

## OPERATION OF PEN PLATER SELECTIVE PLATING UNIT

1. Set up your PEN PLATER as per the drawing.

2. Add approximately 15 grams of Electrolytic cleaning salts to 250 mls of tap water and pour into the CLEAN tank. This tank is identified by the fitted stainless steel anode. If electrolytic cleaning salts are not available use 5 grams of Sodium Carbonate and 2 drops of washing up detergent. Fill the RINSE tank with tap water

3. Pour a small amount of PEN PLATING solution into one of the 5 ml beakers fitted in the CATHODE PLATE. Soak the tip after fitting it to the pen.

4. Hold the article to be plated on a metal hook or with stainless steel tweezers connected to the CLIP and place into the CLEAN tank ensuring you do not touch the anode. Turn on your PEN PLATER & adjust the control to read 4 volts on the meter. You should see your the produce gas bubbles.

5. After 5 seconds remove the article & rinse in the RINSE BATH.

6. Dab the article with absorbent tissue paper (Kleenex) to remove excess water but do not dry the piece.

7. Place the article on the CATHODE Plate (or hold in the tweezers), turn the CONTROL to 6 volts.

8. **THIS TECHNIQUE IS IMPORTANT.** Gently touch the surface of the work piece with the pen tip, then withdraw the tip SLIGHTLY so that it is JUST above the surface by about 0.5 mm. (A minute pool will form to create a miniature electrolytic cell).

9. Move the pen tip around the surface to be plated avoiding touching the surface as much as possible.  
**DO NOT RUB AT THE SURFACE.**

10. After 3 or 4 seconds, check that you are getting a reaction and the colour of the surface is changing, allow for the colour of the liquid you are using, and if in doubt, rinse in water to see the surface, you can replate without re-cleaning.

11. Until experience has been gained, plate for about 5 seconds to ensure a good finish. This time may be decreased as experience gained.

