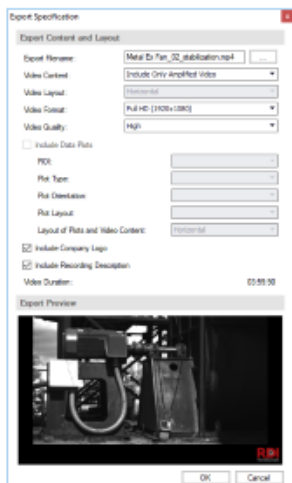


New in v2.5

Enhanced MP4 Export

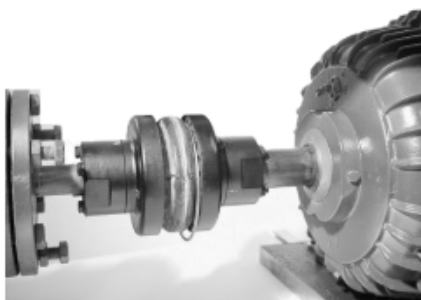
MP4 export now lets you specify the format and quality of the video that is produced.



Analysis of Rotating Shafts

Several features related to the analysis of rotating shafts have been added.

- Shaft displacement calculations for rotating shafts
- Shaft Inspection and High Density recordings
- Shaft turning speed detection



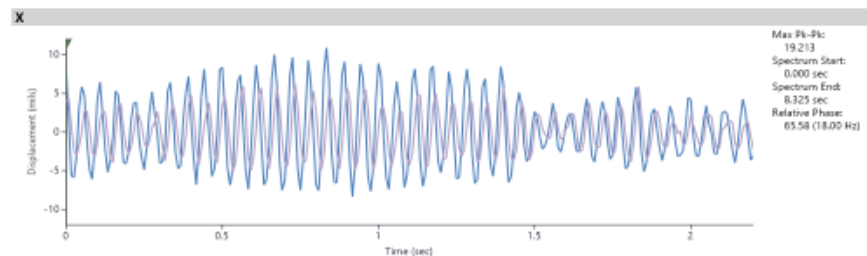
Ability to Trim Recordings

Motion Amplification now supports the ability to trim unwanted content from existing recordings.



Relative Phase Calculations

Motion Amplification now supports relative phase calculations. Specify a phase reference and a frequency of interest and relative phase values will be calculated for all of the displayed waveforms.



Motion Explorer Quick Start Guide

New to RDI Motion Explorer v2.5? Use this guide to learn the basics.

Asset Hierarchy

Create a hierarchy of folders and assets that helps you organize the recordings that you collect and videos that you create.

Launch in Context

Launch Motion Amplification in the context of a recording. Acquire a new recording in the context of a particular asset.

Change Storage Location

Move a recording or collection of recordings from one storage location to another, possibly an external drive.

Recording and MP4 Preview

See the content of a recording without having to open it in Motion Amplification. MP4 videos can also be viewed.

File Organization

Recordings, MP4's and other files are organized under Collections. Assets can have multiple Collections.

The screenshot shows the Motion Explorer application window. The interface is divided into several sections:

- Toolbar:** Contains icons for Cut, Copy, Paste, Remove, Rename, New Recording, Motion Amplification, Move Files, Copy Filters, Apply Filters, and Amplify Recording.
- Asset Hierarchy (Left Panel):** A tree view showing folders like 'Cumberland Bluffs', 'Cumberland Bluffs Crush', 'Cumberland Bluffs Refinery', 'Cumberland Bluffs Utilities', and 'Utilities Area'. Under 'Utilities Area', there is a 'Boiler' folder containing sub-folders like 'Boiler Ash Handling', 'Boiler Chemical Treatment', 'Boiler', 'Steam Relief Valves', 'Boiler Pumping', and 'Boiler Feed Pump 1'. The 'Boiler Feed Pump 1' folder is expanded to show assets like 'October 12, 2017', 'November 15, 2017', and 'December 14, 2017'.
- Table (Center Panel):** A table with columns 'Name' and 'Description'. The first row is selected:

