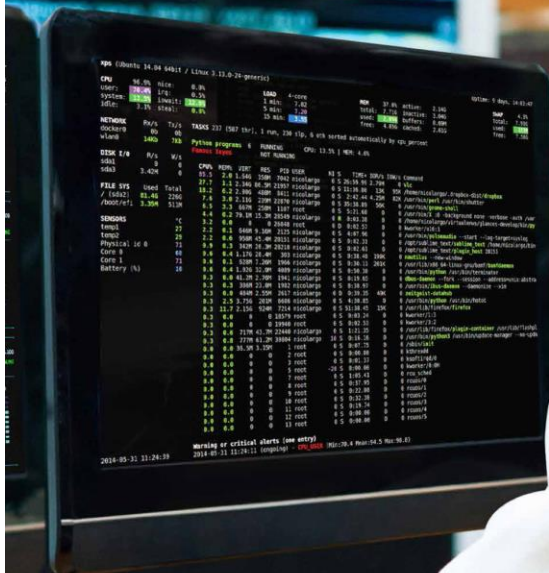


# CONTROL ROOM SOLUTIONS

VISUALIZATION & SIGNAL MANAGEMENT FOR 24/7 MISSION CRITICAL ENVIRONMENTS



Master Distributor



Design & Build Green Data Center

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## LOOK AT THE BIG PICTURE

Control rooms need to be reliable and should display accurate data both on-site and remotely. They also have to provide access to huge amounts of data in a safe and protected environment, offering enough flexibility and scalability to accommodate ever changing user needs and new technologies.

Black Box has the deep technical expertise, a wide support system and an extensive portfolio to put together a solution for your specific application. Count on our experience participating in more than 600 control rooms a year for mission-critical applications.

As a leading control rooms solution provider, we offer our customers reliable, highly tailored solutions for routing, switching and extending video and peripheral signals. Our products help you optimize the visualization of critical data and bring collaboration in the control room to a whole new level.



### SIGNAL SWITCHING AND EXTENSION

Simplify signal management with reliable switching and extension equipment.



### VISUALIZATION AND COLLABORATION

Make decisions from a common operating picture or shared display.



### REMOTE SHARING AND CONTROL

Manage servers and KVM equipment from anywhere, at any time.



### OPERATOR WORKSPACE AND CONTROL

Real-time monitoring and room control equipment.

