

# SCHIPPERS & Crew

Volume 15, Issue 3  
August 2005

ELECTRONICS MANUFACTURING PROFESSIONALS

## Schippers and Crew 15<sup>th</sup> Anniversary Open House a hit!

Over 100 prospects, customers and vendors joined us for our 15th anniversary open house, our most well attended open house to date!

Isa Mira Gourmet Cheese & Café in Gig Harbor did a tremendous job of catering and Mike's Amazing Cakes made a cake in the shape of a circuit board so real that at first we were afraid to eat it. Fortunately, it was lead free and totally delicious!

Attendees were given tours of the shop and demonstrations of our brand-new DAGE XD7600 X-Ray System.



Guests enjoying the delicious gourmet lunch catered by Isa Mira Gourmet Cheese & Café.

Everyone took home a Schippers and Crew key chain mascot and the lucky door prize winners were drawn. Asa Packer of Biosonics won an Olympus 4.0 megapixel Digital Camera; John Schlatter of Teknologic won a 4GB Apple ipod; and Dave Ayotte of Omnitronix won a 7" Toshiba portable DVD player.

If you missed our open house call Paul to schedule your own personal tour. We're always open for visitors. Come in for a demonstration of our new X-Ray System and take home your own key chain mascot!

## News Flash!!! New Service!!!

### Schippers teams with JTAG to offer Boundary Scan!

Schippers & Crew has teamed up with JTAG Technologies (and their northwest representatives PGI Solutions of America) to implement **BOUNDARY SCAN** for circuit board testing and in-circuit device programming.

Boundary Scan testing allows us to comprehensively test high density circuit boards, double-sided designs, and boards which use fine pitch and BGA devices.

JTAG provides industry leading Boundary Scan tools, has an excellent technical support network to provide Design-for-Test assistance, contract application development services, training and on-site installation of Boundary Scan systems and applications.

Boundary Scan testing is the perfect complement to our state of the art DAGE DX 7600 Digital X-Ray Inspection System. The X-ray system uses filmless, digital imaging with feature recognition down to 0.25 microns and up to 70 degrees of oblique angle views allowing for rotating live views 360 degrees around any point in sample, with results delivered to your email inbox.

JTAG's Boundary Scan System can be seamlessly integrated into the Agilent 3070 in-circuit tester to improve coverage and provide advanced diagnostics.

The combination of boundary scan, digital x-ray and ICT means we can offer the most comprehensive contract manufacturing and PCB test services in the Pacific Northwest!

*For more information about Boundary Scan technology contact Paul@schippers.com or go to www.jtag.com*

## Employee Party Marks 15 Years!



We held a special celebration for our Crew to commemorate our 15<sup>th</sup> Anniversary. Everyone gathered at the Rock Salt Restaurant on Lake Union for a full lunch buffet.

The founders, Bert Schippers and Lynne Hoverson, gave an inspirational speech highlighting our 15 years of expansion and told stories from the past.

As a part of the festivities, sixteen awards were given to winners in categories such as Hardest Worker (won by Pat) and Best Boss (won by Bert) as voted by all employees. We also gave away twenty-two awards in our celebrity look-alike contest to employees that resembled such famous people as Mariah Carey (Ashley) and Pierce Brosnan (Paul). MVP awards (Most Valuable Player) were given to Pat Sherwood, Al Schmidt and Hanh Nguyen.

We all had fun and headed back to work with a full stomach and new stories to tell.

**Need X-ray Inspection Services?**

**Daye** XD7600

PRE-WARN X-RAY ON

[www.xrayinspect.com](http://www.xrayinspect.com)

Contact Paul or Abdul for more Information

**(206) 782-2325**



## Steps Toward Lead-Free

*It's time to start delving deeper into the exact route needed to convert to lead-free manufacturing. This is Part 2 of a two part series of articles we've written to keep you informed on the lead-free evolution.*

### **During the Transition from Leaded to Lead-Free**

Let us know about your plans for going lead-free so the transition can go as smoothly as possible.

At this point, lead-free components appear to be compatible with the current lead-based manufacturing. However, problems can arise when some metals used in component terminations mix with lead, so the process will need to be monitored. It is advisable to do test runs with any questionable parts, especially BGAs.

This means that, for most products, a gradual transition to lead-free components can be made while still using the lead-based process. Once the change to the lead-free process is made, regular lead-based components may be used up if they can withstand the high temperatures and other parameters of the lead-free process. Of course, you would want to have this transition complete before your own in-house deadline so that your assemblies will be fully compliant.

Some component manufacturers are making new part numbers for lead-free parts while others are keeping the same part numbers for both lead-based and lead-free components (eventually phasing out the lead-based parts.) We recommend changing your internal part numbers even if manufacturers don't change theirs. This will simplify stock maintenance and help communicate changes to us. Components with the same part number can only be differentiated by their markings or date code and this can add extra labor and open the door to error.

During this transition phase, if you are allowing a mix of both lead-based and lead-free components, be sure to list both as acceptable on your bill of materials. When the full transition is complete you will want to remove the lead-based parts from the approved list and issue a revised bill of material.

If you provide us with components for assembly, be sure to inform us whenever you know that parts are lead-free so that we can monitor the process for difficulties.



