ScanINSPECT™
Automatic Optical Inspection & Measurement

What is ScanINSPECT?

ScanINSPECT is a fully integrated, stand-alone process control, measurement and inspection workstation for use in many applications in multiple industries.

ScanINSPECT uses a PC Windows-based software package integrated with a high resolution, calibrated, A3 size flatbed scanner. This combination allows automatic inspection of parts at virtually any stage of production. Parts can be inspected versus either CAD data or Golden parts.   The system is ideal for process setup, new product introduction, process control, 1st and final piece , inbound parts, quality control, Statistical Process Control (SPC), etc.

Process Setup & Control

ScanINSPECT can be used at many stages of production such as:
- New product introduction as a process setup tool to ensure all variables come together smoothly as a "virtual" product avoiding costly problems before full production starts with "real" products (Digital Twin).
- Incoming inspection to ensure parts coming from suppliers meet the required quality specifications.
- An SPC sampling tool for high volume production to ensure the process stays in control.
- Inspect all parts in low volume production to ensure high quality and minimize costly rework and warranty returns.

Multiple Industry Tool

ScanINSPECT can be used in a variety of industries such as:
- Electronics
- PCB Fabrication
- PCB Assembly
- Hybrid Microcircuits
- Semiconductor
- Stencil/Emulsion Screen Fabrication
- Photochemical Machining (PCM)
- Photovoltaics (Solar)
- Fuel Cells
- Tool and Die
- Phototools
- Medical
- Automotive
- Aerospace
- Defense
- Optics
- Life Sciences
- Additive Manufacturing (3D printing)

Simple Operation

The ScanINSPECT system can be quickly learned and is simple to operate. Most inspection operations take 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.
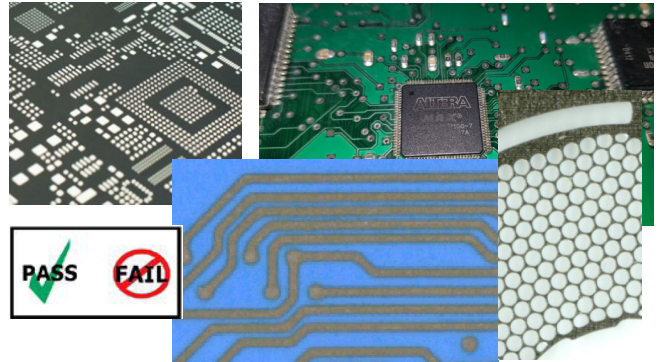
Multi-Purpose Inspection System

ScanINSPECT is capable of performing many different types of inspection in a manufacturing facility. The combination of fast, easy programming and short inspection times allow for inspection of 100% of features on a part.

Flexible front and/or back lighting along with color or B&W imaging allow for the inspection of many types of parts. Parts with holes or cutouts can be easily inspected with back-lighting and B&W imaging. Any feature that has a slight color difference relative to it's background can be inspected using color imaging and powerful color separation algorithms.

A few of the potential inspection applications are:

- Hole, slot and/or cut-out size, location, shape and orientation in a wide range of materials
- Artwork/Phototool – pin holes, mouse bites, feature size and shape on mylar, diazo, glass, chrome, etc.
- Printed Materials – missing, excess or incorrectly located screened or printed materials
- Dispensed Materials – missing, excess or incorrectly located materials
- Cleaned or Used Tooling or Parts
- Detect contamination, damage, wear, etc.
- Inbound Q/A
- First piece
- Finished piece
- Post rework
- Machining, extruding, punching, drilling
- Electro-forming, plating, etching, finishing

Why use ScanINSPECT?

Quality: 100% automatic inspection.

Accuracy: NIST traceable calibrated system.

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 parts at high resolution
- Import CAD
- Automatic Image Alignment to CAD or Golden Part

Measurement & Inspection Functions

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

Output

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

Image and Data Editor

- Multi-Color Display
- Multi-Level Zoom Function
- Snap-to: Feature Center
- Snap-to-Grid: Features
- 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)
- Supports scanning of 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)
- Precision Material Removal System (Optional)

The following are trademarks of the indicated companies: Gerber, Ucamco; Windows 10, Microsoft®; ScanINSPECT™ is a trademark of ScanCAD Intl. Inc. (All specifications and designs subject to change without notice.)
Rev. 19082720

ScanCAD
INTERNATIONAL
Simplifying Complex Technology