Outdoor Signage Helps Drive LCD Market

LCD displays are increasingly being used for outdoor applications.

Developments in signage players are helping deployers manage environmental issues.

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Digital display technology advances on nearly a daily basis, but the tried-and-true liquid crystal display still rules the roost. LCD displays are compact, thin and light. They're more energy efficient than other types of display technology. They generate relatively little heat. They're dependable. And most important of all, they're inexpensive. Nearly every business can benefit from incorporating a digital signage network into its marketing strategy.

Estimates vary, but one study predicts the global LCD market will top $1.42 trillion by 2029, a whopping 32.6% compound annual growth rate from $148.6 billion in 2021. And while LCD displays are in widespread use for indoor applications, they're just beginning to see significant adoption for outdoor use.

These are just a few of the applications where LCD displays are dominating outdoors.

Outdoor menu boards – LCD displays are already in widespread use inside quick-service restaurants. During the COVID-19 pandemic, though, many restaurants switched to drive-thru only. Although restaurants have since begun to reopen their dining rooms, many continue to depend on the drive-thru for the bulk of their business. Along with looking cleaner and brighter than printed signage, LCD displays at the drive-thru make for easy dayparting of menus and the addition of quick "manager's specials" that allow operators to work down excess inventory. Additionally, restaurants can quickly remove out-of-stock or complicated-to-prepare items from the drive-thru menu board to help speed up service.

Outdoor advertising boards – LCD displays are increasingly being used for outdoor advertising in venues including outdoor markets, open-air shopping centers, sidewalk cafes, "pop-up stores" and more. They're also being used as wayfinding and directional signage on college campuses, large medical facilities, or any other complex where visitors might walk between buildings. The option to incorporate full-motion video makes LCDs much more eye-catching and engaging than traditional printed signage.

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Outdoor bus timetable boards – Those who depend on public transportation to get to their destination know the frustration of sitting at the bus stop and not knowing when the next bus will arrive. That frustration can be eliminated with the use of timetable boards placed at the bus shelter. Buses can be outfitted with transponders that communicate with a digital signage network to inform commuters of the arrival time of the next bus, improving the rider experience. Additionally, the information gleaned from the network can aid transportation officials in planning bus schedules. The same concept can be applied to subway lines, train stations and airports.

Overcoming environmental challenges

Of course, placing digital signage outdoors involves a host of concerns that don't come into play with indoor signage. Outdoor displays need to be protected from the effects of moisture as well as extremes in temperature. To be effective, outdoor displays need to be able to perform just as well in Sioux Falls, S.D., where the temperature regularly falls to 10° F (-12°C), as they do in Reno, Nev., where summertime temperatures often reach 88°F (54°C). Additionally, they need to operate flawlessly in high-humidity areas such as New Orleans or Miami, Fla.

When it comes to displays, environmental concerns are typically addressed via the use of an enclosure that seals out moisture. Additionally, such enclosures include fans or heating elements, depending on location, to protect the displays against extremes in temperature.

Just as important to the network, though, is the signage player that's providing content to the display. To maintain the network at peak performance, those players also need to be able to withstand the effects of moisture and extremes in temperature.

To help address those requirements, IBASE Technology recently introduced its SE-103-N 4K digital signage slayer, the latest in the company's line of digital signage players designed for outdoor use.

The SE-103-N is an ultra-slim fanless, noiseless and waterproof player system measuring just 25 mm thick for space-saving mounting. The player is currently available with a selection of four processors, including Intel Celeron N6210/J6413 and Atom x6425E/x6211E(wide-temp). All units run on both Windows 10 IoT Enterprise and Linux Ubuntu operating systems.

The SE-103-N supports extended operating temperatures of -4°F (-20°C) to +158°F (+70°C) and meets extreme system reliability requirements, making it perfect for use in a wide range of harsh outdoor environments.

Deployers can connect up to three 4K displays via HDMI 2.0b connections, with HDMI-CEC Remote Control enabling users to turn displays off and on remotely via the HDMI connection. The player features built-in hardware

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EDID (extended display identification data) simulation to prevent screen convergence problems and issues due to cable disconnection or failure to identify EDID.

The SE-103-N also comes with IBASE's unique iSMART intelligent energy-saving and Observer monitoring technologies that feature automatic power on/off scheduling, automatic power recovery, low-temperature boot protection and hardware monitoring. Standard features include two DDR4-3200 slots with a maximum 32GB capacity, one 2.5GbE LAN, one M.2 E-Key for Wi-Fi, Bluetooth modules or capture cards, one M.2 B-key (3052) for 5G/LTE modules, one UIM/SIM card slot and three USB ports.

Changing times in commerce

The past few years have brought significant changes to all types of businesses, with the retail and restaurant industries among the most affected.

In the restaurant industry, more and more people are picking up their meals via the drive-thru. At the end of 25020, for example, the drive-thru accounted for 44% of off-premise orders across the entire restaurant industry, according to the NPD Group. The retail industry has seen similar changes, with open-air retail centers replacing the enclosed mall as a shopping destination. Research conducted by commercial real estate service firm JLL has shown that open-air malls drew rents nearly 50% higher than rents in traditional regional malls in 2021.

And with gas prices at near-record levels, it's a good bet that public transit will see increased ridership.

All of those trends indicate continued growth for outdoor LCD displays as well as an increased need for digital signage players that can handle the elements. The SE-103-N is purpose-built for outdoor applications, providing an eye-catching experience that helps improve the customer experience, increase foot traffic and ultimately leads to higher revenue.

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SE-103-N Digital Signage Player

Designed specifically for outdoor applications:

- iSMART intelligent energy-saving & Observer remote monitoring technologies
- Intel® Atom® x6000 / Pentium® / Celeron® Processors
- 3x HDMI 2.0b with HDMI-CEC display on/off control function
- Built-in hardware EDID emulation with S/W control function
- 2x DDR4-3200 SO-DIMM, Dual channel, Max. 32GB

- 1x Intel® 2.5GbE LAN
- 1x M.2 B-Key (3052) for 5G options
- 1x M.2 E-Key (2230) for Wi-Fi, Bluetooth or capture card options
- TPM 2.0 and watchdog timer
- Industrial-grade robust, fanless and compact design
- Wide-range operating temperature from -20°C to 70°C

Source: iBASE Technology

ABOUT THE SPONSOR:

IBASE Technology (TPEx: 8050) specializes in the design and manufacture of robust industrial PC products, delivering high-quality products and excellent service since its establishment in 2000. We carry out manufacturing and quality control at our own facilities in Taiwan that are ISO 9001, ISO 13485, and ISO 14001 certified. IBASE supply a comprehensive range of digital signage media player products designed for single and multiple large displays that are ideal for a variety of applications and venues such as restaurants, retail stores, banks, airports and shopping malls to convey dynamic information and targeted promotions. We offer the highest quality entry, mid-range to extreme performance UHD/4K/8K digital signage players to enhance the customer experience. For more information, please visit www.ibase.com.tw.

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