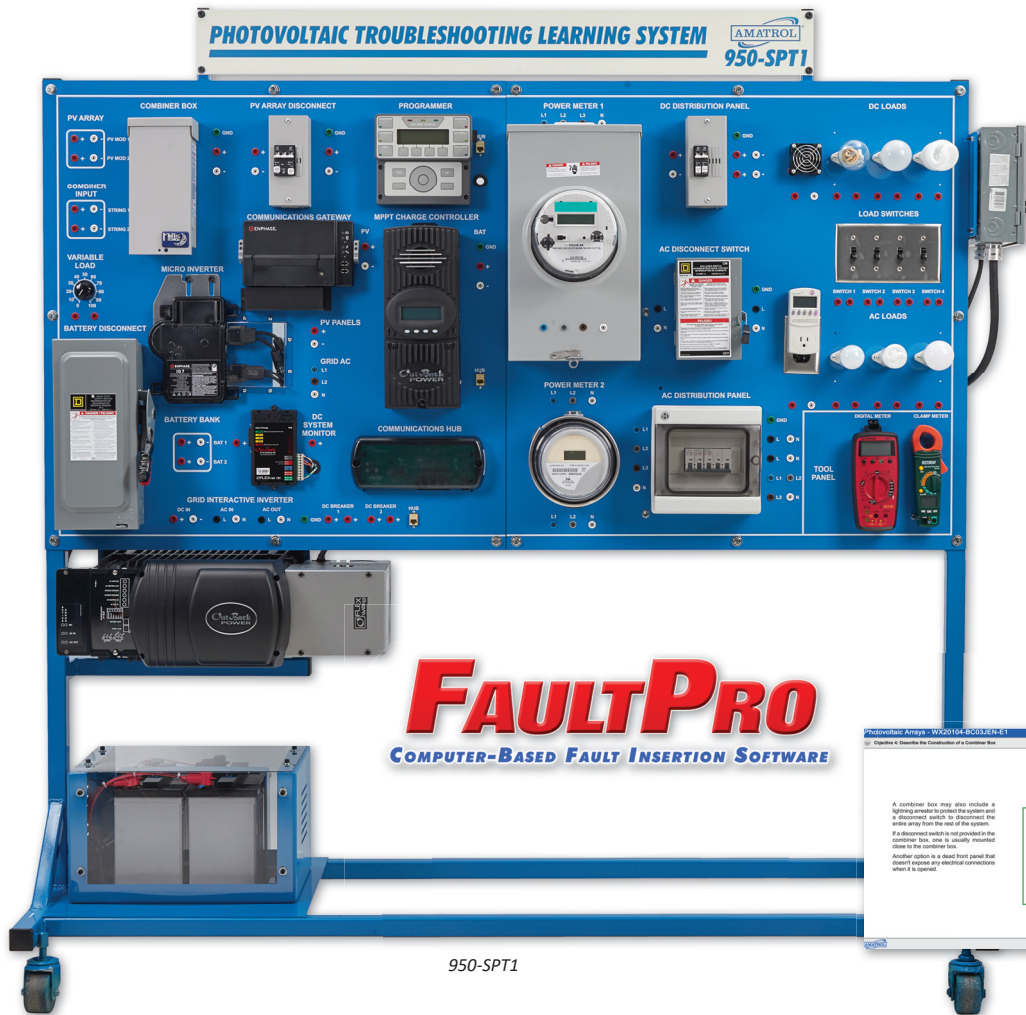


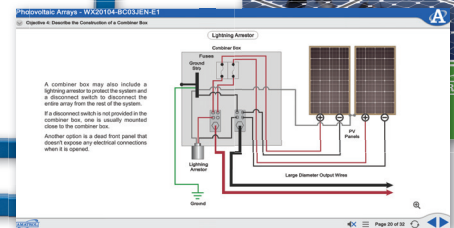
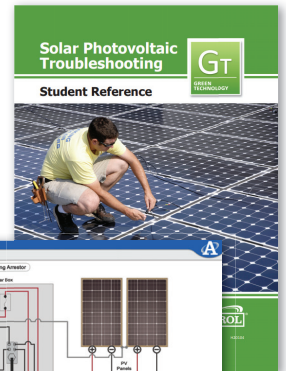
# Solar PV Troubleshooting Learning System

950-SPT1



**FAULTPRO**  
COMPUTER-BASED FAULT INSERTION SOFTWARE

Student Reference Guide



Interactive Multimedia Curriculum

## Learning Topics:

- PV Module Construction & Operation
- I-V Characteristics
- PV Module Performance
- PV Array Connection & Inverters
- Solar Batteries
- DC Solar PV Systems
- Charge Controllers
- AC Solar PV Systems
- Stand-Alone PV Systems
- Grid-Connected PV Systems
- Troubleshooting Components
- System Troubleshooting

