

Thank you for purchasing our new PCB "Fab-in-a-Box" starter kit!



INVENTORY of PARTS:

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| 1) TTS PAPER | 2 packs, Transfer Paper, 10-sheets/pack |
| 2) PCB/1x Sided | 2 panels, .032", 1/2oz copper, 8"x10" |
| 3) PCB/2x Sided | 2 panels, .032", 1/2oz copper, 8"x10" |
| 4) GREEN-TRF | 8" wide x 15' long |
| 5) WHITE-TRF | 8" wide x 15' long |
| 6) TEST IMAGES | Pre-printed "test" images on TTS paper |

To use this product as it is intended to get very good, repeatable results every time, you must use a "pouch laminator" which is NOT part of this kit. If you elected to obtain your laminator through your own channels, we'd like to give you a quick primer on what laminators to look for because only a few will work.

SUITABLE LAMINATORS:

There are four laminators available on the market you can use with this "PCB Fab-In-A-Box" kit (and DecalPRO - our other kit for making dry-transfer graphics using the same laminator and TTS paper). All of these usable laminators are made by GBC. It needs to be pointed out that ONLY GBC made units have been found to work properly with our products because they are the only manufacturer who makes externally heated rollers properly. The four laminators are: the "Creative", the "Personal", "H-200" and the "H-210" (which replaced the H-200 with several improvements). All of these pouch laminators are standard 9" wide units, however all but the H-210 have been discontinued by the manufacturer, but there are plenty of these other three available at good low prices on eBay and other sources.

When passing rigid PCB laminate through these units, no "carrier" is required (contrary to what the instructions or placards may say on the casing of the unit). Because you are inserting a rigid PCB laminate material there is no need for a "carrier" because it can't get lost inside the laminator. If, however you are to pass a piece of "flex" PCB laminate through the unit, it could curl and get lost inside the unit, so you SHOULD always use a thin "carrier" to guide the material through the unit. Also, do not use PCB laminate thicker than .032" through the units or else the motor/geartrain may "stall" and become damaged. If you MUST use .064" board, the only two laminator units that will physically pass through the unit are the H-200 and the H-210 models. The H-200 requires several modifications to permit this and both require you to assist the motor by pushing on the board as it is going through the unit to prevent the motor/geartrain from stalling due to the excessive load. As an important side note, inserting a full width .032" board through the H-210 laminator may start to overload the motor/geartrain. If it does, you will hear a clicking sound. That's your cue to apply a bit of a "helping hand" to the board going through the laminator. Always run the boards through the laminator by the smallest of the two dimensions to reduce the load to the lowest possible factor.

PCB LAMINATE:

Why .032" versus the more common .064" thick PCB laminate? Most all blank copper-clad laminate available at both retail stores and on the web is .064". There is, however, an ever growing popularity of .032" because we are all trying to put more electronics into less and less space. Compared to the height of most SMT components, the .064" thick board in and of itself is one of the thickest and space-stealing components of the project. If you have never used .032" board before, we think

you'll be in for a pleasant surprise. It cuts very cleanly and easily with just a paper cutter, generates only half the drilling dust than .064" boards for thru-hole parts and etches in one-half the time of conventional 1oz copper (etching in under 1 minute if you use our new "etching without an etching tank" solution on our website under the "Tips & Tricks" section.)

PROBLEM PRINTERS:

To date there is only one brand of printer we have found that will not work with this "direct etch" process. All 1,200 dpi "Brother" printers use a completely different type of toner that is actually an epoxy-based toner requiring elevated temperatures to fuse properly.

PRE-PRINTED SAMPLES:

The printed "samples" page included in this kit is a "trouble-shooting" tool if you experience problems transferring YOUR toner images. There are only two reasons why toner won't stick to copper when using this device, either the unit is defective (which is very rare - but it could happen), or the toner "density" is too low when your circuit image was printed on to the TTS paper. Use these sample images as a reference tool. Setting up your laser printer's "toner density" setting is absolutely imperative in order to get great results. If you are unfamiliar with doing this, read the section inside the TTS paper instructions on "Setting Toner Density to its maximum setting. Currently there is only one printer that has been identified that will NOT work with this technique... BROTHER. All the rest are "good to go"!

TRANSFERRING YOUR TONER IMAGE:

This is very simple and actually a bit fun. No more headaches in making a board! Simply lay the printed TTS paper face down over the blank copper board and insert into the unit. Once the rollers have grabbed the board and paper together, you can let go. Always run the boards narrowest dimension into the laminator first. Small boards are not a problem going through this unit, however, if you were to insert a very wide board, wider than about 7", the motor may start "clicking". If you hear this, immediately "assist" the board by pushing on the tail end to stop the clicking. The noise means the motor is loading up too much. As the large board exits, help to pull it out. When the board comes out, reverse it (head to foot) and insert a second time, and then slip it in to a tray of water. Let it sit in there until the paper separates. Don't try to "help" it off. It only takes a minute or two. Rinse the board under running water and "pat dry" it with paper towel.

ADDING "TRF" FOILS:

Follow the directions on the GreenTRF package. Always lay the "dull" side of the foils against the toner image. For using WhiteTRF to make "component legends, follow the same instructions as you did for the GreenTRF pack.

REMOVING TONER:

Any "hot" solvent will instantly remove the toner and TRF films. We prefer acetone, but just about any solvent will do.

If you run into any problems using this "direct etch", please either pickup the phone and call us or drop us a quick email. We are open to answer your questions or solve any problems you might encounter.

