

## CONSULTANTS TO THE ELECTRONICS INDUSTRY

- MANUFACTURING START-UP
- PROCESS EVALUATION
- SUBCONTRACTOR QUALIFICATION
- EQUIPMENT EVALUATION
- LEAD-FREE, ESD, PROCESS AND QUALITY AUDITS

## THE LEADER IN HI-TECH 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 INSTRUCTOR & OPERATOR CERTIFICATION  
IPC-7721 INSTRUCTOR & OPERATOR CERTIFICATION
- **HAND SOLDERING SKILLS**  
SOLDERING BASICS, THROUGH-HOLE & SURFACE MOUNT TRAINING



## CABLE & WIRE HARNESS TECHNOLOGY

- **QUALITY & INSPECTION**  
IPC-A-620 INSTRUCTOR & OPERATOR CERTIFICATION
- **HANDS-ON LABS**  
SOLDERING, CRIMPING & HARNESS ASSEMBLY TRAINING



## FIBER OPTICS TECHNOLOGY

- **INSTALLER & TECHNICIAN CERTIFICATION**
- **FUNDAMENTALS**
- **TERMINATIONS & CLEANING**

## IPC-A-620 CERTIFIED IPC SPECIALIST WITH HANDS-ON LABS

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

### IPC/WHMA-A-620

#### COURSE DESCRIPTION

In response to customer needs, EPTAC Corporation has developed this comprehensive, hands-on, operator-level certification.

This is a comprehensive, operator-level certification that teaches accept/reject criteria as well as hands-on procedures 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.

Through hands-on labs, students perform necessary procedures for building an entire wire harness assembly.

As part of the requirements for certification, students must score a 70% average on the final examination for each module.

#### 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.

#### WHAT STUDENTS RECEIVE

Everyone who successfully completes the Certification examinations with a 70% average grade, and who completes the Hands-on Labs will receive:

- IPC/WHMA-A-620
- IPC/WHMA-A-620 Operator/Inspector Handbook
- IPC Certificate of Training
- Cable & Wire Harness Assembly Lab Procedures
- EPTAC Certificate of Training

#### PREREQUISITES

An understanding of the Cable and Wire Harness Assembly Industry and an understanding of the English language, both oral and written are all that is required to benefit from EPTAC's IPC-A-620 Certified IPC Specialist with Hands-on Labs Program.

#### CLASS SIZE

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

**MATERIALS** For each class, all the necessary tools and materials will be supplied. Students are welcome to bring their own documents if they wish.

**LOCATION** Classes are held at EPTAC's Corporate Training Center located just 35 miles from Boston and at locations throughout the US and Canada.

**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](http://eptac.com).

TOLL FREE: **1-800-64-EPTAC**  
FAX: **603-296-2377**  
E-MAIL: **REGISTER@EPTAC.COM**  
WEB: **EPTAC.COM**

#### COURSE OUTLINE

##### DAY 1

- **Module 1:** Introduction/Policy and Procedures
- **Module 2:** Requirements and Acceptance for Cable and Wire Harness Assemblies and Applicable Documents
- **Module 3:** Wire Preparation
- **Module 4:** Soldered Terminations
- **Module 5:** Crimp Terminations

##### DAY 2

- Review and Review Exercise
- **Module 5 (cont.):** Crimp Terminations
- **Module 6:** Insulation Displacement (IDC)
- **Module 7:** Ultrasonic Welding
- **Module 8:** Splices
- **Module 9:** Connectorization

##### DAY 3

- Review and Review Exercise
- **Module 9 (cont.):** Connectorization
- **Module 10:** Molding / Potting
- **Module 11:** Cable Assemblies and Wires
- **Module 12:** Marking Labeling
- **Module 13:** Coaxial and Twinaxial Cable Assemblies
- **Module 14:** Wire Bundle Securing

##### DAY 4

- Review and Review Exercise
- **Module 14 (cont.):** Wire Bundle Securing
- **Module 15:** Shielding
- **Module 16:** Cable/Wire Harness Protective Coverings
- **Module 17:** Installation
- **Module 18:** Solderless Wrap
- **Module 19:** Testing/Review

##### DAY 5 - HANDS-ON TRAINING

- **Wire Preparation Lab:**
  - Stripping
  - Tinning
- **Soldered Terminations Lab:**
  - Bifurcated Terminals
  - Turret Terminals
  - Gold Cup Terminals
  - Hook Terminals
  - Pierced Terminals
- **Crimping Terminations Lab:**
  - Insulated Lugs
  - Non-Insulated Lugs
  - Machine Crimped Contacts
- **Wire Harness Bundle Lab:**
  - Lacing
  - Breakouts
  - Wire Bundles

##### ADDITIONAL TOPICS (Time Permitting)

- **Insulation Displacement Lab:**
  - Mass Termination
  - Discrete Wire Termination
- **Splicing Lab:**
  - Soldered
  - Crimped
- **Coaxial Assembly Lab:**
  - Soldered
  - Crimped