



# SMOOTH N SLEEK SDN BHD

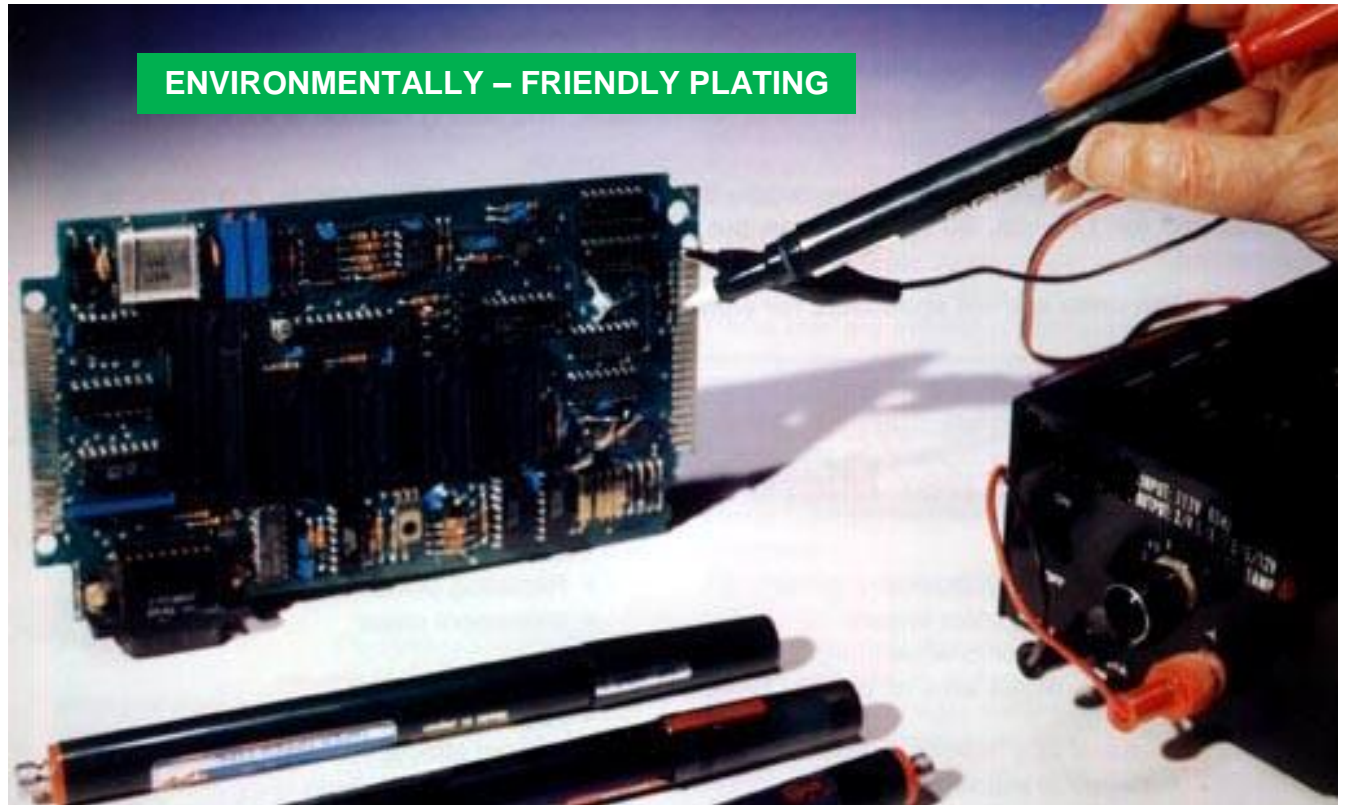
(Co. Reg. No: 321141-K) ESTD. SINCE 1994

UNIT 1-05-12, KRYSTAL POINT CORPORATE PARK, KRYSTAL POINT II, LEBUH BUKIT KECIL 6,  
11900 BAYAN LEPAS, PENANG, MALAYSIA.

TEL : (6)04-644 8029, 644 9029 FAX : (6)04-644 0107 E-MAIL ADDRESS : [sales@snspcb.com](mailto:sales@snspcb.com)

WEBSITE : [www.snspcb.com](http://www.snspcb.com)

## SNS MICRO-METALLIZER PENS ULTRA-COMPACT ELECTRO PLATING SYSTEM WITH MARKER PEN CONVENIENCE



This new, low-cost system has been developed specifically to provide a simple and convenient electroplating capability for such applications as scientific and engineering development, electronic repairs, specialized production, dental work and special art-work, and restoration. Completely self-contained and portable, it is equally useful in lab, office or shop. Utilizing special disposable cartridge-pens, this system permits an instantaneous selection from a wide variety of plating possibilities without the necessity for expending time, effort and expense in preparing special plating solution. Above all, it is simple to use with no special skill required!

