SYNCHRONY EAS System
In Sync with Natural Hearing
SYNCHRONY EAS System
Electric Acoustic Stimulation

The SYNCHRONY EAS System combines the SONNET® EAS Audio Processor with the SYNCHRONY Cochlear Implant to deliver electric stimulation in the high frequencies and dedicated acoustic amplification across the low frequencies.

With 6-channel acoustic amplification of up to 48 dB across the low frequencies, SONNET EAS is the ideal solution for candidates with partial deafness.

EAS Candidacy

Electric Acoustic Stimulation is intended for candidates with partial deafness, also known as high-frequency hearing loss (HFHL). Partial deafness is a minimal or mild-to-moderate sensorineural hearing loss in the low frequencies that becomes a profound hearing loss in the high frequencies.

By providing acoustic amplification in the low frequencies and electric stimulation in higher frequencies, the SYNCHRONY EAS System can provide effective stimulation to the whole cochlea. EAS enables recipients to experience restored hearing in the high frequencies while benefiting from their residual natural hearing.

Candidates for EAS have minimal or mild-to-moderate low-frequency hearing loss sloping to profound hearing loss in the high frequencies. Candidacy may vary, please consult your local MED-EL representative.
SYNCHRONY Cochlear Implant
3.0 Tesla MRI—Without Magnet Removal*

Combining the highest cochlear implant MRI safety with proven performance and the most comprehensive portfolio of atraumatic electrodes available.

- Conditionally MRI safe at 0.2, 1.0, 1.5, and even 3.0 T without the need for magnet removal
- Rotatable, self-aligning magnet greatly reduces torque for increased patient comfort during MRI scans
- If necessary, the magnet can be removed to minimise image distortion on MRI head scans
- The magnet can only be removed from the bottom side of the implant, making dislocation of the magnet due to trauma almost impossible
- SYNCHRONY PIN implant features titanium fixation pins to secure the placement of the implant

FLEX Series Electrodes
Preserving Residual Hearing

For EAS candidates, it is especially vital to protect the delicate structures of the cochlea to ensure that residual hearing is preserved. Specifically engineered to ensure cochlear integrity, FLEX Series electrodes are the most atraumatic electrode arrays available.

Unique FLEX-Tip Technology features single contacts at the leading end, ultra-flexible wave-shaped wires, and a tapered tip for increased mechanical flexibility.

Recent studies demonstrate that flexible MED-EL electrode arrays, when combined with proper surgical techniques, enable significant preservation of residual natural hearing.1,2,3,4,5,6,7,8
For more natural hearing in any listening environment

SONNET EAS
Audio Processor

Delivering exceptional hearing in any listening environment for a more natural hearing experience, SONNET EAS minimises the need to manually adjust settings or change programs.

- Adaptable EAS/CI audio processor
- 6-channel acoustic amplification with gain of up to 48 dB and an MPO of 118 dB SPL
- Water-resistant and tamper-proof
- Automatic Sound Management 2.0 actively adapts to changing listening environments
- Dual microphones provide Wind Noise Reduction and Microphone Directionality
- Up to 60 hours of battery life without a trade-off in processor performance
- Fully compatible with all multi-channel MED-EL implants
- Integrated link-check coil function with LED indicator
MAESTRO System Software 6.0
Fittings Made Quick & Easy

The MAESTRO System Software 6.0 with the MAX Programming Interface enables quick and easy programming of the SYNCHRONY EAS System.

- Expanded 6-channel EAS fitting allows more specific maps to be created, and both the acoustic and electrical component can be programmed simultaneously.
- SONNET Audio Processor can be programmed with 4 specific maps to ensure optimal hearing performance in any listening environment.
- Programmable Microphone Directionality and Wind Noise Reduction.
- Features Datalogging, including usage time and volume range of each selectable program.
- Supports all currently available MED-EL multi-channel cochlear implants and audio processors.
### Technical Data

#### SYNCHRONY EAS System

**Stimulation Features**
- Sequential non-overlapping stimulation on 12 electrode channels
- Simultaneous (parallel) stimulation on 2-12 electrode channels
- 24 independent current sources
- Stimulation rates of up to 50,704 pulses per second
- Range of pulse phase duration: 2.1–425.0 µs/phase
- Time resolution (nominal values): 1.67 µs
- Current range (nominal value): 0–1200 µA per pulse phase

