

Getting Started with Large Format Displays

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Benefits and Usage

Large format displays, or digital signage, gives you the power to communicate more effectively with dynamic, engaging messaging. Also known as Digital-Out-Of-Home (DOOH) advertising, digital signage solutions may range from the very basic to the incredibly sophisticated. The number of displays and complexity of configuration are limited only by your imagination and budget.

Digital signage typically performs one or more of the following functions:

Advertise – This is what comes to mind when thinking of digital signage. Just like their print counterparts, a digital sign can be used to advertise products or services offered by the business which has installed the sign. Perhaps even more compelling is the opportunity to sell ad space to third-party advertisers. A company with an extensive network of digital signage in high-profile, high-traffic locations can generate an attractive and steady revenue stream from advertisers, while still using the signage to communicate its own messaging.

Educate – Educating customers crosses the line between advertising and informing. A digital menu board is a great example. The main purpose is to educate viewers about menu items, including prices and details such as product descriptions, ingredients or calorie count. The same menu board can also highlight daily specials and promotional offers, an “educational” effort which is ultimately designed to sell more products.

Inform - The digital signs posted at airports and train stations are prime examples of how digital signage is used to provide valuable information, such as timetables and route maps, to an audience. Universities use campus-wide digital displays to communicate important information such as upcoming events or emergency notifications. Interactive digital signage opens up the opportunity for an audience to “drill down” into deeper levels of messaging to learn more about items of interest.

Entertain – In some environments, this may be the primary purpose of digital signage, but in most cases it will be a secondary concern. Nonetheless, digital signage content should entertain the audience at least enough to keep their attention. This could include a live TV feed or short video clips, side-by-side with company messaging and other digital content. In locations where your audience will be exposed to the signage for long periods of time, such as in a waiting room, longer-form entertaining content may be ideal.

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There can be plenty of crossover among the just explained four categories, and they are by no means mutually exclusive. If the distinctions seem blurred, that is precisely because digital signage technology allows for multi-purpose messaging. Trying to keep digital signage content strictly within one category may prove counterproductive. A signage strategy that covers all four categories takes full advantage of the medium's capabilities.

Intelligent, informative and entertaining messaging can be achieved, to one extent or another, with conventional printed signage. However, there are several benefits to going digital.

- **Cost** – If you are looking at the cost of installing a large-scale digital signage network, you may rightly wonder how this investment will save money. Assess how much money is spent producing printed signage, year after year. With digital signage, updating your message is just as easy as pushing out new content to your network. Replacing expensive printed signage with digital signage makes it easy to update content as needed, saving money in the long run. Digital signage displays are designed for continuous operation in demanding environments, so they will last long enough to recoup the investment many times over, not to mention keeping hundreds of pounds of paper out of landfills.
- **Flexibility** – With digital signage, you can update your messaging and content virtually instantaneously. Price change? Hot item out of stock? New regulations requiring additional information on the menu? Digital signage empowers businesses to deliver up-to-the-minute communications. The digital medium offers new flexibility for crafting your company messages, with video, live TV, real-time data feeds (weather, news, stock price) and more.
- **Targeted Messaging** – Digital signage gives you complete control over what content is displayed where and when. This offers enormous flexibility for delivering highly targeted messages. A restaurant, for example, may use digital signage to automatically rotate between breakfast, lunch and dinner menus. In retail environments, the digital signage content may vary by time of day based on the typical demographics of customers that are more likely to shop in the morning, afternoon or evening. This type of scheduling is

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known as “dayparting.” Targeted messaging may also take into account the locations of the signs and the traffic flow at each location throughout the day. For example, a mall may deliver different content to signs placed near the food court, movie theater and department stores.

- **Engaged Customers** – Customer attraction and retention rates jump almost instantaneously in response to dynamic digital media. Casinos have experienced a significant uptick in sales at the game tables when digital signs are installed. In retail environments, it is reported that digital media both drives traffic and increases revenues. The ability to provide relevant messaging, entertaining content and highly engaging multimedia makes digital signage compelling to the customer.
- **The WOW Factor** – In the past, digital signage was the domain of high-end luxury brands and big-dollar venues. Today’s digital signage is more accessible than ever for businesses of all sizes and budgets. Digital signage is modern, high-tech and “cool.” Even a modest digital signage installation – for example, a single small-screen display atop a retail counter – can increase the positive perception of a business and deliver an uptick in sales.
- **Eco-Friendly** – While digital signage does consume energy, it may be considered a “green” alternative to printed messaging. Digital signage can convey a virtually infinite amount of unique messages, something that could never be done reasonably with print. Digital signage offers the ability to deliver countless messages without ever printing a thing. The environmental impact of producing, disposing of, and transporting printed signage makes their digital counterparts a much greener solution. Energy-saving LED backlit technology, currently available with some display products, further reduces the digital signage footprint¹.

