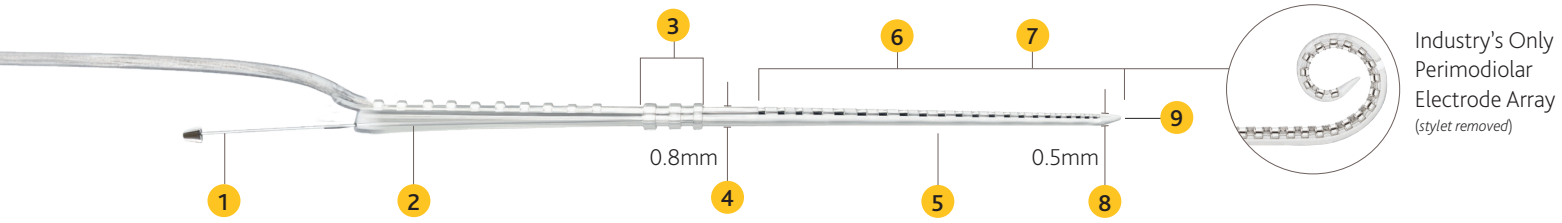
COCHLEAR™ NUCLEUS® CI24RE CONTOUR ADVANCE™

CI24RE CONTOUR ADVANCE ELECTRODE INDUSTRY LEADING CAPABILITIES

- World's most implanted[1] and reliable cochlear implant[2–4]
- Focused spiral ganglion stimulation with modiolar wall electrode placement[5]
- Contour electrode design for scala tympani insertion[6] and preservation of delicate structures
- Optimal hearing performance outcomes[7]

CONTOUR ADVANCE ELECTRODE IN DETAIL



1. Stylet to keep electrode straight during first insertion phase, using AOS technique
2. Surgical handle and optimized lead angle for electrode orientation and ease of surgical handling
3. 3 silicone ribs to indicate insertion depth
4. Basal diameter: 0.8mm
5. White marker between electrodes 10 and 11 to facilitate AOS insertion
6. Pre-curved design for perimodiolar placement and reduced spread of excitation
7. 22 platinum electrode contacts with large surface contact for improved electrical conduction positioned over a 15mm active length
8. Apical diameter: 0.5mm
9. Softip™ for minimal insertion trauma

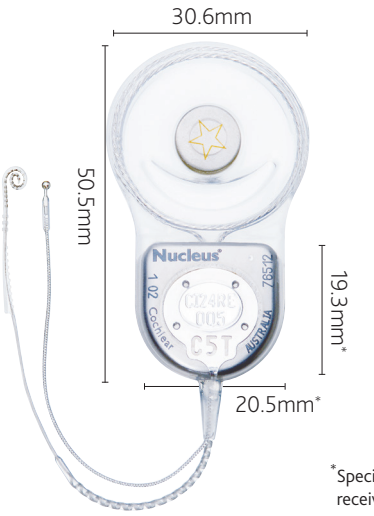
Item# Z60353

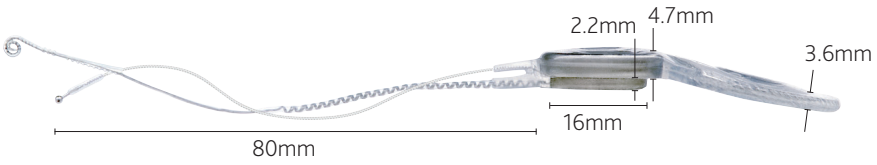
SURGICAL RECOMMENDATIONS*

- Insertion instrument: AOS Forceps (*Item# Z60770*)
- Requires CI24RE Surgical Kit (*Item# Z60523*)
- Drill away round window overhang to visualize the true round window membrane prior to opening the cochlea
- Surgical handle should face inferiorly while inserting electrode with a single hand, in one motion, until the white marker reaches the cochleostomy opening
- Use your free hand to stabilize and hold the stylet in place, then advance the electrode off the stylet until the second silastic rib reaches the opening of the cochlea
- Once stylet is completely removed, stabilize the lead to prevent movement of the electrode array prior to releasing the AOS forceps

*Please refer to the CI24RE Contour Advance Surgeons Guide

IMPLANT DIMENSIONS





*Specified dimensions for receiver/stimulator titanium casing.

ELECTRODE ARRAY

Contacts

- 22 half–banded platinum electrodes, positioned over a 15mm active array in a non–uniform arrangement

General features

- Stylet – holds the electrode straight for insertion with Advance Off–Stylet™ (*AOS*) surgical technique
- Softip™ electrode – minimize lateral wall insertion force
- Two extracochlear electrodes – one platinum plate attached to the implant receiver/stimulator package and a separate 1.5mm diameter ball electrode on an 80mm lead
- Handle at the end of the electrode for easier handling during surgery and electrode orientation

RECEIVER/STIMULATOR

General features

- Weight – 9.5g
- Titanium casing for high impact resistance

MRI

- MRI safe at 1.5 Tesla with magnet removed (for further details refer to the latest surgery guide)[8]
- Sterile replacement implant magnet (*Item# Z50101*) star should face skin side

MICROELECTRONIC PLATFORM

General features

- Power efficient, custom design
- Stimulus amplitude range: 0µA to 1.75mA
- Stimulation rates up to 31.5kHz
- Pulse width: 9.6µs to 400µs per phase
- Implant ID to uniquely identify implants

Stimulation modes

- Monopolar, bipolar mode and common ground stimulation, biphasic current pulses

Telemetry capability

- Ultra–low–noise floor (*~1µV*) – enabling advanced AutoNRT™ telemetry capabilities
- Includes fully integrated telemetry modes – NRT, AutoNRT and intraoperative NRT
- Supports electrophysiology – ESRT, ABR and CEP

Specifications are nominal and accurate at the time of printing, subject to change without notification.

1 Internal data on file, February 2013.
2 Cochlear Nucleus Implant Reliability Report. February 2013.
3 Advance Bionics Reliability Report, September 2013 (Available from Advanced Bionics)
4 [Online] 2013 [Cited November]; MedEl Reliability Data, http://www.medel.com/us/reliability.
5 The Hearing Zone is approximately 400-450 degrees into the cochlear, which has been determined from peer review articles. Stakhovskaya O, Bonham BH, Sridhar D, Leake P. Frequency Map for the Human Cochlear Spiral Ganglion. JARO. 2007 8:220-223 and Ariyasu L, Galey FR, Hilsinger R, Jr., Byl FM. Computer-generated three dimensional reconstruction of the cochlea. Otolaryngology Head Neck Surgery. 1989; 100(2):87-91.
6 J. Thomas Roland Jr. MD. A model for cochlear implant electrode insertion and force evaluation: results with a new electrode design and insertion technique. Laryngoscope. 2005 Aug;115(8):1325-39.
7 Wolfe, J., Parkinson, A., Schafer, E.C., Gilden, J., Rehwinkel, K., Mansanares, J., Coughlan, E., Wright, J., Torres, J., & Cunningham, S. (2011). Benefit of a commercially available cochlear implant processor with dual-microphone beamforming: A Multi-Center Study, Otology & Neurotology, In Press.
8 MRI field strength approval varies by country, check your warnings and precautions document. Magnet must be removed before all MRI procedures in the USA.

Not all patients with hearing loss are candidates for cochlear implantation. Cochlear implantation is a surgical procedure, and carries with it the risks typical for surgery.
For complete information regarding indications, warnings and adverse effects, please refer to the Nucleus Package Insert available at www.Cochlear.com/US/NucleusIndications

www.Cochlear.com/US

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