A complete selection of pens is available for a wide variety of plating requirements. Power can be supplied by your own variable D.C. supply capable of supplying up to 12 volts at 0.1 amp or our variable voltage power supply.

### FEATURES

- Fully-integrated system
- Ultra-compact & portable
- Can be used anywhere
- Produces high-quality results
- Partial and selective plating possible
- Instantaneous selection of type of plating
- Solutions sealed in cartridge-pens  
Protected against contamination
- No skill required
- 110 volt or 230 volt operation.



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## **SNS MINI PLATING PENS**

- Partial plating can be done easily without specialized skill. The scope of use is unlimited in work that requires partial or selective plating of surface, in making experimental models, in various repairs and in work that requires manual processing such as finishing or repairing craft work and precious metals.
- One of the most important features of this plating system is that each solution is self-contained in its own marker-type pen. There is no need to prepare special plating baths or solutions. Simply connect the desired pen to the power supply and start plating!
- The plating pen is disposable and non-refillable. The plating solution is thus fully protected from accidental contamination.
- The optional variable voltage power supply is extremely compact and portable. It is normally supplied for 230 volt, 60 Hz operation but can also be supplied for 110 volt operation if desired.

**Note :** These units are not applicable for aluminum surfaces.

## **Some Typical Applications of the Mini Plating System**

### **Electronics**

- Repair of Printed Circuit Boards (P.C.B.)
- Repair of Contact Fingers
- Repair of Micro-Wave Components
- Experimental work on contact surfaces

### **General Lab Work**

- Repair of Instruments

### **Dental Labs**

- Gold Plating of crowns and other metal surfaces.

### **Optical**

- Re-plating of Frames
- Instrument repair

### **Jewellery and Arts/Crafts**

- Repair and touch-up
- Special effects (Selective plating of engraved designs)
- Can be used anywhere
- Produces high-quality results





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## PLATING REQUIREMENTS

PENS	ORDER NO.	VOLTAGE		APPLICATIONS
			D.C.	
Absorbent	120-DEG-002	10V – 12V		For cleaning all metals, except stainless steel prior to plating
Gold – 24K	120-AU24-003	6V – 8V		Plates over gold, nickel and silver
Gold – 18K	120-AU18-004	6V – 8 V		Plates over gold, nickel and silver
Gold – 14K	120-AU14-005	6V – 8V		Plates over gold, nickel and silver
Nickel	120-NI-006	5V – 6V		Plates over copper. Apply copper flash using copper pen to non-copper surfaces
Black Nickel	120-BNI-007	8V – 10V		Same as nickel
Silver	120-AG-008	5V – 6V		Plates over any metallic surface except aluminium or chromium
Chrome-Color	120-CR-009	6V – 8V		Plates over copper. Apply copper flash using copper pen to non-copper surfaces
Copper	120-CU-010	6V – 8 V		Plates over any metallic surface except aluminium or chromium
Rhodium	120-RH-011	8V – 10V		Plates over nickel. Non-Nickel surfaces should be first flashed with copper, and then with nickel.
Tin	120-SN-012	6V – 8V		Plates over any metallic surface except aluminium or chromium
Zinc	120-ZN-013	6V – 8V		Plates over any metallic surface except aluminium or chromium
Absorbent for Stainless Steel	120-DEGSS-014	10V – 12V		For cleaning and activating stainless steel.
Palladium	120-PD-015	6V – 8V		Plates over nickel. Non-Nickel surfaces should be first flashed with copper, and then with nickel.
Gold 24K-Heavy	120-AU24H-016	6V – 8V		Plates over gold, nickel and silver
Gold 18K-Heavy	120-AU18H-017	6V – 8V		Plates over gold, nickel and silver
Silver - Heavy	120-AGH-018	5V – 6V		Plates over any metallic surface except aluminium or chromium
Copper - Heavy	120-CUH-019	6V – 8V		Plates over any metallic surface except aluminium or chromium
Nickel – Heavy	120-NIH-020	5V – 6V		Plates over copper. Apply copper flash using copper pen to non-copper surfaces
Connector Cables	120-CC-001			For use with Power Supply.
Power Supply	120-PS-002	110V 60Hz or 240V 50 Hz		

**NOTE :** In the case of zinc die-castings or steel it is recommended that a copper flash be applied prior to the application of any other plating.

