



TRAINING

- Expert Training in the Latest Technologies
- Industry-Demanded Certifications

PCB TECHNOLOGY

Quality & Inspection

- IPC-A-610 Instructor & Operator Certification

Soldering & Assembly

- IPC J-STD-001 Instructor & Operator Certification

Bare Board Inspection

- IPC-A-600 Instructor & Operator Certification

Rework & Repair

- IPC-7711 & IPC-7721 Instructor & Operator Certification

Hand Soldering Skills

- Soldering Basics, Wires & Terminals, Through-Hole and Surface Mount Training

PCB Fundamentals

- Component Identification
- Electrostatic Discharge

PCB Design

- IPC Designer & IPC Advanced Designer Certification

COUNTERFEIT COMPONENTS

IDEA-STD-1010

- Seminars & Workshops
- IDEA-STD-1010 Essentials
- SAE AS5553 Counterfeit Electronics

CABLE & WIRE HARNESS TECHNOLOGY

Quality & Inspection

- IPC-A-620 Instructor & Operator Certification

Hands-On Labs

- Crimping & Harness Assembly Training

TECHNICAL SUPPORT

- Manufacturing Start-Up
- Process Evaluation
- Subcontractor Qualification
- Equipment Evaluation
- Lead-Free, ESD, Process and Quality Audits

IPC PCB DESIGNER CERTIFICATION (CID)

IPC's Interconnect Designer Certification

IPC-2221 / IPC-2222 / IPC-T-50

COURSE DESCRIPTION

The IPC Certified Interconnect Designer Program is the industry's premier professional development course directly focused on PCB design philosophy and requirements.

This 4-day, lectured course (3-days lecture, 1-day testing and review), goes beyond the fundamentals of component placement and track routing to encompass a complete understanding of all the elements that go into the development of a printed circuit board—from design considerations, layout principles, component and assembly issues, to the overall physical demands and requirements that need to be met to create a producible, quality product.

Taught by recognized industry professionals, this program enhances your experience by exposing you to instructors that have a broad expertise and appreciation for the process.

Class materials are sent out upon enrollment. Participants are expected to be familiar with course materials prior to class.

Although not required, enrollment as a member in the IPC Designer Council is encouraged and the best part is, it's FREE.

WHO SHOULD ATTEND

This course is designed for anyone involved in the development, design and fabrication—at any level from sales, management, procurement, or quality—in printed circuit board production.

WHAT STUDENTS RECEIVE

Everyone who attends will receive three key IPC standards and the Designer Certification Study Guide that describes their application:

- IPC-2221 Generic Standard On Printed Board Design
- IPC-2222 Sectional Standard on Rigid Organic Printed Boards
- IPC-T-50 Terms and Definitions for Interconnecting and Packaging Electronics Circuits
- Designer Certification Study Guide

Everyone who successfully completes the program will receive:

- IPC Designer CID Certification
- Publication of your certification as an IPC Certified Designer
- Registered certification with the IPC for future validation

PREREQUISITES

An understanding of the English language, both oral and written is all that is required to benefit from this IPC Designer Certification Program. ESL Students are encouraged to inquire.

CLASS SIZE

Maximum number of students is limited to ten (10) in order to provide greater instructor interaction. Call early to reserve your space.

COURSE OUTLINE

DAY 1

DESIGN CONSIDERATIONS

- Considerations for Design
- Placement and Routing Techniques
- Electrical Characteristics
- Copper Clad Laminates
- Holes in Printed Boards
- Drilling and Hole Locations
- Features Formed in Copper

THERMAL, RELIABILITY, AND TESTING ISSUES

- Thermal Management of Boards
- Thermal Management of Assemblies
- Reliability
- Board and Assembly Testing

ELECTRICAL PARAMETERS

- Printed Board and Assembly Viewing Principles
- Introduction to Datum Dimensioning
- Grid Systems
- Tooling Holes and Fiducials
- Board and Assembly Panelization
- Panel/Pallet Separation Methods

DAY 2

COMPONENT TYPES

- Basic Components
- Embedded Components
- Edge Board Connectors
- Stiffeners, Bus Bars, Sockets, Jumpers and Terminals, MELFs, Eyelets

COMPONENT AND ASSEMBLY ISSUES

- Parts List Development
- Printed Board Tolerance Analysis
- Documentation to Facilitate Design to Fabrication Interface
- Printed Board and Assembly Data Format Standardization
- Component Insertion & Attachment Techniques
- Solder Processes
- Clinched Leads

BOARD SURFACE TREATMENTS

- Solder Mask, Conformal Coatings, Protective Coatings/Surface Finishes
- Legend
- Conductive Inks

DAY 3

DOCUMENTATION AND DIMENSIONING

- Documentation and Classifications
- Basic Drawing Formats

SCHEMATIC AND LOGIC DIAGRAMS

FABRICATION AND TOLERANCING REQUIREMENTS

- Board Fabrication Documentation
- Dimensioning and Tolerancing

ASSEMBLY DOCUMENTATION AND BOMS

DAY 4

Q & A

CERTIFICATION TESTING

REGISTRATION For up to date pricing and more information on any of the EPTAC programs, or to enroll, please call us toll free or visit eptac.com.

Toll Free: 1-800-64-EPTAC

Fax: 603-296-2377

email: register@eptac.com

Web: eptac.com

ON-SITE TRAINING Please call a training consultant and ask about customized course content, on-site training and training around your production schedules.