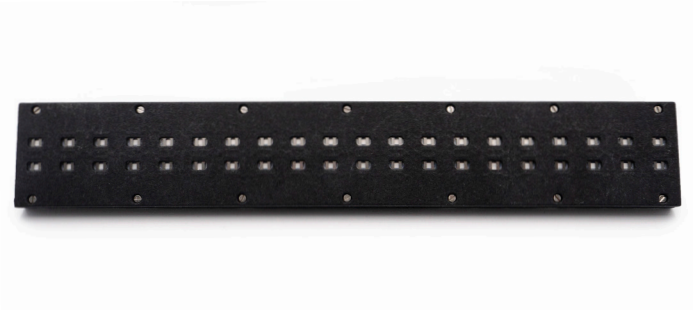


MEMS SPEAKERS ARRAY

HARPALYKE UY-R2010 | PRODUCT BRIEF

U))) SOUND



Harpalyke is an array of MEMS loudspeakers that act as a tweeter that can be integrated into 2-way HiFi systems. It can be used as a standalone unit or with an accompanying horn.

FEATURES

- 40 USound MEMS speakers
- Electrically connected in parallel for easy driving
- Wide audio bandwidth: 2-20 kHz
- Homogeneous 360° radiation in horizontal plane.
- Protected from mechanical damage
- With the horn: optimized SPL output by 10-15 dB.
- No magnetic field
- No heat generation

REVISION HISTORY

Released in July 2020

SPECIFICATIONS

Standard conditions: Supply voltage from amplifier: $15 V_{DC}$; nominal audio input voltage: $15 V_p$.

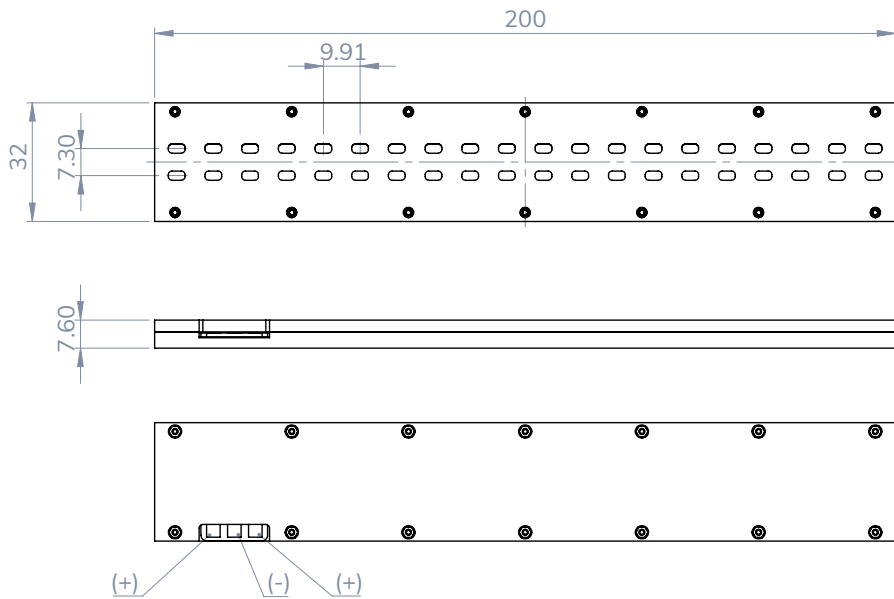
General		
Number of speakers per array	[-]	40
Back volume per speaker	[mm ³]	100
Size (L x W x H)	[mm]	200 x 32 x 7.6
Capacity of the speaker array @ 1kHz / $10.61 V_{rms}$	[μ F]	1.3

Speaker array in Baffle (IEC 60318-5)		
SPL _{30cm} @ 1 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	69
SPL _{30cm} @ 2 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	82
SPL _{30cm} @ 4 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	92
THD _{30cm} @ 4 kHz / $1V_{rms}$	[%]	1.1

