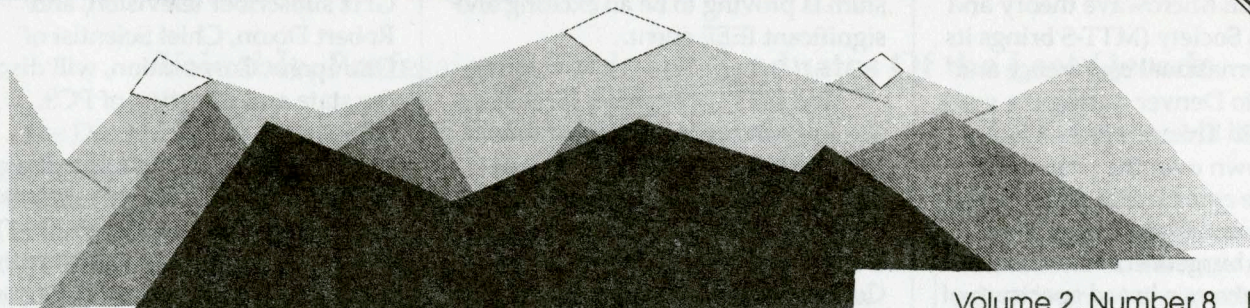


RockIEEE Overlook



Volume 2, Number 8 May 1997

Meetings

Lasers and Electro-Optics

Thursday, May 15, 1997
7:00 p.m. Refreshments
7:30 p.m. program

NIST, Room 1107
325 Broadway, Boulder, Colorado

Speaker

Gary C. Bjorklund
President-Elect
Optical Society of American and
Director, Advanced Development
Optivision, Inc.

"Optics in the Information Age"

The role of optics in the modern age of information is already of profound importance, yet the full potential of light to transport, store, and manipulate information has just begun to be tapped. In this talk, prospect for transparent "all-optical" switched communications networks, laser disk and holographic optical data storage, optical control of RF phased array antennas, and free space digital optical interconnects using smart pixels will be discussed. Several specific examples from leading industrial and academic laboratories will be presented.

Contact Andy Aust at 497-3942 or aust@boulder.nist.gov for additional information.

Joint Antenna & Propagation/Microwave Theory & Technology, Geoscience & Remote Sensing Chapter and Reliability Chapter, and Aerospace and Electronics Chapter, and Computer and Information Theory Chapter

Wednesday, May 21, 1997
Social: 6:00- 6:30 p.m.
Dinner (optional, \$16): 6:30-7:15 p.m.
Awards and Speaker: 7:15 p.m.

Radisson North Graystone Castle
83 E. 120th, Thornton
At I-25 & 120th

Speaker

Dr. Kevin Trenberth
Head of the Climate Analysis Section
National Center for Atmospheric
Research

"Evidence for Human Influence on Climate"

More than fifteen years of satellite and ground based measurement of climate yield apparently inconsistent evidence on the subject of global warming. Dr. Trenberth will speak to the subject of human impact on climate change, its causes, methods of measurement of change, and discuss NCAR's recent analysis of the appar-

ently different conclusions that are being drawn from earth and satellite measurement.

Call Marilyn Peterson at PSCO for reservations by Friday, May 16, (303) 571-7615. Please make reservations whether or not you will be attending dinner, in order that sufficient space may be reserved.

Joint Power Engineering /Industry Applications

Thursday, May 15, 1997
Refreshments: 5:30
Program 6:00

Coors Engineering Building
Maps are available from Barbara

Speaker

Tony Jefferson

"Adaptive VAR Compensation"

Call Barbara Linton at 388-6322 for more information, reservations, and maps to the facility.

RockIEEE Overlook
Official Publication of the
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P.O. Box 340, Golden, CO 80402
Published Jan. - May, Sept. - Nov.

International Microwave Symposium Comes to Denver

The IEEE Microwave theory and Techniques Society (MTT-S) brings its annual international conference and exhibition to Denver during the week of June 8-13. This conference has rapidly grown over the past several years as the commercial demand for broadband and high-frequency technology has burgeoned. The conference now covers a broad spectrum of research and engineering activities, encompassing everything from radio-frequency telecommunication to microwave subscriber television and millimeter wave collision avoidance systems. During the 1996 International Microwave Symposium (IMS) in San Francisco, about 2,500 symposium registrants and 7,500 exhibit attendees made it the largest MTT conference in history. Because the interest in high-frequency technology is increasing, and because Denver is a major telecommunication and space communication hub as well as a center of current global media attention, this year's symposium is proving to be an exciting and significant IEEE event.

