

Seeing Is Believing – *Interactively*

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Over the last decade, we have become an impatient lot in terms of our expectations of technology and what it can do for us. The desire for “more and better” has grown exponentially. In our homes we are no longer content with passively sitting in front of the “mass medium” of broadcast television beaming into our living rooms helplessly staring at the messages being fed to us. Interactive video games have become the entertainment choice for individuals and families alike. Instant gratification through interactivity rules the day. It is much the same in our office and classroom environments. We have grown to expect more than a passive relationship in communicating information. We are not satisfied to stare at static images drawn on a white board or even projected on a screen. We expect current information available instantaneously with the ability to interact with what is being shown to us in real time. Our “demand” is for instant gratification and interactivity whether it is at home, at the office, or in the classroom.

In our daily lives at work and play we have the ubiquitous PC and mouse relationship as the most common means of interactivity, but large touch enabled flat panel plasma and LCD displays are becoming increasingly popular for many interactive applications from electronic signage and information kiosks, to electronic whiteboards, collaboration, and conferencing. As displays get larger, the ability to use the display for interactive and educational purposes becomes not only more appealing, but more of a natural solution as well.

One of the most productive applications is converting a large format flat panel display into an interactive whiteboard. This provides a high-tech alternative to messy chalkboards or whiteboards using dry erase pens. With the recent drop in prices of large flat panel displays, many companies are opting for an alternative to their projection displays and are retrofitting their conference rooms and training facilities with LCDs and Plasmas. This is where the opportunity lies, at the convergence of technology, price, and application.

Typically, any large flat panel display, LCD or plasma can be fitted with an overlay that not only provides a touch screen interface, but can also be used as an interactive whiteboard. Now, instead of just being a single purpose display or dedicated whiteboard, the display becomes multi-purpose and therefore a more valuable interactive communication tool.

Using a large, touch-enabled flat panel display presenters are no longer “constrained” behind a podium or glued to their laptop. They can now move around freely and increase interaction with the class or group while facilitating multi-user collaboration. In addition, an advanced touch overlay provides full mouse functionality without the need for a keyboard, mouse, or dedicated stylus. Simple fingertip touch allows you to navigate between applications or to highlight and emphasize key information. All standard mouse functions are supported including click, right-click, double-click as well as drag and drop. You can even draw, write, move, edit objects and scroll through menus.

Another benefit of the touch-enabled flat panel display solution is enhanced picture dynamics including improved colorimetry, higher resolution images up to 1080P, and faster video response eliminating visible image lag. With higher brightness and increased contrast, there is no need to draw the shades or dim the lights in the room, and gone are the days of dodging shadows on screen and shielding your eyes from the blinding light of the projector. An interactive touch overlay combined with a large flat panel display is simply a “better mousetrap”.

The combination of a flat panel display with an interactive touch overlay is a win-win situation for resellers and customers alike. This solution not only provides a superior display medium, but also is more economical. With the continuing drop in the cost of a large flat panel displays, the initial investment is comparable to a traditional projector and screen solution. Large flat panel displays are typically rated at 60,000 hours of use, whereas projector lamps are rated at 2K-4K hours and cost \$300 to \$400 each. Depending upon the amount of usage, over a 5-year period, you will have likely spent a lot of money on lamps and continuing maintenance thus offsetting any initial cost benefits.

Even though a projector/screen installation is commonplace and most integrators have the process down to a science, it is still more costly to install than attaching a single flat panel display to the wall and plugging it in. Therefore, by eliminating the need for hanging a projector suspended from a ceiling mount and a screen mounted in the ceiling or on the wall, not to mention the added complexity of the wiring that is required, flat panel display installations are simplified and with no lamps to replace or projectors to maintain. Even with recent developments regarding projection bulbs, a flat panel display is still a more economical and environmentally friendly. On a total cost of ownership basis, the projector solution comes in a distant second. What’s more, no one has to remind you that displays of all types have become a commodity, whereas the interactive touch overlay has not. By adding an overlay to the installations it helps preserve the value added portion of the sale for the commercial audio visual systems integrator. In addition to interactive whiteboards, an overlay on a large format display provides a useful tool for a whole host of related applications.

Video Conferencing:

According to research done by Infocomm, the fastest growing segment of the large flat panel display market is collaboration and conferencing. One of the most significant issues for the adoption of video conferencing is the return on investment for the end users. With increased bandwidth and improved displays, adding interactive touch overlays to the system completes the ROI equation and truly provides an alternative to a face-to-face meeting. Using the same functionality as the whiteboards, a touch overlay can offer on-screen functionality and annotation capabilities that can be shared remotely, allowing better comprehension of data and improved collaboration for more effective real time communication.

Digital Signage Interactivity:

Sometimes a project for a museum, tradeshow, showroom, corporate environment or retail space calls for a basic DVD player and large format display. By employing an interactive touch overlay one can increase value for in-store or in-project promotional advertisements while putting a wealth of information at the user's fingertips. Since no PC is required to control content or to operate display, there is no risk of computer/internet viruses corrupting data or disturbing the display. Updating of the interactive display content is also simplified as it only requires a new DVD disk to be inserted into the player.

Broadcasting and Narrowcasting:

Companies such as Telestrator and PointMaker offer a professional broadcast video marker which allows technicians or on-screen talent to draw and point over prerecorded or live images during broadcast or post-production. Instead of using a tablet or desktop touch screen, a large format display combined with an overlay allows on-screen talent to direct viewers to important information and content while presenting information in a more intuitive manner.

