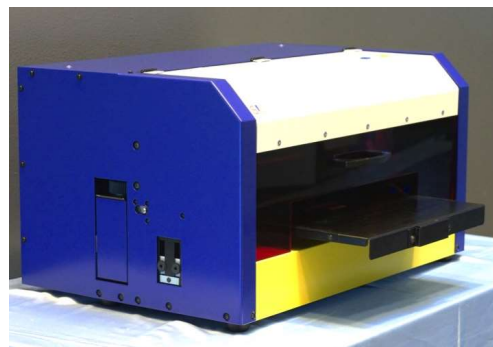


SMART Printer

- ◆ For resist mask and circuit printing
- ◆ High speed print (240 sec / A4 size)
- ◆ Easy usage

Only 3 operations to finish printing
 Reduce 80% of conventional process time
 Just 1 min to refill the ink tank



Features

- ◆ Nozzle clogging is reduced by using the specified inkjet ink.
- ◆ Since a UV LED curing system is built into the printer, printing and curing of the resist material can be realized simultaneously.
- ◆ Our unique approach for ease-of-use ensures easy refilling of ink and replacement of print head.
- ◆ By replacing the print head, the SMART Printer can be used for either resist mask fabrication or conductive circuit fabrication.

Example Applications

Resist mask fabrication

- ◆ Mask printing on glass substrates and optical components
- ◆ Insulation pattern printing on electrical components.
- ◆ Etch-mask printing on copper-laminated substrates and flexible copper-films.
 A circuit substrate can be created by etching after printing.

Electrical circuit fabrication

- ◆ Silver nano ink printing on PET film and PI film.
 A conductive circuit can be created by sintering 120 degrees after printing.

Specification

Specification	SMART printer (SMP-3021)
Print mechanism	Piezo inkjet (Minimum line width = 100μm, Depending on conditions)
Print data format	1-bit bitmap (BMP)
Available substrate size	300 mm(W) x 210 mm(D) x 0.8-30 mm(H)
Print speed	100 mm/sec, 250 mm/sec (selectable)
Fixing substrate	Adhesive or Vacuum stage
Required PC interface	USB2.0 x 1 (Windows7/10, 32bit / 64bit)
Body size	Approx. 600 mm(W) x 350 mm(D) x 330 mm(H)
Power consumption	< 100 W



AIST Start-Up

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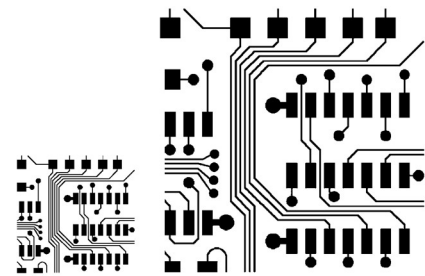
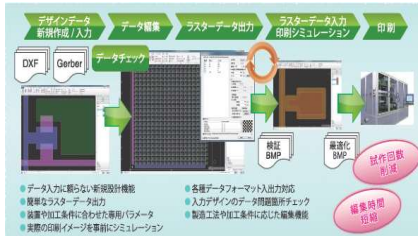
URL

www.sijtechnology.com/en

Printing process

Step 1. Prepare print data (BMP image)

Convert DXF, Gerber, PDF data to BMP data using editing software (DFM Inkjet, etc.).



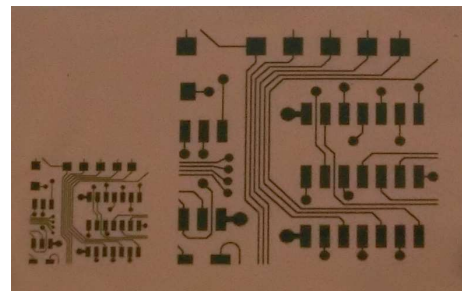
Binary BMP data

Step 2. Print

Operate the printer from PC

Just set the substrate and press the print button.

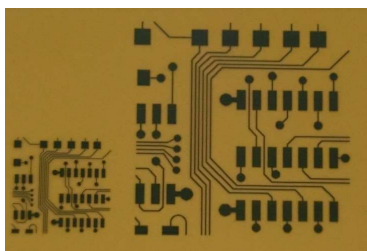
※When printing resist material, UV irradiation is performed inside the printer.



After print

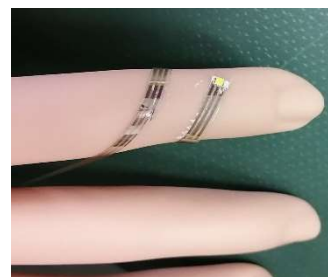
Resist mask fabrication (Etching mask fabrication)

Step 3. Etching

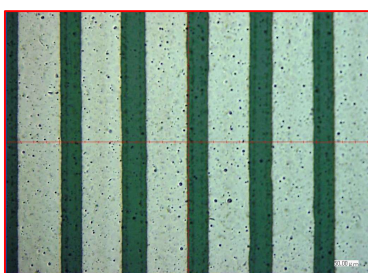


Electrical circuit fabrication

Step 3. Sintering process (120 degrees 60 minutes)



Step 4. Remove resist material



Case)
Substrate : Cu-coated PI
Line width : 200 μ m
Space : 50 μ m

Case)
Substrate : PET film
Line width : 500 μ m
Space : 400 μ m