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- Ideal for projecting digital signage messages.
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Reduce power costs, protect mission-critical equipment, and design your ideal cabinet on-line.

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Go green.

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Get air-tight WAN security without wasting time on tunnels.

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When you need printers and scanners to work every time with no downtime.

• Make super-reliable, worry-free connections to printers, scanners, hard drives, storage docks, and more.
• Choose from USB 3.0, 2.0, and 1.1 cables and adapters.
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When patient care is on the line, count on these Black Box lifelines.

Today’s healthcare environment imposes huge demands on communications infrastructure systems. For optimum patient care, healthcare facilities must ensure the timely, accurate flow of information. From custom cables designed for complex equipment connections to secure locking patch cables protecting vital network ports, you’ll find what you need right here. Black Box understands the demands unique to the medical industry and can help you maximize patient care by maximizing technology.

USB Cables
When you need printers and scanners to work every time with no downtime.

• Make super-reliable, worry-free connections to printers, scanners, hard drives, storage docks, and more.
• Choose from USB 3.0, 2.0, and 1.1 cables and adapters.
• Learn more at blackbox.com/go/USB Cable

Customs made easy.
Tell us what you want to accomplish and we’ll custom design a solution for you. Depending on your application, we can modify existing cables, adapters, and other products to your specs. Or we can build them from scratch. Best of all the engineering support and custom design service is absolutely free. Some custom solutions can include:
• Same day, cut-to-length CAT5e/6 cable.
• Multicolor fiber patch cables.
• Bundled CAT5e/6 cable.
• And much, much more.

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Find the right cable for your healthcare connections.

Patient Equipment
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• Video monitoring cables.
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• Multicolor fiber patch cables.
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• And much, much more.

When patients need help, make sure the calls get through.

• We can custom design cables to your exact specifications including special connectors, angles, colors, and more.
• Audio connectors can include:
  - RCA
  - 1/4” mono and stereo (straight exit or right angle)
  - 3.5-mm (straight exit and right angle)
  - Other standard connectors.
• Colors include black, red, blue, white, yellow, and green.
• Custom features can include Y cables, heat-shrink splashguards, etc.
• To discuss your custom cabling specifications, contact Tech Support at blackbox.com/go/TS or 724-746-5500.
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  - HDMI.
  - F-Type.
  - DB9, DB15, DB25.
  - USB.
  - RJ-45.
  - RJ-11.
  - 6- and 8-pin mini.
  - 3-pin XLR.
  - And more.
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Jaime Schisel
Instrument Specialist
Misys Healthcare Systems

Call us at 724-746-5500 for free application engineering support, to learn more, schedule a demo, or place an order.
Case Study

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 pass on the responsibility for the content to the marketing team.

“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 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 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 very easy. It’s so easy, I’m passing on the responsibility for the content to the marketing team.”

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 Care Areas, Women’s Health Area, Diagnostic and Treatment, Caregiver Access, Service/Support Areas, 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 nurser’s stations are high-density work areas, whereas the family lounge and waiting room are low-density work areas.

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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 make the difference between life and death for patients.

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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 CAT5e for existing installations. CAT6 is recognized, but not recommended. The standard recommends using a minimum of CAT5e 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.

MUTODA.

Although the standard does not recommend the use of multilayer telecommunications outlet assemblies (MUTODA) 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.

These considerations may affect 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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   Judy Crawford
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