ScanINSPECT VPI™

Measurement, Inspection & Data Creation

What is ScanINSPECT VPI?

The Virtual Product Inspection (VPI) system is a fully integrated, stand-alone process control, measurement and inspection and programming workstation for use in setting up processes before the production floor in the PCB or Hybrid Microcircuit assembly industries.

ScanINSPECT VPI uses a PC Windows-based software package integrated with a high resolution, calibrated, A3 size flatbed scanner. This combination allows inspection of artwork, PCB's, ceramic substrates, components, stencils and screens at virtually any stage of production. Parts can be inspected versus either Gerber data, CAD data or Golden parts. All variables come together as a virtual part (Digital Twin) to avoid costly problems before full production starts.

PCB Assembly & Hybrid Microcircuit Applications

ScanINSPECT VPI is capable of performing many different functions in a PCB Assembly facility such as:

- **Stencils and Screens** – Detect stretch, wear, missing, blocked or damages apertures. Use for incoming inspection or in production after cleaning.
- **Bare Boards** – FR4, Ceramic or Flex parts. Compare from multi-vendors. Compare to Gerber or to Stencil.
- **First Article Inspection** – Compare first board to CAD data.
- **Manufacturability** – Check PCB Features, etc.
- **Components** – Compare parts from Multi-vendors including shape, color, size, leads, balls, etc.
- **Printed/dispensed Material** - Inspect Paste and adhesive to Gerber, stencil or Golden part.
- **Loaded Boards** – Compare component locations, rotation, package type, etc to CAD data.

Data Creation

In addition to creating a virtual part to avoid costly production problems, the ScanINSPECT VPI system can also be used for:

- Create Gerber files for stencil and screen fabrication
- Create CNC data for pallets, frames and carriers
- Create through-hole or SMT assembly programs.
- Create component vision files or data sheets.

Off-line, accurate and no more calipers!!

Simple Operation

The ScanINSPECT VPI system can be quickly learned and is simple to operate. Most inspection operations only take a few steps and can be completed very quickly. Operators can step between defects and zoom in and out to verify errors. Inspection reports can be easily generated.

Why use ScanINSPECT VPI?

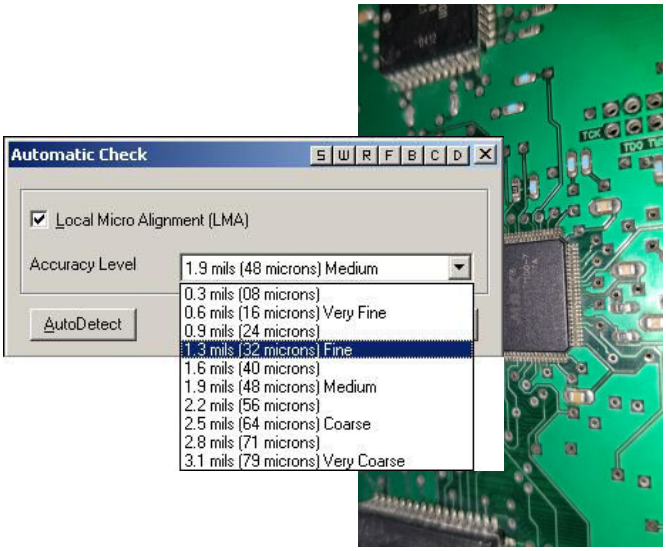
Quality
100% automatic inspection.

Accuracy
NIST traceable calibrated system.

Usability
Adjust Stencil Gerber data to match actual PCB to achieve 43% reduction in Solder Paste defects per published Motorola study in SMT007 Magazine.

Flexibility
Use one system for inspection, measurement and data creation.

Traceability
Store images and inspection data for traceability in support of ISO and other compliance programs.