12. Rinse in water and dry in your conventional way when the process is finished.

### PEN PLATER PARTS.

PEN PLATER SET. No. 3020D

SPARE PEN for RHODIUM, No. 3021E

SPARE PEN for GOLD/SILVER, No. 3021E

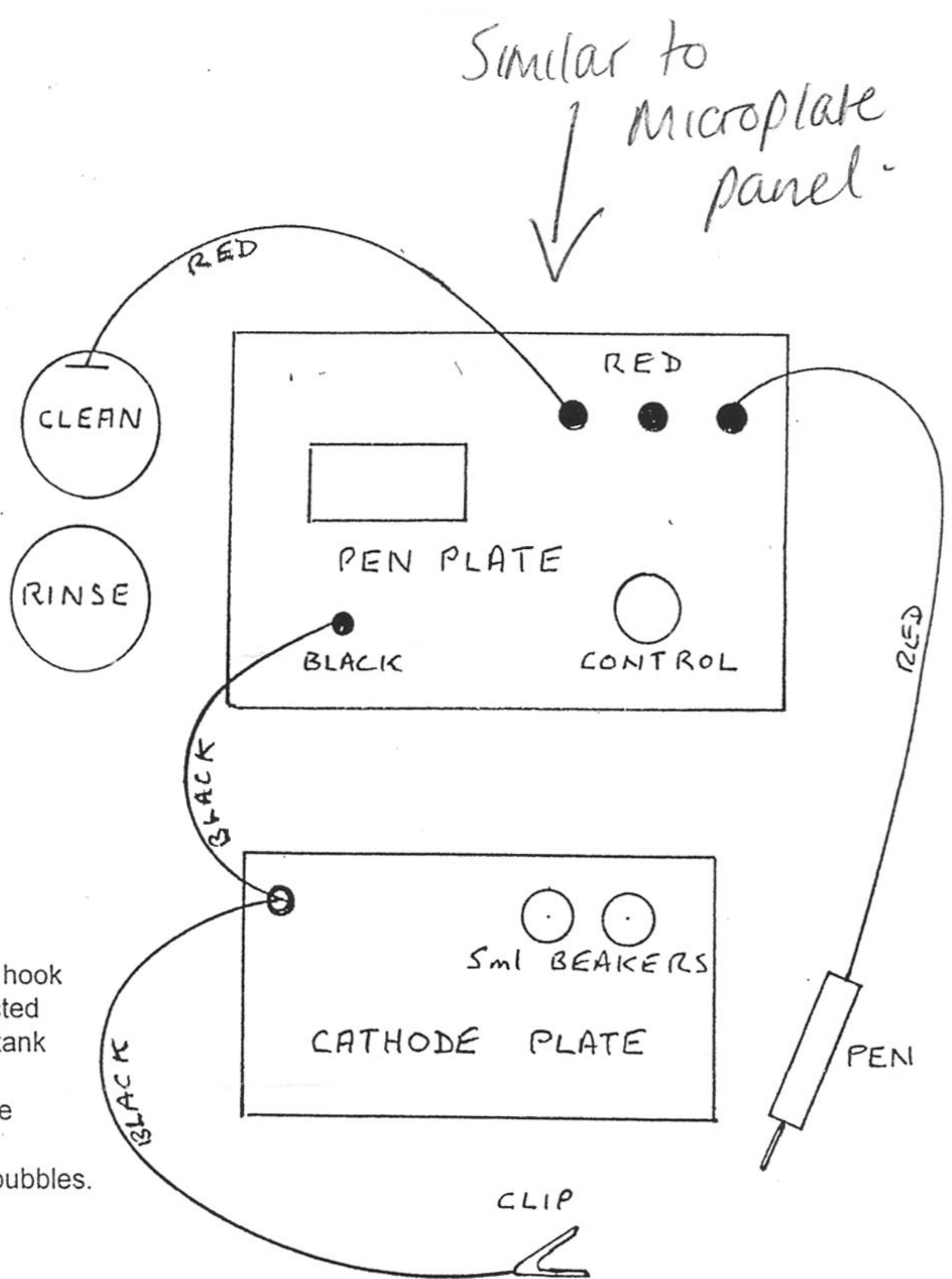
SPARE TIPS, 5 off No. 3022C-10

YELLOW GOLD 20ml No. 7821A

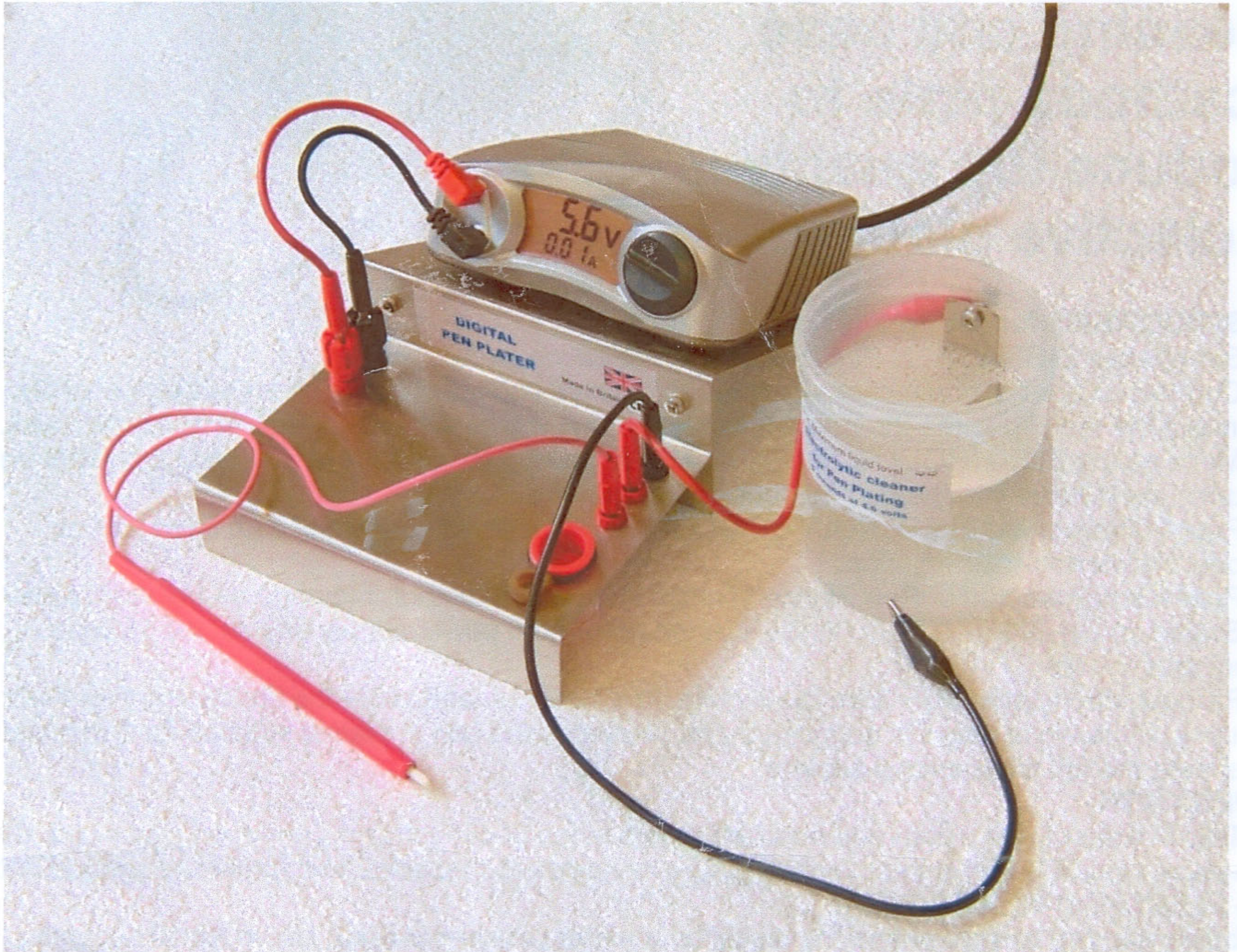
WHITE RHODIUM 20ml No. 7852A

SILVER 20ml No. 9667C

Doc Ref. WORKS/PENINST.WPS



# DIGITAL PEN PLATER



**With electrolytic cleaning and base cathode plate to produce top quality selective plating.**

**Made in Britain**



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## INSTRUCTIONS for set up

1. Set up your DIGITAL PEN PLATER as the illustration above.
2. Connect all the red connections only to red sockets and black connections to black sockets. Connect the red clip to the threaded connector at the rear of the ELECTROLYTIC cleaner tank.
3. Make up the ELECTROLYTIC CLEANER by dissolving all the salts in 500 ml of tap water and pouring the mixture into the 500 ml bottle provided.
4. Pour 200mls of the ELECTROLYTIC CLEANER solution into the small bath fitted with an anode. This a non-toxic solution.
5. Pour a small amount of Pen Plating solution into the 5ml beaker mounted on the work plate.
6. Switch on the DIGITAL PEN PLATER at the rear of the power supply and set the Voltage reading to 5 volts.
7. Remove the plastic cover from the pen tip, fit a clean nib and place the tip into the Pen Plating solution. If the nib is new it is suggested that you leave the pen in plating solution for 3 minutes to ensure the felt nib is evenly soaked.

