

# KVM Extender over IP

product catalog



[www.kvm-tec.com](http://www.kvm-tec.com)

**kvm-tec** over IP

an ihse company

# Follow the colors...

The kvm-tec color scheme gives you a great overview of the different product groups. Here in the catalog, on our datasheets and also on our website the colors will show you if you are looking at a FullHD product (darkblue) or if you are discovering the world of our Multiview Commander Systems - free scalable (orange).

Here a quick overview which color belongs to which product group:

Full HD Extender - Darkblue
4K Extender - Green
Multiview Commander Systems - free scalable - Orange
Access to virtual machines & Remote Workplaces - Pink
Switching Manager WEB & API - Lime
Matrix Switching Systems & Downscaling - Yellow
kvm-tec Security - Grey

... & now we don't want to keep you from discovering the colorful world of extenders.

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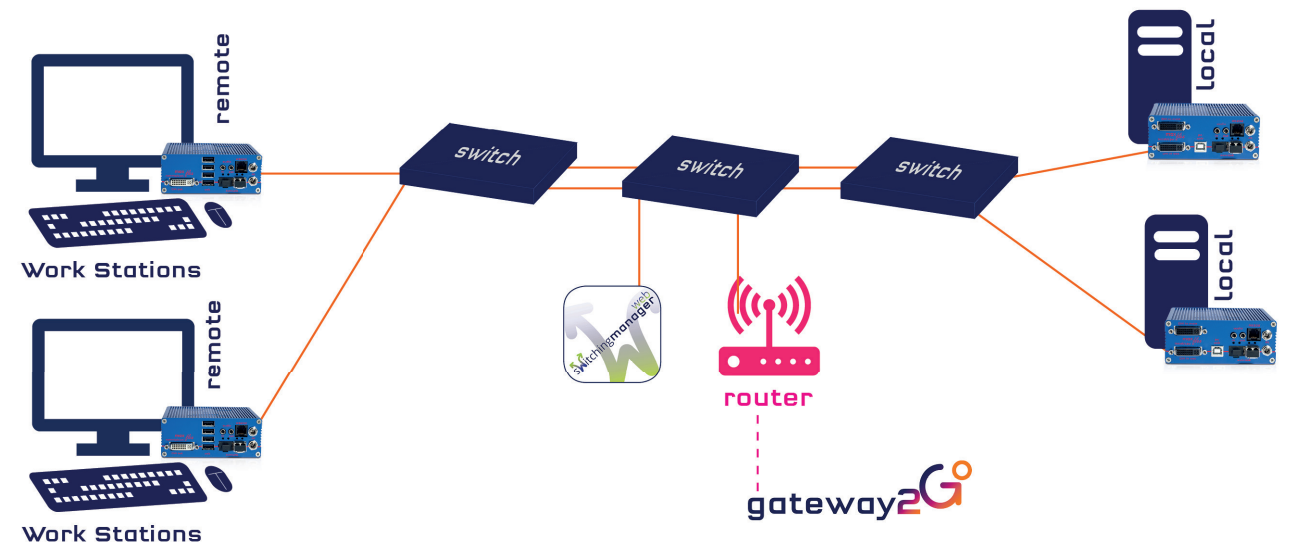
# The kvm-tec spirit

**In house development**

Videocompression, USB 2.0 transparent with almost Zero latency

- made in austria
- Flexible & customized products
- complete range over IP
- personal contact & support
- always a technology step ahead
- compatibility kvm-tec product range & other manufacturers