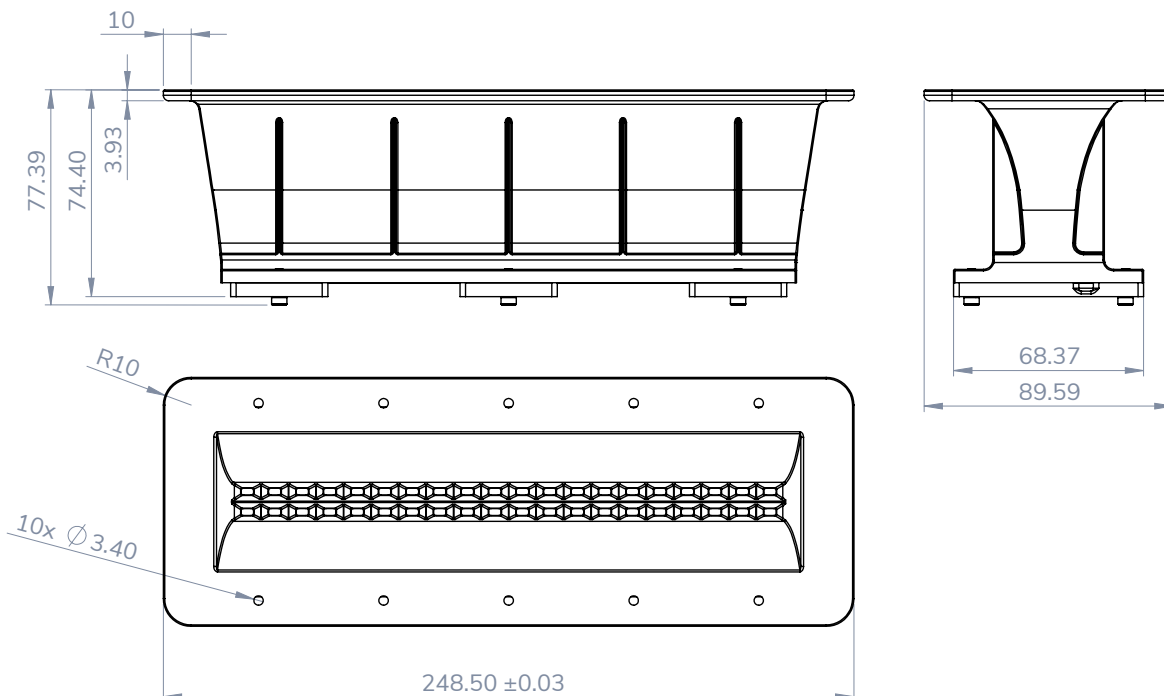
Speaker array in Free Field (1m distance)		
SPL _{1m} @ 1 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	55
SPL _{1m} @ 2 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	71
SPL _{1m} @ 4 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	86
THD _{1m} @ 4 kHz / $1V_{rms}$	[%]	0.7

Speaker array + Horn in Free Field (1m distance)		
SPL _{1m} @ 1 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	66
SPL _{1m} @ 2 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	86
SPL _{1m} @ 4 kHz / $10.61 V_{rms}$ ($15V_p$)	[dB]	97
THD _{1m} @ 4 kHz / $1V_{rms}$	[%]	0.5

