

## HD73 Series TDN Camera Application Note

This Application Note discusses the advantages and functions of the HD73 Series Camera which offers True Day/Night (TDN) operation and integral IR illumination.

### TDN Overview

TDN operation is implemented by including a moveable IR cut filter into the optical path between the lens and imager in the camera. With the IR cut filter in position the camera functions as a normal camera under daylight illumination.

As the natural light levels decline (dusk) a point is reached where the image quality will be compromised. At this point the camera responds by moving the IR cut filter out of the optical path, forcing the camera into monochrome mode. This allows the camera to provide a black and white image in light levels below what is acceptable for color operation.

### IR Illumination

To allow operation of either a TDN camera or a monochrome camera in complete darkness, IR illumination is frequently employed as it is effective and relatively non offensive to the surrounding areas. IR illuminators can be either co-located with the camera, located close to the area of interest, or form part of an integrated Day/Night camera.

## HD73 Series Cameras — Operating Conditions

To ensure optimal performance, please read the following information that applies specifically to the HD73 Series Camera.

### Camera Location

Ensure the camera location is suitable for both day and night operation. A location that provides a view of a relatively large scene may be entirely satisfactory in day operation but may not be viewable at night due to the output of the IR illuminators.

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**Note** The limitation on IR illumination distance for the HD73 is 65 feet (20 m) maximum (dependent on scene reflectance).

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Avoid locations where strong unwanted reflection of the IR illuminators may occur (for example, reflections represent a waste of the available IR power and may cause degraded response of the camera to the desired scene). In the worst case the reflected IR energy may cause the camera to oscillate between night and day modes.

If the scene of interest has a highly reflective background, Honeywell recommends that the camera be mounted 'off axis'. This will prevent reflection of the IR Illuminators directly back into the lens, effectively blinding the camera.

## Power Supply/Wiring

Size the power supply appropriately to the camera load with IR Illuminators enabled. Excessive voltage drop may limit (lower) the IR Illuminator output and is of particular concern for the HD73 and other cameras designed to operate only on 12 VDC supplies.

## IR Images

IR images may not look as expected to the viewer; this is largely due to the relative reflectance of the object being viewed under IR light being very different from what is seen under normal lighting. Shapes and details will be true; shades (gray scale) may be greatly different.

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