## SPECIAL OFFERS – SAVE \$\$\$

### Deluxe Kit

#### 120-DK-00K

Complete with Power Supply, Connector Cables and the following pens :

1 ea. Absorbent	1 ea. Nickel	1 ea. Gold (24K)
1 ea. Silver	1 ea. Chrome Color	1 ea. Copper

### Contact Repair Kit

#### 120-CRK-00G

Complete with Power Supply, Connector Cables and the following pens :

1 ea. Absorbent	1 ea. Nickel	1 ea. Gold (24K)
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### Heavy Duty Kit

#### 120-HDK-00H

Complete with Power Supply, Connector Cables and the following pens :

1 ea. Absorbent	1 ea. Silver-Heavy	1 ea. Copper-Heavy
1 ea. 24K Gold-Heavy	1 ea. Nickel-Heavy	1 ea. Rhodium

**CUSTOM KITS TO YOUR SPECIFICATION. PRICES QUOTED ON REQUEST.**

DUE TO THE FLUCTUATIONS IN THE COST OF THE PRECIOUS METALS,  
PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.



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## DESCRIPTION OF OPERATION

- Preparation :** The operation of the Mini-Plating System is extremely simple and consists of the following steps :  
If the surface to be plated is discolored or oxidized polish thoroughly with a fine metal polish or rubberized abrasive until discoloration or oxide surface is removed. Wipe the surface well with a clean cloth after polishing.
- De-Greasing :** Connect the part to be plated to the negative (-) of the D.C. supply. Connect the absorbent pen to the positive (+) of the D.C. supply. Adjust working voltage to 10 – 12 volts. Hold the tip of the absorbent pen so that its entire surface contacts the part and then lightly rub back and forth in a slow stroking action. Small bubbles will form to remove oil and grease. Rinse after completing degreasing action.
- Plating :** Working voltage required for plating varies with the type of plating pen used. The voltage required is indicated on each pen. Adjust voltage to indicated value, connect part being plated to the negative (-) and the plating pen to the positive (+) of the supply. Apply the tip of the pen to the object so that its entire surface is in contact. Move the pen lightly back and forth and the plating will be deposited. Finally, rinse the part in water and wipe with a soft cloth.

## TECHNICAL DETAILS

### PLATING THICKNESS

Maximum plating thickness attainable with standard pens is 1.5 – 1.8 microns. Heavy type pens can attain 3 – 3.6 microns thickness. Typical times to achieve various thicknesses on a 1"X 1" copper surface are as follows :

Pen Type	2 Minutes	3 Minutes
Gold	0.5 microns	0.8 microns
Palladium	0.5 microns	0.8 microns
Silver	0.5 microns	0.8 microns
Rhodium	0.7 microns	1.0 microns
Nickel	0.4 microns	0.6 microns
Black – Nickel	0.5 microns	0.6 microns
Copper, Zinc, Tin & Chrome Color	0.3 microns	0.5 microns
Gold Heavy – Rapid Type	0.8 microns	1.2 microns
Silver Heavy – Rapid Type	0.8 microns	1.2 microns
Copper Heavy – Rapid Type	0.6 microns	1.0 microns
Nickel Heavy – Rapid Type	0.8 microns	1.2 microns

### PLATING COVERAGE

Each pen contains 10 ml. Of concentrated plating solution and will plate approximately 300 sq. inches of surface.

## PARTIAL LIST OF USERS OF MINI PLATING SYSTEM

Cincinnati Milacron	E.I. DuPont de Nemour	IBM Corporation
Hewlett Packard	Hughes Aircraft	Raytheon
AT&T	R-Tec	U.S. Air Force
The Aerospace Corporation	Texas Instruments	Motorola Inc.
U.S. Army	U.S. Navy	TRW Technar
Martin Marietta	General Motors/Fisher Division	Westell Inc.
K & L Microwave Inc.	Medicomp Inc.	Powerex Inc.
Electro Etch Circuits	Charleston Naval Shipyard	Princeton University
New England Sciences	Harvard University	Aritech
Vectron Laboratories Inc.	NASA Lewis Research Center	Zenith
Argonne National Laboratories	Pacific Gas & Electric Company	King Radio/Bendix
Control Data Corporation	Optek Technology Inc.	Bell Laboratories
Burton Electrical Engineering	National Instruments	G.E. Company
Leeds & Northrup	Matrox Electronics Systems	Teradyne
Florida Steel Corporation	Miltopoe Corporation	