# KVM Technology OVER IP

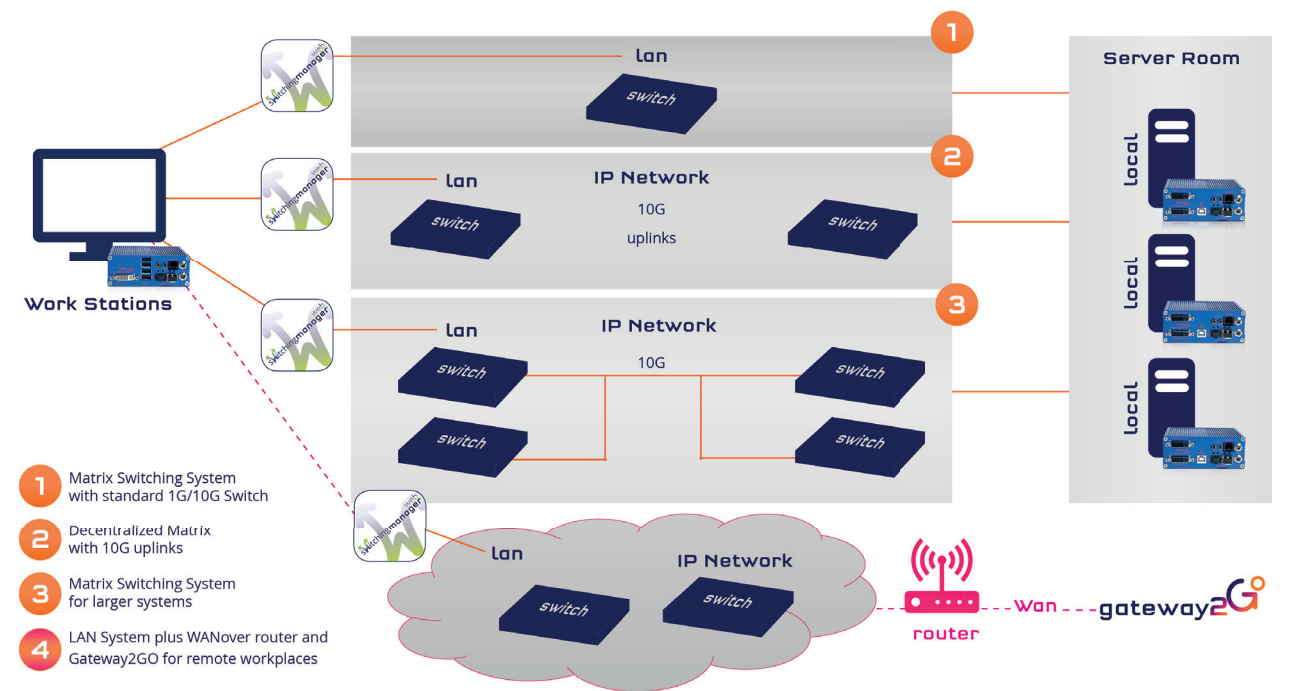


# What makes us special

- Full product range over IP
- A new kvm-tec Standard: uncompressed redundant transmission
- Simultaneous Downscaling from 4K to Full HD
- Gateway solutions for access to virtual machines and remote workplaces
- with Standard-network Components compatible
- In-House Development: USB 2.0 transparent, Videocompression, latency time in 4K
- Matrix Switching Systems up to 2000 endpoints & expandable endpoints
- Software Features: Mouse glide & Switch and 4K Multiview Commander
- Free Scalable KVM Extender in Full HD & 4K over IP Videowallfunction

# USP

# Different network possibilities with Gateway2GO



# kvm-tec Extender Overview

## Full HD



Easyline

for point to point or Matrix Switching Systems  
up to 56 endpoints without user system

- Frontbridging
- Backbridging
- Easy Cross Move

## Mix Full HD & 4K



gateway

gateway2Go



Ecosmart



Flexline

Connect,  
combine & GO  
With only one Flexline local unit, the  
connection to an already existing  
KVM system (manufacturer-independ-  
ent) is possible



stand alone uncompressed redundant

media4Kconnect



uncompressed redundant

media4Kconnect SPECIAL  
(RS232, Sound Analog)

- Simultaneous downscaling
- Mouse glide & switch

[simultanes Downscaling für media4Kconnect Versionen](#)

