

Fully-automated PCB prototyping

Quick and easy access to the printed circuit board

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Electronics developers prefer to create their printed circuit boards directly in the laboratory. This is fast and easy with the new circuit board plotters from LPKF Laser & Electronics AG, and it requires no time-consuming etching. Whether the all-rounder LPKF ProtoMat S64 or the special system for HF applications, LPKF ProtoMat S104: The fully-automated machines guarantee the production of fine structures up to 100 µm. Full process control remains with the developer

The operation of the machines is very simple. Automatic tool change, camera-controlled register mark recognition and integrated milling width control keep operating time to a minimum. The system software enables fast and flexible layout adjustments.

For the etch-free process, neither special knowledge nor special laboratory equipment is required. Thanks to digital control via easy-to-use software, the layout can be flexibly adapted at any time. The user has control of every process step, the ideas remain in-house and no coordination with external service providers is necessary. The high speeds of the self-cleaning, low-maintenance spindles and the solid granite machine base ensure optimum accuracy.

The all-rounder

The LPKF ProtoMat S64 is the reliable and fast working basic system for almost all in-house PCB prototyping applications. The high-speed milling spindle guarantees the production of structures up to 100 µm and allows the production of multilayer sheets. The extensive equipment with 15 tool positions makes the LPKF ProtoMat S64 the perfect addition to any development environment - including dispenser and vacuum table.



Fig. 1: The LPKF ProtoMat S64 circuit board plotter

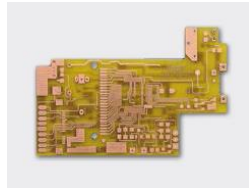


Fig. 2: Circuit on double-sided FR4 created with LPKF ProtoMat S64

Specialist for HF and microwave applications

The LPKF ProtoMat S104 is fully equipped for the electronics laboratory. Up to 20 tools are automatically changed during the production process. Sensor-controlled material and copper thickness measurements are carried out automatically and enable the exact determination of the required milling depth. Depending on the penetration depth, the conical milling cutters generate different insulation channels. The milling width adjustment also automatically ensures a constant width of the milling contours.

Thanks to the vacuum table and the high-performance spindle, which operates at up to 100,000 rpm, the LPKF ProtoMat S104 is also suitable for HF applications and thin laminates as well as substrates with sensitive surfaces - trace widths up to 100 µm on FR4 18/18 Cu. The system software also takes into account the special requirements of RF materials.



Fig. 3: The LPKF ProtoMat S104 circuit board plotter is a special system that is particularly suitable for creating applications with HF materials.



Fig. 4: Milled filter design on sensitive high-frequency material

About LPKF

LPKF Laser & Electronics AG manufactures machines and laser systems used in electronics fabrication, medical technology, the automotive sector, and the production of solar cells. Around 20 percent of the workforce is engaged in research and development.