IRIS ⬡ CM™

Enhancing Vision

The world's first non-contact Motion Amplification® software platform.

THE POWER OF MOTION AMPLIFICATION® WITH THE BENEFITS OF CONTINUOUS MONITORING

RDI's Motion Amplification® platform is a unique, revolutionary technology that detects subtle movement and converts movement to a level visible by the naked eye. By turning every pixel in the camera into a sensor, Iris CM™ takes millions of measurements in a fraction of a second. And it does this with no physical connection to your machinery or equipment. With Iris CM, you now have the ability to see what is happening on your machines 24/7 even when you are away.

- Scalable to any number of cameras. Monitor your entire process or facility with a network of cameras.
- Each CM unit can communicate and trigger each other to provide synchronized video across multiple unit.
- Quantify vibration, amplitude, frequency, and phase for anything visible in the recorded video.
- Test and visualize your assets over periods of time for improved troubleshooting.
- Multiple triggering options such as accelerometers, 4-20 mA sensor, and virtual camera measurements.

Once configured, Iris CM can continuously monitor your asset with live Motion Amplification®, trigger and store recordings, and provide all the data analysis of Motion Amplification® software. Best of all, once you solve the problem with your asset, just move the system to the next asset and start all over. Solve your toughest problems, solve your intermittent problems, solve it with Iris CM.

 SEEING IS BELIEVING

FEATURES

FREQUENCY FILTERING

Bandpass, HDR, bandstop, lowpass, and highpass filtering of time waveform and video.

MOTION MAPS

Show colorized image overlays of individual frequencies or overall motion.

TOP FREQUENCY FILTERING

Automatically determine frequencies of interest and create multiple filtered data sets with a single click.

NOTIFICATIONS

Email notifications from triggers with Motion Amplification® videos viewable from the cloud.

VIDEO ANNOTATIONS

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

LIVE MOTION AMPLIFICATION®

Apply amplification before acquiring a recording. Scan assets instantly to see motion in real time.

TIME WAVEFORMS, SPECTRA, AND ORBITS

Unlimited number of regions can be drawn in the video to measure displacement. All measurements are simultaneous.

STABILIZATION

Entire frame and region based image stabilization.

DATA EXPORT

Export waveform, spectra, orbits, and object paths to .csv file.

STORAGE

90 minutes worth of HD video stored per camera. Extract video from any time in the last 90 minutes.

TRANSIENT MOTION AMPLIFICATION®

See Motion Amplification® of small motions as an object moves through the scene.

TRANSIENT PATH PLOT

Show the path of an object in the video as well as in the plot.

TRIGGERS

Virtual camera-based sensors
4-20 mA
Accelerometers
IEPE (E.g. Impact Hammer, Pressure Sensor)
Tachometer Time-Based Triggers
Manual Triggers

SPECIFICATIONS

INDUSTRIAL GRADE CAMERA

USB 3.1, high resolution CMOS sensor, high definition.

FREQUENCY RANGE

0 CPM (0 Hz) to 5,400 CPM (90 Hz) at 180 fps Maximum: 39,000 CPM (650 Hz) at 1,300 fps with reduced resolution.

SAMPLE RATE

180 fps in HD, up to 1,300 fps at reduced resolution.

TRIPODS AND MOUNTS

Professional grade tripods with pistol grip, clamp mounts, magnetic mounts.

SERVER

Intel Xeon processor, 6 TB Samsung SSD for persistent storage, 16 GB RAM.

ACQUISITION SYSTEM

Intel i7 processor, 32GB RAM, 1 TB SB3, dual batteries, lightweight, MIL-STD-810G standard drop protection, 3 yr accidental damage protection.

MOTION AMPLIFICATION® FACTOR

1-500x.

LENSES

6mm, 12mm, 25mm, 50mm, 100mm.

MINIMUM DISPLACEMENT

<0.01 mils (0.25 µm) at 3.3 ft (1m) with 50mm lens, 0.005 mils (0.125 µm) at close focus.

USB3 CABLE LENGTH

9.84 ft. (3 m) and 65.61 ft. (20 m).

LIGHTING KIT

LED Light 23,000 lux at 1 meter, lithium ion light battery, light stand. (Optional)

Trigger Types

ROI TRIGGERS

- Waveform Pk-Pk
- Spectrum Digital Overall
- Spectrum Frequency Band

MANUAL TRIGGER

User can execute a manually defined trigger at any time via the push of a button

SPEED TRIGGER VIA TACH

- Upper Threshold
- Lower Threshold

4-20 TRIGGERS

- Waveform Pk-Pk
- Upper Threshold
- Lower Threshold

EXTERNAL SENSOR TRIGGERS*

- Waveform Pk-Pk
- Spectrum Digital Overall
- Spectrum Frequency Band

Digiducer or ICP Sensor coming in through Digital Signal Conditioner

TIMER TRIGGER

Hourly, daily, weekly, monthly, specific time

NOTE

All triggers have the ability to reference additional cameras such that concurrent video data is available for all cameras of interest (even across CM units).

Each trigger can now leverage Boolean logic to combine data from multiple sensors or measurements in the definition of a trigger.