

## FARADAYIC<sup>®</sup> Process and E-CHANGE<sup>™</sup>

### Objective:

This project demonstrated the feasibility of combining the patented FARADAYIC<sup>®</sup> Process with a modular ion-exchange reactor to treat effluent streams and plating baths from industrial wet processes.

### Summary:

The FARADAYIC<sup>®</sup> Process is incorporated into an technology designed to provide cost-effective in-process recycling/decontamination of effluents. The FARADAYIC<sup>®</sup> Process assists mass transport and enables electric regeneration to occur in-situ. The system is modular in design, to accommodate a wide range of shop floor production environments and provide a job shop plater with “point-source” pollution prevention capabilities at a cost-effective price and a ROI of less than 12 months. The E-CHANGE<sup>™</sup> System can recycle 90% of the contaminated rinse water (10% loss due to evaporation), regenerate a starter plating solution without generating a secondary waste stream.

### Background:

The patented FARADAYIC<sup>®</sup> Process is an electrochemical technology that utilizes a controlled electric field to solve environmentally-challenging problems. Since the FARADAYIC<sup>®</sup> Process is electrically mediated, it does not require aggressive chemicals to facilitate the process as needed in conventional chemical processes. The process rate is determined by the applied electric field, which is user-defined and computer controlled. This provides the means for precise control of the length and total output of the process.

The FARADAYIC<sup>®</sup> Process technology illustrated above is protected by a substantial patent portfolio including issued, allowed, and pending patent actions.

