

PCB "FAB-IN-A-BOX"

Our "Direct Etch" technique enables you to transfer toner printed images in minutes from any conventional laser printer with high etch precision.


Make SINGLE and DOUBLE-sided circuit boards up to 8"x10" in under 10 minutes with trace widths down to .005" using any standard 1,200dpi B&W laser printer (or conventional photo-static copier).

There is also a "MINI" kit. See contents below for differences in the two kits.

Make Your Own PCB's In Minutes!

PCB

FAB
-IN-A-
BOX



Create high quality single and double-sided circuit boards using any laser printer* or photo-copier in just a few minutes!

Used by...

- Hobbyists
- Midnight Engineers
- Educators
- R&D Labs
- Commercial Engineers

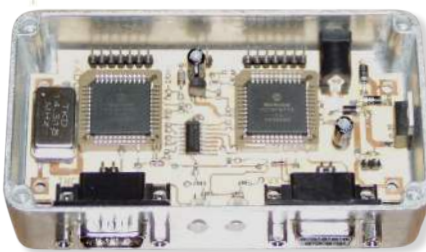


Photo courtesy of Paul Messer (WAZZY) Newport, OR. *Oregon Coast Repeater Group, www.ocrg.org

Full Kit:

- **Toner Transfer Paper:**
20-sheets, 8-1/2" x 11" (2 TTP packs)
- **GreenTRF:**
Toner Reactive Foil, 8" wide x 15" long
Seals toner images for pit-free etching
- **White TRF:**
Toner Reactive Foil, 8" wide x 15" long
Converts silkscreen layer to white
- **Blank PCB Boards:**
FR-4 / G10 Laminate, 1/2oz Copper
2ea 8"x10" .032" SINGLE-Sided
2ea 8"x10" .032" DOUBLE-Sided
- **Pre-Printed Test Images:**
Validates printer's performance
Acetate sheet for iron calibration

Mini Kit:

- **Toner Transfer Paper:**
10-sheets, 8-1/2" x 11" (1 TTP pack)
- **GreenTRF:**
Toner Reactive Foil, 8" wide x 15" long
Seals toner image for pit-free etching
- **Blank PCB Boards:**
FR-4 / G10 Laminate, 1/2oz Copper
4ea 6" x 8" .032" SINGLE-Sided
4ea 6" x 8" .032" DOUBLE-Sided
- **Pre-Printed Test Images:**
Validates printer's performance
Acetate sheet for iron calibration

From simple single-sided thru-hole circuits to advanced double-sided and SMT boards, as easy as 1, 2, 3!

1. Design...



2. Print...



3. Transfer...



Simple, Fast and Efficient!

* Photo courtesy of Erik Walhinsen, Portland, OR. This double-sided board is a scant 1.5" diameter drawn with .008" traces for a TQFP-32 and LCC-20 chips

ALL "PulsarProFX" PRODUCTS:

KITS:

- PCB "Fab-In-A-Box"	50-1003
- PCB "Fab-In-A-Box" (MINI kit)	50-1006
- Combo (PCB + DecalPro)	50-1004
- DecalPRO (10min Graphics)	50-1001

LAMINATOR:

- Applicator (12" 120 vac)	50-1301C
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SUPPLIES:

- PAPER: Toner Transfer Paper	50-1101
- FOIL: GreenTRF (Etching)	50-1225
- FOIL: WhiteTRF (Silkscreen)	50-1226
- FOILS: "DecalPro"	50-1201 ~ 50-1299
- CARRIER BOARD: "DecalPro"	50-1503

COPPER CLAD: 8" x 10"

- 2pk Rigid .032" Single Sided	50-1501
- 2pk Rigid .032" Double Sided	50-1502
- 2pk Flex .005" Single Sided	50-1504
- 2pk Flex .005" Double Sided	50-1505

COPPER CLAD: 6" x 8"

- 4pk Rigid .032" Single Sided	50-1507
- 4pk Rigid .032" Double Sided	50-1508
- 4pk Sampler (Mixed)... (.005" SS+DS and .032" SS+DS)	50-1506

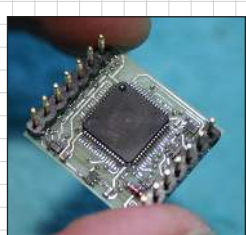
No more photographic negatives, expensive pre-sensitized UV boards or developing chemistry. Just Design, Print, Transfer and etch... done!