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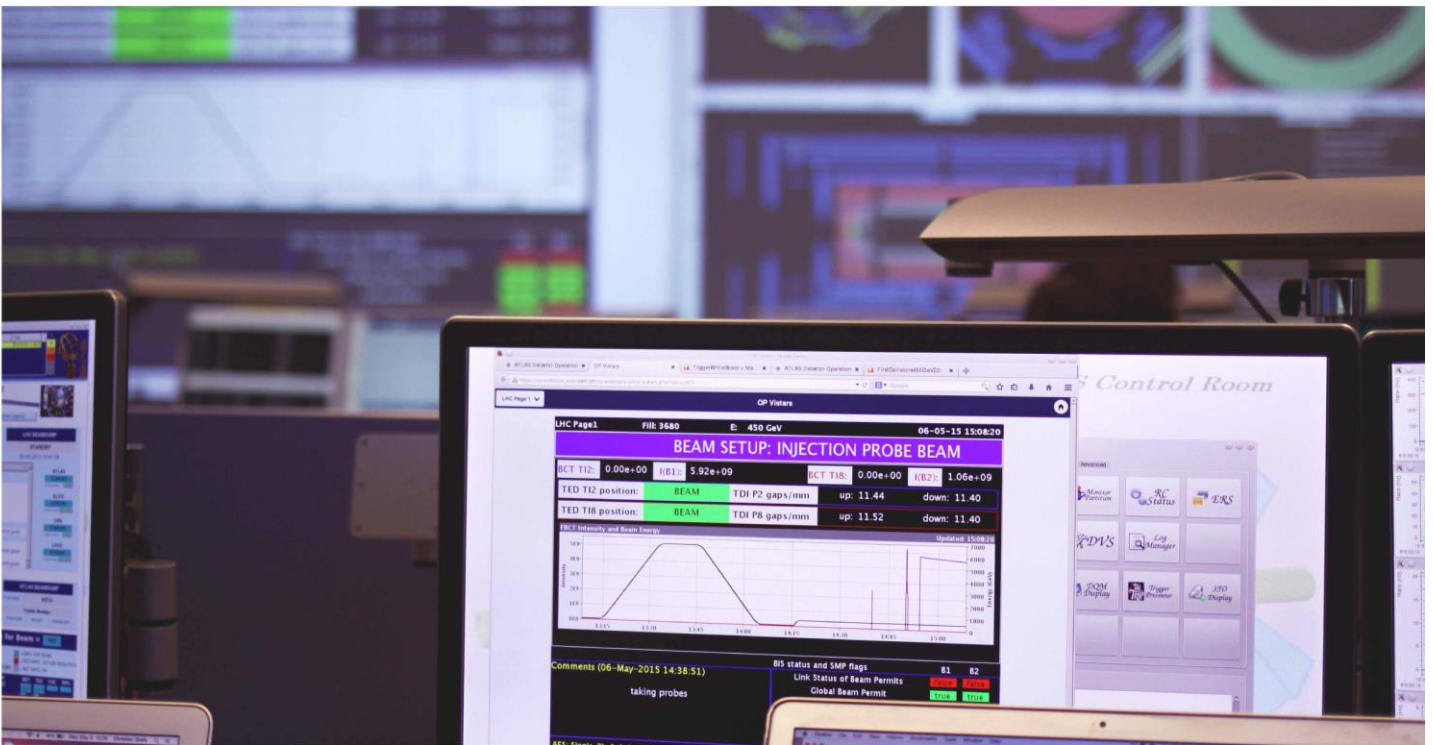
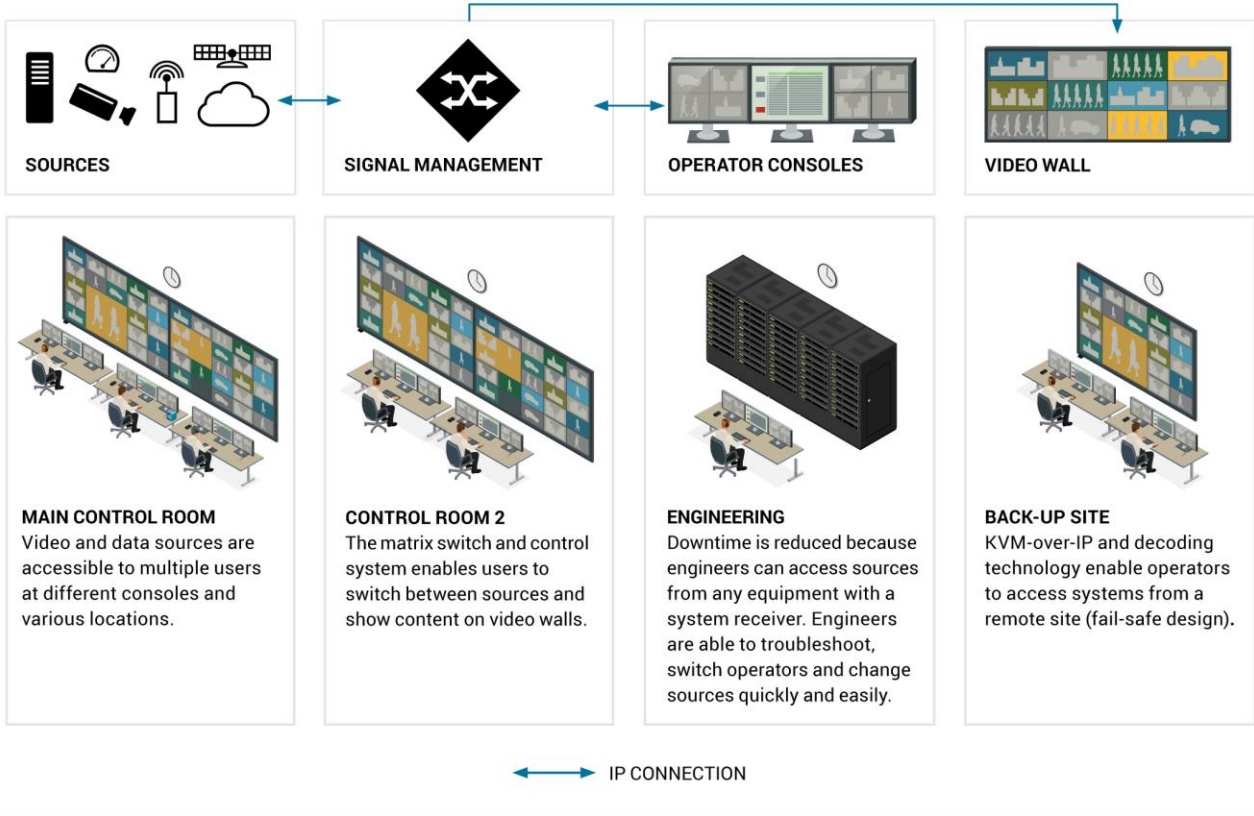
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## CONTROL ROOM SIGNAL FLOW



