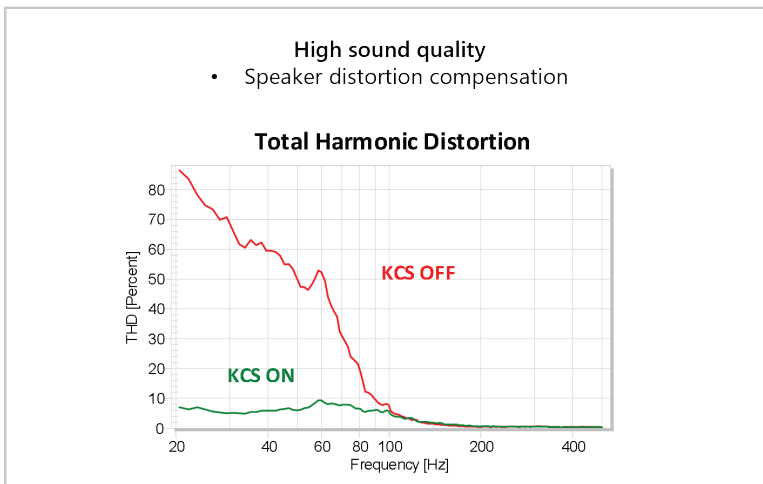
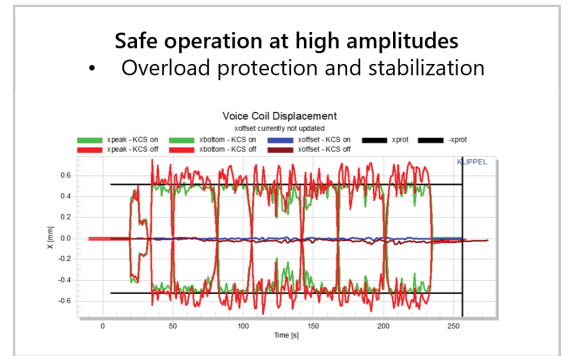
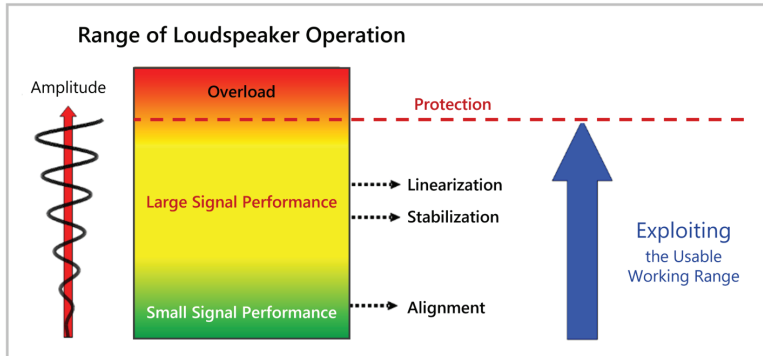
Klippel Controlled Sound (KCS) Algorithm

- Overload Protection (Mechanical and Thermal)
- Linearization (Stabilization and Speaker Distortion Compensation)
- Adaptive speaker alignment
- Output Power and Voltage Limiter
- Optimal Voice Coil Rest Position
- Real-time Speaker Diagnostic Data
- Low latency operation for active noise control
- Linearized echo cancellation reference signal

Applications

- Automotive / ANC
- TV / Sound bar
- Notebooks / PC / All-in-One PC
- Wireless / Smart / Active Speakers

KCS Benefits



Benefits for active sound applications

- Active noise control: Maximum bass from small speakers, constant speaker response, distortion compensation, very low latency
- Active echo cancellation: Improved performance for speakerphone operation, wakeword-detection, ... due to distortion compensation