

**The Rhodium & Palladium Revolution Continued**  
**Technology Without Limits, Inc. “New”**  
**TABLE TOP PLATING APPLICATION SYSTEMS**  
**S1 Four & Seven Position Beaker System & U-1 Single Position Beaker**  
**Plating System**



**TWL & Dr Claudio Telatin Have Made An Incredible Breakthrough in**  
**Palladium & Rhodium Plating Application Process**  
**MICRO-AGITATION TECHNOLOGY!**

**MICRO-AGITATION TECHNOLOGY** Combined With Our Unique Brightened Palladium “PD-WHITE” Makes Palladium **THE NEW WHITE METAL!**

**PHYSICS** are applied by partially submersing the glass beaker containing palladium or rhodium into a specific ultrasonic wave & solution.

**CHEMISTRY** Is applied by using specific Palladium organic brighteners, metallic, and wetting agents.

**Physics & Chemistry Combined Have Revolutionary Benefits**

- Less Cost – Lower Precious Metal Consumption Per Item – Improves Whiteness
- Micro-agitation increases the amount of precious metal that can be plated out of plating solution. This means more plating out of every bath you purchase!
- Increased Reflectivity Due To Excellent Plating Deposit Structure
- Reduced Porosity – Increased resistance to tarnish or color change

## **Technology Without Limits Systems Come Complete**

- Detailed directions for set up and operation of each and every component
- Step-By Step preparation and plating directions, including all parameters

**The S1-4B, S1-7B & the U-1 Table Top Plating Application Systems  
Save Money & Improve Your Plating Results**

## **Technology Without Limits, Inc. U1 & S1 Technology**

### **Electroplating Process for Platinum Group Metal Using Micro-Agitation Technology**

#### **Description:**

An equipment and chemical system to improve the electroplated deposit of platinum group metals on to substrate and noble metals. Both appearance and the physical qualities are improved while reducing cost. Cost reduction is in work time, rhodium/palladium plate out consumption, and, initial rhodium/palladium bath make up by reducing the required content of precious metal in the plating bath. Appearance and physical qualities are improved because the plated deposit is applied in a more compact crystallization with less hydrogen absorption. This compact crystallization and reduced hydrogen absorption will result in the final plating deposit to be whiter, more reflective, and a more complete barrier between the substrate metal and the atmosphere, therefore reducing the oxidation bleed through possibility. Micro-agitation increases throwing power and expands the range of current density. Micro-agitation also increases the amount of palladium or rhodium that can be plated out of each unit of plating solution. This means you get more plating out of every liter you purchase.

#### **Process:**

- 1) Heat ultra sonic solution to the same temperature as the plating solution being used. Add standard recommended amount of Tiva Clean ultra sonic soap to the heated water in the ultra sonic. Mix well
- 2) Heat palladium or rhodium plating solution to the recommended temperature using a hot plate. Stir palladium or rhodium plating solution well before plating silver items.
- 3) Inert glass beaker containing palladium or rhodium plating solution, into the ultra sonic solution. (About  $\frac{3}{4}$  of the glass beaker should be submerged)
- 4) Begin normal plating process. Test different plating times to determine final amount required for full coverage.

**Technology Without Limits, Inc.**

**jacklopeztl@cox.net**

**(401) 286-7756**

**(800) 545-4570 ext 244**