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NETWORK SERVICES

Healthcare IT Solutions

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Improved visitor and patient communications

Custom Healthcare Cabling   SmartPath™ Enterprise Wireless   iCOMPEL™ Digital Signage

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more info Webinars, Demos, Brochures, Videos, Case Studies: blackbox.com/go/iCOMPEL

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more info Brochure, White Paper: blackbox.com/go/SmartPath

LWN602A

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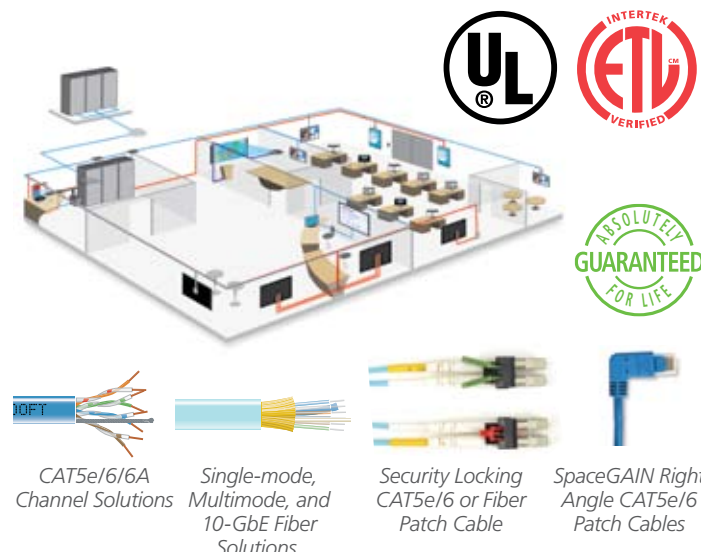
White Papers
Choosing the Right Digital Signage System
Extending the Life of Your Data Center
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Wireless Mesh Networking

Case Studies
Digital Signage Rollout in a National Healthcare System
Oneida County Hospital—Secure Wireless Infrastructure

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more info Brochure and more: blackbox.com/go/EncrypTight

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NEMA 12

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FA462

EVNDVI02

FA461

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EVNPS06

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> *"The crunch was on when the Black Box rep called
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> Awesome teamwork!"*
>
> Jaime Schisel
> Instrument Specialist
> Misys Healthcare Systems

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Industry: Healthcare

Fremont Memorial Hospital

Project: Digital signage

Major challenge: Easy-to-use, affordable system

The background.

When Fremont Memorial Hospital wanted to install a digital signage messaging display in its newly renovated lobby, it turned to John Raymond, vice president of Muzak of Toledo. The hospital's communications goals were to welcome visitors, promote services, announce meetings, publish bulletins, and more.

A thorough search.

As Mr. Raymond started researching different video messaging products, he happened to receive an e-mail from Black Box introducing its iCOMPEL™ digital signage solution. Impressed by what he saw, Mr. Raymond did more research into the system and contacted Black Box. That's when he found out iCOMPEL would be displayed at the InfoComm show in just a few weeks' time. Mr. Raymond, who was going to the show to find the best system for Fremont, immediately made plans to see the system.

The demo.

Once Mr. Raymond saw the iCOMPEL demonstration at the show, he was convinced that it was the right system for Fremont. It offered a better price and a far broader feature set than any of the other systems on the market. The clincher was how easy it is to use. At that point, Mr. Raymond sent his recommendation for iCOMPEL to Hank Preston, network administrator at Fremont.

"It's so easy."

Once Mr. Preston saw iCOMPEL, he, too, was convinced that it was the answer. He wanted a video system with multiple zones and a network connection that could be controlled from a central location. iCOMPEL gave him that plus the ability to use live feeds and instant messaging.

During a short training session, Mr. Raymond and Mr. Preston set up four different layouts and got the system up and running. "I'm very pleased with iCOMPEL," said Mr. Preston. "It does everything we wanted to do but couldn't before. It's working out really well. We're sending a constant feed to a 52" screen in the lobby."

"I didn't have a lot of digital signage experience and am happy with how far this system has come. The functionality has been fantastic and the basic operation to update content is very easy. It's so easy, I'm passing on the responsibility for the content to the marketing team."

Two is better than one.

Mr. Preston was so impressed with the iCOMPEL system, he decided to order a second system for an information channel on the hospital's cable distribution system. The hospital already had a modulator and an available channel, but it never had a good way to implement it. iCOMPEL gave Mr. Preston an easy, affordable way to broadcast menus, bulletins, and other information to patients and staff. To set up the cable channel, all Mr. Preston needed was a Black Box converter, which converted the iCOMPEL output to a Composite signal for the internal cable channel.

"The iCOMPEL is a great product that we are happy to add to our product mix. Its power and flexibility make it a great fit for many applications. Our customer immediately saw the value in using two units, one for static display in the newly renovated lobby and one for use as an information channel on the hospital's cable distribution system. Our research into competitive products showed that no other solutions offered the mix of features and flexibility at this price point. We are excited about future signage options with iCOMPEL."

