

FUTURE

DIGITAL SIGNAGE BEST PRACTICES GUIDE 2022



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When it comes to digital signage—and indeed all AV solutions—in 2022, flexibility is the name of the game.

As we know, effective digital signage not only communicates relevant brand or company information to today's viewers, but it leaves the door open for any number of future use cases—suits the changing needs of an organization for years to come. From staying open to using products that were not in your original plans if supply chain issues rear their ugly head; to rolling with unintended delays with a phased installation—in the *Digital Signage Best Practices Guide 2022*, we see flexibility in action across the entire spectrum of digital signage applications.

We will first hear from industry experts for their insights on how to avoid common digital signage pitfalls, partnering with value-added distributors, keeping lines of communication open with your stakeholders, planning for the unplanned, and leveraging familiar display technology in creative ways to attract (and keep) customers.

New to this year's guide, we will then show you three innovative, inspired case studies—courtesy of manufacturers and installation professionals who are upending expectations on what is possible when digital signage is brought into art, education, and larger-than-life retail environments.

And, finally, we look at the cutting-edge digital signage products making waves right now, including mounting systems, extenders, controllers, management platforms, and, of course, the displays themselves.

BEST PRACTICES: ROUNDTABLE OF EXPERTS



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Vince Schuster is the commercial vice president, Professional Displays North America at Philips. Vince's career spans more than 25 years at some of the world's most influential AV/IT organizations, including Panasonic and Planar, specializing in digital signage and visual display technologies. He is an AVIXA-certified technology specialist, digital signage display expert, and is certified by the Imaging Science Foundation.



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DIGITAL SIGNAGE BEST PRACTICES GUIDE

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DIGITAL SIGNAGE TRENDS UP

By Mark J. Pescatore



PHOTO COURTESY OF SONY

In the aftermath of the pandemic, retail is experiencing a resurgence of interest in digital signage, with consumers eager and willing to return to an in-person shopping experience.

According to AVIXA's *Industry Outlook and Trends Analysis (IOTA)*, digital signage is one of the largest solution areas in the Pro AV industry. It is forecast to be valued at \$35 billion in 2022, growing to \$44.7 billion in 2026. Market research company IMARC Group valued the global digital signage market at \$23.5 billion in 2021 and expects the market will reach \$35.4 billion by 2027. Meanwhile, MarketsandMarkets said the global digital signage market, which it estimated at \$16.3 billion in February 2021, will reach \$27.8 billion by 2026.

Numbers can vary, of course, based on how different analysts correlate data. Part of the discrepancy lies in actually defining a digital signage installation. Digital signage is supposed to serve a purpose, which changes based on the particular environment or venue. AVIXA, for example, generally defines digital signage as a public information display, which is different from a purpose-built display found in a classroom or conference room.

But while the estimates may not line up exactly, analysts generally agree that digital signage is a healthy segment of the Pro AV market that will continue to grow over the next several years. "There's so much creativity in this space," said Sean Wargo, senior director of market intelligence for AVIXA, "so it's

hard to project what is the growth opportunity. If we continue to see more creative utilizations of displays—and as raw materials become less expensive, more reliable, and more readily available—the use of digital signage could proliferate even more."



Mark Pescatore is the content director for *Systems Contractor News*

BACK TO BUSINESS

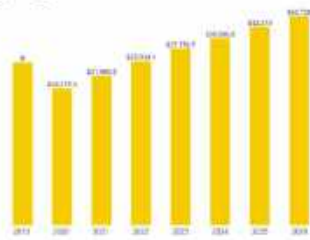
Generally, why is digital signage trending up? According to IMARC, market growth is being driven by increased use in retail, entertainment, hospitality, and other commercial applications. Improvements in display technologies such as LCD/LED flat panels and dvLED displays, as well as increased advertising and promotional spending, are expected to help digital

signage continue to grow.

As summarized by MarketsandMarkets: "The use of digital signage in commercial applications allows businesses to efficiently and effectively reach and interact with their customers, thereby attracting new business opportunities for them by increasing brand awareness among consumers, improving the operating efficiency of businesses, catching the attention of the passersby, promoting new products in the market, and enhancing customer experiences."

Wargo said the digital signage market was impacted by the

Digital Signage Global Revenue



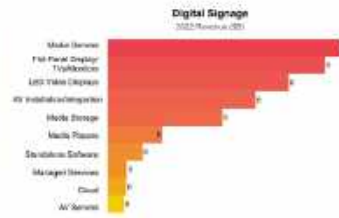
Once again, digital signage starts with back-end systems.

When thinking digital signage, most immediately see it as a display opportunity. While true to some degree, more investment is actually made in the content management hardware to support the display.

Media servers are the leading product category for digital signage—with \$7.4B in revenue in 2022.

The servers play a critical role assisting with content distribution across points of deployment within a facility or virtually.

LED continues to pick up on flat panel as larger installations resume.



Digital signage is one of the largest solution areas in the Pro AV industry—forecasted to be valued at \$35 billion in 2022, and growing to \$44.7 billion in 2026.

Within digital signage, the media servers that facilitate content management are the largest product category in terms of revenue, followed by the digital signage displays themselves.

Covid-19 pandemic. Remember, industries like hospitality were essentially shut down in 2020. With no customers—and no income from those customers—properties were not going to invest in digital signage.

For almost two years, for example, hotels changed their operations to focus on pandemic-based safety protocols. On-prem restaurants were closed or had very restricted offerings, while congregating in common areas was discouraged. With minimal customers, as well as limited opportunities to present them with information, digital signage was far from a priority.



Sean Wargo is the senior director of market intelligence at AVIXA

Now, as hospitality redirects its efforts toward filling more rooms and improving the guest experience, digital signage is moving away from its temporary “good enough” status. That means installing displays in a variety of locations around the facility, from the lobby to the valet stand, as properties increase their digital signage investments in these areas.

Retail is experiencing a similar reemergence. With consumers ready to return to in-person shopping, brick-and-mortar businesses can use digital out-of-home (OOH) advertising and other digital signage solutions to further differentiate from the online shopping experience. There is also a push in quick-serve restaurants (QSRs) to adopt digital menu boards. Benefits include dynamic content updates, such as price and menu adjustments, so locations do not have to change information manually. Plus, with live events returning, the market for temporary or pop-up digital signage deployments is also recovering.

“Certainly consumers are becoming more mobile and have an increased willingness to spend,” explained Wargo. “As they recover, digital signage is also able to recover. It all equals return to growth.”

INDUSTRY CONSIDERATIONS

Although it is growing, digital signage continues to slightly underperform when compared to the Pro AV market as a whole. AVIXA attributes its lower performance to the industry’s continued focus on hybrid collaboration, distance learning, and live streaming.

