DIGITAL KVM MATRIX SWITCHING

ANOTHER QUALITY PRODUCT FROM

BLACK BOX

DKM FX 288 port

Typ   ACX288
P/N   402643
S/N

Input: 100-240V~ 50/ 60Hz, 12A max.

BLACK BOX® | BLACK-BOX.EU**/DKM**

HD VIDEO & MATRIX PERIPHERAL SWITCHING

LEADING-EDGE TECHNOLOGIES THAT DELIVER UNPARALLELED PERFORMANCE

Flexible, instantaneous crosspoint switching and peripheral extension of full HD video for broadcast, post-production, and command and control rooms

Black Box provides an innovative, hybrid matrix switching solution for multiple signal types — the DKM FX and FXC HD Video and Matrix Switching system. This DKM FX platform replaces multiple devices with one hybrid solution that supports routing, switching, multi-point distribution of SDI, 3G-SDI, HD-SDI, HDMI, DisplayPort and DVI video standards, dual link extension, and state-of-the-art KVM functionality. This game-changing product replaces up to four single-purpose devices with one robust solution, saving customers time, money, complexity, and potential integration issues.

FEATURES

- A scalable, highly reliable video and peripheral matrix switching and routing system that supports high-resolution HD-SDI, HDMI, DisplayPort 1.1 and 1.2, DVI, VGA and KVM in one flexible, scalable product

- Supports high-quality, full-frame digital video, and 4K/UHD (ultra high-def) digital resolutions up to 3840 x 2160 (60 frames per second)

- Modular platform with up to 576 bidirectional ports that make moves, adds and changes fast and easy

- Choose from CATx and single-mode fibre SFP modular card interfaces. Single-mode fibre interface cards also work over multimode fibre

- Enables mixing of media on inputs and outputs — CATx in and fibre out, or vice versa

- Included control card supports management via KVM, network, or serial console. N+1 power supplies supported

- Switches in less than one frame. Hot-key switching enables user to bypass the standard on-screen display for instant access to critical systems

- Compatible with DNF control panels

- External switching via Black Box ControlBridge AV and KVM Control Processor

- Manage DKM and virtual servers through Emerald and Boxilla

SIMPLIFY OPERATIONS WITH CONTROLBRIDGE

If you're managing several workstations through a DKM system, consider streamlining your process with ControlBridge. This control panel supports a DKM application that gives you instant, one-touch control over multiple CPUs and cons.

The ControlBridge automatically synchronises with the DKM database and delivers all computer / user station pointers to the screen, allowing you to seamlessly switch sources to different endpoints.

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Give multiple users fast, reliable access to high-quality, real-time digital video — plus a host of peripherals across the enterprise — with the DKM FX HD Video and Matrix Switching system.

This chassis-based, modular crosspoint switching system enables you and others to switch and extend KVM and peripherals over extremely long distances. Use it in any application where many users have to interface with CPUs and other high-end AV equipment that supports high-quality video.

SUPPORTED INTERFACES
DVI-D, VGA, HDMI, DISPLAYPORT 1.1 AND 1.2, COMPOSITE, RGB, SDI, HD-SDI, 3G-SDI
USB HID, USB 2.0, USB 3.0, ANALOGUE/DIGITAL AUDIO, RS-232, RS-422, PS/2

The DKM system is designed for video and broadcasting applications, or for mission-critical control/command rooms — anywhere HD video extension and distribution are vital. Many users can connect their KVM consoles to various multimedia sources (computer, CPUs, servers, etc.), either locally or in a distant room or office via the switch.

This scalable, flexible system enables you to configure HD KVM switching and DVI routing exactly as needed. Mix and match fibre and CATx ports through cards and SFPs that are plugged into the system's slots. The configurations are nearly limitless.

The switch comes with a controller card, which has USB keyboard/mouse and DVI monitor connectors for local KVM administration; an RJ-45 port for interfacing with the network and a client machine that has the DKM Java tool installed; and a serial port for control via an external RS-232 device. Because the card has a built-in CPU, you can control all functions from any console without the need for an external CPU or media control. OS platform independent, the switch and its controller card can be accessed by Windows®, Linux® and/or Mac OS® users.
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SWITCHES WITHIN MILLISECONDS
Users can switch seamlessly and almost instantaneously from any source to another with the DKM. It takes just milliseconds for this to happen (similar IP-based solutions can take as long as 15 seconds to perform this action).

REDUCES DOWNTIME
Modular in design, the DKM FX enables you to change peripheral and CPU connections on the fly and ensure zero downtime. Add or remove cards and SFPs in the slots and reroute inputs and outputs while the DKM FX system's up and running.

DESIGNED FOR EASY EXPANSION
Add connections and change inputs/outputs as your enterprise needs evolve. When a department purchases new hardware, just slide a new interface card into the chassis. You can also cascade multiple switch chassis if you exceed the number of available ports.

BUILT-IN SIGNAL REPEATER CAPABILITIES
From its ports, the switch supports device-to-device single-mode fibre links up to 10 km and CATx links up to 140 m. These links can be to KVM users, DVI sources, servers and/or various peripherals. Used midway between an extender transmitter and extender receiver, the switch works as a repeater, essentially doubling your distance — up to 20 km over fibre and 280 m over CATx. You can even configure CATx on an input for output on fibre, or vice versa, and execute it with all the previously mentioned configurations. It is often used in control rooms to enable a primary administrator to troubleshoot or apply updates.

## SYSTEM ENHANCEMENTS FOR MANAGEMENT
Several system licenses are available to enhance the usefulness of the DKM system. Installing the Java utility enables users to create presets and macros that can be executed remotely. Furthermore, the Syslog/SNMP license enables remote monitoring. The DKM can also be cascaded when a chassis is fully populated, or when a user wants to access a remote DKM chassis. The Cascade software upgrade enables one or more chassis to be connected and still run from one administrator. Alternatively, users can join chassis in different rooms or buildings (if using fibre) where they can remotely manage the system.

DKM FX SYSTEM APPLICATIONS

FAST SWITCHING, MULTI-USER SHARING
Users such as directors, presenters and editors require an undisturbed work environment. They need to work way from loud or continuous noise and unnecessary heat. A distraction-free workplace is key to productivity and error-free results.

