

### Mission and Audience

*MicroConnections* is the international journal of leading-edge interconnection technology. The journal addresses the growing demand for performance, density and reliability not found in standard industry offerings. The focus of coverage is on new and rapidly evolving connectors for applications in communications, personal electronics, integrated circuit testing, MEMS, nano-technology and solar direct conversion. *MicroConnections* is published six times a year, with distribution in both print and digital forms. Substantial coverage is devoted to probing, sockets and test. [www.microconnections.net](http://www.microconnections.net)

### Frequency and Distribution

*MicroConnections* is printed 6x/year and mailed to 5,000 subscribers in the United States. Print subscriptions are free to qualified buyers and specifiers in the U.S. and \$25/year outside the U.S. A digital edition, which duplicates the print edition exactly, is posted at [www.microconnections.net](http://www.microconnections.net) and provides free access internationally. About 6,000 digital subscribers receive a link to each issue as soon as the new issue is posted. Bonus distribution is provided at key industry events including ECTC, the International Test Conference, MEPTEC, SEMICON West and SMTA International.

### Editorial Calendar 2010

Issue Date	Feature Topics	Ad Deadline	Extra Distribution
Jan.-Feb.	Wafer Probers/Probe Cards	Feb. 10	To be announced
March-Apr.	Test & Burn-in Sockets	Apr. 14	MEPTEC
May-June	MEMS	May 20	ECTC, June 1-4
July-August	SEMICON West, Medical Connectors	July 2	SEMICON West, July 13-15
Sep.-Oct.	Socket Update	Sep. 8	SMTAI, and Int'l Test Conf.
Nov.-Dec.	Looking ahead	Nov. 24	To be announced

(Note: While we will make every attempt to distribute at the conferences indicated, we are unable to guarantee that due to production logistics.)

### Ron Iscoff, Editor & Publisher

Ron was the founding editor of *Chip Scale Review*, formerly the leading publication for the semiconductor packaging community. He served in that post and as associate publisher until August 2008. Earlier, he was west coast editor of *Semiconductor International* and western editor for *Electronic Packaging & Production*. In addition, he was ear-



lier a bureau reporter for *Electronic News*. Ron has also been a contributing editor to *Lasers & Optronics*, *INFOSYSTEMS* and the *CAE Alert* newsletter. He was on the advisory board of *Who's Who in the Semiconductor Industry*. He is a graduate of California State University, Long Beach.

### Editorial Advisory Board

**Dr. Eric Bogatin** is a signal integrity evangelist, a physics professor, an astrophotographer and a much in-demand consultant.

**Dr. Tom Di Stefano** was the co-founder of Tessera. He is now president and CEO of Centipede Systems, a diversified producer of tools for micro-electronics interconnection in San Jose.

**Dr. Subash Khadpe** is the semiconductor industry's unofficial packaging historian. He was formerly a member of the technical staff at AT&T Bell Labs and earned his MSEE and doctorate at Drexel University.

**Nick Langston** has more than three decades' experience in the burn-in and test-socket industry.

**Dr. Guna Selvaduray** is a professor of materials engineering at San Jose State University and associate dean for research in SJSU's college of engineering.

## Ad Sizes and Specifications

**MicroConnections** is printed using a four-color, offset process with self-cover on high-quality, glossy #3 paper stock, either 60# or 70#, depending on the number of pages in the issue. Three holes are drilled on the left side so that issues may be retained in a binder for easy, long-term reference.

The trim size is 8.5 x 11 inches, standard U.S. letter size. Ads should be furnished as either hi-resolution .eps or .tif files at a minimum 280 dpi. Hi-res .pdf files may be furnished, but their accuracy in print is not guaranteed and publisher will not be held liable.

Full page  $7\frac{1}{8} \times 10"$  (198 x 254mm)  
 Full page bleed  $8\frac{5}{8} \times 11\frac{1}{4}"$  (218 x 285mm)  
 1/2-page vert.  $3\frac{3}{8} \times 9\frac{5}{8}"$  (86 x 244mm)  
 1/2-page hor.  $7\frac{1}{2} \times 4\frac{3}{4}"$  (190 x 120mm)  
 1/2-page island  $4\frac{1}{4} \times 7\frac{1}{4}"$  (108 x 178mm)  
 1/3-page vertical:  $3\frac{1}{4} \times 6\frac{1}{2}"$  (82 x 165mm)  
 1/4-page vert.  $3\frac{1}{2} \times 4\frac{3}{4}"$  (89 x 120mm)  
 Business Card  $2 \times 3\frac{1}{2}"$  (50 x 89mm)

*Note: For full-page bleeds, keep live area at least 1/2 inch from all margins.. Ads will be three-hole punched on the gutter side.*

## Ad Frequencies and Prices (Jan. 1-June 1, 2010)

(Prices are subject to change without notice except for contract holders.)

