RDI TECHNOLOGIES

MODAL AMPLIFIED™

Turn Hours and Days into Minutes

Modal Amplified™, a camera-based Modal Test and Analysis solution, enables a new shift from the time-consuming sensor mapping, placement, fixation, and animated modeling of typical Modal Testing to instant capture, visualization, and analysis on real-life structures.

Modal Amplified leverages simultaneous measurement of the force input with the response measured directly from the camera. Users can not only immediately visualize the resulting modes shapes, but they can place an unlimited number of sensors across the structure through virtual regions of interests. This approach allows users to have Modal results in a matter of minutes, from capture to visualizing the modes shapes, complete with dozens, even hundreds of sensors measured across the structure.

Rather than spend hours and days setting up a test site to determine what a structure theoretically could look like and how it might react using Modal Testing, camera-based Modal Amplified sets up in minutes, can be moved anywhere for multiple views, and instantly visualizes the actual real-life structure, significantly improving data capture, workflow, and cost for Modal solution users.

FEATURES

STABILITY
Plots show where mode shapes are stable in frequency and damping.

DATA EXPORT
Export waveform, spectrum, coherence, FRF, and phase to UFF file.

COHERNCE MAP
Shows colorized image overlays of coherence data.

VIDEO ANNOTATIONS
Add text, shape, annotations, and company logo overlays with export to video.

AUTOMATED FREQUENCY FILTERING
Automatically determine frequencies of interest from calculated mode shapes.

MEASUREMENT TYPES
Virtual sensors measurements include waveform, spectrum, coherence, FRF, phase, and force input.

SPECIFICATIONS

PLAYBACK/EXPORT FEATURE
4x original framerate to 1 fps

FREQUENCY RANGE
Up to 5,400 CPM @ 180 fps Maximum: 39,000 CPM at 1,300 fps with reduced resolution

MOTION AMPLIFICATION® FACTOR
1-500x.

DATA ACQUISITION SYSTEM
Sound and Vibration Module: AC/DC Coupling, 3 Input Channel, 24 bit, +/- 30V, 12.8 kSPS, BNC IEPE Digital I/O Module: 4 I/O, 50 ns, LV TTL, BNC *Voltage Output Module, C Series, 51.2 kSPS, 24 bit, 2 Output, BNC (Optional add on)

MINIMUM DISPLACEMENT
XY-axis: <0.01 mils (0.25 µm) at 3.3 ft (1m) with 50mm lens, 0.005 mils (0.125 µm) at close focus *Z-axis: 0.6 mils at 3.3 ft (1m) with 50mm lens (Optional add on configuration)

SAMPLE RATE
180 fps in HD, up to 1,300 fps at reduced resolution + 1,400 fps in HD, up to 3,200 fps at reduced resolution