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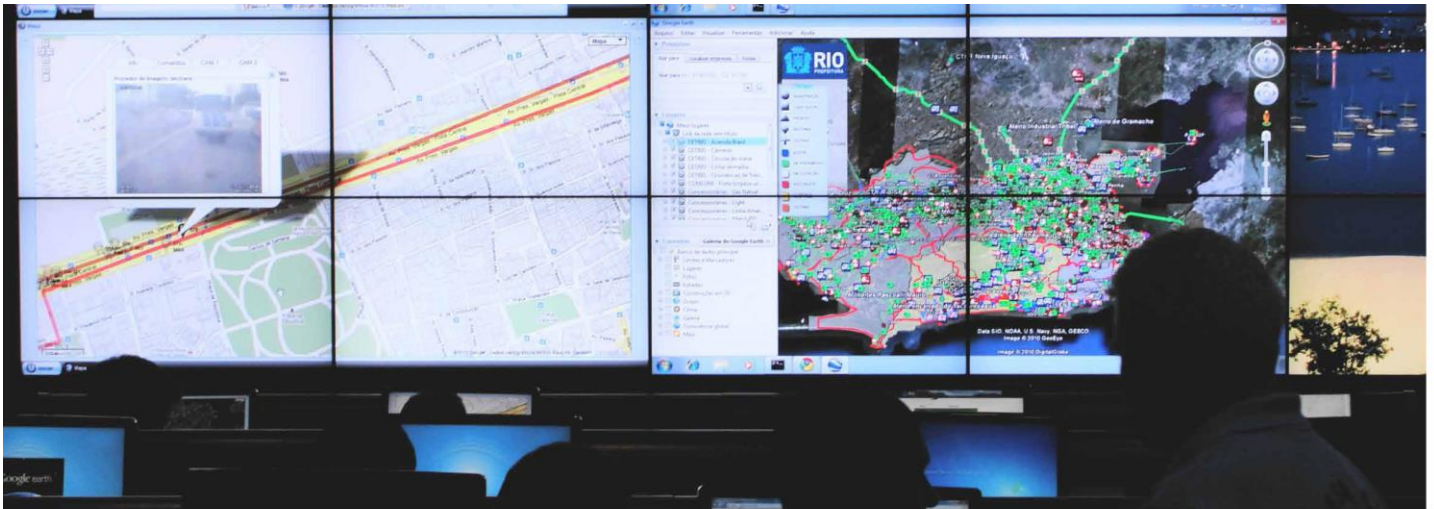
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## SIGNAL SWITCHING & EXTENSION

4K video and peripheral (matrix) switching gives users access to a variety of devices, the ability to monitor work flow and flexible control of visual and peripheral elements. KVM signal extension enables you to place PCs, servers and workstations in clean and secure locations. Extend peripheral and high-resolution video and audio signals over CATx, fiber or even over IP, depending on how far you want to go.

