

KVM can be so *simple*  
*Let's connect!*

kvm-tec

# kvm-tec product overview

*kvm-tec = C<sup>4</sup>*



connect



collaborate



communicate



control

www.kvm-tec.com

kvm-tec = C<sup>4</sup>



**CONNECT** kvm-tec Extender in Matrix Switching Systems and you can go up to 2000 endpoints and have a super fast switching. You can connect a wide range of different sources (servers, operator workstation, PC, surveillance cameras, video walls and much more) and operate & control the system with centralized management

Network Environment; 1 or 10 Gbit bandwidth  
 IGMP Snooping ( for videosharing)



**COLLABORATE** with standard network components. kvm-tec Extender are compatible with standard network components and all kvm-tec Extender can collaborate in real time with 60Hz in full HD or 4K resolution



**COMMUNICATE** in your Switching System with our kvm-tec Switching Manager Software. The local and remote Extenders are arranged in an optimized way and the Extender status is highlighted in color. With the kvm-tec System computers and servers can be located away from work desk into central server room for a high security level. The environment heat and noise are reduced at the work station and an ergonomic and quiet workplace for all users is possible



**CONTROL** your application in a much better way with all our in-house developments, like USB 2.0 transmission, video compression without latency, only one cable for USB and video transmission ,zero latency. With our unique features each user can access multiple PC sources and can control and operate up to 16 screens with one mouse & keyboard. Video sharing can be done seamless and a central video wall can be integrated for sharing all informations in real time

KVM TEC keeps it simple..

**... but it's really good**

kvm-tec is the Austrian developer and manufacturer of KVM Extender and Matrix Switching Systems up to 2000 endpoints. A KVM (keyboard, video, mouse) is a hardware device which connects USB devices to PC's over long distances. kvm-tec developed a technology which enables a perfect combination of video compression and low (<5ms) delay time. All products are equipped with a transparent USB2.0 transfer developed in-house. This enables tailor made solutions. kvm-tec products cover a range up to 160km/99mi

**... and develops with passion**

- all technologies are in- house developments
- delay free video transmission
- USB2.0 in-house development, USB save feature, USB Emulation Mode & USB Sharing
- latency free 4K transmission, similar to zip files, where the 4K signals are transmitted without delay
- one of the benchmarks is to get the most out of the products and thereby achieve an excellent price-performance ratio.
- feature - freeze last image

**... and has outstanding products with worldwide unique features**

With a product range from USB, Full HD up to 4K Extender kvm-tec covers all applications in the markets, All extenders are compatible with standard network components and can be used in Matrix Switching Systems up to 2000 endpoints.

Switch up @work – the intelligent kvm-tec Software Solution

to manage all KVM extenders up to 2000 endpoints connected in a matrix switching system. The local and remote units can be connected or disconnected by touch or mouse click or hotkey

Unique features like 4K Multiview Commander or mouse glide & switch make the products successful all over the world

# smart Easy

KVM Extender DVI, DVI-D, KVM Extender USB in CATx single & dual

snartEASY - the easy going KVM Extender in Full HD from kvm-tec. For point-to-point connections and smaller switching systems up to 56 endpoints. No user system necessary, embedded sound, 4 single or 4 dual in 1RU, copper and fiber, embedded sound Video Sharing and USB Sharing, Multihead

## ... smart connections

- DVI-D, USB2.0
- KVM Extender over IP
- Single or Dual in CATx/copper
- max resolution 1920 x 1200 @60 Hz
- max distance 150m/492ft
- only one cable for USB and Video
- Sound embedded
- Full HD Videos in real time
- USB transmission rate max 480Mbit/s
- Firmware flash upgrade without cable
- DVI extension without loss of quality
- freeze last image Feature (red frame)
- Switching included
- 4 Single/dual in 1 RU

