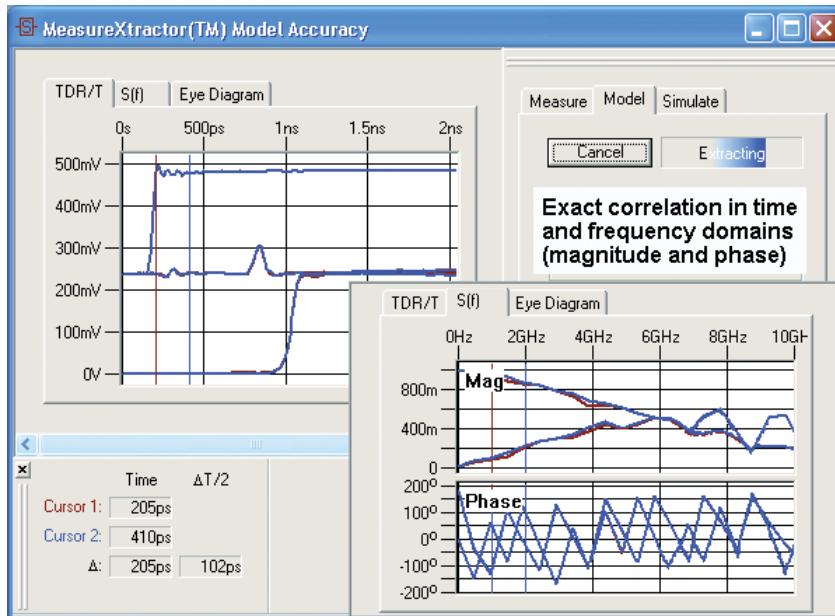# MeasureXtractor Software

▶ 80SICMX

The Fastest Way from TDR/T or VNA Measurements to Simulations

As the complexity and speed of digital systems increase, modeling the complex high-frequency effects occurring in the high-speed interconnects is becoming an increasingly challenging task, requiring large amounts of design time. MeasureXtractor is an automated model extraction tool, allowing the designer to obtain an accurate measurement based on the SPICE model of the interconnect, with the press of a button. MeasureXtractor will guide you through the data acquisition process, help you acquire TDR/T or VNA S-parameter data, and will automatically produce an accurate model that matches both the time and frequency response of your interconnect. Losses, dispersion, jitter, crosstalk and reflections and ringing are predicted accurately, up to the highest frequency of operation of your instrument. Passivity of models must be explicitly enforced during model extraction, and MeasureXtractor model passivity is assured through the proprietary algorithm. This means that interconnect models generated with MeasureXtractor will not artificially amplify the signal, oscillate, or produce non-causal results when used in system-level simulations.

Behavioral Models

MeasureXtractor produces what is known as a behavioral model. Such a model does not take into account the actual topology of the interconnect, but instead simply aims to accurately represent the time and frequency behavior of the interconnect in the most simulation efficient manner; in the case of MeasureXtractor, that means with the minimum number of components, and guaranteed passivity. Nonetheless, behavioral models can result in longer simulation time, particularly for large interconnect structures.

▶ Characteristics

Recommended Instrument Compatibility

▶ Tektronix CSA/TDS8200 or CSA/TDS8000, with 80E04 TDR sampling module (local TekVISA™ interface is supported; install and run directly on the instrument)

▶ Tektronix 11801 and CSA803 mainframes with SD24 TDR sampling module

Computer Requirements

Processor – 400 MHz Intel Pentium.
RAM –
256 MB (1 GB recommended for large MeasureXtractor runs).
Hard Drive – 40 MB free space.
Operating System –
Windows 95/98/NT4.0/2000/XP.

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MeasureXtractor Software
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▶ Comparison of Behavioral and Topological Modeling Approaches

	Behavioral	Topological
Measurement Requirements	Requires full-port measurement	Just TDR (reflection) is sufficient
Topology Selection	Automatic, no user intervention	User-controlled (easy and intuitive from TDR measurements)
Model Extraction	Automatic, no user intervention	User-driven; more labor intensive and requires more skill
Type of Models	"Black-box," no internal changes allowed	Intuitive, topology correlates to model
Limitations	Large model size for long interconnects (backplanes, cable assemblies)	Efficient model extraction processes exist for large interconnects
Application	Quick inclusion of S-parameter or TDR/T measurements into simulation; the "do-it-all" modeling tool	Comprehensive modeling, "what-if" scenarios analysis, signal integrity troubleshooting and fault-finding

Monitor –
Additional external monitor is recommended.

Others –
National Instruments GPIB board, version 2.1 (not required for Tektronix CSA/TDS8xxx local TekVISA™ interface).

▶ Ordering Information

80SICMX

IConnect and MeasureXtractor Signal Integrity TDR and VNA Software.

Includes: First year of maintenance and support from date of purchase.

As an Option to the CSA8200 or TDS8200 Oscilloscopes

Opt. ICMX – Pre-install product on a new CSA/TDS8200 Series Oscilloscope.[1]

Options

Options to Stand-alone Product

Opt. USB – USB hardware key (dongle).

Opt. PPD – Parallel port hardware key (dongle).

Opt. SWS2 – Extend maintenance agreement to two years from date of purchase.

Opt. SWS3 – Extend maintenance agreement to three years from date of purchase.

[1] Only parallel port hardware key is offered.

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IConnect and MeasureXtractor Extensions to Existing Maintenance Agreements

Opt. SWS1 – Extend maintenance agreement by one year.

Opt. SWS2 – Extend maintenance agreement by two years.

Opt. SWS3 – Extend maintenance agreement by three years.

Opt. CUR – Renew a license that is out of support.

80SSPARUP

Upgrade from 80SSPAR to 80SICMX

Opt. ICMXUSB – Upgrade with USB hardware key (dongle).

Opt. ICMXPPD – Upgrade with parallel port hardware key (dongle).

80SICONUP

Upgrade from 80SICON to 80SICMX

Opt. ICMXUSB – Upgrade with USB hardware key (dongle).

Opt. ICMXPPD – Upgrade with parallel port hardware key (dongle).

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Our most up-to-date product information is available at:
www.tektronix.com

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