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### Jack Goldberg | Curriculum Vitae

Mr. Goldberg has over 45 years of experience in electronic and electromechanical instrumentation research and product development, with extensive involvement in medical devices, software, audio and acoustics, signal processing, sensors and transducers, measurement, control, and RF and digital communications. Detailed knowledge also includes embedded hardware and software, biological, speech and radio frequency signal processing, vital signs measurement, infusion pumps, hearing science, and sound reproduction. He has served as an expert in intellectual property, product liability, breach of contract, and trade secret matters in cases involving medical and scientific instruments, communications systems, and a variety of other complex electronic systems. His experience includes extensive trial and deposition testimony on behalf of both plaintiffs and defendants, including at the International Trade Commission, as well as litigation support involving the Patent Trial and Appeal Board. He is a named inventor on 15 issued U.S. patents.

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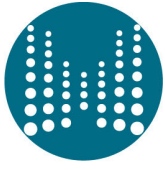
### Jack Goldberg | Expertise

- Acoustics
- Analog & Digital Circuit Design
- Analog & Digital Signal Processing
- Electromagnetics
- Electromechanical Systems
- Embedded Firmware and Software
- Fluid Flow
- Handheld and Low-Power Design
- Hearing Sciences
- Infusion Systems
- Medical Instrumentation
- Microcontroller-Based Systems
- Radio Frequency Technology
- Sensor Technologies
- Vital Signs Measurement
- Litigation Support & Expert Witness

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### Jack Goldberg | Education

<u>Year</u>	<u>College or University</u>	<u>Degree</u>
1993	California Institute of Technology	Mgmt of Technology and Innovation (certificate)
1978	Massachusetts Institute of Technology	M.S., Electrical Engineering and Computer Science
1973	Massachusetts Institute of Technology	B.S., Electrical Engineering and Computer Science



metrionix

Metrionix, Inc.  
14590 Crestline Drive  
Poway, CA 92064-6311  
Mobile: 858.735.9411  
Fax: 858.876.1899

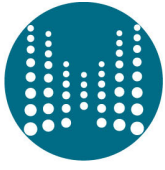
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## Jack Goldberg | Professional Experience

From: 1995  
To: Present  
Organization: Metrionix, Inc.  
Title: President & Owner  
Summary: An engineering and consulting business specializing in areas of electrotechnology and focusing on sensors, control, measurement, medical instrumentation, signal processing, RF technology, communications, audio and acoustics.

- Consulting efforts have included: research and development for various medical, scientific and audio instrument manufacturers, and expert witness work related to intellectual property, product liability, manufacturing and design defects, and breach of contract.
- R&D projects have included: analog and digital radio frequency communication devices; sound measurement and processing systems; miniature human implantable devices and associated sensing means; an optical system for analysis of biomaterials; a system for irrigation control which improves efficiency and conserves water; a solar-powered electrochemical apparatus for mosquito abatement; and acoustical apparatus to assist in the fitting of hearing aids.
- Design of analog and digital circuitry, signal processing and control algorithms, acoustical planning and analysis, testing and evaluation, embedded firmware development and software application development.
- Staff and associates have included electrical, software, mechanical, industrial and bioengineers, technicians, and assemblers. Metrionix has laboratory space for device development, analysis and testing.

From: 2005  
To: December 2012  
Organization: Hearing Enhancement Group, LLC  
Title: Chief Technical Officer / Owner  
Summary: Business involved with the development and marketing of listening devices and other products related to hearing. Technology focused in the areas of acoustics, signal processing, and control. Responsibilities included acoustical design, transducer selection, hardware and software design, intellectual property strategy, management of all aspects of product development, and technical interface with overseas factory, including manufacture of acoustic components. Developed proprietary position-sensing and automatic shutoff system.



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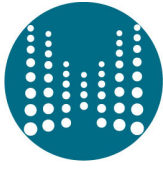
From: 1984  
To: 1995  
Organization: IVAC Corporation  
Summary: Engineering Management, Product Development Team Lead, Research and Advanced Development

1992 – 1995 Vital Signs Engineering Manager

- Directed entire staff of 24 in Business Unit of hospital equipment manufacturer. Technical and managerial contributor to three Product Development programs. Managed Operations Engineering efforts for existing line of products, with emphasis on cost and quality improvements, automation, regulatory issues, and customer complaints. Achievements included:
  - Led team tasked with Product Recall effort and associated response to FDA.
  - Formulated long-term strategy for business unit and sought both technical and marketing partnerships.
  - Created systems to streamline and better control existing business practices to ensure timely introduction of new products and responsiveness to ongoing production issues.
  - Products included infrared and conventional clinical thermometers, and blood pressure measurement systems.