With regard to digital signage displays, less expensive but more commonplace flat panels accounted for about 55 percent

of revenue. Wargo argued that the growing interest in placing digital signage in so many places is what keeps affordable flat-panel displays so popular as an option. In contrast, the “large and flashy” installations are the big drivers of dvLED adoption. dvLED installations remain less prevalent, but falling price points have helped increase market share.

According to AVIXA, more investment is made in content management hardware, rather than the actual displays, for digital signage systems. In fact, media servers, which are vital for content distribution across a facility, are expected to be the leading product category in revenue in 2022. “Good integrators know it’s not about what’s being installed, but what experience or information it is conveying,” added Wargo.

Supply chain woes, so prevalent in the Pro AV industry, have also impacted digital signage. Wargo said demand for digital signage solutions declined during the pandemic. As demand has increased, however, reduced supply (a result of earlier reduced demand) created a backlog of orders. Logistically, it has become harder to get some digital signage products, making it more difficult for integrators to fulfill project contracts.

For some integrators, digital signage is a potential vehicle for long-term revenue after the system has been installed. From maintenance contracts to content management, managed services can help keep the system operational and keep the content current.

Of course, it’s also important to ask what consumers want from digital signage—and how much personal information they are willing to share to get it. Some digital signage installations are equipped with biometric technology, such as gaze or heat path trackers, to monitor consumer behavior. Other systems compile demographic profiles or analyze human traffic patterns, all designed to monitor consumer behavior.

“These digital signage systems become another touchpoint in a network of ‘big data’ capture devices that allow a company to understand its visitors,” offered Wargo. “But privacy is a big concern. There’s a fine line in the sand drawn by consumers asking how much is too much monitoring.”

Mark J. Pescatore is the content director for Systems Contractor News (SCN).

HOW TO AVOID DIGITAL SIGNAGE SUPPLY AND DEMAND HEADACHES

By Joel Hagen, Legrand | AV

We are emerging from a pandemic that brought many digital signage projects to a halt. With new projects on the upswing and plenty of work to do, as if on cue, the industry hit a new speed bump: a combination of increased demand and material shortages. In a world that times supplies to minimize inventory, any delays can be catastrophic.

If there's anything the past two years have taught us, it's how to pivot. The pandemic forced much of the industry to quickly adapt to new safety guidelines and areas of opportunity when other markets shrank. We can take that mindset and plan now to mitigate future problems.

We spoke to the Legrand | AV Digital Signage team about the emerging situation and what can be done. Luckily, we have a lot of ways to mitigate and plan for holdups in any digital signage integration plans.

"When your dream product is out of stock, we can find alternatives," said Michelle Montazeri, national solutions manager. "Consultation services are needed in digital signage."

"We know who has supply," agreed Collin Boggs, national solutions manager.



Joel Hagen

the better. This is especially true for direct-view LED installations.

GET THE HELP YOU NEED

Chief has launched a new service through the digital signage team: TiLED Solution Services. This is a direct response to integrators who shared their concerns about selecting displays, securing skilled labor, and risk mitigation. The Legrand | AV installation team provides varying levels of service depending on what customers

determine they need to be the dvLED expert for their clients.

Assisted Services is there for you when you just need some advice or guidance, with our tech support team just a click away. You'll also find online access to spec and configuration tools. The next level up—Expanded Services—is our answer to supercharging your LED game. Get personalized design consultation with sales, product management, and engineering professionals who've been through it all and are ready to share their experience. And finally, Amplified Services is our most involved level of help. You'll get start-to-finish consultation on your project, including customized design, engineered solutions, and labor assistance.

Joel Hagen, senior content specialist at Legrand | AV, has been working in the AV marketing field for a decade. You can find him on twitter at @Chief_JoelH.

TOP TIPS FROM OUR DIGITAL SIGNAGE TEAM

Plan a swap. Consider universal mounts over custom so you can use a substitute display while you are waiting for the final product.

Consider projection. Projectors are much brighter now and can be used in areas you may not have dared to before. Match with an ambient light-rejecting screen and you've got a great digital signage solution. FullVision screens look great as a borderless option that blend into the background when not in use.

Rough-in the infrastructure. Phased installations can also be helpful to keep installers busy even if there are delays in some products. Place your in-wall storage, available equipment, and mounts ahead of time. Middle Atlantic's frame-to-furniture approach provides flexibility in installing equipment and having the finished panels shipped when you are ready for them.

Manage expectations. Speak to the content creators that often look to AV integrators for hardware solutions to be sure they understand the timeline. We can help bring pieces together and find the right partners to reduce bottlenecks.

Ask us! Legrand | AV's digital signage team is also ready to help navigate using their industry connections to find displays that will work with your project. The earlier you get them involved,



With pandemic-related delays and material shortages impacting digital signage plans across numerous industries, it is more important than ever to keep your installation plans—and your mindset—flexible.

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SPECIALIST VALUE-ADDED DISTRIBUTORS HELP INTEGRATORS DELIVER DIGITAL SIGNAGE PROJECTS OF ANY SIZE

By Todd Heberlein, Exertis

Digital signage is currently one of the custom integration industry's biggest growth markets. Integrators, therefore, have a huge opportunity to expand their businesses, and those that partner with specialist value-added distributors are best positioned for growth because they have immediate access to a wide range of products, expert guidance, and hands-on assistance.

GREATER FREEDOM, FLEXIBILITY, AND OPTIONS

When bidding on or designing digital signage systems, some of the most important factors for an integrator's success are which brands they have relationships with and which products they have experience installing. Some jobs will call for specific displays, while others may be open to bids featuring a variety of manufacturers for displays, cabling, mounts, content management systems, and related audio solutions.

With such a large variety of possible digital signage needs, integration firms can give themselves a leg up on competition by partnering with a value-added distributor that carries all kinds of integration products and has regional shipping centers to ensure on-time delivery. These relationships not only provide access to thousands of products, but may also offer extras such as product training, system design, and bid preparation assistance, with some even offering installation, programming, and content creation services.

A PARTNER YOU CAN LEAN ON

Integrators entering a new market are encouraged to invest time and brainpower in educating and training staff so clients can immediately have confidence in their capabilities. Value-added distributors can help bridge

existing knowledge gaps by providing access to their engineers, designers, and product managers who are each expert in their fields. A strong distributor relationship can be invaluable when an integrator needs a quick answer for an ongoing project or wants to know about upcoming products they can pitch for future projects.