A. TRANSMITTERS BACK-RACKED WITH SERVERS

B. PRESENTERS EDITORS AND OTHER USERS

C. SYSTEM ADMINISTRATOR
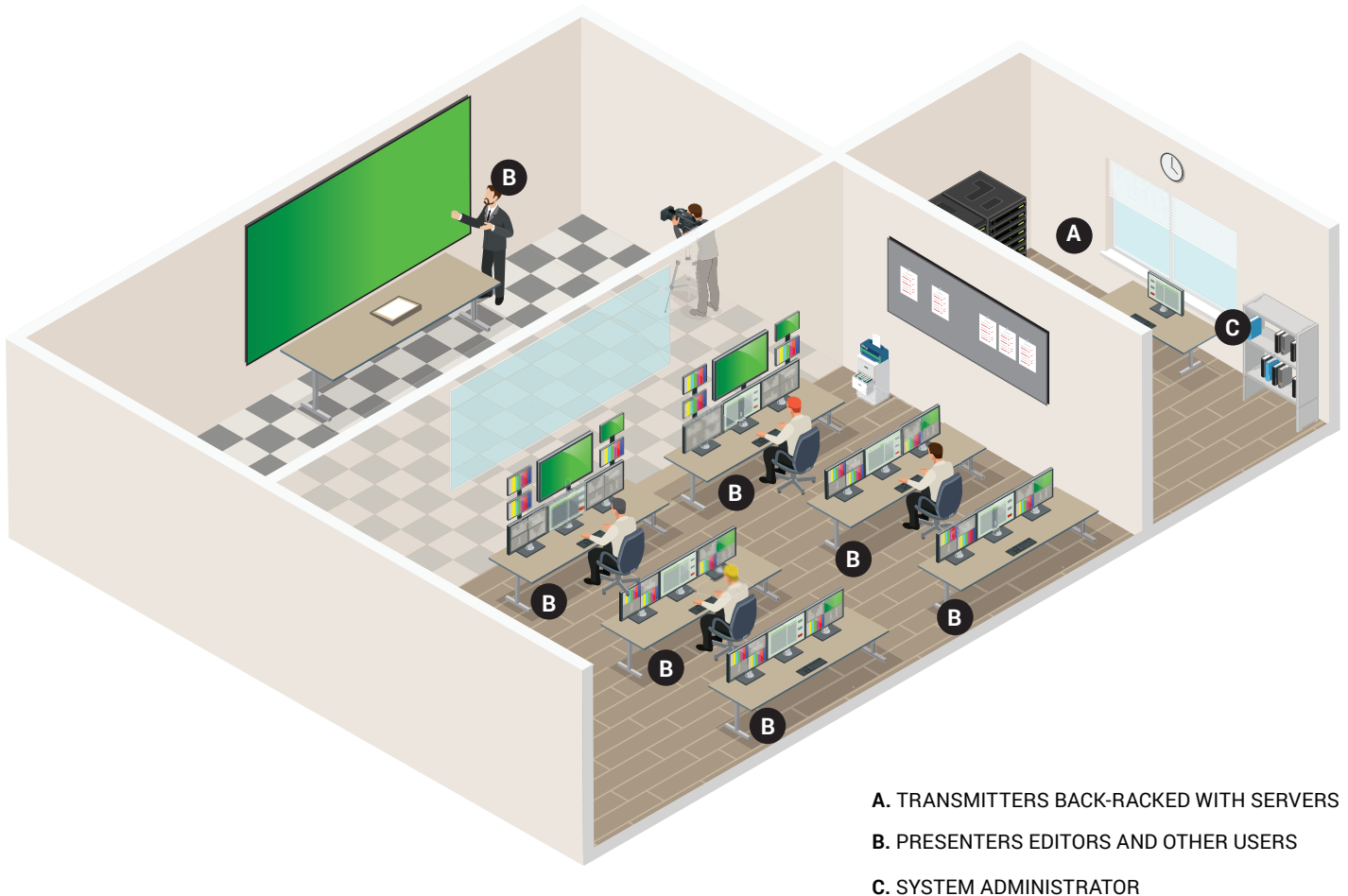
Additionally, broadcast is a collaborative environment. Many people need access to video and sound for review and editing. They need this access immediately in real time, and the quality of the work has to be very high.

KVM and HD video peripheral switching and extension solutions are ideal for broadcast environments. They enable access to many users at once, in real time, and to high-definition video signals, audio, serial, and USB peripherals. The configuration possibilities are endless. KVM and video peripheral switching and extension also offer flexible transmission options: CATx cable, fibre optic cable or IP-based extension.

In the diagram above, KVM and HD video and peripheral extension is used to transmit every required signal from the central equipment room to the end users.

