RockIEEE Overlook

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Meetings

Magnetics Society

Thursday, October 16, 1997
Refreshments: 5:00
Program 5:30

Quantum Components
1450 Infinite Dr.
Louisville, CO

Speaker
Richard Dee
Storage Tek

"Read/Write Heads for High Density Tape Systems"

Contact Peter Hopkins @ 604-5401, 5558 (T,F), email hopkins@qntm.com for more information

Upcoming meetings

November 6, 1997
Speaker: Tom Silva, NIST
"Investigation of Magnetization Dynamics in Magnetic Multilayers Using the Second-Harmonic Magneto-Optic Kerr Effect"

December 1, 1997
Speaker: Dave Thompson, IBM
Title to be determined.

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Joint Anenna & Propagation/Microwave Theory & Technology, Geoscience & Remote Sensing Chapter

Thursday, October 23, 1997
4:00 - 5:00 p.m.
National Institute of Standards and Technology
325 Broadway, Boulder, CO Room 4020

Speaker
Christopher L. Holloway, Institute for Telecommunication Sciences
U.S. Department of Commerce, Boulder Laboratories
325 Broadway, Boulder, CO 80303

"A Simplified Model for Calculating the Decay Rate of the Impulse Response for an Indoor Propagation Channel"

In this presentation, I will introduce a simplified model for calculating both the impulse response and the delay spread for indoor propagation channels. For years, the acoustic community has been estimating the decay rates (or reverberation time) of acoustic cavities in rooms, and recently these concepts have been used to analyze electromagnetic anechoic test chambers. By extending this work, it is possible to show that the average impulse response of a room can be given by a simplistic model. Parameters in this model are functions only of the volume of the room, the surface area of the room, the amount of energy absorbed into the walls, the energy loss through doors and windows, and energy absorbed into objects within the room. Once the impulse response is obtained, the delay spread can easily be calculated. Preliminary results from this model show good correlation to both numerical and measured data. The advantage of this model is that it is based upon simple assumptions, such that the impulse response and delay spread can be calculated in a matter of seconds on a PC.

Contact Richard Geyer at 497-5852 if you have any questions.

Protecting Your Engineering Works Through Copyright Law

by Bill Vobach*

In addition to patent law and trade secret lay, copyright law can provide valuable protection for many engineering and scientific works. Therefore, as an engineer or scientist, you'll want to be able to recognize when your works fall under copyright law, the steps you can take to facilitate copyright protection, and the remedies that are available to you should someone infringe you copyrighted works.

Like many areas of the law, copyright law protects a rather nebulous category of works. It is best thought of as protecting an original expression of an idea, rather than protecting the idea itself. For example, copyright law would not protect the basic plot for a story about a scientist in search of life on other planets. Yet, when that plot is developed into a story that has characters, scenes, and vivid imagery, it has taken on enough original expression and enhancement of that plot that it is entitled to copyright protection.

In the general field of electrical engineering, computer software represents the best example of a work eligible for copyright protection. Copyright protection can exist for the source code and even the object code. Furthermore, it applies to the instruction manuals for the software as well. Because a programmer can write a program in a variety of ways, the programmer is essentially "expressing" the idea underlying the program. The underlying idea or function of the program itself would not be protected by copyright; however, the programmer's expression of the idea would be protected. Do be aware, however, that copyright protection will not exist for very short subroutines or programs that can only be expressed in a single way. Typically, however, copyright protection will exist for your longer programs. In addition to the programs themselves, copyright protection also extends to graphical user interfaces or GUIs used in computer programs.

Copyright protection also extends to technical drawings. Therefore, be aware that your circuit diagrams, whether for a semiconductor layout, a discrete circuit element layout, a printed circuit board layout, a one-line diagram for a power system, or even a house wiring schematic, may be sufficiently original expressions that the diagrams themselves are entitled to copyright protection. The more unique the expression, the more likely that copyright protection will exist. For example, a simple schematic diagram of a series connected batter, switch, and light bulb will likely be denied copyright protection, as it would lack originality. However, a detailed schematic for a television set would likely be protected from exact copying.

Finally, keep in mind that copyright protection also extends to those works that may be associated with a technical product or service. As noted earlier, the copyright laws protect instruction manuals for computer software, as these manuals express the idea of how to use the software. Similarly, standard specifications for specifying products may be protected by copyright. Furthermore, artwork associated with a product would be entitled to copyright protection.

