



WHITE PAPER

Large Format Multitouch Displays and Touch Tables



The Ideum Pro Touch Table with a 65" Display

Introduction

Ideum's line of 43", 49", 55", and 65" 4K Ultra High Definition (UHD) touch wall and touch table displays use LG commercial monitors and 3M™ projected capacitive (PCAP) touch technology. These multitouch displays and tables have unbeatable pixel density and the latest 3M™ touch, which supports up to 80 simultaneous touch points and is more responsive than any available alternative. Matching these top-of-the-line components with Ideum's own patented manufacturing process for an all-aluminum display frame (US patent 10,225,509) allows us to offer the best performing and most durable large-format multitouch displays and touch tables on the market.

Ideum displays are an integral part of our turnkey multitouch tables, which come standard with powerful integrated computer systems incorporating Intel processors and NVIDIA full-sized graphics cards. Our touch tables come in coffee table, drafting table, and flat configurations. Our displays are also available as wall-mounted units, known as our Presenter series.

Optional integrated computer systems are available for these displays as well. Ideum's displays and tables are used in museums, universities and schools, laboratories, corporate spaces, trade shows, retail settings, and other venues. We sell our hardware direct around the world and have delivered our products to 43 different countries.

This white paper is an update to A New Range of Interactive Touch Displays and Multitouch Tables: First to the Market with 4K UHD Resolution and 3M™ Touch Technology, which was originally published in August 2016.

Projected Capacitive Touch

In contrast to other inferior touch solutions available on the market, Ideum offers industry-leading 3M™ PCAP touch technology and bezel-free displays which are impervious to interference from light, highly accurate, responsive, and reliable.

Ideum's multitouch displays support 80 simultaneous touch points for natural multiuser interaction. These displays integrate 3M™ PCAP touch technology with an ultrafine metal mesh conductor design, which eliminates moiré and sparkle issues frequently found in less refined PCAP systems. The ultrafine mesh is just 3 microns wide, creating an invisible touch system that allows users to see all the incredible, vibrant detail that a 4K UHD display can provide.

To better understand just how “ultrafine” this mesh is: 3 microns = .003 mm or .000108 inch.

The 3M™ PCAP technology employed by Ideum has several advantages over other touch systems. Because it is a conductive surface, only human touch and other conductive materials and implements (such as styluses) register as touches, and the surface is not affected by lighting conditions. Optical systems that employ IR (infrared)

sensors or cameras often set off unintended touch events when in contact with non-conductive objects like shirt sleeves, and their performance can suffer severely in brightly-lit environments.

IR touch also requires a large bezel that can interfere with user interaction and cause issues with care and cleaning, particularly in busy public settings. InGlass touch technology has limited touch points (usually capped at 20 or less) and also has a slower response time than the <10 milliseconds found with 3M™ PCAP systems.



In contrast, Ideum's screens with 3M™ PCAP have no bezel, which not only results in a sleeker design but is also critical for optimal multitouch table use. It is both faster than alternative technologies and eliminates opportunities for optical interference. All of Ideum's 43", 49", 55" and 65" touch tables use 3M™ PCAP technology exclusively.

THE IDEUM PRESENTER

All of Ideum models sized 43" to 65" come with a 4K UHD display with 3M™ Touch Technology. The Presenter can be hung vertically or horizontally and can be purchased with an optional lockable computer system that fits behind the unit between the standard VESA mount brackets. Mounting hardware is included with each Presenter. It can be purchased with a motorized stand for maximum flexibility.



Ultra High Definition (UHD) Commercial Displays

The arrival of Ultra HD (also known as 4K) screens was a major development for large-scale interactive displays. The impact of the four-fold improvement over HD in resolution is particularly critical to applications that engage users only an arm's length away. Resolution is measured by the number of individual pixels displayed. A 4K UHD display is 8.3 megapixels, at 3840 wide by 2160 pixels tall. This is four times as many pixels as in an HD monitor, which has fewer than 2.1 megapixels at 1920 by 1080.

For large displays, the concept of “pixel density” is critical in determining image quality. Displays with UHD resolution maintain a higher pixel density at larger display sizes, which results in a crystal-clear, non-pixelated image. In the slightly smaller 43” and 49” displays, the pixel density is tremendous, giving those displays a “retina-like” quality. All of Ideum’s 43”, 49”, 55”, and 65” displays are now available with 4K UHD-resolution screens. For museums, this means high-resolution artwork, historical artifacts, and scientific images can be shown with all of their vivid detail. For multiuser applications, more pixels mean that design elements intended for multiple users can appear crisper and clearer.

There are a variety of additional factors that are key in considering which UHD display is best. One is brightness, measured in nits (one nit is equal to one candela per square meter); the higher the nits, the brighter the monitor. Our 43” displays have 350 nits luminance, while our larger 49”, 55”, and 65” displays have a super-bright 500 nits luminance. In addition, all of our LG commercial displays have 1,000 to 1 contrast ratio, which is superior to many 4K monitors on the market. Finally, and perhaps most importantly, our LG commercial displays are rated to perform 24/7 and warranted for three years, even when laying flat. (Some warranties do not cover monitors operating in “table mode.”)