DKM FX extender transmitters (A) take the signal from a computer and send it over cabling to the DKM FX extender receivers (B). Receivers provide all the necessary ports for connecting devices needed by the users (keyboard, mice, touchscreens, speakers USB peripherals). The system administrator can configure, switch and manage the system from another workstation (C) with web-based management software. Individual extension technologies can easily be combined in a freely scalable, high-performance switching matrix.
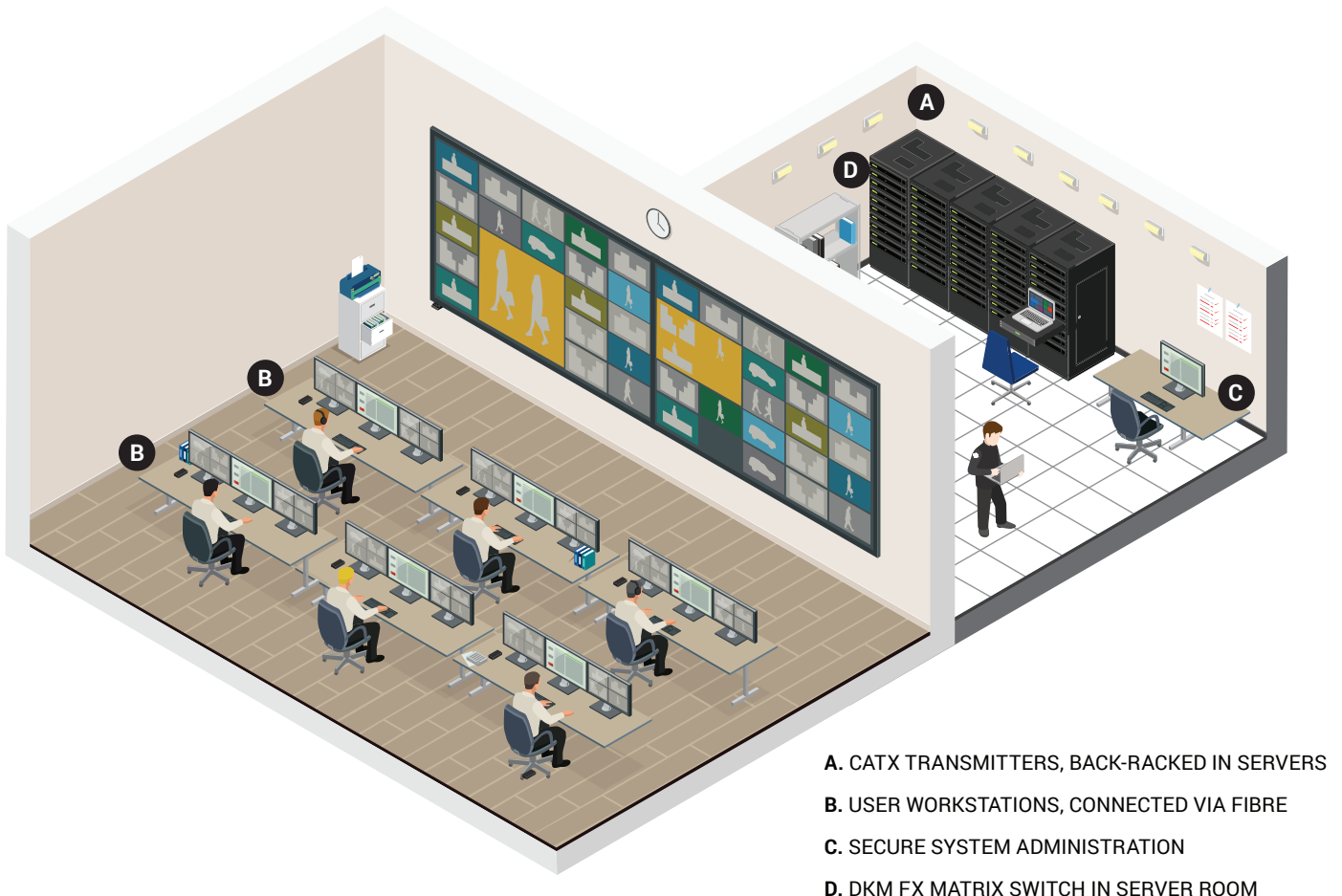
KVM and HD video and peripheral extension optimises broadcast processes by using existing network infrastructure. Video signals, including DVI-D, DVI-D, DisplayPort 1.1 and 1.2, and HDMI, can be simultaneously transmitted with peripheral signals. The USB interface ensures that even specialty peripherals such as tablets and touchscreens can be easily integrated.

DKM FX SYSTEM APPLICATIONS

COMMAND AND CONTROL

SURVEYING THE SITUATION

As with broadcasting, a command and control room setup requires multiple users to access video, CPUs and peripherals. Additionally, in a command and control application, one user needs to control the flow of information and switching.

A. CATX TRANSMITTERS, BACK-RACKED IN SERVERS

B. USER WORKSTATIONS, CONNECTED VIA FIBRE

C. SECURE SYSTEM ADMINISTRATION

D. DKM FX MATRIX SWITCH IN SERVER ROOM

A command and control room (also referred to as a command and control centre) is typically a secure room or building in a government, military or prison facility that operates as the agency's dispatch centre, surveillance monitoring centre, coordination office, and alarm monitoring centre all in one.

This state-of-the art matrix and peripheral switching and extension technology offers an array of ports that can be dynamically allocated as input or output. Ports can be connected to a CPU or connected to a console, and ports can be switched according to the user's requirements. As long as there are available ports, you can switch in any combination of inputs and outputs. It's not a one-to-one configuration like you find in most matrix switches.

With the DKM FX switching system, a command and control room setup can be extended through several rooms or buildings. A server room houses servers and the main management switch, plus all the CATx transmitters (A). CATx is used for the input because it is pre-existing in the infrastructure.

The outputs on the DKM FX populated chassis (D) are then fibre optic cables to the DKM FX receivers at each computer (B) distributed throughout another room (or to other buildings on campus). Using fibre optic cabling increases distance, prevents ground loops and corrects voltage disparity. Video distribution comes from a single workstation, and commanders (administrators) work at the keyboard/mouse workstations (C) while viewing video on a quad screen. In the setup above, you can see that the DKM FX video extension incorporates a dual-head application.
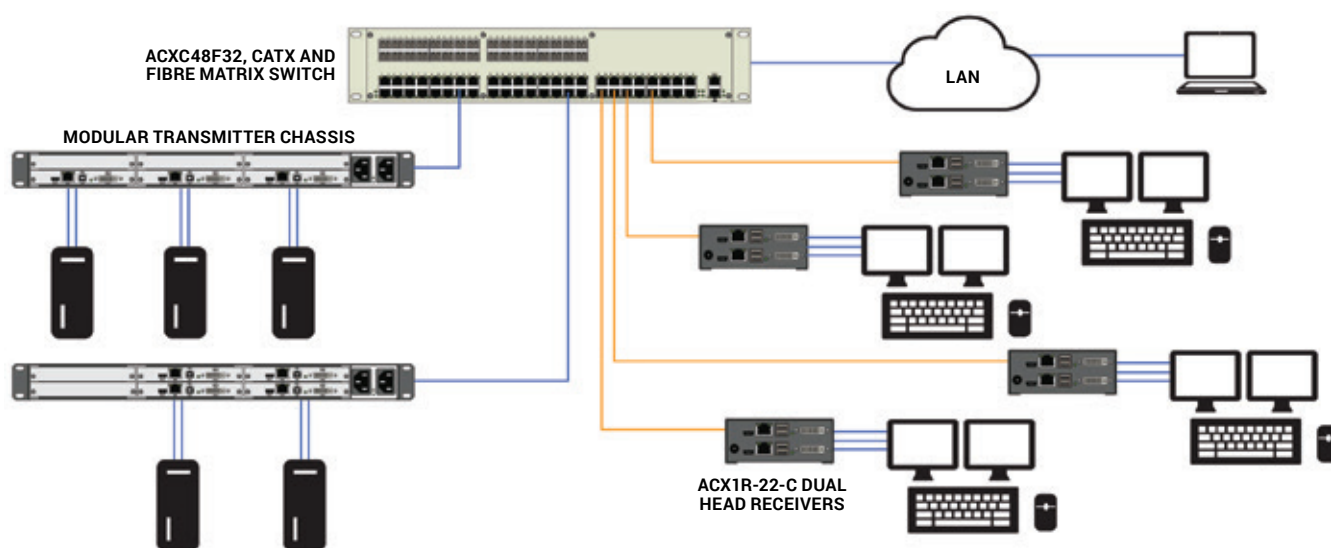
DKM FX COMPACT

