



NEWS

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Leading the way in electronics



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DAVE'S WORLD

By: Dave Raby

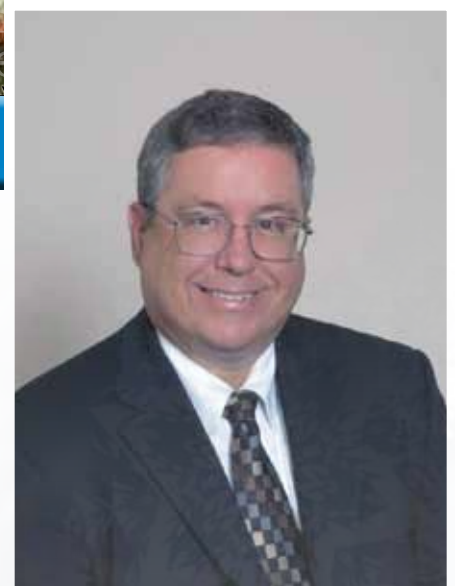
December 2013

Howdy Texas! I'm very excited to announce that beginning in January, STI will have 3 classrooms in Houston to compliment the 3 we already have in Madison. We've done classes all over the world in customer's facilities, hotels, and rented rooms but this will be the first actual STI facility outside of Madison (or San Dimas in the old days). We'll offer the same classes as in Madison and you may see some new ones added occasionally based on local needs. We'll have an open house coming up in January or February and I

look forward to seeing you there.

STI will also be teaming up with ITM Consulting (Phil Zarrow and his gang of experts) to offer some different types of classes at STI in Madison (and maybe Houston). We'll be offering various types of manufacturing classes different from the classes we have offered before. The first class will be "Understanding and Implementing Best Practices in Electronic Assembly Processes".


We also have a new training product coming out in January, J-STD-001 Inspection Kit. The Inspection Kit will feature assembled boards and terminals



Contact Information:
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President/CEO
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that are mounted inside a clear acrylic. The defects are documented and won't change over time due to handling. If





you are teaching soldering or inspection, I think you are going to like. More information is available in following pages in this newsletter or by contacting our Training Services department at training@stielectronicsinc.com.

I have some great personnel news this month. I am very excited to add two new engineers, Jeff Light and Jason Tynes, to our staff. Jeff joins us as a Manufacturing Engineer after 25+ years with L3 (and its predecessors) in production engineering, manufacturing engineering, operations, and management. Jason also joins us as a Manufacturing Engineer after 9 years with Raytheon as a Senior Manufacturing Engineer with a great cross section of experience. While both have specific jobs, we do plan for them to be multitasking and helping improve our overall operation. They'll also be interfacing with customers and managing all clean room projects. They'll have a lot more freedom with STI being a relatively small company but I'm also looking forward to their large company discipline.

I also have sad personnel news this month. After 13 years at STI, Casey Cooper has left STI to go to work for a much larger government contractor. Casey has been a key part of the growth of STI and we will miss her. She came to work at STI right out of college and it has been a great experience to

watch her mature personally and professionally. I'm going to miss her here and wish her the best of luck in her new position. I'm also very sad to report that the Raby's, STI, and our whole industry lost a good friend when Carl Buchanan passed away on December 5th. I'd known Carl and his family since the mid-70's when he worked with my father for the Navy at China Lake. Carl later came to Huntsville and did many similar things for the Army at Redstone Arsenal and was also widely known as one of the industry's experts on the subject of cleaning. After retiring from the Army, Carl worked for STI as an employee and then as a consultant. A passion we shared was Auburn football and he had had season tickets for many years. I am happy that the last two games he attended were arguably the two most exciting games Auburn ever played. Carl will be missed and my thoughts and prayers go out to his wife Linda and his entire family. Services were held December 9th but if you knew Carl and would like to give a gift in his memory, his family has asked for donations to either Auburn Fund, 317 South College St, Auburn University, AL 36849-5153 (<https://cws.auburn.edu/giving/>) or Meals on Wheels, Huntsville-Madison Co. Senior Center, 2200 Drake Ave, Huntsville, AL 35805, (<http://www.seniorview.com/Nutrition%20Dept/MOW.htm>).

As I look back on our 30th year, it was quite a ride. It didn't start out

great but turned around about early summer and has actually become a fairly good year. We continued to add capabilities and expand our offerings and plan to continue that in our 31st year which starts now. I've already told you about classrooms in Houston and working with ITM. Our engineering areas continue to evolve and grow. Watch for a new website and catalog and other improvements as we try to make it as easy as possible for you to work with us in the format of your choosing. I continue to solicit your suggestions on how we can improve. Finally, please take a look at the Christmas photo inside this newsletter and note that against all known statistical probabilities, we got better looking for the 30th consecutive year.

