# m+p Analyzer
eReporter

eReporter is the powerful data management and reporting tool within the m+p Analyzer for noise & vibration measurement and analysis. It provides test engineers with comprehensive capabilities for browsing and viewing data, copying & pasting data to ActiveX applications, importing test data from many third-party noise & vibration systems and automating repetitive tasks. This full functionality is available without any measurement hardware connected.
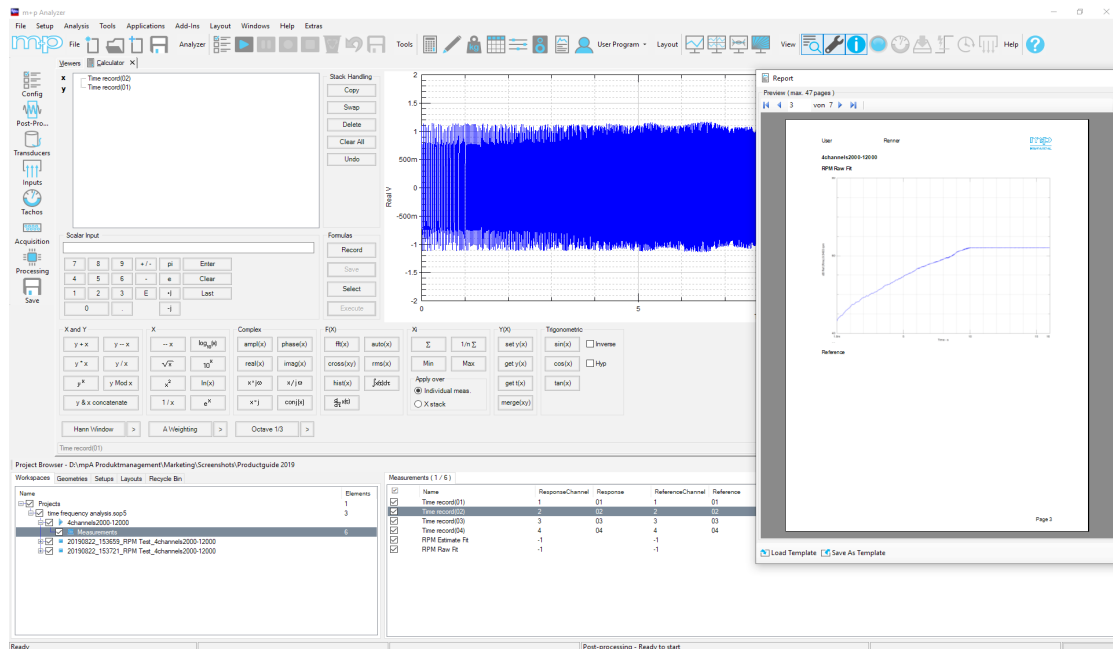
Advanced data management and reporting

Key Features

eReporter Standard

- Central management, analysis and reporting of all noise and vibration data
- Data import and export for *.UFF, *.SOT, *.RPCIII and *.TXT file format
- Data import for m+p VibControl file format
- Browse, view, rescale, analyze, organize measurement and modeshape results
- 2D and 3D (waterfall/colormap) charts, animation display for mode/deflection shapes
- Copy & paste ActiveX elements to MS Word and PowerPoint
- Automate repetitive tasks and implement your own functions with embedded user programming

eReporter Pro
includes all eReporter Standard features plus:

- Import/export data files to and from many popular formats
- Mathematical operations with built-in Calculator
- Automated reporting to Microsoft Word or PDF

Applications

- Integrate test data from different sources into one common data processing and reporting environment
- View, analyze and reformat test data
- Generate automatic or interactive reports

Data Management

The Browser, the main user interface of the eReporter, can contain one or more workspaces for storing measurement data, very similar to the Windows Explorer concept. Data of other projects can be imported and combined with the current project to create new project structures. Data are moved between workspaces with the standard drag & drop operation. Measurement setups and layouts can be stored independently of the data to allow simple reuse in other projects.

- Import data or projects, export workspaces
- Add/delete workspaces (unlimited number)
- Copy and paste data between workspaces
- Show, delete, sort, edit, group and filter data
- Ability to open several projects in parallel for exchanging or comparing data
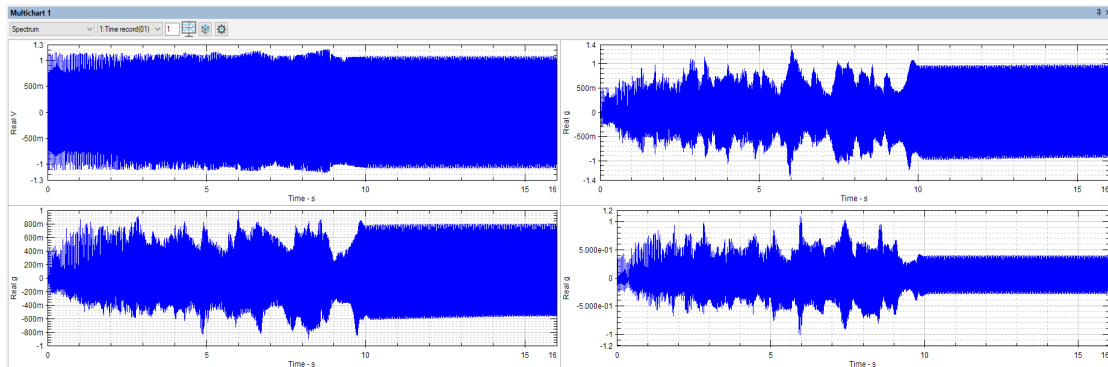
Viewers

Data can be viewed in 2D and 3D (waterfall/colormap) displays simply by drag and drop. A full range of display formatting features like cursors, trace colors, labels, legends etc. is available. Windows like dropdown menus simplify the operation.

