

Servicing the GE Revolution XR/d Family: 1X & 2X Platforms



RADIOLOGICAL SERVICE TRAINING INSTITUTE

Introduction

The GE Revolution XR/d Systems course is a skills development course designed to provide the experienced service professional with the skills necessary to fully service and calibrate this dual detector system. The XR/d 1X platform is built around the SCPU generator, while the 2X platform is built around the JEDI generator. Both 1X & 2X systems will be covered in the course.

Prerequisites

To attend this course, the service professional must have a good understanding of the principles gained through attending Phase II or two years equivalent experience in servicing RAD equipment.

Objectives

- Describe the factors that affect digital image quality
- Describe how those factors are optimized to produce the highest quality digital images
- Describe the function of the basic components of the GE XR/d digital radiographic unit
- Demonstrate an understanding of the installation procedures associated with the GE Revolution XR/d
- Perform the necessary digital performance monitoring and quality assurance procedures utilizing the GE XR/d

- Perform all system calibrations and adjustments to maintain the highest quality images
- Evaluate circuit functions to facilitate troubleshooting
- Perform a complete and thorough preventive maintenance inspection on the unit

Course Outline

DAY 1

- Digital imaging process overview
- Basic terminology
- XR/d system overview
- XR/d system operation
- System specifications
- Lab Activities
 - Basic system operation
 - AWS acquisition software
 - Image acquisition
 - Image viewer
 - Screen considerations
 - Technologist digital QC

DAY 2

- System documentation overview
- Installation
- Operations
 - ADS Workstation (1X)
 - Magic Workstation (2X)
- Service
- Schematics
- Lab Activities
 - Annual physicist checks
 - Image quality
 - Signal to noise
 - Resolution
 - Contrast ratio

- MTF
- Flatfield/phantom IQ
- AOP

DAY 3

- System service
- Lab Activities:
 - Required tools and software
 - Remove and replace covers and system panels
 - AWS
 - Gantry
 - Operators console
 - Generator

DAY 4

- UNIX basics
- AWS configuration
- Site planning and installation
- Network configuration
- Ethernet config
 - RT Bus
 - ArcNet Bus
 - CAN Network
 - Troubleshooting XR/d internal Networks
- System calibration
- Functional checks
- System backups
- System restore
- Lab Activities
 - Component location
 - Schematic location
 - Physical location
 - Connector locations
 - Fuse location/identification
 - UPS Battery check/replacement procedures
 - UNIX Telnet session

Servicing the GE Revolution XR/d Family: 1X & 2X Platforms



RADIOLOGICAL SERVICE TRAINING INSTITUTE

DAY 5

- Preventive maintenance
- Error codes
- System diagnostics
- Lab Activities
 - o PM
 - o Diagnostics

DAY 6

- Image Chain - Image Detection
 - o IDC
 - Bad Pixel correction
 - Flatfield correction
- Detector
- Conditioner/Chiller
- Lab Activities
 - o Remote login to IDC
 - o Turning On/Off Bad Pixel correction
 - o Turning On/Off Detector calibration corrections

DAY 7

- System service procedures
 - o Software reload
 - ADS
 - IDC
 - Generator
 - Positioner
 - o Troubleshooting
 - o Options
 - o Networking
 - o Output devices
 - Laser printer

- PACS
- RWS
- CAD
- Media
- o Input devices
 - Modality worklist
- Lab Activities
 - o Load from Cold (LFC)
 - o Configure and test output devices
 - o Configure and test input devices
 - o Backup/Restore

DAY 8

- Generator calibration
- Lab Activities
 - o AEC calibration
 - o Beam alignment
 - o Collimator format
 - o Bad pixel
 - o Detector gain
 - o Positioner calibration - Table detector
 - o Positioner calibration - Wallstand detector

DAY 9

- System schematics
 - o AWS
 - o Gantry
 - o Generator
- Troubleshooting
- System diagnostics
- Lab Activities
 - o Review system diagrams and communication
 - o Troubleshooting
 - o System diagnostics
 - o Access ADS Error logs

- o Access OS Error logs
- o Central Listing
 - Test Points
 - LED's
- o Networking
- o Power Distribution/Supplies

DAY 10

- Course review
- Course evaluation
- Final exam