Hearing Protection Data Sheet

- *The Hearing Protection feature works with AirPods Pro 3 with the latest firmware when paired with a compatible iPhone, iPad, or Mac running the latest operating system.*
- *The Hearing Protection feature is not suitable for protection against extremely loud impulse sounds, such as gunfire, fireworks, or jackhammers, or against sustained sounds louder than 110 dBA.*
- *The Hearing Protection feature complies with EN 352 Standards requirements when EN 352 Protection is On, and helps protect hearing across listening modes.*
- *The Hearing Protection feature is not suitable for use in all workplaces. Consult with your employer prior to use.*

Learn more about Hearing Protection use

Active Hearing Protection Performance

Total Attenuation and Exposure Limits (ANSI/ASA S12.68-2007)

Total attenuation, measured in decibels (dB), describes the estimated level of protection provided by the active Hearing Protection feature in real-world use, when the feature is on[1] and used as directed. In sustained environmental noise, the difference between the noise level and the total attenuation is the approximate level of noise that your ears are exposed to. The exposure limit represents the maximum recommended duration for this level of exposure.

Total attenuation may vary by listening mode and environmental noise level. Total attenuation may also vary based on fit of AirPods Pro in your ears with the provided ear tips properly installed. This results in a range of expected performance, shown below as pairs of values for each environmental noise level. The lower total attenuation value and corresponding exposure limit represent the protection level possible for most users to achieve or exceed, whereas the upper values represent the protection level that some proficient users of the feature can achieve or exceed[2].

1. The Hearing Protection feature is off when there is no AirPods Pro battery charge, when the Off listening mode is selected, or when Loud Sound Reduction is disabled in Accessibility Settings (this applies to Transparency mode & Adaptive Audio).
2. Total Attenuation estimates are Noise Reduction Statistic values (NRSA) derived from Hearing Protection Standard ANSI/ASA S12.68-2007 (R2020). The pairs of values represent statistical estimates of protection that 80% (most) and 20% (proficient) users can expect to receive, when the feature is used as directed. Values are calculated from Hearing Protection Standard ANSI/ASA S12.42-2010 & ANSI/ASA S12.6-2016 measurements (Michael & Associates, Inc.).

Transparency mode

Environmental noise level[3]	Estimated total attenuation[2,4]	Corresponding exposure limit[5]	Unprotected exposure limit[5]
90 dB	4 - 9 dB	10 - 32 hours	4 hours
95 dB	8 - 14 dB	8 - 32 hours	1 hour 15 minutes
100 dB	13 - 18 dB	8 - 25 hours	24 minutes
105 dB	17 - 21 dB	6 - 16 hours	8 minutes
110 dB	20 -25 dB	4 - 13 hours	2.5 minutes

Transparency mode, Hearing Aid feature enabled[6]

Environmental noise level[3]	Estimated total attenuation[2,4]	Corresponding exposure limit[5]	Unprotected exposure limit[5]
90 dB	1 - 6 dB	5 - 16 hours	4 hours
95 dB	5 - 10 dB	4 - 13 hours	1 hour 15 minutes
100 dB	9 - 14 dB	3 - 10 hours	24 minutes
105 dB	12 - 16 dB	2 - 5 hours	8 minutes
110 dB	14 - 19 dB	1 - 3 hours	2.5 minutes

Adaptive Audio[7]

Environmental noise level[3]	Estimated total attenuation[2,4]	Corresponding exposure limit[5]	Unprotected exposure limit[5]
90 dB	19 - 24 dB	unlimited	4 hours
95 dB	22 - 27 dB	unlimited	1 hour 15 minutes
100 dB	25 - 30 dB	126 hours - unlimited	24 minutes
105 dB	26 - 31 dB	50 - 159 hours	8 minutes
110 dB	26 - 31 dB	16 - 50 hours	2.5 minutes