**Pulse Shapes**
- Biphasic, symmetric triphasic and triphasic precision pulses

**Comprehensive Diagnostic Toolkit**
- Status Telemetry
- Impedance and Field Telemetry (IFT)
- Auditory Nerve Response Telemetry (ART™)
- Electrically Evoked Auditory Brainstem Response (EABR)
- Electrically Evoked Stapedius Reflex Threshold (ESRT)

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#### Electrode Arrays

**FLEX Series**
- **FLEXSOFT**
  - 26.4 mm stimulation range
  - Diameter at basal end: 1.3 mm
  - Dimensions at apical end: 0.5 x 0.4 mm
- **FLEX28**
  - 23.1 mm stimulation range
  - Diameter at basal end: 0.8 mm
  - Dimensions at apical end: 0.5 x 0.4 mm
- **FLEX24**
  - 20.9 mm stimulation range
  - Diameter at basal end: 0.8 mm
  - Dimensions at apical end: 0.5 x 0.3 mm
- **FLEX20**
  - 15.4 mm stimulation range
  - Diameter at basal end: 0.8 mm
  - Dimensions at apical end: 0.5 x 0.3 mm

**SONNET EAS Audio Processor (Me1320)**
- **Product Features**
  - Acoustic stimulation up to 2 kHz
  - 48 dB acoustic gain
  - 118 dB SPL maximum power output (MPO)
  - Full digitally hearing aid signal processing
  - 6-channel acoustic fitting
  - Splash-proof design with IP54 rating
  - Automatic Volume Control with Dual-Loop AGC
  - Tamper-proof design with integrated child safety features
  - Link-check coil function with LED indicator

- **Battery Life**
  - Up to 60 hours of use with a set of 2 zinc-air batteries

- **Connectivity**
  - Wireless-ready for 2.4 GHz applications
  - Integrated telecoil
  - Direct connection with FM battery cover (standardised Euro-Audio 3-pin connection)

- **MAESTRO System Software 6.0**

**System Requirements**
- PC or laptop/notebook with supported Microsoft Windows®
- Dual-core processor of 1.6 GHz or higher
- 2 GB RAM
- 2 GB free disk space
- Display with a minimum resolution of 1024 x 768
- High-power USB port 2.0 or higher
- Connection to printer for hard-copy reports
- CD ROM drive for software installation

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#### SYNCHRONY Implant (Mi1200)

- **Housing Design**
  - Impact resistance > 2.5 Joule
  - Unique design pins for additional stability
  - Recommended flattening depth for the stimulator: 0.9 mm
  - Stimulator: 1.3 mm x 2.54 mm x 4.5 mm (typical)
  - Coil: 29.0 mm diameter x 3.3 mm thick (typical)
  - Weight: 7.6 g

- **Safety Features**
  - Output capacitors for each channel
  - Unique implant ID (IRIS)
  - Output capacitors for each channel
  - Magnet removable for minimised image distortion
  - Rotatable magnet within hermetic titanium housing
  - Self-aligning to external magnetic field
  - Conical shape for secure placement

- **MRI Conditions**
  - MR Conditional at 0.2, 1.0, 1.5 and 3.0 Tesla
  - No magnet removal required even at 3.0 Tesla

- **Removable Magnet**
  - Magnet removable for minimised image distortion
  - Rotatable magnet within hermetic titanium housing
  - Self-aligning to external magnetic field
  - Conical shape for secure placement

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#### System Requirements

**MRI Conditions**
- MR Conditional at 0.2, 1.0, 1.5 and 3.0 Tesla
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**MRI Removable Magnet**
- Magnet removable for minimised image distortion
  - Rotatable magnet within hermetic titanium housing
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  - Conical shape for secure placement

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**Supported Microsoft Windows® operating systems:**
- Microsoft Windows® XP, Service Pack 3 or higher
- Microsoft Windows® Vista™, Service Pack 2 or higher
- Microsoft Windows® 7, Service Pack 1 or higher
- Microsoft Windows® 8 or higher

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**References**