INSTANTANEOUS HD SWITCHING — SMALLER
MORE COMPACT MODEL — FEWER USERS

MIX OF FIBRE AND CATX EXTENSION

Transmit and extend dual-DVI and USB-HID signals over a mix of CATx and fibre. A laptop running the Java utility license can manage the system over the LAN, and multiple users can access video and switch stations instantaneously and seamlessly. Workflow in a fast-paced, collaborative environment is supported with this hybrid, single-platform technology.

DKM FX COMPACT MATRIX SWITCHES

- Use the cost-effective DKM FX Compact Switches to establish connections from consoles (monitor, keyboard, mouse and other peripheral devices) to sources, including computers and CPUs

- Uses CATx cabling for extension, and some models have SFP slots for fibre connectivity

- Series supports eight to 48 ports in a 1U chassis for easy mounting in server cabinets

- Redundant power supplies included

- Use with DKM FX Modular and Compact Extenders (ACX1MT/R series and ACX1T/R series) to extend video, KVM and peripherals

- Specific switches support up to 6Gbps of data, which supports USB 3.0, SDI, HD-SDI and 3GSDI

ACXC48F32, CATX AND FIBRE MATRIX SWITCH

LAN

MODULAR TRANSMITTER CHASSIS

ACX1R-22-C DUAL HEAD RECEIVERS

MATRIX SWITCHING FOR SMALL BUSINESSES

INSTANTANEOUS SWITCHING OF HD VIDEO AND PERIPHERAL SIGNALS IN A SMALLER CHASSIS FOR SMBS AND SPACE-CONSCIOUS ORGANISATIONS OR DKM FX SYSTEM EXPANSIONS

DKM FX COMPACT HD VIDEO AND PERIPHERAL MATRIX SWITCHES

TECHNICAL DATA					
	KVM			**Universal (KVM / SDI)**	
Input / Output	CATx	Fibre	Fibre XV	Multi-Mode Fibre	Coax
Maximum Distance	140 m	10 km	5 km	100 m	
Bandwidth	1G	1G	3G	6G	
Supported Signals	DisplayPort, HDMI, DVI-D, DVI-I, USB 2.0, USB-HID, S232, RS422, analog / digital or balanced audio			USB 3.0	SDI
Maximum Resolutions	DVI Single Link	DVI Dual Link	4K	-	Video
	1920 x 1200 @ 60 Hz / 24 bit	2560 x 2048 @ 60 Hz / 24 bit	4K / UHD up to 60 Hz	-	up to 1080p
Ports	8 ports (1 RU)		16, 32 and 48 ports (1 RU)	64 and 80 ports (2 RU)	
Power Supply (max./per unit)	0.7 A, 100-240 VAC, 50/60 Hz		1.4 A, 100-240 VAC, 50/60 Hz	2.3 A, 100-240 VAC, 50/60 Hz	
Number of Power Supplies	1		2	2	
Dimensions	220 x 146 x 45 mm		443 x 435 x 45 mm	443 x 435 x 90 mm	

DKM FX COMPACT MATRIX SWITCHES	
CATx	**Part #**
8 Ports (1U)	ACXC8
16 Ports (1U)	ACXC16
32 Ports (1U)	ACXC32
48 Ports (1U) standard usage	ACXC48
48 Ports (1U) IEC 60945 maritime usage	ACXC48-SHIP
64 Ports (2U)	ACXC64
80 Ports (2U)	ACXC80
Fibre only	
8 Ports (1U)	ACXC8F
16 Ports (1U)	ACXC16F
32 Ports (1U)	ACXC32F
48 Ports (1U)	ACXC48F
64 Ports (2U)	ACXC64F
80 Ports (2U)	ACXC80F

DKM FX COMPACT MATRIX SWITCHES (CONTINUED)	
Hybrid CATx/Fibre	
48 CATx Ports and 16 Fibre SFP Ports (2U)	ACXC48F16
48 CATx Ports and 32 Fibre SFP Ports (2U)	ACXC48F32
Fibre 3G Bandwidth	
8 Ports (1U)	ACXC8FHS
16 Ports (1U)	ACXC16FHS
32 Ports (1U)	ACXC32FHS
48 Ports (1U)	ACXC48FHS
64 Ports (2U)	ACXC64FHS
80 Ports (2U)	ACXC80FHS
Universal 6G Bandwidth	
8 SFP Slots	ACXC8U
16 SFP Slots	ACXC16U
32 SFP Slots	ACXC32U

