EZwave

Analog/Mixed-Signal Verification

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Mixed-Signal Waveform Viewer and Analyzer



The EZwave viewer provides dynamic graphical display of data produced by a variety of Mentor Graphics applications.

HIGH-PERFORMANCEANALOG, RF, ANDMIXED-SIGNALANALYZER

The Mentor Graphics EZwave[™] software is an advanced graphical waveform viewer that displays and analyzes analog, digital, and mixed-signal simulation results. The Joint Waveform DataBase (JWDB) used by EZwave is a high-performance waveform database. EZwave can manipulate huge waveform databases from leading simulators, loading gigabytes of data in seconds.

EZwave provides native support of Mentor Graphics Eldo[®] Classic, Eldo RF, Eldo Premier, ADiTTM, Questa[®] ADMS, Questa, and HyperLynx simulation results as well as support to other simulator data formats including Synopsys HSPICE[®] output, Novas FSDB, vcd, and raw files.

VARIOUS DISPLAY FOR VARIOUS DOMAINS

EZwave provides analysis for various time and frequency domain waveform types:

- Analog and digital
- Eye diagram

Key Benefits

- Fast and powerful
- Multiple language support
- Multiple domain support
- Displays dynamic graphic waveform data
- Supports observation and investigation of signal transition for "what-if" analysis

Key Features

- High-performance viewer
- Fast-loading database
- Multiple format support
- Intuitive interface
- Complete waveform calculator
- Multi-domain measurement tools
- Multi-cursors
- Event search tool
- Advanced post-processing
- Mixed-signal comparison tool
- Automatic database reloading
- Design platform connectivity
- Regression scripting
- Parametric analyzer
- Questa ADMS native viewer



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- Smith chart
- Polar or complex chart
- Histogram.

INTUITIVE WAVEFORM VIEWER

The EZwave intuitive interface allows you to:

- Load multiple databases in a single session.
- Display the database in either a hierarchical (tree) or flat (list) format in the waveform list panel.
 Waveform Calculator
- Search and filter signals with pattern-matching and wildcards.
- Drag and drop signals to display the waveforms.
- Quickly zoom to a specified enlargement magnification and scroll along the horizon-tal or vertical axis.
- View multiple analog waveforms using multiple *y*-axes in an overlaid display.
- View multiple waveforms and databases through multiple graph windows.
- Create multiple tabbed workspaces for organizing graph windows.

PARAMETRIC ANALYZER

EZwave can handle multiple parametric runs. Results sweeps can be displayed merged or separated by variables and values. EZwave provides a parameter table to manage all sweeps. You can choose or highlight which sweeps to display.

ADVANCEDGRAPHICALWAVEFORMCALCULATOR

The EZwave waveform calculator is an integral part of post-processing and viewing mixed-signal simulation results. The waveform calculator provides a large palette of mathematical, complex, statistical, RF, and logical functions to build expressions. Complex expressions can be saved as macros to be replayed on new simulation results.

CURSORS AND MEASUREMENT TOOL

EZwave provides multiple cursors so you can move around the displayed waveforms and to return x-y/Delta-x-Delta-y/slope information.

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The EZwave WaveForm Calculator provides a large number of functions to build expressions for measuring design characteristics.

The EZwave measurement tool allows you to:

- Measure between transition points through the use of multiple cursors and interactive event search.
- Perform a variety of analog and mixed-signal measurement operations on displayed waveforms.
- Annotate the results from measurements along with measured waveforms in the graph window.
- Create and plot the result waveforms in the active graph window if the results of measurements produce other waveforms.
- Dynamically update measurements while the simulation is running and the results are updated.



WAVEFORM POST-PROCESSING

EZwave facilitates signal transformation utilities, including D/A and A/D conversion, busing, and splitting a bus to bits.

EZwave supports a number of charting and analysis features such as:

- Accurate FFT/DFT with various windowing functions.
- Complete eye diagram analysis and measurements for high-speed data analysis.

POWERFUL MIXED-SIGNAL WAVEFORM COMPARISON TOOL

The advanced waveform comparison tool can be used to automatically compare simulation result, analog or digital waveform, to a known-good waveform.

The graphical comparison provides a useful wizard to assist designers and produces a visual indication of differences with the capability of stepping through differences with a cursor.

The batch utility compares two sets of simulation runs and produces a text report of the differences. This capability helps to reduce manual effort for analyzing large number of waveforms.

EZWAVE OUTPUT FILES

EZwave supports saving and restoring a database session. Graph window configuration and measurements can be replayed. Flexible database reduction is offered as well to save disk space.



Eye Diagram Analyzer automated measurements display.

In addition to JWDB format, EZwave can output files in text-format (.txt), comma-separated value format (.csv), and SPICE PWL format (.sti).

EZwave can export displayed waveforms to various output formats including JPEG, PostScript, and PNG.



Mixed-signal graphical waveform comparison report.



AUTOMATIC RELOADING

EZwave supports multiple modes to keep and replace previous simulation results with new ones.

New simulation results can be displayed automatically to be compared with previous results while the designer is doing modifications. Measurements are automatically replayed against new simulation results.

SCRIPTING FOR MORE AUTOMATION

EZwave scripting environment is a TCL-based extension language.

EZwave provides hundreds of functions (measurements and post-processing) to automate design verification. Designers can write additional custom-defined functions to be added to built-in functions.

CUSTOMIZING EZWAVE

EZwave provides a large set of preferences to customize the interface, colors, and fonts of the graphical elements. Multiple customizable schemes are provided to improve display and printing experience.

DESIGN PLATFORM INTEGRATION

EZwave fully integrates to industry-standard design platform such as Design Architect IC, ICStation Schematic, and Cadence Virtuoso Composer/ADE using the Artist Link integration kit provided.

This integration offers interactive cross-probe, crosshighlight, and cross-select nets from schematic to waveform window.



Mentor Graphics Analog/Mixed-Signal IC Design Flow

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