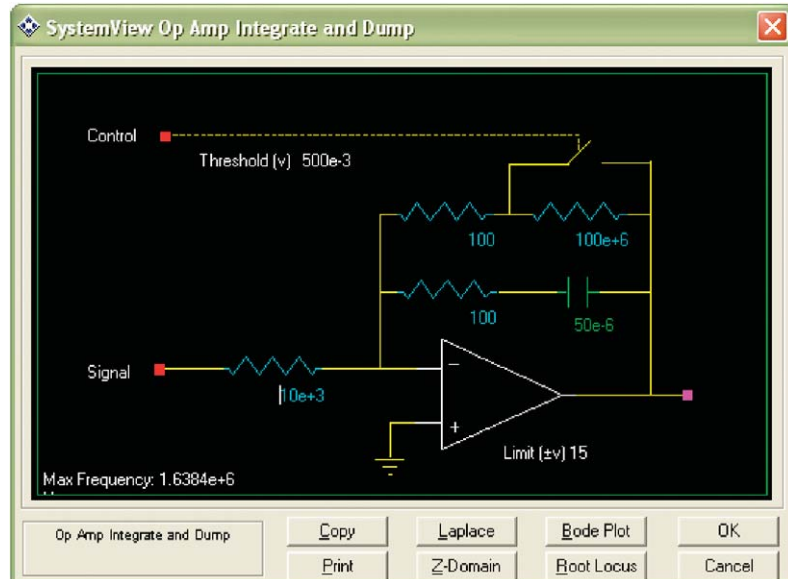


# Agilent EEsof EDA SystemVue RF/Analog Library

## Features

- Distortion-true design and test
- 50 Ohm system environment (when appropriate)
- Global temperature setting for noise figure used with RF amplifiers, mixers, splitters, combiners
- Active devices: RF amplifier, variable log-gain-control amplifier, op-amp circuits, mixers
- Passive devices: splitters/combiners, resistor-capacitor-inductor circuits (filters), double-balanced diode ring mixer
- Diode and zener-diode circuits



The SystemVue RF/Analog Library includes models of many commonly-used circuit configurations, allowing for customization of the components.

## Overview

SystemVue is a software environment for communications, DSP, and RF analog system design. The RF/Analog Library enhances the SystemVue core libraries with essential models required for system-level RF/Analog design. This library includes models such as fixed- and variable-gain amplifiers, operational amplifier circuits (Op-Amps), active mixers, double-balanced mixers, power splitters, power combiners, couplers, diode circuits (including zener diodes), resistor-capacitor circuits, resistor-inductor circuits, low- and high-pass R-C/L-C filters, PLL filters, LC tank

and quadrature circuits, coupled-resonator pairs, and more. The RF/Analog Library tokens may be used to create complete transmitter/receiver systems, including the propagated noise figure.

Typical RF systems that can be designed include AM, FM, analog and digital modulated systems, and spread-spectrum systems. The analog portion of the library allows simulation of PID (proportional, integral, derivative) feedback loops, and various op-amp circuits.



## Library Tokens

### Amplifiers and mixers

Amplifier, fixed  
 Amplifier, traveling wave tube (TWTA)  
 Amplifier with variable gain  
 Attenuator, fixed  
 Mixer, double-balanced, active  
 Mixer, double-balanced, passive  
 Spur chart mixer

### Operational amplifier circuits

Op-amp buffer circuit (noninverting)  
 Op-amp Hysteresis circuit  
 Op-amp integrate and dump circuit  
 Op-amp inverter, single input circuit  
 Op-amp PID circuit  
 Op-amp PLL filter, single input  
 Op-amp PLL filter, differential input  
 Op-amp sum of 3 inputs circuit

### RC circuits

RC charge pump circuit  
 RC differentiator circuit  
 RC high-pass filter circuit  
 RC integrate and dump circuit  
 RC low-pass filter circuit  
 RC PLL filter circuit

### Power combiners and splitters

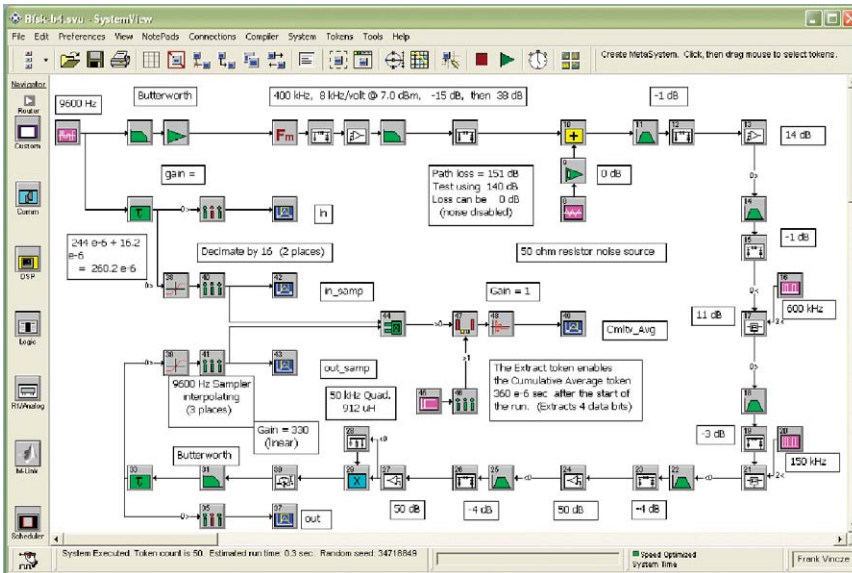
Power combiner: 2-Way, 180-degree  
 Power combiner: 2-Way, 0-degree  
 Power combiner: 3-Way, 0-degree  
 Power combiner: 4-Way, 0-degree  
 Power coupler: 2 Way, 0-degree  
 Power splitter: 2-Way, 180-degree  
 Power splitter: 2-Way, 0-degree  
 Power splitter: 3-Way, 0-degree  
 Power splitter: 4-Way, 0-degree  
 Power splitter: 2-Way, 90-degree (Hilbert)

### LC circuits

LC high-pass filter circuit  
 LC low-pass filter circuit  
 LC simple low-pass filter circuit  
 LC quadrature tank circuit  
 LC capacitive-coupled resonator circuit  
 LC tank circuit

### Diode circuits

Diode circuit with input to the anode  
 Diode circuit with input to the cathode  
 Diode, zener circuit with back-to-back pair  
 Diode, zener circuit with input to the anode  
 Diode, zener circuit with input to the cathode



This end-to-end system includes a 2-pole Butterworth filter for pulse-shaping, active mixers, low noise and limiting amplifiers, and an FM quadrature detector. The input data is compared with the Rx output, and a BER (Bit Error Rate) measurement is made.

For more information on SystemVue and related products, visit: [www.agilent.com/find/eesof-eagleware](http://www.agilent.com/find/eesof-eagleware).

For more information about

Agilent EEs of EDA, visit:  
[www.agilent.com/find/eesof](http://www.agilent.com/find/eesof)

For more assistance with your test and measurement needs visit:

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