As a commercial-focused discipline, digital signage projects often involve tight schedules coordinated with other contractors that demand close attention to delivery and installation timelines. The past two years have taught us all that there are many possible complications that can disrupt supply chains and potentially make some products

hard to source. Value-added distributors relieve some of this pressure by using their regional warehouses to ensure in-stock availability and on-time delivery. Even if a product is truly unavailable, it's highly likely that a distributor would have a similar solution that suits the project and can be swapped in to eliminate delays.

In addition to product selection and installation assistance, integrators can also tap their distributor partner at the very beginning—the idea stage—to get advice on what type or size of display would be best for a specific location or a specific need. With variables ranging from viewer distance and room brightness to indoor/outdoor locations and touchscreen needs, there are usually multiple solutions for any request.

From advertisements in fast food windows to corporate lobby video walls, virtually any commercial space can benefit from thoughtful installation of digital signage solutions. Integration firms can reap significant benefits from a value-added distributor and begin building a foundation of knowledge among their staff.

Todd Heberlein, CTS, DSCE, is the business development manager at Exertis, where he is the in-house expert on media players, signal distribution, and digital signage content management.



Todd Heberlein



Integrators can tap their distributor partner during the beginning stages of a project to get advice on what type or size of display would be best for a specific need. A knowledgeable professional versed in the full range of available products can help deliver the optimal solution for any space.

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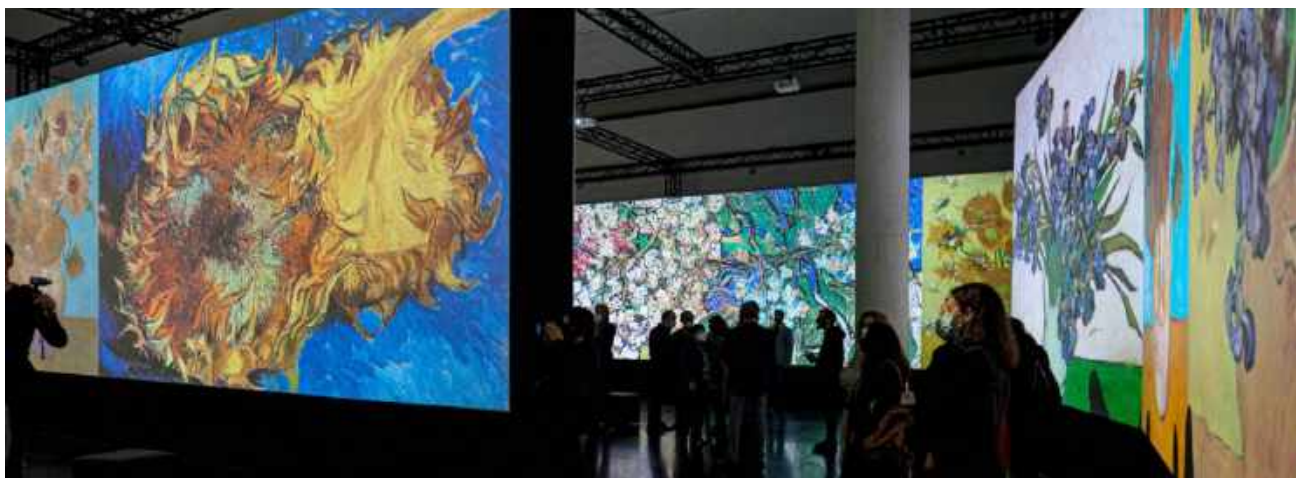
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Van Gogh's flower still life paintings delivered by the QuadHead2Go video wall controllers and Screenberry media server transport viewers to another place & time.

MATROX QUADHEAD2GO LEAVES A LASTING IMPRESSION

It is said that a picture paints a thousand words, but what about a video wall? Making its debut at the Pabellón de la Navegación (Navigation Pavilion) in Seville, the touring media exhibition Impressionists left viewers speechless as the works of Renoir, Van Gogh, and others illuminated a stunning floor-to-ceiling digital masterpiece. With Matrox QuadHead2Go multi-monitor controllers' ability to deliver flawless image quality across a sprawling canvas, Ukrainian multimedia company Front Pictures was able to provide a mesmerizing, 21st century take on the works of Europe's most renowned Impressionist masters.

VIDEO WALL DESIGN BRIEF

For Front Pictures, bringing some of the most distinguished modern paintings to life required a flexible and reliable video wall solution. What the company had in mind was a plug-and-play, standalone appliance that would be capable of driving multiple pristine-quality full-HD displays, as well as be compact enough to be quickly disassembled and reassembled to meet the travel needs of the digital exhibition.

Having had years' worth of successful experience with Matrox video wall products, Front Pictures' choice to acquire QuadHead2Go devices was easy. "Matrox has provided our go-to video wall technologies for some time now," said Yuri Kostenko, Front Pictures CEO. "We have used the Matrox TripleHead2Go triple-display appliance for many years now, and when Matrox released the QuadHead2Go, it was perfect timing. We had been looking for a higher-density output device to support more displays from a small footprint, and we knew that Matrox's multi-screen technology would perfectly suit our demanding installations."

