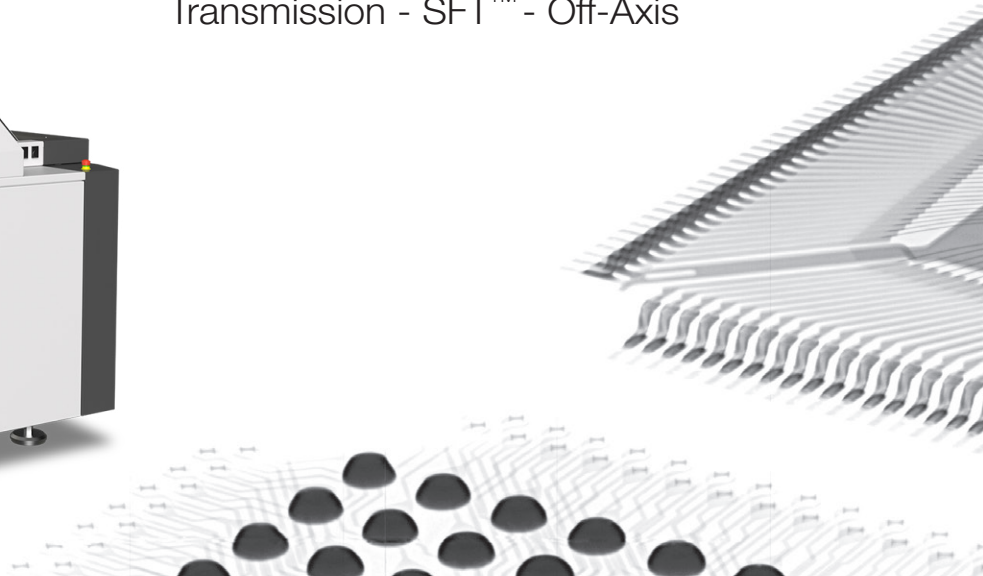


Automated X-ray Inspection System Transmission - SFT™ - Off-Axis



X2.5

High-Speed In-line X-ray system

The **X2.5** is an automated inspection system designed for sophisticated high-speed inspection in SMT production. Transmission X-ray Technology with patented Slice-Filter-Technique™ (SFT) and Off-Axis Technology present a reliable solution for the in-line inspection of double-sided PCB assemblies. The X2.5 movable detector axes allow high-speed off-axis image acquisition from different angles and directions with maximum image quality and resolution.

MIPS_Tune is an off-line programming software package for test program generation with automated CAD import and for graphical application parameter tuning. It features an automated inspection list generation based on an advanced algorithm library for transmission and off-axis solder joint inspection. Proprietary **Tree-Classification** technique with integrated automated rule generation, graphical measurement & yield display for program optimization. The verification software module **MIPS_Verify** with its closed-loop repair concept is capable of in-line or off-line verification using a graphical board layout display and X-ray image with defect marking. Support of multiple inspection modes with parallel viewing of transmission oblique view and optical images of the same defect for easy and reliable defect verification.

Features and Benefits

- High Speed AXI system for In- and Off-line setup
Transmission: up to 6 images/s
Off-axis: up to 5 images/s
- Microfocus X-ray tube (sealed)
- 5-axes programmable motion system with linear drive sample table for highspeed inspection mode
- Digital CMOS fatpanel detector
- In-line pass through board handling with automated width adjustment
- Automated grey-level and geometrical calibration
- Barcode scanner (1D / 2D)
- Full traceability via customized MES interface
- Optional: Combination with AOI system (high-speed line scan with SIM technology)
- Optional: 3D software upgrade to X3 possible

