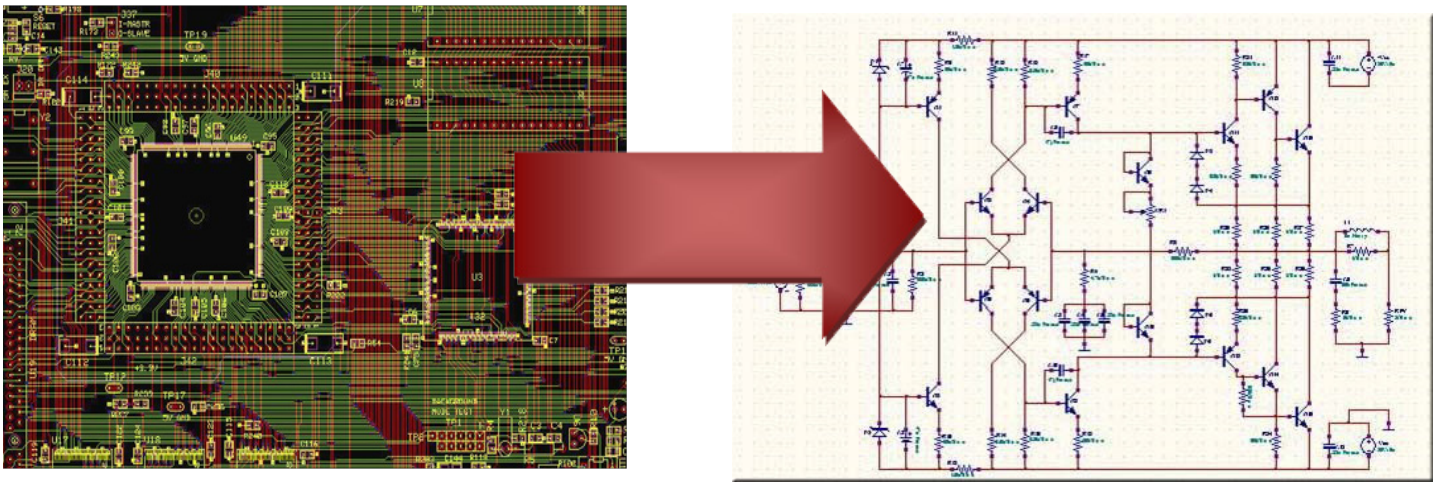
ScanFAB™

Multilayer PCB Reverse Engineering System



What is ScanFAB?

ScanFAB is a fully integrated, stand-alone, scanner- based PCB Re-Engineering system that permits the creation of CAD data (DXF/Gerber/Drill/CNC) from existing multilayer PCBs, parts, phototools, stencils, drawings, microfiche, PDF files, etc.

It contains a full Gerber editor that can be used to import, modify and export Gerber & Drill data.

ScanFAB uses Windows-based software linked to a high-resolution, calibrated flatbed scanner. This combination allows for accurate reverse engineering and precise reproduction of data to exact FORM, FIT and FUNCTION for today's high density PCB board designs, complex parts and tooling.

Simple Process Flow

The process of image capturing for all PCB layers is done in Color, Gray or B&W. The conversion of Raster to Vector data is fully supported with numerous automatic functions. The Quality Check functions insure that the data is accurate and of good quality. Support materials include context sensitive help, videos and workflows.

Automatic Features

ScanFAB offers various functions to quickly and automatically "vectorize" the scanned image creating a digital twin:

- Flash Pads (circular, square, oval, rectangle)
- Tracks (orthogonal/all angle)
- Silkscreen, Soldermask
- Copper Fill Areas/Ground & Power Planes
- Crosshatched Areas (90°/45°)
- Stencil Files
- Pads and tracks on grid
- Step & Repeat
- Drill & Route CNC data

Why use ScanFAB?

