

Datasheet

Cochlear™ Osia® System

OSI300 Implant and Osia 2(I) Sound Processor



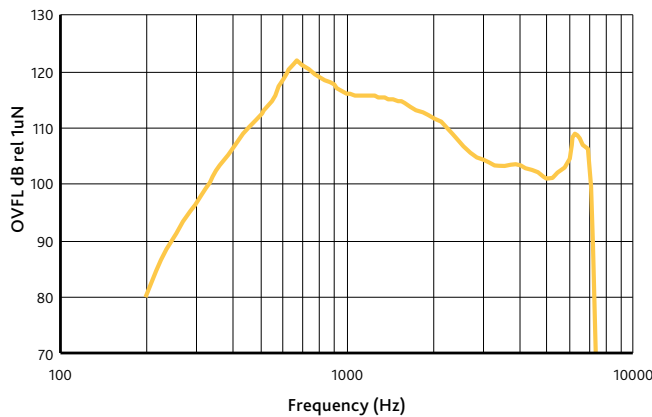
The Cochlear™ Osia® System is an active transcutaneous bone conduction hearing system that uses piezoelectric stimulation to send sound through the bone to the inner ear. It is designed to meet the needs of patients with conductive hearing loss, mixed hearing loss and single-sided sensorineural deafness (SSD).

The Osia System's unique Piezo Power™ transducer is especially sensitive at high frequencies enabling good hearing outcomes in noisy environments. The Cochlear Osia OSI300 Implant features new magnet technology that allows for MRI at 1.5 and 3 Tesla with implant magnet cassette in place or removed. A digital link connects the implant to the slim, off-the-ear sound processor, which features SmartSound® iQ signal processing and advanced wireless connectivity.

The Osia System is suitable for individuals with bone conduction thresholds within the yellow area indicated in the fitting range. For further details, see Osia Candidate Selection Guide.



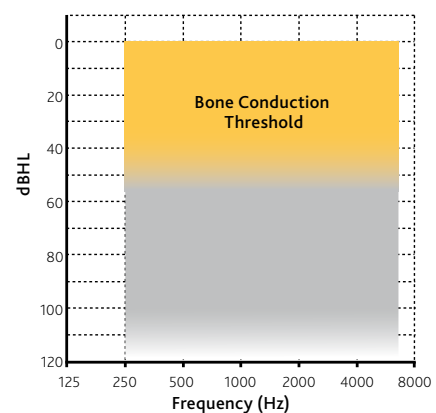
Maximum output force level



● Osia System R5 – OVFL90^{3*}

* Measured on skull simulator TU1000 and compensated for skull impedance. Also compensated for actuator position based on: Transmission properties of bone conducted sound: measurements in cadaver heads, Stenfelt S, Goode RL, The Journal of the Acoustical Society of America 2005 Oct;118(4):2373-91.

Fitting range up to 55 dB SNHL



● Bone-conduction thresholds ≤ 55 dB HL averaged across 500, 1000, 2000, and 4000 Hz
● Air-conduction thresholds may extend into this area

Osia 2(I) Sound Processor

General

- Fully programmable, off-the-ear sound processor
- Button to change programs
- Visual indicator (LED)
- Tamper proof battery door
- 4 exchangeable magnet strengths
- Compatible with Disk Retainer
- Dual microphones
- Colours (all covers included in the Osia 2(I) Sound Processor kit)
 - Black
 - Sandy Blonde
 - Slate Grey
 - Silver Grey
 - Chocolate Brown

Signal Processing

- Aridium™ Smart platform with SmartSound® iQ
- 17 channel sound analysis with Wide-band Dynamic Range Compression and Natural Sound Resolution
- 4 user-defined programs with dedicated listening programs for music, outdoor, noisy environments
- Wind noise reduction through WindShield™ protection technology
- Adaptive directional signal processing using dual microphone
- Scene Classifier II controlling:
 - Noise Manager II
 - Active Gain
- Active Balanced Directionality
- Position Compensation II
- Control Sync for bilateral synchronization of program change and app functionality
- Dimensional Feedback Manager
- Compatible with FM and digital wireless Assistive Listening Device systems through the Cochlear Wireless Mini Microphone 2+

* The Cochlear Osia 2(I) Sound Processor, with battery compartment excluded, is dust and water resistant to level IP57 of the International Standard IEC60529. The Osia 2(I) Sound Processor with Aqua+ is water resistant to level IP68 of the International Standard IEC60529 when used with LR44 alkaline or nickel metal hydride disposable batteries. Refer to the relevant user guide for more information.



