

# interface

FORCE MEASUREMENT SOLUTIONS.  
**CASE STUDY**

## Protecting Ultra HD Monitors



### Understanding Ultra HD Resolution

With the rising popularity of Ultra HD and 4K format video monitors, testing for video output quality is critical. These screens have a resolution of 3840x2160—four times the number of pixels in Full High Definition and eight times as many as Standard Definition. To put it in perspective, Ultra HD is only a slightly lower resolution than the picture displayed on movie screens. Ultra HD displays images that are even clearer and more life-like than ever before, coming in larger screen sizes and weighing less than their Full HD and SD counterparts. These factors also pose new responsibilities: these screens must be handled with the utmost care to prevent damage during handling for optical array testing.

### Assessing the Business Challenge

With this technology, inspecting the color and light performance of the screen is much more critical than ever before. Because the hype of this technology is centered around its stellar resolution, testing for output quality is one of the most important steps in the manufacturing process.

Interface's customer specializes in designing and building automated systems to observe and test for color and light performance, but they needed a solution to monitor and control forces during testing. The solution had to easily allow for the mounting of sensors into the large glass array handling tool.



1200 Standard Precision LowProfile® Load Cell



AxialTQ™ Wireless Rotary Torque Transducer



9890 Strain Gage, Load Cell, & mV/V Indicator



GS-SYS03 Gold Standard® Portable Load Cell Calibration System

## Implementing a Solution

To best protect the monitors, Interface determined that four load cells were needed for the smaller glass sizes and eight were needed for the largest format monitors. An OEM load cell was designed and matched to an inline amplifier, and one piconewton called out both the load cell and a matched LCSC amplifier. Interface implemented a bending beam design for mounting due to its robust yet slim cantilevered design. While nothing was fully customized, Interface combined a variety of its standard products into a total solution to meet its customer's needs.

Interface's solution provided direct force and weight feedback around the periphery on the monitor array panel to allow for precise handling control without fracturing the glass. Because of Interface, the customer was able to test the video output quality long before completion of the end product.

## About Interface

Interface is the world's trusted leader in technology, design, and manufacturing of force measurement solutions. We guarantee the highest quality performance of load cells, torque transducers, multi-axis sensors, wireless telemetry, instrumentation, and calibration. We empower engineers around the world to measure force and performance at the highest degree. Our clients are the who's who in aerospace, automotive and vehicle, medical devices, energy, test and measurement, and industrial manufacturing.

Interface, Inc., was founded in 1968 and is a US-based, women-owned technology manufacturing company headquartered in Arizona.

For more information on how Interface can help solve your test and measurement challenges, please visit [www.interfaceforce.com](http://www.interfaceforce.com).