

LPKF ProtoMat® S100

High Performance PCB Prototyping for all applications

- Ideal for RF and microwave circuitry on all substrates
- Non-contact processing of surface sensitive materials
- Superior milling speed, resolution and accuracy
- Automatic tool change for unmatched ease-of-use and unattended operation
- Vacuum table and fiducial recognition camera available

LPKF ProtoMat® S100 In-house PCB Prototyping meeting the highest standards

The LPKF ProtoMat® S100 circuit board plotter pushes RF and microwave applications through the production pipeline more quickly: it shortens development cycles and cuts out the need to hire external service companies. Valuable production data remain safe and secure within your organization.

With its unique precision, the S100 is particularly suitable for machining soft and flexible substrates with sensitive surfaces. It is ideal for a whole range of applications thanks to its flexibility and high speed: in addition to the production of multilayer PCBs, it also easily machines three-dimensional components. The system is compact and ready to use with plug-and-play software. Its high level of automation makes in-house prototyping easier than ever.

Extremely high precision

Whatever the application, the LPKF ProtoMat® S100 produces ultra-fine structures very quickly on all conventional PCB materials with its travel speed of 150 mm per second. With a resolution of 0.25 µm and a variable motor speed of up to 100,000 RPM, the S100 is the perfect solution for all requirements demanding the highest levels of precision. Combined with LPKF tools, the system produces tracks with extremely precise and straight side walls – vital for the production of RF and microwave designs.

Automatic tool change

One of the S100's convenient features is the automatic tool change. It can automatically change up to ten different milling and drilling tools during the production process, which saves operating time and enables the circuit board plotter to work unsupervised and more effectively.

Optimal processing of sensitive surfaces

The non-contact machining-depth limiter senses the material surface is perfect and controls the penetration depth of the tool into the substrate. Because it avoids contact with the material surface it is perfect for machining soft and flexible materials with sensitive surfaces.

Convenient and rapid implementation

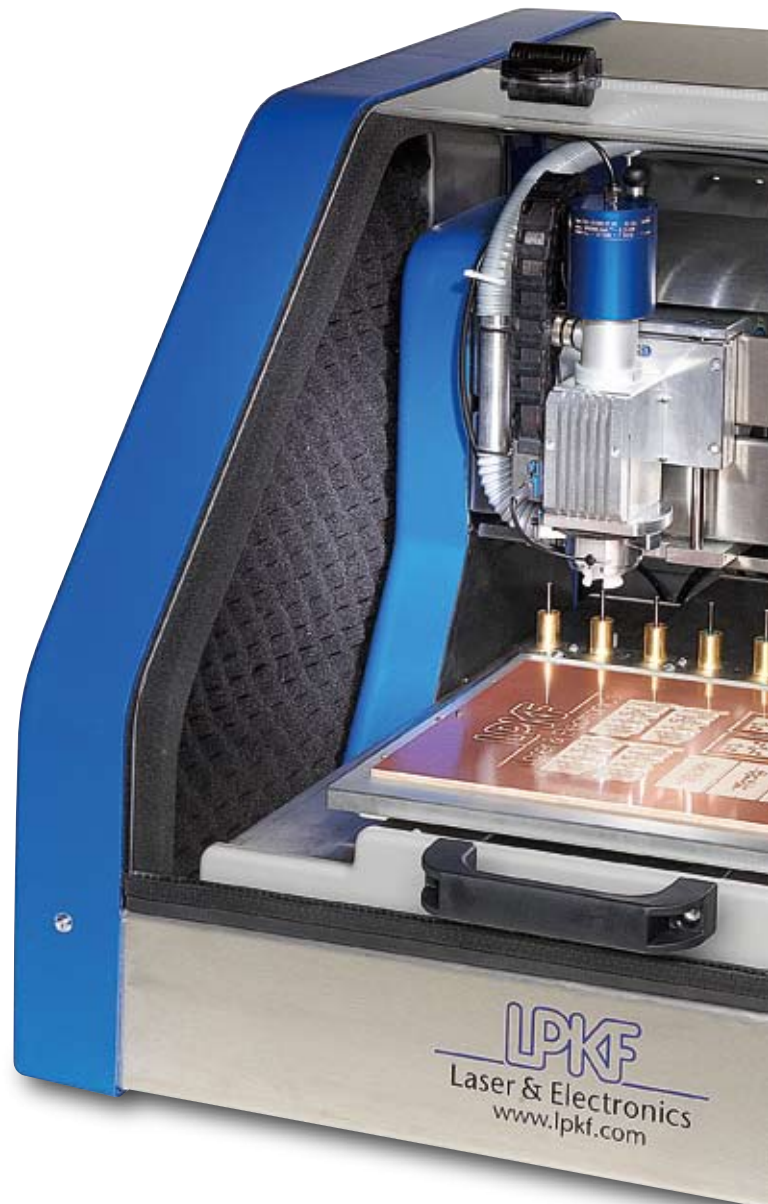
This compact system can be used at every workstation and only requires power and a compressed air supply. The ergo-nomically designed acoustic cabinet encloses the working area and minimizes noise emissions. The circuit board plotter can be connected to the control computer seamlessly using a standard USB interface.