CREATING ON A DIGITAL CANVAS

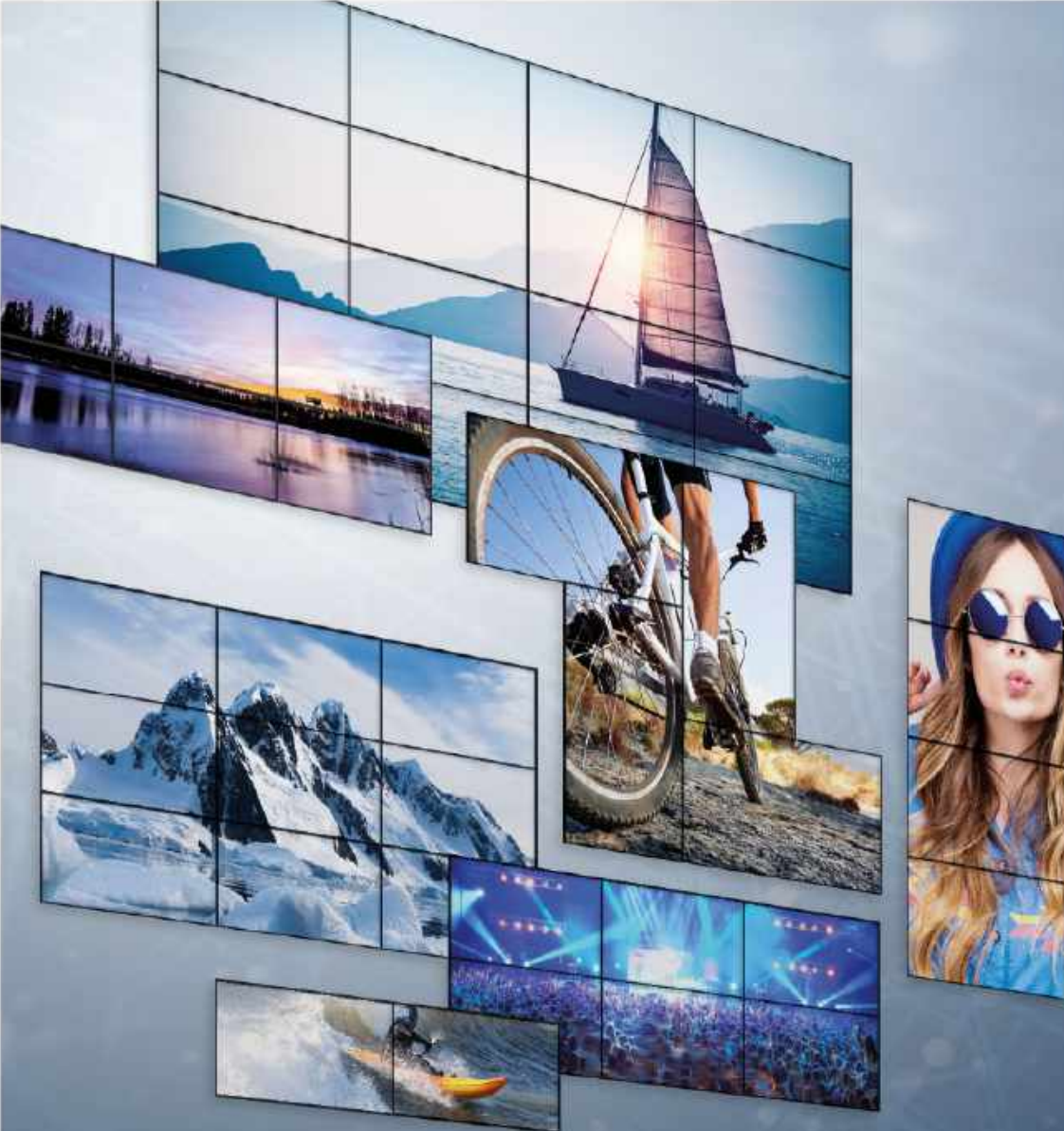
The Matrox PowerWall software included with QuadHead2Go

allows Front Pictures to easily install and customize configurations, making deployment simple. The installation behind the Impressionists exhibition comprises 14 screens—each 4.4 meters in height—spanning 116 meters in total. Content for the exhibition created by Front Pictures is hosted on the company's Screenberry media server. From there, the content is routed to six QuadHead2Go Q155 appliances—each capturing an HDMI video signal from the media server for display across four HDMI-equipped projectors. QuadHead2Go devices connect to a total of 21 BenQ TH671ST projectors that cast the ultra-high-quality video onto the screens across 40,320x1080 pixels for a total resolution of 43.5 megapixels.

The result is a monumental display of Van Gogh's flower still life collections with petals that appear to float gently across the screens, among many other revitalized versions of Impressionist masterworks. When set to music, the moving paintings delivered by the QuadHead2Go video controllers and Screenberry media server transport viewers to the imaginations of Impressionist virtuosos.

AN AVANT-GARDE MULTI-SCREEN PROJECTION SOLUTION

With QuadHead2Go, Front Pictures sacrifices neither form nor function. According to Kostenko, QuadHead2Go has enabled the company to push the boundaries of what a visual experience can be with the convenience of a flexible, easy-to-deploy, multi-screen appliance. "With its ability to capture and display superior-quality video content, Matrox QuadHead2Go video wall controllers have enabled us to deliver a truly sublime art viewing experience," he said. "Furthermore, the compact, low-power appliance takes up very little space, is easy to transport and re-install, and keeps hardware and maintenance costs low."



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SHOW US YOUR DIGITAL SIGNAGE FAILS AND WE'LL SHOW YOU OUR SOLUTIONS

By Hal Truax, Hall Technologies

We've all seen digital signage fails. Social media has tons of awful examples. There is even a Twitter handle dedicated to blue screens of death, panels out, displays hacked by nefarious cretins, pixelated content, upside down content, and much worse. It's widespread throughout airports, retail, higher education, and the corporate world. They're all awful, but also avoidable with the right digital signage solutions in place.

If you're in the AV industry, these digital signage fails are particularly offensive. Why? For one, we've all seen really great examples of digital signage. We hold digital signage awards that highlight the absolute best in verticals like transportation, financial, education, and many others. Also, as tech professionals, we know products and services that would help avoid—or at least mitigate—these offensive digital signage fails altogether.

At Hall Technologies, we've got our share of products that are all geared towards mitigating these fails—extenders, switchers, and many more that support keyboards, touchscreens, and other displays, as well as scanners and a host of other USB-type devices that control digital signals. One product that could be a great help in mitigating fails are extenders. Extenders help maintain signal quality by manipulating these signals using a variety of methods.



Hal Truax

They can support both audio and video signals for high-resolution output and even 4K UHD. Our extenders are plug-and-play, making them a simple solution to help alleviate digital signage challenges.

Another thought on signage fails is using switchers. A video switcher is a hardware device used to switch or choose between different audio or video sources. Although the main functionality is for selecting between the sources of audio or video, they are also used in mixing video and adding media or special effects on a secondary source. So how can this help with signage failures? The answer is simple: switchers can easily manage the challenges of display resolutions and aspect ratios, with low latency, while leveraging network streaming and video compression making for a remarkable audio/visual experience.

Our advice is to invest in your brand messaging, because presenting your brand in the best possible way creates trust and repeat business with your patrons.

Hal Truax is the vice president of sales and marketing at Hall Technologies. He oversees marketing efforts; manages global sales initiatives; and is responsible for increasing Hall's revenue by targeting specific vertical markets, strategic customer acquisition, and channel management.



Products such as extenders are an important tool in mitigating the common "fails" of digital signage installations.

PREPARATION AND COMMUNICATION: KEYS TO DIGITAL SIGNAGE SUCCESS

By Megan Zeller, Peerless-AV

Direct-view LED (dvLED) video wall installations make up a significant portion of systems integrators' total business, bringing high-quality content to life and engaging consumers in new, interesting ways. With that comes high expectations to create memorable, impactful first impressions and seamless configuration. Whether it's a hotel lobby, conference room, retail store, restaurant, museum, or venue, it's important to keep best practices in mind to ensure that you're getting the most out of your installation while prioritizing safety and efficiency.

