



# X-series SMT setup



Solder Joint  
Inspection



PTH



Power devices  
Cooling plates

## High Speed Inline AXI Platform

The X-series platform is a dedicated high speed automatic X-ray inspection system from the MATRIX product family of Nordson X-Ray. The target application for these systems is the inspection of single and multpanel PCB-assembly boards. All solder joints of SMD and PTH components are covered by a dedicated AXI algorithm library.

The system solutions from the MATRIX Product family of Nordson X-Ray present a modular inspection concept.

The platforms feature up to 4 advanced technologies in one system: Transmission X-ray imaging (2D) with patented Slice-Filter-Technique™ (SFT), Off-Axis technology (2.5D) and 3D Planar CT.

The X-series platform is available in the following configurations:

- X2**     **Transmission (2D) + SFT™**
- X2.5**   **Transmission (2D) + SFT™ + Off-Axis (2.5D)**
- X3**     **Transmission (2D) + SFT™ + Off-Axis (2.5D) + 3D Planar CT**



## Inspection & Process Software

- PC-Station with multi-core processor setup
- Windows 10 platform
- MIPS 5 Inspection Platform
  - Advanced algorithm library
  - CAD import for automatic inspection list generation
  - 3D Planar CT (X3 only)
  - Automatic Tree Classification (ATC) for Auto-Rule-Generation
  - Offline programming for AXI program generation & simulation, tuning and defect reference catalogue
- Verification & Process control
  - MIPS Verify link with closed loop repair
  - MIPS Process with real time SPC

## Features and Benefits

- High Speed AXI system for inline setups
- Microfocus X-ray tube (sealed tube / maintenance free)
- Multiple programmable motion system with linear motor axes
- Digital CMOS flatpanel detector
- Automatic grey-level and geometrical calibration
- Barcode scanner for serial number and product type selection
- Full product traceability via various Industry 4.0 MES-Interfaces
- IPC-CFX ready

# X-series SMT setup

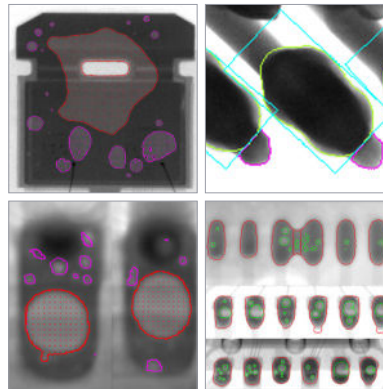
## Applications

### Electronic components and solder joint

A unique advanced algorithm library is available for electronic applications, specifically for component and solder-joint inspection on PCB, hybrid or chip level assembly processes.

All standard SMD and THT/PTH components

- BGA & dedicated off-axis head-in-pillow (HIP) algorithm
- Comprehensive QFN & gullwing algorithm
- Robust solder / heatsink void inspection
- Pin in paste barrel fill measurement
- Discrete down to 1005 pitches



## Specifications

### Facilities

<b>Dimensions:</b>	1630 mm (H) x 1800 mm (W) x 1575 mm (D)
<b>Adjustable conveyor height (SMEMA)</b>	950 mm
<b>Weight:</b>	2.800 kg
<b>Safe Operating Temperature:</b>	15° - 28 °C optimal 20° - 25° C
<b>Power Consumption:</b>	max. 6 kW
<b>Line Voltage:</b>	400 VAC, 50/60 Hz 3 phase, 16 A/ 208 VAC, 50/60 Hz 3 phase, 25 A
<b>Air:</b>	5-7 Bar, < 2 l/min, filtered (30µ), dry, oil free

### X-ray Image Chain

<b>X-ray Source (sealed tube)</b>	
<b>Energy:</b>	<b>SMT-Setup</b> 130 kV/40 W
<b>Grey resolution:</b>	14 Bit
<b>Detector Types:</b>	
<b>CMOS Flatpanel Detector</b>	50 µm pixel size (5,7 MPix)

### Inspection features

<b>Max. sample size:</b>	460 mm x 360 mm
<b>Max. inspection area:</b>	460 mm x 360 mm
<b>Min. sample size</b>	80 mm x 80 mm
<b>Sample thickness</b>	0,8-10 mm
<b>Max. sample weight:</b>	3 kg
<b>Angle shot capability:</b>	up to 50 deg
<b>Resolution</b>	3-4 µm/pix

### Inspection speed

<b>Transmission (X2, X2.5, X3)</b>	up to 6 views /s
<b>Off-Axis (X2.5, X3)</b>	up to 5 views /s
<b>3D Planar CT (X3)</b>	up to 1 s /FoV

### Motion System

Multiple axes programmable motion system	
<b>Installed axes</b>	
<b>x,y (linear drives)</b>	sample table
<b>z (servo)</b>	magnification
<b>u,y (linear drives)</b>	detector movement
<b>Conveyor setup</b>	
<b>Inline set-up</b>	automatic width adjustment

### Assembly clearance

<b>Topside (incl. sample thickness):</b>	35 mm
<b>Bottom side (excl. sample thickness):</b>	35 mm
<b>Min. edge clearance for clamping:</b>	3 mm

### Options

Barcodereader
Low-dose radiation filter
Auto BCR scanning station (x-y gantry)
Semi Compliance

For more information, speak with your Nordson MATRIX representative.

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