The MTT society uses local steering committees to organize their annual symposia. This year more than 40 local members are working diligently as we close in on the Denver conference. The '97 Steering Committee is responsible for arranging all aspects of the technical program, convention center space and meal logistics, and social and guest activities. The 1997 IMS offers a great opportunity for local IEEE members and their organizations to make an important contribution to one of IEEE's larger technical conferences.

You will find an insert in this newsletter providing additional information on the conference. In short, the heart of the symposium is the technical session held on Tuesday through Thursday at the Colorado Convention Center during Microwave Week. Over 430 refereed technical papers will be presented during these three days, describing current advances in fundamental research and microwave technology. More than 30 students will be participating in the annual student paper competition at this time. In addition, the Symposium highlights two emerging telecommunication markets in the Tuesday Plenary Session. Bernard Bossard, CTO and co-founder of Cellular Vision USA, will discuss his company's pioneering work in 28

GHz subscriber television, and Robert Dixon, Chief Scientist of Omnipoint Corporation, will discuss the state and direction of PCS.

Professional development workshops take place prior to and following the main technical sessions. The IMS starts on Sunday, June 8 with three full day tutorial workshops on wireless technology and measurements and multipoint distribution television (LMDS and MMDS). Workshops continue on Monday and Friday with 19 additional full-day and half-day workshops covering technical and business issues in expanded forums.

As you will see in our insert and on our Web site (<http://www.boulder.nist.gov/ims>), Microwave Week offers many more opportunities. These include panel discussions over lunch, a major exhibit with over 500 booths, an interesting historical exhibit displaying the original 60 GHz equipment used by Sir J.C. Bose over a century ago, excellent social events, and several guest program events to showcase Denver and the Rocky Mountains.

Two one-day conferences are also held during Microwave Week in association with the International Microwave Symposium. On Monday June 9, the RFIC Symposium will focus on highly integrated RF circuits and systems for commercial and military applications, and on Friday June 13, the ARFTG Conference will host a number of technical presentations on broadband television networks.

With all these excellent activities and the attention they will bring, hosting this major conference in Denver is something all local IEEE members can be proud of. Please share our Web page and the insert with all your colleagues who may benefit from this exceptional opportunity in Denver.

"There's GOLD in Denver!"

by Clifton J. Alston, Vice Chair, Member Services

Valuable, Professional Tools for Graduates Of the Last Decade.

The Denver Section is establishing a Graduates Of the Last Decade (GOLD) program to better support all IEEE members in our section. The program's purpose is to represent the interests of the beginning engineer/scientist by promoting services and activities directed toward the needs of young professionals, students poised to graduate as well as the recent graduates.

The IEEE has noted that many student branch member graduates allow their membership to lapse after graduation. A relevant quote describes IEEE's approach to this challenge:

"The GOLD program has been established to provide the framework and tools for the Sections' use in retaining this valuable group of members. By identifying those who make up this affinity group, determining their needs and expectations, and ACTING to meet those needs

and expectations, the goal of GOLD is to add such value to the IEEE membership that the recent graduate finds it to be an indispensable tool."

Consider some of the technical opportunities on the horizon in the Denver area:

- Radio Frequency Integrated Circuits Symposium, 1997 IEEE.
- International Microwave Symposium, 1997 IEEE/MTTT-S.
- Nuclear & Space Radiation Effects Conference, 1997 IEEE.

These activities, organized to present the distinguished work of technical professionals, can become unique opportunities to select one's initial career path. Other programs exist which closely share GOLD's theme. The recently held 2nd Young Engineers Forum provided a forum "geared toward the engineer with 0-10 years of experience." Its topics ranged from opportunities in emerging technologies to the MBA option

to a Q & A session via live satellite broadcast.

These topics of interest as well as future local conferences need added advertisement designed to reach the young engineers and scientists among us. Our section is attempting to satisfy this need through the executive committee until a Denver Section GOLD committee is established. Member Services shall provide the program resources while this committee comes to life. To this end, our first step is to select a volunteer to chair this new committee and lead our efforts in this service to our members. If you would like to volunteer your time and effort to building our GOLD program in Denver, please contact our Membership Chair, Fareed Hasan, at (303) 843-2347.