# master Easy

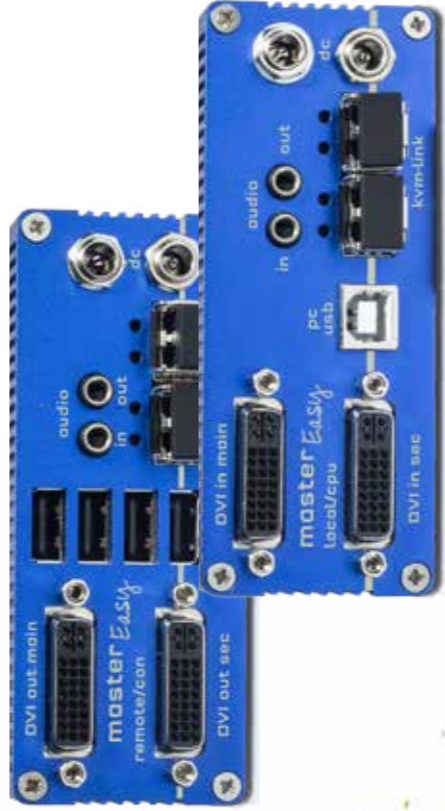
## ... smart connections

- DVI-D, USB2.0
- KVM Extender over IP
- Single or Dual in copperCATx & Fiber
- max resolution 1920 x 1200 @60 Hz
- max . distance 150m/492ft
- only one cable for USB and Video
- Sound embedded
- Full HD Videos in real time
- USB transmission rate max 480Mbit/s
- Firmware flash upgrade without cable
- DVI extension without loss of quality
- freeze last image Feature (red frame)
- Switching & VGA included
- Single Units :redundant for point to point , in the Matrix Swiching System with Switch
- Upgrades: USB & Sound
- 4 Single/dual in 1 RU

KVM Extender Full HD DVI, DVI-D, KVM Extender VGA & KVM Extender USB in CATx & Fiber, single & Dual

EASYline - the easy going KVM Extender in Full HD from kvm-tec. For point-to-point connections and smaller matrix switching systems up to 56 endpoints. No user system necessary, embedded sound, 4 single or 4 dual in 1RU, copper and fiber, embedded sound Video sharing, USB sharing, multihead.

FULL HD - KVM EXTENDER OVER IP  
Tune in the easy KVM World



All in one go  
Matrix Switching Systems up to 56 endpoints without Usersystem

## Bridging Easy Switching without Switch

With *Frontbridging* 2 Local EASYline Extenders can be bridged to 1 remote dual Extender (2 network sockets) & thus one or two screens can display the contents of the PCs simultaneously with different images and can be operated either right or left.

2 local single Units + 1 remote dual Unit = Bridging or Switching on 1 or 2 screens



With *Backbridging* from one dual local extender can be shared to two single remote extenders. For all applications that require monitoring at different locations

1 dual local Unit + 2 remote Units = Bridging or Sharing on 1 or 2 screens



## Easy Cross Move - Software feature

both PCs can be operated with one mouse and one keyboard

2 local Units + 1 remote Unit = Easy Cross Move with 1 keyboard & 1 mouse

## SMARTflex single & dual in copper

DVI-D/ USB2.0 Extender over IP

SMARTflex is a highly optimized KVM Extender over IP and covers a range of 150m/492ft at a resolution of 1920x1200@60Hz and is available in copper as single & dual version

The perfect tuning of kvm-tec video compression with a low latency (<5ms) allows signals to be transmitted without delay. USB and video are transmitted via CAT5e/6/7 cable.

Only one cable for USB and Video. Sound embedded

Point to point or in Matrix Switching System up to 100 endpoints. Switching Manager switch up@work - included. freeze last image feature

## MASTERflex single & dual in copper & fiber

DVI-D/DVI-I/USB2.0  
Extender over IP

MASTERflex is a highly optimized KVM Extender over IP and covers a range of 150m/492ft in copper and 160km/99mi in fiber at a resolution of 1920x1200@60Hz and is available in single REDUNDANT and dual version

Sound analog, VGA and USB memory upgrades are preinstalled and unlockable.

For point to point connection or in Matrix Switching Systems up to 100 endpoints. Included kvm-tec Switching Manager Software - switch up@work- for intuitiv management in the Switching System.

All MASTERflex single Extender are redundant for high security in critical applications

## MAXflex single & dual in copper & fiber

DVI-I/ USB2.0 Extender over IP

MAXflex is a highly optimized KVM Extender over IP and covers a range of 150m/492ft in single and 160km/99mi in fiber at a resolution of 1920x1200@60Hz and is available in copper and fiber as single REDUNDANT and dual version

Point to point or in Matrix Switching System up to 1000 endpoints. Included kvm-tec Switching Manager Software - switch up@work- for intuitiv management in the Switching System.

