



# WinTest

## TA Instruments What's New in WinTest® Software

### WinTest Software Overview

WinTest is a high-performance software package that is used to operate all TA ElectroForce mechanical test instruments. It encompasses both a flexible user interface and a powerful instrument controller.

- Single user interface with all necessary inputs/outputs to configure test protocols, define acquisition settings, adjust test parameters while a test is running, and real-time monitoring of test progress.
- Maximum Flexibility
  - A range of standard test definition waveforms including sine, triangle, square, ramp
  - Create customized combinations of waveforms for multiple segment tests and utilize other features including conditional branching, relative move, and embedded data acquisition, with block waveform programming.
  - Collect the appropriate amount of data for your test by selecting one of four data acquisition modes
  - Configurable and reliable for tests ranging in duration from 10 milliseconds to 10 months
  - Expandable with software options that extend the power of WinTest for specific applications, including a DLL interface to communicate with user-written software such as LabView or MATLAB.
- State of the art control algorithms
  - High-speed closed-loop controller capable of harnessing even the most dynamic ElectroForce motors
  - TuneIQ® auto-tuning process for simple controller setup
  - Adaptive amplitude and phase controllers for high-precision control over long-term tests
  - Controller stability checks provide peace of mind
  - Capable of real-time control using a variety of sensors to perform a wide range of tests.
- Advanced Security Suite mode that assists laboratories in satisfying 21CFR11 requirements
- Monitor test progress with up to 4 configurable real-time data, high-speed scopes

WinTest software is supported by a full range of services including onsite training, free online training sessions, and customer service that is only a phone call away. All of these items reflect TA Instruments' commitment to provide instruments and related services that deliver maximum value for your investment.

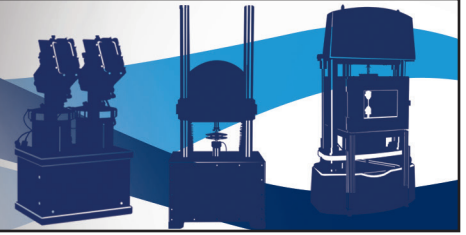
WinTest software is now better than ever with improvements to streamline test setup and extend data acquisition and control performance. Functioning on the Windows 10 OS to deliver the most up-to-date experience available, WinTest 8.0 enables improved update capabilities for software applications including DMA (Dynamic Mechanical Analysis) and our HVT (Heart Valve Test) applications.

The range of rotation for all Rotation channels has been increased from  $\pm 3600$  degrees ( $\pm 10$  turns).to  $\pm 7200$  degrees ( $\pm 20$  turns).



## New Data Acquisition Window

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## DMA Application for WinTest

The WinTest DMA application software allows users to more easily configure common DMA test methods such as frequency or strain sweeps at programmed temperatures, while managing all data acquisition and analysis required to deliver results such as storage modulus, loss modulus and tan delta.

### TRIOS Data Analysis and Plotting

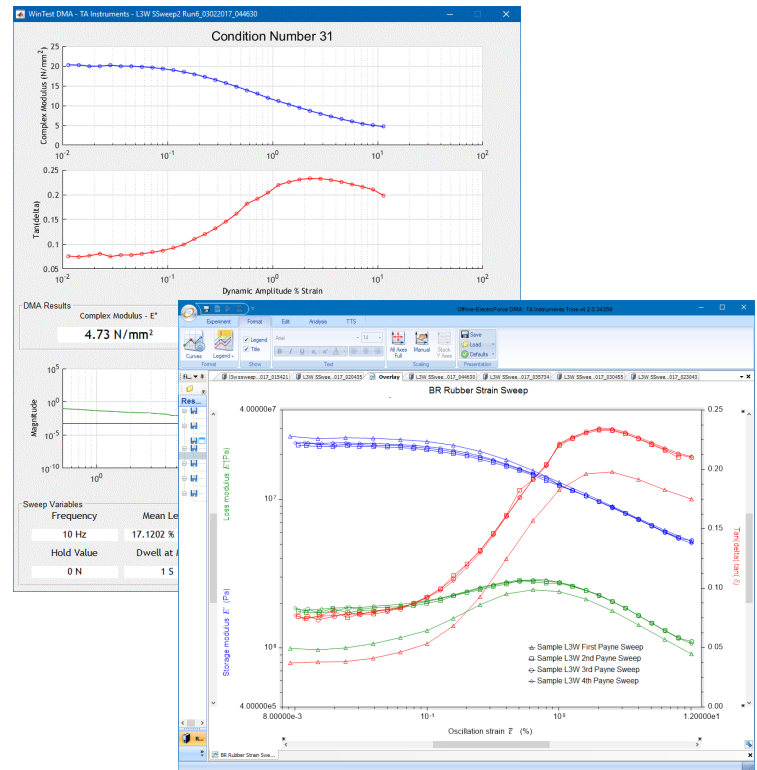
DMA version 7.1 now interfaces with TRIOS, another state-of-the-art software package from TA Instruments. TRIOS is now the analysis and plotting tool for all ElectroForce test instruments equipped with the Dynamic Mechanical Analysis application software. TRIOS replaces the previous DMA Analysis tool and enables the use of plotting, overlay, and user-calculations, including advanced analysis such as Time-Temperature Superposition (TTS).

