

# Servicing the Shimadzu RadSpeed



RADIOLOGICAL SERVICE TRAINING INSTITUTE

## Introduction

The Shimadzu RADSpeed course is a skills development course designed to provide the experienced service professional with the skills necessary to fully service and calibrate this control.

## 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. The service professional must also possess a good working knowledge of microprocessors and their associated support chips.

## Objectives

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

- Evaluate overall system performance
- Troubleshoot mechanical and electronic problems
- Perform a complete and thorough preventive maintenance inspection on each unit
- Follow circuit operations of system detail block diagrams

## Course Outline

### Day 1

- System Overview
  - o UD150B/V/L-40 Generator - 80, 65, & 50kw
    - RadSpeed Configurations
      - RadSpeed Auto
      - RadSpeed Manual
      - RadSpeed DR
      - RadSpeed Pro

- o Consoles
  - 40/40E
- Shimadzu documentation
  - o Operator's manual
    - System features
    - System components
  - o Pre-installation manual
  - o Service manual
  - o OTS suspension
    - Operator's manual
    - Pre-installation
    - SVC
  - o Schematics
- System specifications
  - o BK-200Table
  - o UD150B/V/L-40 Generator
  - o CH-200 Tube Mount
  - o R-30H Collimator
  - o BR-120 Wall stand
  - o X-Ray tube

### Day 2

- Configuration and Installation
  - o Quick start
  - o System description
  - o System console
  - o Table components
  - o OTS
  - o Wall stand
  - o Accessories
- Lab Activities
  - o Operational checks
  - o Functional checks
  - o Component ID
    - Generator
    - Table
    - OTS

### Day 3

- Generator theory
  - o Block diagrams
  - o Power distribution
  - o Board function
    - kV Control
    - kV Function
    - mA Function
- Lab Activities
  - o Tera Term software
  - o System backups
  - o Positioning & limits
  - o Calibration
  - o AEC
    - Calibration for film
    - Calibration for CR
  - o Power Supplies

### Day 4

- Error codes
- Schematics
- Diagnostics
  - o Access error log
  - o Run Diagnostics
  - o LED
- Lab Activities
  - o Service diagnostics
  - o PM checks
  - o Troubleshooting

### Day 5

- System review
- Final exam
- Course evaluation