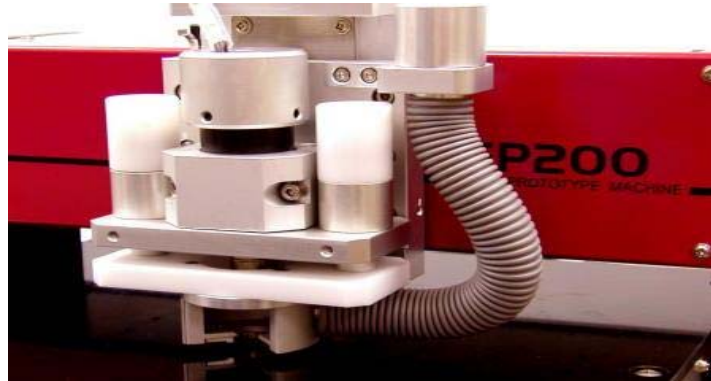
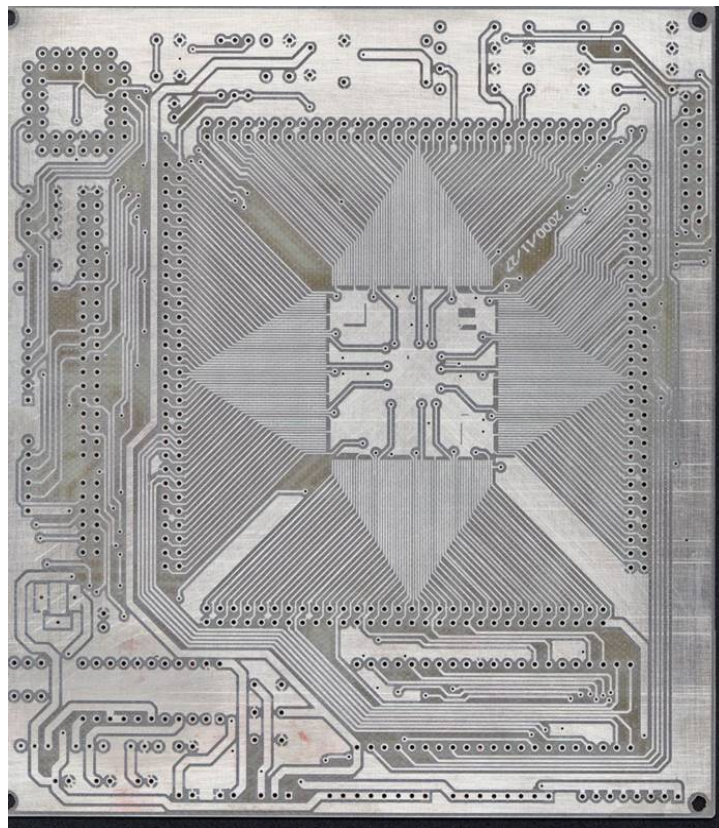


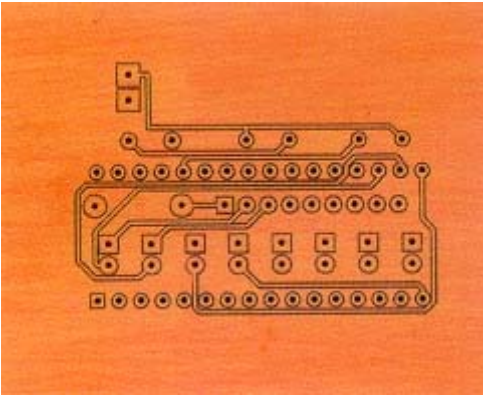
# PCB PROTOTYPING MACHINE

(Double & Single Sided Circuit Board Prototyping)