1984 - 1992 Principal Engineer, Research and Advanced Development Project Leader

- Performed research and developed proprietary technology in support of fluid delivery systems product line, including flow and pressure measurement subsystems, sensors for detection of air in fluid path and novel temperature measurement technologies.
  - Conceptualized new products, recommended patent strategy, and evaluated business and technical proposals from outside organizations.
  - Led teams for review of technologies for parent corporation, Eli Lilly, including flow measurement of fluids by means of thermal markers, microwave sensing of fluid composition, catheter-based RF tissue ablation, non-invasive measurement of blood glucose and acoustical thermometry.
  - Set up microelectronics prototype lab.
  - Prepared clinical protocols and regulatory submittals. Served as technical leader in development of new clinical thermometer and devised unique calibration method.



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From: 1983  
To: 1984  
Organization: Dyn-Aura Engineering Laboratories  
Title: Chief Engineer  
Summary: 

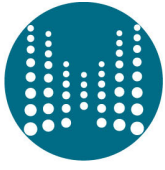
- Managed design, production, and test engineering functions for manufacturer of hearing aids, hearing test equipment and associated components.
- Designed analog circuitry and acoustic subassemblies, and improved assembly and test procedures.
- Supervised microelectronics assembly line, significantly increasing production yield.
- Implemented documentation standards and inventory control system.
- Conducted training seminars and product presentations, and contributed to company marketing plans.

From: 1979  
To: 1983  
Organization: Steinbrecher Corporation  
Title: Project Leader  
Summary: 

- Led product development teams for manufacturer of scientific instruments. Projects included a navigation system based on GPS signals, a sonar signal processing subsystem, and a moisture measurement system employing microwave technology.
- Designed control algorithms, data acquisition subsystems, and software for data analysis and information display.
- Analyzed communications systems for various military and commercial clients.
- Wrote technical operation and service manuals for products.

From: 1978  
To: 1979  
Organization: Mech-El Industries  
Title: Manager of Electrical Design  
Summary: Managed engineering group for supplier of equipment used in semiconductor manufacturing.

From: 1973  
To: 1978  
Organization: Grason-Stadler, Inc.  
Title: Staff Engineer  
Summary: Member of product development team for manufacturer of hearing test and acoustic measurement equipment.



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## Jack Goldberg | Litigation Support Experience

### Expert Engagement:

Type of Matter: *Inter partes* review, Patent Trial and Appeal Board  
Law Firm: Knobbe Martens, Irvine, CA  
Case Name: Apple, Inc v Masimo Corp.  
[IPR2022-01299, IPR2022-1300]  
Services Provided: Defense against *inter partes* reviews regarding a patent related to medical instrument design, on behalf of patent owner. Technology involves pulse oximetry and non-invasive patient monitoring.  
Disposition: Ongoing  
Date: October 2022 – present

### Expert Engagement:

Type of Matter: Patent Infringement, International Trade Commission  
Law Firm: Knobbe Martens, Irvine, CA  
Case Name: Masimo Corp. and Cercacor Labs v Apple, Inc.  
“In the Matter of Certain Light-Based Physiological Measurement Devices and Components Thereof”  
[No. 337-TA-1276, International Trade Commission  
Services Provided: Engaged as expert in patent infringement related to medical technology, on behalf of complainant and patent owner. Technology involves pulse oximetry and non-invasive patient monitoring.  
Deposed: Mar 30, 2022  
Hearing Testimony: Jun 8, 2022; Jun 10, 2022  
Disposition: Pending final judgment  
Date: November 2021 – Jun 2022

### Expert Engagement:

Type of Matter: Patent Infringement, misappropriation of trade secrets  
Law Firm: Knobbe Martens, Irvine, CA  
Case Name: Masimo Corp. and Cercacor Labs v True Wearables, Inc. and Marcelo Lamego  
[No. 8:18-CV-02001, U.S. District Court, Central District of CA, Southern Div.]  
Services Provided: Engaged as expert in patent infringement and trade secrets related to medical technology, on behalf of plaintiff and patent owner. Technology involves pulse oximetry and non-invasive patient monitoring.  
Deposed: Aug 6, 2021  
Trial Testimony: Mar 16, 2022  
Disposition: Pending final judgment  
Date: May 2021 – March 2022

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