

Outdoor Placement Brings Excitement and New Opportunities to Digital Signage

The IBASE IDOOH-210-IR Outdoor Panel PC Can Deliver Your Targeted Messages Flawlessly Out-of-Doors 24-Hours a Day, Even in Harsh Weather Conditions

Digital signs of all different sizes and shapes are appearing everywhere. In January 2014, BUNN research estimated that 18 million digital displays are now operational in North America alone, serving everyone from shoppers to travelers to students. Worldwide revenue exceeds \$13 billion annually, according to IHS iSuppli, and should exceed \$17 billion by 2017. Now, as Digital Out Of Home (DOOH) technology continues to improve, excitement is building for a new type of digital signage that will attract larger audiences and serve new purposes. Digital signage is moving outside, and DOOH is quickly becoming DOOD – Digital Out Of Doors.

Gaining the Advantage with Digital Signage

As large flat screen TVs and smartphones exploded in popularity, retailers quickly realized that traditional print ads, catalogs, and signs were no longer attracting much attention – and also took too much time to plan, print, and place. At first web-based commerce provided a quick solution, allowing easy ordering and a far faster response to customer needs and desires. But human beings by nature love to roam freely on city streets and in shopping malls. They also need to travel through airports and train stations. Yes, they can carry tablets and stare at smartphones, but nothing is more convenient and seductive than visually exciting digital signage that also satisfies immediate needs, such as providing information about shops, schedules, and nearby services.

So savvy clothing retailers, for example, won't advertise solely in "hard copy" these days or hedge their bets on websites and online ads. A well-planned digital signage campaign with sophisticated analytics can be far more on trend with targeted messages swapped in dynamically. Seductive graphics and compelling text can be created easily – and even revised on the fly for flash sales of overstock or unexpected product availability – and will be seen by more eyes more quickly in public places, enticing buyers into stores or onto websites via their smartphones. The right message at the right time has the best chance of increasing sales to record levels.

Going Outdoors – The More Factor

Until recently, digital signage had to be coddled. It could only work reliably inside a mall or an airport lounge or a theater lobby – that is, in an enclosed space where it was protected from the elements. The building had to be not too hot and not too cold, not too humid and not too dusty – in a word, climate-controlled.

No longer. Innovative technologies, such as those from IBASE and Intel, allow signage and panels to work flawlessly out-of-doors regardless of weather or time of day. And many more customers and prospects can see such displays or use them via touch to order up specific information – or lunch. Let's look at a few examples.

On a Busy Street

With the right placement outside a popular park or theater or near a busy intersection, many more people will see a sign per minute than would in, for example, an enclosed mall or an airport. If you are a retailer or a restaurant owner located in the area, you can tempt people to come over to browse or have a meal. You can even place a digital sign with striking visuals directly outside your

store or restaurant to entice shoppers to walk in for a special sale or for a quick coffee and a snack or a meal.

If you are a restaurant that is open for breakfast, lunch, and dinner, you can catch prospective diners' eyes with mouth-watering pictures of various food items all day long, as appropriate to the time of day. In a busy city, your sign will be noticed by passersby seven days a week, 24 hours a day, 365 days a year. And the motion and change possible with digital signage seduces even more strongly, as do limited-time special promotions and deals.

Commuter's Friend

Indoor digital displays are often placed where people have to wait – for medical appointments, car repairs, or inside airports. But how often do most people wait to see a doctor, get their car's brakes checked, or catch a flight to grandma's?

Outdoor displays, on the other hand, can become daily companions for people who have to wait in outdoor bus shelters or on railway platforms, in all kinds of weather. Such displays can also be targeted by time of day or day of the week. You can invite them to treat themselves to a special lunch or drop in for a "happy hour" drink after work. Help them dream about what to do this weekend or on their next vacation — at your new luxury hotel or exotic resort, of course.

Another strategy is to display a sales message, but also provide real-time updates of news, weather, financial markets, sports, or entertainment, depending on what is most relevant to the target audience. An entrepreneur can also sell time to many different prospects, and with the right enticements, make a deal with the local government or transit authority to provide bus or train schedules or even notices about delays, depending on the sophistication of network connections.

With the right mix of messages, commuters will look forward to their digital friend without realizing that you know they are a captive audience, waiting to be enticed and entertained. And since you often have their attention for a longer period of time than digital signs normally command, they are more likely to feel a connection and remember your on-target messages once the bus or train finally pulls in. Touch screens that allow interaction, whether selecting a topic, asking for more information, or even buying tickets can engage and entertain further.

