Next Meeting SLC April 14  
Host: Compeq International

Rosemary Seiler of Compeq International will be hosting the April 14 meeting. The meeting will begin at 5:00 PM with tours of Compeq’s operations.

Compeq is an international raw PC board manufacturer with over $8 billion in sales. They have operations in the US and the far East. The US site, here is SLC, has over 270,000 Sq Ft of floor space and employs more than 40 engineers. The US site is positioned for quick turn service and low volume production. They do high layer count products and provide business support for North America.

After the tours, a dinner snack will be served during a social hour. The cost for dinner will be $5.00

The speakers for the evening will be: Jeff Adams of Sanmina who will talk on No Lead Qualification at Sanmina.

The featured speaker of the evening will be Harvey Stone co-founder of the Goodby Chain Group. He will speak on RoHS and WEEE implementation.

The cost for the evening is $10.00 for members and $16.00 for Nonmembers. Please RSVP to dbell@es.com or 801-588-7919.

See speaker profiles on the next page
Jeff Adams is currently a process engineer and program manager for Sanmina-SCI in Salt Lake City. Areas of expertise at Sanmina-SCI include new technology and process development, BGA rework and rebalancing, and ROHS implementation. Jeff previously worked as a process engineer for Evans & Sutherland. Jeff holds an Associates of Pre-Engineering degree from Snow College, a BSME from the University of Utah, and an MSME from Massachusetts Institute of Technology. Jeff has worked in the electronics manufacturing industry for 7 years.

Harvey Stone is the co-founder of the GoodBye Chain Group, a services, training and software company specializing in RoHS and WEEE compliance. Harvey has presented at a number of SMTA events, including SMTAI. He is currently organizing and moderating three “Complying with RoHS” workshops for SMTA.

As you likely know, our entire industry is struggling to comply with the European Union’s Restrictions on Hazardous Substances (RoHS) Directive. Today, there are no RoHS-compliant companies. There are no models of how to achieve compliance. And there are unprecedented financial risks for companies whose products are non-compliant after July 1, 2006 and, worse case, are banned from multiple countries.

To help our members, we are pleased to be offering this RoHS-compliance presentation. It will focus on the broader legislative context for RoHS, WEEE and other Directives that will impact our companies. It will also highlight the legal requirements and non-legal business obligations. And it will address a number of actual experiences that companies are having in solving the many difficult compliance challenges.

Schedule for 2005 – Intermountain Chapter of the SMTA

Apr. 14 Chapter meeting in Salt Lake City
   To be hosted by Compeq International and will include a tour of the operations

May 12, 2005 - Chapter Meeting in Boise - hosted by BSU

June 16, 2005 - SMTA Golf Scramble - hosted by Shadow Valley golf course

Sept. 8, 2005 - Chapter meeting in Boise

Oct. 13, 2005 - Chapter meeting in Salt Lake City
First, I want to thank all of you for your support of our first ever TECHNOLOGY SUMMIT – The Lead Free Initiative! We hope to make this an annual event addressing pertinent issues of the day. Our first ever summit went very well with over 60 attendees and 6 table tops. The feedback we received was very positive! But we couldn’t have done it without YOU – our attendees and vendors. Thank you so much for your support!

I also want to thank our primary sponsors: Indium Corporation and SpecTek. Indium Corporation paid for our speaker’s travel expenses, printing of the presentations, and the gifts that were awarded to our speakers. SpecTek provided the facility and hosted the event! A big THANK YOU goes to both companies for their support. I hope our readership will support these two fine companies!

Next on our schedule is a chapter meeting in Salt Lake City headed up by none other than David Bell (Evans and Sutherland) so it’s bound to be an excellent event. This meeting is going to be hosted by Compeq and the date is April 14 in the late afternoon and evening so mark your calendar now to attend. Compeq makes printed circuit boards and has promised to give everyone a tour of their facility so we’re excited about that! Before I sign off, I’ve got to pause and thank Pat Ryan (Indium Corporation), the chief driving force behind the Technology Summit, for his vision to create this event and for his unfailing leadership! Pat, from all of us, THANK YOU for all your work to make this event such a success! Along the same vein, I also want to thank DEREK SMITH, QA manager at SpecTek, for his undying commitment to make SpecTek the ultimate host for this event. Derrick and his staff did a splendid job of setting up the facilities and having everything in perfect order. Lighting, tables, seating, vendor tables, table cloths, lunch, sound system, and video equipment were all under his supervision and executed flawlessly by his team. Thank you, Derek! To recognize Derrick’s contribution to our chapter, our board unanimously voted to make Derrick an honorary board member! Congratulations, Derrick! Be sure to read the spotlight on him elsewhere in this newsletter.