## Free Scalable KVM over IP Systems

[free Scalable with Videowall function](#)

Full HD



maxflex  
(Dual, Local)



Scalableline  
(Remote)

4K



Scalableline  
(Local)



Scalableline  
(Remote)

- 16 sources
- Zoom & work
- Cut it out
- Picture in Picture
- Videowall function

[free Scalable](#)





EcoSmart



- for DVI-D in dongle format
- USB 2.0 transparent
- Sound embedded
- Full HD videos in real time
- Point to point or switching via OSD and Switching Manager
- Mouse glide & Switch
- powered by USB
- Zero space factor for much space in the server room with zero RU
- Upgrade: VGA

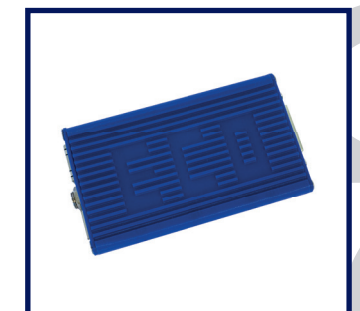
ECOsmart in CAT version for distances up to 150m/492ft and resolutions up to 1920 x 1200 @60 Hz.

ECOsmart is compatible with standard network components. In the KVM4Future Matrix Switching System up to 2000 endpoints or for point to point connections.

Power can be supplied via USB or an external power supply.

In-house developed USB technology allows great flexibility in connecting to USB HID devices, such as mice and keyboards, tablets, etc.

ECOsmart is like all kvm-tec extenders too fast for slow latencies - latency 0,47 ms. With the perfect in-house developed video compression a lossless video and audio transmission is possible.



Zero space

Full HD





## Easyline - tune in the easy over IP world

KVM Extender DVI, KVM Extender DVI-D & KVM Extender USB in CAT, Single & Dual. Smarteasy and Mastereasy have embedded sound and are compatible with standard network components. Video sharing, USB sharing Multihead resolution 1920x1200@60Hz.

All in one go - matrix switching systems up to 56 endpoints without user system or point to point.

Single & Dual  
Easyline KVM Extender have an ultra slim housing (4 single or 4 dual units in 1RU), are available in single and dual version.

Latency time  
<1.38ms with perfect video compression

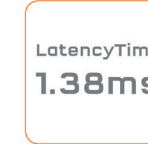
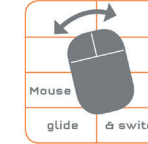
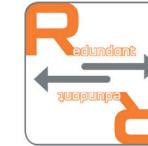
Distances  
in copper for distances up to 150m/492ft  
in fiber for distances up to 160km/99mi

Functions and Features  
BRIDGING - easy switching without switch  
EASY CROSS MOVE - Softwarefeature

USB 2.0 in house development, USB-Save feature, USB Emulation Mode & USB Sharing technology developed by kvm-tec allows a perfect combination between video compression and low (<1.38ms) delay time.

Redundant  
For high security in critical applications Mastereasy single KVM Extender are redundant.

24 V Systems  
All Easyline KVM Extender are also suitable for 24V systems.



### smartEasy

smartEASY over IP in single and dual in copper for distances up to 150m/492ft enables delay free transmission with low latency of <1.38ms. USB and video are transmitted over CAT 5e/6/7 cable

- kvm-tec Upgrades
- USB Memory

### masterEasy

masterEASY over IP in single redundant and dual in copper and fiber for distances up to 150m/160km - 492ft/99mi enables delay-free transmission with a low latency of <1.38ms USB and video are transmitted over a CAT 5e/6/7 cable or fiber cable

- kvm-tec Upgrades
- USB Memory
  - Sound analog in both
  - analog VGA upgrade



Single - copper



Dual - copper



Single - fiber



Dual - fiber

# Switching without Switch



Matrix Switching  
Systems up to 56 endpoints without user system



In frontbridging, one or two monitors can display the contents of the PCs simultaneously with different images and can be operated either on the right or on the left.