Become the First GOLD Program Leader in Denver!

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POLYCOM brings to its new Denver office over a decade of experience serving its San Diego clientele in the **Communications & Video** industries:

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Fisk Communications, Inc.	Horizons Technologies, Inc.
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Voice (303) 697-1577, Fax (303) 697-4050	Voice (619) 452-1700, Fax (619) 452-1219

Second Annual Wireless Communications Conference

The Regal Harvest House, Boulder, Colorado

August 11-13, 1997

The success of last year's Wireless Communications Conference demonstrated the appeal of a symposium focused on technological advances in the commercial wireless industry. The WCC will be back in 1997, once again offering a broad and integrated perspective in a single track, providing an exposure to the big picture as well as the critical details. Accompanying the technical sessions will be a half-day Workshop on "Simulation Methods for Wireless Subsystems," an evening Panel Session on "Identifying the Needs of the Wireless Customer," and a product Exhibition. The program breadth is consistent with the wide interests of its co-sponsors:

* IEEE Microwave Theory and Techniques Society (MTT-S); *IEEE Communications Society; *International Microelectronics and Packaging Society (IMAPS); *National Institute of Standards and Technology (NIST); *Institute for Telecommunications Sciences (ITS).

Technical presentation will cover these wireless technologies:

***Systems: PCS, cellular, paging, wireless LANs, LMDS, etc; *Active Components; *Passive Components; *Packaging; *Antennas, propagation, compatibility, and interference; *Measurements.**

For Conference information, or to arrange an exhibit, check the Web site at <http://www.boulder.nist.gov/wcc> or contact the General Chair: Dr. Roger B. Marks, National Institute of Standards and Technology, phone: (303) 497-3037, fax: (303) 497-7828 or email: r.b.marks@ieee.org.

Patent Perspectives

by Bill Vobach*

One common pitfall faced by first-time inventors is the inadvertent loss of foreign patent rights due to publication or public use of their invention before they file a patent application. First, understand that a U.S. patent is essentially limited in its territorial scope to the United States. To prevent others from making and using your invention in Germany, for example, you would want to obtain a German patent. Therefore, it is important to be aware of the strict rules of foreign patent law as well as U.S. patent law in order to protect your inventions.

In a large number of foreign countries, one such rule is that you may not publicly disclose your invention prior to filing a patent application. For example, displaying

and selling your invention at a trade show will often be deemed a public disclosure. In addition, publishing an article in a scientific journal likely will be deemed a public disclosure. Even showing the invention to a limited audience (e.g., a sales presentation) might be deemed a public disclosure. Therefore, it is important to shore up your foreign rights by either: 1) keeping the invention secret and exploiting it as a trade secret; or 2) filing a patent application before making any disclosure.

In regard to U.S. patents, a much different rule controls. You will typically have an entire year from when the invention is first commercially exploited (e.g., by it being offered for sale) or from when it is publicly disclosed (e.g., by you or someone else

publishing it in an article) before you must file a U.S. patent application. Therefore, you have time in which you may gauge the commercial success of the invention before deciding to pursue a patent. Of course, you may always file your application in the U.S. before making any disclosure.

In addition, if you do file a U.S. application before any public disclosure or commercial exploitation of the invention, you can often rely on that U.S. application date to file for foreign patents approximately one year later. This is because of a patent treaty among the U.S. and most of the economic powers of the world. You will be limited, however, to countries that participate in the treaty. Any country not participating in the treaty will likely require that you file your application in that country before any public use.

If you feel that you must disclose your invention to a limited audience, one stop-gap measure that you should try to employ is a confidentiality and non-disclosure agreement. Basically, this agreement requires that the party to whom you are disclosing your invention will keep it confidential. While this is not a cure-all, it can be useful in preserving some of your rights.

If you do face such a situation, be cautious. Unfortunately, law is not nearly as rational as engineering. So, it is a good idea to consult your patent attorney before making any disclosure.

* Bill Vobach is an electrical engineer and patent attorney with Santangelo Law Offices in Fort Collins. The opinions expressed in this column are those of the author and should not be attributed to Santangelo Law Offices. This column is not intended as legal advice but rather is intended to merely bring issues to the attention of the reader. Therefore, the reader should seek council from his/her attorney in order to address a specific factual situation.

