Technology Solutions

Solutions for corporate, education, military & defense, public safety, healthcare, retail & hospitality, industrial, broadcast, and transportation.
Black Box has been a world-leading provider of premier IT infrastructure solutions for more than 40 years. Today, the company continues to design and manufacture award-winning pro AV, KVM, cabling, and networking products known for their advanced functionality, flawless performance, outstanding reliability, and fail-safe security. Black Box solutions are used every day in government, education, commercial enterprises, and any other organization that requires the utmost quality and performance from its IT infrastructure.
Black Box offers the most comprehensive suite of IT solutions in the industry, including:

**AV**
- Video walls
- Digital signage
- Video splitters
- Video extenders
- AV cables and adapters

**KVM**
- NIAP 3.0-certified secure KVM
- KVM matrix switching
- KVM switches and extenders
- KVM management

**Networking**
- Ethernet switches and extenders
- Media converters
- Remote monitoring
- USB solutions

**Power**
- Uninterruptible power supplies
- Data line surge protectors
- Power distribution units

**Cabinets and Racks**
- Network and server cabinets
- Acoustic cabinets
- Freestanding, wallmount, and mobile racks
- Cable management

**Cabling and Connectivity**
- Copper network cables
- Fiber network cables

**Why Black Box?**

Black Box offers 24/7 tech support, free application engineering, service level agreements, product and marketplace expertise, warranties, and the most advanced IT solutions in the industry.

All Black Box products are interoperable to bring our customers comprehensive connectivity solutions that provide maximum uptime, reliability, and scalability. The above diagram provides an example of how Black Box products work together to provide a complete connectivity solution for your application.
Joy Mining Machinery wanted to standardize communications, provide real-time metrics, promote plant competition, and reduce safety issues and lost-time accidents. To do this, they needed to centralize control of company branding and messaging across 55 global facilities. They turned to Black Box, who rapidly designed, configured, and provided a world-class digital signage distribution system based on the iCOMPEL platform that allowed the company to create, schedule, and manage messages site-wide from one location. As a result, Joy Mining has seen improved communications, productivity, OTD, and a reduction in safety issues and accidents.

Black Box empowers businesses of all sizes by aligning IT and communications solutions to desired business outcomes. We help transform operations for the better with the most innovative technology products and solutions on the market. We guide our customers through the complex challenge of transitioning from traditional communications to dynamic and integrated IT technologies and services.

Customer Use Case: Joy Mining

Joy Mining Machinery wanted to standardize communications, provide real-time metrics, promote plant competition, and reduce safety issues and lost-time accidents. To do this, they needed to centralize control of company branding and messaging across 55 global facilities. They turned to Black Box, who rapidly designed, configured, and provided a world-class digital signage distribution system based on the iCOMPEL platform that allowed the company to create, schedule, and manage messages site-wide from one location. As a result, Joy Mining has seen improved communications, productivity, OTD, and a reduction in safety issues and accidents.
La Roche College wanted a digital signage system that could display news, events, emergency notifications, Twitter feeds, and other social media sites to engage students and staff. Their challenge was finding an intricate networked digital signage system that could display live student- and user-generated content in real time. They decided on a world-class digital signage system based on the iCOMPEL platform from Black Box. The system met all their requirements while keeping them on budget and enhanced communications for students, faculty, and other staff.

Today’s classrooms require reliable real-time collaboration to be successful. Black Box offers innovative solutions that transform the way students and faculty work together. Allow group discussions, posing questions to the class, and student presentations to occur without barriers with our complete education connectivity solutions.
A new U.S. Government land base data center needed to roll out a complete data center, including infrastructure for KVM, to support deployed naval ships. Additionally, they wanted to reduce data center noise, cool sensitive equipment, and reduce space. They contacted Black Box, who designed a high-performance data center with QuietCab climate-controlled enclosures that kept server noise to a minimum, cooled mission-critical IT equipment, and didn’t clutter the workspace. For the required KVM functionality, Black Box installed the high-performance KVM-over-IP matrix switching system that met the customer’s needs for command and control and improved naval ship support and operations.

Black Box understands federal agencies’ requirements for secure, compliant technology solutions. We design advanced products that meet the latest and most rigid security standards to help you achieve your objectives, meet your budget, and optimize your productivity without sacrificing your safety.

Featured Products

**NIAP 3.0-Certified Secure KVM Switches**
This broad line of secure KVM products features secure peripheral control between multiple computers and devices with different classification levels which protects confidential information. They also provide port isolation between networks, ensuring no data is leaked between secure ports and the outside world.

**Micro Mini Media Converters**
Bring Gigabit fiber to the desk easily and cost-effectively with these ultra-compact media converters. For extra versatility, they can be USB-powered.