I want to wish you and your family a safe and happy holiday season along with a happy, healthy, and prosperous new year.

Please follow us on twitter (@daveraby) or facebook (STI Electronics) for more up to date STI information.



TRAINING SERVICES



Contact Information:

Pat Scott

Director of Training Services

pscott@stielectronicinc.com

2013 has been a very busy year for STI's Training Services Department. STI is very fortunate to have an outstanding customer base. Thank you for all the support you have given us throughout the years. We appreciate your business and look forward to working with you in 2014 and beyond.

This next year will bring growth to STI's Training Services Department. STI will be opening a new IPC Approved Training Center in Houston, TX.

Location:
9920 W. Sam Houston Parkway S.,
Suite 420
Houston, TX 77099

The Training Center will have one Hands-on Classroom that will be fully equipped to conduct basic soldering courses, J-STD-001 Certification courses and Rework and Repair Courses along with two Lecture Classrooms to conduct IPC-A-610, IPC/WHMA-A-620 etc.



Our 2014 Texas Training Schedule is available in this newsletter and on our website at www.stielectronicinc.com.

STI's J-STD-001

Inspection Kit

Part No. STI-INSP-001-E1

NEW!



This training kit was designed by the Master IPC Trainers (MIT's) at STI Electronics to assist MITs and Certified IPC Trainers (CITs) with an easy way to administer the physical inspection requirements of Module 5 of the IPC-J-STD-001 training program. These materials can also be used for other training programs that reference the IPC J-STD-001 Criteria.

Kit Contents:

- DVD
 - Instructional Video
 - Board Layout Form
 - Student Terminal Inspection Worksheets
 - Student PCA Inspection Worksheet
 - Instructor Answer Keys
- Encapsulated Inspection Samples
 - (6) Printed Circuit Assembly (PCA) Samples
 - (8) Soldered Terminal Samples



Cost: \$400.00



This product will be ready to ship February 1, 2014.

To place an order contact sales at (800) 858-0604 or sales@stielectronicsinc.com.

261 Palmer Road • Madison, AL 35758 • (800) 858-0604 • Fax 888) 650-3006

www.stielectronicsinc.com

TRAINING SERVICES

Best Practices in Electronic Assembly Processes

Course Title:

Understanding and Implementing Best Practices in Electronic Assembly Processes

Course Instructor: Phil Zarrow, Joe

Duration: 2 Days

When: March 4 – 5, 2013

Where: STI Electronics, Inc.

Course Objectives:

You have the responsibility and resources to improve the productivity of an assembly operation....what do you do? This course drives awareness and solutions to the adverse impact that non-optimal assembly practices and processes have on the product quality and financial success of electronic assembly businesses. A comprehensive perspective on problem issues is developed for the most currently critical electronic assembly process, materials (both existing and emerging), equipment, procedures, and methods. Most importantly, practical solutions are presented. Key issues that consistently result in assembly problems and low yields are identified and resolved. This seminar is intended for anyone involved in directing, developing, managing and/or executing assembly line operations including managers, line supervisors and line engineers involved in manufacturing, design and quality engineering.

Topics Covered

- Introduction
- Optimization Objective
 - Getting the most productivity from an existing line
 - Definition of "Best Practices"
- Some "Deadly Sins" of SMT Assembly
- Best Practices in the Assembly Process
 - Solder Paste Printing process best practices
 - Pick and Place best practices
 - Reflow soldering best practices
 - Wave and Selective soldering best practices
 - Conformal Coating best practices
- Best Practices Concerning "Challenging Technologies"
 - QFNs
 - Ultra-miniature components (0201s, 0100s, ultra-fine pitch BGAs and CSPs)
- Process Optimization Best Practices
 - Data driven process design
 - Practical use of Design of Experiments (DOE) in electronic manufacturing
 - Practical use of Statistical Process Control (SPC) in electronics manufacturing
 - Manufacturing organization best practices
- Q & A

Who Should Attend:

This course is intended for Manufacturing, Process, Design, Test and Quality Engineering personnel as well as Management who are involved in the production of surface mount or mixed technology assemblies.

Email STI Electronics, Inc. for more information or to register for the class (training@stielectronicsonline.com).