Size	1-2x	3-6x
2-Page Spread	\$1750	\$1650
Page	1095	1025
1/2 Island	800	750
1/2 H or V	725	700
1/3 V	645	600
1/4 V	545	500
Business Card	225	200
Back Cover 1/2h* 2010	875	(2 minimum)

Full page back cover is \$1295 and is available only for the July-August SEMICON West issue on a non-cancelable basis.

## Submitting Articles and News

*MicroConnections* welcomes your contributions of articles and news that relate to the interconnection technologies of ICs, MEMS, nanodevices and solar devices (photovoltaics). Before preparing an article for us, please query the editor at [roniscoff@gmail.com](mailto:roniscoff@gmail.com) with a 100-word abstract. You may also submit product and personnel releases to the same e-mail address.

### The Small Print

Payments for advertising space are due by the 35th day after invoice, which is sent upon posting of the digital edition. Advertisers and their agencies may be held jointly responsible for payment. Payments not received by the deadline may incur interest charges at the rate then currently authorized by California law. In the event an ad, through our error, is not placed as specified, advertiser's sole remedy shall be to receive a free makegood. Ad placements, except for business card-sized ads, are fully commissionable at 15 percent of the gross rate to accredited advertising agencies. Publisher assumes no liability for any ad production errors if hard copy proof has not been furnished. Showlines will not be subset by *MicroConnections*. They must be included in the ad by advertiser. Advertisers and/or their agencies that are more than 60 days in arrears will be placed on a cash basis for future advertising. Agencies that have not paid their client's account within 40 days will not receive commission on that placement and may be denied credit in the future. Publisher reserves the right to reject any ad or advertiser.

### Reprints

Article and ad reprints from current and past issues of *MicroConnections* are available in quantities from 500-50,000. Digital e-prints are also available. Please contact the publisher for cost.

### Advertising Materials

Please e-mail all materials to [roniscoff@gmail.com](mailto:roniscoff@gmail.com). Contact us for ftp access. *It is essential that you designate your ad file name with the month of publication, i.e., abcinc\_mc\_apr-may\_2009.* Publisher assumes no liability if ad file name does not contain issue date.

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[www.microconnections.net](http://www.microconnections.net)

SOCKETS & TEST-IN-TRAY USER GROUP

### Test and burn-in costs are now the limiting factor for many devices

LOS GATOS, Calif.—Test and burn-in are the limiting factors in the cost reduction of ICs for many device types," declared Dr. W. R. "Bill" Bottoms, keynote speaker at the TnT User Group in October.

"Soon," he added, "this might become the limiting factor for all devices types and we are approaching that today."

The motivation to employ test-in-tray, he said, "is to allow us to do what we have to do, but it will enable us to do it at a lower cost."

**FOUR DECADES OF DENSITY IMPROVEMENT**  
 Dr. Bottoms noted that over the four decades from 1967, when CMOS began, until 2007, there was a 1 million X improvement in the density of ICs. "We saw a million times improvement in the cost to build an IC and a million times improvement in the feature size," he observed.

"It goes without saying," he added, "but there has been no activity in the history of mankind that has ever achieved that kind of progress in a 40-year period." Further improvements in semiconductor technology over the next four decades will make the world a "very different place," he said. > p. 4



Dr. Bill Bottoms speaking at the TnT User Group.

P. 1—User Group News  
 P. 1—Socket Update, Ron Iscoff  
 P. 4—TnT User Group Report  
 P. 10—On the Road, Martin Hart

P. 14—Directory of International Socket Suppliers  
 P. 20—Industry News  
 P. 22—Advertiser Index  
 P. 23—AfterWords: Ron Iscoff

### Test and burn-in socket update: Are they still on the 'right' frequency?

By Ron Iscoff, Editor



igh-frequency, high-speed socketting is where the rubber really meets the road in the test industry. Today, with competition perhaps at an all-time high, socket customers are demanding more for less money. And they want product faster.

In the high-performance arena, "close-enough" specs supplied by socket makers are no longer tolerated.

"The market is no longer satisfied with vendors who toss out a spec sheet with an abstract set of characteristics for a contact, seemingly independent of their environment in the socket," says Jim Spooner, field application engineer for Interconnect Devices of Kansas City.