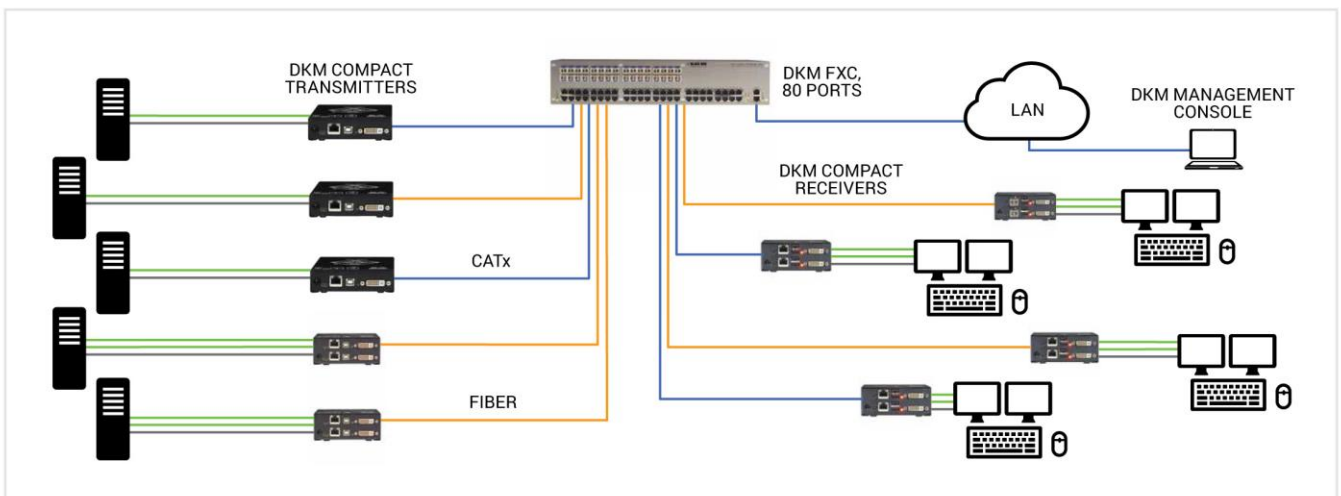
### SCALABLE KVM MATRIX SWITCHES

INSTANTANEOUS SWITCHING OF KVM AND VIDEO SIGNALS UP TO 4K60

This chassis-based, modular cross-point switching system enables you and others to switch and extend up to 4K60 video, USB, audio and serial data over extremely long distances. Use it in any application where many users have to interface with CPUs and other high-end AV equipment supporting high-quality video. The DKM system is especially designed for enterprise networks and mission-critical control/command rooms, as well as video production or broadcasting applications where HD video is everything.

- A modular, scalable highly reliable peripheral matrix switching and 4K video routing system.
- Scalable to hundreds of endpoints.
- Very flexible. Any port can be an input or an output.
- Virtually no delay or blanking. Support many video input formats like DVI, HDMI, DisplayPort, SDI, VGA as well as digital and analog audio.
- Boasts digital resolutions up to 4K with 60 fps (DisplayPort)

For more information visit [BLACKBOX.COM/DKM](http://BLACKBOX.COM/DKM)



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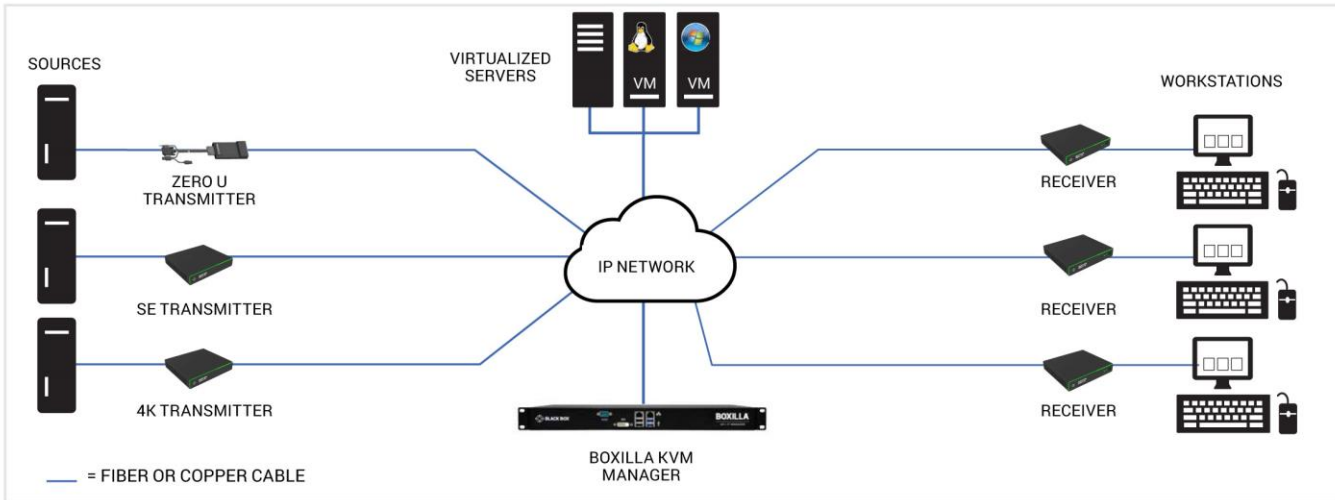
# EMERALD™ UNIFIED KVM MATRIX SWITCHING

4K60 KVM OVER IP FOR PHYSICAL AND VIRTUAL SERVERS

Emerald unified KVM is a high-performance KVM matrix switching system that delivers pixel-perfect HD (DVI) or 4K60 10 Bit (DisplayPort 1.2) video resolutions over an IP network. Extend and switch video, transparent USB 2.0 as well as digital or analogue audio via CATx (Emerald SE) or redundant copper or fibre cables using SFP+ modules (Emerald 4K).

- Scalable, zero-client based HD or 4K60 matrix switching and extension.
- Combine HD and 4K transmitters/receivers in a single IP KVM network.
- Connect user stations to physical and virtual servers (PCoIP, RDP/Remote FX).
- Flexible, USB-powered Emerald ZeroU transmitters consuming zero rack space.
- Extend and switch between rooms, buildings or even the internet.
- Centrally manage and monitor your Emerald network with Boxilla KVM manager.