### Mouse glide & Switch

With this software feature several PCs can be operated with only one mouse and one keyboard from one workstation.

All MAXflex single Extender are redundant for high security in critical applications

## USBflex single in copper & fiber

USB2.0 Extender over IP

USBflex is the active USB extension from FLEXline the clever customized KVM System from kvm-tec. USBflex has a range of 150m/492 ft. in copper and fiber as single version available.

The in-house developed transparent USB 2.0 interface supports USB devices like tablets, touch screens, sound modules, printers, USB sticks and USB hard drives.

The kvm-tec „USB save“ function prevents virus intrusion via the USB interface by disabling mass storage devices.

The USBflex Extender can be integrated into a matrix switching system up to 1000 endpoints in conjunction with a standard network switch.

# FLEXline the customized system

FLEXline is the clever customized KVM System from kvm-tec. All FLEXline Extender have an ultra slim casing, are available in a single and dual version, have embedded sound and are compatible with standard network components and are delivered with kvm-tec Switching Manager Software - switch up @work

Flexline saves space in a rack.

4 single or 4 dual Extender in 1RU

Features - freeze last image, MAXflex with included mouse glide & switch as software feature

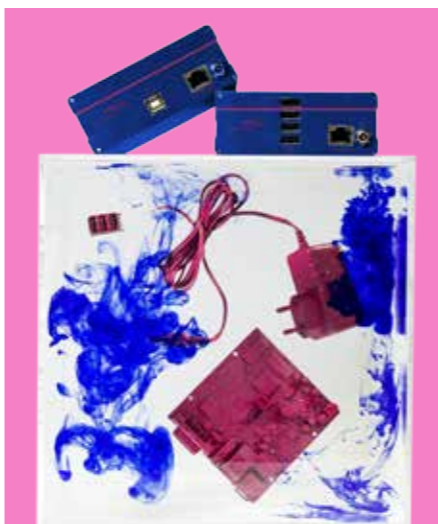
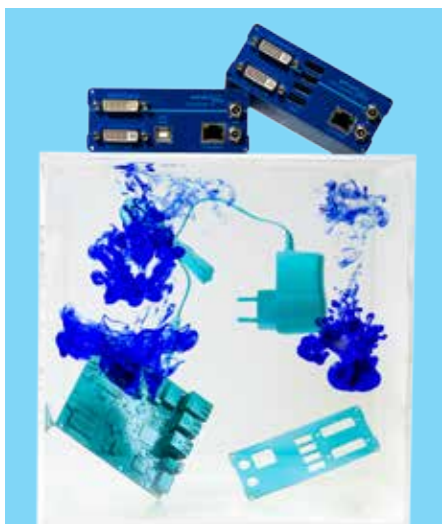
USB2.0 in-house development, USB save feature, USB Emulation & USB sharing

The perfect video compression developed by kvm-tec enables almost a zero latency time (< 5ms)

FLEXline single Extender are redundant

POE Upgrade (Switch supports POE) for all single and dual FLEXline Extender in copper

also available for 24V systems



# CLASSIC 48

## MASTERLINE Single & Dual in copper and fiber

DVI-I /USB 2.0 Extender over IP

Highly optimized KVM Extender over IP for the transmission of USB and DVI video signals via CAT5e/6/7 or multimode fiber, single and dual version, resolution 1920x1200@60Hz, max. distance in copper 150m/492ft, fiber 160km/99mi, USB 2.0 transparent, USB save feature, upgrades for USB memory, sound analog in both directions in CD quality, analog VGA transmitted as DVI, for switching systems up to 48 endpoints.

feature - freeze last image

latency time < 5 ms



## MATRIXLINE single in copper and fiber

DVI-I /USB 2.0 Extender over IP

Ultra - flexible KVM Extender over IP for the transmission of USB and DVI video signals via CAT5e/6/7 or multimode fiber, max. resolution 1920x1200@60Hz, max. distance in copper 150m/492ft ,fiber160km/99mi. USB 2.0 transparent, USB save feature, USB memory, sound in both directions in CD quality, RS 232, analog VGA, for switching systems up to 2000 endpoints, Switching Manager software included, USB Emulation mode & USB Sharing