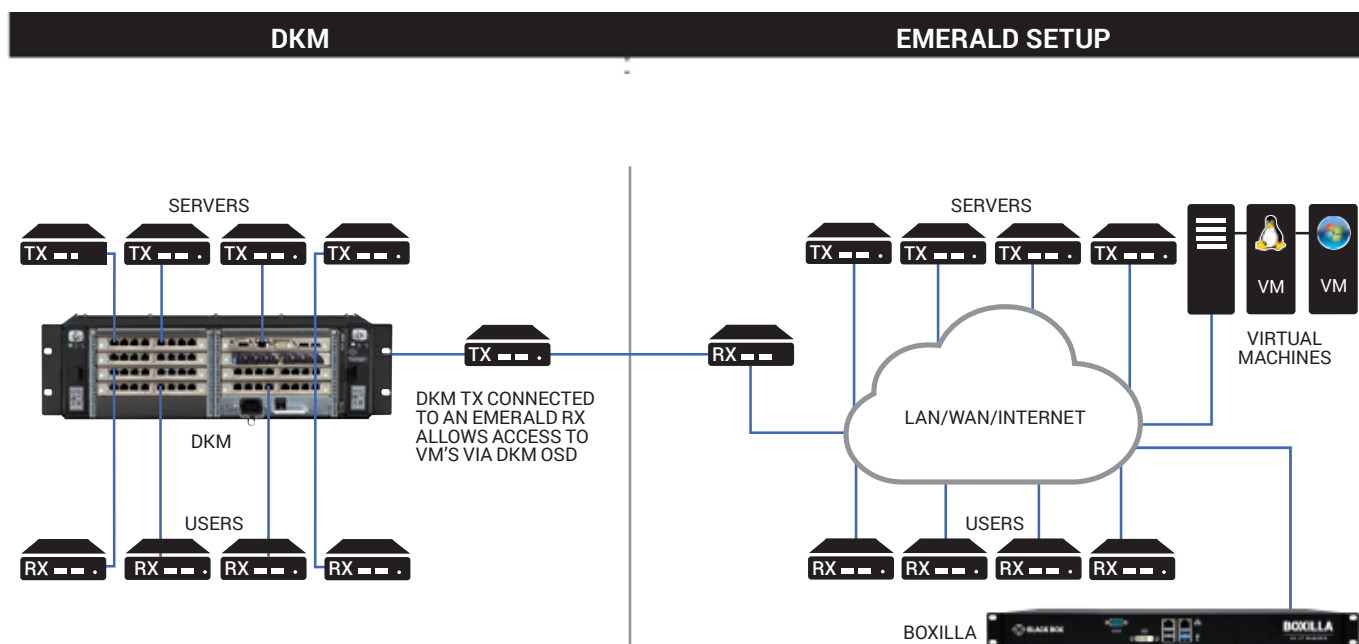## DKM FX HD VIDEO AND PERIPHERAL MATRIX SWITCHES

- A scalable, highly reliable peripheral matrix switching and HD video routing system.

- Very flexible. Any port can be a computer- or user-connection.

- Modular, no fixed ports. Moves, adds, and changes are quick and easy.

- Different chassis sizes with 48, 80, 160, 288 or 576 ports (For smaller chassis see the DKM FXCompact on pages 6-7).

- With cascading up to 4.096 ports can be controlled within one DKM system (required optional Software ACX-CAS).

- Terabit-speed switching backplane.

- Nearly instantaneous video switching. Virtually no delay or blanking.

- Central management with full support of external controllers for automated processes (via optional Software ACX-API).

- Dedicated bandwidth allocation guarantees optimum performance of all connected user devices.

- Facility for pre-configured switching via macros, favorites, as well as Force and Follow Mode, (see p. 10).

- Comprehensive, multi-level redundancy concept plus Syslog and SNMP options.

- Supports high-quality, full-frame DVI-D or HDMI video.

- Boasts digital resolutions up to 4K at 60 fps (DisplayPort 1.2) or up to 2560 x 1600/1080p (DVI &HDMI).

- Support many video input formats like DVI, DisplayPort, HDMI, SDI, VGA, and other analogue standards.

- Ideal also for computers with multi head graphic cards or user consoles with multiple monitors.

- Computers and user are connected to the switch using the DKM extenders.

- Flexible connections depending on the required distances: up to 140m over CATx or up to 10 kilometers over fibre optic.

- Enables mixing of media on inputs/outputs —CATx in and fibre out or vice versa.

- Various interface cards available for your peripherals with USB HID, USB 2.0, USB 3.0, PS/2, RS232, RS488, analogue and digital audio.

FOR ENTERPRISES

PERIPHERAL EXTENSION FOR ENTERPRISE APPLICATIONS

DKM	EMERALD SETUP

SERVERS

TX TX TX TX

DKM

DKM TX CONNECTED
TO AN EMERALD RX
ALLOWS ACCESS TO
VM'S VIA DKM OSD

TX — RX

USERS

RX RX RX RX

SERVERS

TX TX TX TX

VM VM

VIRTUAL
MACHINES

LAN/WAN/INTERNET

USERS

RX RX RX RX

BOXILLA

COMBINE DKM PROPRIETARY SWITCHING WITH EMERALD KVM AND INVISAPC OVER IP FOR VIRTUAL MACHINES

Give multiple users fast, reliable access to high-quality, real-time digital video — plus a whole host of peripherals across the enterprise — with the top-of-the-line DKM FX HD Video and Peripheral Matrix Switch system.

This chassis-based, modular cross point switching system enables you and the other users to switch and extend HD 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. Plus, it works as a video matrix switch. The DKM FX is fully supported by automatic processes with external controllers.

UNBEATABLE VIDEO PERFORMANCE

Using non-blocking switch technology, the DKM FX processes and routes DisplayPort 1.2 resolutions up to 4K at 60 fps and HDMI or DVI resolutions, including full HD 1080p, with little or no delay of video — even at the screens which is far away from the switching chassis itself.

What's more, it's not only supporting digital video like DVI, HDMI and DP 1.2 and SDI, but it's also supporting VGA and many analogue video formats and connections to a wide array of peripherals, including USB HID, USB 2.0 (up to 480 Mbps), USB 3.0, audio, RS-232, RS-488 and IR devices, Wacom® tablets, and even the legacy PS/2 keyboards and mice. For user consoles with large or multiple monitors interface cards with dual link DVI or multiple video ports are available.

It's especially ideal for enterprise networks and mission-critical control/command rooms, as well as video production or broadcasting applications and medical image processing where HD video is everything.