In backbridging, a dual local extender can be shared with two single remote extenders. For all applications that require monitoring at different locations



Easy Cross Move with one mouse and one keyboard both PCs can be operated

over IP

Tune in the easy KVM World

# Full HD





**2020** **PRODUCT**  
of the **YEAR**  
**NABSHOW**  
Where Content Comes to Life  
**WINNER**

over IP

## FLEXLINE

FLEXline - the clever customized KVM System from kvm-tec

DVI-D/ USB 2.0 KVM Extender over IP  
All FLEXline extenders have a resolution of 1920x1200@60Hz, have an ultra slim housing, are available in single and dual version and have embedded sound integrated. They are compatible with standard network components and come with the web-based kvm-tec switching manager software - Basic version. Only one cable for USB and video. Copper and fiber versions.

Single & Dual  
Flexline saves space in a rack.  
4 single or 4 dual extenders in 1RU

Latency time  
<1.38ms with perfect video compression

Distances  
in copper for distances up to 150m/492ft  
in fiber for distances up to 160km/99mi

Functions & Features  
Features - freeze last image, MAXflex with included mouse glide & switch as software function, USB2.0 in-house development USB-save feature, USB emulation and USB sharing  
kvm-tec developed technology allows a perfect combination of video compression and low (< 1,38ms) delay time. FLEXline single extenders are redundant.

PoF & PoE  
POE upgrade (POE capable network switch) for all FLEXline extenders in single and dual in copper also suitable for 24V systems, features - freeze last image, mouse glide & switch included with MAXflex.

PoF the KVM extenders can be switched off and on via the network management of the switch. PoF splitters can be used to power kvm-tec fiber extenders via PoE over an additional power cable.

USB 2.0 in house development, USB-Save feature, USB Emulation Mode & USB Sharing technology developed by kvm-tec allows a perfect combination between video compression and low (<1.38ms) latency time.

Redundant  
For high security in critical applications FLEXline single KVM extenders are redundant.

24V Systems  
all Flexline KVM Extender are also suitable for 24V systems.



Single - copper

Dual - copper

Single - fiber

Dual - fiber

Full HD

ATX

Fiber

2 Dual

1 Single

R Remote console  
R Remote computer

Mouse glide & switch

Endpoints 100

1000 Endpoints

LatencyTime 1.38ms

PoE

PoF

## smartflex

SMARTflex is the smart starter product of the FLEXline and is available in single and dual copper. For point to point connections and matrix switching systems up to 100 endpoints..

kvm-tec Upgrades:  
• USB Memory  
• Interlaced Upgrade

## masterflex

Masterflex is the universal genius of the FLEXline and is available in a single redundant and dual version in copper and fiber. Single copper and fiber are redundant. For point to point connections and matrix switching systems up to 100 endpoints ( Switch Layer3).

kvm-tec Upgrades:  
• USB Memory  
• Sound analog in both directions in CD quality  
• analog VGA - transmitted as DVI  
• Interlaced Upgrade

## maxflex

Maxflex is the big player of the FLEXline and available in a single redundant and dual version in copper and fiber. Single copper and fiber are redundant. For point to point connections and matrix switching system (Switch Layer 3) up to 1000 endpoints.  
Mouse glide & switch software features up to 16 monitors can be controlled with one mouse and keyboard.

kvm-tec Upgrades included  
• USB Memory  
• Sound embedded & sound analog  
• RS232  
kvm-tec Upgrade  
• Interlaced Modus , PoE, PoF  
• Analog VGA - transmitted as DVI

## USBflex

The USBflex extender is the active USB extension of the FLEXline. USBflex is available in copper and fiber as single version USB transmission rate. For point to point connections and matrix switching systems up to 1000 endpoints max 480Mbit/s.