For more information visit [BLACKBOX.COM/EMERALD](http://BLACKBOX.COM/EMERALD)



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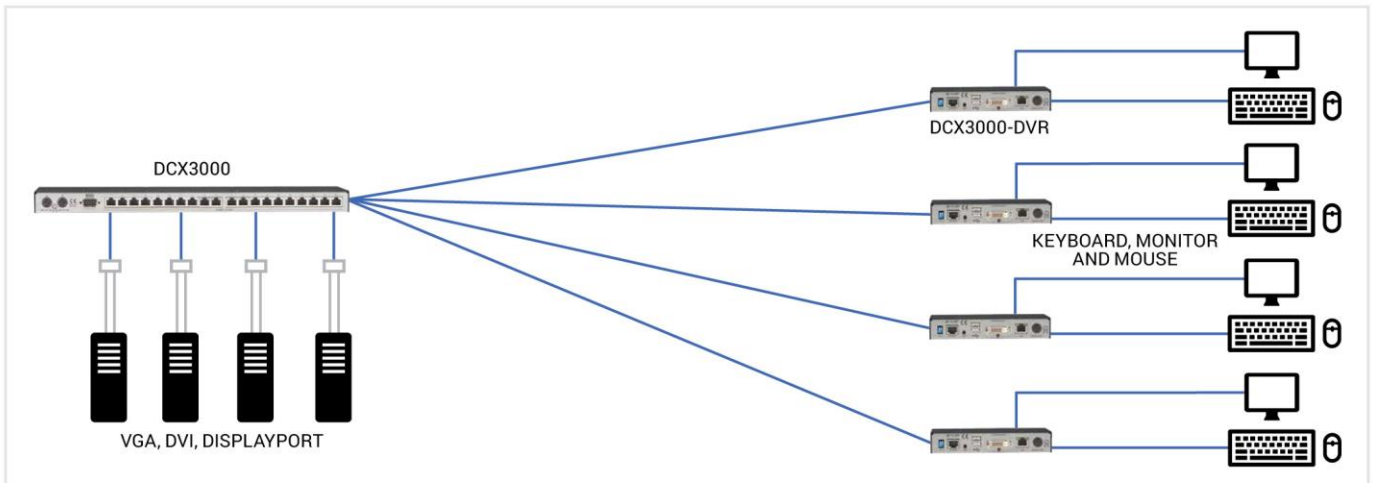
## SIGNAL SWITCHING & EXTENSION (CONTINUED)

### DCX KVM MATRIX SWITCHES

#### COMPACT KVM MATRIX SWITCHES FOR SMALL CONTROL ROOM APPLICATIONS

- Small in size, but big in features and performance, the DCX3000 Digital KVM Matrix Switch is an attractive option for small to medium applications.
- Digital KVM Matrix Switching for 10 (DCX1000) or 30 endpoints (DCX3000).
- Intuitive switching via on-screen menus using auto refreshed preview thumbnails.
- Add computers with VGA, DVI, DisplayPort and USB interfaces.
- Single-, dual- or multi-head video operation up to 1920 x 1200 @ 60 Hz.
- USB HID and embedded audio over a single CAT6 or greater cable up to 50 meters.
- Provides the perfect video synchronization for single- or multiple-display applications, including touch screens.

For more information visit [BLACKBOX.COM/DCX](http://BLACKBOX.COM/DCX)



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## VISUALIZATION & COLLABORATION

High-performance video processing solutions enable video signals to be converted and scaled to the required single-screen or multi-screen display format. With video or data sources connected to the system, it's possible to create individually tailored video wall solutions that deliver high-quality resolution images to all displays in your control room.

