

Product Sheet: DBEP “dB Buster”

Introduction

Impact Radio Accessories introduces the DBEP dB Buster Acoustic Tube Earbuds, a cutting-edge solution for hearing protection. Utilizing advanced Accelerated Resonant Decay (ARD) technology, DBEP Noise Brakers ensure effective attenuation of harmful noise levels while maintaining user comfort and communication clarity. This product sheet highlights the key features, technological principles, and performance metrics of DBEP Noise Brakers, making it an ideal choice for various industrial applications.



Key Features

- Accelerated Resonant Decay (ARD) Technology:** Converts harmful sonic energy into thermal energy, effectively reducing noise levels.
- Resonant Frequency Filtering:** Targets specific resonant frequencies for efficient noise attenuation.
- Reflective Attenuation:** Reflects part of the incoming sound waves, diminishing overall noise levels.
- Dynamic Attenuation:** Adjusts attenuation based on incoming noise intensity, ensuring consistent protection.

Performance Metrics

Attenuation Data

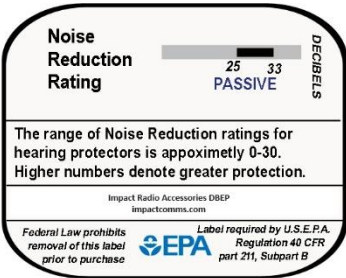
Frequency (Hz)	Mean Attenuation (dB)	Standard Deviation (dB)	Assumed Protection (dB)	Min BD Drop	Max DB Drop
EU 125	6.7	2.5	4.2	4.2	9.2
EU 250	10.4	2.8	7.6	7.6	13.2
EU 500	14.3	2.7	11.6	11.6	17
EU 1000	22.3	3.1	19.2	19.2	25.4
EU 2000	29.3	3.5	25.8	25.8	32.8
EU 4000	36	4	32	32	40
EU 8000	35.6	4.2	31.4	31.4	39.8
ANSI 125	13.5	3.9	9.6	9.6	17.4
ANSI 250	15.3	3.3	12	12	18.6
ANSI 500	18.1	3.3	14.8	14.8	21.4
ANSI 1000	22.8	3.8	19	19	26.6
ANSI 2000	29.3	4.5	24.8	24.8	33.8
ANSI 3150	34	4.7	29.3	29.3	38.7
ANSI 4000	33.4	4.6	28.8	28.8	38
ANSI 6300	31.7	3.3	28.4	28.4	35
ANSI 8000	36.2	3.6	32.6	32.6	39.8

Input Level in dB's	Attenuation in dB's	Attenuated Sound Levels in dB's
70	7	63
80	14	66
90	22	68
100	29	71
110	35	73
120	36	84

Practical Application

DBEP dB Buster Earbuds are particularly effective in environments with extremely high noise levels, such as those exceeding 100 dB. In such settings, traditional hearing protection may require double muff protection. However, DBEP Noise Brakers, with their advanced ARD technology, can reduce the noise level to a safe and comfortable 85 dB, providing both protection and situational awareness.

The DBEP Noise Brakers from Impact Radio Accessories offer a reliable and advanced solution for hearing protection across various industrial environments. Their superior noise attenuation, compliance with ANSI standards, and dynamic attenuation capabilities make them an ideal choice for ensuring worker safety and compliance with regulatory standards.



Noise Reduction Rating (NRR)

- Passive NRR Range:** 25 to 33 dB
- ANSI Standards Compliance:** Impact Radio Accessories “DBEP” Earbuds comply with ANSI S3.19-1974 standards, ensuring reliable noise reduction in controlled laboratory conditions.

Principle Technology: Accelerated Resonant Decay

The core technology behind DBEP dB Busters is the Accelerated Resonant Decay (ARD) principle. This sophisticated approach to noise reduction involves several key mechanisms that work together to ensure effective attenuation of harmful sound levels.

Key Mechanisms of ARD

- Sonic Energy Conversion:** Converts harmful sonic energy into thermal energy, reducing the intensity of incoming sound waves.
- Resonant Frequency Filtering:** Proprietary noise filter targets resonant frequencies, allowing safe sounds (e.g., speech) to pass through while attenuating harmful noise.
- Reflective Attenuation:** Reflects part of the incoming sound waves, reducing the overall noise level entering the ear canal.
- Dynamic Attenuation:** Adjusts attenuation based on incoming noise intensity, ensuring consistent noise reduction to around 85 dB.