FEATURES Mouse Glide & Switch, freeze last image



## 4K ULTRALINE DP1.2 single in copper and fiber

4K Displayport 1.2 Extender over IP with a maximum resolution of 4096 x 2160 @ 60 Hz for long distances. copper - 100m/328ft, fiber - 300 m/984ft (opt 120km/74mi), perfect color coding with 4:4:4@8bit per color. USB 2.0 transparent, built-in MST HUB/ Splitter, for matrix switching systems up to 2000 endpoints, Switching Manager software - switch up @ work for management of KVM Extenders in the switching system, USB 2.0 in house development, USB-save feature, USB emulation mode & USB sharing, freeze last image

FEATURES Mouse Glide & Switch, 4K Multiview Commander.



## SMARTLINE single & dual in copper

DVI-D /USB 2.0 Extender over IP

Ultra-reliable KVM Extender over IP for the transmission of USB and DVI video signals via CAT5e/6/7, single and dual version, resolution 1920x1200@60Hz, max. Distance in copper 150m/492ft, USB 2.0 transparent, USB save feature, upgrades USB memory, switching systems up to 48 endpoints.

feature - freeze last image

latency time < 5 m



# CLASSIC 2000

4K Displayport 1.2 Extender over IP in fiber with a range of 300m/984 ft -120km/74mi at a resolution up to 4096x2160 @ 60Hz with perfect color coding at 4:4:4 @8 bit per color. The perfect tuning of kvm-tec video compression with a low latency allows a delay-free transmission of the signals. USB and video is transmitted with only one cable. 4K videos can be transmitted in real time. For Matrix Switching Systems up to 2000 endpoints. included kvm-tec Switching Manager Software - **switch up@work**- for intuitiv management in the Switching System.

Feature - freeze last image  
USB 2.0 in-house development, USB-save feature,  
USB emulation mode & USB sharing

With the **unique kvm-tec modular system** the media 4Kconnect extender with the ultraslim housing is unbeatable in price and performance as well as in the possible fields of applications

**media4Kconnect** is available in different versions. as stand alone 4K Extender, with an uncompressed module or with a redundant module.

