

Solutions for High Vibration Applications

- Vibration fatigue is a primary cause of CCTV equipment failure in industrial applications
- Front line equipment including cameras & LCD monitors are at the highest risk for vibration damage
- Vibration damping technology and advanced camera design significantly extend camera & monitor life

The Problem - Vibration Fatigue

The heart of all electronic equipment is the printed circuit board (PCB) which is usually a rectangular, epoxy-coated unit onto which all of the sub-components and wiring are attached. Vibration occurs in all environments but is often extreme in heavy industrial settings. Vibration can be random (ie: due to shock or the movement of heavy vehicles or equipment) or repetitive (ie: due to continuous exposure to the operation of industrial machinery). In either case the correct design, selection and installation of the CCTV equipment is critical to maximizing life expectancy and reducing maintenance.

In heavy industrial applications, CCTV cameras must be mounted onto part of the adjacent structure or directly to the machinery itself to provide plant operators adequate views of the processes or gauges. These cameras must be able to withstand high vibration at various frequencies to prevent deflection of the PCB. Deflection (the bending of the PCB) can damage board components, image sensor, leads and wiring. LCD monitors exposed to high vibration environments are at even greater risk of failure.

The Solution - Vibration Damping Camera Design & Mounts

Process machinery such as conveyors, feeders and crushers constantly transmit vibration to building structures. Cameras and LCD monitors in these environments require vibration damping technology that is either built in to their design or provided by special anti-vibration mounts. Mounting hardware that integrates spacers and gaskets made of special vibration dampening material such as visco-elastic polymer can significantly extend camera and monitor life expectancy.

Evaluate Vibration Exposure for Each Camera Location

Most CCTV cameras are not specifically designed to withstand the extreme vibration found in heavy industrial plants. However there are usually numerous locations that are isolated or external to the manufacturing/processing environment for which standard box or dome type cameras are suitable.

Process machinery such as conveyors and feeders constantly transmit vibration to building structures. Cameras mounted on structural posts, pillars and beams need to incorporate vibration damping technology. Whenever possible avoid mounting cameras directly onto machinery. Installing anti-vibration mounts for all cameras within active plant areas can further extend life expectancy.



Wood Processing & Aggregate/Mining are just two of the many industries where high vibration is a fact of life.



Ready to see how tough the Opticom CC02 camera really is? Watch our quick 49 second video at www.toughestvideocamera.com

Video Installation Tips

Issue #6
Published Monthly

Opticom Vibration Solutions

Opticom has been committed to Industrial Video Excellence for the past 40 years. Our products have been designed and field tested to meet the rugged environmental demands of even the toughest industrial applications.

For heavy industry, the vibration resistance of the CC02 camera is unsurpassed. Independent laboratory testing has confirmed the camera's exceptional resistance to shock and continuous vibration. The virtually indestructible titanium alloy housing ensures long camera life by shielding the imaging components from dust, moisture, vibration and temperature extremes.

The CC02 is a proven performer in both high & low temperature applications without the need for auxiliary heating or additional housing. With over 10,000 units sold in the past 10 years, the CC02 continues to grow in popularity as industrial users discover its versatility for a wide variety of operations.

Visit www.toughestvideocamera.com to see the CC02 in action!



CC-02 shown with Optional VM-1 Anti-Vibration Mount

- Exceptional Vibration Resistance
- Extreme Temperature Rating
- IP-68 Waterproof / Dustproof
- High Res Color - 560 TV Lines
- Optional Vibration Damping Mount

Anti-Vibration Mounting Hardware

MVM-LCD-101 Vibration Mount for LCD Monitors



MVM-LCD-101
Anti-Vibration Mount

Even though usually located further from the source of vibration than cameras, LCD monitors are very susceptible to vibration damage.

The MVM-LCD-101 mount significantly reduces vibration to the LCD panel, is easy to install and extends monitor life.

- Heavy gauge aluminum plate construction
- Advanced vibration damping bushings
- Easy to adjust tilt & swivel - no tools required
- Scratch resistant black powder coat finish
- Accommodates up to 32" LCD panels



VM-1 Vibration Mount for CC02



VM-1 Vibration Mount

Increased camera protection for extreme vibration applications including:

- Debarker Drums
- Chippers & Grizzlies
- Rock Crushers
- Grinding Mills
- Vibrating Conveyors

Look for the next issue of Video Installation Tips: Understanding Wireless Video for CCTV

Sign up to receive our Video Installation Tips by email at www.toughestvideocamera.com/industrial