kvm-tec Upgrade  
• Interlaced Modus

## Industryflex

Crisis proofed and likes it hot ! non-overwriteable flash and redundant. Industryflex is suitable for use up to 55 degrees ambient temperature and is available in a single version in copper and fiber. For point to point connections and matrix switching systems up to 1000 endpoints.  
Mouse glide & switch as software feature  
USB memory, sound embedded & sound analog, RS232 included

kvm-tec Upgrade  
• Interlaced Modus  
• Analog VGA - transmitted as DVI

Full HD



# media4Kconnect



single fiber  
single fiber redundant  
single fiber uncompressed

# 4K DP 1.2

## media4Kconnect 4K KVM DP1.2 Extender over IP

in three versions  
4K single DP1.2  
+ redundant  
+ uncompressed

Ultraslim 4K Displayport 1.2 extender over IP, which is the base of the modular 4K system. resolution of 4096x2160@60 Hz in fiber for distances up to 300m/120km opt, for matrix switching systems up to 2000 endpoints ( Switch Layer3).

Super ultrawide 5K resolution of 5120x1440@60 Hz  
Sound embedded

Single Fiber  
4 Single Extender in 1RU

Latency time  
0,47ms with perfect video compression

Distances  
for distances up to 300m/984ft - 120km/74mi opt

Functions & Features  
mouse glide & switch - Softwarefeatures  
Functions - freeze last image, USB Save feature

color depth media4Kconnect uncompressed with 4:4:4@10 Bit and uncompressed (native redundant transmission)

media4Kconnect as GAMING EDITION: 240Hz, 10 Bit color depth

Alerting system and DDC-CI

Switching Manager Software  
Basic version Switching Manager for the Management of all KVM extender in the Switching System is included

PoF  
PoF splitters can be used to power kvm- tec fiber extenders via PoE over an additional CAT cable.

Upgrade Simultaneous Downscaling  
4K sources can be displayed simultaneously in 4K and with downscaling in Full HD on the remote unit

USB 2.0 in house development, USB 2.0 in house development, USB Save feature, USB Emulation Mode & USB Sharing technology developed by kvm-tec allows a perfect combination between video compression and low (<0.47 ms) latency time

24 V Systems  
All media4Kconnect KVM extender are also suitable for 24V Systems



DP 1.2

4K

5K

Fiber

2000 Endpoints

4Units 1RU

R&U Redundant & Uncompressed

LatencyTime 0.47ms

Mouse glide & switch

Sound embedded

### media4Kconnect

4K Displayport 1.2 extender over IP, resolution 4096x2160@60Hz and super ultrawide resolution of 5120x1440@60Hz

SFP+Modul up to 300m/984ft - 120km/74mi opt

kvm-tec Upgrades:  
• Simultaneous Downscaling  
• Health Status

### media4Kconnect redundant

4K Displayport 1.2 Extender over IP, redundant, resolution 4096x2160@60Hz and super ultrawide resolution of 5120x1440@60Hz

SFP+Module up to 300m/984ft - 120km/74mi opt  
color depth 4:4:4@8 bit pro Farbe

kvm-tec Upgrades:  
• Simultaneous Downscaling  
• Health Status

### media4Kconnect uncompressed

4K Displayport 1.2 Extender over IP, uncompressed, resolution 4096x2160@60Hz and super ultrawide resolution of 5120x1440@60Hz

SFP+Module up to 300m/984ft - 120km/74mi opt  
color depth 4:4:4@4 10 bit per color

A new standard is born - uncompressed redundant transmission (if one port fails, the other one takes over immediately)

kvm-tec Upgrades:  
• Simultaneous Downscaling  
• Health Status





single fiber redundant  
single fiber uncompressed

# 4K DP 1.2

media4Kconnect special  
4K KVM DP1.2 Extender over IP

4K DP1.2  
+ redundant  
+ uncompressed

Ultraslim 4K Displayport 1.2 Extender over IP, DP1.2 Extender over IP with a resolution of 4096x2160@60 Hz in fiber for distances up to 300m/984ft - 120km//74mi opt, for matrix switching systems up to 2000 endpoints. Sound analog & RS232

