The **XT-3** is a high-resolution manual X-ray inspection system designed to address fast intuitive operation, low volume production capacity, and advanced failure analysis for SMT production inspection and quality control protocols. This system addresses more complex SMT solder-joint and semiconductor inspection and analysis. It is easy to learn and easy to use by all production operators, technicians and engineers. The small footprint allows passage through a standard door width. This system offers exceptional image quality and together with the MatriX Image Processing Software (MIPS) provides industry leading analyzing and auto-mated inspection for BGA, QFN, and Pin-in-Paste or Through-Hole Barrel Fill detection.

**MIPS_Analyzer** is an advanced inspection software package for manual and semi-automated X-ray inspection solutions. Supporting teach-mode with programmable inspection positions. The image capturing is fully programmable via acquisition types and image-filter tool bar. It guarantees repeatable imaging quality and measurements.

An **advanced algorithm library** for solder-joints and material analysing is part of the standard image processing package. Customized algorithms are optionally available upon request.

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**Features and Benefits**

- Transmission X-ray with optional oblique viewing
- High resolution setup up to > 40 LP/mm and up to 720x magnification
- 3 axes stepper motor drive system with optional tilt & rotate unit for off-axis imaging
- Microfocus x-ray tube (sealed) with 100 kV
- 5 micron focalspot size
- Digital high-resolution fatpanel detector
- Up to 50 mm programmable, variable field of view

**Inspection & Process Software**

- PC station with multi-core processor setup
- Windows 7 or Windows 10 platform
- 24” high resolution monitor inspection platform
- XT series MIPS imaging software
- MIPS_Analyzer software
- Traceability option (barcode reader)
- Algorithms for BGA, QFN, PIP, THT, barrel-fill
Applications

HIGH QUALITY X-RAY ANALYSIS
With variable geometric magnification and a 5 micron high resolution image quality, the XT-3 is suitable for advanced electronic applications, specifically for component and solder-joint inspection on PCB, hybrid, or chip level assembly processes.

APPLICATIONS
BGA, QFN, SMT solder-joint inspection, voiding, head-in-pillow (HIP), dewetting and lifted leadsable connectors, wire bond, die attach, counterfeit component detection void inspection

INSPECTION REPORTING FOR QUALITY CONTROL
Inspect, measure, detect and report to IPC-7095 and IPC-610 standards for BGA, QFN, and SMT devices with MIPS application software

Specifications

Facilities
Dimensions: 910 mm (W) x 1.310 mm (D) x 1.950 mm (H)
Weight: 970 kg
Safe Operating Temperature: 15° to 32° C
Power Consumption: max. 2 kW
Line Voltage: 110/220 VAC, 50/60 Hz, 16A

Part Handling / Motion
3 axis stepper motor drive system (X, Y, Z)
Programmable, variable field of view
Optional, programmable oblique viewing fixture (tile & rotate)

X-ray source
Energy: 100 kV / 20 W
Focalspot size: 5 micron
Tube orientation: End window tube

X-ray Imaging
Digital fatpanel detector
Active inspection area: 65 mm x 65 mm
Pixel count: 1k x 1k
Grey value resolution: 14 bit

Digital fatpanel detector 1512
Active inspection area: 115 mm x 115 mm
Pixel count: 1.5 k x 1.5 k
Grey value resolution: 14 bit

Image performance
Max. magnification: ~720X
Field of view (FoV): up to 50 mm
Spatial resolution: > 40 LP mm at max. magnification

Inspection features
Max. board size: 425 x 457 mm (16.75” x 18”)
Max. inspection area: 381 mm x 393 mm (15” x 15.5”)
Max. inspection height: typically 200 mm, up to 300 mm depending on overall sample size
Max. sample weight: 5 kg