STI's Training Services

2014 Schedule



J-STD-001 "Requirements for Soldered Electrical and Electronic Assemblies"

J-STD-001 Certified IPC Trainer (CIT) Certification Course - Madison, AL

February 3-7 April 21-25
June 2-6 August 11-15
December 1-5

J-STD-001 Certified IPC Trainer (CIT) Recertification Course - Madison, AL

January 29-30 February 26-27
March 26-27 April 30-May 1
May 29-30 June 25-26
July 30-31 August 27-28
September 24-25 October 29-30
November 19-20

J-STD-001 Certified IPC Trainer (CIT) Space Addendum Course - Madison, AL

January 31 February 28
March 28 April 25
May 2 June 27
July 2 August 1 & 29
September 26 October 31
November 21

J-STD-001 Certified IPC Application Specialist (CIS) Certification Course (Modules 1-6) - Madison, AL

February 3-7 June 23-27
Sept. 29-Oct 3



IPC-A-610E "Acceptability of Electronic Assemblies"

IPC-A-610 Certified IPC Trainer (CIT) Certification Course - Madison, AL

February 18-21 April 15-18
June 9-12 August 18-21
December 8-11

IPC-A-610 Certified IPC Trainer (CIT) Recertification Course - Madison, AL

January 27-28 February 24-25
March 24-25 April 28-29
May 27-28 June 23-24
July 28-29 August 25-26
September 22-23 October 27-28
November 17-18

IPC-A-610 Certified IPC Application Specialist (CIS) Certification Course - Madison, AL

November 12-14



IPC-A-600E "Acceptability of Printed Boards"

IPC-A-600 Certified IPC Trainer (CIT) Certification/Recertification Course - Madison, AL

January 21-23 March 25-27 October 15-17

STI's Training Services

2014 Schedule



IPC/WHMA-A-620
Training Center

IPC/WHMA-A-620 "Requirements and Acceptance for Cable and Wire Harness Assemblies"

**IPC/WHMA-A-620 Certified IPC Trainer (CIT)
Certification Course - Madison, AL**

March 11-14
July 8-11

May 19-22
October 20-23

**IPC/WHMA-A-620 Certified IPC Trainer (CIT)
Recertification Course - Madison, AL**

January 23-24
May 8-9
September 11-12

April 21-22
June 30-July 1
October 15-16

**IPC/WHMA-A-620 B Certified IPC Trainer (CIT)
Space Addendum Course - Madison, AL**

*Prerequisite: IPC/WHMA-A-620B CIT Certification or
Recertification Course.*

March 24-28
July 14-18

May 12-16
September 15-19



IPC-7711/7721
Training Center

**IPC-7711/7721 "7721B Rework,
"Modification and Repair of
Electronic Assemblies"**

**IPC-7711/7721 Certified IPC Trainer (CIT)
Certification Course - Madison, AL**

March 3-7
October 6-10

July 21-25



IPC-7711/7721
Training Center

**IPC-7711/7721 "7721B Rework,
"Modification and Repair of
Electronic Assemblies"**

**IPC-7711/7721 Certified IPC Trainer (CIT)
Recertification Course - Madison, AL**

January 22-23
July 28-29
November 13-14

April 23-24
September 4-5

**IPC-7711/7721 Certified IPC Application Specialist
(CIS) Certification Course - Madison, AL**

August 11-19

December 8-16

**IPC-7711/7721 Certified IPC Application Specialist
(CIS) Recertification Course - Madison, AL**

December 17-18

Basic Soldering - Madison, AL
Available upon request.

January 6-10

**MSFC/NASA-STD-8739.4 Cable Harness
Certification Operator/Inspector**

January 13-17

April 14-18

**MSFC/NASA-STD-8739.1 Staking and Conformal
Coating Operator/Inspector**

February 18-21

November 3-6

**To register for a class visit our website at
www.stielectronicsinc.com.**

STI's Training Services

2014 Texas Schedule



J-STD-001 "Requirements for Soldered Electrical and Electronic Assemblies"

J-STD-001 Certified IPC Trainer (CIT) Certification Course

May 5-9 July 7-11 November 3-7
December 1-5

J-STD-001 Certified IPC Trainer (CIT) Recertification Course

May 14-15 November 19-20

J-STD-001 Certified IPC Trainer (CIT) Space Addendum Course

February 14 March 14 May 16
November 14

J-STD-001 Certified IPC Application Specialist (CIS) Certification Course (Modules 1-6)

January 27-31 April 7-11 August 4-8

J-STD-001 Certified IPC Application Specialist (CIS) Recertification Course (Modules 1-6)

October 13-15 November 17-18



IPC-A-610E "Acceptability of Electronic Assemblies"

IPC-A-610 Certified IPC Trainer (CIT) Certification Course

February 10-13 March 10-13

IPC-A-610 Certified IPC Trainer (CIT) Recertification Course

February 6-7 April 17-18
May 12-13 August 14-15
November 10-11 December 8-10

IPC-A-610 Certified IPC Application Specialist (CIS) Certification Course

January 21-23 February 3-5
April 14-16 June 11-13
August 11-13



ELECTRONIC ASSEMBLY

VALUE ADDED SERVICES

In addition to a complete line of electronic assembly and solder supplies, STI offers a complete array of inventory management tools. Vendor managed systems help reduce overall purchasing costs as well as insure product availability at the point of use. Inventory Management Systems can be as elaborate as vending type machines configured specifically for the customer's needs and product mix to a simple scanner system.