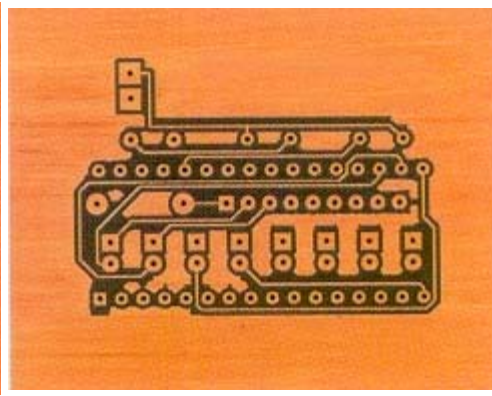


PCB Sample

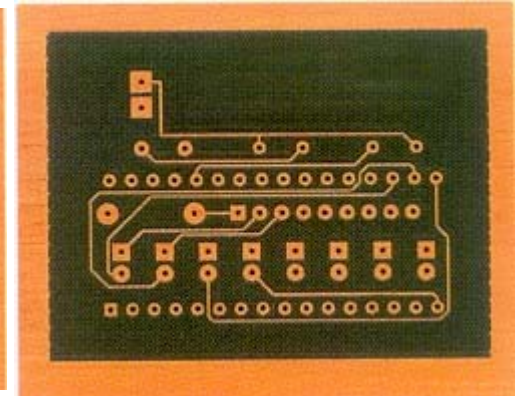




**T1:** 60 or 90 degree engraving tools isolate traces



**T2:** 0.5 mm endmill tool cuts a wider isolated space



**T3:** 1.5 mm endmill cuts big area from the board

## Features:

- Produces boards with the precision expected in a laboratory
- Ideal for making experimental boards and in small quantities
- Double & single sided circuit board prototype
- Standard layout software output gerber
- No chemical environmental-friendly
- Produces boards quickly, at low cost, Precise, secretive & time saving
- Speeds up development time

## Description :

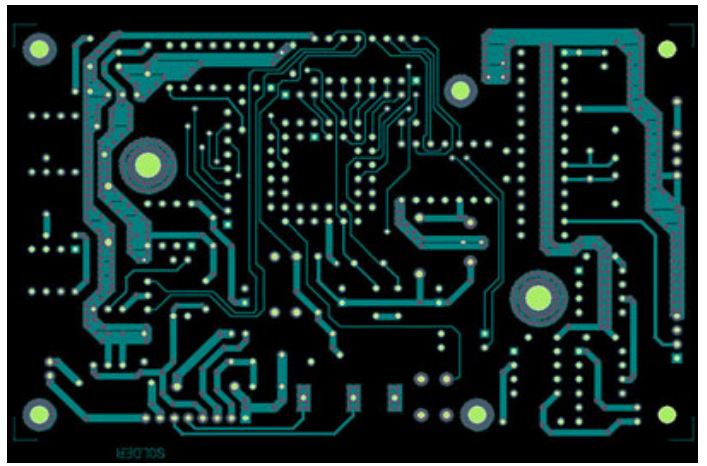
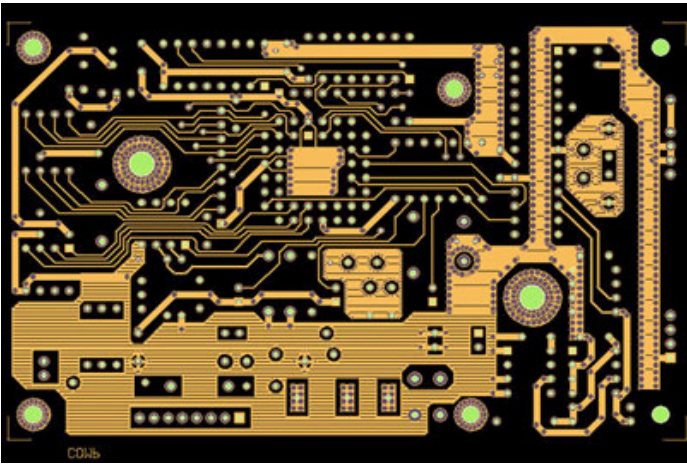
PCB PROTOTYPE MACHINE is one of the excellent products bring you the most simple, quick, precise way to make your own pcb prototype. PCB PROTOTYPE MACHINE is not only save your time and cost in your R&D job, but also a very environmental protection product. From now, you don't have to use chemicals to make your pcb prototype at laboratory any more.

