Servicing the Philips DXR Family (DigitalDiagnost, BuckyDiagnost, C50, C90, 7300 C)

RADIOLOGICAL SERVICE TRAINING INSTITUTE

Introduction

Philips DXR Family (DigitalDiagnost, BuckyDiagnost, C50, C90, 7300 C) training course covers Philips latest DR (Digital Radiography) system as well as the Bucky-based BuckyDiagnost system.

The DXR Family 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, C50, C90, & 7300 C products are 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)
- CSM (CS Motorized)
- CSM3 (CS Motorized 3)
- CSV (CS Value)
- 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
    - C50
    - C90
    - 7300 C
  - FPD's
    - Fixed Detector (Trixell 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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Hands-On Training Course
Course Length: 1 Weeks
CEU's Awarded: 4 CEU's
State of Ohio Registration No. 93-09-1377T

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Day 2

- System service
  - Service software
    - CS Service Mode
    - AGenT (Access Generator Tool)
    - GEST (Generator E Service Tool)
    - XScope
    - FSF (Field Service Framework)
    - PSC (Philips Support Connect)
- 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

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