

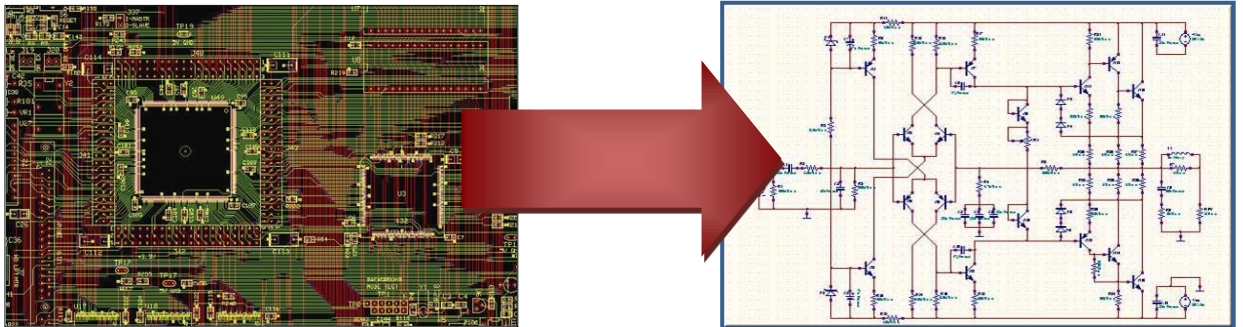
ScanFAB™

"Multilayer PCB Reverse Engineering System"

ScanFAB is a fully integrated, stand-alone, scanner- based 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, X-Ray images, etc.

It also 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 capture in B&W, Gray or Color through the conversion of raster to vector data followed by several quality control steps and finally the output in a wide variety of formats is all done in a logical, intuitive and well designed platform. Support materials include context sensitive help and work flows with embedded training videos, etc.

AUTOMATIC FEATURES

ScanFAB offers various functions to quickly and automatically "vectorize" the scanned image:

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

SCANNING

- 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

VERIFICATION

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

- Verify layer-to-layer pad alignment
- Check Gerber image vs scanned image
- Check Gerber image vs another Gerber image
- Compare one scanned image to another
- Design rule check
- Highlight D Codes
- Delete "double-hit" pads
- Verify track & pad connections
- Check for potential shorts & opens

WHY USE ScanFAB?

- Necessity: Create high quality CAD data for legacy products that is required for PCB fabrication, test and repair.
- Accuracy: Extracted data is exact Form, Fit and Function, eliminating need to recertify & retest for compliance (UL, CE, etc.)
- Accuracy: Eliminate errors caused by old hand digitizing, hand-taping or camera step and repeat methods.
- Accuracy: Increase board quality by using internal check features.
- Security: Prevent film/drawing deterioration by storing images in electronic format.

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, HP-GL, JPG
- PCX and TIFF
- Panelized images

OTHER MODULES (Optional)

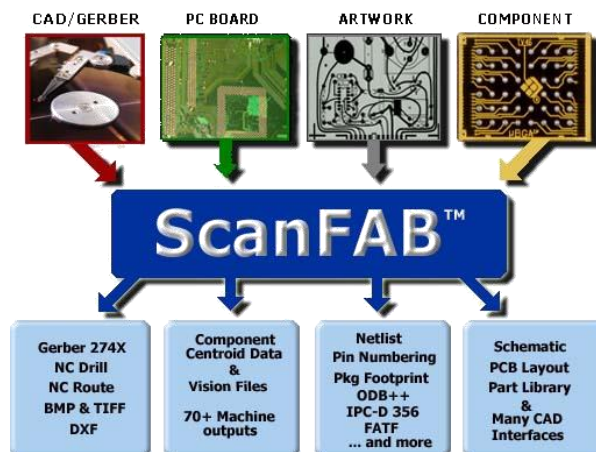
- Optional software modules to add component information and move data up to a schematic and also into CAD packages for re-design.
- Extract component information including component centroid, rotation, part number, package ID and reference designator.
- Generate package footprint, pin numbering & netlist information with industry standard outputs that can be imported into most CAD packages.
- Component centroid data (70+ machines)
- Create component vision library files
- Netlist generation
- Automatic Pin Numbering
- Generate Schematic & PCB layout
- 28,000+ Part Library
- Many CAD interfaces
- SPICE based simulator and thermal analyzer
- Electromagnetic Analyzer (with Signal Integrity and Field analyzer)

OUTPUT FILES (Optional)

- ODB++
- FATF
- IPC-D 356
- EDIF version 2.0
- Orcad PCB II wirelist
- Scicards netlist
- Specctra & Maxroute autorouters
- EED3 layout wirelist
- CUPL netlist
- XILINX netlist
- JEDEC netlist
- ALTERA netlist
- Export CNC data in G-CODE
- EDWinXP schematic netlist
- DXF

TECHNICAL SPECIFICATIONS**SCANNER**

- High-Resolution Flatbed Scanner, Size A3: (400/1000/2000/3200*/4000*/4800* dpi)
- Calibrated Accuracy: $\pm 0.0015''$ ($\pm 0.0381\text{mm}$)
- Scanning Bed Area: 11.7" x 16.5" (297mm x 420mm)
- Maximum Work Area: 32.0" x 32.0" (813mm x 813mm)
- Reduced scanning area for 3200, 4000 & 4800 dpi.

**COMPUTER***

- Pentium (3GHz or higher) Personal Computer
- 300 GB HD, 4 GB RAM
- CD-ROM (CD-RW for archive purposes)
- Monitor
- Printer
- Windows XP Service Pack 2
- 2 available USB ports
- Recommended minimum requirements for customer-supplied PC.

ADDITIONAL SYSTEM COMPONENTS

- Precision Glass Calibration Grid
- Scanner Interface Card/Cable
- Optical Scope
- Software Protection Key
- Scanning Accessory Package
- Custom Desk (Optional)
- Custom Transmissive Lighting Package (Optional)

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(All specifications and designs subject to change without notice.)



Simplifying Complex Technology

Sales Representative
Romeo Crisà

via E. Folli, 8 . 20134 Milano
M +39.335.5990059
F +39.02.93650197

romeo@romeocrisa.it
www.romeocrisa.it

