

SaberRD

Desktop Design of Power Electronic Systems

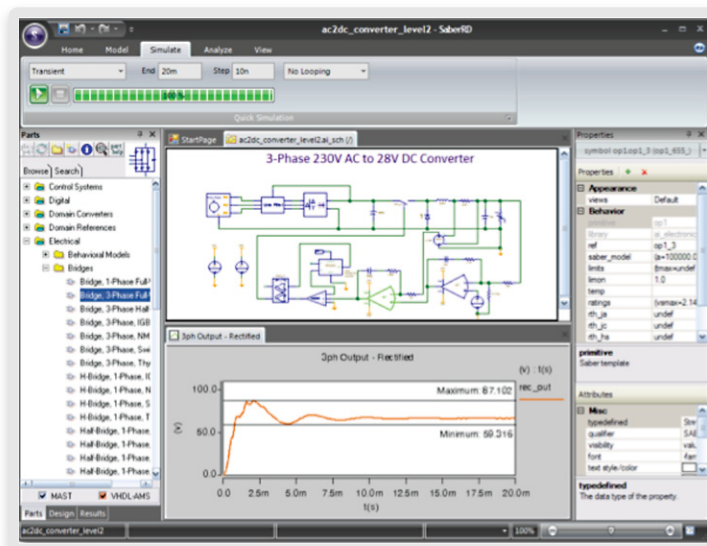
Overview

SaberRD is an intuitive, integrated environment for designing and analyzing power electronic systems. With the proven Saber® simulation technology at its core, SaberRD combines ease of use with the power to handle today's complex electrical power problems, allowing engineers to explore design performance, optimize robustness and assure system reliability for a broad range of generation, conversion and distribution applications.

SaberRD's true multi-domain physical modeling capability and unmatched analysis capabilities provide engineers with a virtual prototyping platform that supports complete system design. With the usability for the occasional user to stay productive and the flexibility to meet the demands of the experts, SaberRD accelerates design for engineering organizations in automotive, aerospace, defense and industrial power.

Quick Virtual Prototyping of Complex Power Electronic Systems

- ▶ **A True Integrated Design Environment** — Schematic design, mixed-signal multi-domain circuit simulation, waveform analysis and report generation capabilities
- ▶ **Built-in Design Flow** — A modern interface guides the user to results, stepping through the key steps of a simulation-based workflow, including design, modeling, simulation and analysis
- ▶ **Proven in Production** — Over 25 years of success in behavioral modeling, simulation and design for automotive, aerospace and industrial power applications

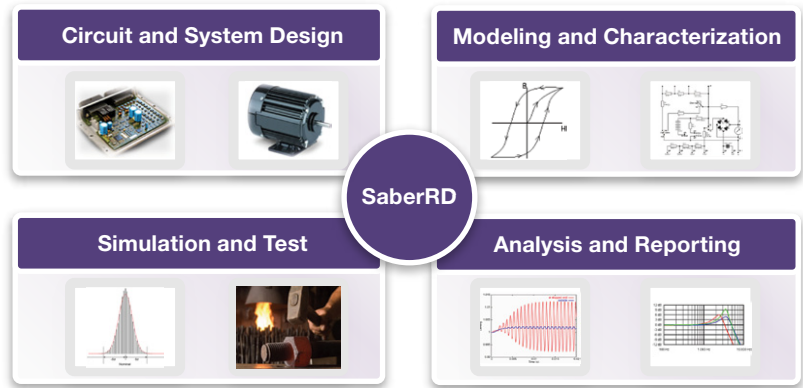


Explore, Measure and Optimize Power System Performance

- ▶ **Simulate the Complete System** — Capture all the device effects and multi-domain interactions critical to power system design
- ▶ **High Accuracy Results, Faster** — Robust simulation technology and distributed processing capabilities come standard with SaberRD
- ▶ **Design for Robustness and Reliability** — Built-in capability for analyzing effects of variation, parameter sensitivity, worst-case behaviors, faults and more.

Unmatched Multi-Domain Modeling Capabilities

- ▶ **Comprehensive Libraries** — With over 250 man years invested, ready-to-use model libraries include over 30,000 parts to support architectural exploration through detailed physics-level studies of system behavior
- ▶ **Graphical Modeling Tools Make It Easy** — From state diagrams and look-up tables to detailed characterizations of power switches and magnetic cores, SaberRD's suite of modeling tools allows users to quickly create behavioral models of devices and blocks found in power systems
- ▶ **Modeling Options to Suit Your Needs** — SaberRD is the only environment that natively supports MAST and VHDL-AMS, two of the most powerful and widely-used hardware description languages for behavioral modeling of power systems. In addition, models created for SPICE or Simulink can be reused easily within SaberRD



One Environment for the Enterprise

- ▶ **Serving Occasional Users and Experts Alike** — Intuitive capabilities minimize the ramp-up time for occasional users and allow them to quickly get to results. Advanced configurability, support for scripting and automation and flexible APIs meet the needs of the analysis experts
- ▶ **A Standard for Model Exchange** — Within an organization or across a supply chain, SaberRD supports industry-standard modeling languages and practices used successfully in automotive and aerospace

- ▶ **Protecting Your Investment** — SaberRD is backed by class-leading product support, extensive documentation, design examples and a Demo/Student version

Supported Operating Systems

- ▶ Windows XP
- ▶ Windows 7
- ▶ Batch/Grid Computing also supported on Linux and Solaris

For More Information

Learn more about SaberRD and the rest of the Saber product family at www.synopsys.com/saber.

SaberRD Capability Highlights

Switching power supplies

- Converters, inverters, rectifiers for single- and three-phase applications
- Optimize system efficiency with detailed device models
- Stabilize feedback loops and evaluate switching transients

Aircraft power networks

- Complete design of AC and DC generation systems and ground/current return networks
- Validate steady-state, transient behaviors and power quality
- Fault analysis and worst-case analysis

Automotive electrical systems

- Alternator, generator and battery sizing
- Load balancing, voltage transient and fault analysis
- Validate power management strategies

Hybrid electric vehicle systems

- Electric machines and drive electronics
- Component sizing
- Power electronic and electromechanical integration

Renewable energy applications

- Wind power generation, conversion and control electronics
- Solar array characterization, MPPT control design and system integration