SYSTEM FEATURES

Workstation Desk System

- Contact System
- Scanner Faces Up, Part Faces Down
- Dry or Wet Parts with Standoffs
- Large Part Capability with Multiple Scans

Scanning and Data Input

- Scan Stencils, Screens, PCBs, Films, Pallets, etc.
- Automatic Image Alignment to CAD or Golden Part
- Import Gerber, ASCII Centroid, DXF, BOM

Measurement & Inspection Functions

- Compare Parts against Gerber or Golden Part.
- Verify feature absence/presence as small as 0.001" (0.025mm)
- Check Gerber Image against Scanned Image
- Compare Gerber Image against Gerber Image
- Design Rule Check
- 15+ inspection algorithms
- Masking capability
- Ability to overlay 90+ images & 90+ CAD layers

Automatic Data Creation Functions

- Pad Recognition: Circle, square, oval, rectangle
- Special SHAPE functions
- Pads on Grid

Output

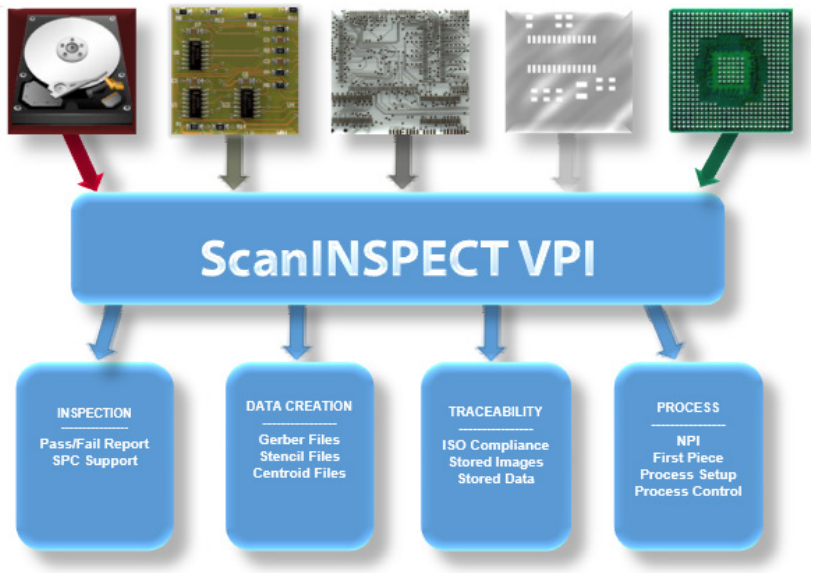
- Pass/Fail Inspection Report
- System log files in support of SPC
- Rework File Generation
- Gerber Files (274D & 274X)
- Comprehensive Aperture Tables
- Stencil Files
- DXF Files & BMP, TIFF images

Image and Data Editor

- Multi-Color Display
- Multi-Level Zoom Function
- Customized Aperture Tables
- Snap to Pad Centers & Snap Pads to Grid
- Multi Layer Display
- Macros: Create & Store
- Automatic Text Function
- Metric or Inch

Data Creation (Optional)

- Automation CAD data creation
- Reverse Engineer from existing parts
- Destructive and non-destructive processes
- Ability to import X-ray, CT-scan, SEM images



TECHNICAL SPECIFICATIONS

Scanner

- High-Resolution Color Flatbed Scanner, Size A3: (400/1000/1600/2000/2400/3200/4000/4800 dpi)
- Calibrated Accuracy: ± 0.0010" (± 0.0254mm)
- A3-Scanning Area: 11.7" x 16.5" (297mm x 419mm)
- Unlimited Work Area for parts larger than A3

Computer*

- Multi Core Processor - 3 GHz
- 1 TB 7200 RPM HDD, 16 GB RAM (Additional 256GB SSD recommended for higher performance)
- FHD (1920x1080) Flat Panel Monitor
- Ethernet Connection
- Windows 10 - 64-Bit
- 2 available USB2 or USB3 ports

*Recommended customer-supplied minimum PC requirements.

Additional System Components

- Precision Glass Calibration Grid (NIST Certified)
- Scanner Interface Cable
- Software Protection Key
- Scanning Accessory Package
- Custom Desk
- Custom Transmissive Lighting Package
- Extra Seat - Software only (Optional)
- Service and Support Contracts (Optional)
- Multi-layer PCB Delamination System (Optional)

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