

Servicing the Philips DigitalDiagnost & BuckyDiagnost Systems



RADIOLOGICAL SERVICE TRAINING INSTITUTE

Introduction

The Philips DigitalDiagnost (and BuckyDiagnost) training course covers Philips latest DR (Digital Radiography) system as well as the Bucky-based BuckyDiagnost system.

The Diagnost course is a skills development course designed to provide the experienced service professional with the skills necessary to fully service and calibrate these single & dual detector systems. The DigitalDiagnost product is built on the BuckyDiagnost platform and can have a Optimus Generator or an M-Cabinet CXA Generator. System components that will be covered in this course include:

- TH (Height Adjustable Table)
- CS (Ceiling Suspension)
- FS (Fixed Stand for X-Ray tube)
- VM (Vertical Bucky, moveable)
- VS (Vertical Stand)
- M-Cabinet CXA (Generator, 65kW or 80kW)
- Optimus Rad (Generator, 65kW or 80kW)

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

- Understand the similarities & difference between the DigitalDiagnost & BuckyDiagnost products
- Describe how factors are optimized to produce the highest quality digital images
- Describe the function of the basic components of each DigitalDiagnost digital radiographic & BuckyDiagnost radiographic units
- Perform the necessary performance monitoring and quality assurance procedures
- 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

- Service Key access using AIAT
 - Obtain service key
 - Obtain service key reader
 - Install IST
 - Install and configure service key reader
 - Charge & test service key
 - Utilize student service key on training system
- Digital imaging process overview
- Basic terminology
- DigitalDiagnost system overview
 - Release Versions

- R1–R4
- FPD's
 - Fixed Detector (Triaxel Pixium 4600)
 - SkyPlate
- DigitalDiagnost system operation
- System specifications
- Lab Activities
 - Basic system operation
 - Sun Workstation (Sun Solaris OS) software
 - Workspot (Kontron PC, Windows OS) workstation software
 - Image acquisition
 - Image viewer
 - Screen considerations
 - Technologist digital QC
- System documentation overview
 - Installation
- Operations
 - Workspot Workstation
 - Sun Workstation (demo workstation)
- Service
- Schematics
- Lab Activities
 - Image quality
 - Signal to noise
 - Resolution
 - Contrast ratio
 - MTF
 - Flatfield/phantom IQ
 - AEC

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Day 2

- System service
 - Service software
 - CS Service Mode
 - AGenT (Access Generator Tool)
 - GEST (Generator E Service Tool)
 - XScope
- Lab Activities:
 - Required tools and software Remove and replace covers and system panels
 - AWS
 - Operators console
 - Generator
- AWS configuration
- Site planning and installation
- Network configuration
- Ethernet config
 - CAN Network
 - Troubleshooting internal networks
- System calibration
 - Tube Adaption
 - Tube Conditioning
- Functional checks
- System backups
- System restore
- Lab Activities
 - Component location
 - Schematic location
 - Physical location
 - Connector locations
 - Fuse location/identification

Day 3

- Preventive maintenance
- Error codes
- System diagnostics
- Lab Activities
 - PM
 - OEM Preventative Maintenance Procedures
 - Diagnostics
- Image Chain - Image Detection
- Detector Calibration
 - Detector correction
 - Flatfield correction
- System service procedures
 - Software reload
 - Troubleshooting
 - Options
 - Networking
 - Output devices
 - Laser printer
 - PACS
 - RWS
 - Media
 - Input devices
 - Modality worklist
- Lab Activities
 - Software Load
 - OS
 - Applications
 - Configure and test output devices
 - Configure and test input devices
 - Backup/Restore
 - Ghosting/Cloning procedures

Day 4

- Calibration methods
- Generator calibration
- Lab Activities
 - AEC calibration
 - Beam alignment
 - Collimator format
 - NICOL Collimator
 - Detector gain
 - Positioner calibration - Table detector
 - Positioner calibration - Wallstand detector

Day 5

- System schematics
 - Gantry
 - Generator
- Troubleshooting
- System diagnostics
- Lab Activities
 - Review system diagrams and communication
 - Troubleshooting
 - System diagnostics
 - Access Error logs
 - Central Listing
 - Test Points
 - LED's
 - Networking
 - Power Distribution/Supplies
- Course review
- Course evaluation
- Final exam