



## 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
- IPC-6012 Instructor & Operator Certification

### Rework & Repair

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

### Hand Soldering Skills

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

### PCB Fundamentals

- Component Identification
- Electrostatic Discharge

### PCB Design

- Essentials of PCB Design
- IPC 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-A-620 CERTIFIED IPC SPECIALIST WITH OPTIONAL LAB

IPC/WHMA-A-620 Operator and Inspector Training & Certification Program

### IPC/WHMA-A-620

## COURSE DESCRIPTION

This 4-day, lectured course is a comprehensive, operator-level certification that teaches inspection and assembly criteria for all three classes of cable and wire harness assembly. This course is based on the IPC/WHMA-A-620, "Requirements and Acceptance for Cable and Wire Harness Assemblies", the most widely used inspection specification for the cable and wire harness assembly industry.

### OPTIONAL HANDS-ON LABS (additional fee applies)

This is an optional, 1-day, hands-on lab for those who would like to practice the skills of the criteria they have learned throughout the week by following an assembly print and building a harness assembly.

## WHO SHOULD BECOME CERTIFIED

This course is for anyone responsible for the quality and reliability of cable and wire harness assemblies—including engineers, quality supervisors, inspectors and manufacturing personnel responsible for quality assurance.

## PREREQUISITES

- Understanding of the Cable Wire Harness Industry
- Understanding of the English language, oral and written

## CLASS SIZE

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

**eTRAINING** On-line training is available for some courses. Please inquire.

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

**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

**email:** register@eptac.com

**Web:** eptac.com

## COURSE OUTLINE

### DAY 1

#### Module 1:

- Policies and Procedures
- General and Applicable Documents
- Preparation
- Measuring Cable Assemblies and Wires
- Testing Cable Assemblies
- Review and testing

#### Module 2:

- Crimp Terminations
- Insulation Displacement Connections
- Review and testing

### DAY 2

#### Module 3:

- Soldered Terminations
- High Voltage
- Review and testing

#### Module 4:

- Connectorization
- Molding/Potting
- Review and testing

### DAY 3

#### Module 5:

- Ultrasonic Welding
- Splices
- Review and testing

#### Module 6:

- Marking and Labeling
- Wire Bundle Securing
- Finished Assembly Installation
- Review and testing

### DAY 4

#### Module 7:

- Coaxial and Bialxial Assemblies
- Review and testing

#### Module 8:

- Electrical Shielding
- Cable/Wire Harness Protective Coverings
- Review and testing

## DAY 5 - OPTIONAL HANDS-ON LABS (additional fee applies)

### Module 1: Lab Overview

- Review harness assembly print, materials and tooling

### Module 2: Wire Prep and Solder Termination – no soldering

- Cut and semi-stripping five wires
- Install wires onto the harness board

### Module 3: Lug Crimp Terminations

- Cut, strip and crimp two styles of lug-type terminals
- Install wires onto the harness board

### Module 4: Pin Crimp Terminations

- Cut, strip and crimp two styles of pin terminals
- Install wires onto the harness board

### Module 5: Coaxial Terminations

- Cut, strip RG59 wire; assemble two coaxial connections
- Install wires onto the harness board

### Module 6: IDC Terminations

- Cut, strip CAT5 wire; crimp two IDC connectors
- Install wires onto the harness board

### Module 7: Mass Terminations

- Cut, ribbon cable; crimp two mass termination connectors

### Module 8: Harness Securing

- • Secure the cable using tie-wraps and lacing cord