Food "Faster"

Outdoor digital signage technology can also enhance the experience of hungry customers at a drive-in restaurant with a series of screens.

People eat first with their eyes, so one or more signs along the wait line with enticing food art appropriate to the time of day and season can provide an irresistible temptation to try a new beverage or add more food items. When they reach the ordering station, touch screens let customers quickly browse by category – or take the express route and chose a complete meal at a special price.

If customers have to wait for their order, you can provide some humor or entertainment or even mini-cartoons. Professionals call this "wait warping," since they've found that people who are waiting to be served perceive their wait time as less of a burden if they have something interesting to look at.

Rich Possibilities Demand Flawless Execution

To take full advantage of the rich promotional and service possibilities of outdoor digital signage, technology created by developers with a proven record of success is an absolute essential. Two such successful developers with deep experience and success in the field are IBASE and Intel. Both companies understand how to meet the rigorous demands of 24-hour availability in harsh conditions, and both have already deployed such technology successfully in similar applications. Their latest “smart” products ready to meet the challenges of the 24-hour outdoor digital signage and kiosk marketplace are the IBASE IDOOH-210-IR Outdoor Panel PC and the Intel® Atom™ processor E3845 QC.

IBASE IDOOH-210-IR Outdoor Panel PC: Up for All Outdoor Signage Conditions

In its new Outdoor Panel PC (IDOOH-210-IR), IBASE combines the tried-and-true technical expertise it has gained from two of its very successful and award-winning product lines — Digital Signage Players and Industrial Panel PCs. IBASE has in-depth experience in creating “industrial-strength” products that deliver rock-solid reliable performance even when in constant use day and night under harsh and changing conditions — in indoor digital signage, of course, but also in busy, noisy, dusty factory deployments. The innovative design of the IDOOH-210-IR makes it an excellent choice for outdoor digital signage and kiosks because it is manufactured, like all IBASE products, to stringent quality standards with high reliability in mind.



The IDOOH-210-IR is designed and tested to work flawlessly around the clock in punishing temperature extremes from -40°C/F up to +50°C (+122°F), conditions outdoor digital displays and kiosks are unlikely to experience but for which the IDOOH-210-IR is ready. The panel PC can display ads or information, take orders via touch screen at drive-thru kiosks, or as part of an interface, issue tickets or deliver snacks and many other items appropriate for outdoor vending. Its International Protection

standard IP65 enclosure ensures it is both dust-tight and water resistant. The unit is also designed to serve customers tirelessly 24-hours a day, even in direct sunlight in hot climates and on very cold dark nights.

Here are some highlights from the IDOOH-210-IR's many important features:

Readable in Sunlight and at Night

Its 21.5-inch LCD display panel delivers the right screen brightness for good image quality in bright sunlight during the day, while at night an inverter creates a wider dimming range that dynamically adjusts luminance, making the screen easily readable around the clock. The display is also specially insulated to protect against aging and UV rays. Even though infrared energy is reduced by about 70% and UV to less than 1%, 70% of visible light can still pass through for excellent viewing.

Maintains Constant Thermal Control

Based on unique IBASE-patented thermal separation and isolation technology, an airflow-control device is integrated into the system to calculate both the airflow speed needed at various temperatures and the correct isolation air space setting. The result is maximum thermal

dissipation that successfully tames any source of heat and cools down the system temperature effectively as needed.

Handles Very Low Temperature Efficiently

If the system temperature drops below its lowest temperature setting, the IDOOH-210-IR will automatically run a specially designed control mechanism until the temperature is at an acceptable setting. The system is constantly monitored, ready to turn on the temperature control mechanism again and raise the internal temperature whenever the low temperature threshold is crossed.

Adjusts for Various Lighting Conditions to Save Energy

The IDOOH-210-IR is equipped with a light sensor that adjusts LCD brightness automatically depending on environmental conditions, which saves energy and improves readability. The IR touch screen can be activated with nearly any object, and because the glass does not need to be patterned, the touch screen is especially durable and clear in all lighting conditions.

Ready for Video Analytics

The IDOOH-210-IR includes webcam functionality that can enable Anonymous Video Analytics (AVA), a technology that uses embedded camera sensors and a program for analyzing mathematical algorithms to detect any person who turns towards a digital display. The AVA program consults a database of pixel patterns to determine age and gender while sensing whether or not a viewer moves closer to the display, and how long each watches. Targeted messages can be changed dynamically and statistics recorded about viewer behavior and message effectiveness.