The decision to implement digital signage may be an easy one, but it is recommended that businesses put in the appropriate time beforehand planning the deployment. A simple and scalable solution can be rolled out fairly easily in a short amount of time. However, to save yourself headaches down the road, plan to have a well-defined strategy and a vision for the future. Digital signage need not be intimidating. Taking into account a few simple considerations will make life much easier as you determine the best solution for your business.

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The Digital Signage Infrastructure

Screen Sizes and Types

Something as simple as a digital photo frame can be the perfect signage solution for a small shop. On the other hand, digital signage can also encompass billboard-sized displays and multi-screen video walls. In theory, any display can be repurposed as a digital sign. In reality, however, this type of corner cutting will do your business more harm than good. A traditional consumer television makes for a poor digital signage solution, and may well wear out before you can begin to enjoy the benefits of digital media.

The smart choice is to invest in professional-grade commercial displays. These types of displays are ruggedized for 24/7 operation in demanding public environments, engineered with an “always on” usage model in mind. Commercial displays may include some or all of the following advanced features:

- Support for a wide range of content types, including video, still images, HTML web pages, Flash, PowerPoint and more
- Multiple input options to enable a broad variety of content from a number of different sources
- Built-in speakers and audio output for external speakers
- Remote control, networking, programming and scheduling, and screen saver features
- Enhanced brightness and contrast levels for a superior image quality
- Ability to operate in both portrait and landscape modes
- Options for wall mounted and freestanding installations
- Video wall support
- Touch screen interactivity

Let's take a closer look at that last point. For many applications, touch interactivity may seem like an unnecessary luxury. If your signs are mounted far out of reach, paying a premium for touch is not needed. Even in closer quarters, your signage application may not lend itself to interaction.

Touch screen interactivity makes your content exponentially more compelling. Interactive digital signage enables rich usage models such as navigating product catalogs, browsing menus, requesting specific information and even placing orders. In a connected world of web apps and media tablets, your customers will appreciate the intuitive and familiar feel of interactive signage for on-demand information. If it

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keeps your audience more engaged and for a longer period of time, you may find the investment well worthwhile.

Also consider the screen resolution. Most commercial displays for digital signage will give you a true high-definition picture. More important is making sure you have the right content to match your display resolution. If you are setting up a video wall configuration, this can become more complicated. We'll explore these questions further when we discuss content creation.

Location, Location, Location

The old adage about real estate is just as true of digital signage – location is everything. If content is king, then location defines the scope of the realm. Even the most engaging and exciting content will do little good if it is not seen at the right time, in the right place, by the right audience.

Sometimes location is obvious. In a quick service restaurant, the digital menu board will occupy the space previously filled by the old fashioned “analog” menu. Travel schedules and maps in a transportation terminal should be positioned in convenient locations where travelers would expect to find them. Some environments, such as medical facilities, may be subject to regulations governing where displays can be mounted and how far they can protrude from the wall. Make sure to inquire about any such regulations early on in the decision process, so that you can design a solution that is wholly compliant.

Will your signage units be free-standing or wall mounted? If mounting hardware is required, make sure you know exactly what you need. Think carefully about your environment and choose locations that will provide maximum visibility without impeding the traffic flow. This can also impact your content choices. Different locations may draw different types of audiences, which can require different content to get the right message across.

Consider also how long your audience will be exposed to the signage. A few seconds, a couple of minutes, up to an hour? An office lobby display may command longer attention time than a kiosk in a department store. Your digital signage should be well placed for comfortable viewing given the environment. The time your audience will spend watching the display can also affect the content – do you need to capture attention within the span of seconds, or do you need to keep a viewer engaged for several minutes at a time?

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Installation and Wiring

As mentioned, you will need to decide if your digital signage displays will be mounted or freestanding. Most mounted installations are affixed to a wall, but there are also ceiling mounts available – for example, a “quad mount” configuration that holds four different displays, each facing a different cardinal direction. Freestanding units will require a stand, if one is not included with the display. The ViewSonic® ePoster is a good example of an “all-in-one” freestanding digital sign that eliminates some of these concerns. With a built-in media player, the ePoster is a true “plug and play” solution.