MEASUREMENTS MATTER

Taking accurate measurements is paramount when it comes to installing a dvLED video wall. First and foremost in the process, essential details to take into consideration are if the wall is convex, concave, plum, or straight, and if there are any mount preferences such as full-wall, wall-to-floor, ceiling, et cetera. From there, taking precise and accurate measurements will completely simplify and shorten the overall installation process.

PREPARATION AND SAFETY

You can never over prepare for an installation. Setbacks, such as construction delays, can greatly impact an installation schedule. Because of this, it is imperative for installers to be in constant communication with their general contractor. For example, during Peerless-AV's dvLED video wall installation at the Westin Bear Mountain Golf Resort & Spa, the Covid-19 pandemic caused product delays. This resulted in the hotel being under construction during the installation, instead of after construction had finished as originally planned. Our team had to be extra cautious with this additional construction—to be mindful of dust and equipment that could cause significant damage to dvLED displays.

In normal conditions, our team typically recommends installing the mounting solution in a clean, dust-free environment and then installing the dvLED display immediately afterwards. This will help avoid any accidents that can cause major problems mounting



Megan Zeller

the displays, such as bumping into the installation causing the X, Y, and Z axes to shift.

PROFESSIONAL SUPPORT

With venues continuing to refresh their displays and replace their LCD screens with dvLED walls, AV designers and manufacturers need to offer start-to-finish, on-site support. Peerless-AV has an experienced team of highly trained professionals who have overcome a variety of hurdles and can accurately troubleshoot any situation. Through Peerless-AV's SEAMLESS Integration Program, partners and installers can benefit from expert engineering, custom project managers, full installation services, and dedicated dvLED mounting solutions to assure a safe, efficient, and effortless installation.

It is also important to offer mounting solutions that are adaptable to a wide range of potentials, including recessed, front, floor-to-wall, and more.



Offering mounting solutions that are adaptable to a wide range of applications will help ensure a dynamic, effective, and eye-catching digital signage display.

Peerless-AV offers SEAMLESS Bespoke and Kitted Series Mounting Systems to securely fit a variety of dvLED video walls, save space, and create a sleek aesthetic. Whether the installation requires a standard or custom solution, on-site support means that when unexpected problems occur, they can be solved immediately and in a timely manner.

CREATE CONTENT GOALS

In general, video walls are a large canvas for messages or stories, and it's important to make sure your content is making an impact. If you employ a large video wall, don't overdo it with content. Busy screens with too many images or scrolling feeds can overwhelm viewers easily and distract them from your overall message.

As senior director of business development, Megan Zeller leads Peerless-AV's dvLED video wall systems, integrated kiosks, and outdoor AV sales initiatives in the hospitality and gaming verticals. She is responsible for helping her clients develop brand standards that are representative of the specific style and quality of the company.

CHROMECAST MEANS BUSINESS FOR DIGITAL SIGNAGE

By Vince Schuster, Philips

There is a well-known proverb that states you should “never mix business with pleasure.” While this may be true on many levels, when it comes to technology, the lines are becoming increasingly blurred.

Familiarity with technology traditionally used in our personal lives can have a profoundly positive impact when deployed in our working lives, inspiring greater business outcomes and creating new and enhanced experiences across a variety of different market verticals. One such technology is Google Chromecast.

While its roots are firmly set in the consumer space, professional Chromecast built-in displays—driven by Philips—are now making significant waves in the business world, with their wireless one-touch and secure sharing capabilities providing (arguably) the simplest and most widely recognized solution for displaying digital signage content in a variety of settings.

Built into a number of recently launched Philips displays, including the highly versatile Philips B-Line—a 4K Android-powered digital signage/professional TV hybrid display range—Chromecast has become a game changer for a growing number of businesses. This is perhaps nowhere more evident than in corporate, food and beverage, and educational environments.

CORPORATE

In today’s hybrid work environment, where many businesses are still very much in recovery mode due to the impact of the pandemic, every minute and every dollar counts. This is where Chromecast built-in displays can help. With Chromecast, meetings become a more collaborative and collective experience, with all



Vince Schuster

participants in the room able to wirelessly share content from their own devices.

Worried about security? Of course you are, and you may have read stories suggesting Chromecast doesn’t provide the same level of security as some others in the market. Chromecast built into our Philips displays, however, allows security protocols to be built in as well. This means your data, whether accessed from a phone, laptop, or company server, is kept strictly between you and your colleagues.

The Philips B-line is also Crestron Connected certified and compatible with both Extron and Neets systems, allowing the displays to be fully integrated into an existing control system. With Crestron XiO Cloud, displays can be managed and monitored at all times, and problems can be quickly identified to ensure they are always in perfect working order.

Additionally, we understand that office screens are not limited to meetings, and so with the benefits of Chromecast, coupled with the ability to create and schedule content with minimal effort or training, screens never need to go dark again. With Philips B-Line, business owners and management teams can coordinate internal messaging to teams. With a built-in TV tuner, your digital signage displays also become professional TVs, allowing for local or international channels, or content accessible via thousands of available apps.

FOOD AND BEVERAGE

With the food and beverage industry back open and returning to a level of normalcy, enticing and welcoming back customers while creating engaging experiences and maximizing revenue potential have never been more important.

As a result of the widespread closures during the pandemic and the associated rise of e-commerce food and beverage purchases (a market valued at \$34.2 billion in the US, in 2021), bars and restaurants now face challenges comparable to those faced by retail establishments, which need to create more compelling reasons for customers to return.

Digital signage can be the key to achieving these ambitions, while also breathing new life into the industry—helping to increase brand awareness, encourage repeat business, and generate new revenues.

Our highly versatile, Chromecast-built-in Philips B-Line displays are equipped to help food and beverage establishments, providing an easy solution for a number of important requirements. Examples include displaying entertainment to all or specific displays



After going dark for nearly two years during Covid-19, digital signage offers a bright, eye-catching opportunity to attract customers back into newly reopened food and beverage establishments.

with a single click; showcasing the latest menus and promotions digitally; communicating important messages in real time; and scheduling branded content with ease.

Picture the scene: it's Super Bowl Sunday and you'll be showing the big game on your Philips B-Line displays. You've already created your digital marketing during the weeks before to promote the event to as many people as possible. As customers arrive, the pre-game build up is taking place on TV while music is playing via your preferred music app. All the while, your own messages are being communicated on your displays, such as future events, the latest food menus, and special offers. All of this can be entirely ad hoc on the day of or scheduled in advance. As people start to have a good time, you might take pictures and instantly share them on the big screen, with the promise and promotion of more via your social media channels. Is it somebody's birthday, anniversary, or engagement? Send your congratulations on the screen.