John D. Raymond, Vice President, Convergentech, Muzak of Toledo, Zaiser Communications Companies

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Black Box Explains

ANSI/TIA-1179 healthcare infrastructure standard.

Today's healthcare industry is a growing, challenging, competitive environment reliant on the latest technology to provide the best patient care in the most operationally efficient manner. Driven by the need to deploy advanced clinical and non-clinical applications, IT professionals in healthcare demand much more of the cabling infrastructure and face many more regulations and challenges than their counterparts in traditional commercial buildings.

The Health Insurance Portability and Accountability Act (HIPAA), enacted in 1996, initiated the drive towards the electronic capture and storage of medical records. This was reinforced as part of the American Recovery and Reinvestment Act of 2009. Congress passed the Health Information Technology for Economic and Clinical Health (HITECH) Act, which provided incentives and money to encourage Electronic Health Records systems (EHRs) with the goal of complete electronic records by 2014.

A new TIA standard—1179.

To address the unique connectivity needs of healthcare facilities, the ANSI/TIA-1179 Healthcare Infrastructure standard was ratified in 2010. The standard was actually initiated by a group of healthcare facility end-users who suggested that while the then current TIA-568-B standard was good, it did not address particular design, installation, and construction considerations of healthcare facilities. The new standard specifies the infrastructure requirements, including cabling, topology, pathways, work areas, and more for a wide range of healthcare facilities.

What's included in 1179?

Cabling pathways

TIA 1179 specifies a minimum of two diverse pathways from each entrance facility or equipment room to each telecommunications room or telecommunications enclosure for critical care areas. In hospital environments, this redundancy is crucial as the network could be the difference between life and death for patients. This also enables the network designer to separate traditional data and voice applications from critical healthcare applications, such as imaging and diagnostic communications.

Equipment room size

TIA 1179 recommends larger equipment and telecommunications rooms allowing for 100% growth. This is to prevent significant disruption of rooms, hallways, and other areas when expansion is needed. The standard specifies rooms or 12 m² or larger.

Security and segregation

The standard recommends segregated networks to ensure adequate support of life and safety protocols. The standard also recommends using color-coded cables, colored jacks, and keyed connectors. It does not specify certain colors for particular services or applications.

Infection control

Infection Control Requirements (ICR) have an impact on how much or little access cabling techs have to cabling pathways. The standard first recommends labeling spaces subject to ICR measures. It also advises using enclosed pathways, especially in air-handling spaces. In contrast to traditional commercial spaces, with healthcare space, system designers will very often find that they can't use open plenum spaces for routing cable. The standard also suggests that telecommunications enclosures might be better for ICR areas and should be of a suitable material when installed in surgical and other sterile environments. In addition, ICR procedures could involve restricting the number of ceiling tiles that can be removed, how long they are removed, etc.

The work area

The work area receives the most attention and is subject to the most changes in TIA 1179. Unlike traditional work areas in commercial buildings, which consist of a computer, phone, printer, etc., there are 11 definitions for work areas in a healthcare facility. They are: Patient Services, Surgery/Procedure/Operation Rooms, Emergency, Ambulatory Care, Women's Health, Diagnostic and Treatment, Caregiver, Service/Support, Facilities, Operations, and Critical Care.

The standard goes on to recommend work area outlet densities based on the function at each location. The standard breaks each classification into one of three subgroups: a low-, medium, or high-density work area. It then specifies the number of outlets for each, depending on the function: Low-density: 2–6 outlets; medium-density: 6–12 outlets, high-density: 14+ outlets. For example: in Patient Services, patient rooms and nurse's stations are high-density work areas, whereas the family lounge and waiting room are low-density work areas.

In addition, TIA 1179 does not require outlets to be located together. The location of the outlet can also vary depending on the use. While commercial building outlets are 18" above the floor, outlets in healthcare facilities may be at bed height to accommodate temporary and permanent equipment connections, such as nurse call systems, patient monitors, test equipment, etc.

Transmission media

To accommodate high-speed transmission, the standard recommends using CAT6A cable capable of supporting 10-GbE for new healthcare installations and a minimum of CAT6 for existing installations. CAT5e is recognized, but not recommended. The standard recommends using a minimum of CAT6 cabling for horizontal runs, and fiber (multimode or single-mode) for backbones, which should be redundant. For high-bandwidth transmissions, such as CT scans and MRIs, 50-micron multimode fiber is recommended.

MUTOAs

Although the standard does not recommend the use of multiuser telecommunications outlet assemblies (MUTOAs) in new construction, it does allow for the addition of up to 24 additional outlets to a work area in an existing facility.

Environmental considerations

The standard also recognizes that some areas in healthcare facilities may be subject to different environmental factors, such as high EMI, atmospheric contamination, high temperatures, chemicals, etc. These considerations may effect your choice in cabling and how it is installed. Solutions and installation should be compatible with the surrounding environment. The standard does not specifically address what components to use in harsh environments.

Transmission and topology

The standard specifies the same star topology and cabling lengths as specified for commercial buildings.

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