



WHITE PAPER



# Digital Signage in Harsh Environments

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By Richard Slawsky | Contributing writer, Digital Signage Today

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As digital signage becomes more and more a part of our daily lives, the uses continue to expand. More and more digital displays are being located outdoors, for example, or in other environments where the temperature and humidity can't be controlled.

Predictions made on the industry news website DigitalSignageToday.com in January 2018 forecasted a dramatic growth in outdoor digital signage over the course of the year. And by all accounts, that growth is expected to continue through 2019 and beyond, driven by the deployment of digital signage in transportation hubs, open-air shopping centers, streetside kiosks and more.

But unlike indoor signage, outdoor digital signage networks need to be able to function flawlessly in locations ranging from Las Vegas, where the temperature can top 115 degrees Fahrenheit (46 degrees Celsius), to Fargo, North Dakota, where the thermometer can plummet to as low as minus 20 degrees Fahrenheit (minus 28 degrees Celsius). In addition, that equipment needs to be able to handle the excessive moisture in Forks, Washington, where it rains nearly 120 inches per year.



To sum it up, deployers need equipment that can operate flawlessly no matter what the conditions may be. And manufacturers are stepping up to the task, developing new technologies that can handle all types of weather.

### **Working with Mother Nature**

Some companies, for example, are building waterproof screen enclosures that incorporate heaters or cooling fans. Others are building high-brightness displays that can be viewed even in direct sunlight.

Media players that can handle harsh weather conditions are appearing on the market as well. Technology company IBASE recently introduced its SW-101-N digital signage player to meet the need for all-weather equipment. One of the main features of the SW-101-N is that it's waterproof. In addition, it's designed to function flawlessly in temperatures ranging from minus 40 degrees Fahrenheit to 167 degrees Fahrenheit (minus 40 degrees Celsius to 75 degrees Celsius).

The rugged fanless signage player is integrated with a 1.91GHz Intel® Atom™ Processor E3845 Quad-Core Processor and Intel® HD graphics (Gen 7-LP) 4EU.

The SW-101-N is built to withstand all sorts of environmental challenges, ensuring stable operation and reliability in harsh industrial settings. The black-color waterproof enclosure utilizes a C3 HDMI connector and M12 I/O interface connectors for two USB 2.0, one Gigabit LAN, one RS232, DC power input, and digital I/O. Two antenna N jack type connectors incorporate a waterproof design as well.

The SW-101-N also supports IBASE's proprietary iCONTROL and Observer technologies for intelligent energy-saving and remote monitoring functions, with auto power on/off scheduling, power resume, system temperature/voltage remote monitoring and low temperature boot protection. The standard model has 4GB of DDR3L-1333 system memory, 64GB mSATA storage, and 12V DC-in support. Additional features include a watchdog timer, wall mounting and Mini PCIe expansion for optional wireless modules.

And one of the player's most impressive features is the fact that it meets IP68 standards. The IP Code (or International Protection Rating) classifies the degrees of protection provided against dust, accidental contact and water in electrical enclosures. An IP 68 rating indicates the SW-101-N can handle submersion in water for up to 30 minutes at a depth of 1.5 meters and is completely sealed from dust, making it the perfect solution for situations where the player might be exposed to rain or dirt, such as a factory, a streetside display, bus stop signage or even a display mounted on the top of a taxicab.

## **Opening new opportunities**

The effectiveness of digital signage as a messaging tool has been acknowledged for as long as the technology has been in existence.

A 2010 study by Arbitron found that 70 percent of Americans had seen a digital video display in the previous month, and chances are that figure is much higher today. Other studies have indicated that 80 percent of shoppers say they've entered a store because a digital sign caught their interest.

But as digital signage becomes increasingly prevalent and the competition among deployers for consumer eyeballs continues to heat up, the great outdoors is the next opportunity for companies to spread their message.

And with the SW-101-N, digital signage deployers can extend their messaging to nearly any environment.



## SW-101-N specifications

- iCONTROL intelligent energy-saving & Observer hardware remote monitoring technologies.
- Intel® Atom™ Processor E3845 Quad Core CPU.
- 1x DDR3L 1333 SO-DIMM w/o ECC, Max 8GB.
- Intel® Processor integrated graphics device, supports 1x HDMI port (C3 connector).
- 2x USB 2.0, 1x RS232, 1x Digital I/O (M12 connector).
- 1x Mini PCI-E for 3G/ LTE or WiFi module, 1x mSATA for storage.
- -40°C ~ 75°C wide-range operating temperature.
- Waterproof fanless design with IP68 rating.



### About the sponsor:

*IBASE Technology specializes in the design and manufacturing of robust industrial PC products, delivering high quality products and excellent service since its establishment in 2000. IBASE carries out manufacturing and quality control at its own facilities in Taiwan that are certified with ISO 9001, ISO 13485 and ISO 14001 standards. Current product offerings comprise of x86- and RISC-based industrial motherboards, embedded systems, panel PCs, digital signage players and network appliances for applications in the automation, retail, transportation, gaming, healthcare and smart factory sectors.*

*IBASE is an Associate member of the Intel® Internet of Things Solutions Alliance. From modular components to market-ready systems, Intel and the 250+ global member companies of the Intel® Internet of Things Solutions Alliance provide scalable, interoperable solutions that accelerate deployment of intelligent devices and end-to-end analytics. Close collaboration with Intel and each other enables Alliance members to innovate with the latest technologies, helping developers deliver first-in-market solutions.*