- **Necessity**:
  Create high quality CAD data for legacy products that are required for PCB fabrication, test and repair.
- **Accuracy**:
  Extracted data is exact Form, Fit and Function, eliminating need to re-certify & perform compliance and environmental testing. (UL, CE, EMI, SI, etc.)
- **Quality**:
  Increase data quality by using internal Quality Check features
- **Security**:
  Prevent PCB/film/drawing deterioration by storing images in digital format

Verification

Worried about the quality of the finished CAD data? Use ScanFAB's "check functions" to verify the quality and accuracy of the data:

- Check Gerber vs scanned vs imported images
- Design and Clearance rule checks
- Delete "double-hit" pads
- Verify track & pad connections
- Check for potential shorts & opens
- Layer-to-Layer registration
- Manually modify data as needed (damaged PCB)

Scanning and Data Import

- Flex, Ceramic & FR4 substrates, film, paper,
- Stencils, screens, diazo, silver, glass & chrome
- Single, Double & Multi-layer PCBs
- Verifiable image alignment & deskew
- Automatic layer-to-layer alignment
- Up to 99 layers in each job
- Gerber Data 274D & 274X

SYSTEM FEATURES

Output Files

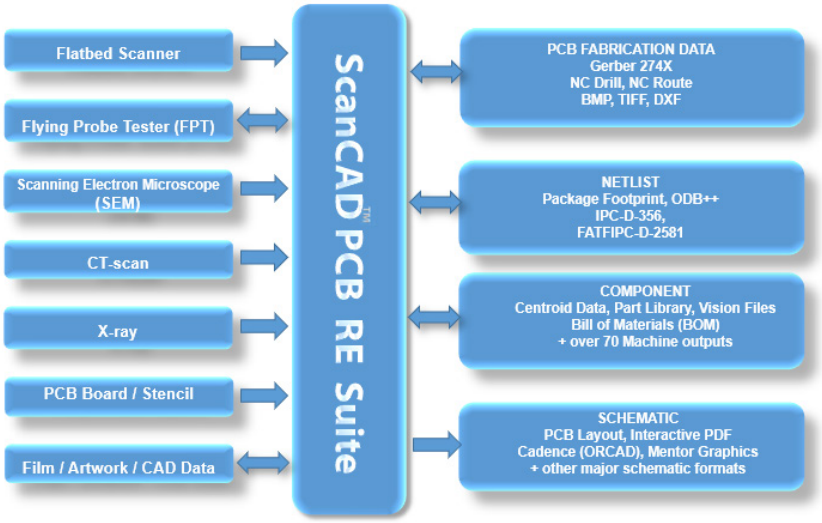
- Gerber files (274X or 274D)
- Comprehensive aperture tables
- Drill files: Excellon, Sieb & Meyer
- Stencil files
- Soldermask, Padmaster, Silkscreen
- Circuit, Ground/Powerplane
- DXF
- BMP, TIFF images
- Panelized images

Other Modules (Optional)

- Import & process XRT, X-ray, CT Scan images
- Flying Probe Tester (FPT) Self-Learn Netlist Generation and independent verification.
- Extract component information including component centroid, rotation, part number, package ID and reference designator (BOM)
- Import BOM and ASCII Assembly data
- Generate package footprint
- Automatic Pin Numbering
- Create component vision library files
- Netlist generation
- Generate Schematic & PCB layout
- Many CAD Schematic Readers and Writers
- Move data up to CAD and schematic packages for re-design.

Other Input/Output File Formats (Optional)

- Component centroid data (70+ machines)
- Component Vision Datasheets
- ODB++, ODB++(X)
- DXF
- IPC-D 356
- IPC-2581
- FATF
- ASCII
- CSV
- Gencad
- PostScript
- BARCO DPF
- HPGL
- Native Schematic Formats such as:
  - Intelligent PDF
  - Cadence OrCAD
  - Cadence ConceptHDL
  - Mentor PADS Powerlogic
  - Mentor DX Designer
  - Altium Designer
  - EAGLE Reader,
  - Zuken CADSTAR
  - EDIF200
  - EDIF300
  - ...and other formats



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 Bed Area: 11.7" x 16.5" (297mm x 419mm)
- Unlimited Work Area

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 (Optional)
- Custom Transmissive Lighting Package (Optional)
- Extra Seat - Software only (Optional)
- Service and Support Contracts (Optional)
- Multi-layer PCB Delamination System (Optional)

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