Brain Stimulation
- pharmacological in-situ therapy going digital

Deep Brain Stimulation
Copenhagen University Hospital and Zealand University Hospital
The world's first optical fiber DBS system

Magnetic Resonance Imaging (MRI) compatible 1.5T, 3.0T, MR-PET and 7.0T

- Intel inside
- Multiple stimuli options
- Multiple stimuli voltages
- Remote desktop from iPad, Macbook Pro or PC

Developed by
Carsten Thomsen, Prof. Dr. Med.
Louise Møller Jørgensen, PhD student, Med.
Anders Øhlhues Bandrup, Research Engineer

Patent pending

For further information, please contact Commercial Officer Niels Skjærbæk
niels.skjaerbaek@adm.ku.dk, (Mobile), +45 2460 1215
Background

Electrical stimulation, such as Deep Brain Stimulation (DBS), is pharmacological therapy going digital. The neurostimulator delivers an adjustable stimulus to a specific target, thereby reducing systemic side effects as compared to pharmacological therapy. Today, neurostimulation is used to treat movement disorders (Parkinson’s Disease, tremor and Tourette’s syndrome) and cardiac disease (use of pacemakers), and it lend promise to treat other neuropsychiatric disorders, e.g. Alzheimer, headache, depression, addiction, obsessive compulsive disorder, pain and rehabilitation.

The invention

- Optic fiber solution (Tx/Rx)
- No signal interruption between scanner and equipment
- Battery powered floating patient units
- All stimulation data is optical received and logged

Key selling points

The apparatus is applicable for use in all MRI scanners (36,000 worldwide) as a combined disposable and non-disposable unit with software license opportunities. The market is huge and fast growing, which lend promise to large revenues. The applications are functional MRI scans of deep brain stimulation, spinal cord stimulation, transcutaneous nerve stimulation, peripheral nerve stimulation, cranial nerve stimulation, electrical muscle stimulation, cortical multi-electrode stimulation, retinal multi-electrode stimulation, gastric electrical stimulation therapy and cardiac stimulation (pacemakers).

Development status

- Patent application is submitted
- Preclinical trials have been conducted and scientific articles are in writing for international peer reviewed journals.
- Designed for easy and low cost EMA/FDA and CE approval.

Intellectual property rights

EP patent application filed 6 October 2017