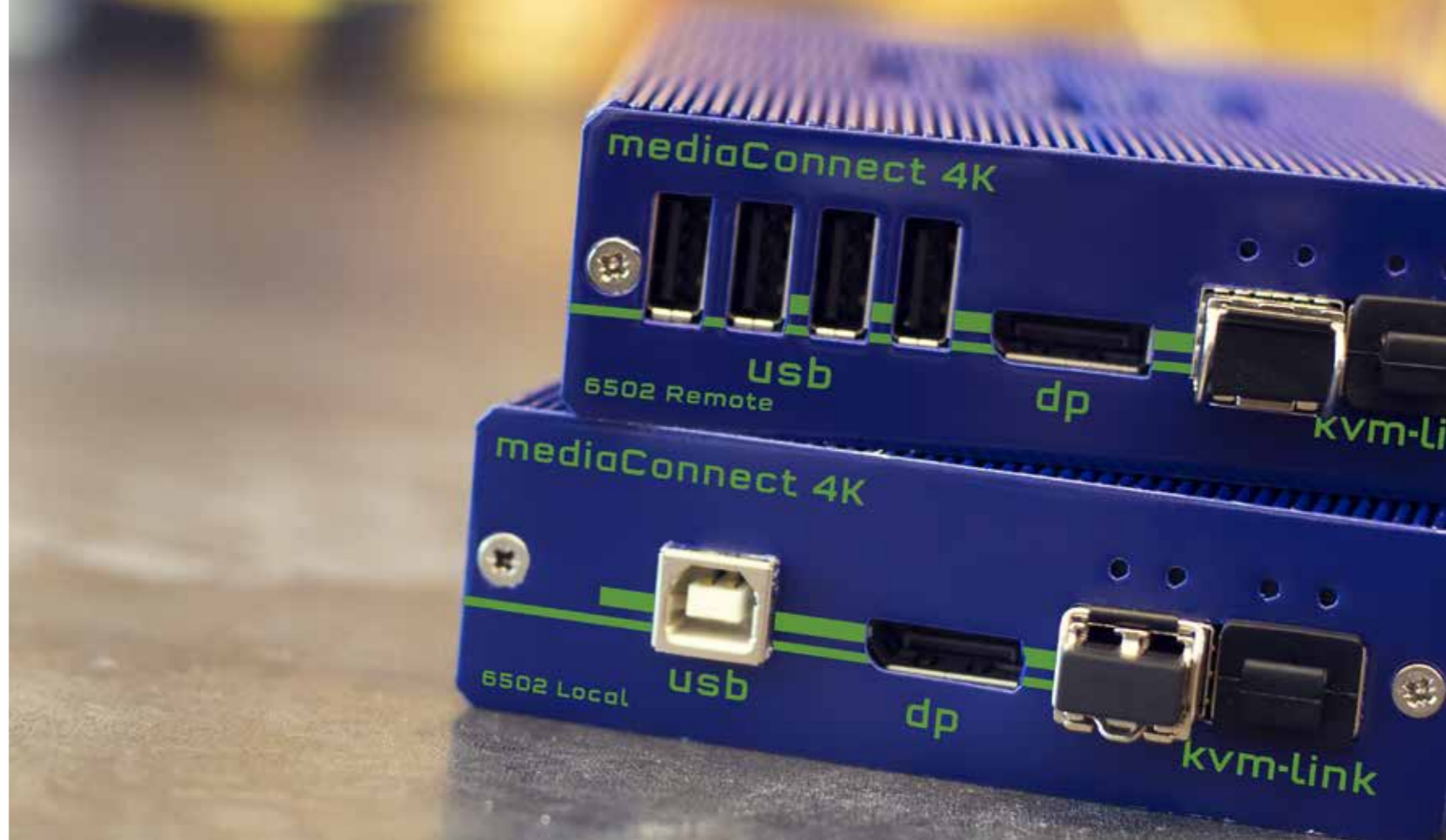
**media4Kconnect uncompressed**  
4K DP1.2 Extender with real uncompressed module for uncompressed transmission without any artefacts.

The perfect video transmission allows a delay-free transmission of the signals. Even extreme bit patterns are transmitted true to the original.

**4K Extender DP1.2 with redundant secure module**

reliability for critical applications with redundant secure module

in case of failure of a network it is possible to switch immediatly to the redundant network



# media4Kconnect

kvm-tec engineered 4K System

4K DP1.2 Extender  
+ redundant  
+ uncompressed





# Gateway & Gateway2go

## Gateway2go Windows App for live pics from the Switching System

kvm-tec Gateway2 go - the Windows App is an innovative software solution that allows users to connect to the kvm-tec switching network at any time and display a live image of a specific local unit. The app replaces the remote unit of a Matrixline/ MAXflex and with the Gateway2go access the mobility of the user becomes very flexible and thus the control and operation of the extenders in the switching network is simplified. Gateway-2go can also be installed in addition to a remote unit and supports Full HD video transmission. Multiple connections can be established simultaneously to enable management of different PCs. Mouse and keyboard data is authenticated in real time and transmitted live to the local part to ensure real-time security. Compatible with Windows 10.

## kvm-tec Gateway the connection to virtual machines

access to virtual machines additional to your real time switching system

kvm-tec Gateway - the perfect combination of a real-time KVM system and a flexible remote desktop system. The gateway has the similar function of a thin client and in combination with MATRIX or MAXflex Local Extender it is the ideal combination with virtual machines in the switching system. With kvm-tec Gateway the connection to virtual machines or remote PCs outside the Switching network is possible .

Gateway can connect to virtual machines. 4 Login data can be stored and retrieved via hotkey. For so many users who want to work with virtual machines at the same time, one gateway is needed each.

Easy installation - first connect the MATRIXline/MAXflex/ 4KULTRAline remote unit, then select the RDP or VNC protocol at the kvm-tec gateway and enter the credentials and connect to the desired PC.

RDP and VNC are available as standard protocols.

Other protocols are on request.





# Switching Manager *Software*

switch up@work

The intelligent software solution from kvm-tec for managing all KVM extenders connected in a Matrix Switching System up to 2000 endpoints. The local and remote parts can be connected or disconnected by touch or mouse click. For a quick overview, the extenders are arranged in an optimized way and the status of the Extenders is highlighted in color.

