

# *Sprint™ Family* *Inkjet Legend Printing Solutions*



# Sprint™ Family

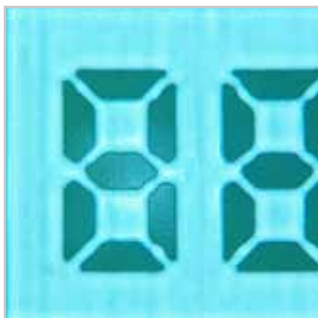
Utilizing the newest inkjet technologies, Orbotech's next generation Sprint models print superior quality legend at high speed on a wide range of panel thicknesses. Delivering the industry's highest performance, Sprint is optimized for high-end legend designs in high mix production of HDI and MLB PCBs.



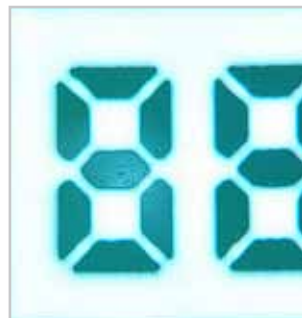
Other inkjets



Sprint straight lines



Other inkjets



Sprint excellent and uniform area fill

## Benefits

### Superior Quality at High Speed

- Production grade results in a single pass
- Printing down to 0.5mm height text
- Excellent and uniform area fill
- Straight lines at any angle

### Print on Any Rigid Panel

- Specially designed table to flatten thick and thin panels
- Pin-less alignment
- 1.5mm depth-of-focus (DOF) for uniform printing over thick traces

### Exceptional UCI (UV Curing Integrated) Technology™

- Superior control of drop size and position accuracy
- Elimination of two baking cycles and multiple panel handling
- Print side A-A or A-B

### Digital Printing

- Shortest time to market – print directly from the CAM system
- Save on stencils and screen costs
- Superior image placement and registration
- Easy traceability
- Clean process with the lowest cost of ink per print

### Easy to Learn & Operate

- Intuitive user interface using a touch screen
- Automated data transfer from any CAM system

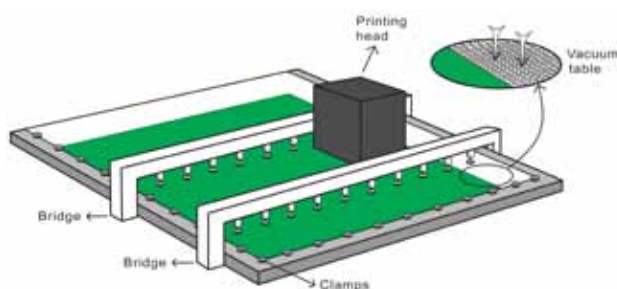


## Superior Quality at High Speed

Sprint eliminates the trade-off between printing quality and throughput. By utilizing two 1024 nozzle print heads one after the other, a density of 720 DPI (Dots per Inch) is achieved in a single pass. This in turn, significantly increases the printing throughput.

### Print on Any Rigid Panel

- A combination of vacuum, clamps and retractable bridges completely flattens the printing area to ensure the highest quality printing on a variety of panel thicknesses.
- Pin-less alignment eliminates the need for pinning holes and reduces panel load/un-load time.
- High depth-of-focus (DOF) of 1.5mm enables uniform legend printing over non-uniform surfaces.

