

What's new for AcqKnowledge 4.2

BONUS!  [Specialized Analysis Scoring & Automation Package](#)—included under "Analysis" menu

BioNomadix wireless module support

Rich Journals

- Expressions in Journal
- Tables and Excel® functions
- Docked and independent Journal windows

MP36R universal built-in amp module support

- Pulse Sequence Output Control
- Sound Sequence Output Control
- Analog Channel scaling units adapt to gain
- Simplified Hardware Filtering options

Startup Wizard for launching application

Check for MP hardware function

Email graph image as attachment

Event enhancements

- Global Event label printing
- Customizable Event markers
- Customizable append segment labels
- Sequential Event labels
- Sorted Event summary

Mark selection from Events

Measurement enhancements

- Single point measurements
- X/Y measurement label display
- Revised invalid measurement display

Media playback —automatic segment advancement

User Interface Tools

- Most Recently Used options
- Preset menu separators
- Keyboard data selection enhancement
- Zoom out for Spectrum Analyzer
- Enable tools during acquisition (Preference)
- Cursor tools sub-menu
- Mouse scroll-wheel zoom support

Graph file display enhancements

- Select channel background
- Select line plot thickness
- Data Playback enhancements
- Start/End axis adjustment
- Horizontal Axis Hold Relative Position
- X/Y display crosshairs enhancement
- Customize default graph window position and size
- Default analog channel unit display preference

Grid enhancements

- Channel independent grid settings
- Grid presets

Gaussian Random Number Generator

Automated Analysis routine enhancements

- Poincare Plot Hemodynamic Analysis

- Locate Muscle Activation adjustable windowing
- Advanced Averaging
- Sound Feedback
- Licensed functionality
- Remote Monitor — 'bedside monitor' display
 - o View subject data remotely over a network
- BIOPAC Basic Scripting
 - o Script Editor Reset Defaults button

Plus, new from AcqKnowledge 4.1 for Mac OS X

- Analysis Automation Routines
 - HRV algorithm improvements
 - HRV analysis QRS threshold percentage
 - ICG Analysis Output Options
 - Event-related EDA Analysis
 - Stim-response configuration enhancements
 - Digital Input to Stim Events
 - Specialized analysis consolidated settings (one dialog)
- Module-based analog setup
- MP36-R Four-channel D/A unit support
- Measurements
 - Sum measurement
 - Measurement presets
- Mac OS Integration
 - Automator scripting language integration
 - Spotlight integration
- Artifact Rejection functionality
- Timed Reset for Integrate calculation and transformation
- User Interface Enhancements
 - Analysis dialogs: consolidated parameters in a single dialog
 - Online averaging progress bar
 - Transformation history
 - Canceling Transformations & Transformation Progress Bar
 - Custom toolbars for transformations and analysis
 - Toolbar position retention and changes
 - Event tool enhancements
 - Typed event label drawing improvements
 - Choose MP150 Help Button
 - Button Transparency
 - Vertical axis scaling buttons
 - Long channel labels and units
 - Customizable Chart Track Dividers
 - Graph window tooltip improvements
 - Menu item tooltips

Plus, new from AcqKnowledge 3.9.2 for Mac OS X

Specialized Analysis Additions & Enhancements:

- Respiration
 - * Penh Analysis
 - * Pulmonary Airflow
 - * Compliance & Resistance
- Neurophysiology: Amplitude/Half-Width Spike Discriminator to Locate Spikes
- Heart Rate Variability: Locate R-waves Using Events

Calculation Channel Additions & Enhancements

- Metachannels: Use a single calculation channel to perform a chained computation
- Filter: Comb Band Stop (base frequency and its overharmonics)
- Rescale: adjust calibration values of analog channels (also in Automator)

Transformation Additions & Enhancements:

- Delay: add time delays to signals
- Filter: Comb Band Stop
- Rescale: adjust calibration values of analog channels

Spectrum Analyzer (real-time and post-acquisition FFT)

