

Servicing the Philips EasyDiagnost Eleva

R&F Systems



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Introduction

The Philips EasyDiagnost Eleva training course covers Philips latest DRF (Digital Radiography/Fluoroscopy) system. The EasyDiagnost course is a skills development course designed to provide the experienced service professional with the skills necessary to fully service and calibrate these CCD digital R&F systems. The EasyDiagnost Eleva product is built on the EasyDiagnost platform and has a Velara Generator. System components that will be covered in this course include:

- SC (Stand/R&F Table)
- CS (Ceiling Suspension)
- FS (Fixed Stand for X-Ray tube)
- VS (Vertical Stand)
- Velara Generator

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 EasyDiagnost & EasyDiagnost Eleva products
- Describe how factors are optimized to produce the highest quality digital R&F images

- Describe the function of the basic components of each EasyDiagnost unit
- 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
- EasyDiagnost system overview
 - Release Versions
 - R1–R5
 - FPD's
 - Fixed Detector (Trixell Pixium 4600)
 - SkyPlate
- EasyDiagnost system operation
- System specifications
- Lab Activities
 - Basic system operation

- Eleva Workspot (Kontron PC & Sysco PC, Windows OS) workstation software
- Image acquisition
- Image viewer
- Screen considerations
- System documentation overview
- Operations
 - Eleva Workspot Workstation
- Service
- Schematics
- Lab Activities
 - Image quality
 - Signal to noise
 - Resolution
 - Contrast ratio
 - MTF
 - Flatfield/phantom IQ
 - AEC

Day 2

- Z1 Drawings
- System service
 - Service software
 - AGenT (Access Generator Tool)
 - FSF (Field Service Framework)
- 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

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- CAN Network
- Troubleshooting internal networks
- System calibration
- Tube Adaption
- Tube Conditioning
- Functional checks
- System backups
- System restore
- Lab Activities
 - Component location
 - B-Cabinet (Imaging Cabinet)
 - DI
 - E-Cabinet
 - Velara Generator
 - M-Cabinet
 - RIO & CAN I/F
 - Schematic location
 - Physical location
 - Connector locations
 - Fuse location/identification

Day 3

- Stand/Table
 - SC Rack
 - Spider Gear
 - II, CCD, & Optics
- Preventive maintenance
- Error codes
- System diagnostics
- Lab Activities
 - PM
 - OEM Preventative Maintenance Procedures
 - Diagnostics
- Image Chain - Image Detection
- Detector Calibration
 - Detector correction
 - Flatfield correction

- Required Tools & Test Equipment
- 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

- Adjustments/Calibration
 - CS
 - WS
 - Geometry
 - II/TV
- 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