

Low Cost Print Station

Product Description

In response to our customers' requests for a low-cost tool to allow exploratory microdispensing investigations, MicroFab is pleased to announce the introduction of jetlab[®] 4. The newest member of our highly successful jetlab[®] family, currently in use in ten countries worldwide, leans heavily on the successes of the prior generations. By carefully considering the performance and budget requirements of laboratories exploring ink jet as a solution to their deposition challenges, jetlab[®] 4 provides a cost effective work station for research purposes.

Available Options

CCD camera for substrate observation; Heated substrate and / or printhead; Polymer Jet and custom printheads; 21x26 cm substrate size.



Standard Features

Software controlled X-Y positioning; 16x12 cm substrate size & print area; manual Z axis control of printhead height; Print-on-the-Fly (both axes simultaneously) or Point-to-Point printing; arbitrary printing resolution and direction; complex print job definition through scripting; software based rotation correction; CCD camera for drop observation mounted at 15°, allowing visualization of drop impact and coarse alignment to features; vibration isolated mounting surface; pneumatics and thermal controls; JetDrive Drive Electronics unit with bipolar and arbitrary waveform modes, and single and burst modes.

Applications

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| Organic Electronics | Biomedical Research |
| Displays | Sensors |
| Security Printing | Solar Cells |
| Nano-metal Conductors | Fuel Cells |
| Embedded Passives | Tissue Engineering |
| Micro-Optical Elements | Medical Devices |
| Medical Diagnostics | Microassembly |
| Drug Delivery | Microchemistry |



Specifications

Subsystem	Standard	Optional
X-Y travel	160 X 120 mm printable	210 X 260 mm printable area
Velocity / Acceleration	50 mm/s / 1500 mm/s ²	
X-Y Accuracy / Repeatability	±30µm / ±20µm	
Computer	Integrated PC; monitor, keyboard and mouse; XP Pro; USB 2.0 & Ethernet ports	
Pneumatics	Precision pressure/vacuum regulator with digital readout for jet operation; three state pneumatic control	
Vision	Horizontal camera at 15° for jet setup, print observation, alignment to features	Vertical camera for alignment inspection
Jetting Devices	MicroJet room temperature devices; single jet & multiple jet configurations	Heated devices (Polymer Jet™); custom printheads
Complex Print Jobs	Script file: nesting, repetition with offsets, wait states, maintenance, & TTL controls	
Print Modes	Print-on-the-Fly and Point-to-Point	
Jet Drive Electronics	JetDrive™ III: bipolar and arb mode	