

# Siemens R&F Imaging - Explorator ML/MR Spotfilmer, Videomed N/H Camera, and Sireskop 5 Table Course

Course length: 1 Week  
CEU's Awarded: 4

<p><b>COURSE INTRODUCTION</b> The Siemens R&amp;F Imaging course is designed to teach the service professional those skills necessary to fully service the imaging chain. This includes all calibration procedures, functional checks, and troubleshooting techniques. The course includes integrated lectures, labs, and documentation which complement each other ensuring the maximum learning environment.</p>	<p><b>COURSE OBJECTIVES</b> At the conclusion of this course, attendees will be able to:</p> <ul style="list-style-type: none"> <li>● Troubleshoot to the component or board level.</li> <li>● Calibrate all circuitry to the manufacturer's specification.</li> <li>● Perform all related CDRH compliance testing.</li> <li>● Perform image evaluation.</li> <li>● Verify the system performance.</li> </ul>	<p><b>PREREQUISITES FOR ADMISSION</b> Attendees must possess the knowledge acquired through attendance at our Advanced Concepts of Fluoroscopic Imaging Maintenance-Level III or the equivalent electronics and service experience. A strong microprocessor background is recommended.</p>
<p><b>DAY 1</b></p> <ol style="list-style-type: none"> <li>I. Introduction</li> <li>II. System basic operation             <ol style="list-style-type: none"> <li>A. Front panel controls</li> <li>B. Chassis layouts</li> </ol> </li> <li>III. Spotfilmer mechanical operation</li> <li>IV. Basic electrical block diagram operation</li> <li>V. Power block diagram</li> </ol> <p><b>LAB ACTIVITIES</b></p> <ol style="list-style-type: none"> <li>I. System operation</li> <li>II. Component location</li> <li>III. Power supply location &amp; verification</li> </ol> <p><b>DAY 2</b></p> <ol style="list-style-type: none"> <li>I. Spotfilmer detailed electrical operation             <ol style="list-style-type: none"> <li>A. Transverse carriage drive</li> <li>B. Lift carriage drive</li> <li>C. Slider drive</li> <li>D. Width / height plate drive</li> <li>E. Decision tree</li> </ol> </li> </ol> <p><b>LAB ACTIVITIES</b></p> <ol style="list-style-type: none"> <li>I. System Programming</li> <li>II. Activating the brakes</li> <li>III. Carriage calibration</li> <li>IV. Slider calibration</li> <li>V. Vane calibration</li> </ol>	<p><b>DAY 3</b></p> <ol style="list-style-type: none"> <li>I. Spotfilmer detailed electrical operation             <ol style="list-style-type: none"> <li>A. Grid and cone drive</li> <li>B. UT collimator drive</li> </ol> </li> <li>II. TV camera block diagram operation             <ol style="list-style-type: none"> <li>A. Circuit layout and operation</li> <li>B. Camera specifications</li> </ol> </li> </ol> <p><b>LAB ACTIVITIES</b></p> <ol style="list-style-type: none"> <li>I. Spotfilmer calibration             <ol style="list-style-type: none"> <li>A. Cassette width sizing</li> <li>B. Cassette height sizing</li> <li>C. Front load offset adjustment</li> <li>D. Carriage exposure positioning</li> <li>E. SID adjustment</li> </ol> </li> <li>II. UT shutter calibration</li> <li>III. Fluoro iris adjustment</li> </ol> <p><b>DAY 4</b></p> <ol style="list-style-type: none"> <li>I. TV camera detailed electrical operation             <ol style="list-style-type: none"> <li>A. Timing generation</li> <li>B. Sweeps                 <ol style="list-style-type: none"> <li>1. Horizontal</li> <li>2. Vertical</li> </ol> </li> <li>C. Camera tube elements</li> <li>D. Video preamp                 <ol style="list-style-type: none"> <li>1. Aperture openings</li> <li>2. Gain</li> </ol> </li> <li>E. Video processor                 <ol style="list-style-type: none"> <li>1. Composite video</li> <li>2. Sync</li> </ol> </li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>3. Blanking</li> <li>4. Setup</li> </ol> <p>F. Focus adjustments</p> <ol style="list-style-type: none"> <li>1. Optical</li> <li>2. Electromagnetic</li> </ol> <p>II. Automatic Brightness Stabilization</p> <p><b>LAB ACTIVITIES</b></p> <ol style="list-style-type: none"> <li>I. Sweep calibration</li> <li>II. Preamp level adjustment</li> <li>III. Video level adjustment</li> <li>IV. Focus adjustment</li> <li>V. Waveform analysis</li> </ol> <p><b>DAY 5</b></p> <ol style="list-style-type: none"> <li>I. Table block diagram operation</li> <li>II. Table detailed operation             <ol style="list-style-type: none"> <li>A. Tilt drive</li> <li>B. Power assist drive</li> <li>C. Table top drive</li> </ol> </li> <li>III. System review</li> <li>IV. Final exam</li> <li>V. Course critique</li> </ol>