## **You know you're living in 2005 when...**

1. You accidentally enter your password on the microwave.
2. You haven't played solitaire with real cards in years.
3. You have a list of 15 phone numbers to reach your family of 3.
4. You e-mail the person who works at the desk next to you.
5. Your reason for not staying in touch with friends and family is that they don't have e-mail addresses.
6. You've sat at the same desk for four years and worked for three different companies.
7. You learn about your redundancy on the 11 o'clock news.
8. Your boss doesn't have the ability to do your job.
9. You pull up in your own driveway and use your cell phone to see if anyone is home.
10. Leaving the house without your cell phone, which you didn't have the first 20 or 30 (or 60) years of your life, is now a cause for panic and you turn around to go and get it.

## Other Areas of Concern

There are six substances banned by the RoHS directive, lead being only one of them. You will need to assess your compliance in regards to the other five substances. Make sure your product cases, cables, and accessories are in compliance.

The person you appoint to manage your lead-free conversion needs to stay informed about the legislation being passed by each EU country that you export to. You will need to see if you are required to comply with the WEEE Directive (Waste from Electrical and Electronic Equipment.) The regulations imposed by the WEEE Directive take effect January 1<sup>st</sup>, 2006. Requirements include being financially responsible for the recycling of products and marking goods with a "crossed-out garbage can" logo to show that they should not be thrown away.

We will be maintaining our lead-based assembly procedures for customers that don't export to the EU or are exempt from the regulations. You will still need to monitor your components and decide whether lead-free components will be suitable for your purposes. Many parts will be changed to lead-free and the lead-based versions will be phased out. Be sure to update your list

of approved parts to reflect new part numbers as old ones become obsolete.

## Some good websites for more information:

Legislation:  
[www.environment-agency.gov.uk/netregs](http://www.environment-agency.gov.uk/netregs)

Process:  
[www.pb-free.com](http://www.pb-free.com)

Components:  
[www.arrow.com/green](http://www.arrow.com/green)  
[www.em.avnet.com/leadfree](http://www.em.avnet.com/leadfree)

Forums:  
[www.smtnet.com](http://www.smtnet.com)

**Also check out the Lead-Free FAQs on our website at [www.schippers.com](http://www.schippers.com).**

New York/Seattle

## Lead-Free Seminar

Featuring World Renowned  
 Speaker, Author  
 and Lead-Free Expert

**Dr. Jennie Hwang**

For Registration Information Contact  
[Paul@schippers.com](mailto:Paul@schippers.com) or go to  
[www.schippers.com](http://www.schippers.com)

A comprehensive workshop covering every aspect of the new directives - from the business, technical, and legal underpinnings to the multitude of possible solutions and a myriad of unintended consequences. A look at the social, political and economic costs which have yet to be estimated.

Dr. Hwang is an extraordinary facilitator, carrying us from the calm of the laboratory to the clamor of the factory floor where theories and realities collide. She brings her 15 years of lead-free R&D and hands-on production implementation experience combined with her 25 years of SMT manufacturing knowledge through this 6-part lecture series:

**Part 1 & 2: Lead-Free Preparation for Implementation**  
**Part 3: Lead-Free Implementation & Production**  
**Part 4: Lead-Free Reliability & Manufacturing**  
**Part 5: Lead-Free System Compatibility - Materials and Processes**  
**Part 6: Lead-Free & the Role of Bi - All You Should Know About Bismuth**

**When:**  
 Sept. 19th-21st, 2005

**Where:**  
 Best Western River's Edge  
 15901 W. Valley Highway  
 Seattle WA 98188

## Be Prepared for Lead-Free Manufacturing!



Co-sponsored by



# SCHIPPERS & Crew

5309 Shilshole Avenue NW Suite 100  
Seattle, WA 98107  
206.782.2325 • Fax 206.782.2363  
www.schippers.com



Find Out What's  
Happening on Sept. 19-21  
See Inside!!

## Possible Dog Breeds

### **Collie + Lhasa Apso**

Collapso, a dog that folds up for easy transport.

### **Spitz + Chow Chow**

Spitz-Chow, a dog that throws up a lot.

### **Bloodhound + Borzoi**

Bloody Bore, a dog that's not much fun.

### **Pointer + Setter**

Poinsetter, a traditional Christmas pet.

### **Kerry Blue Terrier + Skye Terrier**

Blue Skye, a dog for visionaries.

### **Great Pyrenees + Dachshund**

Pyradachs, a puzzling breed.

### **Pekingese + Lhasa Apso**

Peekasso, an abstract dog.

### **Irish Water Spaniel + English Springer Spaniel**

Irish Springer, a dog as fresh and clean as a whistle.

### **Labrador Retriever + Curly Coated Retriever**

Lab Coat Retriever, the choice of research scientists.

### **Newfoundland + Basset Hound**

Newfound Asset Hound, a dog for financial advisors.

### **Terrier + Bulldog**

Terribull, a dog that makes awful mistakes.

### **Bloodhound + Labrador**

Blabador, a dog that barks incessantly.

### **Collie + Malamute**

Commuter, a dog that travels to work.

## ARE YOU TOO SMALL FOR YOUR CM?



Bring Your Assemblies to...

## Schippers & Crew, Inc.

Phone: (206) 782-2325 Fax: (206) 782-2363

Email: paul@schippers.com

See our website for more information: www.schippers.com