

Automated X-ray Inspection System Transmission - 3D Slice-Filter Technology



XT-1300

AXI for automotive modules & assemblies

The **XT-1300** is an automatic x-ray inspection system, especially designed for the fully automatic inspection of high modules and complete assemblies. The system is equipped with a maintenance-free 130kV microfocus x-ray tube and a flexible carrier system that can be easily adapted to customer specific applications. The integrated test library includes algorithms for standard SMD joint inspection as well as for the inspection of joints on flexible circuit boards.

MIPS_Tune is an off-line programming software package for test program generation with automatic CAD import or alternatively without CAD data. The software supports automatic inspection list generation based on an advanced algorithm library for transmission and off-axis joint inspection. The integrated rule generation feature allows manual and automatic creation of reliable rules. The **MIPS_Verify** module with its closed-loop repair concept is capable for in-line or off-line verification using a graphical board layout display and X-ray image with defect marking. **MIPS_Verify** can be linked to combined AOI inspection platforms. The **MIPS_SPC Real Time** module provides real-time process control with immediate production line feedback.

Features and Benefits

- Transmission X-RAY & 3D Slice-Filter Technology
- 130 kV/40 W Microfocus X-RAY Tube (sealed)
optional: 150KV/75W Microfocus X-RAY Tube (sealed)
- Digital Flat Panel Detector (1,5k x 1,5k)
- Efficient Board Handling with conveyor system and programmable XY Table
- Flexible, sample fixture carrier, that can be easily adapted to customer specific applications
- Automatic grey-level and geometrical
- Barcode Scanner (1D/2D)
- Single-side load/unload or alternatively pass through setup
- Optional: detector motion system for off-axis images

Inspection & Process Software

MIPS Hardware

- PC-Station with multi-core processor setup
- Windows 7 or Windows 10 platform

MIPS-Inspection Platform

- Advanced Algorithm Inspection Library for solder joint and component inspection
- Slice-Filter-Technique (SFT) for double-sided boards
- Automatic-Tree Classification (ATC) with Auto-Rule-Generation auto program generation

Verification & Process Control

- MIPS_Verify link with closed-loop repair
- MIPS_SPC Real Tim with real-time SPC

Applications

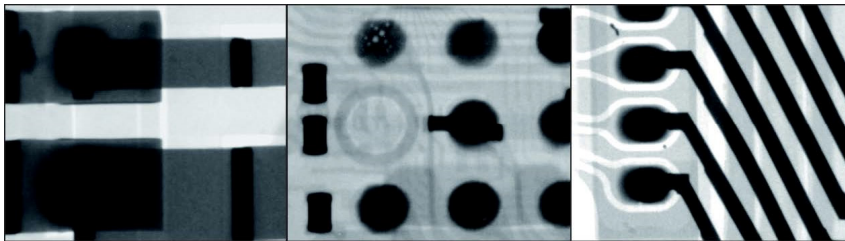
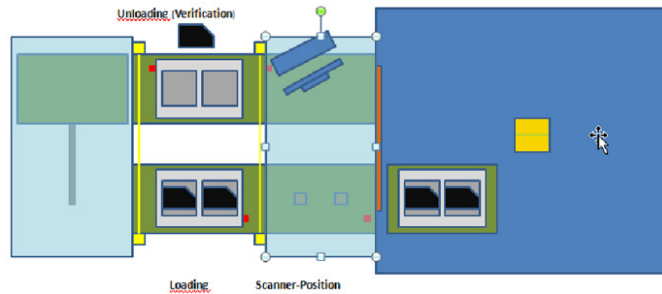
APPLICATIONS

Inspection of big and high modules or assembled devices

- All standard SMD and THT/PTH components
- Specific BGA and QFN algorithm
- Advanced PTH/THT algorithms with Filling level check (OA setup)
- Cooling plates/ heatsink void inspection

Plus inspection of flexible printed circuit boards:

- Voids
- Soldering defects
- Splash & solder balls



Specifications

Facilities

Dimensions:

2100 mm(H) x 1850 mm(D) x 1835 mm(W)

Conveyor system:

1050 mm(D) x 1670 mm + 750 mm(W)

Weight: 3.000 kg

Safe Operating Temperature:

15° - 32 °C, optimal 20° - 25 °C

Line Voltage:

400V, 50/60 Hz, 10A avg., 32 A max, 3 phase

Part Handling / Motion

Programmable X-Y Sample Table

Driving Distance: 500 x 770 mm

Position Repeatability: +/- 25 µm

Z-Drive: X-Ray Tube

Z-Axis Driving Distance: 220 mm

Z-Movement with continuous magnification for every FOV change

Optional: Angle Shot Capability: programmable u, v detector axes

X-Ray Source

Energy: 130 kV/ 40 W

Optional: 150 kV/ 75 W

Focal Spot Size: 5 – 10 micron

X-ray Imaging

Detector Type: CMOS Detector (1,5k x 1,5k)

Active Inspection Area: 115 x 115 mm

Grey Value Resolution: 14 bit

Video Output: Camera Link Interface

Video Display: High Resolution 22" TFT

Inspection features

Max. Inspection Area: 570 mm x 250 mm

FOV & Resolution

Field-of-View: 15 mm to 35 mm

For more information, speak with your MatriX representative.

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