

Printed Circuit Board Repair Machine, Model # SMAPRO200



PCB Repair Strip



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FEATURES:

- Rugged design
- Resistive parallel gap welding
- No solder involved, RoHS compliant
- Reflow and wave soldering compliant
- Large welding parameter range
- Large work area

APPLICATIONS:

- **Printed circuit board trace repairing**
- Engineering or prototype alternation
- Volume production repairing

DESCRIPTION:

SMAPRO200, Printed Circuit Board (PCB) Repair Machine is specially designed for PCB repairing. The core technology implemented in this machine is based on resistance or ohmic spot welding principle. It not only eliminates the costly and difficult trace repairing process, but also results neat, clean, pollution/corrosion free and more reliable traces. **The repaired traces can sustain tough cleaning process, wave solder reflow process and meet original design specifications.** In addition, the process meets **RoHS** requirements since there are no toxic soldering materials involved. Various repairing strip sizes and welding electrodes are available for different trace size and load capacity. The strip materials are typically gold or tin plated copper.

Similarly, Model **SMAPRO200** is offered in TWO output power levels to handle various trace sizes. While **Type S** is a lower power output model mainly for smaller trace sizes, **Type L** is a higher power output model for larger trace sizes.

Model **SMAPRO200** comes with 2 electrodes for customer's convenience. The model numbers of the electrodes are SW-ETD-PCB and SW-ETD-PCB. Their detailed specifications are included in page 31 of this catalog. Model **SMAPRO200** can also be configured to utilize standard and clean free parallel gap welder electrodes for more convenient electrode installation. Contact factory for details.

OPTICAL DEVICES:

The optical devices are not included in the base model of **SMAPRO200**. Refer to Parallel Gap Welder sections for optical device selections.

KEY SPECIFICATIONS:

NAME	PARAMETERS	
	Type S	Type L
Input Power	110 VAC/60 Hz or 220 VAC/50 Hz	
Output Pulse Power	400 W (Max)	800 W (Max)
Output Pulse Amplitude	0 to 1.99 V adjustable	0 to 2.99 V adjustable
Output Pulse Width	0 to 29.9 ms (Step Size: 0.1 ms)	
Welding Head Force	1 to 100 ounces (30 to 3,000 grams) adjustable	
Welding Speed	120 Strokes/Minute (Max)	100 Strokes/Minute (Max)
Maximum Sheet Width	29" (740 mm)	
Repair Strip Sizes (W x T)	2 to 20 x 1.5 to 2 mils (0.05 to 0.65 x 0.04 to 0.05 mm)	
Control Unit Size	13" (W) x 7" (H) x 8" (D) or 330mm (W) x 180mm (H) x 200mm (D)	
Control Unit Weight	35 Lbs or 16 Kg	

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PCB REPAIR STRIPS:

Two types PCB repair strips are commonly used in the industry. They are lead free tin coated oxygen free copper strip and lead free gold plated oxygen free copper strip. The tin coated copper strips are mostly recommended since they offer the strongest welding joints. The main specifications of the strips are illustrated in the following table. Contact factory for the size not listed.

NAME	Lead Free Tin Coated Oxygen Free Copper Strip	Lead Free Gold Plated Oxygen Free Copper Strip
	SW-PCB-TXX	SW-PCB-GXX
Width (Tolerance)	2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 16, 18 and 20 mils (+/- 0.05 mils)	
Thickness (Tolerance)	1.0, 1.5 and 2 mils (+/- 0.02 mils)	
Thermo Stability	0.000016 ppm/°C	
Conductivity	0.000045 Ω /inch	0.000040 Ω /inch
Coating Thickness	1.5 μ m	
Spoon Diameter	2.0 inches	
Length in Spoon	100 Feet (30 Meters)	
Type of Finishing	Tin, Gold	
Lead Free	Yes, meet RoHS standards. Certificates issued by SGS.	