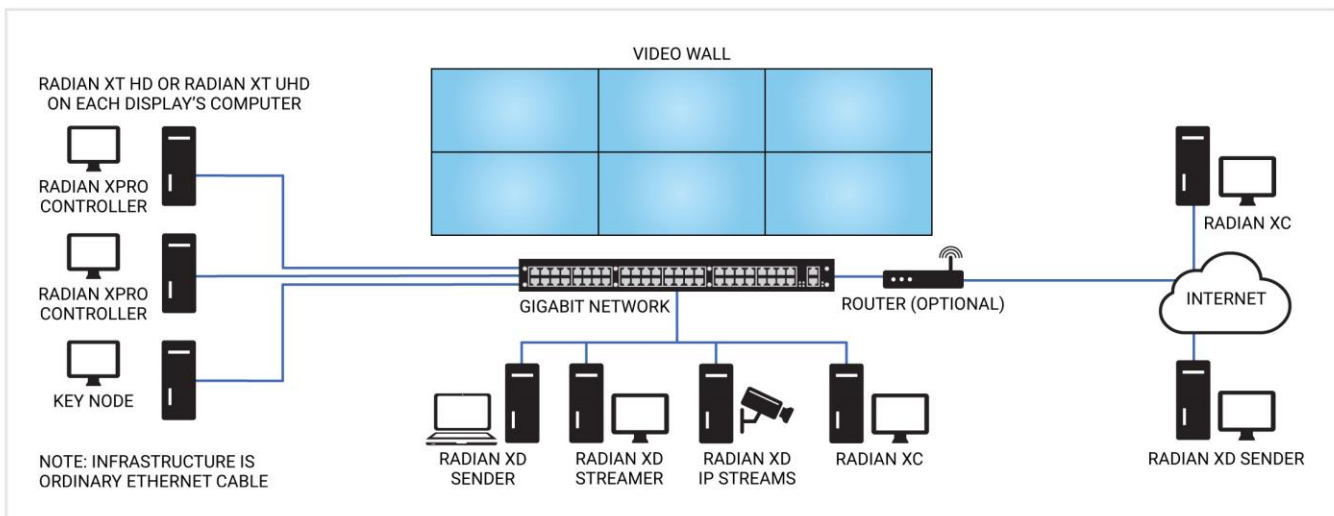
### RADIAN FLEX™ VIDEO WALL SOFTWARE

THE FLEXIBLE, FUTURE-PROOF VIDEO WALL SOLUTION

Radian Flex is a 100% software-based video wall solution which means no costly, confusing hardware upgrades and no bulky boxes that take up too much space. Infinitely scalable, it has no limit to the number of end points it can display to which lets you easily manage what, where, when and how content is shown.

- Currently supports 250+ displays on a single controller PC. But as networking technology improves, so will the ability to add displays.
- Supports today's 4K and is ready for tomorrow's 8K and beyond. 4K video playback and high-performance (60 fps) 1080p playback. Supports video compressed in the H.264/ AVC format and audio compressed in the AAC format.
- Globally share live feeds and content among connected walls.
- Made for mission-critical applications. Powerful, fail-safe connectivity comes with Radian Flex Pro or can be purchased separately for Radian Flex Standard.

For more information visit [BLACKBOX.COM/RADIANFLEX](http://BLACKBOX.COM/RADIANFLEX)



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## REMOTE SHARING & CONTROL

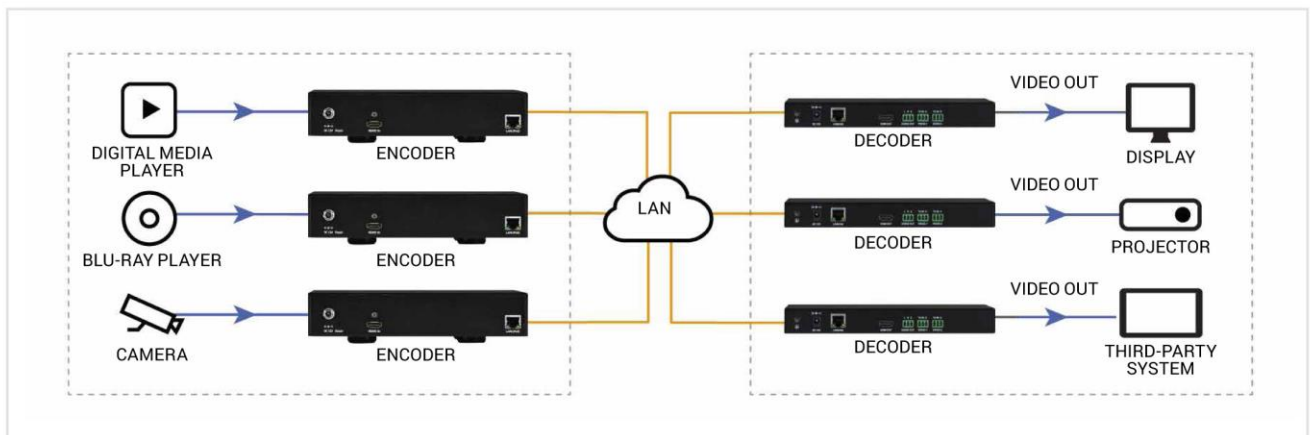
Remote solutions enable the sharing of video and data feeds between different command and control rooms throughout facilities and campuses. Outbound connections require special attention regarding security (encryption) and the bandwidth to ensure real-time access and a zero-latency operator work flow.

### H.264 ENCODER & DECODER

SHARE VIDEO CONTENT OVER IP TO ANY DEVICE OR REMOTE SITE

- Streams encoded HDMI signals over IP networks using standards-based protocol.
- Adjustable encoding quality for video bit rate (2-30 Mbps) and audio bit rate (32-240 Kbps).
- Supports input signals up to 1920 x 1200 @ 60 Hz, including Full HD 1080p @ 60 Hz.
- Web GUI and Telnet interface for remote management.