To facilitate the protection of your copyrighted works, you can mark each work with a proper copyright notice and register the work with the Copyright Office. While marking is no longer a necessity in the United States for works produced after March 1, 1989, it does help prevent an infringer from asserting a defense of innocent infringement. In addition, it may be necessary to preserve protection in countries that do not adhere to copyright treaties with the United States. To properly give notice of your copyright claim, mark the work with the word "Copyright" followed by the name of the author and the year of publication. As an alternative to the word "copyright" you can alternatively use the symbol "©" or "copr." In addition, if the work is produced by the employee of a business, the business is considered the author. Therefore, if I were an employee of XYZ Corporation, I would mark my works as:

© XYZ Corp. 1997

If I improved the work in 1998, I would then revise the notice to read

continued on page 3

Trade Secrets

continued from page 2

©XYZ Corp. 1997, 1998. In addition to this copyright notice, it is also useful to mark with the additional phrase "All Rights Reserved."

Another useful step that can be taken is to register a copyrighted work with the United States Copyright Office. Registration is useful because it enhances the remedies that a copyright owner can obtain when infringement occurs. Namely, if registration occurs before infringement occurs, the copyright owner will be eligible for statutory damages of up to $20,000, rather than actual damages, as well as attorney's fees and a variety of other benefits.

Once infringement occurs, the copyright laws offer a powerful array of remedies for the copyright owner. One can obtain an injunction against the infringer, impoundment and destruction of all infringing works, recovery of actual damages and additional profits realized by the infringer or statutory damages, and attorneys' fees. Perhaps the most formidable of these remedies is the ability to impound and destroy equipment of the infringer used to produce the infringing copies.

As you can see, copyright law is a very potent tool that exists to protect your intellectual property. Therefore, be aware that some of your work product is entitled to copyright protection and take steps to enhance that protection by at least marking the work with a proper copyright notice and, where warranted, registering it with the Copyright Office.

*Bill Vobach is an electrical engineer and patent attorney with Santangelo Law Offices in Fort Collins, w.f.vobach@ieee.org. It is hoped that this column will raise legal issues in the mind of the reader. However, you should consult your attorney for your particular fact specific situation, as the applicable law can vary

Position: Senior Manager/Principal Engineer.

Qualifications: Must have at least a BS degree in Math, Physics, Electrical or Electronic Engineering or Computer Science or its foreign equivalent.

Duties: Manage technical organization for 16 senior radio engineers including performance appraisal and program management. Conduct strategic planning for wireless digital radio technology and its evolution in a Global System for Mobile Communications ("GSM") context. Technical design and development (using advanced software simulation tools) of modulation and coding schemes as applied to link engineering and modeling for the access systems to Personal Communications Services ("PCS") spread spectrum radio technology. Analyze design decisions and evaluate system performance measures with the use of Digital Signal Processing ("DSP") techniques. Analyze protocol architectures using simulated models. Compare, evaluate and recommend differing technical methods to enable coexistence with other technologies, especially GSM. Design and develop radio sub-system to facilitate advanced services working in both a mobility and fixed-wireless-access environment.

Area of Employment: Colorado Springs, Colorado.

Salary: $ 95,000 per year, 40 hour work week.

Contact: Send letter of interest, resume, copies of transcripts and degrees as well as letters of recommendation to Jim Shimada, Colorado Department of Labor and Employment, Tower 2, Suite 400, 1515 Arapahoe Street, Denver, CO 80202-2117: refer to Order Number CO4538409.

Dust Off Those Business Cards Networking Workshop Helps IEEE Members Plug-In

A Report from the IEEE-USA Employment Assistance Committee

The experts have been telling us for years, and our survey results have verified: networking is the most successful job search technique available. Beyond just job searching, networking skills are essential to career longevity and success.

In conjunction with the Consultants' Network, we have developed a "Networking Workshop" for use by Sections and Chapters. It's ready-to-go, easy to understand and doesn't require any special facilitator training.

Beginning with an overview of the importance of networking, the workshop leads participants through the steps of defining, developing, expanding, using and maintaining a network. Three stimulating exercises help hone networking skills and reinforce the concepts explored in the presentation. The most difficult part of the workshop is getting participants to stop!

The workshop is complete in one package with instructions to facilitators, presentation notes, background information on networking and the exercises. Copy is available on the Web at www.ieee.org/jobs or contact Bill Anderson, w.anderson@ieee.org, (202) 785-0017, x330.

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Publicity - Diane Cloud, (303) 571-7011, ta111@msp.psco.com
Publications - Pete Koloditch, (303) 843-2976, Fax (303) 843-2623, p.koloditch@ieee.org
Publisher - Anita Wanberg, Phone/Fax: (303) 220-8042, awanberg@aol.com
Black Hills Subsection - Dr. James W. Cote, Jr., (605) 394-5196, jcote@silver.sdsmt.edu
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Denver Section
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