Intel® Atom™ Processor E3845 QC: System on a Chip Designed for Rugged Use

Along with bringing its specialized expertise to the IDOOH-210-IR, IBASE sought out the best “System on a Chip” (SoC) available to ensure it would have the computing power needed to fulfill its mission as a leading digital outdoor offering. Because of Intel’s long track record of success and its own solid working relationship with Intel engineers, IBASE chose the small but mighty Intel® Atom™ processor E3845 QC to power its new digital panel PC.

Although developed independently, the design goals of IBASE and Intel were very similar:

Exceptional Reliability — absolutely critical when driving interconnected and interdependent intelligent systems such as digital displays and kiosk installations

Superb Visuals — a system that must always show an enticing and sharp face to the world must have the intense processing power critical for highly readable graphics display

High Performance with Low Power Consumption — 24-hour flawless activity with careful internal thermal monitoring and AVA requires a compute-intensive processor

Solid Security — installations designed to run outside in public spaces dispensing information and enabling commercial transactions remotely require robust system protection and data encryption

Based on these common design goals, Intel is able to bring specific technical advantages to the IBASE IDOOH-210-IR:

- Error-correcting code (ECC), fan-less design, and industrial-strength temperature range support provide added protection against soft errors and extreme environmental conditions.
- Gen 7 Intel® Graphics Technology brings state-of-the-art graphics power and 80 percent higher decode performance than previous SoC generations.
- Quad-core processing, out-of-order instruction execution, and other micro architecture enhancements significantly increase performance: up to double per core and four times per CPU compared to earlier processor generations.
- Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI) and Secure Boot use hardware-assisted capabilities to encrypt/decrypt data and allow only trusted software to run on a device.

IBASE was also impressed that a highly integrated, one-chip solution like the Intel Atom processor E3845 QC would save on hardware costs and reduce complexity while allowing for a smaller form factor solution because its power is concentrated on a single chip instead of requiring two chips to do the same amount of work as in previous processor generations. Intel's advancements in visual processing capabilities also enable faster media conversions and enhanced HD video transcoding. In addition, Intel® Virtualization Technology (Intel® VT-x) provides near-native performance of virtualized workloads for greater reliability, security, investment protection, and flexible resource management.

The Intel Atom processor E3845 QC also integrates a wide range of I/O interfaces on a single chip, including memory (4GB DDR3L), display (DisplayPort, HDMI, and VGA), storage, and high-speed I/O (PCI Express Gen 2.0 and USB 2.0/3.0).

Ideal for Eye-Popping, Show-Stopping Intelligent Retail

As today's arena continues to grow more media savvy with multiple devices and retail outlets competing ferociously for the public's attention, intelligent outdoor digital signage and enhanced kiosk service can deliver the kind of novel experience and uniquely convenient service that grabs the attention of the most jaded, harried — and hungriest — prospective customers.

The combination of the IBASE IDOOH-210-IR and the Intel Atom processor E3845 QC is ideal for delivering the high level of user experience that retail success now demands. Together these advanced technologies bring:

- Captivating visuals that are vital for attracting attention
- Video analytics that reveal who views a message and for how long
- Secure, fast transactions that satisfy demand even at peak selling times
- An ability to work flawlessly in even the harshest outdoor conditions

No matter the place or the time, the combined technologies of IBASE and Intel enable the fast delivery of effective, targeted messages while satisfying customer demand quickly and efficiently, which wins the gratitude and loyalty of new and repeat customers alike.

Contact Us Now about the IBASE IDOOH-210-IR Outdoor Panel PC

IBASE representatives are located worldwide, and are always ready to answer your questions and provide the information you need to build or upgrade your digital signage system. For more information, please visit www.ibase.com.tw or contact us at sales@ibase.com.tw.

About IBASE Technology Inc.

Focused on the design and manufacture of state-of-the-art embedded systems and boards, IBASE Technology Inc. (IBASE) has become a leader in the digital signage field by providing innovative products that combine maximum reliability, minimal footprint, and very low Total Cost of Ownership (TCO). By incorporating Intel's latest chipset technology and dedicated high-speed memory, IBASE can support cutting-edge features such as Full HD and multiple displays. IBASE also includes special features such as iSMART technology for energy efficiency and uniquely-designed integral mounting brackets for trouble-free installation.

IBASE is an Associate member of the Intel® Internet of Things Solutions Alliance, a global ecosystem of 250-plus member companies that provide scalable, interoperable solutions that accelerate deployment of intelligent devices and end-to-end analytics. Learn more at intel.com/IoTSolutionsAlliance.

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