For more information visit [BLACKBOX.COM/ENCODER](http://BLACKBOX.COM/ENCODER)



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# OPERATOR WORKSPACE & CONTROL

Operator workspace and control solutions enable multi-PC desktop work flows for control room operators and eliminate redundant input and control devices. They help operators focus more closely on their work, rather than on the equipment affecting their work.



## CONTROLBRIDGE™

COMPLETE MULTISYSTEM  
AND ROOM CONTROL

- Multiple control processors for any size control application.
- Control multiple devices via Ethernet, serial, IR, digital I/O and relays.
- Pre-configured control room app available to automatically discover, setup and control DKM and Agility products.
- Control applications with an unlimited number of touch screens, pushbuttons and mobile devices (iOS, Android)

For more information visit  
[BLACKBOX.COM/CONTROLBRIDGE](http://BLACKBOX.COM/CONTROLBRIDGE)



## 4SITE KVM MULTI-VIEWER

VIEW AND CONTROL FOUR PCS  
ON A SINGLE SCREEN

- 4-to-1 KVM switching with smooth real-time image processing: DVI, VGA, HDMI, HDCP.
- Four display modes: quad, full-screen, picture-in-picture and Win.
- Transparent USB 2.0 peripheral matrix switching.
- Switching via hot key, hot mouse, OSD, external program or serial control device.

For more information visit  
[BLACKBOX.COM/4SITE](http://BLACKBOX.COM/4SITE)



## FREEDOM™ KVM SWITCH

SWITCH CONTROL ACROSS FOUR PCS  
BY MOVING YOUR MOUSE

- Create a multi-PC extended desktop.
- Use a single keyboard and mouse across four PCs.
- Combine multiple screen sizes and arrangements for unique desktop layouts.
- Compatible with KVM extension from remote PCs.

For more information visit  
[BLACKBOX.COM/FREEDOM](http://BLACKBOX.COM/FREEDOM)



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# POLICE STATION COMMAND AND CONTROL ROOM

PROJECT: UPGRADING A COMMAND AND CONTROL ROOM IN A NEW POLICE STATION

## THE CHALLENGE

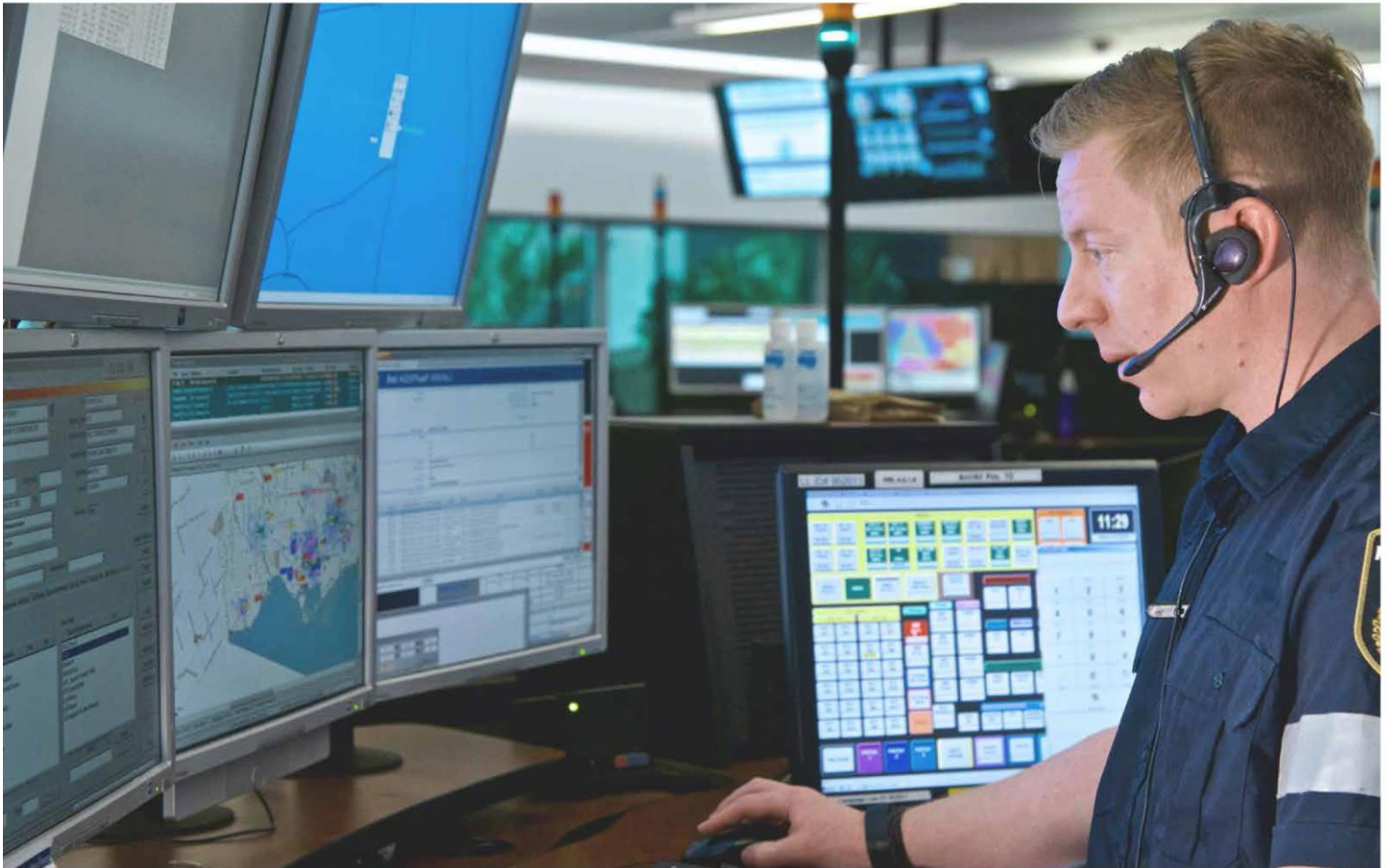
As part of the move to a new building, a police department in Norway planned to overhaul their command and control room equipment. Their existing control room used legacy analog technology and was a mix of KVM point-to-point extensions (VGA-PS2 and VGA-USB), and small desktop KVM switches to give single-user access to one or two remote systems.

