



Thank you for purchasing a Leo Bodnar Electronics 4K Lag Tester.

Contents

- 1 x 4K Lag Tester.
- 1 x 3m USB A-B Cable.

Description

The Leo Bodnar 4K Lag Tester allows a user to see the propagation delay from signals on a HDMI source to the moment they are displayed in light from the screen. This is a valuable measurement for people when this value is critical in such settings as gaming, medical professions, television production.

Getting Started

To get started with this device, please supply a powered USB cable into the USB port of the device. When you wish to measure the lag of a device, please make sure the HDMI cable is in the device you wish to test before powering up to stop the device booting up in USB bootloader mode.

Measuring Lag

1. Plug the HDMI cable into a 4K port on the monitor or television. Please note that this may be a specific port on your device, please refer to your manual to make sure it is supported.
2. Plug in the USB cable into a power port, USB portable power supply or computer. (Please make sure to plug the HDMI cable in first as you may trigger the device update.)
3. Wait for the lag measuring screen to appear with its 3 flashing bars alongside the left.
4. Place the device over the flashing bar you wish to measure, use the target to help align the sensor directly over the bar.
5. Wait for the lag to be calculated, this can be up to 5 seconds.
6. Leave the sensor over the bar for a further 20 seconds to make sure there is no deviation.
7. Record the lag measurement.

Hints and Tips

The lag measurement will most likely differ between the three bars. This will depend on how your display creates the image. We recommended taking an average of all three values, which should be equivalent to using the center bar.

Device Update Bootloader and Firmware

If you wish to change firmware on the device, make sure you have the HDMI disconnected as you plug into a Windows computer, after 10 seconds the device should appear as a "Bootloader" device and can be flashed with firmware.

Firmware Update Instructions

1. Download the firmware zip file from the "Product Downloads" tab of the 4K Lag Tester product page at http://www.leobodnar.com/shop/index.php?main_page=product_info&cPath=89&products_id=317
2. Extract all of the files that are contained within the zip file.
3. Run the utility by double clicking on the icon:



4. Click on the "Load Firmware" button in the utility.



5. Wait for the upload to complete, this may take up to 10 minutes.
6. When the progress bar is at 100% please reboot your device. The device has now been updated.