Active Noise Cancellation

Environmental noise level[3]	Estimated total attenuation[2,4]	Corresponding exposure limit[5]	Unprotected exposure limit[5]
90 dB	26 - 32 dB	unlimited	4 hours
95 dB	26 - 32 dB	unlimited	1 hour 15 minutes
100 dB	26 - 32 dB	159 hours - unlimited	24 minutes
105 dB	26 - 32 dB	50 hours - unlimited	8 minutes
110 dB	26 - 32 dB	16 - 63 hours	2.5 minutes

3. Environmental noise levels are A-weighted decibel values (dBA) for sustained noise.
4. Total attenuation is frequency dependent. Noise environments dominated by frequencies above 2000 Hz may result in lower total attenuation.
5. Exposure limits apply over a 7 day period, derived from World Health Organization recommendations.
6. With Hearing Aid feature enabled, Transparency mode attenuation may be lower. Hearing Aid feature is not available in all regions.
7. Adaptive Audio total attenuation may vary based on customization settings — default state values are reported. Learn More about Adaptive Audio.

Fit, Maintenance & Care

To properly fit AirPods Pro 3 gently press both AirPods Pro into your ears with the stem facing down and angled slightly forward. Your AirPods should feel snug and comfortable. Learn more about fit.

Improper fit of AirPods Pro 3 will reduce the Hearing Protection feature's effectiveness in attenuating noise. Maximum attenuation will only be achieved if your AirPods fit properly and the provided ear tips are properly installed. For Hearing Protection to achieve the expected performance, use the ear tips included in the box with your AirPods Pro 3 or Apple's replacement AirPods Pro 3 Ear Tips. Ear tips are reusable - periodically check your ear tips for any damage, and replace if needed. Replacement ear tips are available from the online store.

Ear tips are available in the following sizes: XXS, XS, S, M, L.

Size	Nominal Diameter (mm)[8]
XXS	8 / 9
XS	8 / 9
S	9 / 10
M	9 / 11
L	10 / 12

Periodic cleaning of AirPods and proper storage in their case before and after use are necessary for hearing protection to work as expected. Learn more about maintenance and cleaning.

You will not receive the hearing protection benefits if the battery is not charged. Learn more about charging your AirPods. The protective performance may deteriorate with battery usage. You can expect up to 8 hours with Active Noise Cancellation on a single charge. Battery life depends on device settings, environment, usage, and many other factors.

Inspect AirPods before use, and do not use if AirPods are damaged. Check correct operation before use - the feature may not be working as expected if you hear a whistling noise or instability, and the active noise reduction system may be adversely affected. Try refitting the AirPods. If you still detect noise or instability contact AppleCare.

8. Nominal diameters below are independently measured according to methods described in Hearing Protection Standard EN 352-2:2020+A1:2024.

Additional Data

Passive Attenuation (EN 352-2:2020+A1:2024)

The passive attenuation ratings below, measured in decibels (dB), describe the estimated passive noise reduction capabilities of AirPods Pro 3 and only apply when there is no AirPods Pro battery charge or when the Off listening mode is selected. In each of these two cases, the Hearing Protection feature is off[9].

The ratings are obtained from real-ear measurements with a panel of test subjects wearing AirPods Pro 3 with no battery charge.

The Single Number Rating (SNR) below is an estimate of overall passive noise reduction; the high (H), medium (M), and low (L) frequency values describe the passive noise reduction in different frequency ranges. Octave band frequency values provide a more detailed breakdown of frequency-specific performance.

The values below do not apply in Transparency mode, Adaptive Audio, or Noise Cancellation mode. When Loud Sound Reduction is Off in Transparency mode and Adaptive Audio, there may be no noise reduction provided.

	SNR	H	M	L
Mean	20.3	24.8	17.1	13.1
Standard deviation	1.9	1.9	2.0	2.0
Assumed Protection Value[10]	18	23	15	11

Octave Band Value	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Mean	10.9	10.2	14.2	17.9	26.8	31.7	31.8
Standard deviation	2.3	2.6	2.9	2.4	3.0	4.6	5.7
Assumed Protection Value[10]	8.6	7.6	11.3	15.5	23.8	27.1	26.1

9. Warning: Although hearing protectors can be recommended for protection against the harmful effects of impulsive noise, the passive ratings are based on the attenuation of continuous noise and may not be an accurate indicator of the protection attainable against impulsive noise such as gunfire, fireworks, or jackhammers.
10. The Assumed Protection Values (APV) describe a protection performance of 84%. The APV is equal to the mean attenuation value minus one standard deviation.