Network Operation Centers and Homeland Security:

Network Operations Centers and Homeland Security have taken on the enormous task of unifying and analyzing information from the large network of organizations and institutions regionally, nationally, and internationally. For example, defense and intelligence communities use high-resolution GIS data to provide a complete situational overview when evaluating options for tactical operations. A common problem when dealing with huge amounts of data is the inability to see the overall picture. Conventional displays are too small and limit the number of individuals that can access the data. This becomes a large problem when accurate group decisions are required.

Touch enabled large flat panel displays allows defense and intelligence communities, as well as those involved in traditional network operations centers, to increase group comprehension and help decision making through better visualization and data management. An interactive touch overlay on a large flat panel display enhances and improves the collaboration necessary to make timely decisions at a moment's notice.

Retrofits:

What's also interesting is the potential to retrofit existing plasma and large LCD installations. Think of these overlays as an after market peripheral-- a mouse for your finger. Since these overlays simply strap on, and rarely interfere with common mounting hardware, they can be easily installed by the end user or system integrator without opening the enclosure or voiding the display warranty. By adding an overlay, the once inactive unit becomes a completely interactive tool with invaluable increased potential for clients and end-users alike.

Because touch screens were originally designed for displays smaller than 15", most are not well suited for very large format applications. One manufacturer who has recognized the potential of the large format interactive display and developed a touch technology with big displays specifically in mind, is NextWindow. Unlike most of the rest of the industry, NextWindow's proprietary optical technology was designed for large displays, thus it scales easily from 26" to very large display formats including even wall-sized displays.

No interactive touch screen or overlay for flat panel display offers the value, or is as advanced as the new Electrograph PDS EZTouch overlays powered by NextWindow. Let's examine what EZTouch is and what it offers in the way of solutions for the end user.

The Electrograph PDS EZTouch overlay framework attaches (literally plug and play!) to any manufacturer's LCD or plasma display from 32" to 65". Within a few minutes, you can convert a standard display to an interactive touch screen with full mouse functionality and full digital whiteboard capabilities. Combine this with very intuitive interactive software, and you can create a high-impact, interactive touch enabled display for a multitude of purposes -- making it ideal for corporate and educational applications as well as network operations centers, broadcasting, digital signage, and entertainment venues.

The Electrograph PDS EZTouch overlay, utilizing a NextWindow optical sensor, comes in various sizes to fit around the bezel of most standard LCD or plasma displays. The overlay uses a patented, high-speed, optical sensor system embedded along the inside border of the frame. Designed for easy operation and installation, the overlay needs only a one-time calibration and communicates with the host computer via an HID compliant USB connection with no moving parts.

The touch screen device maintains the display's low-profile appearance by increasing the dimensions less than an inch on each side making it ideal for permanent installations, and only adds approximately 20 pounds of weight. Unlike other systems, the device does not cause image degradation, and since the PDS EZTouch overlay has no coatings, it leaves the users with a bright, clear on-screen image. The PDS EZTouch overlay provides an intuitive interface and the tempered glass overlay protects the front surface of the display against damage and abuse.

The PDS EZTouch is ideal for an assortment of presentation and display applications and comes pre-packaged with annotation software, but it can be used with most any other annotation program readily available in the market. In fact, since there are no proprietary drivers to install, you are assured of compatibility with most any software application using a standard mouse interface. The overlay provides full mouse functionality (including right mouse clicks) without the need for a dedicated pen – you need only touch the display to control any computer application.

Installation is a cinch – literally! You simply place the frame over the front of the display and *cinch* the adjustable straps around the back of the display. Next you plug in the 12 volt power supply and connect the standard USB cable to the computer. The HID compliant USB interface will be automatically detected by the operating system (Windows, Mac or Linux) and begin to download the necessary drivers for configuration. All that is left is a one-time, four-point calibration which takes approximately one minute and entails simply touching the cursor in four quadrants of the screen.

The PDS EZTouch can also be used as a control interface for compatible DVD players (Pioneer DVD V7400 and V5000). It uses a standard serial cable to connect between the DVD player and touch screen thus eliminating the need for a PC. In addition to a Pioneer protocol, the overlay has several other user selectable industry standard protocols, such as MicroTouch emulation to interface with a host of other devices.

Summary

Interactivity has become a true communication device in retail applications, corporations, educational environments, network operations centers and even houses of worship. In this regard, we are moving at a very fast pace, from acceptance to expectation of, interactivity in our personal and business lives. From this perspective we can see that interactivity is truly the next wave of the digital communication revolution, but to some it may still appear “out there” in the future. The truth is that it is not “out there” at all but is in fact, right here and right now for a host of applications.

In the commercial audio visual industry there is a choice. The participants in the industry can choose to wait until interactive digital display communication becomes a commodity or they can ride the wave of innovation and take the leadership position in developing the solutions that we represent to our clients. All it takes is a little time and understanding about what is real and what is not yet ready for prime time.

The problem we face is one of commoditization and product parity. The issue then becomes one of differentiating ourselves from the trend toward flat panel displays as commodities. The question becomes how to create a value added proposition. In other words, we have to add value to a commodity in order to sustain the business and provide the services that our clients have come to expect.

If you are getting the idea that the Electrograph EZTouch is an impressive product to consider in light of what has been said, then you have heard the message loud and clear. The issue at hand is to understand the product in light of the solutions it provides for a myriad of applications. Whether it is interactivity and collaboration in corporate, education, retail, or some other as yet undiscovered application, the time has come to think outside of the box and let the end users in the market experience the value added thinking that is represented by Electrograph's EZTouch powered by Next Window. Remember that a display is a commodity but a display with EZTouch is a valuable interactive tool.