Newsletter Deadlines and Advertising Information

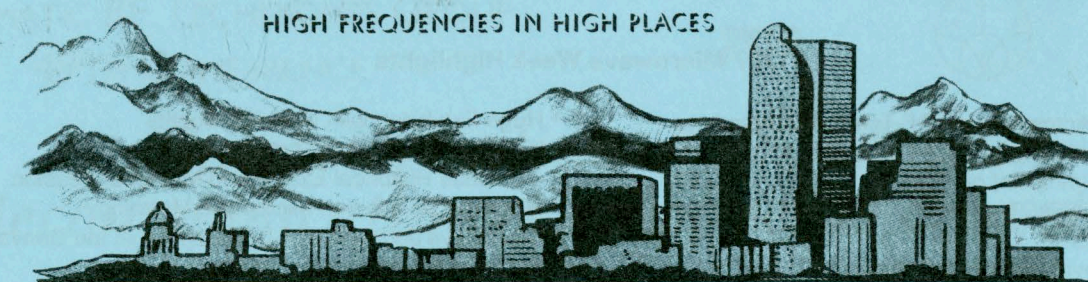
Deadlines for the RockIEEE Overlook are as follows.

Newsletter	Deadline
June 1997	No Issue
July 1997	No Issue
August 1997	No Issue
September 1997	July 25, 1997
October 1997	August 29, 1997
November 1997	September 26, 1997
December 1997	No Issue
January 1998	November 28, 1997
February 1998	December 26, 1997

Send ads to Anita Wanberg, P.O. Box 4056, Englewood, CO 80155-4056 or call (303) 220-8042. Make checks payable to IEEE Denver Section.

Artwork should be submitted in camera-ready form (PMT). Please accompany all artwork with a check and a letter stating the number of times and dates the ad should be run. Ads should fit **within** the dimensions listed below.

Description	Dimensions	Single Rate	Multiple
Business Card	2.5" w x 1.5" h	\$ 25.00/mo.	\$ 20.00/mo.
1/8 page	3.5" w x 2" h	60.00/mo.	50.00/mo.
1/4 page	3.5" w x 4.5" h	150.00/mo.	130.00/mo.
1/2 page	7.5" w x 4.5" h	250.00/mo.	225.00/mo.
Full page	7.5" w x 9.5" h	400.00/mo.	360.00/mo.
Inserts	8-1/2" w x 11" h	250.00/pg.	200.00/pg.



1997 IEEE MTT-S INTERNATIONAL MICROWAVE SYMPOSIUM
DENVER, COLORADO JUNE 8-13, 1997



Microwave Week comes to Denver!

1997 marks the historic return of the IEEE MTT-S International Microwave Symposium (IMS) to Colorado. As a major telecommunications hub of the wireless, cable TV, and spaceborne TV industries, Denver is a great reflection of the new, commercial face of the RF/microwave industry. A comprehensive program including hundreds of technical presentations and dozens of workshops, as well as the largest exhibition in the industry, will review the latest advances in RF and microwave technology, with particular emphasis on wireless communications. Ten thousand registrants attended last year's symposium! It all comes together the week of 8-13 June at the Colorado Convention Center. So, come join us at the world's foremost microwave technical conference and exhibition!

Technical Workshops

The 1997 IMS provides an exciting and timely workshop program to augment the continuing education of engineering professionals. These workshops offer the opportunity to interact with specialists during extended full-day and half-day sessions, as well as over lunch and during refreshment breaks. This year, you can choose from among 24 workshops that range in format from tutorials on emerging technology to working forums where experienced professionals examine critical issues within their fields. In addition to hot technical areas such as point-to-point television distribution and personal communication technology, this year we introduce workshops to cover business issues and teach timely workplace skills. You will find new workshops on FCC procedures, emerging business issues in the rapidly changing microwave industry, and training for World Wide Web site development. See the back side for more details.