Responsible socket makers, says Spooner in IDI's Fremont, Calif., office, "must create and maintain defensible, comprehensive models of the circuits that their sockets represent.



The rubber meets the road in high-performance sockets.

"They must test and prove those models, verifying that they can accurately predict the behavior of each contact at all pitches in all return configurations for both analog and digital circuits." > page 2

### The Digital Edition

The digital edition of *MicroConnections* is published 6x/year and exactly duplicates the advertising and editorial content of the print issue. Print advertisers receive hotlinks from their print ad to their home page at no additional cost. Subscribers to the digital edition are sent a link to the latest issue by e-mail as soon as it has been posted. Contact Ron Iscoff for more information at 209/824-1289.

### Submitting Ad Material

Ads for the *MicroConnections* web site should be submitted as 72 dpi .gif, .jpg or .png files. Please indicate the requested link when you submit your ad. You should also submit an insertion order, available on our web site, *microconnections.net*, under the "Advertising" tab. E-mail ads to roniscoff@gmail.com.

### MicroConnections Web Site Advertising

Ads are accepted on our web site, [www.microconnections.net](http://www.microconnections.net), subject to available space. Ads may contain up to four panels and may animate, as long as the animation is not distracting to readers, at the publisher's discretion. Audio ads that open automatically are not permitted. Ads will click through each page of the URL. **Contract print advertisers receive a 35% discount off the listed prices.**

SIZE (PIXELS)	FREQUENCY	COST
120 x 120	1 month	\$275
	2-12months	\$225 ea.
120 x 240	1 month	\$375
	2-12months	\$325 ea.
120 x 600 (Skyscraper)	1 month	\$475
	2-12months	\$425 ea.
240 x 120	1 month	\$375
	2-3 months	\$325 ea.
160 x 600 (vert. tower)	1 month	\$475
	2-3 months	\$425 ea.
468 x 60 Banner)	1 month	\$525
	2-3 months	\$475 ea.
728 x 90 (Leaderboard)	1 month	\$695
	2-6 months	\$595 ea.

### Ad Tracking

A new tracking system, effective January 10, 2010, will enable web advertisers to gauge "hits" and clickthroughs. Your ad will also appear on every page on the web site.

### Special Web Features

While all ads that appear in the print edition will also appear in the web edition without additional cost to the advertiser, several eye-catching, attention-grabbing features are available at modest cost.

You may add sound or multimedia to your ad. Audio, however, must be "by reader demand" and may not open without the reader's permission.

The addition of multimedia enables advertisers to add as little or as much detail as they wish about their products.

In addition to ads in the newsletter linking to an advertiser's URL, additional links to tie-in to one or more products described in the ad are available.

For custom options, please contact the publisher at 209/824-1289, or e-mail roniscoff@gmail.com.

#### the small print

Advertiser and its agency agree to hold *MicroConnections*, its agents and assigns harmless for any alleged violation of trademarks, servicemarks, etc. This contract shall be governed by the laws of the state of California. *MicroConnections* reserves the right to refuse any advertising, print or digital, which the publisher deems unacceptable. Prices are subject to change without notice except for contract advertisers.



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Neither our reader e-mail list nor our reader address list is available for sale or rental.

For more information, contact Ron Iscoff at 209/824-1289 or roniscoff@gmail.com

### Digital E-Prints

Digital e-prints of your article are furnished as PDF format files at web resolution, unless otherwise requested. The price is \$250 for the first two pages and \$100 for each additional page for non-advertisers. You will be given a license in perpetuity for the use of the e-print. Companies with a paid ad in the same issue in which their article appears, will receive a PDF web e-print for \$100, regard-

less of the number of article pages. Companies who have advertised in any issue during the reprint year will receive the e-print for \$150. This license does not extend to printing hard copies from the supplied PDF files. All reprint rights may be purchased for \$750, which will enable the buyer to employ the printer of their choice,

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Payment is *due with order* for all reprints. Advertisers receive free shipping plus a 15% discount on the total. Others pay actual shipping costs for the delivery method specified. Agencies receive a discount of 10% on the total, less shipping. You may add your logo, address, slogan, etc., on the last page at no additional cost. Paper proofs are \$25; PDF proofs are free. There is no sales tax.

	500 Copies	1000 Copies	2000 Copies	5000 Copies
One Side	\$495	\$695	\$825	\$945
Two Sides	\$545	\$745	\$895	\$995
Three or Four Sides (Two sides/page)	\$750	\$895	\$995	\$1,245