Super ultrawide 5K resolution of 5120x1440@60 Hz  
Sound embedded

Single Fiber  
4 Single Extender in 1RU

Latency time  
<0,47ms wit perfect video compression

Distances  
for Distances up to 300m/984ft - 120km/74mi opt

Functions & Features  
mouse glide & switch - Softwarefeature  
Function - freeze last image, USB Save feature

Color depth media4Kconnect uncompressed with 4:4:4@10 Bit and uncompressed (native redundant transmission

Alerting system and Helath Status

Switching Manager Software  
Basic version Switching Manager for the Management of all KVM Extender in the Switching System is included

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24V Systems  
All media4Kconnect KVM Extender are also suitable for 24V Systems

media4Kconnect  
SPECIAL



DP 1.2

4K

5K

Fiber

2000 Endpoints

4Units 1RU

R U & Redundant & Uncompressed

LatencyTime 0.47ms

Mouse glide & switch

Sound embedded

4K Displayport 1.2 Extender over IP, resolution 4096x2160@60Hz and super ultrawide resolution of 5120x1440@60Hz  
Sound Analog & RS232

SFP+Module up to 300m/592ft - 120km/99mi opt

- kvm-tec upgrades:
- Simultaneous Downscaling
  - Alerting System via SMS or email
  - Health Status



Special



# Multiview System

SCALABLELINE  
in Full HD  
and 4K



ScalableLine 4K - Displayport 1.2 extender remote or local over IP in fiber with a range of up to 300m/985ft at a resolution of 4096x2160 @ 60Hz ( 5k 5120 x 1440) with a perfect color coding with 4:4:4 @8 bit per color.

The perfect tuning of kvm-tec video compression with a low latency - 0.47ms enables a delay-free transmission of the signals. USB and video is transmitted over one cable. 4K videos in real time. Great flexibility with USB devices as USB2.0 was developed in-house.

## Switching & KVM Management

Management via OSD or with the included Switching Manager Software

The intelligent software kvm-tec Switching Manager allows a comfortable management and intuitive management via OSD or with the included Switching Manager software. The intelligent software kvm-tec Switching Manager allows a comfortable management and intuitive operation of the KVM extenders in the switching system.

For commissioning and operation of the software a Windows PC, VM or tablet with network interface in the network is required. Management via OSD or with the included Switching Manager software.

## Videowall function

The ScalableLine 4K Extender with the ultraslim housing enables video wall functions (4K series) at an excellent price-performance ratio without additional hardware.

### Upscaling at the Remote Unit

On the remote unit, 2 scaled images can be upscaled and a partial section can be displayed as a full screen image.

### Scaling via two links at the local unit

The unscaled 4K image of one monitor can be displayed simultaneously in 4K on another monitor.

In combination with Full HD images can also be upscaled up to 4K. This can be done with a combination of keys.

## More, more, more

- up to 16 sources can be displayed on one monitor, scaled and operated as desired.
- each source can be up/downscaled and operated
- picture in picture display & overlapping windows
- pictures can be moved flexibly across different monitors
- picture sections can be cut out and displayed
- several monitors can be combined to a video wall
- Scalable Mouse Glide & Switch e.g. 4 monitors in 4K can display up to 64 images in real time
- Video wall function - 2 scaled images can be upscaled and can be displayed as full screen by means of partial cropping.
- Multihead within one monitor
- Assignment of any source via the user interface
- Super fast switching
- Latency 0.47ms
- 4 units in 1 U
- Scenarios can be switched via shortcuts and keyboard
- sound embedded / sound analog
- RS 232
- software feature: scalable mouse glide & switch
- 4 units in 1 U

## The free scalable system

16 freely scalable sources  
(per unit, 64 sources possible in total)  
No limit for moving images  
Full HD & 4K  
Latency <0.47ms  
Real-time display  
Less hardware  
Video Wall Redundancy  
Locking the Layouts