Ardium™
Smart inside

Water and dust resistance

- Meets IP57 classification*
- Meets IP68 classification with Aqua+ accessory*

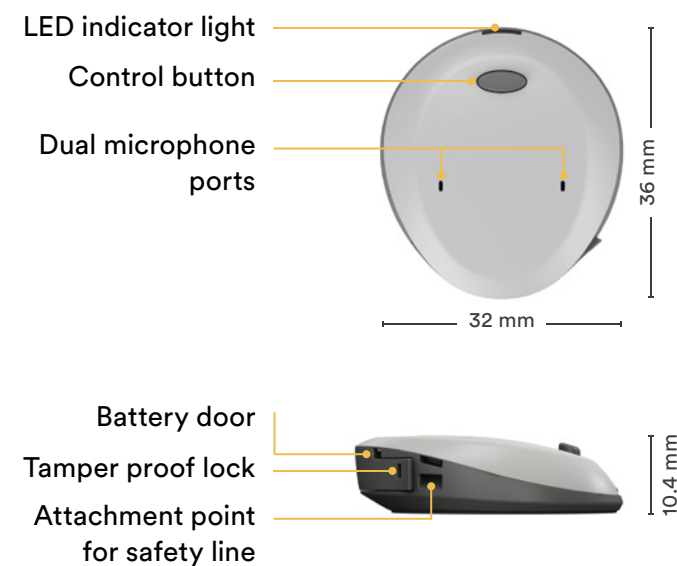
Connectivity

- Bluetooth® Low Energy
- Made for iPhone Hearing Device with support for direct audio and data streaming
- 2.4 GHz Wireless technology that connects to Cochlear Wireless Accessories

The sound processor is compatible with the following Cochlear True Wireless™ Devices:

- Cochlear Baha® Remote Control 2
- Cochlear Wireless Mini Microphone 2+
- Cochlear Wireless Phone Clip
- Cochlear Wireless TV Streamer

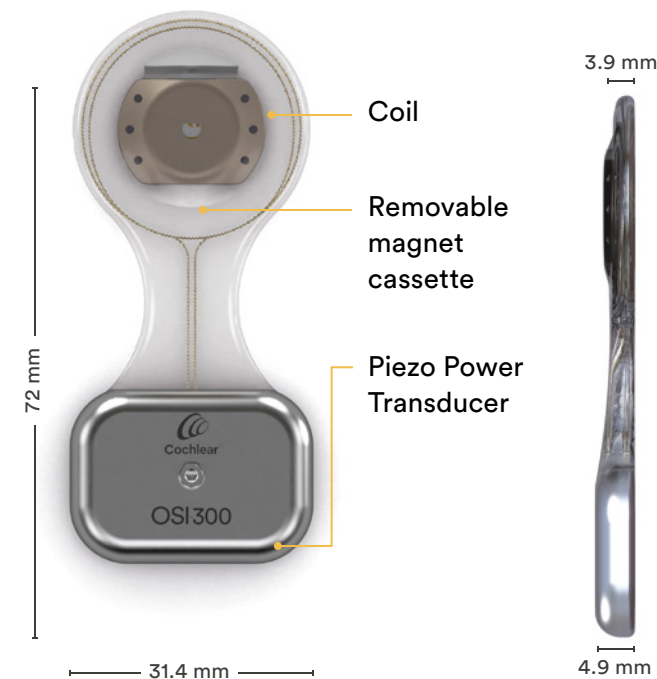
Osia 2(I) Sound Processor



Osia OSI300 Implant

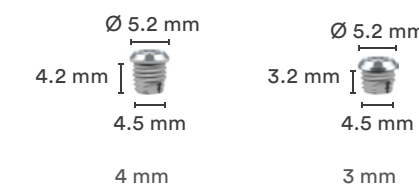
- Piezo Power™ transducer with no magnetic material
- Removable magnet cassette
- Digital data and power transmission link
- Attachment interface for osseointegrated BI300 Implant
- Next generation 3.0 T MRI compatible implant magnet

Osia OSI300 Implant



Cochlear BI300 Implant

- Titanium implant with TiOblast® surface



Piezo Power™ technology

Osia OSI300 Implant and MRI†

- MR Conditional at 1.5 and 3.0 T with magnet cassette in place (or removed)
 - No need for MRI Kit or head wrap
 - No need for implant magnet removal surgery
- Minimized artifacts around the implant enabled by the piezo technology and removable magnet cassette

MRI artifacts

Maximum image artifact caused by the OSI300 Implant when imaged in the axial plane in non-clinical MRI testing.