Inspection & Process Software

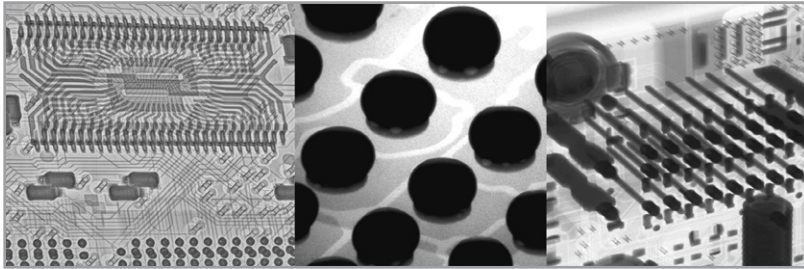
- PC-Station with multi-core processor setup
- Windows 7 or Windows 10 platform
- CAD Import for automatic inspection list generation
- Advanced algorithm library for solder-joint and component inspection
- Automatic Tree Classification (ATC) for Auto-Rule-Generation

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
- Specific BGA and QFN algorithm
- Off-axis image analysis of BGA (HIP)
- Cooling plates/heatsink void inspection



Specifications

Facilities

Dimensions:

1535 mm (H) x 1800 mm (W) x 1572 mm (D)

Adjustable conveyor height (SMEMA): 950 mm

Weight: 3.500 kg

Safe Operating Temperature:

15° - 32 °C optimal 20° - 25° C

Power Consumption: max. 6 kW

Line Voltage: 400 VAC, 50/60 Hz 3 phase, 16 A
208 VAC, 50/60 Hz 3 phase, 25 A

Air: 5-7 Bar, < 2 l/min, filtered (30µ), dry, oil free

Part Handling / Motion

High-speed sample table with linear drives (X,Y)

Driving distance x,y: 510 x 410 mm

Position repeatability: +/-5 µm

X-Ray tube (z): 0 - 150 mm

Detector Axes (u,v): 220 x 200 mm

X-ray Source (sealed tube)

Energy: 130 kV/40 W

Focal Spot Size: 5 microns

X-Ray Tube Orientation: End window tube

X-ray Imaging

Grey value resolution: 14 bit

Video output: Camera link interface

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

Active inspection area: 115 x 115 mm

Detector Type B: CMOS Detector (2k x 2k)

Active inspection area: 115 x 115 mm

Inspection features

Angle shot capability: 0 – 45 dgr

(A) Standard setup

Transmission FoV: 10 mm to 30 mm

Object resolution (@min. FoV): 8-10 µm

(B) High-resolution setup

Transmission FoV: 7,5 mm to 25 mm

Object resolution (@min. FoV): 3-5 µ

Sample Inspection Parameter

Max. board size: 18" x 14" (460 x 360 mm)

Min. board size: 100 x 80 mm

Max. inspection area: 18" x 14" (460 x 360 mm)

Max board weight: 5.5 lbs (2,5 kg)

Board thickness: 0.03" x 0.3" (0,8-5 mm)

Assembly clearance

Topside (incl. board thickness): 30 mm

Bottom side (excl. board thickness): 30 mm

For more information, speak with your Matrix representative.

Germany

Feldkirchen (Munich)
+49.(0)89.189.4140.0 **Phone**
+49.(0)89.189.4140.98 **Fax**
info@m-xt.com **Mail**

Hildesheim

+49.(0)5121.875.8428 **Phone**
info@m-xt.com **Mail**

Hungary

Budapest
+36.(0)30.876.5038 **Phone**
hungary@m-xt.com **Mail**

USA

San Diego
+1.858.536.5050 **Phone**
+1.858.536.50.50 **Fax**
sales@focalspot.com **Mail**

Singapore

Singapore
+65.6513.5766 **Phone**
+65.6425.5231 **Fax**
singapore@m-xt.com **Mail**

China

Suzhou
+86.136.5620.3952 **Phone**
china@m-xt.com **Mail**

Japan

Kagoshima
+81.9954.38876 **Phone**
japan@m-xt.com **Mail**

Brazil

Vinhedo-SP
+55.1938.7605.35 **Phone**
info@m-xt.com **Mail**