Simultaneous presentation  
(Videocloning - the same image can be displayed on the monitor and on the on the video wall)  
Individual labeling of the screens  
(background color and font color can be set individually)  
Fast scenarios  
Mousepointer - animated mouse highlighter  
Multihead freely selectable

### Full HD

For full HD sources, MAXflex dual local in fiber or copper with Scalable Remote Unit becomes an ultra-flexible ScalableLine.



local  
Maxflex Dual  
copper or fiber



remote  
Scalableline

### 4K

4K ScalableLine - a 4K Scalable Local Unit is combined with a Scalable Remote Unit.



local  
Scalableline



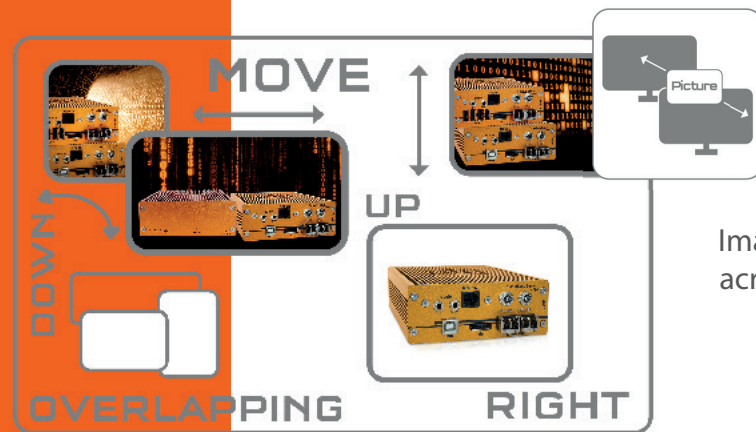
remote  
Scalableline

The new flexible KVM Dimension

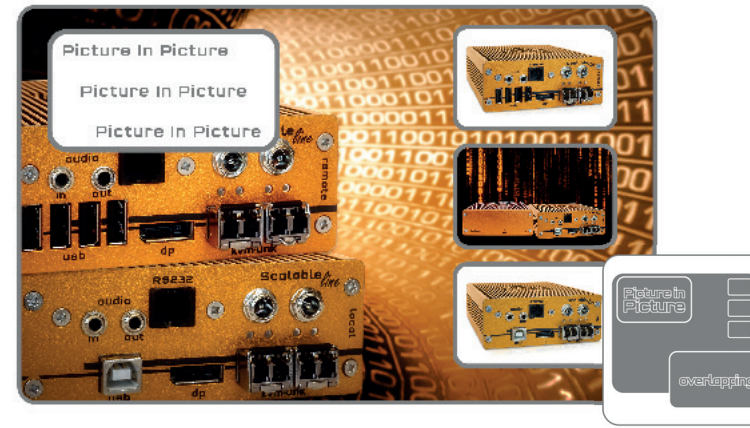
# Video Wall Function



up to 16 sources can be displayed on one monitor, scaled and operated as desired

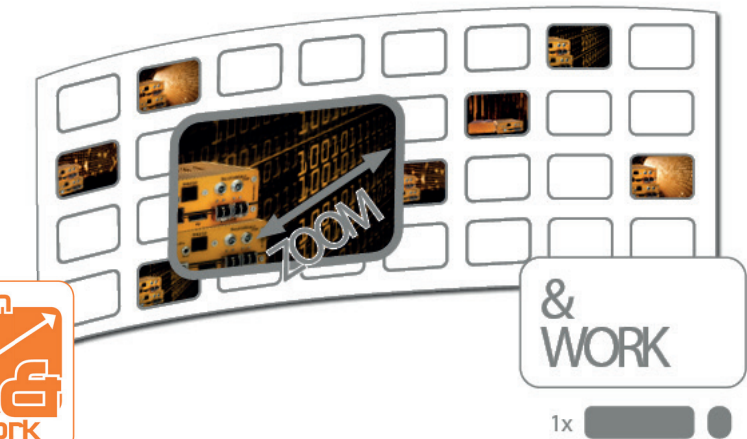
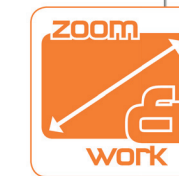