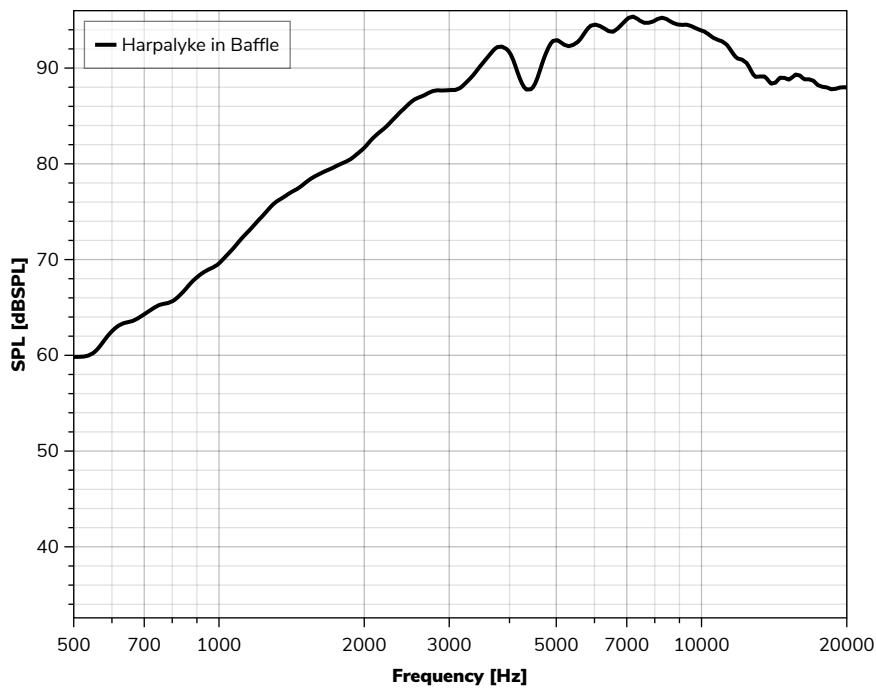
MECHANICAL DIMENSIONS



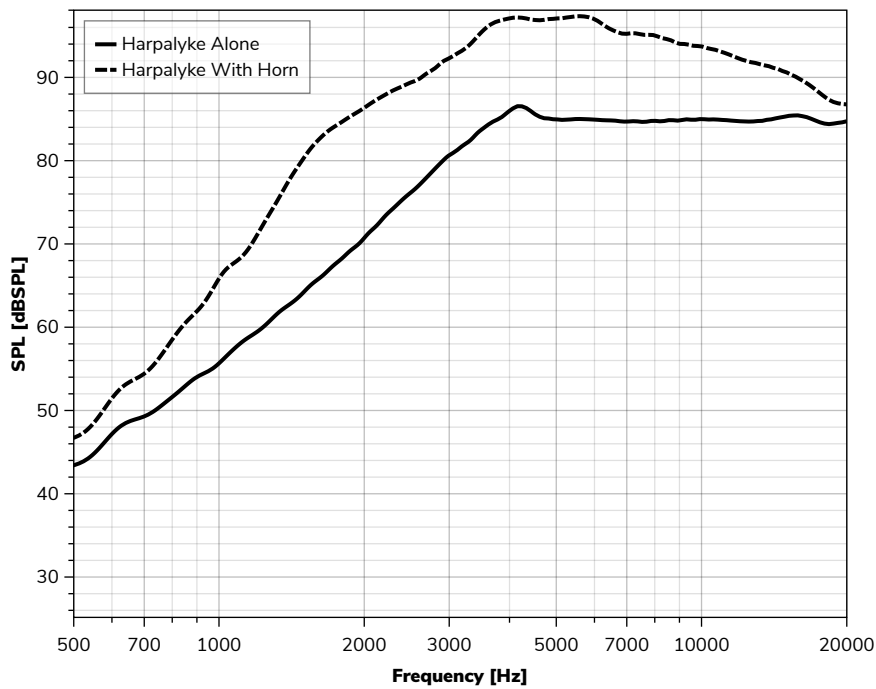
*Required electrical connections.



ACOUSTIC PERFORMANCE IN BAFFLE (IEC 60318-5)



ACOUSTIC PERFORMANCE IN FREE FIELD (1M)



RELATED DOCUMENTATION

[Adap UT-P2019 Datasheet](#)

COMPATIBLE PRODUCTS

Product name	Description
Amalthea 1.0 UA-R3010	Mono class AB amplifier with housing (heat sink)
Amalthea 2.0 UA-R3020	Mono class AB amplifier (PCB only)
Helike UA-E3010	Development board for evaluating, rapid prototyping and designing audio solutions using our MEMS speaker technology

SIMILAR PRODUCTS

Product name	Description
Dione Maxi UY-R3020	MEMS speaker array on a flexible PCB with an external amplifier
Dione Mini UY-R3010 (coming soon)	MEMS speaker array with integrated amplifiers

IMPORTANT NOTICE AND DISCLAIMER

USound GmbH (“USound”) makes no warranties for the use of USound products, other than those expressly contained in USound’s applicable General Terms of Sale, located at www.usound.com. USound assumes no responsibility for any errors which may have crept into this document, reserves the right to change devices or specifications detailed herein at any time without notice, and does not make any commitment to update the information contained herein. No license to patents or other intellectual property rights of USound are granted in connection with the sale of USound products, neither expressly nor implicitly.

In respect of the intended use of USound products by the customer, the customer is solely responsible for observing existing patents and other intellectual property rights of third parties and for obtaining, as the case may be, the necessary licenses. For more information about USound patents visit <https://www.usound.com/patents/>.

Important note: The use of USound products as components in medical devices and/or medical applications, including but not limited to, safety and life supporting systems, where malfunctions of such USound products might result in damage to and/or injury or death of persons is expressly prohibited, as USound products are neither destined nor qualified for use as components in such medical devices and/or medical applications. The prohibited use of USound products in such medical devices and/or medical applications is exclusively at the risk of the customer.