

Richard C. Cabot PhD, PE

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Professional Profile

Four decades involvement in consumer and professional digital audio, digital signal processing, psychoacoustics, surround sound, and test and measurement. Successful independent consultant in IP evaluation and product development. Registered Professional Engineer. Rensselaer Polytechnic Institute PhD, Pepperdine University MBA. Prolific author and seasoned speaker on technical subjects in audio and instrumentation. Seasoned manager with research and development experience.

Professional Experience

XFRM, Inc. (2002 to present) President

- Manage all standards development for the Audio Engineering Society (2016 to present)
- Evaluation of client technology for potential patentability
- Patent validity assessment
- Evaluation of third party technology for potential investment
- Consulting in product definition, engineering and evaluation
- Develop new technologies, principally in audio and digital signal processing

Qualis Audio, Inc. (2008 to 2012) President

Developed, produced and marketed a product for assessing the compatibility of surround sound programs for the broadcast and motion picture industries.

Audio Precision (1984 to 2001) Principal Engineer, VP, CTO, Board Secretary

- Management authority for approximately 20 managers, engineers, writers and technicians
- Develop corporate strategic direction
- Chief architect for new products
- Design and implement digital hardware and digital signal processing (DSP) software
- Research and development of new digital signal processing technologies
- Responsible in partnership with three other founders for general corporate management
- Represent the company at technical conferences and on international standards committees

Tektronix (1978 to 1984). Design Engineer, Project Leader

Developed audio frequency test equipment, wrote and presented technical papers, lead contact on successful US Navy contract for audio measurement equipment.

Rensselaer Polytechnic Institute (1977 to 1978) Instructor

National Science Foundation (summer 1977) Principal Investigator

Developed, proposed and managed a research project "Amplified Sound as a Source of Acoustic Trauma", to study the effects of amplified music on hearing acuity.

Education

- MBA, 2001, Pepperdine University (Malibu, CA)
- Ph.D. Electrical Engineering, 1977, Rensselaer Polytechnic Institute (Troy, NY)
Thesis on Real and Phantom Image Localization in Multichannel Sound Reproduction
- Undergraduate coursework in Audiology, 1976, SUNY Albany (Albany NY)
- M.S. Mechanics, 1976, Rensselaer Polytechnic Institute (Troy, NY)
- M. Eng. Electrical Engineering, 1975, Rensselaer Polytechnic Institute (Troy, NY)
- B.S. Electrical Engineering, 1975, Rensselaer Polytechnic Institute (Troy, NY)

Skills

- IP Analysis and Evaluation
- Technology Development
- Product Definition
- Standards Development
- Technical Marketing and Communication

Areas of Technical Expertise

- Analog & Digital audio
- Analog to digital conversion (A/Ds, ADCs)
- Audio coding, MP3, AC3, Dolby Digital, AAC
- Broadcast, Consumer & Professional audio
- Digital Signal processing (DSP)
- Digital to analog conversion (D/As, DACs)
- EMI & EMC compliance design techniques
- Frequency response, distortion, noise
- Frequency synthesis, oscillators, DDS
- Instrumentation, Data Acquisition
- Loudness measurement, CALM Act, ATSC, EBU R128, BS1770
- Loudspeakers, microphones, transducers
- Multichannel audio, surround sound
- Phase locked loops, PLLs
- Psychoacoustics, perception
- Recording, mixing consoles
- Signal analysis, statistics, correlation
- Signal processing, filtering, compression
- Smart amplifiers, Class D amplifiers
- Sound localization, direction perception
- Test and Measurement (T&M)

Professional Accomplishments

- Registered Professional Engineer in Electrical Engineering in the State of Oregon.
- Fellow of the Audio Engineering Society (AES). Currently Standards Manager. Previously was President, International VP, Western Region VP, Governor, Publications Policy Committee Chair, Convention Papers Chair, Digital Audio Measurements Standards Committee Chair, Journal Review Board Member.
- Senior Member of the Institute of Electrical and Electronics Engineers (IEEE).
- Member of the Acoustical Society of America (ASA).
- Member of Sigma Xi (a scientific research honorary society)
- Member of Eta Kappa Nu (an electrical engineering honorary society).
- Principal author of AES-17 Digital Audio Measurement Standard
- Developed and Chaired the AES International Conference on Audio Test and Measurement (1992).
- Former Signal Processing Editor of Sound and Video Contractor Magazine.

Other Experience

- Member, Board of Directors, Momentum Data Systems, Fountain Valley, CA, 2002 to present
- Member, Communications Tech Advisory Committee, Amerigo Ventures, Woodland Hills, CA, 2001-2002
- Appointed by Governor Kitzhaber to the Oregon Central Business Registration Coordinating Council, advising state government on streamlining the regulation of Oregon businesses. 1996-1999

Patents, Publications, Products

22 issued US patents

More than 50 publications in various journals and conferences from AES, IEEE, ASA, SMPTE, IBC and NAB

More than 20 product designs, numerous other product consultations

References available upon request