- Consumption Reduction (Typically 20-40%)
- Productivity Savings
- Visibility to Consumption Allocation at the Point of Use
 - Distribute inventory based on actual demand rather than pushing based on outdated and selective user input
 - Monitor consumption by user, machine, job number & work order
- Optimize inventory
 - Eliminate obsolescence based on hard data
 - Standardize on parts & SKU's
 - Define minimum and maximum levels on actual demand
- Automate the Restock Notification, Ordering & Reporting Functions
 - Alerts can be sent based on various criteria - I.e. minimum level reached

E-STORE

For the convenience of our customers, all products available at STI can be purchased from our E-Store accessible at www.stielectronicsinc.com



PRODUCTS

3M	EXCELTA	PANAVISE
3M ESD	EXTECH	PURITAN
ACL STATICIDE	FANCORT	QRP
AIM	HAKKO	R&R LOTION
AKRO-MILS	IDEAL	SIMCO
APEX	IDENTCO	STEINEL
ARLINK/LISTA	JANPAK	UTICA
ASG-DIVISION	JBC	WELLER
AVEN	KAHNETICS	WIHA
BEAUTECH	KESTER	WISS
BIO-FIT	KOLVER	XCELITE
BONKOTE	LEWIS BINS	
BOTRON	LINDSTROM	
BRADY	LUFKIN	
CHEMTRONICS	METCAL	
DANTONA	MICRO-CARE	
DEK	NICHOLSON	
EASY BRAID	O.C. WHITE	
EDSYN	PACE	
EREM		



ProZoom® 4.5 Microscopes

The ProZoom® 4.5 family of microscopes combine durability, performance, and low cost in a way that can only truly be appreciated when used... and used hard! This workhorse of a microscope has all of the magnification performance of much more expensive microscopes, with the rugged dependability that we have hung our hat on for over 130 years.

Standard throughout all O.C. White® microscope packages is our heavy duty, double ball bearing arm base assembly. This rugged piece provides effortless motion across the work surface, while maintaining pinpoint accuracy once locked. It also comes standard with a grounding provision on the rear of the base.

The ProZoom® 4.5 series from O.C. White® has a standard magnification range of 7-45x, ESD safety, and a robust build that rivals much more expensive microscopes. With optional lenses and eyepieces, this microscope series can reach up to 225x. With incredible reliability, many optional lenses available, and numerous configurations, you are tough pressed to find a configuration that won't fit your needs.



TKSZ-LV2

ProZoom® 4.5 Binocular Package on
Ball Bearing Base & LV2000-B LED Ring Light

- Standard magnification range 7x - 45x
- Superb large 22mm 10x eyepieces
- .5x objective lens included standard
- Excellent resolution
- 90-250mm working distance depending on objective used
- ±5 Diopter adjustments on eyepiece tubes for ultimate clarity
- Eye tube inclination of 45°, and main body can be rotated 360° in holder
- Rugged all metal construction for **ESD safety**
- Heavy duty ball bearing arm base assembly standard
- With optional accessories, can achieve up to 225x
- 5 Year Mechanical Warranty



TKSZ-L-LV2

ProZoom® 4.5 Binocular Package
on Laboratory Style Base &
LV2000-B LED Ring Light



Smart Phone Enabled

TRAINING MATERIALS

ASSEMBLY & SOLDER KITS

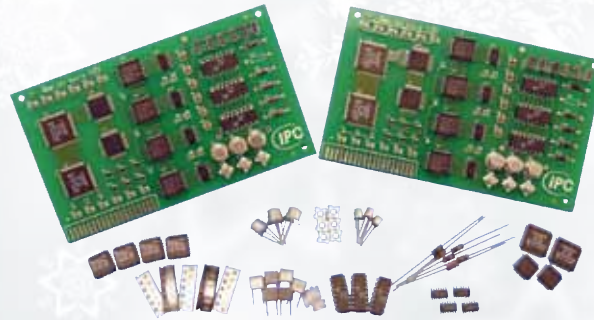
STI Electronics, Inc. is one of the largest distributors of Electronic Assembly and Solder Kits including BGA, Fine Pitch, Through-Hole and Mixed Technology to mention a few. STI's staff designs the boards and kits based on current industry needs. All kits can be customized to fit a customer's particular need and are available in various tin/lead free finishes.