Plenary Session

The 1997 IMS Plenary Session highlights two telecommunications infrastructures that will revolutionize the microwave/RF industry. Mr. Bernard Bossard, Chief Technical Officer and cofounder of CellularVision U.S.A. in New York City, is the inventor of the local multipoint distribution system (LMDS), a 28 GHz multi-channel broadband wireless cellular television service. He will address the opportunities open to this technology, which many expect to evolve into a primary means of high-speed data, voice, and video into and out of the home. Pioneering a spread spectrum personal communications system (PCS) in the same city is Omnipoint Corp., whose Chief Scientist, Mr. Robert Dixon, will also address the Plenary Session. Mr. Dixon, author of the key text on spread spectrum technology and a well-known lecturer, will discuss the impediments to real technological innovation in PCS in a talk posing the question, "Will the Real PCS Please Stand Up?" The IMS Plenary Session, on Tuesday morning, June 10, is a rare look into your microwave future.

Panel and Rump Sessions

The 1997 Symposium features six lunchtime (12:00-1:15 PM) panel sessions throughout the week. These sessions are intended to foster lively interactive discussions of exciting and timely topics such as power amplifiers, multi-mode personal networks, IC reliability needs, packaging techniques, and RF identification tags and data cards. A Tuesday evening Rump Session on "HF and UHF Designs and Applications" will appeal widely to RF engineers. Participation in the panel and rump sessions requires separate registration. Detailed descriptions are posted on the web site.

Exhibition

The IMS Exhibition gives you the opportunity to visit displays from over 300 companies showing the latest products and services available to the microwave and RF industry. The show annually draws approximately 10,000 microwave engineers involved in the design of systems, subsystems, components, and devices. A Microwave Historical Exhibit and University Exhibits will also enliven the hall. For details on reserving exhibit space, contact Harlan Howe, Jr., of Horizon House Publications, at (617)769-9750.

μAPS

The IMS Microwave Application & Product Seminars (μAPS) provide technical information related to commercially available products of interest to the microwave engineering community, including design, manufacturing, marketing, and management professionals. These presentations provide attendees with another means to learn more about new products and techniques that can immediately benefit their work. μAPS gives practitioners direct access to practical technical information by those who know the equipment and techniques best. All μAPS sessions are conducted on the trade show floor adjacent to the exhibits. The seminars are open to all Microwave Week registrants at no extra charge. See the agenda on our web site.

RFIC Symposium

The RFIC Symposium will focus on highly integrated RF ICs and subsystems. Papers will describe original work on analog, mixed-signal, and mixed-mode ICs and subsystems. Commercial and military applications will include wireless communications, broadband communications, analog and digital mobile communications, intelligent transportation systems, broadband access modems, and radar systems.

Additional Information

For more details, see our Web Site at <http://www.boulder.nist.gov/ims>, or contact Michael Janezic at (303)497-3656 or janezic@nist.gov.

1997 Microwave Week Highlights

- Plenary Session: Microwave and RF Telecommunications
 - Bernard Bossard of Cellular Vision on LMDS
 - Robert Dixon of Omnipoint on PCS
- 432 Refereed Technical Papers
- 5 Focused Sessions
- 24 Professional Development Workshops
- 7 Panel & Rump Sessions
- New RFIC Symposium
- ARFTG Conference on Broadband Telecommunications
- Huge Exhibition with over 500 Booths
- 37 μ APS Application Seminars
- J.C. Bose Historical Exhibit and Memorial Session
- Historical Session on Microwave Metrology
- *Microwave Journal* /MTT-S Reception at the Denver Museum of Natural History
- Breakfasts for MTT-S Members on Tuesday and Wednesday
- 5 Guest Programs: Explore Colorado!

1997 IEEE MTT-S IMS • MICROWAVE WEEK • AT A GLANCE!				
	Morning	Lunchtime	Afternoon	Evening
Sun 6/8	Full-day Workshops			RFIC Reception
Mon 6/9	Full-day Workshops & RFIC Symposium			Microwave Journal
	Half-day Workshops	RFIC Panel	Half-day Workshops	MTT-S Reception
Tue 6/10	IMS and RFIC Technical Sessions & Exhibition			IMS Rump Session
	IMS Plenary Session	IMS Panel & μ APS	μ APS	
Wed 6/11	IMS Technical Sessions, Exhibition & μ APS			Industry-hosted Reception Awards Banquet
		IMS Panel	IMS Interactive Forum	
Thu 6/12	IMS Technical Sessions, Exhibition & μ APS			
		IMS Panel	IMS Interactive Forum	
Fri 6/13	Full-day Workshops, ARFTG Conference & ARFTG Exhibition			
	Half-day Workshops		Half-day Workshops	