Using pcb prototype machine can very quickly produce samples of electric circuit board, shorten the time in researching. Save the money in cost. And it's project is highly secretive in nature, no need to produce films. Small does not occupy much space in the laboratory. The drill hole, track engraving and contour routing is done at one time. It surely will be your best choice in electric circuit board developing and researching.

The milling process is employed to produce a shallow channel around the pattern on a plain copper-plated pc board. By leaving the pattern As an island, these units are capable of drilling boards with multiple ground surfaces. Because the machine drills the holes and the Routing dimensions of the pc board after the pattern has been produced, boards for laboratory experiments and small quantities of Boards can be produced quickly and at low cost. Unlike the conventional etching method, these units do not use chemical treatments. They are environment-friendly, take up little space, and offer a highly cost-effective way to make boards.

## Surface Detect & Tool Length Detect

Owing to the irregular surface and thickness on the board material. EP2002 series provide you the surface detect & tool length detect function to inspect the surface distribution on pcb. After surface detect, EP2002 will automatically adjust the depth when cutting pcb to keep the less cutting on the dielectric. There is no need to manually adjust the depth when using EP2002 series. The depth can be adjust minimize to 0.005mm by numerical input on software and maintain a constant cutting depth.



## Easy to Use Software PCAM for all Windows System (98 / NT /XP...etc)

The operation system FOAM compatible with all Microsoft Windows system and accepts standard RS274D/X gerber file from Protel/PADS/P-CAD/OrCAD/OAM350/Tango. . .etc. or AutoCAD \*.DXF file.

**PCAM Software function:** array, copy, mirror, working time forecast, working area test, routing path offset. Gerber file edit function: move, add, delete pad, track, drill... Etc.



## Drilling/Milling/Routing in one machine

No need to use any gauge, manual testing and adjustment, make drilling, milling and routing become a easy job. Drilling-Auto adjusts the best drilling speed when using different size of drill bit to avoid drill bit broken. Milling-Auto adjusts the depth after Surface Detect to keep the less cutting on dielectric. Routing-Auto offset the router tool diameter to make accuracy shape.

## Tools

Milling Tool: For isolate cutting path.

End-mill Tool: For remove copper.

Drill Bit: For drill hole.

Contour Router: For contour shape.

## Milling Tool Selection :

T1 for isolation: 60 or 90 degree milling tools for isolate trace.

T2 for isolation: 0.5mm end-mill milling tool for milling a wider isolate spacing.

T3 for big area milling: 1.5mm end mill for big area copper remove from copper clad.

