

MANITOU SYSTEMS INC

## **Manitou Systems, Inc.**

**A High Density Plasma Source for  
Chamber Cleaning, Conditioning and  
Process Enhancement**

**6/99**

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Presented by

Steven M. Simons

President

Manitou Systems, Incorporated



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# What Is A Delta Glow™ High Energy Plasma Source ?

- RF Powered Device (2-100 MHz)
- Down Stream Configuration
- Deposition, Etching & Cleaning Source
- Accessory To Vacuum Systems
- Enhancement to Processes

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# Applications

- Deposition Processes
  - CVD O<sup>2</sup> Radical Generator
- Etch Processes
- Chamber Cleaning & Conditioning
  - Newly Manufactured Chambers
  - In Between Process Runs
- Substrate Pre-clean & Condition
  - Polymer Based

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# Vacuum System Interface

- Vacuum Interface Through Conflat or KF Flange
- Process Gas Feed Through VCR Fitting
- Internal Manual Matching Network
- Remote RF Generator

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# Chamber Cleaning

- Desorption of Water Vapor on Surfaces
  - Via Electron & Ion Bombardment
- UV Activation
  - Light Generated By Plasma Discharge
- Chemical Activation
  - Using Process Chemistries Such As  $\text{NF}_3$ ,  $\text{O}_2$

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# Results

- Faster Pumpdown on New Chambers
- Chamber Cleansing Between Process Cycles
- Reduced Contamination In Deposited Films
- Better Film Quality Control