APPLICATION NOTE

Wireless Transmission for INFINITY*HD*
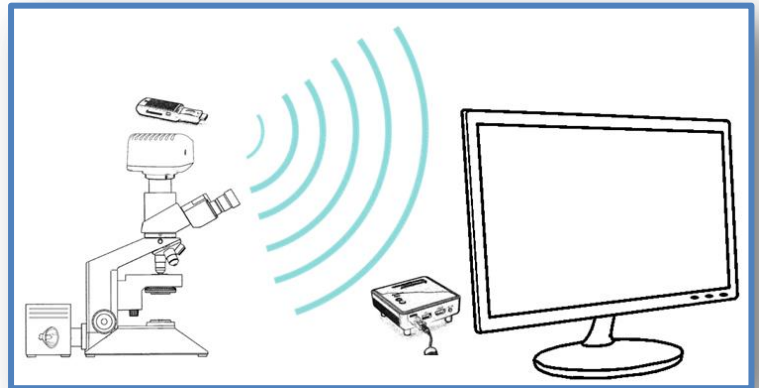
A guide to setting up and configuring wireless transmission for Lumenera's INFINITY*HD* microscope camera

Lumenera
corporation

TRANSMITTING WIRELESS HDMI OUTPUT FROM AN INFINITY*HD* CAMERA

The HDMI port on the back of the INFINITY*HD* camera provides a 1080p60 video output signal. The video feed is intended to go directly into a TV, monitor, or projector using an HDMI cable. When a direct cable connection isn't possible, using a wireless transmitter that supports an uncompressed HDMI signal can be effective; particularly when the image quality is excellent, with no lag, and the distance between the camera and the receiver can be up to 25 feet.

The IOGEAR Wireless Transmitter & Receiver kit has been evaluated with the INFINITYHD camera at Lumenera, and was found to be a high-quality, cost-effective device in providing a wireless interface between the camera and the display. The transmitter can also be used directly with any computer that is equipped with an HDMI output, allowing the computer's display to be wirelessly transmitted to the monitor or projector. When configured in this manner, it provides a wireless transfer of the image output from any INFINITY camera model.

IOGEAR WIRELESS TRANSMITTER

The wireless transmitter kit from IOGEAR includes the transmitter unit with an HDMI jack to connect into the HDMI output of the INFINITYHD camera, and the receiver unit that uses an HDMI cable to connect directly into the display device. Due to the width of the transmitter dongle, the power port on the INFINITYHD camera is blocked.

The solution is to add an HDMI (male/female) port protector in between the HDMI port on the camera and the transmitter (shown in the image below). The port protector simply moves the transmitter away from the back of the camera, providing easy access to the 5V power input port.

Figure 1 - IOGEAR Wireless Transmitter Kit with HDMI connection with additional HDMI port adapter

SETUP AND CONFIGURATION

Both the transmitter and the receiver require 5V power to operate. The kit from IOGEAR includes the necessary wall adapters for North American (110V AC) power. The 5V DC input ports on both

the transmitter and receiver units use the mini-B USB connectors, so using a USB hub or computer, is an alternative to using the wall adapter, but requires your own USB2.0 A-mini B cables.

Figure 2 – INFINITYHD and IOGEAR Wireless Transmitter with required port protector extension

Figure 3 – IOGEAR Wireless Receiver and output to display device

STREAMING VIDEO

The process to stream the live video directly from the INFINITY*HD* camera is very simple. Insert the port protector extension into the back of the INFINITYHD camera, then attach the HDMI connector for the transmitter into the back of the port protector extension. Connect the power adapter into a wall socket and insert the USB miniB connector into the side of the transmitter.

Next, insert the power adapter for the receiver into a wall socket near the display monitor or projector, and connect the USB miniB connector into the back of the receiver unit. Connect an HDMI cable between the receiver unit and the monitor/projector. Select the source for the display device to accept the HDMI input signal. Turn on the INFINITY*HD* camera power, and the image is transmitted directly to the display.

RESOURCES

The **INFINITY-HD-WT** wireless transmitter kit can be purchased directly from Lumenera. The kit includes the IOGEAR transmitter/receiver equipment and the male/female HDMI port protector extension module, described above. The IOGEAR equipment kit includes a remote control to enable and disable the receiver unit. A convenient USB A-miniB cable is also included to facilitate powering the transmitter when it is connected directly to a PC's HDMI output, so that the 5V DC power adapter is not required – as the transmitter can draw the required power from the USB bus.

You can add up to three additional transmitters to work with one receiver. These transmitters must be purchased separately, the remote control included with the receiver unit is used to control which HDMI input is source is displayed.