



## Nordson X-Ray Preventative Maintenance

*Annual maintenance options provided by CTTi*

Avoid the “machine down” emergencies: Regular service and preventive maintenance increases uptime and guarantees optimal performance. Circuit Technology Training (CTTi) has partnered with Nordson to provide on-site support and service agreements for the following x-ray systems:

- Nordson DAGE – Quadra Pro, Quadra, Diamond, Ruby, Jade Series X-Ray Systems
- Nordson Assure/Optical Control x-ray component counters

Service agreement options are listed below; price listed is for one machine. All options include travel costs. For customized requests, and to request one of these packages, please contact [NordsonService@circuittechnology.com](mailto:NordsonService@circuittechnology.com) or call (410) 403-6502.

### ***Preventative Maintenance Plan Options***

#### **PM/NT: Quadra and XD Series with NT tube**

Level 1: One 1-day visit annually - \$3,976

Level 2: Two 1-day visits annually - \$7,555

#### **PM/OT: XD Series with open tube**

Level 1: One 2-day visit annually - \$6,154

Level 2: Two 2-day visits annually - \$11,693

#### **PM/CC: Assure X-ray component counter**

One 1-day visit annually - \$3,976

## PREVENTATIVE MAINTENANCE DESCRIPTIONS

A Nordson Certified Field Service Engineer will optimize the performance of your X-Ray systems and perform the following services:

### *Quadra*

- Perform Initial Checkout
  - o Verify Initialization
  - o Verify Warmup
  - o Verify X-Ray Image
- Perform Quadra Annual Inspection
  - o Update Quadra Software, if necessary
  - o Set Knee Point
  - o Perform Trace Target Curves
  - o Perform 2 Hour Burnin
  - o Verify movement of stage X, Y, Z & detector axis.
  - o Verify that the detector carriage is firmly fixed to the gantry rail and that there is no front/back movement detectable.
  - o Verify operation of all fans & clean filters where fitted.
  - o Visually check sample tray for damage to plastic film. If damaged, supply a replacement tray.
  - o Perform Limit Check
  - o Perform Calibration Routine
  - o Perform Image Correction and Create Corrected Images
  - o Perform Optimization
  - o Perform Health Check
- Perform Radiation Survey and complete Radiation Leakage Report
- Perform Backup of Computer System.
- Complete Annual Inspection Report

### *Diamond / Ruby Systems*

- Perform Initial Checkout
  - o Verify Initialization
  - o Verify Warmup
  - o Verify X-Ray Image
- Perform NT Tube PM
  - o Perform HVPSU Cable Maintenance
  - o Set Kneepoint
  - o Perform 2 Hour Burnin
  - o Verify movement of stage X, Y, Z & detector axis.
  - o Verify that the detector carriage is firmly fixed to the gantry rail and that there is no front/back movement detectable.

- Verify operation of all fans & clean filters where fitted.
- Visually check sample tray for damage to plastic film. If damaged, supply a replacement tray.
- Perform Limit Check
- Perform Calibration Routine
- Perform Optimization
- Perform Health Check
- Perform Radiation Survey and complete Radiation Leakage Report
- Perform Backup of Computer System.
- Complete PM Report

### *Jade / VR*

- Perform Initial Checkout
  - Verify Initialization
  - Verify Warmup
  - Verify X-Ray Image
- Perform Open Tube PM
  - Perform HVPSU Cable Maintenance
  - Inspect Target and Filament, replace if necessary.
  - Restore System Vacuum
  - Set Kneepoint
  - Perform 2 Hour Burnin
  - Verify movement of stage X, Y, Z & detector axis.
  - Verify that the detector carriage is firmly fixed to the gantry rail and that there is no front/back movement detectable.
  - Verify operation of all fans & clean filters where fitted.
  - Visually check sample tray for damage to plastic film. If damaged, supply a replacement tray.
  - Perform Limit Check
  - Perform Calibration Routine
  - Perform Health Check
- Perform Radiation Survey and complete Radiation Leakage Report
- Perform Backup of Computer System.
- Complete PM Report

#### **SERVICE REQUEST RATES**

Service requests outside of preventative maintenance will be billed per number of days. Breakdown is shown below; rates include travel.

Day 1 - \$3,976

Each additional day - \$2,178