













LPKF ProtoMat S63

The All-Rounder for Rapid PCB Prototyping

Product: LPKF ProtoMat S63
Part no.: 127411
Ordering info: See front sleeve

Applications

-  Milling/drilling 1- & 2-sided PCBs
-  Milling/drilling RF-, microwave substrates
-  Multilayer PCBs up to 8 layers
-  Contour routing of circuit boards
-  Front panels/sign engraving
-  Machining cut-outs in front panels
-  SMD stencil cutting (vacuum table required)
-  Housing production
-  Depanelizing, reworking PCBs
-  Test adapter drilling
-  Inspection templates
-  Dispensing solder paste

High travel speed:
max. 150 mm/s (6"/s)



Available upgrade kit:
• ProtoMat S63 to S103

For more information about upgrades please see page 105 in the TechInfo.

The ProtoMat S63 is the ideal system for virtually all in-house prototyping applications where speed and security are crucial. It's also perfectly suited for multilayer- and RF applications. The high rotational speed ensures the fine structures of up to 100 μm required by many modern applications.

The extensive features make the S63 the perfect addition to any development environment. The precision and performance of this compact circuit board plotter are the foundation for producing PCB prototypes in just one day.

- Fully automated operation
- High speed (60,000 rpm), highest resolution (0.5 μm) and repeatability (± 0.001 mm)
- Automatic 15-position tool changer
- Automatic milling width adjustment
- Optical fiducial recognition
- Dispenser option
- Upgradeable to ProtoMat S103

Features

Automatic tool change

Up to 15 tools are automatically changed during production. This reduces set-up times and allows for unattended production.

Automatic milling width adjustment

The conical milling cutters produce different insulation channels depending on the penetration depth. The automatic milling width adjustment maintains uniform PCB track widths.

Dispensing

The built-in dispenser applies solder paste onto the substrates fully automatically with minimum data preparation.

60,000 rpm spindle motor

The 60,000 rpm milling spindle ensures the shortest machining times and highest accuracy.

Upgradeable to ProtoMat S103

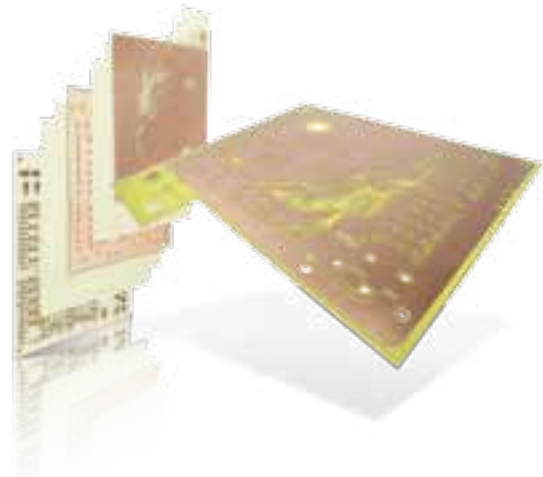
Upgrade kit includes 100,000 rpm spindle and pneumatic non-contact working depth limiter (Part no. 127702) and vacuum table.

Options & accessories

- Dust extraction (Part no. 114647)
- Compressor incl. 50 l tank (Part no. 104863)
- Vacuum table (Part no. 127688)
- Status light (Part no. 120128)

Other options and tools start on page 19.

Applications



Multilayer PCBs

When it comes to manufacturing multilayer prototype PCBs the ProtoMat S63 is part of the basic equipment. A through-hole plating system (pg. 45) and a multilayer press (pg. 48) complete the set-up.

Housings

In addition to machining PCBs and signs the LPKF ProtoMat S63 will also machine, route-out and depth mill materials such as aluminum and plastic, e.g. in housings.



Technical Specifications: LPKF ProtoMat S63	
Part no.	127411
Max. material size and layout area (X/Y/Z)	229 mm x 305 mm x 35/22 mm (9" x 12" x 1.4/0.9")*
Resolution (X/Y)	0.5 µm (0.02 mil)
Repeatability	± 0.001 mm (± 0.04 mil)
Precision of front-to-back alignment	± 0.02 mm (± 0.8 mil)
Milling spindle	Max. 60,000 rpm, software controlled
Tool change	Automatic, 15 positions
Milling width adjustment	Automatic
Tool holder	3.175 mm (1/8")
Drilling speed	120 strokes/min
Travel speed (X/Y)	Max. 150 mm/s (6"/s)
X/Y-drive	3-phase stepper motor
Z-drive	2-phase stepper motor
Dimensions (W x H x D)	670 mm x 540 mm x 840 mm (26.4" x 21.3" x 33")
Weight	58 kg (128 lbs)
Operating conditions	
Power supply	90 – 240 V, 50 – 60 Hz, 450 W
Compressed air supply	For dispensing function only: 6 bar (87 psi), 100 l/min (3.5 cfm)
Required accessories	Exhaust, please refer to page 21

* Value for Z without/with vacuum table

Technical specifications subject to change.