Sophisticated CAM system software

Each circuit board plotter includes the system-optimized LPKF CircuitCAM and LPKF BoardMaster® software. These easy to operate tools import all conventional CAD data and control the circuit board plotter production process. The comprehensive tool library, controls the spindle speed automatically to the particular material being processed. LPKF is committed to continually develop its software products and provide the latest technology available to all customers.

3D technology

With its motorized Z-axis, the LPKF ProtoMat® S100 is also ideal for machining front panels and housings. Even assembled circuit boards can be easily milled, reworked and depaneled.



Options

All options can be easily retrofitted on-site by the user.



Integrated vacuum table

Holds the base material down and guarantees a level surface on the worktable.

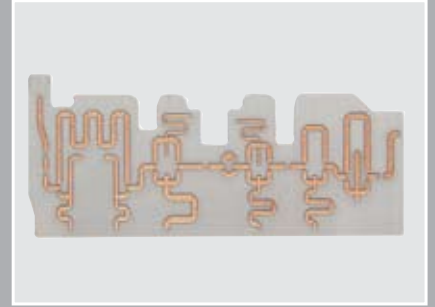


Optical fiducial recognition

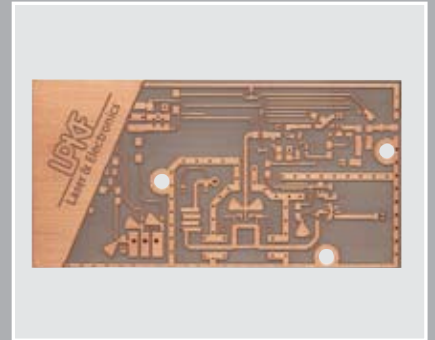
Using fiducials, the camera system locates the position of double-sided and multilayer PCBs. The artwork is then aligned automatically to the position of the board.



Applications



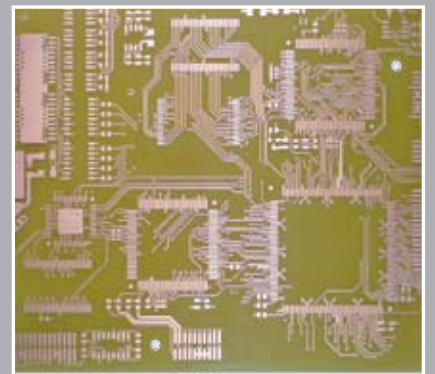
Circuit carriers for RF and microwave circuits



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Aluminum or plastic housings



Single-sided and double-sided PCBs, as well as multilayer boards

Technical Data LPKF ProtoMat® S100

Minimum track width	0.1 mm (4 mil)
Minimum gap	0.1 mm (4 mil)
Minimum hole diameter	0.15 mm (6 mil)
Working area (x/y/z)	229 mm x 305 mm x 38 mm (9" x 12" x 1,5")
Resolution (x/y)	0.25 µm (0.01 mil)
Resolution (z)	0.5 µm (0.02 mil)
Milling motor	100,000 rpm
Tool change	Automatic, 10 stations
Collet	1/8" quick-release collet
Drilling capacity	150 holes per minute
Positioning speed (max.)	150 mm per second
X/Y positioning system	3-phase stepper motor
Z-drive	Stepper motor
Dimensions (W/H/D)	650 x 510 x 800 mm (25,6" x 20" x 31,5")
Weight	55 kg (121 lbs.)
Power supply	120/240V, 50-60 Hz/200 VA
Hardware and software specifications	Microsoft® Windows® 2000/XP, 700 MHz processor or higher, min. 256 MB RAM (512 MB recommended), screen resolution min. 1024 x 768 pixels, USB 2.0

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