Want people to stay after the final whistle? Is the favored team losing and you fear people might leave early? How about advertising a post-game deal on food and drinks? And if the team is winning—how about a celebration deal on a bucket of beers or champagne? Keep people informed by displaying local transport information, or even live webcam feeds of bus and tram stations.

Did you know that North America is now the world's largest market for flexible working and co-working spaces? Demand for flexible office workspaces has increased by 50 percent over the past five years—in part due to the pandemic—with locations forecasted to nearly double to 10,000 by 2023.

There are an estimated 660,755 bars and restaurants in the US, and with Philips B-Line the bulk of those can easily become a destination for flexible working, or an alternative venue for corporate meetings, adding new revenue streams without the additional investment.

EDUCATION

People are not only returning to offices and restaurants, but also to classrooms. Chromecast allows students to play a more active and collaborative and inspired role during classes by being able to share their ideas digitally, without leaving their seats.

Likewise, important, accurate, and up-to-date messaging—both in and out of the classroom—can be created, scheduled, and displayed at all times. This could be in the form of menus in the cafeteria, health and safety messaging, emergency notices, reminders of school events, or student achievements. With apps able to be directly downloaded to displays, you might even show the local weekly weather forecast to help students and teachers with their wardrobe decision making. With Chromecast built into Philips displays, the digital signage opportunities are limited only by your imagination.

Vince Schuster is the commercial vice president, Professional Displays North America at Philips. Vince's career spans more than 25 years at some of the world's most influential AV/IT organizations, including Panasonic and Planar, specializing in digital signage and visual display technologies. He is an AVIXA-certified technology specialist, digital signage display expert, and is certified by the Imaging Science Foundation.



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MAXIMIZE DIGITAL SIGNAGE WITH CONTENT PLANNING, MANAGEMENT

By Tomer Mann, 22Miles

Integrators are in the business of creating solutions for their clients. As problem solvers, digital signage deployments hold enormous potential. They can answer so many needs: a video wall that forms the stunning centerpiece of a welcome area, an interactive map that guides visitors effortlessly throughout a space, room and schedule signs that smooth operations, or informational signage that keeps everyone connected and informed. Be aware, though, that those happy outcomes require thoughtful planning and an appropriate content management solution. Without one, digital signage can become a bottomless pit that needs to constantly be filled with content.

Integrators need to extend their responsibility for signage systems beyond the hardware. The screens, media players, and network infrastructure don't matter if the content is too difficult to update and maintain. Ultimately, it's in the integrator's best interest to help their clients create a rock-solid content creation and management strategy during the project discovery phase. Not only will it help you arrive at a more accurate understanding of the hardware requirements, but it will also allow you to offer a real visual communications solution instead of a solidly built problem.

GATHER YOUR STAKEHOLDERS

It's not enough to understand the hardware, technical requirements, or even purpose of a digital signage system. You also need to know who within the client organization cares about that purpose. If the signage does its job well, whose life will get better? If the system is implemented poorly or the content isn't up to date, whose job gets harder? You want these people in the discovery meetings; they know the real system requirements best, and they have the most incentive to make sure the content pipeline is filled and maintained.

Visual communications systems are powerful because they can effectively serve a lot of different goals at once. That might mean a lot of conversations as you zero in on primary objectives and key stakeholders.

When building a wayfinding system, for example, talk to reception and guest relations personnel. They know what struggles visitors typically experience in navigating the space, as well as what events, exceptions, and complexities make a physical map inadequate to the task of orienting people.

If the deployment will be used for space management and operations, supporting room reservation, hoteling, and hot-desking, you'll want to talk to facilities management. Signage deployments are increasingly used to support health, safety, and access control policies by scanning badges or vaccination records at entry points, as well as advising employees and visitors of current policies. In this case, HR and security will have to be involved in needs discovery.

USE WHAT YOU'VE GOT

In most cases, a digital signage deployment is a new, improved mechanism for an existing purpose. Once you've got the stakeholders corralled, find out what they're doing now to achieve the goals that the signage deployment will support. For example, a venue rolling out digital signage to promote events was doubtless promoting those events before they got the signs. Event calendars, social media campaigns, email campaigns, television ads, and more can all be either repurposed or directly reused as digital signage content.

Reinvent as few wheels as possible: if you can leverage your client's current skills and behaviors to drive automated or very easy content updates, maintaining the signs will never feel like a burden. In many cases, the information the signage deployment needs to convey is already being maintained somewhere, such as calendars, floor plans, social media channels, or RSS feeds. The integrator's mandate is to ease the burden on the system owners by leveraging what they're already doing.

Automated content, generated from systems your client is already maintaining, is quite simply the best way to ensure that a sign's content is fresh, relevant, and up to date. Whenever possible, information should be supplied directly to the sign via feeds, data source interfaces, APIs with pull integrations, and other live/automated data sync mechanisms. This makes for a dynamic deployment that is also easy to maintain.

As part of the overall signage solution, integrators should be looking to recommend and partner with a content management system (CMS) with integration and customization capabilities that align with the client's current business processes. A CMS that is integrated with the client's systems, leveraging their existing resources, can do nearly all the day-to-day heavy lifting of updating signage deployments.



Tomer Mann



It is important to make sure that updating digital signage never feels like a burden. Strive to leverage your client's current skills and behaviors to drive automated or very easy content updates.

CLOSING THE GAP BETWEEN DESIRE AND ABILITY

At some point during the project discovery phase, you need to have a realistic conversation about who will be responsible for the long-term maintenance of content. What technical and graphic design skills do they have? How much time do they have, and how much of a priority is this for them? How frequently will the “content owners” be willing to make updates?

Often, an organization's marketing and communications professionals will have very specific ideas about what signage content should look like, but no internal bandwidth to create and maintain the content. Those with domain expertise in the content frequently know nothing about graphic design or content creation tools.

The right CMS again plays a role here. Most offer a library of wireframe templates, with varying degrees of customizability and variety. Some also offer content creation support services to assist in the initial selection, design, customization, and setup of the customer's templates, building out their brand book to encompass digital signage best practices. The right CMS bridges the gap between the client's goals for the system and their capacity to execute on their own.

Once established, the signage templates give other content creators, be they internal resources or service providers, guardrails to ensure that every sign and piece of content shares a common brand identity. As new signs are added, the branding experience remains consistent, even if the content comes from different stakeholders or departments. These templates also pare down the expertise needed to create new content from “graphics design and software literacy” to “the ability to edit text fields and drag-and-drop image files.”