Active Noise Reduction (EN 352-5:2020)

The Hearing Protection feature provides active noise reduction in all active listening modes. The Single Number Rating (SNR) below is an estimate of overall active noise reduction; the high (H), medium (M), and low (L) frequency values describe the active noise reduction in different frequency ranges in a sustained 100 dBA environment.

	SNR	H	M	L
Transparency Mode	14	12	15	17
Adaptive Audio, lowest attenuation slider position[11]	15	13	14	16
Adaptive Audio, default attenuation slider position	26	24	27	29
Adaptive Audio, highest attenuation slider position[11]	29	27	33	37
Noise Cancellation	29	27	34	38

In all listening modes above, the active noise reduction system operates up to 110 dBA.

Criterion Levels (EN 352-7:2020)

Transparency & Adaptive Audio modes provide level-dependent noise reduction. The criterion levels shown below, measured in dBA, are an estimate of the highest environmental noise level up to which the Hearing Protection feature can reduce the noise level at the ear to 85 dBA, in high (H), medium (M) and low (L) frequency environments.

	H	M	L
Transparency Mode[12]	106	102	107
Adaptive Audio, lowest attenuation slider position[11]	103	100	102

11. You can customize Adaptive Audio to allow more or less environmental noise - lowest attenuation slider position allows more noise; highest attenuation slider position allows less noise.
12. With the Hearing Aid feature enabled, Transparency mode M & L criterion levels will be lower, and do not meet the minimum requirements for EN 352-7:2020. Hearing Aid feature is not available in all regions.

Calls & FaceTime Audio (EN 352-9:2020+A1:2024)

AirPods may be used to provide safety-related audio input through calls and FaceTime audio. The standardized technical measurement results below are often required in workplace use for appropriate selection of hearing protection with safety-related audio input[13]. In certain cases, the output of the playback system may exceed the audio exposure limit level.

Sound pressure level (dBA)	70	75	80	85	90	95	97.7
Input signal level (dBFS)	-42.3	-37.3	-32.3	-27.3	-22.2	-17.0	-14.0

Criterion input signal	-30.3 dBFS
Sound output at -14 dBFS	97.7 dBA
Usage time at -14 dBFS	0.22 h

Music & Video Playback (EN 352-10:2020+A1:2024)

AirPods provide an entertainment audio facility through music and video playback. EN 352 Protection provides audio signal sound pressure level limitation, which limits the entertainment audio signal to 82 dBA effective to the ear. The audibility warning signals at a specific workplace may be impaired while using the entertainment facility. Hearing Protection is not suitable for use in all workplaces.

Things you should know

- AirPods should be fitted, adjusted and maintained in accordance with this Data Sheet, regularly inspected for serviceability, and Hearing Protection should be used at all times in noisy surroundings. If these instructions are not followed, the protection afforded by the feature will be severely impaired.
- AirPods may be adversely affected by certain chemical substances. Refer to the manufacturer for further information
- Improper use of Hearing Protection may lead to permanent hearing damage.
- Warning: Sudden or fast removal of AirPods out of the ear canal may damage the ear drum.

13. When the Media Assist feature is turned on and “Adjust Calls and FaceTime” is turned on, the reported measurement results do not apply. Media Assist can be turned on after using the Hearing Test feature. Hearing Test and Media Assist features are not available in all regions.

Regulatory Information

This product has been tested, certified and is monitored in accordance with Module C2 by:
Notified Body: PZT GmbH, Bismarckstr. 264 B, 26389 Wilhelmshaven, Germany.
Apple hereby declares that the Hearing Protection feature on AirPods Pro 3 is compliant with Regulation (EU) 2016/425 and the Standards EN352-2:2020+A1:2024, EN 352-5: 2020, EN352-7:2020, EN352-9:2020+A1:2024, EN 352-10:2020+A1:2024.

The declaration of conformity is available online. Learn more.



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