**Emerald® Unified KVM**
KVM-over-IP system that extends and switches pixel-perfect HD or 4K video over an existing or dedicated IP network. Greatly improves operator workflows in control room settings.

**Radian Flex**
Flexible, scalable, future-proof video wall processing platform that gives you the power to control content and how it displays. Fail-safe upgrades available to ensure performance in control room environments.

**CATx Bulk Cables**
Select from a wide offering of top-quality copper cables with PVC or plenum jacket tested to meet all industry standards. Many come in 1000-feet pull boxes that are easy to transport and simplify installation.

**ClimateCab™ Cabinets**
Protect your essential electronics with the highest-quality cooling cabinets available. Ideal for remote locations, wiring closets, and industrial sites.

Customer Use Case: Government Data Center
A new U.S. Government land base data center needed to roll out a complete data center, including infrastructure for KVM, to support deployed naval ships. Additionally, they wanted to reduce data center noise, cool sensitive equipment, and reduce space. They contacted Black Box, who designed a high-performance data center with QuietCab climate-controlled enclosures that kept server noise to a minimum, cooled mission-critical IT equipment, and didn’t clutter the workspace. For the required KVM functionality, Black Box installed the high-performance KVM-over-IP matrix switching system that met the customer’s needs for command and control and improved naval ship support and operations.
The Miami Dade E911 Center required an easy-to-use real-time KVM switching system to improve response times, eliminate inefficiencies, minimize system delay, and end complex new user training. They asked Black Box to implement a complete KVM solution. Black Box deployed an easy-to-use KVM system with Glide and Switch functionality that allowed operators to instantaneously switch from one monitor and one server to up to four additional screens, improving operator workflows and response times, and simplifying new user training.

Every emergency operations center (EOC), 911 call center, and public-safety answering point (PSAP) relies on critical information visualization and communication. Black Box control room solutions enable real-time video and information sharing between field and operations centers, resulting in improved situational awareness and faster response times. When lives are on the line and communication is critically important, trust our extensive portfolio that showcases more than 40 years of technical expertise.

### Featured Products

#### NIAP 3.0-Certified Secure KVM Switches
Secures control center servers and network enclaves with hardware-based data isolation, secure EDID learn and video emulation, and true isolation between device connections, making it easy to switch between networks with different classification levels. Supports resolutions up to 4K UHD.

#### Freedom II KM Switches
Switch between four or eight computers by moving a mouse from screen to screen. Perform functions that would normally require eight separate keyboard/mouse sets with one keyboard and mouse, freeing up desk space.

#### Emerald® Unified KVM
Access and manage an unlimited number of PCs from any location. Share resources such as hardware and licenses across an existing or dedicated IP network.

#### 4Site KVM Multi-Viewer
Control four servers from one keyboard and mouse. Display video from those four servers on one monitor all at the same time and in real time.

#### Radian Flex
Enable faster communication and better informed decision-making with the software-based video wall system that gives you complete control over content. Display high-quality content from any source, across multi-screen display walls in any configuration.

#### ControlBridge®
Achieve the highest level of automated room control with this room control system. Connect and control everything in your control room through one platform.

### Customer Use Case: Miami Dade E911 Center

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Jefferson Regional Hospital asked Black Box to deliver a state-of-the-art integrated operating room video system to enhance and enable their surgical teams’ capabilities to perform the latest techniques in laparoscopic, vascular, and cardiothoracic surgery. Black Box designed, configured, and provided a master DVI Matrix Switch to connect eight sources to eight digital screens with specially-cased Wizard SRX DVI-D Plus Transmitters and Extenders. Now surgery teams at the hospital have the video system they need to successfully perform complex procedures and ensure patient well-being.

Healthcare operations rely on leading-edge technology to improve patient experiences, optimize workflows, and make certain no errors occur in crucial, time-sensitive situations. Black Box provides powerful KVM, digital signage, cabling, and other solutions tailor-made for large hospitals, small medical private practices, and any healthcare facility in between.

**Featured Products**

**MCX Advanced AV over IP**
Deliver 4K 60 Hz, 4:4:4 video and audio without sacrificing latency, video quality, or bandwidth. MCX offers advanced features like seamless switching, zero source to display latency, and video scaling options, such as multiview, picture-in-picture, split screen, and more.

**iCOMPEL®**
This digital signage solution lets you create a better patient experience with clear wayfinding signage and scheduling update boards. It also engages staff with easy content control.

**Emerald® Unified KVM**
Experience pixel-perfect HD or 4K video resolution for high-quality imaging with no blurring or pixelation. Perfect for medical imaging where picture quality is crucial.

**USB 3.0 / 2.0 Extenders**
Overcome the distance between medical imaging equipment in the imaging room and host computers in the technician room, without compromising on image quality.

