



P.O. Box 709 Highway 5 South **Electra / Vectra Course Syllabus**
Camdenton, MO. 65020

Course: Electra / Vectra Series Maintenance, Operations & Troubleshooting

Course Description: This course provides numerous practical “hands-on” operations and theory. The students are given operations, maintenance, troubleshooting and calibration training necessary to develop the techniques and knowledge required to perform scheduled preventive maintenance, calibrations, and in-depth troubleshooting of the Electra or Vectra wavesoldering systems. Each student, upon successful completion of the skills criteria and course objectives, will receive a certificate of competence for the Electra or Vectra wavesoldering system’s maintenance, operations, and troubleshooting course.

Course Length: 4 Days

Start: Monday 9:00 a.m.

End: Thursday 5:00 p.m.

Intended Audience: Individuals responsible for the in-depth operation, maintenance, calibration and troubleshooting of the Electra or Vectra wavesoldering system, or anyone involved with the improvement of the wave soldering process.

Course Objectives: Upon completion of the course and accomplishment of the practical skills criteria, the student will be qualified to perform preventive maintenance, troubleshooting and calibration on the Electra or Vectra wavesoldering system and will be able to:

- Perform system operations safely observing all safety rules.
- Identify system vital signs and the related significance they hold.
- Level system and verify facility supply connections.
- Perform proper power up/down of system.
- Check system safety interlocks and E-Stop functions.
- Successfully navigate system software.
- Perform operations in manual and automatic modes of operation.
- Perform software backup and restore operations.
- Perform conveyor system maintenance including cleaning, lubrication, and finger replacements.
- Perform fluxer system maintenance.
- Test fluxer system for proper operation.
- Perform preheater system maintenance including cleaning and element replacement.
- Perform solder pot maintenance including nozzle and flow duct cleaning and alignment.
- Perform solder pump rebuild.
- Interpret system drawings and identify symbols and part numbers.
- Identify all system serial communications links and ports.
- Setup and calibrate motion system control functions.
- Isolate motion system faults using system software and drawings.
- Setup and calibrate system temperature control functions.
- Utilize system drawings and software to isolate digital I/O faults.
- Utilize system drawings and software to isolate analog I/O faults.

Prerequisites:

- Ability to navigate a Windows type software application environment
- Ability to use hand tools

- Ability to lift approximately 50 pounds
- Ability to read / interpret engineering drawings