For more complicated digital signage installations, you will also need to consider wiring. At the very least, you will need to power your displays while keeping cable unobtrusive. For large-scale networked configurations, you will also need the networking infrastructure to support your digital signage.

Media Players and Networking

A media player is the device that sends media content to your displays. Think of it as a PC without some of the peripherals. The key requirement is that your media player supports the types of content you want to display. With most of the x86-based media players available today, this is not a problem: the most popular photo and video file formats are supported, as well as common office documents and PDFs in many cases. Some newer models even support HTML5 and may include pre-made widgets you can utilize in your signage design.

The media player is most often a separate unit. Some commercial displays include built-in media players, although large installations will often require additional dedicated media players with networking capability. An exciting development in media player design is the new Open Pluggable Specification (OPS) from Intel. OPS is helping to standardize the design of digital signage by specifying requirements for modular, interchangeable media players. This makes it easy to install and set-up a digital signage project, and also enables more flexibility and scalability – if you need a more high-powered or feature-rich media player, just remove the old one and plug in the new.

For individual shops and lobbies with a single screen, you may not need to worry about these items. A small digital display with built-in media player does not need an external media player or network capabilities. Just store your content on a

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removable storage medium or the media player's internal storage. This is a simple and cost-effective solution for small businesses just beginning to explore the world of digital signage.

For expansive multi-screen installations, a networked solution is ideal. A single media player can drive a network of several displays, the same content delivered to each display. For more dynamic messaging, a separate media player for each display is needed. This allows the ability to present unique content on each and every display. Of course, you can also opt for an in-between solution. For example, you may have four displays and two media players, resulting in two unique media feeds, each of which appears on two different displays. This can be an optimum choice if the displays are placed in such a way that only one is visible to the customer at any one time.

If each display has its own dedicated media player, networking is not required. However, networking your digital signage displays opens up many opportunities for scheduling, programming, content management and remote control. Without a network, you will need to manually re-load new content to each media player. When all your media players are networked together, you can control, manage and update your content remotely from a single location.

Depending on bandwidth requirements and number of displays, your existing network infrastructure may suffice. For larger deployments and applications requiring high bandwidth content delivery, you may need to expand your network or install a dedicated network just for your digital signage. Keep an eye towards the future when assessing your network requirements. Digital signage can be easily scalable, but adding new displays will be much easier if you already have the networking in place to support them. If you expect your signage needs to grow, position yourself to accommodate additional displays when the need arises.

Take a Test Drive

While it is important that you maintain the ability to expand your digital signage to keep up with a growing business, it may be wise to start small. A pilot program, prior to full deployment, can help you gauge the feasibility and effectiveness of the digital signage program you envision. A small-scale test run can alert you to problem areas that would be more difficult to address further down the road. Before you invest valuable time and money into creating the perfect content, make sure that

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all technical requirements are met and everything is running smoothly. Your Value Added Reseller (VAR) or Systems Integrator (SI) can help you evaluate your needs and put together the right pieces to build a complete digital signage solution.

Content Creation

In the age of information overload, it is more critical than ever that your content is captivating. Whether you are selling, educating or informing, your content must be engaging and entertaining. Before you decide to implement digital signage, make sure you are prepared to develop content that will make the most of your investment.

Digital signage content can be as simple as a few JPG photos or PowerPoint slides, or it may include complex configurations with dynamic screen regions, real-time information, on-screen widgets, video, animation, interactivity and more. Software tools made for digital signage content creation can give you the ability to import multiple media types and arrange them on screen as desired.

Best practices for developing your content include:

- **Keep It Moving** – Motion is more eye-catching and compelling than still photos. Include animation, video, special effects and other moving images to make the most of your digital signage.
- **Keep It Real** – Real-time data deliver fresh, timely and relevant content. This can include RSS feeds and other data pulled from the web.
- **Size Correctly** – Build to the proper screen resolution and aspect ratio to avoid distorted or blurred images.
- **Have Fun** – Even in the most serious and professional environment, your digital signage will be more effective if it is entertaining and engaging. Develop content that is both informative and fun for your audience to watch, while reinforcing your messaging.

Keeping in mind the above points, you will also want to ask the following questions:

- Will you mirror the same content on all displays or will you have different content for each screen?

