

Servicing the Philips Digital Diagnost: DiDi (Digital FPD System)



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Introduction

The Philips Digital Diagnost training course covers Philips latest DR (Digital Radiography) system.

The Digital 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 system. The Digital Diagnost product is built on the Optimus generator platform. 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)
- 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 Digital Diagnost products.
- Describe how factors are optimized to produce the highest quality digital images

- Describe the function of the basic components of each Digital Diagnost digital radiographic unit
- Demonstrate an understanding of the installation procedures associated with the Digital Diagnost
- Perform the necessary digital 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
- System documentation overview
 - o Installation
- Operations
 - o Sun Workstation
- Service
- Schematics
- Lab Activities
 - o Image quality
 - o Signal to noise
 - o Resolution
 - o Contrast ratio
 - o MTF
 - o Flatfield/phantom IQ
 - o AEC

Course Outline

Day 1

- Digital imaging process overview
- Basic terminology
- Digital Diagnost system overview
 - o Release Versions
 - o FPD's
 - Fixed Detector (Trixell Pixium 4600)
 - SkyPlate
- Digital Diagnost system operation
- System specifications
- Lab Activities
 - o Basic system operation
 - o Sun Workstation software
 - o Image acquisition
 - o Image viewer
 - o Screen considerations
 - o Technologist digital QC

Day 2

- System service
 - o Service software
- Lab Activities:
 - o Required tools and software
 - o Remove and replace covers and system panels
 - o AWS
 - o Operators console
 - o Generator
- UNIX basics
- AWS configuration
- Site planning and installation
- Network configuration
- Ethernet config
 - o CAN Network
 - o Troubleshooting internal networks
- System calibration
 - o Tube Adaption
 - o Tube Conditioning
- Functional checks
- System backups
- System restore

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- Lab Activities
 - o Component location
 - o Schematic location
 - o Physical location
 - o Connector locations
 - o Fuse location/identification

Day 3

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

- o Backup/Restore
- o Ghosting/Cloning procedures

Day 4

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

Day 5

- 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 Error logs
 - o Central Listing
 - Test Points
 - LED's
 - o Networking
 - o Power Distribution/Supplies
- Course review
- Course evaluation
- Final exam