Servicing the Philips CP Family of Generators: Super CP, Optimus CP, OM 2000

Course Length: 1 weeks
CEUs Awarded: 4

Introduction

The Philips OEM CP Family course includes detailed theory of operation, installation and calibration of Philips CP generators. Systems covered in this course include Philips Super CP, OM 2000 and Optimus CP.

Prerequisites

To attend this course, students must have completed Phase IV or have equivalent experience through on-the-job training. The service professional must also possess a good working knowledge of computer concepts, addressing, and associated support circuits.

Objectives

- Describe circuit operation of Philips CP generator systems
- Perform complete calibration of Philips CP generators
- Troubleshoot Philips systems
- Perform all steps necessary to change X-ray tubes on Philips CP generator

Note: This is a prerequisite for the Philips Integris Cath Lab course and can be taken in conjunction with it as the first week of a 3-week program.

Course Outline

DAY 1

I. Philips CP generators
  A. CP System overview
    1. Block diagrams
    2. Software/firmware
  B. Hardware programming
    1. Tube selection
    2. Image receptor selection
    3. AEC options
  C. Switch settings
  D. System communications

Lab Activities

I. Component identification
II. Signal tracing
III. Software/firmware verification
IV. Hardware programming
  A. Verification
  B. Manipulation
V. Translating CPU buss error codes

DAY 2

I. Philips CP generators (continued)
  A. System logic
  B. software operation
  C. diagnostics
II. kV circuit operation

Lab Activities

I. Software checkout
II. kV calibration
III. Waveform analysis
IV. HV circuit trouble shooting

DAY 3

I. mA circuit operation
  A. Tube adaptation
  B. filament calibration requirements
II. Phototiming
  A. AEC/RAD
  B. AEC/photospot and cine
  C. AEC/digital captures
  D. Brightness stabilization

Lab Activities

I. mA calibration
II. Filament drive calibration
  A. Standby level
  B. Boost
  C. Dose rate controls
III. Waveform analysis
IV. Filament control troubleshooting

DAY 4

I. Rotor controls
  A. YA group
  B. YC extension
  C. YD extension
  D. YG continuous high speed

Lab Activities

I. Rotor control setup
II. Waveform analysis
III. Rotor control troubleshooting
IV. X-ray tube change requirements
  A. Tube prom selections
  B. Rotor connections
  C. Oil cooler
V. Oil cooler maintenance

DAY 5

I. Course review
II. Final exam