Name	Description
December 14, 2017_01.rdi	
December 14, 2017_02.rdi	
December 14, 2017_03.rdi	
December 14, 2017_01....	Amplification Factor: 33 - Spee...
- Recording Preview (Right Panel):** Shows a video preview of 'December 14, 2017_01.rdi'. Below the preview is a metadata table:

Location:	C:\Users\Mark\Documents\RDI\Recordings
Date Collected:	06/14/2019 11:34 AM
Standard (sec):	3.0
Focal Length:	<input type="text" value="50"/>
Distance (ft):	<input type="text" value="50"/>
Asset Speed (RPM):	<input type="text"/>
Image Size:	512 x 536
Framerate (fps):	120.00
Gain (dB):	0
Brightness (%):	14
Dynamic Range:	High
Binning:	Disabled
Camera Model:	Grasshopper3 GS3-U3-23S6M
Serial Number:	15190592

Callouts from the guide boxes point to the 'Motion Amplification' button, the 'Cumberland Bluffs Utilities' folder, the 'Motion Amplification' button, the 'December 14, 2017_01.rdi' row in the table, and the video preview window.

Acquisition Quick Start Guide

New to RDI Acquisition v2.5? Use this guide to learn the basics.

Camera Connectivity

Ensure camera is connected to acquisition computer's USB3.0 port and to camera via screw lock connector.

Recording Name

Specify a meaningful recording name (possibly including the name of the asset being recorded).

Focus Camera

Use zoom buttons to zoom in and then use focus ring on camera.

Field of View

Draw an ROI with left mouse button in camera window to change field of view.

Recording Properties

Specify the distance from the camera to the subject. Specify the focal length of the lens being used.

Recording Association

Select the proper asset and collection that the current recording should be associated with.

RDI Acquisition

Recording Properties

Name: 2019-06-14

Distance: 50 ft

Focal Length (mm): 50

Acquisition Type: Standard

Exposure (sec): 3

Speed (RPM): 1780

Add Notes...

Recording Association

Collection: Unassigned (Unassigned Collection)

Change...

Camera Properties

Frame Rate (fps): 120

Brightness (%): 14.04

Gain (dB): 0

Image Rotation: None

Image Properties

Width: 2048

Height: 1000

Left: 0

Top: 0

Reset

Calculated Values

Exposure (ms): 500



Adjust Brightness

Adjust brightness so that subject is not too dark and not too bright.



Initiate Recording

When you are ready to collect the recording, press the Record button.

Acquisition State: Ready

Images Collected: -

Images Stored: -

Memory Available (%): 86.7

Motion Amplification Quick Start Guide

New to RDI Motion Amplification v2.5? Use this guide to learn the basics.

Add Annotations

Add annotations that will be included in the MP4 export to help convey findings to stakeholders.

Frequency and Displacement Plots

Display spectrum, waveform, and orbit plots with displacement data from the recording.

Frequency-based Filtering

Access filtering functionality to only amplify certain frequencies of interest.

Amplification Factor

Adjust amplification factor to magnify small motions normally not visible.

The screenshot shows the RDI Motion Amplification software interface. At the top, there is a 'Source File' field containing '3_28_2017_09.rdi' and a 'Description' field. Below this is a toolbar with various icons for file operations, navigation, and analysis. The main window displays a video of a large industrial motor with the brand name 'HOFFMAN' visible on its base. To the right of the video, there are several control panels: a 'Playback Speed' slider set to 50, an 'Amplification Factor' slider set to 4x, and a 'Frequency-based Filtering' panel with a spectrum plot. At the bottom left, there is a play button and a progress bar showing 0:00. At the bottom right, there is an 'Export to MP4' button and a progress bar showing 1/120.

Play Amplified Recording

Press the play button to replay the recording with the current settings.