Workshops

	8 AM	12 PM	1 PM	5 PM
Sunday June 8	WSA	The Emergence of Multipoint Distribution Systems (MMDS, LMDS)		
	WSB	Low Voltage, Low Power Consumption RFICs for Wireless Communication Products		
	WSC	Measurements for Silicon and GaAs Telecommunication ICs		
Monday June 9	WMA	State-of-the-Art Filter Design Using EM and Circuit Simulation Techniques		
	WMB	Microwave and Millimeter Wave Optoelectronic Integrated Circuit Modules: Manufacturing and Applications		
	WMC	Nonlinear Measurements and Modeling		
	WMD	Cryogenic Packaging of Electronic Subsystems and Their Applications		
	WME	System Requirements for Ferrite Components	WMI	Ferrite Devices and Measurements
	WMF	Next Generation Mixed Signal Testing	WMJ	EM Waves in Artificial Structures (PBG's)
	WMG	Millimeter Wave Opportunities for Automotive and Radio Applications	WMK	Digital Frequency Synthesizer: Technology and Application
	WMH	Emerging Business Issues in Microwave Technology	WML	Telecommunications and Spectrum Policy for the Microwave Engineer
	WFA	Low-Cost Millimeter Wave Products: Design and Manufacturing Issues		
Friday June 13	WFB	Power Amplifier Design for Digital Wireless Systems		
	WFC	Interconnects and Packaging for RF Wireless Communications Systems		
	WFD	Nonlinear Frequency-Domain Device Modelling and Circuit Simulation	WFG	Optical Amplifiers in Microwave Systems
	WFE	Applications of Artificial Neural Networks to Microwave Design	WFH	Epitaxial Materials Manufacturing for HEMTs and HBTs
	WFF	Quasi-Optical Power Combining	WFI	World Wide Web Site Basics

Advanced fees are \$80 for Full-Day and \$50 for Half-Day. Prices include meals, breaks, and a bound set of notes.

For full details, visit us at <http://www.boulder.nist.gov/ims>

AUTOMATIC RF TECHNIQUES GROUP 49TH CONFERENCE



Characterization of Broadband Telecommunications Components & Systems

In conjunction with the 1997 IEEE MTT-S International Microwave Symposium (IMS), the Automatic RF Techniques Group will hold its 49th Conference at the landmark **Brown Palace Hotel in Denver, Colorado on Friday June 13, 1997**. ARFTG has a tradition of the best in RF technology, with a focus on measurements. For twenty-five years, RF has been our middle name!

With all of the major telecommunications players rushing to establish high-bandwidth, two-way digital networks to homes and businesses, broadband telecommunications is becoming one of the hottest areas for microwave and RF technology. Whether based on wireless or coaxial transmission, these systems demand RF components and subsystems of exceedingly high performance. The 49th ARFTG Conference will spotlight these technologies, with particular attention on cable television and the new 28 GHz local multipoint distribution systems (LMDS). Parallel to the single-track Technical Session, an accompanying exhibition features the latest in instrumentation (please contact the Chair for information on exhibiting).

The conference includes breakfast, lunch, coffee breaks, a complete printed digest, and plenty of opportunity for networking of the more human variety. Register using the Microwave Week Registration Form. Check the Web site for the form and full details, or contact the Conference Chair:

Dr. Roger B. Marks, NIST, Boulder, CO
1-303-497-3037 (tel)
1-303-497-7828 (fax)
r.b.marks@ieee.org

49TH ARFTG CONFERENCE FRIDAY, JUNE 13, 1997 BROWN PALACE HOTEL, DENVER, COLORADO

7:30 AM - 4:00 PM	Registration	Ballroom Foyer
7:30 AM - 4:00 PM	Exhibition & Poster Papers	Ballroom A
7:30 AM - 8:30 AM	Continental Breakfast	Ballroom A
8:30 AM - 10:00 AM	Technical Session A	Ballroom B
10:00 AM - 10:30 AM	Refreshment Break	Ballroom A
10:30 AM - 12:00 NOON	Technical Session B	Ballroom B
12:00 NOON-1:00 PM	Lunch	Central City Room
1:30 PM - 2:30 PM	Technical Session C	Ballroom B
2:30 PM - 3:00 PM	Refreshment Break	Ballroom A
3:00 AM - 5:00 PM	Technical Session D	Ballroom B

Session A: CATV 1 (8:30-10:30 AM)