### Method Setup Changes

Dynamic Amplitude has been changed from a double-amplitude or peak-to-peak definition to the industry standard half-amplitude definition. It also adds a temperature timeout setting to aid in executing efficient temperature tests.

### Support for Multiple Scopes

DMA now leverages the multiple-scope feature in WinTest, enabling users to see various forms of their real-time data. For example, users can simultaneously view a Force and Displacement vs Time plot, a Force vs Displacement plot and a Temperature vs Time plot, all in real-time.



DMA Real-time Results and TRIOS Plotting & Analysis

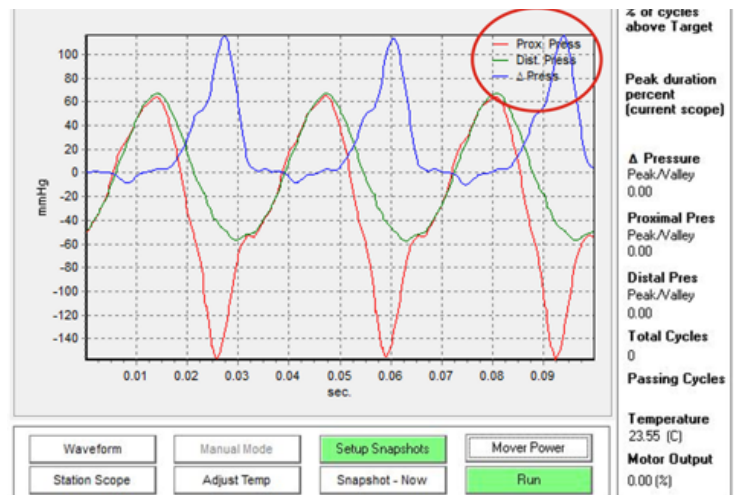
## HVT Application for WinTest

The HVT Application enables users to simply define, execute, monitor and analyze DuraPulse Heart Valve Test (HVT) instrument tests as defined in ISO-5840. This application is included with all DuraPulse HVT Instruments.

### Refined User Interface

The user interface for configuring, executing, and monitoring heart valve tests per ISO-5840 has been refined for more streamlined and intuitive use. Notable improvements include:

- elimination of rarely used functions and settings
- addition of temperature control per chamber
- addition of motor drive display to understand how hard the instrument is working for a given valve at current test conditions
- addition of advanced scope view to allow research to plot any channel combination
- simplified limit-setting interface



New HVT Application Station Window

# TA Instruments

## What's New in WinTest® Software



| Feature                                                                              | WinTest 4.1 | WinTest 7.2 | WinTest 8.0 |
|--------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Operating system                                                                     | Windows XP  | Windows 7   | Windows 10  |
| Standard waveforms (sine, square, triangle, ramp)                                    | x           | x           | x           |
| Block waveform                                                                       | x           | x           | x           |
| TunelQ automated tuning (displacement/force)                                         | x           | x           | x           |
| Controlled Stop limit action                                                         | x           | x           | x           |
| Channel Presets for specimen insertion and removal                                   | x           | x           | x           |
| Adaptive phase and amplitude control                                                 | x           | x           | x           |
| Calculated channels                                                                  | x           | x           | x           |
| Integrated data acquisition (timed data, peak/valley data, level crossing data)      | x           | x           | x           |
| Reverse Data Retention                                                               | x           | x           | x           |
| Enhanced User Interface – supports easier test set-up                                |             | x           | x           |
| Conditional branching (if-then/go-to logic)                                          |             | x           | x           |
| Relative motion                                                                      |             | x           | x           |
| Enhanced test status monitoring (view real-time block step function)                 |             | x           | x           |
| Advanced Security Suite (supports 21 CFR Part 11 compliance)                         |             | x           | x           |
| Supports DMA 7.0                                                                     |             | x           |             |
| Multiple scopes                                                                      |             | x           | x           |
| Sensor linearization – enhances calibration process to improve displacement accuracy |             | x           | x           |
| Stability check                                                                      |             | x           | x           |
| Acceleration compensation with phase correction                                      |             | x           | x           |
| Support System Status Indicator (SSI) Lights                                         |             | x           | x           |
| Data Acquisition Setup Improvements                                                  |             |             | x           |
| 10 kHz Maximum Sampling Rate                                                         |             |             | x           |
| TunelQ for Torsion Motors                                                            |             |             | x           |
| Larger Rotation Range                                                                |             |             | x           |
| Supports DMA 7.1 with TRIOS Compatibility                                            |             |             | x           |
| Supports HVT 2.0                                                                     |             |             | x           |