If the client has limited in-house marketing and graphic design

resources, graphic design support and pre-configured layouts for initial deployment should be part of your CMS requirements. The CMS provider should also be responsible for optimizing the user experience. Neither you nor your client should need to be a UX expert to successfully deploy interactive signage. Ideally, any CMS provider you recommend has rigorously tested information layouts, interactions, touchless and mobile interfaces, and desktop integrations to identify successful approaches on an application-by-application basis.

LEAVE ROOM TO GROW

It's a business best practice: Build what your client needs now but leave growth pathways for what they'll need five years from now. Look for a CMS provider supporting a wide range of applications even when the initial scope is narrow. Why? Once a solution works—really works—for a client, they'll start asking what else it can do for them. A successful wayfinding project today could lead to a lobby video wall two years from now.

Digital signage content can be easy; in fact, it should be. Visual communication systems should allow clients to share messages and information more efficiently. The right CMS will help you deliver on this promise by going beyond hardware or software to encompass in-house services and long-term content development support. With all these elements in place, content management will remain simple even as the client's system grows and diversifies. That's how integrators can offer a true digital signage solution while effectively preventing any content development problems down the line.

Tomer Mann is the executive vice president of sales and marketing for 22Miles.

LG STRETCH MONITORS STRENGTHEN STUDENT ENGAGEMENT

Hays Consolidated Independent School District, located south of Austin, Texas, comprises 25 K-12 schools and is one of the fastest-growing districts in the state. Like many K-12 districts around the country, Hays CISD schools are avid users of projection technology to present information in classrooms. The district also has adopted a software application, Mirroring360, that allows students and teachers to share content from mobile devices via computers in the classrooms.

Hays CISD has also started introducing new digital technology, such as flatscreen displays for digital signage. “We’ve begun deploying digital signage systems throughout the school,” said Dianne Borreson, chief technology officer for Hays CISD. “For example, cafeterias have digital displays for menus.”

At Hays CISD’s Johnson High School, the district went big into video with a wall of 85x14-inch LG stretch monitors in the front of the school to highlight the school’s mission and provide a visual canvas for communicating with students, staff, and visitors.

“Johnson High School is a career and technical education showcase school,” explained Borreson. “We wanted to showcase them even more, and with a multimedia design curriculum and production studio, we had a good opportunity.”

The school’s original concept of a large LED signage solution, inspired by scrolling, ticker-style displays, evolved. The district’s technology solution provider, Trox, introduced decision-makers to the stretch display concept—traditional LCD screen technology in a super-wide format—for delivering the same impact more cost-effectively.

“We designed it with eight total screens, installed end-to-end,”



Eight LG stretch monitors facilitate seamless communication with Johnson High School students, staff, and visitors; and allow multimedia design students to display original content.



Placed end to end, the LG displays together create a 57-foot, continuously scrolling visual canvas.

said Paul Venincasa, the Trox executive who worked with Hays CISD on the project. “First you have five screens, then the video wall turns a corner and there are three more. And it’s designed to be a single canvas when the school wants it to be, with content spanning all eight screens. Or it can be segmented, with one or more screens devoted to a specific message or video feed.” The system is set up so content can scroll across the entire 57-foot video wall.

Trox built the video wall at Johnson High School to include a Crestron control system and 4K video processing so the school could have total flexibility in how it uses the wall. Through the control system’s touchscreen, users can select a video source and a display and precisely place the content on the video wall.

“It turned out to be exactly what we were thinking of when we had the idea of the video wall—splitting it up and having multiple feeds and really thinking through it as a production,” said Borreson. “And we can have students actually create the content, like in the multimedia design class. I see all kinds of applications, only limited by our imagination.”

Venincasa said surrounding districts have caught wind of the Johnson High School video wall and begun inquiring. That’s no surprise to Borreson: “With a video wall like this, you can really display and showcase everything that’s happening in a school.”



AN IMMERSIVE CUSTOMER EXPERIENCE

Navori Labs is driving a continuous immersive, 360-degree 3D experience on the Middle East's largest 8K LED ceiling screen at Mall of Dilmunia in Bahrain. The complete digital out-of-home network, designed and integrated by Four Square Media, also includes Navori's targeted advertising and content synchronization applications to deliver 8K digital signage experiences everywhere.

The Navori QL digital signage network entertains shoppers with 8K content around the mall's outdoor façade, entrances, elevators, and aquarium and entertainment areas, including an ice rink. The core QL software integrates Navori's Insane Performance Rendering (IPR) software to power all 8K content, including the massive 9x60-meter (29.5x196-foot) LED ceiling display. Navori's IPR software can power and frame-accurately synchronize a full 8K wall, or up to four 4K screens (or 16 HD screens) from a single media player.

Advanced QL software applications generate revenue and maximize audience exposure across all screens, while also providing insight into ad campaign successes. Ad insertions are often based on end-user input, with meta tags redirecting ads to specific screens. This enables network operators to meet targets around number of impressions and specify the number of advertisements that will play in sequence. Navori's advanced monitoring and analytics platform also generates detailed reports to measure successes and validate performance with network operators and advertisers.

The network also includes 60 Navori QL Players, with the ability to target different zones or play the same content across many or all screens.

"The majority of the displays were built with massive LEDs and resolutions to maximize impact, while each screen displayed 8K content to ensure the best image quality content playback," said Jaideep Narindra, founder and CEO at Four Square Media. "They also wanted a way to manage and monitor all advertising campaigns in a structured way, with proof-of-play reporting and fair-play algorithms for advertiser validation. Navori Labs' expertise helped us deliver a demanding digital out-of-home network solution with relative ease, given the advanced 8K content and targeted advertising applications."

[TOP] As part of the Navori QL digital signage network, the mall's expansive 8K LED ceiling screen provides the viewer with a continuous 3D experience.

[BOTTOM] Digital signage powered by Navori Labs attracts visitors to the numerous attractions within the Mall of Dilmunia, including the country's first aquarium, which spans four floors and showcases over 2500 aquatic species.