I’m here for you so if you have any ideas on how we can better meet your needs (topics, meeting time, places, speakers, etc)… please let me know at klangston@preco.com. Thank you! See you in Salt Lake in April!
IPC-A-610 Rev D Is Released

Summary by: Don Saunders of SMS  mfgsolutions@msn.com
Excerpts taken from Tech Summit 2005-Pb Free Initiative Presentation:
“Solder Joint Integrity Referencing IPC-A-610 D”

Rev D complete with updated pictures and greater industry experience has improved vague definitions and added clarity to areas that have field data to support more realistic limits of acceptability. This is a great tool for improving understanding and enabling proficiency between customer and supplier as well as internal manufacturing teams.

❖ **Unique Appearance of Lead Free Solder Joints** and examples
  - Surface roughness (grainy or dull)
  - Greater wetting contact angles.

❖ **8.2.12 Surface Mount Area Array**:
  - **Alignment** --min. electrical Clearance
  - **Solder Ball spacing** --min. electrical Clearance
  - **Soldered Connection** --No bridge, wet to land forming one fillet
  - **Voids** -- 25% or less in a ball x-ray image area
  - **Under-fill** --if required is present & completely cured

❖ **Alignment 8.2.12.1 Surface Mount Area Array  Rev D**
  - **Target** –class 1,2,3
    Placement of the BGA solder ball is centered and shows no offset of the ball to land centers.
  - **Defect** –class 1,2,3
    Solder ball offset violates minimum electrical clearance. See Appendix A table 6-1
  - (RevC 12.2.12)
  - Acceptable: Less than 25% overhang
  - Process Indicator: 25-50% overhang
  - Defect- class 1,2,3: More than 50% overhang

• **Voiding 8.2.12.4 vs (Rev C 12.2.12)**
  Design induced voids, e.g., microvia in land or via in pad, are excluded from this criteria. In such cases acceptance criteria will need to be established between the manufacturer and user. Manufacturers may use test or analysis to develop alternative acceptance criteria for voiding that consider the end-use environment.
  - **Acceptance** –Class 1,2,3
    25% or less voiding of the ball x-ray image area
  - **Defect** –Class 1,2,3
    More than 25% or less voiding of the ball x-ray image area
  - (Rev C : Acceptable – class 1,2,3, <10% voiding)
  - RevC: Process Indicator- Class 2,3
    Voiding in the solder ball to board interconnection up to 25% may or may not be a reliability issue and should be determined in process development.
  - RevC: Defect- Class 2,3 >25% voiding in the ball to board interface.
Saunders Manufacturing Solutions

Work Wanted:

Don Saunders, Manufacturing/Process engineer and owner of SMS (Saunders Manufacturing Solutions), is seeking opportunities to help manufacturers and Electronic Assemblers succeed. Engage the experience of 20 plus years of manufacturing development and support, integrated with the teamwork of trusted business associates, vendors and friends, in a network that can help your team succeed.

If economical environment is to risky to offer full-time experienced positions in your organization, then select the level of consulting that engages results now. The Consultant agrees to maintain adequate Workmen's Compensation and Employer's Liability Insurance, and to pay any and all taxes, etc. You pay only for services that benefit you, now. Call 208-866-5608 to engage a contract that works for you.

ABOUT M.E. --SMS:

Don Saunders, Mechanical/Manufacturing Engineer and owner, has 20 years manufacturing experience in process development, customer qualification and training in the US, Europe, South America, and China. Experienced in identifying and quantifying project risks, as well as providing contingency plans for success. Assisted in the development of once proprietary processes such as SMT-THP (pasted through hole), DSSR (Double Sided Single Reflow), LSES (Low Stress Equivalent Solder) BGA Rework. Submitted Technical papers related to Process Control, BGA Rework and Solder Joint Integrity. For further information and opportunities contact mfgsolutions@msn.com or call 208-866-5608.

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We would be happy to post the resumes of any unemployed members here at no cost.