**Pre-Terminated Fiber**
High-quality pre-terminated fiber cable that provides maximum uptime in crucial medical environments. Plug-and-play installation means no headaches during deployment.

**QuietCab™ Cabinets**
Put networking equipment where you need it — without the noise, space, or cost concerns. Choose from cabinets ranging from 12U to 42U.

**Customer Use Case: Jefferson Regional Hospital**
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1.877.877.2269 BLACKBOX.COM
Digital signage technology allows you to add creative elements to your in-store experience, keeping your brand fresh and generating excitement for customers. In one such application for a Las Vegas event center, the technology solution displays content over box office windows, on kiosks, and in the retail space, as well as over the entrance to a theater. The Radian Flex system can provide all of this functionality and more to any space. This advanced AV extension solution enables operators to direct content to displays located all over event centers with ease.

Nowhere more than in retail environments is the potential to drive revenue by serving dynamic, hyper-targeted digital signage content quite so strong. Black Box offers digital signage and video wall solutions that give you the power to display the content you want where you want in real time to improve sales and awareness. Even better, our signage solutions boast perfect picture quality that’s certain to capture any potential customer’s attention.

**Solutions**

KVM Switching and Extension
Visual Communications and Wayfinding
Infrastructure
Connectivity

**Featured Products**

**MediaCentro**
Create eye-catching, engaging displays with this video extender. It’s scalable so you can add transmitters and receivers as you add sources and displays.

**MCX Advanced AV over IP**
Deliver 4K 60 Hz 4:4:4 video and audio without sacrificing latency, video quality or bandwidth. MCX offers advanced features like seamless switching, zero source to display latency, and video scaling options, such as multiview, picture-in-picture, split screen, and more.

**VideoPlex 4000 Video Wall Controller**
Standalone display wall controller/scaler that outputs high-resolution DVI video up to 4K to multiple monitors. Display content that informs your students, faculty, and staff of school events, emergencies, and more.

**iCOMPEL®**
Create, manage, and update digital signage content easily with this digital signage system. Customize your in-store content by location. Ideal for use with edge-blending projectors.

**MCX Advanced AV over IP**
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**Radian Flex**
This software-based video wall processing platform lets you personalize your video wall to your unique application. Easily manage what, where, when, and how content is shown to your customers.

**Application Scenario: Retail**

Digital signage technology allows you to add creative elements to your in-store experience, keeping your brand fresh and generating excitement for customers. In one such application for a Las Vegas event center, the technology solution displays content over box office windows, on kiosks, and in the retail space, as well as over the entrance to a theater. The Radian Flex system can provide all of this functionality and more to any space. This advanced AV extension solution enables operators to direct content to displays located all over event centers with ease.
The world’s largest steel producer, ArcelorMittal, needed to upgrade their wireless infrastructure to support their growing amount of equipment. They turned to Black Box, who implemented a new wireless technology solution that did not interfere with the already crowded Wi-Fi® frequencies on-site, making full use of the 60 GHz frequency band. The solution offers a stable point-to-point wireless network connection with high bandwidth and is comprised of high-performance antennas that can operate in different distance ranges if installed in the same directional axis. Since the installation, service is operating flawlessly without interruptions even during the most unexpected heavy atmospheric conditions.

Industrial environments present much harsher conditions than those found in typical office environments. They have extreme temperatures, humidity, amounts of dirt and soot, and corrosive materials that can ruin IT equipment. They can also contain devices such as motors and mechanical switches, which cause a large amount of electromagnetic interference (EMI). Black Box has a large range of solutions designed to perform in the toughest environments.

Solutions

- Redundant and Remote Networks
- KVM Switching and Extension
- Real-Time Data Visualization
- Video Extension

Featured Products

- Industrial Ethernet Switches
  This extensive range of hardened Ethernet switches provides reliable performance in demanding security/surveillance and automation applications. It includes managed, unmanaged, and PoE switches.

- Fiber optic Cables
  Make high-density connections that are immune to EMI/RFI interferences. Choose from a wide range of bulk, patch, and pre-terminated fiber optic cables.

- Industrial Media Converters
  Choose from a wide variety of industrial media converters designed to provide the utmost performance in the toughest environments. They are ideal for extending the distance of copper devices such as IP cameras and wireless access points.

- Industrial VDSL2 Bridge
  The industrial-grade VDSL2 Bridge transmits data at 100 Mbps and offers quick, economical, and high-performance broadband/multimedia services to industrial environments over 24-AWG phone wires.

- iCOMPEL®
  Unique application-based digital signage player stores data locally, ensuring you’re covered if the network connection is lost due to extreme conditions.