Amatrol's Solar PV Troubleshooting Learning System (950-SPT1) covers hands-on skills and troubleshooting ability across multiple PV systems. Students learn about connection, operation, programming, and troubleshooting of AC, DC, stand-alone, and grid-connected systems. At the heart of a solar photovoltaic (PV) technician's skill set is the ability to troubleshoot a solar PV system. The 950-SPT1 is equipped with a wide range of electrical faults that, using Fault Pro, allows instructors to replicate realistic system and component failure. The 950-SPT1 supports the NABCEP (North American Board of Certified Energy Practitioners) test for Certified Solar Photovoltaic System Installer.

The 950-SPT1 includes the components needed to develop hands-on, job-ready skills: all solar specific components as well as balance of system items. The solar photovoltaic PV learning system contains a mobile workstation, component panels with breakers, combiner box, MPPT charge controller, lamps, batteries, meters, grid interactive inverter, a fault insertion system, multimedia student curriculum, and instructor's assessment guide. The required 95-SPA1 two-panel Solar PV Array Station provides a complete solar PV troubleshooting experience, using Fault Pro. Amatrol uses components that learners will find on-the-job in order to give the best opportunity to build confidence and industrial competencies.



## Technical Data

Complete technical specifications available upon request.

Mobile Workstation  
Micro-Inverter  
Combiner Box  
PV Array Disconnect  
Battery Disconnect  
MPPT Charge Controller  
Communications Hub  
Power Meters  
DC Distribution Panel  
AC and DC Loads  
AC Distribution Panel  
AC Disconnect Switch  
Multimeter Set  
FaultPro Computer-Based Fault Insertion  
20122 Regular Lead Set  
Multimedia Curriculum (M20104)  
Instructor's Guide (C20104)  
Installation Guide (D20104)  
Student Reference Guide (H20104)  
Additional Requirements:

Customer-supplied utility system grid interface  
Computer, see requirements: <http://www.amatrol.com/support/computer-requirements>  
95-SPA1 Solar PV Array Station

### Utilities Required:

Electric (208V/60Hz/3ph)

## Comprehensive Training in AC/DC and Grid-Connected Thermal Systems

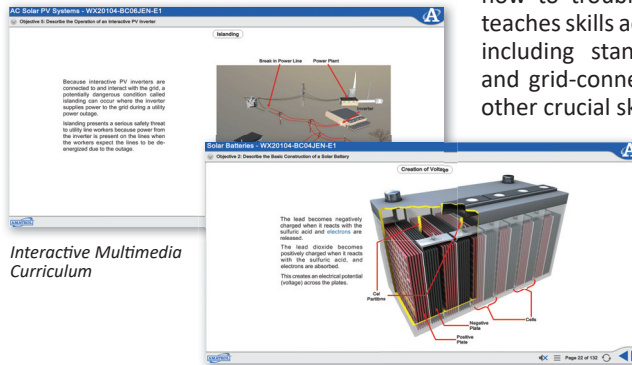
Amatrol's 950-SPT1 includes power distribution panels, a combiner box, disconnects, and circuit breakers that are essential to create realistic solar photovoltaic systems and troubleshooting situations. The system also includes a micro-inverter in addition to the grid-tie inverter. This is a very popular option that is frequently used to assign an inverter to each PV string. Both of these inverters are required to teach skills across all major types of AC systems including stand-alone AC, grid-connected AC, and grid-connected AC with storage.



Micro-Inverter & Battery Disconnect on 950-SPT1

## Computer Based Fault Insertion and World-Class Curriculum

This learning system also offers the option of Amatrol's world-class multimedia curriculum, which combines strong theoretical knowledge and concepts with hands-on skills for the best industrial competency-building on the market. This thorough, exceptionally detailed eLearning curriculum starts with the basics and steadily advances to more complex concepts and skills. The 950-SPT1 teaches how to connect a realistic array, how to network system components, how to troubleshoot at the system level, and teaches skills across all major types of AC systems including stand-alone AC, grid-connected AC, and grid-connected AC with storage, as well as other crucial skills.



Interactive Multimedia Curriculum

## Student Reference Guide

A sample copy of the Solar PV Troubleshooting Student Reference Guide is also included with the system for your evaluation, along with interactive multimedia. Sourced from the system's curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfectly-bound book. Student Reference Guides supplement this course by providing a condensed, inexpensive reference tool that learners will find invaluable once they finish their training, making it the perfect course takeaway.

