



Coordinated Silencing for Alien Mitigation in a **Multi-carrier Transmission Scheme**



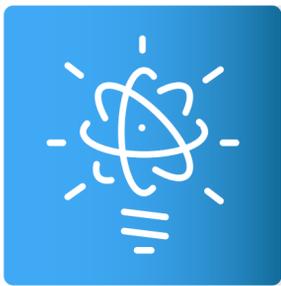
The Problem

Digital Subscriber Line (DSL) provides high-bandwidth data transmission and reception to customer premises over copper twisted-pair telephone wires. Because the wires are unshielded, they are vulnerable to various types of interference, including crosstalk both from other subscribers to the same DSL service and other entities outside the DSL system. Such crosstalk, referred to as "alien noise", can cause substantial degradation of the DSL signal/noise ratio (SNR) and capacity.



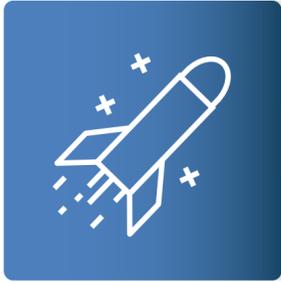
The Solution

Embodiments of this invention take advantage of the multi-carrier modulation scheme and signaling protocols on DSL links to achieve better suppression of alien noise. This coordinated silencing allows the DSLAM to mitigate the alien signal and achieve higher overall throughput.



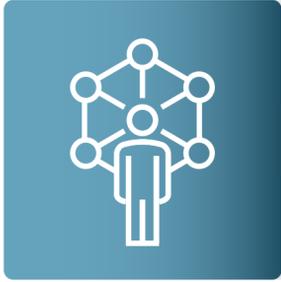
The Commercial Benefit

Our novel innovation enhances the capacity of DSL access networks, thus enabling operators to offer improved communication speed and quality of service.



Market Potential

The global fixed broadband market is growing by 9 percent annually in the last five years and is predicted to reach 1 billion subscribers worldwide by 2019.



Target Markets/Industries

- Telecommunication sector
- Marine cables industry
- DSL and cable industry



Intellectual Property

Patent pending



Team: Primary Inventor

Prof. Amir Leshem

- Prof. Amir Leshem is a full professor and head of the signal processing track at the EE department, Faculty of Engineering, Bar-Ilan University.
- Prof. Leshem heads the SPIRAL laboratory (Signal Processing, Information networks, Radio communications and Astronomy Lab)
- Prof. Amir Leshem is the owner of Leshem Technologies, a consulting company in the fields of signal processing, wireless and wireline communications.



Dr. Itsik Bergel

- Dr. Bergel is a faculty member at the Faculty of engineering, Bar-Ilan University.
- Dr. Bergel had published tens of research papers in leading publications in the field of telecommunication.
- Dr. Itsik Bergel consults in the field of cellular communication.



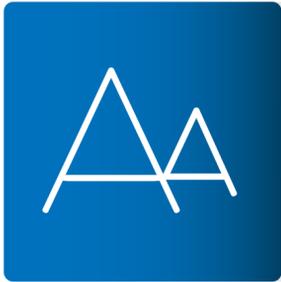
Future Research

Possible routes for further research will be examined.



The Opportunity

We are looking for investors that are willing to support the research and commercialize this novel invention.



Keywords

- DSL
- DSLAM
- Multi-carrier transmission scheme
- Signal-noise ratio
- SNR
- Digital Subscriber Line