Specification	EP2002	EP2002H	EP2002L	EP2002LH
Working Area (mm)	320*210	320*210	430*320	430*320
Resolution	0.005 mm	0.005 mm	0.005 mm	0.005 mm
Control Axis	X, Y, Z	X, Y, Z	X, Y, Z	X, Y, Z
Control Motor	X, Y, Z/Stepper Motor	X, Y, Z/Stepper Motor	X, Y, Z/Stepper Motor	X, Y, Z/Stepper Motor
Max. Travel Speed	45 mm/sec	45 mm/sec	45 mm/sec	45 mm/sec
Minimum Track Size	0.1 mm (4 mil)	0.1 mm (4 mil)	0.1 mm (4 mil)	0.1 mm (4 mil)
Minimum Gap Size	0.1 mm (4 mil)	0.1 mm (4 mil)	0.1 mm (4 mil)	0.1 mm (4 mil)
Max. Milling Speed	20 mm/sec (MAX.)	20 mm/sec (MAX.)	20 mm/sec (MAX.)	20 mm /sec (MAX.)
Drilling	0.3~3.175 mm	0.2~3.175 mm	0.3~3.175 mm	0.2~3.175 mm
Drilling Performance	90 Strokes/min (Max)	100 Strokes/min (Max)	90 Strokes/min(Max)	100 Strokes/min(Max)
Tool Change	Manual	Semi-automatic	Manual	Semi-automatic
Tool Holder	1/8 Socket	1/8 Socket	1/8 Socket	1/8 Socket
Tool Length Detect	Auto Tool Length Detect	Auto Tool Length Detect	Auto Tool Length Detect	Auto Tool Length Detect
Surface Detect	Auto Surface Detect	Auto Surface Detect	Auto Surface Detect	Auto Surface Detect
Spindle Speed	35,000 rpm (Max)	5,000~60,000 rpm (Software Control)	35,000 rpm (Max)	5,000~60,000 rpm (Software Control)
Machine Dimensions (mm)	W350*D570*H380	W350*D570*H380	W470*D685*H380	W470*D685*H380
Machine Weight	28 Kg	29 Kg	42 Kg	43 Kg
Power Consumption	AC 110/220 V	AC 110/220 V	AC 110/220 V	AC 110/220

**FUNCTION :** AUTO SENSOR BOARDS , MILLING , DRILL , EDIT ( COPY , MOVE , MIRROR , ERASE & ETC ) , WORKING TIME FORECAST , WORKING AREA TEST , INSULATION SPACING SELECT

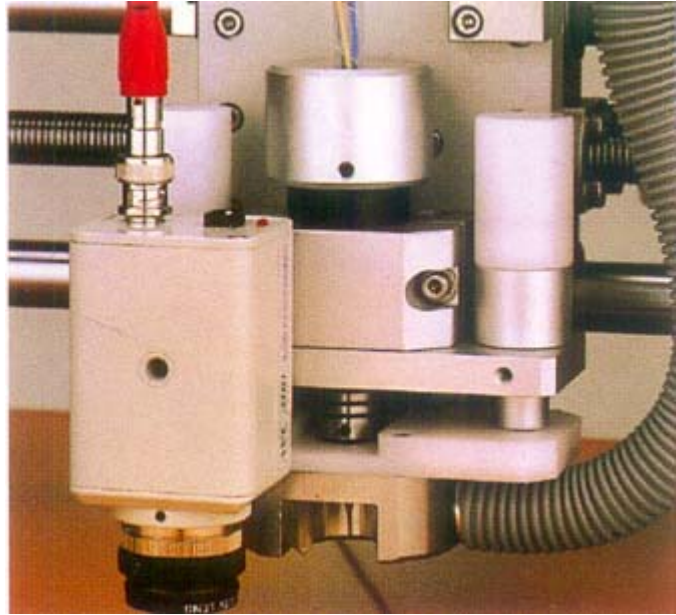
### Standard Accessories:

1. PCB PROTOTYPE machine
2. User's Manual
3. PCAM software
4. RS-232 cable
5. Surface inspection cable
6. Power cord
7. Surface machining tools 20 pcs (16 pcs of engraving tools, 2 pcs of 0.5 mm endmills 2 pcs of 1.5mm endmills)
8. Penetrating tools 20 pcs (2 pcs of router bits are included)
9. Tool exchange pliers
10. 5 pcs of locating pins
11. vacuum hose (adaptor)
12. 10 pcs of FR4 H/H copper boards (1.6 mm thick)

## Optional Accessories:



**Pager**



**Vision System**

1. Wireless Tool Change Reminder Beeper: You don't have to stay with the machine while it is working. The pager will be triggered as the tool needs to be changed or the work is done. The pager is working within a quarter mile distance.
2. Vision System: The CCD camera can help you precisely drill and route. Especially working on multi-layer projects. The 30X CCD can make the PCB PROTOTYPE Machine a measuring machine. Distance, arc, and diameter measurements can be done on the PCB machine.