

NOW AVAILABLE FOR PREORDER

NAI INDUSTRIAL

# PRO-X110 Electronics X-Ray Inspection System

Josh Hunt  
North American Imaging  
Industrial Product Specialist  
<http://naimaging.com/industrial/>  
805.383.2214  
jhunt@NAImaging.com



Compact/mobile design, easy to move  
Ergonomic and intuitive design – simple operation

Built NAI tough! Longest warranty in the industry  
Unsurpassed performance at a competitive price

## The Next Generation in NDT X-Ray Inspection Imaging

Safe, simple and smart. Gain control of your process with NAI's new X-ray inspection system. Simple to use with intuitive software and controls, the PRO-X110 is ideal for a wide range of detection applications. Schedule an application analysis to learn more about the benefits for your bottomline.

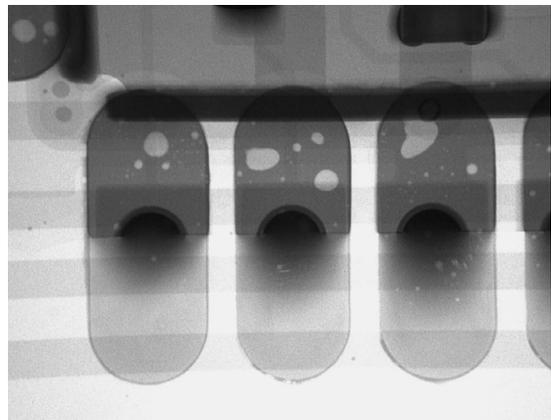
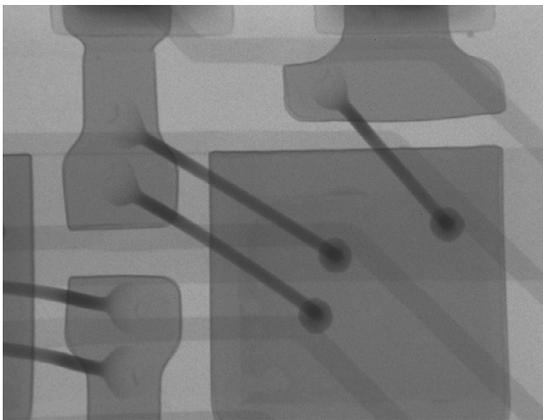
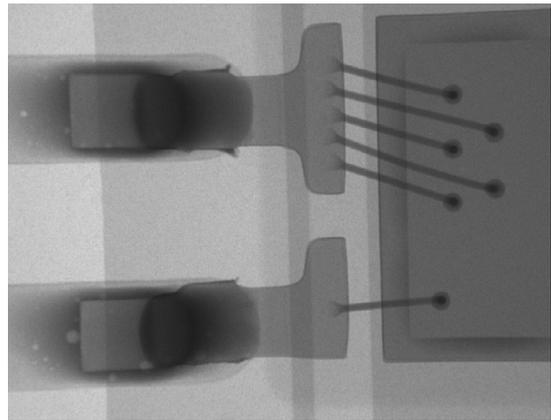
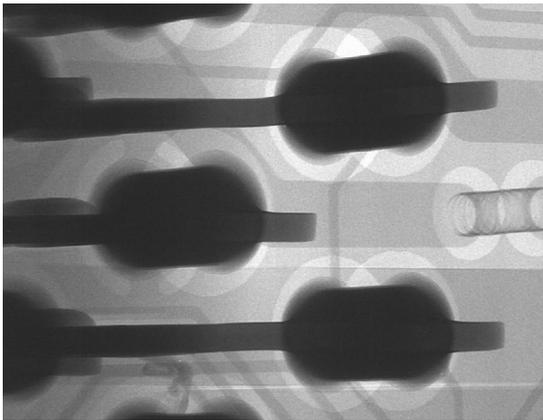
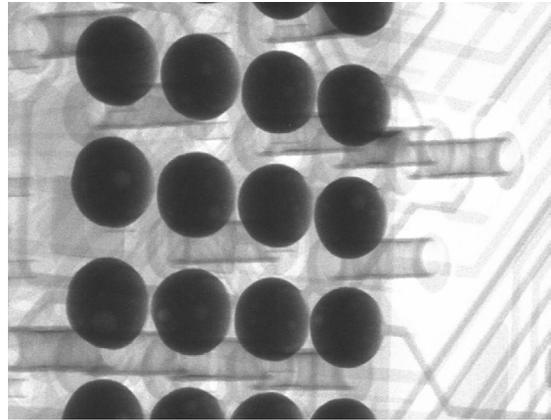
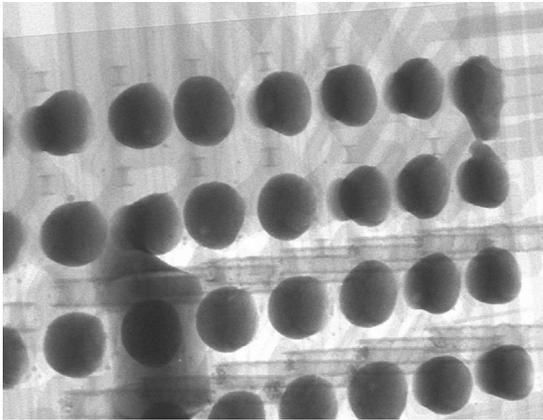
Contact Josh Hunt at 805.383.2214 or [jhunt@NAImaging.com](mailto:jhunt@NAImaging.com) for more information.