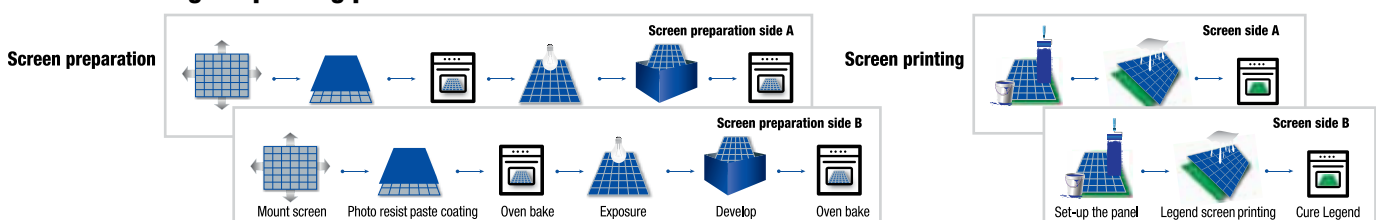


### UCI (UV Curing Integrated) Technology™

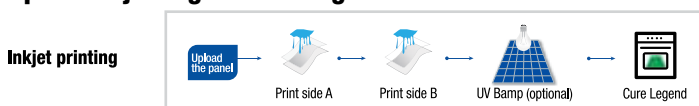


Orbotech's unique UCI Technology ensures the highest quality and the best operational efficiency. A patented UV light source cures the ink immediately as it hits the surface, resulting in a cured legend after printing each side of the panel.

### Conventional legend printing process



### Sprint Inkjet Legend Printing



Shorter time-to-market: Sprint inkjet replaces the lengthy screen preparation process

### UCI Technology Advantages:

- Superior quality: Ink drops are cured instantly for uniform line width and height
- Reduced cycle time by eliminating two baking cycles
- Increased operational flexibility: print side A-A B-B, or side A-B

### Digital Printing

- Shorter time-to-market: replaces the lengthy screen preparation process
- Cost saving: eliminates costly stencils and screens
- Automatic registration and scaling. Achieve registration accuracy down to 35µm
- Traceability: multiple serialization and bar-coding options defined per panel, strip or even per individual PCBs
- Lowest ink cost per print: closed loop ink supply system for zero ink waste

### Easy to Learn & Operate

- Simple and easy operation requiring only minimal training - no process expertise is required
- Fully automated data transfer from CAM

### Field-Proven Solution

Orbotech's field-proven Sprint family is the industry's best selling inkjet legend printers. These printers use field proven inks from leading material suppliers, achieving up to 9H hardness, superior adhesion, excellent whiteness and are certified for UL and key MIL standards.



## Specifications:

Max. Panel & Image	30.9" x 24.4" (785 x 620mm)
Min./Max. Panel Thickness	4 – 295 mil (0.1 - 7.5 mm)
Min./Max. Resolution	720 / 1440dpi
Min. Line*	3mil (75µm)
Min. Text Height**	20mil (0.5mm)
Registration Accuracy	±1.4mil (±35µm)
Depth of Focus	60 mil (1.5mm)
Alignment	User selectable 3 or 4 point registration, CCD camera, manual or automatic
Print Mode	True side A-A or side A-B
Print Head	Min. dot size: 70µm Drop volume: min.12pl
Software	Software RIP, Windows, 274x input, Push-to-Print, Multilanguage
Ink	Multiple inks from leading material suppliers Standards & Certifications: UL 94V-0, MIL-55110, MIL-31032, ASTM E 595, IPC-650, IPC-4781, AA-56032D Type II, RoHS, REACH, Halogen Free
Dimensions W x D x H	64" x 73" x 61" (162 x 185 x 154cm)
Weight	1623Kg 3578lbs

### Printing capabilities

Model	Sprint-100		Sprint-80		Feature size	
	Total Number of Nozzles		Total Number of Nozzles			
	2048		1024			
Net print time***	No. of passes	Net print time [sec.]	No. of passes	Net print time [sec.]	Min. line [µm]	Min. text [mm]
Production mode	1	26	2	58	200	0.9
High mode	2	58	4	116	150	0.7
Ultra fine mode	4	116	8	232	100	0.5

\* Lines of 75µm require special printing modes and well controlled solder mask surface tension.

\*\* With 4 passes mode for Sprint 100 and 8 passes mode for Sprint 80

\*\*\* min. print time for 23" x 17" panel

Sprint inkjet legend printers are class-1 laser products.

Laser specifications: red laser diodes, 650nm, 3mW max. power specifications are subject to change without notice.

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[www.orbotech.com/pcb](http://www.orbotech.com/pcb)

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