Export to MP4

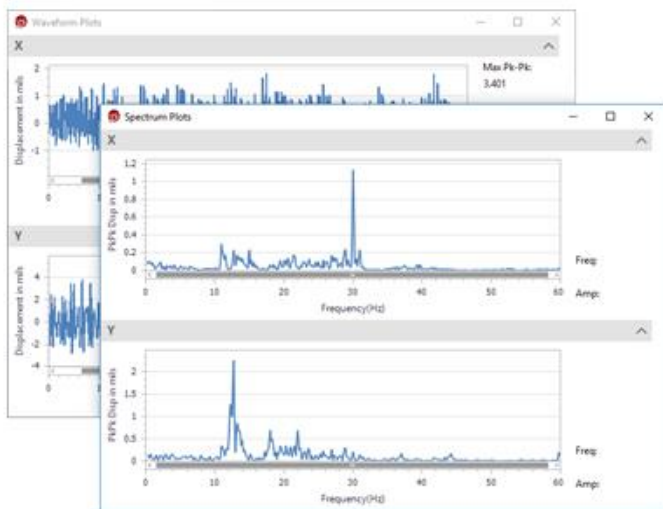
When amplification factor and speed are adjusted and annotations are added, you are ready to export to MP4.

Playback Speed

Adjust playback speed to show amplified motions most clearly.

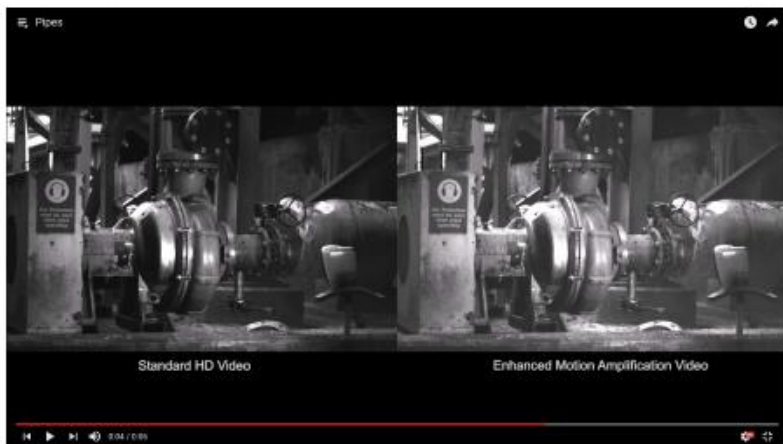
Frequency and Displacement

Generate spectrum and waveform plots from displacement data calculated from the recording. Draw a Region of Interest in the playback window to perform calculations.



MP4 Export

Generate MP4 videos of unamplified content compared to amplified content to convey findings to stakeholders.



Frequency-based Filtering

Graphically identify frequencies of interest from the displacement data present in the recording so that only the desired frequency content is amplified.



Image Stabilization

Image stabilization removes camera shake that can be introduced during acquisition. Removing camera shake makes the amplified motion much more clear.



Motion Studio Quick Start Guide

New to RDI Motion Studio v2.5? Use this guide to learn the basics.

Available Content

Thumbnail images are shown for all of the videos and images associated with the current collection.

Add Additional Content

Add movies, photos, images, title slides, and composite slides to your movie project.

Movie Project Workspace

Shows all of the content that you have added to your movie project. Items may be reordered via drag and drop.

The screenshot displays the RDI Motion Studio v2.5 interface. At the top is a menu bar with 'File' and 'Home' options, and a toolbar with icons for Cut, Copy, Paste, Add Videos and Photos, Add Title, Add Composite, Decrease, Increase, Reset, Remove, and Edit Properties. Below the toolbar is the 'Available Content' panel, which shows a collection of assets for 'Exhaust Fan 1' from July 11, 2018. It lists four videos and four images, with two video thumbnails selected. To the right is the 'Movie Project Workspace', which shows a timeline with two tracks. The top track contains 'Metal Ex Fan 02' with 'Unfiltered Data' and 'Filtered at 29 Hz' segments. The bottom track contains 'Waveform Data' and a video segment. A 'Movie Preview' window at the bottom left shows a video player with a play button and a progress bar. Callout lines connect the text boxes to their respective UI elements: 'Available Content' points to the asset list, 'Add Additional Content' points to the 'Add Videos and Photos' icon, 'Movie Project Workspace' points to the timeline, and 'Movie Preview' points to the video player.

Movie Preview

You can preview your movie while adding and editing content before you actually save the movie and create an MP4.