

For decades, AE has led the industry in pulsing technology for arc prevention, superior film quality, and high throughput. Today, our suite of pulsing products represents the most highly developed technology available, offering a comprehensive range of capabilities that unlocks new process options and extends innovation.

Features

- › Most advanced DC pulsing technology available
- › Extremely low arc rate
- › Robust, reliable performance
- › Arc Management System™ (AMS) technology—customer pre-sets for metal and ceramic targets
- › Set point compensation™ technology—stable throughput

Benefits

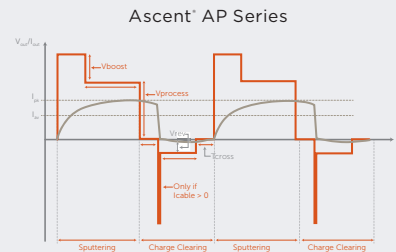
- › High film quality and throughput
- › Reduced film, substrate, and equipment damage
- › Stable throughput and power delivery under extreme arcing conditions
- › Easy integration and control



THE INDUSTRY'S MOST ADVANCED DC PULSING

- Controllable charge clearing cycle inhibits arc formation.
- Wide operational range unlocks a range of material options.
- Convenient single-box solution for single-magnetron sputtering.

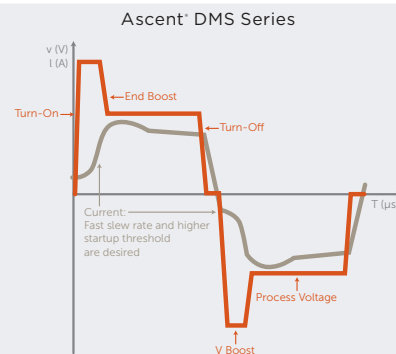
Available soon for single-box dual magnetron sputtering.



UNPRECEDENTED CONTROL IN DUAL-MAGNETRON SPUTTERING

- Advanced arc handling enables stability.
- Higher power levels with reduced arc damage increase throughput and quality.
- Adjustable frequency leads to increased deposition times.
- Precise control enables repeatable, customizable films.

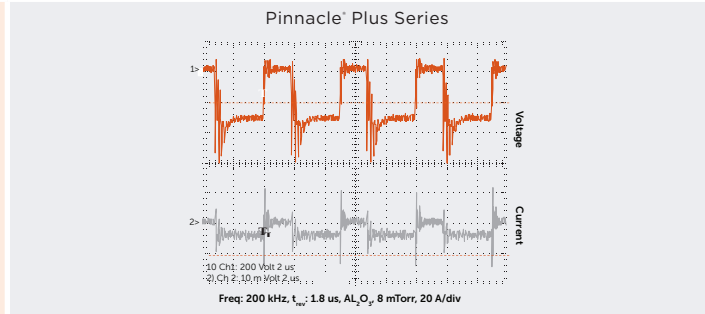
Individual control of power delivery to each magnetron extends campaign length and lowers material costs.



ROBUST, RELIABLE PULSED-DC POWER DELIVERY

- Reliable charge clearing
- Repeatable performance
- Exceptional film quality

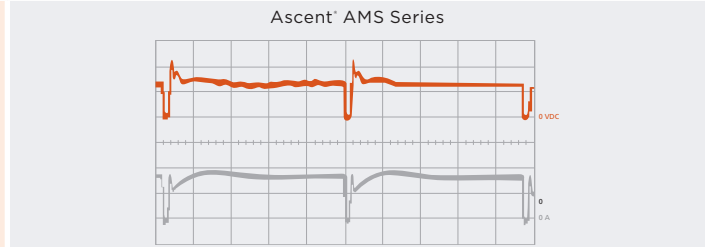
Compact 3 U design now extends to low-power operation for extremely thin and sensitive films.



ARC MANAGEMENT SYSTEM™ TECHNOLOGY NOW FOR PULSED DC

- 5 kHz pulsing embedded within a standard DC package
- Industry-leading arc detection, shutdown, and recovery speed
- Repeatable power delivery and stable sputter rate

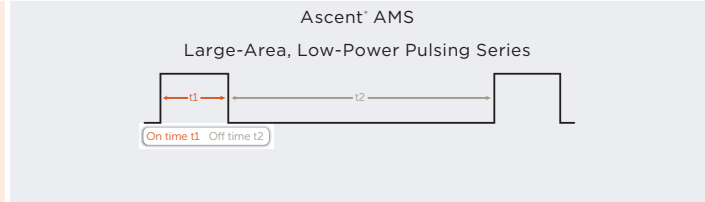
Couples arc prevention with arc handling to economically enhance your challenging conductive films while providing system extendability into new processes.



PRECISE POWER DELIVERY FOR SENSITIVE LOW-POWER PROCESSES

- Innovative solution for depositing thin films within large-area systems
- Improved film uniformity and plasma stability vs. conventional low-power methods

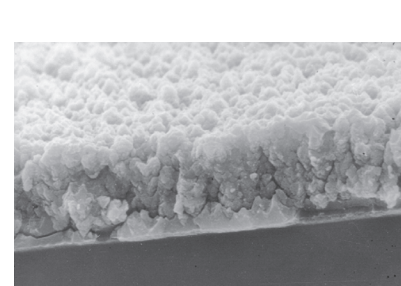
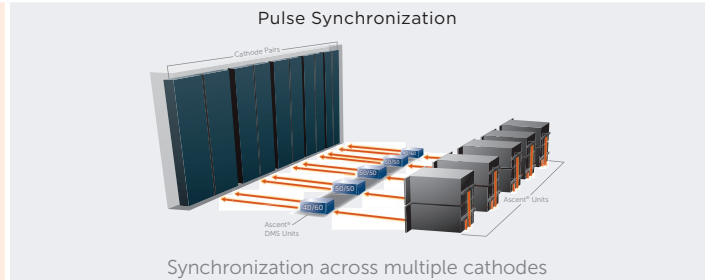
Achieve low average powers with frequencies nearing 2 kHz, using a variety of user-programmable ON and OFF times.



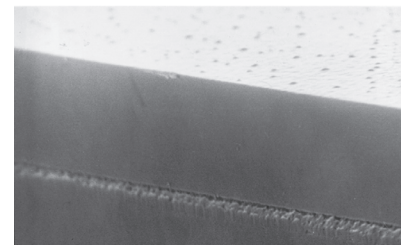
SYNCHRONIZED PULSING THAT EXTENDS AND INTEGRATES AE POWER SOLUTIONS

- Coordination across multiple cathodes with synchronized control
- Option for cross-technology integration

Achieve higher power levels with master/slave configuration.



Al₂O₃ sputtered without the aid of pulsed-DC product



Al₂O₃ sputtered with the aid of an AE pulsed-DC product

THE PULSED-DC ADVANTAGE

AE pulsed-DC products minimize arcing while enhancing deposition rate, film flatness, and packing density.

Pulsing lowers the effective electronic voltage of the whole plasma while maintaining the actual delivered voltage of individual electrons, eliminating most arcs before they occur while maintaining high sputter rate.

AE products feature the most advanced DC pulsing technology available, enabling unparalleled plasma precision and process control for high-quality, customizable films and superior throughput.

(Photo source: Centre for Advanced Materials and Surface Engineering, University of Salford, UK.)