



X2 – the next generation, high-speed x-ray inspection system

Dachau, Germany February 20th, 2006 – Matrix Technologies is pleased to present the next generation automatic x-ray inspection system “X2” - the first product from its new in-line x-ray system platform. X2 is based on established, high-speed transmission x-ray technology. It is equipped with a new, 3D slice filter technology that is a very efficient tool for testing double-sided assemblies in SMT manufacturing.

The X2 is capable for sample and 100% board inspection of solder joints and components in SMT production lines. Its test speed of 4 images per second covers an inspection area up to 30cm² per second. These guarantees an inspection capability of up to 10,000 solder joints per minute, ensuring high-speed SMT assembly line throughput.

This inspection speed places high demands on the x-ray image acquisition chain and the motion system. The x-ray unit is equipped with a closed, 130KV microfocus tube with a minimum spot size up to 5 μ . It demonstrates a high level of x-ray stability including fast ramp-up and changeover times. On the detector side, a dual image intensifier with a high-speed, 1k x 1k CCD camera ensures flexible and minimal acquisition times by means of automatic aperture (F-stop) control and real-time image processing.

The x-y table is powered by high-speed linear drives and can realise positioning times of up to 100ms. It is mounted on a special mineral cast framework that absorbs oscillations caused by high accelerations.

The X2 load/unload unit is equipped with specially developed lift conveyer machinery. It shortens loading and unloading times and also serves as an x-ray shutter. An integrated operator panel rounds off the inspection system's ergonomic design.

X2 comes with the new inspection software “MIPS Inspect” (MIPS - Matrix Inspection & Process Software). The inspection platform, which is based on Windows XPTM, accesses a Halcon image processing library during processing of the highly efficient test algorithms. A graphical tuning interface, with intelligent analysis software for inspection criteria, shortens programming times significantly and increases real fault finding while reducing pseudo error ratios.

The new slice filter method represents a significant innovation in the inspection of double-sided assemblies. A special filter technique eliminates shade formations during the x-ray inspection of double-sided PCBs, increasing the verifiability considerably.

X2 transfers its inspection results directly to a process database. The defect data can be retrieved at any time with the MIPS_Verify station. The verification concept links x-ray defect images to the exact defect position in the graphical CAD layout. A new 3D X-RAY viewer that facilitates the process is also included. Also new: paste inspection and AOI results can be processed with MIPS_Verify.

About MatriX Technologies GmbH:

MatriX Technologies is a global supplier of innovative solutions for x-ray inspection and non-destructive testing (NDT). The MatriX systems are based on leading-edge x-ray and vision technology and ensure the fulfilment of customers' quality requirements. The MatriX Technologies product portfolio encompasses real-time failure analysis, including standardised systems for manual and automatic x-ray inspection, as well as customised, fully integrated inspection solutions with a broad range of x-ray applications. The MatriX client base includes leading manufacturers in the electronics and automotive industries. More information about the company you will find at www.m-xt.com.

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