ADD USERS AND COMPUTERS FREE OF CHOICE

Many users can connect their KVM consoles and their peripherals to various multimedia sources (computer, CPUs, servers, Blue Ray players etc.), either locally or in a distant room or office via the switch. Consoles and computers are connected to the central DKM FX switch via the DKM extender units. The DKM Extenders have a fanless design and provide a zero noise to give you a quite work area. The DKM extenders offer a wide range of interfaces and transmit the signals over long distances. And they are very flexible. The DKM FX HD Video and Peripheral Matrix Switch enables you to configure HD KVM switching and DVI routing exactly as you require. Mix and match fibre and CATx ports through cards and SFPs plugged into its slots. So you are not limited in any way.

ADVANCED CONTROL

With the switch, you will get a controller card which has USB keyboard/mouse and DVI monitor connectors for local KVM administration, a RJ-45 port for interfacing with your network and a client machine that has the DKM FX with the Java tool installed, and a serial port for control via an external RS-232 device. Because the card has a built-in CPU, you can control all functions from any console without the need for an external CPU or media control. OS platform independent, the switch and its controller card can be accessed by Windows®, Linux®, or Mac OS® users.

See also the next page.

VERSATILE SWITCHING CAPABILITIES

Switching can be performed from a local or remote console by using an on-screen display (OSD), keyboard commands, or through a local serial console connection at the rack. You can also control it via the Black Box ControlBridge™ touch screen interface or a Creston® or AMX® keypad controller plugged into the extender. No matter what ever the route you choose, the DKM extenders allow KVM users to connect to any source and quickly share desktops, applications and content.

SWITCHING WITHIN MILLISECONDS

Users can switch seamlessly and almost instantaneously different source devices with the DKM FX HD Video and Peripheral Matrix Switch. It takes just milliseconds for this to happen (similar IP-based types of solutions can take as long as 15 seconds to perform this action).

REDUCE DOWNTIME

Modular in design, the DKM FX enables you to change console and CPU connections on the fly and ensure zero downtime. Add or remove cards and SFPs in the slots and reroute inputs and outputs while the DKM FX system's up and running. DKM Extenders and DKM switches give you dual power supplies and triple power supplies (for the 160-, and 288-port switches) for a full redundancy. Plus the configuration is not only held on the controller cards, but it's also on each single I/O card.

DESIGNED FOR EASY EXPANSION

Add connections and changes inputs/outputs as your enterprise evolves. When a department purchases new hardware, just slide a new interface card into the chassis. You can also cascade multiple switch chassis if you exceed the number of available ports.

SIGNAL REPEATER CAPABILITIES ARE BUILT IN

From its ports, the switch supports switch-to-device fibre links up to 10 kilometers and CATx links up to 140 m. The switch works as a repeater, essentially it will be doubling your distance from end-to-end. You can even configure CATx on an input for output on fibre, or vice versa, executed with all the previously mentioned configurations. It is often used to connect the computers to the switch over in the data center over a short distance, while over coming longer distances to the user consoles using fibre optic cables.

CENTRAL MANAGEMENT

All DKM components can be centrally managed and updated with the latest firmware. Using the offline configuration, administrators can define new settings, test them and add them later to the live system. Nine configuration memories allow testing without harming the existing system settings. For complex switching processes, the administrator can pre-define macros and favorites, that are later executed with a simple command.

The Force and Follow Mode allows the administrator to manage computers from any console connected to the system, while he is not available at his desk. Finally the DKM systems provides the option to configure "virtual CPUs". This feature allows the instant switching to an identical group of computers in case of an emergency.

TECHNICAL DATA					
	KVM			Universal (KVM / SDI)	
Input / Output	CATx	Fibre	Fibre XV	Multi-Mode Fibre	Coax
Maximum Distance	140 m	10 km	5 km	100 m	
Bandwidth	1G	1G	3G	6G	
Supported Signals	DisplayPort, HDMI, DVI-D, DVI-I, USB 2.0, USB-HID, S232, RS422, analog / digital or balanced audio			USB 3.0	SDI
Maximum Resolutions	DVI Single Link	DVI Dual Link	4K	-	Video
	1920 x 1200 @ 60 Hz / 24 bit	2560 x 2048 @ 60 Hz / 24 bit	4K / UHD up to 60 Hz	-	up to 1080p
Ports	48 ports (3 RU)	80 ports (4 RU)	160 ports (9 RU)	288 ports (13 RU)	576 ports (25 RU)
Power Supply (max./per unit)	5 A, 100-240 VAC, 50/60 Hz	5 A, 100-240 VAC, 50/60 Hz	9 A, 100-240 VAC, 50/60 Hz	12 A, 100-240 VAC, 50/60 Hz	14.5 A, 100-240 VAC,50/60 Hz
Number of Power Supplies	1	1	2	2	2
Dimensions	483 x 133 x 230 mm	483 x 178 x 230 mm	483 x 400 x 330 mm	483 x 578 x 330 mm	483 x 1108 x 435 mm

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DKM FX MATRIX SWITCHES

Configurable Housing with (1) Controller Card and (1) Power Supply	Part #
48 Ports	ACX048
80 Ports	ACX080
160 Ports	ACX160
288 Ports	ACX288
576 Ports	ACX576
2 x 288 Ports	ACX576S

Redundant Power supplies for DKM FX Matrix Switches	
Redundant/Spare Power Supply for ACX48 and ACX080	ACX080-PS
Redundant/Spare Power Supply for ACX160	ACX160-PS
Redundant/Spare Power Supply for ACX288	ACX288-PS

8-Port I/O-Cards (In/Output) for DKM FX Switches	
8 I/O Ports CATx RJ45 connectors	ACXIO8-C
8 I/O Ports with fibre SFPs, 1 Gbps DVI	ACXIO8-SM
8 I/O Ports with fibre SFPs, 2.5 Gbps DVI	ACXIO8-HS
8 I/O Ports empty SFP-slots for individual need	ACXIO8-SFP
8 I/O Ports SFP-slots for SDI Video or USB 3.0	ACXIO8-6G