A FORCE IN X-RAY IMAGING SINCE 1985

## See the Smallest of Details

NAI's PRO-X110 X-Ray Inspection Machine has outstanding image quality down to the smallest detail – perfect for all electronics applications. The PRO-X110 offers magnification up to 400X with plenty of tube power to penetrate the most difficult product.



## PRO-X110 Key Features

### Ergonomics

Compact machine designed to be operated by any size operator. Adjustable operator's workstation to accommodate all heights.

### X-Ray Tube Design

Wide beam sealed tube (no maintenance) which is excellent for angle viewing of the sample. No tilt of the sample is necessary.

### Image Processing Platform

Multi-function interface designed specifically for the PCB/SMT market.

### X-Ray Tube Specifications

High kV (110kV). High power (20 watt). Small focal spot (5 micron). Short FOD (7mm). A combination of specs that address all of the SMT inspection requirements.

### Detector

Digital extreme high-resolution FPD for balanced, high-magnification imaging. Arc motion for all angle viewing. No tilt of the sample necessary.

### Sample Load/Unload

Sliding door for easy access to sample area.



### Sample Table

0-180 degree rotating table to effectively generate multiple viewing positions.

### Image Programming

Pro-X Auto Image Creation. Create image libraries by clicking just one button. Saves kV, mA, magnification settings, X/Y position and tilt angle.

### Service/Maintenance

Open internal design for easy access to ALL critical areas of the machine.

### Mobile

Machine is small and mobile. Easy to move from location to location.

### Price/Performance

The most competitive price for a high-powered, high-performance X-ray solution.

# PRO-X110 Specifications

System Specifications	Standard System
X-Ray Tube Type	Wide Beam (115°) End Window
X-Ray Tube Voltage	0 – 110kV
X-Ray Tube Current	20 watt
X-Ray Tube Focal Spot	5 micron
Image Detector Standard	FPD (50 x 50mm)
Image Detector Option	FPD (130 x 130mm)
Magnification	Up to 400X
Maximum PCB Size	450 x 450mm
Maximum Inspection Area	410 x 410mm
Tilt Range	+/- 65° (FPD “arc” motion)
Table Rotation	+/- 0 – 180°
System Programming	X/Y/Z/Tilt/Rotation/kV/mA/Mag
Image Processing Software	PRO-X1 Workstation
X-ray Machine Safety	<1 micro Sv/hr
Machine Dimensions	1180 W x 1180 D x 1600mm H
Machine Weight	~1,000Kg
Machine Operating Temp	0-40°C (Humidity 30-70RH)
Machine Line Voltage	100VAC-230VAC, 50/60Hz
Machine Power Consumption	0.5kW (max)

Specification may be subject to change without notice.

System Applications	
BGA Bridging	Excellent
BGA Voids	Excellent (measure using BGA void/area software)
BGA Opens	Excellent (requires PCB tilt ~ 60-65°)
BGA Excessive/ Insufficient	Excellent (measure using BGA void/area software)
CSP Bridging	Excellent (requires ~ 100X magnification)
CSP Voids	Excellent (requires ~ 100X magnification)
CSP Opens	Excellent (requires PCB tilt ~ 60-65°)
CSP Excessive/ Insufficient	Excellent (requires ~ 100X magnification)
Flip Chip Bridging	Excellent (requires ~ 200X magnification)
Flip Chip Voids	Excellent (measure using BGA void/area software)
Flip Chip Opens	Good (requires PCB tilt ~ 55-60° ~ 300X mag.)
Flip Chip Excessive/ Insufficient	Excellent (requires ~ 200X magnification)
QFN Bridging & Voids	Excellent (measure using QFN void/area software)
QFP Opens/Bridging	Excellent
SMT Chip Component Attach	Excellent
I/C Internal Structure	Excellent for bond wire and die attachment
MLB Inner Layer Analysis	Excellent for pad stack alignment and drill offset
Battery Analysis	Excellent
Solar Cell Analysis	Excellent
Small Industrial Castings	Excellent