PRODUCT SHOWCASE



CHIEF TILED I-STYLE

Chief's TiLED i-Style direct view LED wall mounting system, like the existing TiLED H-Style dvLED wall mounting systems, is designed with the installer in mind. Both are modular mounting systems featuring X-, Y-, and Z-axis adjustment to create perfectly flat dvLED video walls. Offset mounting slots protect LED displays from damaging friction during installation. New i-Style mounts feature left, middle, and right structural components that are combined to create video walls. Components can be mixed and matched for an endless variety of video wall designs. TiLED direct view LED mounting solutions are in stock and ready to ship with no custom lead times or project registration needed. TiLED Solution Services can be leveraged for assistance with design, specification, and installation.

legrandav.com



MATROX QUADHEAD2GO

Matrox QuadHead2Go multi-monitor controllers are purpose built to power any video wall configuration of any possible dimension. They capture and display a video signal—of resolutions up to 4Kp60 and 8Kx8K at full RGB 8:8:8 and YUV 4:4:4 color support—across up to four full-HD displays. The input content could be from any video and HDCP-compliant source, including digital signage players, media players, NUCs, and more; and displays can be arranged in a variety of classic rectangular or artistic configurations. System integrators, AV installers, and digital signage professionals can pair multiple QuadHead2Go units to support large-scale video walls. In addition, the Matrox PowerWall software allows users to customize configurations or control the display outputs independently, in either offline or online mode, while the QuadHead2Go REST API is available for integrators and developers interested in creating custom functions and applications.

matrox.com



PEERLESS-AV SEAMLESS DVLED

Peerless-AV SEAMLESS dvLED mounting systems, crafted by experienced engineers and support staff, solve the most complex design and technology integration challenges to create an ideal solution for any unique application. SEAMLESS mounting systems offer slim, space-saving designs that are easily integrated within facilities to share engaging digital content. The Kitted

HALL TECHNOLOGIES VERSA-4K

Hall Technologies' VERSA-4K extenders deliver stunning digital signage in any configuration. Using an economical Gigabit LAN, VERSA senders and receivers come together to create a dynamic virtual matrix, capable of delivering HDMI video up to 4K anywhere across the network. The VERSA's built-in video wall processor allows for customizable video wall displays, from 2x2 up to 16x16. Bidirectional IR and RS-232 are used to remotely control sources and displays. Super-low video latency and USB extension give further flexibility to create responsive interactive displays or give full remote KVM access for IT departments. A CNT-IP-264 provides web-based control over signal routing from any web-enabled device.

halltechav.com



Series flat mounts are precisely engineered to fit major dvLED panel manufacturers specs and adapt to standard video walls. When a standard solution is unsuitable, Peerless-AV offers its completely customizable Bespoke Series mounting systems that bring unique configurations to life—corners, curves, columns, floor to wall, and more.

peerless-av.com



PHILIPS B-LINE

Philips B-Line is specially designed to enhance meeting room collaboration and bring new levels of simplicity to sharing content and presentations across verticals including healthcare, corporate, retail, education, and food and beverage settings. Philips B-Line displays feature Chromecast technology built-in, enabling meeting participants to easily collaborate with one another. Participants can wirelessly connect to the B-Line, allowing them to securely and seamlessly cast content from their Windows, iOS, or Android device. Meanwhile, HDMI Hotplug detection caters for wired connections, with auto switching between connected devices.

The B-Line is also equipped to help organizations offer an enhanced solution for communicating important content to customers. Android-powered and with a TV tuner, B-Line displays provide instant access to a wide range of apps and services via Google Play and can be upgraded as updates are released, stretching investments and extending lifetime.

ppds.com

22 MILES DIGITAL SIGNAGE READY

22Miles' Digital Signage Ready (DSR) software-as-a-service is compatible with market-leading hardware providers, offering a portfolio of ready-built software and service bundles that allow for quick setup and deployment of digital signage experiences. DSR encompasses entry-level digital and interactive signage software



and content management features that are ready-to-customize, ready-to-bundle, and ready-to-deploy. The intuitive template software is accompanied by professional and technical support services from content management experts at 22Miles to assist customers with project setup, training and deployment, content development, and data assistance. The DSR software bundles are compatible with popular signage operating systems and include cloud hosting for seamless operation.

22miles.com



CAROUSEL CLOUD

Carousel Cloud from Carousel Digital Signage is a subscription-based SaaS platform that leverages a lightweight, software-defined architecture centralized within an offsite IT infrastructure. The highly scalable, enterprise-wide digital signage platform keeps the focus on content development and audience engagement and eliminates the expense and maintenance of traditional hardware servers. Carousel Cloud is natively supported in Apple TV devices, and deployable through BrightSign's BSNcloud network management platform. Carousel Cloud software also now integrates with Power BI, Microsoft's AI-powered data visualization toolset for enterprise businesses. This allows Carousel Cloud users to create and share important business information across corporate digital signage networks.

carouselsignage.com



EXTRON SHARELINK PRO

Extron ShareLink Pro installations can now be turned into a dynamic and vibrant digital signage system when users aren't connected or sharing content. The latest LinkLicense upgrade utilizes downtime in ShareLink Pro 1100 and ShareLink Pro 500 systems by displaying customized information, news, or announcements from third-party digital signage providers like Appspace, Carousel, or Seenspire. ShareLink Pro displays now operate as both collaboration presentation systems and engaging digital signage systems, adding greater flexibility and functionality to your collaboration installations.

extron.com



NAVORI LABS CONDITIONAL TRIGGERING

Navori Labs' Conditional Triggering is a QL digital signage software feature based on data-driven rules that the user configures within the QL Content Manager interface. QL Player executes the triggers in real time for display once configured and published. Conditional Triggering offers more flexibility in dynamic content delivery for context-aware digital signage and removes the guesswork about what content makes sense days or even weeks in advance. For example, a retailer can base what plays on specific screens in stores on inventory levels or deliveries, with preset rules that trigger one-time promotions from linked management systems when new stock arrives.

navori.com

PANASONIC TH-75CQ2U

Panasonic's TH-75CQ2U 75-inch 4K UHD Professional TV offers 400cd/m2 brightness, 4K resolution and supports 4K/60p signals for exceptional high-quality visuals. They are designed for 16 continuous hours of operation and support LAN, serial, and three HDMI CEC for multiple device connectivity. Also included is a built-in ATSC/NTSC/QAM tuner, making the CQ2U TV a great fit for various environments and many digital signage needs. Whether in an office, classroom, retail, or hospitality venue, the ability to deliver clear and crisp images is critical and directly impacts the ability for someone to understand a presentation or be enticed to make a purchase.

panasonic.com



SAMSUNG NEO QLED 8K SIGNAGE

Samsung's Neo QLED 8K Signage is the next generation of QLED for businesses, offering the best in performance and management. Exceeding traditional LED standards, this signage technology utilizes advanced Quantum Matrix Technology Pro and Quantum Mini LEDs to deliver an unparalleled viewing experience. Bringing 8K to life, viewers can expect refined and brilliantly colored content filled with immaculate detail. Exceptional brand messaging and the display's superb picture quality work together to create an engaging customer journey. Combined with flexible installation, true immersion, and pixel-perfect contrast, the Neo QLED 8K Signage display is a powerful tool that enhances any business environment.

samsung.com





WE'RE BACK, BABY



EDUCATION /
JUNE 4-10

EXHIBITS /
JUNE 8-10

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