## OPERATION

1. Take the item to be plated and suspend it on a piece of copper wire or opened paper clip. Clip the black crocodile clip to the connecting wire or hook and place the item under the surface into the ELECTROLYTIC CLEANER.

Bubbles will start to appear and the digital amp meter will start to read. Leave for 10 seconds, remove and rinse well in clean tap water - Rinsing is the most important part of electroplating.

2. Dry the item a little to remove excess water using an absorbent paper. It is not necessary to remove all the water.

- 3 Place on the stainless steel work area or clip the black lead to the item if this is more convenient.

4. Remove the pen from the 5ml beaker and gently move the pen tip over the area requiring electroplating. Do not rub the surface, you need to create a miniature wet cell on the surface of the item. Plate for 5 to 30 seconds.

5. Rinse the item and dry.

## NOTES

- A. For difficult areas, use a Lacquer pen to stop off the area not requiring electroplating.
- B. Place the red cover onto the 5ml beaker to reduce evaporation.
- C. Keep nib covered using the provided cap to stop the nib drying out.
- D. Change nibs for different solutions, wash pen between change of solutions.

## DATA

Voltages: Rhodium = 3 to 6 . Gold = 4 - 8 volts Silver = 2 to 4 volts.

Solutions for pen plating. 18, 22 and 24K Hard Gold

White and Black Rhodium, Silver, Copper, Nickel.

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