- RF Measurements for Broadband Networks (Keynote Address), Syd Fluck (Hewlett-Packard Co., Santa Rosa, CA)
- Proofing and Maintaining Upstream Cable Plant with Digital Signal Analysis Techniques, Tom Williams (Holtzman Engineering, Longmont, CO)
- Procedure for Measurement and Characterization of Upstream Channel Noise in CATV Networks, K. Haelvoet, D. De Bal, K. De Kesel, B. Vanlandschoot, & L. Martens (University of Ghent, Belgium)
- Performance of QAM on a Hybrid Fiber-Coax CATV System, C. Bianchi (Sanders Associates), G. Lentz (Lucent Technologies), & R. Welter (CableVision NY)

Session B: CATV 2 (10:30 AM - NOON)

- CATV Tap and Splitter Linearity Improvement for Broadband Information Networks, M.W. Goodwin (Lucent Technologies, N. Andover, MA)
- Characterization of Cable Amplifiers for Broadband Network Applications, J. Steel, A. Parker, & D. Skellern (Macquarie University, Australia)
- Optimal Control of Intermodulation Distortion in Hybrid Fiber Coaxial CATV Systems, Gary D. Alley & Yen Long Kuo (Lucent Technologies, N. Andover, MA)
- CATV topic to be announced

Session C: LMDS & MMDS (1:00-2:30 PM)

- LMDS System Design and Performance, Bill McKissick (CellularVision USA, New York, NY)
- 28 GHz LMDS System Deployment Considerations, Mohammad S. Shakouri (Hewlett-Packard, Cupertino, CA)
- 64 QAM MMDS with Digital Video Compression, Martin Frankel (Decathlon Communications, Inc., Englewood, CO)
- Conversion Gain Measurement of an LMDS Transmitter, L.R. Hoover & K. W. Burkhart (Texas Inst., Dallas, TX)

Session D: Component Characterization (3:00-5:00 PM)

- Characterization of Miniature Millimeter-Wave Vivaldi Antenna for LMDS, R.N. Simons (NASA, Cleveland, OH)
- Low Phase Noise Gunn Diode MIC VCOs for Application in Digital Radios, E.M. Godshalk (Redpoint Microwave, Newburg, OR) & V.K. Tripathi (Oregon State University, Corvallis, OR)
- Characterizing Components under Large Signal Excitation: Defining Sensible "Large Signal S Parameters" J. Verspecht, M. Vanden Bossche, & F. Verbeyst (HP, Brussels, Belgium)
- Transition Analyzer-Based Harmonic and Waveform Load Pull Measurements, J.W. Bao, M. Shirokov, C.J. Wei, & J.C.M. Hwang (Lehigh University, Bethlehem, PA)
- Automated Measurement Procedures of Three-Port and Four-Port Devices on Silicon Wafers, F. R  rat, J.-L. Carbon  ro, G. Morin, & B. Cabon (SGS Thompson, Crolles, France)
- Performance Optimization of Ka-Band MMIC Power Amplifier Using On-Wafer Pulsed Power Test, D. Yang, J. Yang, P. Nussenbaumer, & M. Biedenbender (TRW, Redondo Beach, CA)

<http://www.boulder.nist.gov/ims/arftg>

Advance Conference Registration

1997 IEEE MTT-S MICROWAVE WEEK EVENTS

June 8-13, 1997 ♦ Denver, CO ♦ IMS ♦ RFIC ♦ ARFTG

Each Conference Attendee must submit a separate registration form. A copy of this form may be used.
The deadline for advanced registration is May 12, 1997. Afterwards, on-site fees apply.
On-site fees will be approximately 30% higher.

NAME _____
Last First

AFFILIATION _____
Company, Etc. Mail Stop

ADDRESS _____
Street

City State Postal Code Country

e-mail Address _____

US/CANADA TEL. _____ INT'L TEL. _____

IEEE MEMBER ☐ Yes ☐ No ☐ IEEE Membership No. * _____ MTT-S MEMBER ☐ Yes ☐ No
*Must be given to qualify for member discount

GU Name of Guest _____

To register, check ☒ the appropriate boxes and enter corresponding fees in the Remittance column.

♦ **INT. MICROWAVE SYMPOSIUM** Tue., Wed. & Thur.

