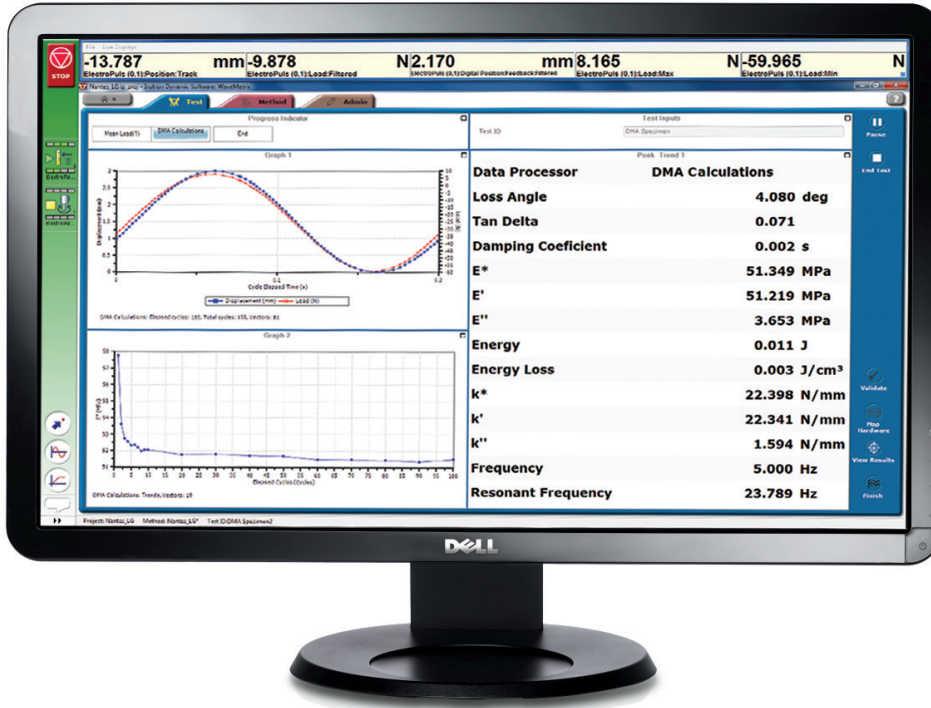


# WaveMatrix™ | Calculation Module 2495-915D1



## What is it?

The Calculation Module is an upgrade to WaveMatrix Software that offers extended capabilities for data processing and calculations.

## What can it do for you?

- Add and create calculated 'virtual' channels within WaveMatrix
- Derive real-time calculated data from physical transducers channels and integrated directly into the test environment
- Display live calculations during test and record them alongside physical transducer data in results files
- Reduce post-processing time and gain insight into changing material properties during fatigue testing
- Use in combination with 'Advanced Control Module' to set control targets against calculated signals

## How do you get started?

- Choose from an extensive library of existing calculations or create your own
- Search detailed help files that explain how the built-in calculations are configured
- Add channels to your existing methods and start testing within minutes
- Configure peak and trend data for calculated channels e.g. 'Maximum Cycle Energy'
- Create new user-defined calculations with the help of comprehensive examples

## What do you need?

The Calculation Module can be easily added to an existing WaveMatrix license or a new system.

If you are upgrading your software, we can offer additional training to ensure you can get the most out of the powerful new features.

## Specifications

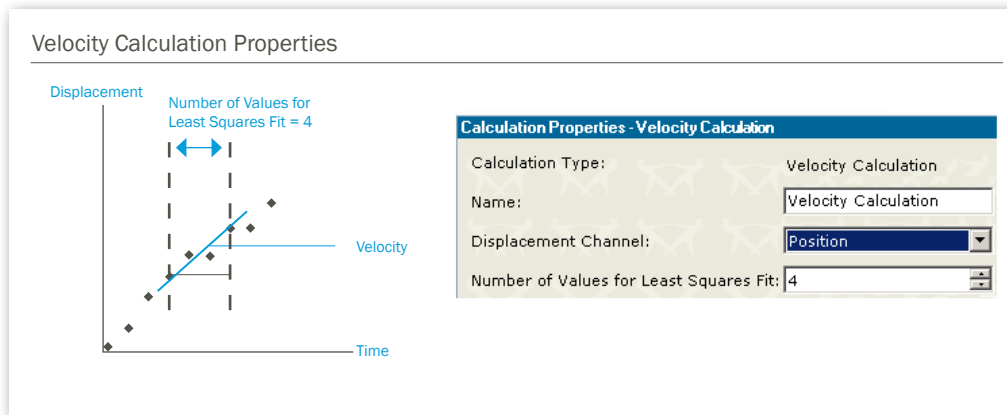
Catalog Number

2495-915	WaveMatrix
2495-915D1	WaveMatrix Calculation Module
2495-965D1	Upgrade for Existing WaveMatrix Software Installations

\*Contact Instron® for upgrades on older systems

## The Calculation Library

The module comes with a library of more than 20 built-in calculations that are ready for immediate use.



## Application Specific Calculations

### Dynamic Mechanical Analysis (DMA)

The DMA calculations allow users to investigate the dynamic mechanical properties of specimens undergoing durability and fatigue tests. Choose from three determination methods for loss angle: Loop-Width, Energy, and Correlation.

DMA calculations provide multiple outputs, including:

- Loss Angle
- Tan Delta
- E\* (Complex Modulus)
- E' (Storage Modulus)
- E'' (Loss Modulus)
- Energy
- Energy Loss
- K\* (Dynamic Stiffness)
- K' (Elastic Stiffness)
- K'' (Damping Stiffness)

### User-Defined Calculations

- Create your own calculations using C# through the built-in editor and compiler
- Follow detailed examples in the help files or ask for support from Instron's expert application engineers
- Choose from either 'User-Defined Tracking' or 'User-Defined Peak and Trend' calculation types
- Select any physical transducer channels or calculated channels to be used in custom calculations
- Unlimited possibilities to implement calculations built on the user friendly WaveMatrix platform

### Using Calculation Module with 'Advanced Control Module'

- The Advanced Control module allows users to control waveforms based on calculated channels
- Optimize test control by targeting peaks and trends of 'virtual' channels, e.g. Max Cycle Energy
- Set either fixed or moving targets for cyclic waveforms, e.g. variable mean load or decaying maximum load
- See Advanced Control specification for more details about the full range of features

## General Purpose Calculations

### Material Properties

- Young's Modulus
- Static Elastic and Plastic Strain
- Elastic Stiffness

### Test Parameters

- Velocity
- Acceleration
- Energy Calculations
- Frame Compliance

### Data Interpolation/Extrapolation

- Pre-set Point Measurements 'Point X at Y'
- Contact Point Determination

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