DKM SFP Moduls for 8-Port I/O cards	
CATx	ACXSFPC
Fibre (MM or SM), 1 Gbps DVI	ACXSFPS
Fibre (MM or SM), 2.5 Gbps DVI	ACXSFPHS
Please call our Free Tech Support for SDI and USB 3.0	

DKM FX Accessories	
Spare Filter for DKM FX 48-Port	ACX048-FIL
Spare Fan for DKM FX 48-Port	ACX048-FAN
Spare Filter for DKM FX 80-Port	ACX080-FIL
Spare Fan for DKM FX 80-Port	ACX080-FAN
Spare Filter for DKM FX 160- or 288-Port	ACX288-FIL
Spare Fan for DKM FX 160- or 288-Port	ACX288-FAN
1-Slot Blanking Panel for all DKM FX	ACX288-BLKP-1S
2-Slot Blanking Panel for all DKM FX	ACX288-BLKP-2S
4-Slot Blanking Panel for all DKM FX	ACX288-BLKP-4S
8-Slot Blanking Panel for all DKM FX	ACX288-BLKP-8S

DKM EXTENSION

DKM MODULAR HOUSING AND EXTENDERS

DKM MODULAR AND COMPACT KVM EXTENDER OPTIONS

- Connect users and computers to your DKM system while extending them simultaneously over long distances

- Choose the cable media based on your distance needs

  — CATx: Up to 140 m

  — Multimode Fibre: Up to 1000 m

  — Single-Mode Fibre: Up to 10 km

MODULAR KVM EXTENSION

- Compatible with DKM Compact Extenders

- DisplayPort 1.2 video supports 4k UHD resolutions at 60 Hz

- Get DVI-D video with resolutions up to 2048 x 1152 at 60 Hz over the full distance, with options for VGA, SDI and many other analogue video formats

- Features peripheral options for USB HID, transparent USB 2.0, RS-232, RS-422, digital audio and analogue

- 2-, 4-, 6- or 21-port housing options with or without redundant power

COMPACT EXTENSION

- Compact housing enables high-density mounting within 19" racks (up to 4 devices in 1U)

- Peripheral options for USB HID, transparent USB 2.0, RS-232, analogue, and digital audio

- Compatible with the DKM Modular Housing and Extenders

IMPROVE DKM WITH VIRTUALISATION SUPPORT

Many businesses that have a DKM system now want to virtualise their assets. If you're one of them, you'll want a solution that grows instead of hinders your system. Enter Emerald and InvisaPC KVM with Boxilla. With Emerald and InvisaPC, you can smoothly move your applications and systems to the cloud for more efficiency and flexibility in a control room or command centre. Once everything's virtualised, you can use Boxilla, an enterprise KVM system manager, to access and manage up to thousands of devices at once. Through a single dashboard, Boxilla allows you to monitor system security and performance from anywhere at any time.

When your DKM works together with these platforms, you can expand it beyond private networks and connect it to other DKM systems both virtually and across the internet. Now you can instantly reach any server on your network, enabling you to make operations more productive.

PREPOPULATED COMPACT KVM EXTENDERS

CONNECT COMPUTERS AND USER CONSOLES TO YOUR CENTRAL DKM FX OR FXC SWITCH(ES)

DKM COMPACT KVM EXTENDERS

- Connect users and computers to your DKM FX/DKM FXC while extending them simultaneously over long distances.

- Order one transmitter for each computer connected to the DKM.

- Use one receiver for each user within the DKM system.

- Also work as standalone point-to-point KVM extension without a DKM Switch.

- Compact housing enables high-density mounting within 19" racks (up to four devices in 1U).

- Choose the cable media depending on your distance requirements: CATx up to 140 m; multimode fibre up to 1 km, single-mode fibre up to 10km.

- Options for DVI and VGA video as well as USB HID, transparent USB 2.0, RS-232, analogue, and digital audio.

DKM COMPACT TRANSMITTER CATX SINGLE DVI, USB HID PLUS DIGITAL AUDIO (ACX1T-12D-C)

DKM COMPACT RECEIVER CATX DUAL DVI PLUS USB HID (ACX1R-22-C)

DKM FX COMPACT TRANSMITTERS*	
CATx	**Part #**
Single DVI-D Plus (2) USB HID	ACX1T-11-C
Single DVI/VGA In/ DVI-D Out Plus (2) USB HID	ACX1T-11V-C
Single DVI-D Plus (4) USB HID, Audio and RS-232	ACX1T-12A-C
Single DVI-D Plus (4) USB HID and Digital Audio	ACX1T-12D-C
Single DVI-D Plus (2) USB HID and (4) USB 2.0 (480Mbps)	ACX1T-13-C
Single DVI, USB HID, RS-232, Audio, and (2) USB 2.0 at 36 Mbps	ACX1T-14A-C
Dual DVI-D Plus (4) USB HID	ACX1T-22-C
Fibre	
Single DVI-D Plus (2) USB HID	ACX1T-11-SM
Single DVI/VGA In/ DVI-D Out Plus (2) USB HID	ACX1T-11V-SM
Single DVI-D Plus (4) USB HID, Audio and RS-232	ACX1T-12A-SM
Single DVI-D Plus (4) USB HID and Digital Audio	ACX1T-12D-SM
Single DVI-D Plus (2) USB HID and (4) USB 2.0 (480Mbps)	ACX1T-13-SM
Single DVI, USB HID, RS-232, Audio, and (2) USB 2.0 at 36 Mbps	ACX1T-14A-SM
Dual DVI-D Plus (4) USB HID	ACX1T-22-SM
Fibre, High Speed Applications with 2.5 Gbps DVI	
Single DVI-D Plus (4) USB HID	ACX1T-11HS-SM
Single DVI/VGA In/ DVI-D Out Plus (2) USB HID	ACX1T-11VHS-SM
Single DVI-D Plus (2) USB HID and (4) USB 2.0 at 480Mbps	ACX1T-13HS-SM
Single DVI, USB HID, RS-232, Audio, and (2) USB 2.0 at 36 Mbps	ACX1T-14AHS-SM
Dual DVI-D Plus (4) USB HID	ACX1T-22HS-SM

* For Receivers replace "T" in product code with "R", e.g. ACX1R-11-C

4-PORT MODULAR DKM EXTENDER (ACXMODH4-R2)

**DKM EXTENDER
BASIC RECEIVER CARD
SL DVI-D AND USB HID
(ACX1MR-DHID-C)**

**DKM EXTENDER
BASIC TRANSMITTER CARD
SL DVI-D AND USB HID
(ACX1MT-DHID-C)**

• Connect users and computers to your DKM system while extending them simultaneously over long distances.