IM	All IMS Sessions (Includes IMS Digest)	<input type="checkbox"/> \$235	<input type="checkbox"/> \$325	\$ _____
IMS	Single-Day Registration (No Digest)	<input type="checkbox"/> \$105	<input type="checkbox"/> \$150	\$ _____
IMR	Qualifying Student, Retiree, Life Member (No Digest)	<input type="checkbox"/> \$ 40	<input type="checkbox"/> \$ 45	\$ _____
RF	♦ RFIC SYMPOSIUM Sunday, Monday & Tuesday (Includes RFIC Reception and Digest.)	<input type="checkbox"/> \$ 85	<input type="checkbox"/> \$110	\$ _____
ARM	♦ ARFTG-AUTOMATIC RF TECHNIQUES CONFERENCE Fri. (Includes breakfast, lunch, ARFTG Digest and ARFTG Exhibition.)			
ARN	ARFTG Member	<input type="checkbox"/> \$130		\$ _____
ARS	ARFTG Non-member	<input type="checkbox"/> \$155		\$ _____
	Qualifying Student, Retiree	<input type="checkbox"/> \$ 65		\$ _____
DI	♦ ADDITIONAL DIGESTS			
DC	IMS Digest Qty. ____ @	<input type="checkbox"/> \$75	<input type="checkbox"/> \$90	\$ _____
DR	IMS CD ROM Qty. ____ @	<input type="checkbox"/> \$40	<input type="checkbox"/> \$50	\$ _____
DA	RFIC Digest Qty. ____ @	<input type="checkbox"/> \$35	<input type="checkbox"/> \$50	\$ _____
DN	ARFTG Digest (ARFTG member) Qty. ____ @	<input type="checkbox"/> \$20		\$ _____
	(non-member) Qty. ____ @	<input type="checkbox"/> \$45		\$ _____

♦ **PANEL SESSIONS** (Includes box lunch.)

PA: Portable Power Amplifiers	<input type="checkbox"/> \$15	\$ _____
PB: Wireless Personal Networks	<input type="checkbox"/> \$15	\$ _____
PC: Commercial Application IC Reliability Needs	<input type="checkbox"/> \$15	\$ _____
PD: Packaging for Optical/Microwave Modules	<input type="checkbox"/> \$15	\$ _____
PE: Low Cost Packaging	<input type="checkbox"/> \$15	\$ _____
PF: RF Identification Tags and Data Cards	<input type="checkbox"/> \$15	\$ _____

♦ **RUMP SESSION** (Inc. beverages and hors d'oeuvres. Tuesday 7-9 pm)

RA: HF to UHF Design and Applications	<input type="checkbox"/> \$30	\$ _____
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IEEE to Network the World With New Slogan

PISCATAWAY, N.J., 15 Jan. -- The Institute of Electrical and Electronics Engineers, Inc. (IEEE) is introducing a slogan to help provide a stronger identity for the Institute among its members and customers. "IEEE: Networking the World (SM)" will soon begin appearing on many communications from the Institute. The slogan was approved by the IEEE Board of Directors in December.

The new slogan underscores the ability of the Institute's members to share technical and professional information by virtue of their bond as colleagues in the world's largest technical professional society. This bond includes activities such as developing standards, taking advantage of opportunities for career enhancement, and building professional and personal relationships with others in their chosen field.

"Networking the World" captures the essence of the IEEE," said 1997 President Charles Alexander. "With more than 300,000 members in 150 countries, the Institute has become a vast global network of people, conferences and technical meetings, print and electronic publications, standards, and many other activities that enable members to work even more effectively in an increasingly borderless engineering community.

"Through this network," he continued, "engineers worldwide can easily exchange technical information, develop professional interests and expand skills to help ensure themselves a long and vital engineering career."

The IEEE Corporate communications and Creative Services departments will soon release guidelines on

the proper use of the slogan for presentations, publications, Internet pages, letterhead and other materials. The guidelines will be distributed to key entities and volunteers, as well as to staff. The use of "IEEE: Networking The World" will be encouraged wherever appropriate and as quickly as economically feasible within the corporate IEEE infrastructure. Plans call for its inclusion on the IEEE Web site, in IEEE Spectrum, The Institute, Staff Circuit and other publications, on corporate letterhead and envelopes as well as the postage indicia, among other places.

For additional information contact Terry Burns, IEEE Marketing, (908) 562-5520 and Helen Horwitz, IEEE Corporate Communications, (908) 562-6821.



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