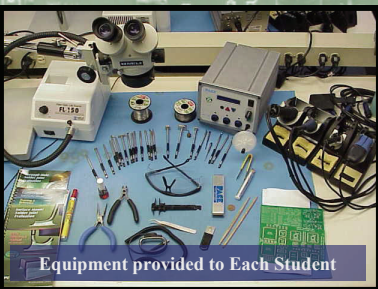


# Certified Solder Training Courses



[www.circuittechnology.com/training](http://www.circuittechnology.com/training)

340 Raleigh Street  
Holly Springs, NC 27540  
919-552-3434 Phone  
919-552-2772 Fax

25400 US 19 North  
Suite 105  
Clearwater, FL 33763  
919-552-3434 Phone  
919-552-2772 Fax

## CTI Training Course offerings

### IPC Certifications

IPC 610 Certified IPC Specialist*	\$ 750.00
IPC 610 Certified IPC Trainer	\$1995.00
IPC J-STD-001 Certified IPC Specialist*	\$1050.00
IPC J-STD-001 Certified IPC Trainer	\$2695.00
IPC 7711/7721 Certified IPC Specialist*	\$1450.00
IPC 7711/7721 Certified IPC Trainer	\$2695.00
IPC 620 Certified IPC Specialist	\$ 750.00

All IPC CIS classes pricing includes the IPC Standard.

### CTI Certifications

3 day SMT with Lead Free	\$ 695.00
Board Level Repair	\$ 995.00
Advance BGA/CSP/SMT	\$1495.00
SMT Boot Camp	\$ 595.00
Custom Classes (designed to customer requirements)	

### Pace Certifications

PCT 100, 200, 300, 400	call for details
------------------------	------------------

### Online Classes

ESD, Component ID, Lead Free Soldering, Basics of Soldering, BGA Rework including profiling, IPC refreshers, IPC 610 CIS and instructor re-certifications and more.....call for details.

### Process Classes

Wave, Reflow and SMT Printing .....call for details.

Up to date schedule online at

[www.circuittechnology.com/training](http://www.circuittechnology.com/training)

*Circuit Technology, Inc. offers certifications in our custom designed courses as well as IPC Registered Instructor and Specialists certifications in IPC-A-610, IPC J-STD-001, and IPC 7711/7721. We are authorized by Pace, Inc. to offer any of the Pace PCT certifications as well. CTI will customize courses for specific needs as requested. In addition, we also offer consulting services in all areas of the electronic assembly, repair, rework, and modification process.*

# CTI & IPC Certification Class Overviews

## **IPC 7711/7721 CIS SMT/TH Soldering and Rework**

This course recognizes the successful candidate with an official IPC certification in Rework of electronic assemblies. The 5-day course utilizes lecture and practical application to convey the rework criteria in Modules 1, 3 - 7 of IPC 7711/7721. The modules include common procedures, through hole rework, SMT chip style component rework, SOT & SOIC rework, and QFP & PLCC rework and track & pad repair. The successful candidate will receive an IPC certification valid for 2 years

## **IPC-77121 CIS Board Level Repair**

The Board Level Repair Certification is a 3-day course that explores the various techniques to repair damaged circuit boards. The student will repair damaged plated thru holes by installing appropriately sized swaged eyelets and reestablishing the electrical interconnections. The student will also repair burned and damaged laminate material by excavating the area, performing an undercut for maximum strength after repair, and complete the repair by adding 2 part epoxy to the damaged area. The course also explains the use of coloring agents to make the repair appear "equal to new". Lastly, the candidate will repair damaged surface mount pads/lands and traces using thermo-bond methodology. The course is in accordance with IPC 7721

## **IPC-7711 & 7721 CIT**

This 5-day class is designed for experienced personnel who wish to become IPC certified Registered Instructors. This is IPC's most comprehensive hands-on training program where students are evaluated on both lab and course work. Upon completion the students will know the technical guidelines of IPC 7711/7721 and will have demonstrated the proficiency necessary to perform rework, repair, and modification of printed circuit boards at the expert level. Registered Instructors are formally recognized and certified by IPC and given the instructional materials required to conduct modularized operator training. Prospective students should have advanced level experience in rework and repair as well as a desire to become training centers of competence within their organization

## **IPC-A-610D CIS Workmanship Standards**

This 3-day class teaches students the appropriate accept/reject criteria for soldered electrical and electronic assemblies. The IPC-A-610 is universally recognized as the workmanship criteria for the electronics industry. The successful candidate will receive an official IPC certification valid for 2 years

## **IPC-A-610D CIT Workmanship Standards**

This 4-day course is designed to qualify the successful candidate to teach students the appropriate accept/reject criteria for soldered electrical and electronic assemblies. Instructors are formally recognized by IPC and given the instructional materials required to conduct IPC 610 Worker Proficiency Training

## **IPC/WHMA-A-620A CIS**

This 4 day course teaches the students the appropriate accept/reject criteria for cable and wire harness assembly. CTI has developed as optional hands on module to further develop the students skills in proper wire harness and cable fabrication techniques.

## **J-STD-001D CIS Process Control**

This 5 day engineering level, hands-on solder training program is based on J-STD-001D. The program describes materials, methods and verification criteria for producing high quality soldered interconnections. The standard emphasizes process control and sets industry consensus requirements for a broad range of electronic products

## **J-STD-001D CIT Process Control**

This 5 day engineering level course is designed to allow the successful candidate to certify individuals in their company to the J-STD worker proficiency level. The course emphasizes process control and sets industry consensus requirements for a broad range of electronics products. Candidates for this course should have a broad range of experience in the electronics industry and some skills in interconnecting both PTH and SMT components and some background in technical training. Certification is valid for a two year period.

## **CTI Surface Mount Rework Certification with Lead Free**

The Surface Mount Rework Certification is a 3-day course designed for personnel who have some experience in surface mount installation and removal and a desire to refine their skills. The course includes installation and removal of common chip style components, SOT's and SOIC's, PLCC's, QFP's down to 20 mil pitch, and TSOP's. The student will install and remove components using both conductive and convective techniques. It will also detail the considerations and complication of converting to a lead free process from a hand soldering and rework perspective. Topics covered are profile considerations, board finishes, component finishes and more The course is structured to be in accordance with IPC-A-610 and IPC 7711

## **CTI Advanced BGA, CSP, $\mu$ BGA Rework Certification**

This 3-day course is designed to refine the student's skills in the installation and removal of complex SMT devices. Students will be introduced to the PACE TF-3000 or the Air-Vac DRS-24 Surface Mount Rework System then will experiment with attaching thermocouples to devices and boards to capture a real-time image of their thermal characteristics and use that information to create the correct profile for removals and replacements. The student will also use an X-Ray inspection system to inspect and characterize defects associated with leadless devices. This class is limited to six students per session to insure adequate hands-on experience

## **SMT Boot Camp**

This 2 day class immerses the student into the SMT assembly process. Students will be introduced to Printing, Placement, Reflow, Inspection and Testing of PCB's. This class must be done at the customers facility to customize to their specific equipment and process

## **Definitions:**

**IPC CIS "certified IPC specialist"**- this certification is typically for operators who use the skills but will not teach them.

**IPC CIT "certified IPC trainer"**- this is a higher level certification and allows the student to teach others to the CIS level.

**CTI Certification**- this certification follows the IPC curriculum but no official IPC certification is awarded.

*Custom, Online &  
on-site classes available!*