- Industrial Ethernet Extenders
  Provide an easy, inexpensive way to extend Ethernet over ordinary voice-grade copper wire to remote buildings and in surveillance applications for backhauling remote IP security camera traffic.

Customer Use Case: ArcelorMittal

The world’s largest steel producer, ArcelorMittal, needed to upgrade their wireless infrastructure to support their growing amount of equipment. They turned to Black Box, who implemented a new wireless technology solution that did not interfere with the already crowded Wi-Fi® frequencies on-site, making full use of the 60 GHz frequency band. The solution offers a stable point-to-point wireless network connection with high bandwidth and is comprised of high-performance antennas that can operate in different distance ranges if installed in the same directional axis. Since the installation, service is operating flawlessly without interruptions even during the most unexpected heavy atmospheric conditions.
World Wrestling Entertainment, Inc. (WWE) reached out to Black Box for a KVM system that could accommodate their production load in a massive facility that was prone to system breakdowns. Black Box installed a 288-port KVM switch, a 48-port KVM switch, and CAT6 cabling and connectors that gave the customer the high-performance KVM functionality and reliability they required. Since deployment, WWE has experienced significantly improved workflows, enhanced efficiency, and no system breakdowns.

Broadcast and media companies are transitioning to cloud-based workflows and automating operations for program transmission, master control, news production, and live production. KVM technologies play a key role in this transition, allowing managers, editors, operators, and engineers to manage and reconfigure infrastructure. Black Box has extensive experience in developing KVM solutions for the broadcast industry. Prepare for the future with our complete line of KVM solutions.

**Featured Products**

**Emerald® Unified KVM**
Optimize performance, reliability, and workflow efficiency in broadcast and post-production with this KVM system. Delivers one converged system with pixel-perfect HD or 4K video extension over an existing or dedicated IP network. Connect users with both physical and virtual machines across buildings or around the world.

**ControlBridge®**
Achieve the highest level of automated room control with this room control system. Connect and control everything in your control room through one platform.

**KVM Extenders**
Get reliable remote access to critical IT assets in your production environment with our broad range of KVM extenders.

**4Site Flex**
This KVM Multiviewer allows you to control and monitor up to four computers on a single screen. It supports digital HD video, USB, and audio signals and allows visualization of all connected sources in four display modes: full screen, quad, picture-in-picture, and windows mode.

**Customer Use Case: WWE**
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Keeping transportation operations safe and on time comes down to having the right technology infrastructure in place. Black Box’s comprehensive portfolio of connectivity products help you track every issue, delay, and emergency happening in transportation environments, such as airports, railway stations, subways, bus stations, and more in real time so operators can make instant, informed decisions to keep commuters safe and satisfied.

**Solutions**

- Remote Air Traffic Control
- Railway Automation and Connectivity
- Passenger Monitoring
- Passenger Information

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**Featured Products**

- **Emerald® Unified KVM**
  The Emerald 4K KVM-over-IP solution was designed with 24/7/365 applications in mind. It provides network resilience at every level and is capable of supporting complete switchover to a backup control room for fail-safe operation with zero downtime.

- **Industrial PoE/PoE+ Ethernet Switches**
  Easily connect IP cameras, passenger information systems, and control units with these hardened PoE-enabled Ethernet switches. Choose between powerful managed switches or plug-and-play unmanaged switches.

- **Freedom II KM Switches**
  Switch between multiple computers by moving a mouse from screen to screen. No software or additional networking required.

- **DKM Modular KVM Matrix**
  DKM is a proprietary (non-IP) high-performance KVM matrix switching platform that allows cross-point switching and extension of up to 4K video, peripheral, audio, and serial signals. The multilevel redundancy of the DKM family offers high reliability for 24/7 operation in critical environments.

- **Industrial PoE/PoE+ Ethernet Switches**
  Easily connect IP cameras, passenger information systems, and control units with these hardened PoE-enabled Ethernet switches. Choose between powerful managed switches or plug-and-play unmanaged switches.

- **iCOMPEL®**
  Keep passengers informed of arrival times and delays with this easy-to-use digital signage platform. Update in real time with ease to keep content accurate.

- **Radian Flex**
  Flexible, scalable, future-proof video wall processing platform that gives you the power to control content and how it displays. Fail-safe upgrades available to ensure performance in control room environments.

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**Customer Use Case: German Airport Operations Center**

A large German airport needed a matrix switching system to extend and switch multiple video and peripheral signal sources to different multi-screen operator desks. The system had to support 24/7 operations, central management of user access rights, and both CATx and fiber cabling. They decided on the highly-reliable DKM FX HD Video and Peripheral Matrix Switching system from Black Box that was made for 24/7 operations. The DKM system met all their requirements, improved functionality for operators, and increased job satisfaction and productivity.