



High Quality Audio Volume with $\pm 18V$ Operation

✓ High Quality Sound

The MUSES series has been developed to authentically reproduce the original sound.

✓ High performance

High operating voltage of $\pm 18V$

Volume Control in 0.25dB steps

Low Noise, Low Distortion * It depends on the characteristics of the external operational amplifier.

✓ Flexible sound design

Highly flexible sound design by using external amplifier in-line with system demands

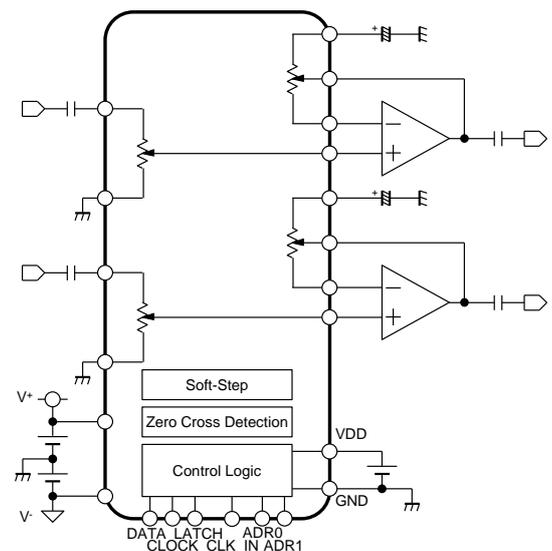
■ Why does the above matters?

High-end sound quality applications such as HiFi and professional audio, require a high sound quality volume IC to guaranty a natural sound experience. Having the freedom of using an external operational amplifier combined with a high operating voltage of $\pm 18V$ gives a wider dynamic range and an optimized audio signal path. MUSES72323 combines high sound quality with a high grade of flexibility and gives designer of high-end HiFi and professional audio systems a much-improved sound quality and system performance.

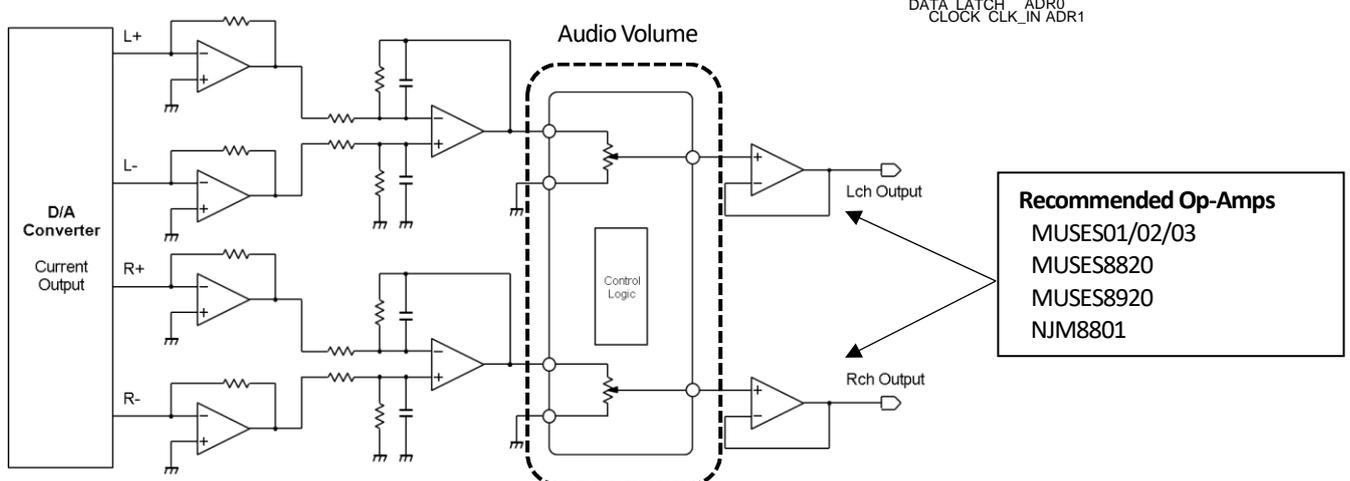
■ Features

- ▶ Operating Voltage Analog: ± 10 to $\pm 18V$
 Digital: +3.0 to +5.5V
- ▶ Volume 0 to -111.75dB /0.25dB per step
 +21 to 0dB /3dB per step, Mute
- ▶ Low Output Noise/ Low Distortion
 * It depends on the characteristics of the external operational amplifier.
- ▶ Soft-Step Circuit
- ▶ Zero Cross Detection Circuit
- ▶ 3-Wired Serial Control
- ▶ Selectable Chip Address
- ▶ Package Outline SSOP32
- ▶ [datasheet Link](#)

■ Block Diagram



■ HiFi Audio Application

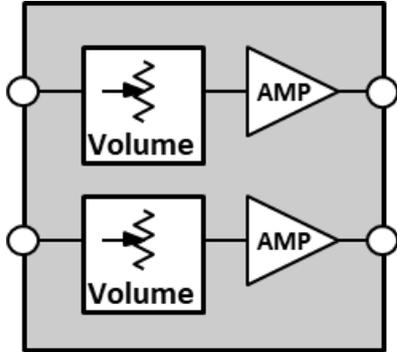


✓ Flexible sound design

The Audio volume without embedded amplifier provides a higher flexibility in terms of sound and circuit design.

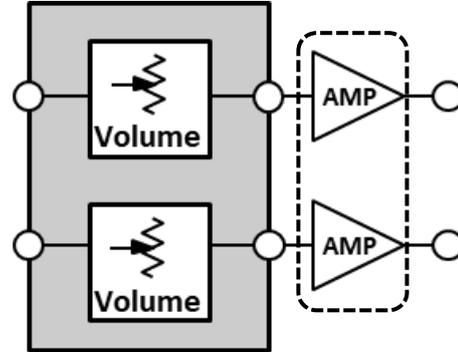
1. Amplifier built-in volume

Fixed sound quality due to built-in amplifier.



2. Audio volume without amplifier

Flexible sound design using external amplifier.



✓ High Performance Audio Volume Series

The NJU72322 is a product with improved productivity using the same design concept of the MUSES72323.

Product	MUSES72323	NJU72322
Channel	2-channel	2-channel
Op-Amp	Selectable External OP-Amp.	Selectable External OP-Amp.
Power Supply (Analog/ Digital)	±10 to ±18V 3.0 to 5.5V	±10 to ±18V 3.0 to 5.5V
Attenuation	0 to -111.75dB 0.25dB step Mute	0 to -111.5dB 0.5dB step Mute
Gain* ¹	+21 to 0dB 3dB step	+21 to 0dB 3dB step
THD* ²	0.00024%	0.00024%
Output Noise* ²	-124dBV (0.63μVrms)	-118dBV (1.26μVrms)
Zero Cross Detection* ³	√	√
Soft Step* ⁴	√	-
Control	3-wired Serial	3-wired Serial
Chip Address	4	2
PKG	SSOP32 11mm x 7.6mm	SSOP32 11mm x 7.6mm
Minimum Order Quantity	100pcs	2000pcs

*¹ Gain can be adjusted in 0.25/ 0.5dB steps by combining gain and attenuation settings.

*² This characteristic depends on an operational amplifier such as NJR's MUSES8920.

*³ Zero-crossing function changes the gain settings on a zero-crossing of the input signal reducing audible noise during gain adjustments.

*⁴ Soft-step function changes gain settings step by step while reducing zipper noise during gain adjustments.

* All information, specifications and product descriptions in this document are subject to change at any time, without prior notice.

* Contact your local NJR office or your distributor to obtain the latest specifications before placing your product order.



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