Easy Login and Logout (ADMIN&USER) and intuitive control through coloured stored extender status. GRID and TREEVIEW Layout with flexible renaming of Extenders in the system. Icons for control, disconnect & connection and sharing, Extender binding, stores up to 5 various scenarios. Display of the USER sessions, update management for all extenders in the switching system, Extender setting definition. Search box - super fast live preview, capturing - 4K uncompressed screen shot (UVX)

## Matrix Switching System

up to 48/100/1000/2000 endpoints with standard network components

Super fast switching

Through the kvm-tec in-house developed switching technology, there is almost no limit to the number of endpoints in the switching system and the individual endpoints (PC, monitor, etc) can behave passively when controlled via the software. This means that the endpoint only needs the information at the correct switching moment, resulting in less data traffic in large systems.

### NETWORK ENVIRONMENT

can be used in a dedicated network via Gigabit switch. 1 Gigabit bandwidth is required from each port to any other port. IGMP Snooping

ULTRALINE 4K requires 10 Gigabit bandwidth IGMP Snooping

2000, e.g 1000 PC and 1000 monitors





# FEATURES

## MOUSE GLIDE & SWITCH

Softwarefeature for CLASSICline, 4KUltra-line and Matrixline, FLEXline - MAXflex

several PCs can be operated with only one mouse and one keyboard from one workstation and the mouse moves smoothly over the displays .

delay-free mouse operation, automatic switching of the mouse and keyboard from one PC to another, free arrangement of monitors

## 4K MULTIVIEW COMMANDER

kvm-tec innovation for controlling and operating content from 4 different PCs on only one 4k monitor

from remote (CON) up to 120km/74mi

The 4K Multiview Commander is an additional feature for the 4K KVM Extender. This feature allows video signals from different PCs to be displayed simultaneously on only one 4Kscreen. With the kvm-tec innovation, the PCs can also be controlled and operated via the kvm-tec transparent USB 2.0 transfer. Thanks to the skillful management of USB transmission, kvm-tec has succeeded in making every screen content individually usable. Depending on the mouse position, the USB signals can be routed to the corresponding PC to make the screen content usable. With the 4K Multiview Commander, up to 4 different PCs can be controlled and operated with one 4K monitor, depending on the resolution. Also with different operating systems. This kvm-tec feature enables ergonomic and space-saving work with 4k applications in control and monitoring rooms. The 4K Multiview Commander is available stand alone or in configuration with the Switching Manager.

Operation System independent e.g Linux, Windows



## IN THE BOX...



### kvm-tec line - to - line transmission of videosignals

With conventional transmissions, each image is analyzed and transmission only takes place after 4 frames. The analysis of an image takes 16ms and therefore a delay of 64ms results for the transmission.

With kvm-tec image transmission each line of an image is transferred immediately.

### kvm-tec video-compression and USB transmission

Since the image is compressed in the process developed by kvm-tec, the transmission of a Full HD video requires only 1 Gigabit and thus only one cable. This results in a significant price advantage and low latency for interactive applications. The operation of mouse and keyboard is also without any delay. The advantage of this technology is that the signals can be transmitted via a 1 Gbit network switch.

### kvm-tec 4K transmission without delay

Delay-free transmission, as each image and each line is immediately transmitted using the kvm-tec method, in which the signal is regenerated by a re-driver and brought to the correct level to enable perfect transmission. This process is comparable to a ZIP file, where a lot of information is transferred in a very compact way. As with of the ZIP file, kvm-tec converts each pixel and signal into a very compact form transferred and „unzipped“ again. The 4K Extender uses 10 Gbit network technology.

## ...& API Interface

### API Interface for integrating the Switching Manager Software

With API Interface the easy integrating in an existing Software or scripting of scenarios is possible. operating system independent. Display of all available information of all extender in the system, Update management of all extenders in the Switching system Simple read-out and changes of settings mouse glide & switch management, 4K Multiview Commander management activate kvm-tec upgrades. query & update of the current firmware version in the system, defined based on the open Open API 3.0 standard, easy integration into customer-specific software, callback mechanism for user-defined response to events.

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