

Correction

Correction: Mei et al. The Class D Audio Power Amplifier: A Review. *Electronics* 2022, 11, 3244

Shangming Mei ¹, Yihua Hu ¹ , Hui Xu ^{1,*} and Huiqing Wen ² 

¹ Department of Electronic Engineering, University of York, York YO10 5DD, UK; sm2747@york.ac.uk (S.M.); yihua.hu@york.ac.uk (Y.H.)

² School of Advanced Technology, Xi'an Jiaotong-Liverpool University, Suzhou 215123, China; huiqing.wen@xjtlu.edu.cn

* Correspondence: hui.xu@york.ac.uk

Reference Correction

There was an error in the original publication [1] as the authors did not cite the papers accordingly. Concerns were raised on this matter and the citation issue was addressed by adding the references [14,29,30] as follows:

Ref. [14] Bellili, N.E.I.; Bekhouche, K. A simple architecture for high performance class-D audio amplifier with novel RC network as negative feedback loop. *Indones. J. Electr. Eng. Comput. Sci.* **2022**, *26*, 707–713.

Ref. [29] Bellili, N.E.I.; Bekhouche, K. Low Power Class D Audio Amplifier with High Performance and High Efficiency. In Proceedings of the 2019 6th International Conference on Image and Signal Processing and their Applications (ISPA), 2019; pp. 1–4. <https://doi.org/10.1109/ISPA48434.2019.8966832>.

Ref. [30] Bellili, N.E.I.; Bekhouche, K. Class-D Audio Amplifier using Sigma-Delta ($\Sigma\Delta$) Modulator. *Indones. J. Electr. Eng. Inform. (IJEEI)* **2022**, *10*, 567–572.

Secondly, Section “2. Topologies for Class D Amplifiers” and Subsection: “3.2. Δ - Σ Modulation” which contain the below paragraphs, required consistent changes for a proper citation:

“A widespread closed-loop analog Class D amplifier covers integrators, modulators, output stage, low-pass filters, and loudspeakers (Figure 2). In the first step, integrators and filters provide high loop gain and attenuate unwanted carrier components in the loop. The low-pass filter is always designed between the output model and the loudspeaker to decrease EMI (electromagnetic interference) and exclude extraordinary frequency energy, which is transformed to [11,12]”.

“Conversely, when the input approaches -1 V, the bitstream 1 s density approaches 0%. When the input is 0 V, the 1 s density is 50%. Thus, the input voltage between the reference voltage and the negative reference voltage can be measured without moving beyond the range of the modulator. A class D GaN audio amplifier using Delta-Sigma modulation is introduced in [27]. The distortion caused by this type of modulation makes the method imperfect for Class D amplifiers.”

A correction has been made to Section “2. Topologies for Class D Amplifiers” and Subsection: “3.2. Δ - Σ Modulation”. Thus, the corrected paragraphs are as follows:

“A widespread closed-loop analog Class D amplifier covers integrators, modulators, output stage, low-pass filters, and loudspeakers (Figure 2). In the first step, integrators and filters provide high loop gain and attenuate unwanted carrier components in the loop. The low-pass filter is always designed between the output model and the loudspeaker to decrease EMI (electromagnetic interference) and exclude extraordinary frequency energy [11–13]. A simple RC network in the negative feedback loop can significantly reduce harmonic distortion and ameliorates the PSRR [14]”.



Citation: Mei, S.; Hu, Y.; Xu, H.; Wen, H. Correction: Mei et al. The Class D Audio Power Amplifier: A Review. *Electronics* 2022, *11*, 3244. *Electronics* **2023**, *12*, 3657. <https://doi.org/10.3390/electronics12173657>

Received: 27 April 2023

Accepted: 19 May 2023

Published: 30 August 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

“The distortion caused by this type of modulation makes the method imperfect for Class D amplifiers. A series of improved designs have been proposed; for example, A class D GaN audio amplifier using Delta-Sigma modulation is introduced in [28], and the improvement is noticeable. And [29,30] presented a low-power class-D audio amplifier using a first-order sigma-delta modulator as a PDM modulator; this design can effectively improve efficiency”.

As a result of the corrections to citations, the “References” section needs to make the following corresponding changes:

References [14,29,30] in the correction are newly added. Thus, the reference order has been changed.

The authors state that the scientific conclusions are unaffected. This correction was approved by the Academic Editor. The original publication has also been updated.

Reference

1. Mei, S.; Hu, Y.; Xu, H.; Wen, H. The Class D Audio Power Amplifier: A Review. *Electronics* **2022**, *11*, 3244. [[CrossRef](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.