Digital Filter Enhancements

- Cutoff frequency: Calculation channels FIR, IIR, Comb Band Stop Transformations FIR, IIR, Comb Band Stop, and Derivative Automator: Digital Filter-FIR/IIR, Comb Band Stop, and Derivative
- # of coefficients: Transformations: FIR and Derivative Automator: Digital Filter-FIR and Derivative

Clustering (K-means) Options

- Export Clustering results to Excel Option
- 3D Scatterplot Background Modification

Measurements: Event Amplitude Maximum and Minimum

Network data transfer: allow applications running on other computers attached to the same network to gain access to data from *AcqKnowledge* as it is being acquired

Data Management Features

- Data snapshot details
 - European Data Format (EDF) file import/export
 - Batch Acquisitions Resume function
 - Selection Palette Options (Paste to Journal, Change Measurement Units)
 - Recently Used Transformations Submenu
 - 3D Dialog Positions—Tile, Stack, and Cascade
- Cancel Button Added to Specialized Analysis Transformations

...and from AcqKnowledge 3.9.1

- Manual Stimulator Control
- Specialized Analysis New Packages & Enhancements
 - Correlation Coefficient
 - Spectral Subtraction
 - Electroencephalography (EEG) analysis tools
 - Electromyography (EMG) analysis tools
 - Neurophysiology analysis tools (single microelectrode extracellular)
 - Magnetic Resonance Imaging artifact removal tools
 - Respiratory Sinus Arrhythmia (in Hemodynamics)
 - Stim-Response
 - Electrodermal Activity
 - Excel Export (for reports with tabular data)
 - Updated: Impedance Cardiography (adaptive template matching C point location)
 - Enhanced: B-C Interval (dZ/dt max option)
- Clustering (K-means)
- Template Options
 - Normalized Correlation Coefficient
 - Adaptive Template Matching
 - Remove Projection Template
- File Format Options
 - BSL File Import
 - Excel Spreadsheet Export
 - Spotlight Importer for Graph Files
 - WAV Files—Import, Export
- Text Annotations
- Stacked Plot Display Mode
- Jump-to Tool
- Selection Palette
- Play Channel Data as Audio
- Event Journal Summary Features
- Selected Range Printing in Journal

- Resampling Interpolation Options
- Automator Integration & Scripting
- Mouse Scrollwheel Support
- Mac on Intel Compatibility

and...from AcqKnowledge 3.9.0

- [Lab Assistant GLP Package](#) Option for MP150 Systems
- Multiple Real-time Data Views
- Multiple Hardware Connections for MP150 Systems
- Merge Multiple Graph Files into One File
- Advanced Averaging (P300 functionality)
- Dual stimulation (2 per MP150)
- Overlap Segment mode
- Rewind and erase last segment(s)
- Markers Automation & Enhancements
- Embedded Data Snapshots for Data Comparison
- MATLAB files Compatibility
- File Compression
- New Calculation Channels:
 - Fourier Linear Combiners
 - Adaptive Filter
- New Transformations:
 - Digital Filters > Adaptive Filter
 - Fourier Linear Combiners (FLC)
 - Nonlinear Modeling
 - Autoregressive (AR) Modeling
 - Power Spectral Density
 - AR Time Frequency Analysis
 - DWT Wavelet Transformation
 - Principal Component Analysis
 - Independent Component Analysis
- Additional File Import/Export Options: Igor Pro Experiment; PhysioNet
- Batch Files for Acquisition Automation
- Event Coding & Measurement Automation
- Cycle (Peak) Detector Interface
- Expression logic additions:
 - Source* Sample, Pi, True (1), False (0)
 - Function* and, equal, if (2-way), less, not, or, xor (exclusive), ceiling, floor, is infinity, conditional (3-way), not a number, floating point modulus, measurement
- Replay Mode to simulate acquisition
- QuickTime movie creation options
- Flexible print range: visible area, selected area, or entire file
- Friendly grid scaling & Adaptive Scaling
- Journal Preferences - new options
- Multiple undo (user-specified)