• Order one transmitter for each computer connected to the switch.

• Use one receiver for each user within the DKM system.

• Choose the cable media depending on your distance requirements:
  - CATx up to 140 m,
  - Multimode fibre up to 1000 m
  - Single-mode fibre up to 10km.

• Many video options with DVI-D, HDMI and DisplayPort 1.1/1.2, as well as inputs for SDI, VGA and other analogue video formats.

• Peripheral options for USB HID, PS/2, embedded USB 2.0 at 36 Mbps, transparent USB 2.0 at 480 Mbps, RS-232, RS-422, analogue, and digital audio.

• Choose a housing depending on your interface requirements for 2, 4, 6, or 21 interface modules.

• Various power options with AC and DC power supplies, with or without redundancy.

• The Modular DKM Extenders are installed in our factory, but the housings with backplane technology also allow Plug-and-Play onsite replacements of the modules.

• Also work as a standalone, point-to-point KVM extension without a DKM switch.

The Modular DKM Extender setup provides the widest range of possible interface combinations, which makes it easy to customise them for your specific application.

The DKM Modular KVM Extenders are comprised of modular housings, basic link modules and upgrade modules for your peripheral needs. Special converter modules provide a video conversion for analogue video input formats to DVI outputs. The 8-port DKM FXC switching modules integrate KVM switching into the DKM Extender to save even more space.
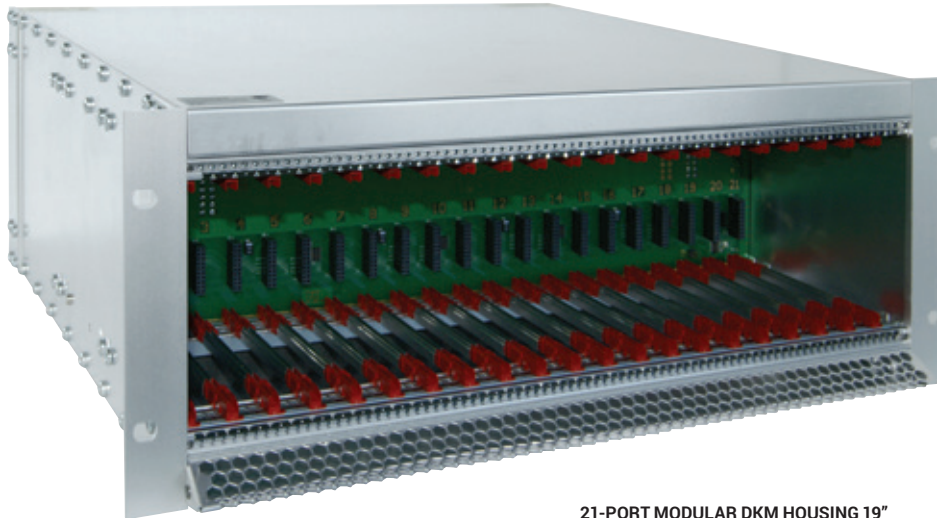
THE MODULAR HOUSINGS

The Housings are available with slots for two, four, six or 21 modules. For mission critical applications, all housings are available with redundant power. DC-power with 12-, 24- or 48VDC for industrial usage can be supplied, too. Choose one housing with transmitter modules for your computer end and one housing with the corresponding receiver modules at your user station.

BASIC LINK MODULES

Each housing must be equipped with at least one basic link module. The basic link modules provide a video and USB HID ports as well as the connecting link to the central switch. Choose from versions with Single Link or Dual Link DVI-D, SL DVI/VGA, HDMI or DisplayPort video formats. Basic link module with redundant transmission offer two link connections. Use them to establish backup channels or to split a video channel for two users. Mix and match the modules within the housing according to your needs.

EXTENSION

SIGNALS OVER LONG DISTANCES EXACTLY TO YOUR NEEDS.

21-PORT MODULAR DKM HOUSING 19"
(ACXMODH21)

UPGRADE MODULES

The Upgrade Modules carry their signals over the cable connections from the basic link modules to save on infrastructure needs. They provide a large variety of peripheral interfaces like USB HID, PS/2, embedded USB 2.0 at 36 Mbps, serial RS-232 or RS-422, bidirectional analogue audio and uni-, or-bidirectional digital audio. Mix and match the options acording to your application needs.

CONVERTER MODULES

The DKM Converter Modules allow the integration of analogue video inputs like component and composite video as well as industrial video formats like EGA, CGA, MDA. In addition, there are options for SDI, HD-SDI or 3G-SDI available. The modules convert these signals into digital DVI-D signals being transmitted over the distance without any losses.

KVM SWITCHING MODULES

The new DKM FXC Switching Modules provide real space savings. The modules feature the full function set of the DKM FXC 8-Port Matrix Switch (ACXC8/ACXC8F) but in a very compact design occupying only 2 Slots in your DKM extender chassis.

MOUNTING OPTIONS

The desktop housings can be mounted with optional kits on DIN-rails, walls, under the table as well as in 19" racks. The 21-slot housing comes ready for mounting into a 19" cabinet.

No matter which chassis you select, all ports are arranged on the front side of the chassis to ensure comfortable access while installing and maintaining them.

HERE TO HELP YOU

Combine interfaces depending on your individual needs. The DKM FX and DKM FXC switch and extender components are part of a modular system. Please contact Black Box to have them assembled to fit your application. To configure your individual DKM FX setup, call our FREE Tech Support.

Select your custom DKM KVM extender

with our new configurator:

black-box.eu/DKMconfigurator

00800-22552269 (CALLBBOX) BLACK-BOX.EU/DKM