A Simple, Fast and Efficient way to make single, double and Flex PCB's, both thru-hole and SMT!

NO

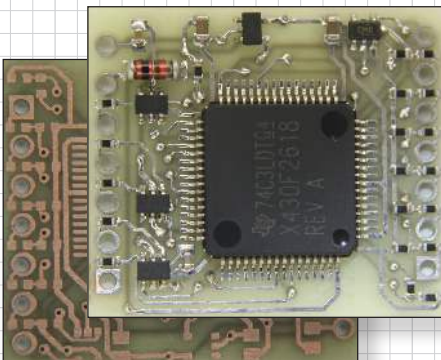
- Negatives**
- Darkroom**
- Developing**

"This project uses 0402 resistors, 0603 caps, and a 64-pin LQFP device on .008" traces w/.006" air-gap, .020" vias, and .010" via holes." Photos courtesy of David Coombs, Tucson, AZ





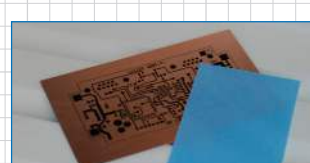
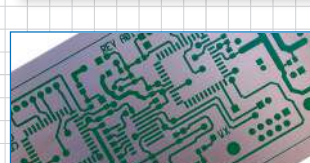
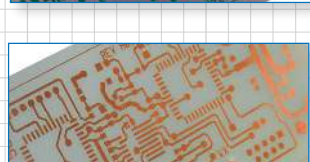
"Fine-Line" Capability!

Create circuit boards with traces as fine as .006" using any standard B&W laser printer* and a suitable 10mil type laminator**

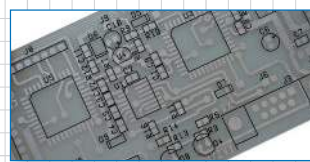



To achieve super-fine traces you must have fast etch times to eliminate under-cutting. By using 1/2oz copper (vs. conventional 1oz) coupled with an .032" fiberglass base, you get fast etch times, good rigidity, reduced overall project height and boards that cut using a standard paper cutter. (We also make paper-thin .005" FlexPCB which cuts with scissors!) See our website for our "Contact Etch" technique to etch these boards in under 2 minutes... without using an etching tank!

The Process Steps:

- PRINT** your PCB layout to the Toner Transfer Paper using any laser printer* (or conv. photo-copier) 
- FUSE** the toner image to the copper board by using either a household iron or a suitable laminator** 
- WATER BATH** for 1 minute to release the toner image from the Toner Transfer Paper 
- SEAL** the toner by covering and fusing the GreenTRF the same way as the paper above 
- ETCH** the board. When done, wipe off the toner and GreenTRF with Acetone... all done! 

Optional Steps

- SILKSCREEN** layer can be added to the component side after the board has been etched 
- WhiteTRF** foil can be added over the black image for a more conventional silkscreened look 

Customer Comments...

"Your system is truly excellent! Everything worked exactly as described. Having never created a pcb before, I couldn't believe how well they turned out."

BRETT J, VANCOUVER, BC CANADA

"My company has a pcb router, but I have to get in line to use it. I have the budget to send stuff out, but that takes time. Sometimes, I just can't wait! I ordered your system with a laminator. Great stuff! I am delighted with the performance. Nothing but success."

DAVID E, PH.D., ZEELAND, MI

Ideal for proto-types and short-run custom fabricated in-house products!




Photos courtesy of Tom Laureanno "www.djirc.com"

*** PRINTERS:** Use this product only on B&W laser printers (or conventional photo-static copiers). Note however, that BROTHER® and SAM-SUNG® laser printers do not work well with our process due to their non-standard, very high-temperature toner formulations.

**** IRON vs. LAMINATOR:** Household irons can be used to reliably transfer circuit images to copper-clad boards with traces down to .015" wide (after simple calibration). Finer traces require greater control over heat & pressure by using recommended pouch laminators. See our site for info at "PCBfx.com".