All displays, including the data, can be copied and pasted directly into ActiveX compliant applications such as Microsoft Word and PowerPoint.

2D Viewer

- Same display functionality online and offline
- Change appearance of chart, plot area, axes, grids, traces, cursors
- Add header information to display
- Y-axis type: real, imaginary, amplitude, phase, log, dB, real+imaginary, amplitude+phase, log+phase, dB+phase, Nyquist
- Y-axis scaling: autoscale, free, fixed, rms, peak, peak-peak with automatic data conversion
- X-axis type: lin, log, octave
- X-axis scaling: autoscale, free, fixed
- Cursor functions: harmonic, nudge, seek to peak, seek to max, show value, show difference, RMS and Q-factor calculation between/at cursor(s)
- Display calculator functions: acoustic weighting and unweighting, 1/1 and 1/3 octave, fft, integrate, differentiate, square root, orbit
- Tacho/frequency readout from time data
- Amplitude distribution statistics: standard deviation, skewness, kurtosis
- Data cuts
- Zooming, scrolling and rescaling with mouse, scroll mouse or keyboard entry
- Split-screen overview zoom for faster navigation when zooming in charts
- Export to clipboard for Excel import
- Characteristic value table: max, Q, peak, hi peak, lo peak, peak, deltaT, deltaV, mean, rms, damping, AC rms, L10, L50, L90, deviation, skewness, kurtosis
- Data-on-demand from large recorder throughput files

Multichart display with four charts

3D Viewer

- Same display functionality online and offline
- Change appearance of chart, plot area, axes, grids, traces, cursors
- Traces as line, plate, shaded plate, surface, shaded surface, bar, shaded bar, 2D color plot XZ and ZX, colors configurable
- XYZ cursors and harmonic cursors
- Y-axis: real, imaginary, amplitude, phase, log, dB, rms, peak and peak-peak scaling

- X-axis: lin, log, octave, order
- Z-axis: rpm, time, order, Z, record number, frequency
- Zooming, rescaling and rotating with the mouse
- 3D viewer for analog tacho inputs on any number of channels for RPM spectral maps and manual order tracks.[1]

Multi-Chart Viewer

- Rapid setup and display of many data channels
- Choose from 1 to 64 2D charts in one window
- Time aligned option for event analysis
- Automatic allocation of channels

- User selection of start channel
- User selection of multiple channels per chart
- Drag/drop multiple channels from browser

Units

To ensure all data is available in standardized engineering units a large selection of units, including different spellings, is available in the Unit Editor. New units can be created by the user and default units can be set.

- Set default units and scaling factors
- Set dB references

1) eReporter Pro only

All Data Import/Export[1]

Data Import

- Universal File Format (*.UFF, *.UNV), HP (Agilent) Standard Data Format (*.SDF, *.DAT), Excel (*.CSV), WAVE (*.WAV), MATLAB (*.MAT), TEAC (*.HDR), LMS (*.TDF), Sony (*.LOG), B+K Pulse (*.TXT), OROS OR25 (*.AE2), OROS OR3x (*.RES), Onosokki (*.TXT), STI (*.VDF), MTS Engineering Office (*.DDA), MTS RPCIII (*.CSD, *.RPC, *.RSP, *.TRN), MTS I-DEAS Test (*.AFU, *.ATI, *.ASA), m+p VibControl (*.RSN, *.RRN, ...)

Data Export

- Universal File Format (*.UFF, *UNV), HP Standard Data File (*.SDF, *.DAT), MTS Engineering Office (*.DDA), MTS RPCIII (*.CSD, *.RPC, *.RSP, *.TRN, *.DRV), MATLAB (*.MAT), various ASCII text formats including clipboard for cut & paste to Excel

Calculator[1]

The Calculator performs mathematical operations on scalar inputs and on measurement data. Operations such as FFT, inverse FFT, integration/differentiation etc. can be done on a single measurement or simultaneously on multiple measurements. Operation is as simple as dragging and dropping the data to the calculator's stack, pressing a button for an operation, viewing the result in the calculator's 2D viewer and dragging and dropping the result(s) back from the stack to the workspace. A series of mathematical operations can be saved and reexecuted as a macro across a number of measurement channels. This allows a user to simply create his own complex analysis functions.

- Computing with complex numbers
- Reverse notation style calculator with x and y stacks

- Computed functions: standard scientific calculator functions plus FFT, inverse FFT, integration, differentiation, phase, real, imaginary, complex conjugate, histogram, sum, average, rms, least square fit, absolute, modulo, phase reference, PSD, Gxy, FRF, coherence

Reporting[1]

A sophisticated Reporting Wizard provides users with a step-by-step approach to automatically report hundreds of measurement data or modeshapes. The step-by-step-procedure includes the selection of the data to be reported, the creation or modification of report templates, filtering and sorting of the data and printing the report as MS Word document or PDF.

- User-defined report templates
- Templates can contain 1 or more 2D, 3D and animation displays
- 2D displays can contain 1 or more overlaid traces
- Standard and user defined header (metadata) information is automatically inserted within the report
- Report setups can be stored

- Data selection from the Browser/Workspaces
- Multi-level grouping, filtering and sorting of data based on standard or user-defined header information
- Reporting to file or to printer
- Allows reporting directly from the workspace

1) eReporter Pro only

User Programming[1]

Visual Basic compatible user programming takes automation to new levels with easy to use macro and user programming capabilities. The level of programming with Sax Basic ranges from simple macros to custom forms and actions. Automating tasks, writing data import filters etc. are typical applications.

- Sax Basic editor, compatible with Microsoft Visual Basic
- A comprehensive set of example programs is included

Operating System

- Microsoft Windows 10 Pro 64 bit

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