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- What resolution is required? For the most part, you will build your content to match the resolution of your display. For video wall configurations, more calculations may be required to determine the proper resolution.
- Is the signage interactive? This requires more design and programming.
- How many regions will be on screen? Digital signage can consist of a single region for displaying full-screen photos or video, or may include multiple independent screen regions. In the latter case, each region can include unique and dynamic content.
- Will the signage include real-time data (such as weather or stock ticker) or a TV feed? In the former case, you'll need Internet connectivity; in the latter, make sure your media player includes a TV tuner.

Unless your content requirements are very simple, or you have extensive in-house design resources, you may want to contract with professional graphic designers or dedicated content creation providers.

Content Management

For the most basic digital signage implementations, your content management needs may require nothing more than replacing files on your media player's built-in or external storage device. For more complex configurations including multiple displays and content streams, you will need a robust management solution. A variety of software tools exist for scheduling and managing your signage network and content. According to one report, there are an estimated 350+ such software packages available².

Depending on the software solution implemented, a wide variety of scheduling and management options may be available. Consider the following:

- **Location** – As discussed above, location is critical when determining the placement of signage. Location can also determine the content. You may deliver the same content to multiple screens throughout your place of business, or you may deliver specific content to each individual display. Alternately, a number of unique content streams may be rotate across multiple screens. Content management software should provide flexibility for any scenarios you may require.
- **Dayparting** – Dayparting refers to delivering targeted messaging according

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to the time of day. A simple example of this would be a restaurant with different menus for breakfast, lunch and dinner. In a retail environment, advertising and entertainment content may vary to suit the types of customers most likely to visit at certain times of day. For example, messaging in the early afternoon may be targeted to stay-at-home moms, while messaging in the evening may be targeted to a teenage audience.

- **Facial Recognition** – This takes audience segmentation to an even greater level of personalization. A camera built in to the signage display, with proper software support, recognizes the gender or other characteristics about an individual standing before the display. This results in messaging content tailored for the individual. The technology for this type of advertising is still evolving and we can expect to see more of this in the near future.
- **Instant Updates** – Content management solutions give you the ability to push out instant updates. This is helpful for keeping your audience up to date. If sale prices, item availability, or special promotions change throughout the day, you are able to update your content “on the fly” to reflect the latest data.
- **Emergency Alerts** – Similar to instant updates, digital signage is used to deliver emergency alerts or other timely notifications. This is often a concern in educational institutions but can also be important in almost any other environment. From inclement weather and earthquakes to terrorist attacks and lone gunmen, digital signage can be an effective way of quickly warning students, employees or customers of imminent danger. In some cases, funding may be available for digital signage installations capable of serving as emergency alert systems.
- **Remote Control** – If you are running a network of multiple displays, your content management software should give you the ability to manage all from a single location. Some solutions are web-based, so users can log-in from any remote PC. The ability to update content and scheduling without having to interact with each individual display makes a networked solution ideal.
- **Monitoring** – You may have the ability to monitor your displays and content streams – for example, to make sure everything is online and playing the

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Conclusion


proper content. Some management systems include analytic data such as continuous hours of runtime, and reports of downtime, crashes or bugs. If your digital signage is interactive, you can obtain information about what your customers are interacting with, so you can learn which types of content are most effective and engaging.

Ask questions and research thoroughly before deciding on the software solutions that will drive your digital signage. Make sure you accurately assess both your current and future needs. A full featured content management system will provide all the tools you need to take full advantage of all that digital signage can do for you.

Conclusion

While there are many factors to consider when launching a digital signage installation, it is not as overwhelming as it may appear. In fact, developing your digital signage strategy can be a great opportunity for creativity and experimentation. Breaking down your plan into manageable pieces will make implementation much easier. Depending on the size of your business and the scope of your ambition, you may opt to include multiple parties in your planning sessions – from IT and marketing staff to third-party solutions providers.

Any business can benefit from digital signage, and there is virtually no limit to what you can do with a digital signage installation. This is an exciting and still relatively new technology which continues to evolve, although the technology is mature enough to offer affordable and reliable solutions today. Forward thinking business people who want to communicate more powerfully and effectively than ever before would do well to consider adopting digital signage as part of their marketing strategy.

ViewSonic Corporation, a 25-year leader in display technology innovation, offers a complete range of digital signage products, including all-in-one ePosters, ruggedized commercial displays, touch screen displays, video walls, content management software and media players. Contact a ViewSonic reseller to find out how your business can benefit from a digital signage installation within any budget. 

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