

# GE Senographe DMR/700T/800T Mammography Systems Maintenance Course

Course length: 1 Week  
CEU's Awarded: 4

## COURSE INTRODUCTION

The GE DMR/700T/800T Systems Maintenance course is designed to teach the service professional those skills necessary to fully service these x-ray systems. This includes all calibration procedures, functional checks, and troubleshooting techniques. The course includes integrated lectures, labs, and documentation which complement each other ensuring the maximum learning environment.

## DAY 1

- I. Introduction to the DMR/700T/800T systems
- II. Control panel operation
  - A. Knobology
  - B. Technique selection
- III. Cabinet layout
  - A. Generator
  - B. Gantry
- IV. Installation/Calibration Software
- V. Error Codes
- VI. Overall logic diagram
  - A. Turn on circuitry
  - B. Power supplies
  - C. KV control
  - D. mA control

## LAB ACTIVITIES

- I. Unit assembly evaluation
- II. Physical layout
  - A. Cabinet layout
  - B. Component identification
- III. System operation
- IV. Checking basic supply voltages
- V. Preliminary generator and gantry testing

## DAY 2

- I. KV control logic diagram
  - A. Inverter circuitry
  - B. Frequency control circuitry
  - C. KV feedback
- II. Principles of calibration
- III. Troubleshooting

## COURSE OBJECTIVES

At the conclusion of this course, attendees will be able to:

- Troubleshoot to the component or board level.
- Calibrate all circuitry to the manufacturer's specification.
- Perform all related CDRH compliance testing.
- Verify the system performance.
- Perform all service professional related MQSA compliance related tests.

- IV. Filament control logic diagram
  - A. High frequency VCO
  - B. CPU drive circuitry
  - C. Filament feedback
  - D. Real mA feedback
  - E. Open filament detect
- V. Principles of calibration
- VI. Troubleshooting

## LAB ACTIVITIES

- I. Calibration of heater current scale factor
- II. Calibration of x-ray tube focal bias and scale factor
- III. Calibration of x-ray tube mA measurement
- IV. Calibration of kV scale factor
- V. Calibration of x-ray tube heater current

## DAY 3

- I. CPUs and digital interfaces
- II. Automatic Exposure Control
- III. Principle of AEC calibration

## LAB ACTIVITIES

- I. Calibration of photocell HV measurement and scale factor
- II. Calibration of photocell sensitivity as a function of its voltage

## PREREQUISITES FOR ADMISSION

Attendees must possess the knowledge acquired through attendance at our Mammography Principles and MQSA Course or the equivalent service experience. A strong microprocessor background is recommended.

## DAY 4

- I. Movements, lamps and interlocks
- II. Exposure control circuitry
- III. Rotor controller circuitry
  - A. Accelerate operation
  - B. Run operation
  - C. Brake cycle

## LAB ACTIVITIES

- I. Calibration of compression force detector
- II. Collimation assessment
- III. Focal spot measurement
- IV. Beam quality assessment
- V. AEC performance assessment
- VI. Average glandular dose

## DAY 5

- I. Overview of MQSA requirements
- II. System review
- III. Final exam and course critique
- IV. Parts sourcing