All in all, the combination of the latest 3M™ touch technology, LG 4K UHD commercial displays, and a patented, all-aluminum frame makes Ideum displays and touch tables the leader in the field.

Tough Patented Cases and Multitouch Tables

Those who work on the museum floor, in retail environments, or other public or semi-public spaces know the importance of hardened, durable exhibits and casework. Ideum has nearly 20 years of experience with museums around the world, and our goal is to build tough and reliable products that require no maintenance, even in busy public spaces. Our UHD multitouch displays have all-aluminum cases with lockable port access. The 3M™ glass of the display is strengthened, anti-stiction, non-reflective, and 4mm thick.

Engineered and built in the USA, the custom cases for Ideum's UHD multitouch displays are manufactured with aircraft-grade aluminum and covered with a tough powder coat finish. Many of our competitors use plastic or thin steel sourced in Asia. Ideum avoids plastic and other less-durable materials in its manufacturing process; instead, we use durable and lightweight aluminum in order to provide the most long-lasting, maintenance-free final product it is possible to build.

Our multitouch table bases are built to provide quick turnkey operation. Users simply plug the unit into a standard wall outlet and switch it on with the touch of a button. The power button and networking ports are protected with lockable access. Our large touch tables and multitouch display systems also ship with Windows 10 standard.

Ideum multitouch tables are outfitted with the latest in high-quality computer components. Each 43", 49", 55", and 65" system has the latest Intel™ processors and a full-size NVIDIA™ graphics card. They come with 16GB of RAM (upgradeable to 32GB), built-in RFID, and a variety of storage options. Ideum can customize its systems by adding or removing components, providing standard products in a variety of colors, and even building completely custom configurations to order.

THE INLINE SERIES

In 2018, Ideum introduced a new set of displays specifically designed to fit into cabinetry, exhibits, and furniture. The Inline series is available in the same sizes and has the same components as the Presenter series. These unique large-format displays have a custom all-aluminum frame designed to make it easy to integrate into just about any material. Inline models have been used to create a new generation of interactive conference room tables. (For more information on these products, see www.touchconferencetable.com.)



Summary

Ideum's multitouch displays are the first to the market with 4K UHD and 3M™ touch technology. Ideum continues to lead the way in quality and durability as both a manufacturer of cutting-edge hardware products and as a small design shop developing high-end custom installation solutions. A wide range of display and pricing options are now available. Ideum has been building and selling multitouch tables worldwide since 2009.



**For sales & rentals, contact us at
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Visit us at ideum.com**

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THE PORTRAIT

Ideum's all-in-one Portrait model is the world's first touch and motion sensitive vertical kiosk. Along with state-of-the-industry 3M™ touch technology, it can also be outfitted with a Microsoft Kinect. The Portrait has an i7 computer with an NVIDIA™ graphics card built into its slim base. It comes standard with 16GB RAM, 250GB NVMe M.2 SSD, and RFID.



PICO COFFEE TABLE

Ideum's Pico UHD 4K Multitouch Coffee Table is packed with power. This attractive touch coffee table has an Intel™ computer with an NVIDIA graphics card built into its slim base. It comes standard with 16GB RAM, 250GB NVMe M.2 SSD, and RFID. Available with a 43", 49", or 55" 4K UHD multitouch display.



PLATFORM II

The Platform is Ideum's most popular multitouch table, perfect for multiuser applications in public spaces such as museums. It has an Intel computer with an NVIDIA graphics card fully integrated in the base. The Platform touch table comes standard with 16GB RAM, 250GB NVMe M.2 SSD, and RFID. It can be upgraded to 32GB RAM, Dual 250GB NVMe M.2 SSD in RAID 0, and an NVIDIA GTX 1080 graphics card. The Platform is available with the full range of Ideum 4K UHD multitouch displays from 43" to 65".

DRAFTING TABLE

A modern take on the classic drafting table, this model is ideal for single or dual-user applications, especially in professional design or business settings, as well as public spaces. The Drafting Table is ready to handle any design or 3D program with 16GB RAM, 250GB NVMe M.2 SSD, and RFID. It can be upgraded to 32GB RAM, Dual 250GB NVMe M.2 SSD in RAID 0, and an NVIDIA GTX 1080 graphics card. Available with the full range of Ideum 4K UHD multitouch displays from 43" to 65".



PRO

The Pro series is perfect for research labs, museums, public spaces, and other demanding scientific and design environments. The table features a full-sized i7 workstation computer inside with 32GB RAM standard, NVIDIA graphics card, an audio amp and speakers, and RFID. The optional Pro Lab configuration provides up to 24TB of removable storage. Available with a 49", 55", or 65" 4K UHD multitouch display.