Servicing the Fuji FDR Go & FDR Go Plus

RADIOLOGICAL SERVICE TRAINING INSTITUTE

Introduction

Portable X-ray units are found in most radiological/diagnostic imaging departments. They are typically exposed to a higher abuse level due to elevator openings, tight room entrances, limited patient access, and lack of space for maneuverability. This constant abuse will cause premature mechanical failure if not properly identified and corrected early. The trained service professional will be taught the skills necessary for mechanical, electromechanical, and electronic maintenance of the Fuji FDR Go & FDR Go Plus Portable. Each sub-system of the mechanical unit and the generator is thoroughly analyzed.

Models Covered

This course will cover the following models:

- Fuji FDR Go (MUX-200)
- Fuji FDR Go Plus (MUX-300)

Prerequisites

To attend this course, the service professional must have a good understanding of the principles gained through attending Phase II, or four years equivalent experience. The service professional must also possess a good mechanical aptitude.

Objectives

At the conclusion of this course participants will be able to:

- Evaluate overall system performance
- Troubleshoot mechanical and electronic problems on all components of the unit
- Perform a complete and thorough preventive maintenance inspection on each portable unit
- Follow circuit operations of system detail block diagrams
- Calibrate the digital detector.

Course Outline

Day 1

- Introduction
- Overview
  - DR-ID 600 PU
    - DR-ID SE
    - DR-ID MP
  - DR-ID 800 PU
    - DR-ID SE
    - DR-ID 800IU
  - DR-ID 600MC
  - DR-ID 300CL
  - DR-ID 800CL
- Model Comparison
  - FDR Go
  - FDR Go Plus
- Terms & Acronyms
- Basic operations
  - Knobology
  - Terminology
- Specifications
- Component ID
  - Battery Change
  - Motor Swap
- Models & unit comparison
  - Mechanical
  - Electronic
  - Documentation
- Lab Activities
  - Basic operation
  - Component identification and location

Day 2

- Component identification and location
  - Battery change
  - Drive motor change
  - Collapsible Column (FDR Go Plus)
- Calibrations
  - Charging
  - Inverter
    - kV Feedback
    - Max Inverter Frequency
    - Pulse Width Adjust
  - Filaments
    - mA (2)
    - mAs
- MUX-Charge Unit
  - Batteries
- MUX-Inverter Unit
  - Tube stator
  - Filament control circuits
  - Collimator lamp circuits
- Lab Activities
  - Charger calibration
  - Filament calibration
  - Battery maintenance
  - Battery change

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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 3

- Calibrations
  - Rotor
    - Rotor Inverter Frequency
    - Rotor Inverter Pulse Width
  - Lock Adjustments
  - Drive Circuits
    - Drive Handle Adjustment
    - Speed
- MUX-Power
  - Inverter driver circuits
  - Inverter circuits
- Logic circuit
  - Safety circuits
  - Exposure start/stop circuits
- Lab Activities
  - kV calibration
  - Timer calibration
  - Timer waveform analysis

Day 4

- FPD
  - Overview
    - DR-ID 600 SE
    - DR-ID 1200 SE
  - Install & Pairing
  - Calibration
  - Troubleshooting
- Digital detector
  - Detector firmware flashing
  - Detector pairing
  - Detector calibration
  - Digital Image Quality Checks
- Lab Activities
  - Flash digital detector
  - Pair digital detector
  - Calibrate digital detector
  - Perform Image Quality checks on digital detector

Day 5

- Computer & PC Maintenance
  - Backup
  - Factory Recovery
  - Ghost Creation
  - Restore
- PM
- System troubleshooting
  - Mechanical
    - Collapsible Column
      - ☐ Cabling review
      - ☐ Cable replacement recommendations
  - Electronic
- Overall system review
- Final exam
- Course evaluation