	Gradient echo sequence*		MARS (Metal artifact reduction sequence)	
	1.5 T	3 T	1.5 T	3 T
With implant magnet cassette in place	9.6** cm (3.8** in)	11.5 cm (4.5 in)	7.5 cm (2.9 in)	8.4 cm (3.3 in)
With implant magnet replaced with a non-magnetic cassette	7.9 cm (3.1 in)	5.4 cm (2.1 in)	3.0 cm (1.2 in)	2.8 cm (1.1 in)
With implant magnet cassette removed	7.5 cm (2.9 in)	5.9 cm (2.3 in)	3.6 cm (1.4 in)	3.0 cm (1.1 in)

* ASTM F219-07 (2013)

** Artifact extends beyond field of view

† For detailed information consult the Cochlear Osia Magnetic Resonance Imaging (MRI) Guidelines www.cochlear.com/us/mri

Osia Fitting Software 2

- Dedicated fitting rationales for conductive hearing loss, mixed hearing loss and SSD
- Patient optimized fitting with Osia Fitting Software (2.1 or later)
- Digital Link Calibration

Osia Smart App

- The Cochlear Osia Smart App is available on App Store and Google Play. For compatibility information, visit www.cochlear.com/compatibility.

Osia System technical specifications

General		
Sound processor weight (with battery and magnet 1(I))		11.5 g
Processing delay		6 ms
Sound input frequency range		100 Hz–7 kHz
Digital inductive link operating frequency		5 MHz
Digital inductive link transmitting range		1–10 mm
Battery type		675 (High power zinc air ¹)
Estimated battery life time ²		22–33 hours or 2–4 days
Measured according to IEC 60118-9:2019		
	Parameter	Value (typical)
OVFL90 frequency response curve ³	Maximum OVFL90	117 dB OVFL
	HFA-OVFL90	108 dB OVFL
AMSL (Full-on acousto-mechanical sensitivity level frequency response)	Maximum AMSL	57 dB
	HFA-AMSL	49 dB
Basic vibratory force level frequency response ⁴	RTAMSL	32 dB
	Frequency range	400–7000 Hz
Equivalent input noise ⁴	EINL	22 dB SPL
Battery current ⁴	65 dB Input SPL at 1kHz	11 mA
Total Harmonic Distortion		
	Distortion test frequency vs Input SPL	THD [%] (typical)
	70 dB SPL at 500 Hz	0.5 %
	70 dB SPL at 800 Hz	0.3 %
	65 dB SPL at 1600 Hz	0.7 %
	60 dB SPL at 3200 Hz	0.5 %
Measured according to IEC 60118-0:2022		
	Parameter	Value (typical)
AGC characteristics (attack and release time) ⁵	Attack time	3 ms
	Release time	7 ms

OVFL = Output Vibratory Force Level (re. 1 µN), SPL = Sound Pressure Level (re. 20 µPa)

For more technical details, please refer to Osia System R5 Technical Specification.

1 Zinc air in normal use. For use with Aqua+ see corresponding user manual

2 Battery time is depending on hearing loss level, skin thickness and listening environment

3 Measured on skull simulator, not compensated for actuator position

4 Measured with reference test setting of the gain control (RTS) according to IEC60118:2019. The RTS is set to full-on-gain minus 17 dB and expansion active.

5 Measured at 2 kHz with maximum compression ratio and with reference test setting of the gain control (RTS) according to IEC 60118:2019 2nd Ed. The RTS is set to full-on-gain minus 17 dB.

This material is intended for health professionals. If you are a consumer, please seek advice from your health professional about treatments for hearing loss. Outcomes may vary, and your health professional will advise you about the factors which could affect your outcome. Always read the instructions for use. Not all products are available in all countries. Please contact your local Cochlear representative for product information.

The Cochlear Osia 2(I) Sound Processor is compatible with Apple devices. The Cochlear Osia Smart App is available on the App Store and Google Play. For compatibility information visit www.cochlear.com/compatibility

Google Play and the Google Play logo are trademarks of Google LLC.

Apple, the Apple logo, Apple Watch, FaceTime, Made for iPad logo, Made for iPhone logo, Made for iPod logo, iPhone, iPad Pro, iPad Air, iPad mini, iPad and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc., registered in the U.S. and other countries.

The Bluetooth® and Auracast™ word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Cochlear Limited is under license.

The TiOblast surface technology is licensed from DENTSPLY and TiOblast is a trademark of DENTSPLY.

©Cochlear Limited 2023. All rights reserved. Cochlear, 科利耳, コクレア, 코클리어, Hear now. And always, Osia, SmartSound, the elliptical logo, and marks bearing an ® or ™ symbol, are either trademarks or registered trademarks of the Cochlear group of companies (unless otherwise noted).

Cochlear Americas

10350 Park Meadows Drive, Lone Tree, CO 80124, USA


Tel: +1 303 790 9010 Support: Tel: +1 800 483 3123

Cochlear Canada Inc.

2500-120 Adelaide Street West, Toronto, ON M5H 1T1, Canada

Tel: +1 800 483 3123 Fax: +1 416 972 5083

www.cochlear.com/us

 OSI144 ISS1 AUG23

Follow us on     