## THE SOLUTION

The police department specified a need for fast switching times, redundancy and hot swappability to avoid potential downtime. Black Box suggested the implementation of a DKM FX Matrix Switching System. Because of its scalability and flexibility, DKM FX switches are a great solution for command and control rooms, providing multiple users with simultaneous access, and the ability to work over a mix of structured cabling (copper and fiber).

The DKM FX solution is configured with two video walls, one 4-by-2 and one 2-by-2 setup, connecting rooms with five desks and multiple users throughout 24/7 shifts.

A Black Box MediaCentro Control System integrates with the DKM FX in order to bring touchscreen compatibility for switching and control of the video walls. The larger video wall has a title function where an image can be sent to a 2-by-2 area. Operators have a mix of extension systems on their desks, enabling some to transmit to the video walls while others are simply connected to remote servers.



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## CASE STUDY: MANUFACTURING AND SAFETY

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# CUSTOM SOLUTION FOR DUPONT DE NEMOURS BV

PROJECT: COMBINING KVM AND INFRASTRUCTURE COMPONENTS FOR A NEW CONTROL ROOM

### THE CHALLENGE

DuPont wanted to renew the control room in its production environment. In this space, a new desk was placed with workstations for managing and monitoring the production process. Thirteen PCs could not remain in the control room because they would be too hot and noisy, as well as too difficult to maintain.

### THE SOLUTION

Black Box designed a solution for this application that included cabinets, KVM extenders, cables and KVM switches, all of which were extensively tested, delivered and installed. This wide-ranging project resulted in a customized solution for DuPont Netherlands BV.

Mr. Tuyl, Project Manager, DuPont Netherlands BV: "I am very pleased with the progress of the project. There were some problems with the installation by other parties, but Black Box was very flexible and put the customer first. The engineers at Black Box were involved in a solution, even though the problems were not caused by Black Box. Eventually, they made sure that all the equipment fit perfectly together. I am very happy."

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11

## WHY BLACK BOX?

### EXPERTISE

Black Box project engineers can assist with system assessment, design, deployment and training.

### BREADTH

Black Box offers the most comprehensive suite of engineered KVM solutions in the industry.

### SUPPORT

Reflecting our commitment to complete satisfaction, our dedicated team of highly trained support technicians is available by phone free of charge.

### WARRANTIES

Multi-Year warranties with multi-year extensions and replacement options are available.

### EXPERIENCE

Providing leading technology solutions since 1976, Black Box helps more than 175,000 customers in 150 countries build, manage, optimize and secure IT infrastructures.

### CENTER OF EXPERTISE

Black Box offers a Center of Expertise featuring professional services and support agreements that help optimize customers' systems and maximize uptime.

### SERVICE LEVEL AGREEMENTS

Our Service Level Agreements give customers access to technical support, product training, dedicated application engineers and more.

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