

PCB Series Plasma Treatment System

March
A NORDSON COMPANY

Uniform, High-Reliability Processing

March Plasma Systems Printed Circuit Board (PCB) series is specifically configured to meet high-to-low production requirements. All system components, including the plasma process chamber, control electronics, RF power supply and PC controller are housed in a single compact enclosure to conserve valuable factory floor space.

Daily operating expenses, such as the process gases, are minimized through unique design concepts. March's staff of PCB experts has developed a comprehensive set of cost models to help you understand and determine the best solution for your application.

For PCB manufacturing, plasma treatment:

- Improves inner layer lamination
- Removes residual resin that smears along through- and blind-hole walls
- Modifies Teflon® surfaces and desmears resin on a mixed panel in a single process
- Cleans carbon by-products from laser formed vias prior to metalization



PCB 2800 Plasma Treatment System

Ultimate Process Uniformity

Uniformity depends on precise and independent control of all process variables, including an even dispersion of process gas and repeatable gas ionization. March systems are designed to ensure systematic process control - within a panel, from panel to panel and batch to batch.

Uniform gas dispersion is achieved with March's unique vacuum chamber, designed specifically for PCB applications. Features include a multiple-port configuration and cross pumping. With cross pumping, gas flow reversal ensures each circuit board panel is exposed to the same plasma condition.

Uniform gas ionization results from an electrode configuration with multiple power feed-throughs. Energizing the electrodes at multiple locations ensures a more homogeneous electromagnetic field. Electrode alignment bars keep the electrodes equally spaced to ensure uniform plasma for treating both sides of the panel simultaneously, unlike other systems that require flipping. Non-conductive alignment bars ensure panels are held vertically parallel and centered.

Achieving and maintaining the proper material temperature is critical to etch rate and uniformity. March's PCB series plasma systems maintain panel process temperature control with Tru-Temp electrodes. Re-circulating fluid *through* the electrodes allows a temperature set point to be maintained throughout the production process.



P²CIM Software for Machine and Plasma Environment Control

March's proprietary Plasma Process Control and Information Management (P²CIM) for Windows NT® software is specifically designed to control and monitor critical process parameters. It provides an intuitive interface with a complete statistical process control (SPC) package that allows real-time monitoring of gas flow, temperature, pressure, power and other process variables. Password levels can be customized to allow varying degrees of access for operators and engineers.

Features and Benefits

- Desmear and etching capability with a wide range of materials for improved PCB metalization.
- Optimized gas consumption for cost-effective use of gases such as CF4.
- Proprietary electrode design provides maximum treatment uniformity.
- Cross-pumping configuration ensures even distribution of gas throughout the plasma chamber for process uniformity.
- Rack assemblies for either rigid or flex materials for ultimate process flexibility.
- Compact system enclosure minimizes footprint.
- Lower operational costs with no hazardous waste disposal.



Standard Model Configurations

SYSTEM	PANELS/LOAD 457x610 mm (18x24 in.)	RF 40KHZ	GASES: MFC	STANDARD FEATURES
PCB 800	8	2500	3 STANDARD (ADDITIONAL 2 OPTIONAL)	TRU-TEMP ELECTRODES
PCB 1600	16	5000		CROSS PUMPING
PCB 2800	28	10000		P ² CIM CONTROLLER 3 LOW GAS ALARMS

Backed by the Experts

March Plasma Systems has a global team of scientists and engineers experienced in the application of plasma science. We will work closely with you to determine the right system and plasma processes that best fit your specific application requirements.

Our Applications and Customer Service departments bring to you more than 20 years of experience in RF plasma technology.

CE Compliant

March Plasma Systems reserves the right to make design changes to products and components to improve their function. These changes may occur between printings.

March
A NORDSON COMPANY

Teflon® is a registered trademark of E.I.DuPont Company and Windows NT® is a registered trademark of Microsoft, Inc.

Leading Plasma Innovations

March Plasma Systems, Inc. 2470-A Bates Avenue Concord, California 94520 Telephone: 800-326-1151 Facsimile: 925-827-1189