ASSEMBLY & SOLDER AIDS

STI's goal is to offer solutions to the challenges our customers face on a daily basis. As a result, STI offers a full line of assembly and solder aids that can be used for manufacturing or training purposes.

DUMMY/ NON-FUNCTIONING COMPONENTS



STI Offers a full line of dummy/non-functioning components through our Training Materials group. Any component used in our various skill and process proofing/profiling kits can also be purchased in bulk quantities.



IPC APPROVED DISTRIBUTOR

STI is an approved Distributor for IPC which includes Video, Standards, Desk Reference Manuals and a variety of other products that can be used for training as well as manufacturing aids.



MANUFACTURING ANALYSIS

STI's involvement in research and development programs, both in component packaging technologies and electronics assembly manufacturing, has brought about the installation of the latest and most advanced equipment and the acquisition of the top people in this field. STI is staffed to design, develop, assemble, and test a ruggedized electronics assembly in an advanced cleanroom laboratory (Class 1000/ISO Class 6 certified) to meet our customer's specifications.



MANUFACTURING

STI Electronics' manufacturing lab encompasses 26,000 sq ft of floor space containing two surface mount lines, automated through-hole processing, and multiple flexible work cells for final assembly, 7711/7721 certified rework and repair, box build, and test. The facility and equipment is complimented by a highly skilled and trained work force of electronic technicians and associates, all of whom are certified to the highest standard of IPC J-STD-001 ES (Space Addendum).



MICROELECTRONICS PACKAGING

The Microelectronics Lab was established to meet the rising need for advanced systems development and packaging to address the emerging challenges and issues facing today's electronics assemblies. Advanced design and modeling software enables STI to design and develop highly integrated hardware to meet shrinking form and fit factor requirements as well as increasing thermal loads. Emerging packaging materials are continuously evaluated



to optimize electrical and thermal performance. The microelectronics lab specializes in state-of-the-art packaging design and assembly including current technologies such as Chip-On-Board (COB) and Multichip Module (MCM) as well as emerging technologies such as STI's patented packaging technology termed Imbedded Component/Die



CIRCUIT DESIGN

STI's involvement in research and development programs, both in component packaging technologies and electronics assembly manufacturing, has brought about the acquisition of the top people in this field and the installation of the latest and most advanced equipment and design tools. STI is US-based, ITAR registered, and staffed with engineers to design, develop, and assemble a ruggedized electronics assembly in compliance with our customer's specifications. With experience in Defense, Aerospace, Space, and commercial applications, STI is adept to designing and assembling a product to satisfy our customer's requirements.



TESTING

STI Electronics Inc.'s Engineering Department serves the aerospace, military, and commercial sectors of the electronics industry offering test and evaluation services for component-level and system-level electronics hardware. STI offers customized test protocols as well as performs testing in compliance with various EIA/JEDEC, IEC, AEC, ASTM, IPC, and MIL standards.



ELECTRICAL TEST SERVICES

STI offers a variety of electrical test services from component-level testing/characterization to system-level testing. Electrical testing is offered to validate values in accordance with component manufacturer's performance specifications, a customer's test specification, as well as standard test methods.



Analog and Digital Designs

- High Frequency RF Layouts
- Controlled Impedance Designs
 - Design Attributes
 - Rules Management
- Design Library Generation
 - Part, Package, and Electrical Symbols
 - Full Forward/Back Annotation

ENVIRONMENTAL TEST SERVICES

All electronic hardware is susceptible to the damaging effects of moisture, temperature, and contaminants. STI understands the criticality of reliability testing and test-to-failure. Improper selection of assembly materials and manufacturing processes can result in field failure returns which can lead to high warranty reserves thus affecting long-term profitability. STI's environmental testing capabilities include replicating environments such as Humidity/Moisture Resistance, Thermal Shock/Thermal Cycle, Steam Aging and Vibration/Shock testing. Coupled with the ability to perform in-situ electrical testing as well as a full range of post-test analysis of samples, these tools allow for rapid "aging" of components and prediction of operational life of hardware.

- Thermal Shock
- Temperature Cycling
- Moisture Resistance
- Humidity Cycling
- Shelf Life
- Accelerated Aging
- Vibration Testing






sti
electronics inc.

*wishes you & your
family a
Merry Christmas
&
Happy New Year*