Images can be moved across different monitors individually



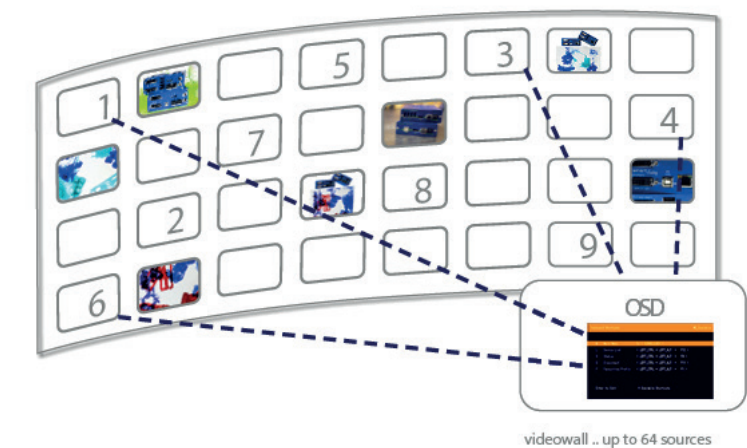
PIP and overlapping Picture in Picture Display and overlapping windows

zoom & work each source can be upscaled / downscaled and operated



4x16 sources = 64 scalable Mouse glide & switch

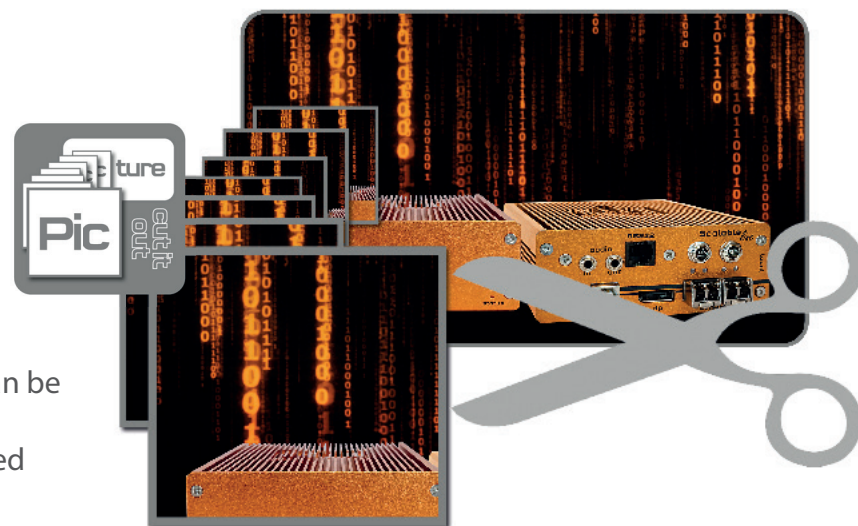
scalable mouse glide & switch group up to 16 sources per monitor



Assignment of individual sources via the user interface

videowall .. up to 64 sources

Cut it out Parts of images can be cropped and and be displayed







kvm-tec Gateway - the perfect combination of a real-time KVM system and a flexible remote desktop system kvm-tec Gateway2go -windows app for live pics from the switching system

kvm-tec gateway - the perfect combination of a real-time KVM system and a flexible remote desktop system.

The gateway has the function of a thinclient and in combination with FLEXline 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. A 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.

In addition to your real-time switching system, the kvm-tec gateway can be used to access the virtual machines.

Easy installation - first connect the Flexline remote unit, then select the RDP protocol at the kvm-tec gateway, then enter the credentials and connect to the desired PC. RDP and VNC are used as standard.

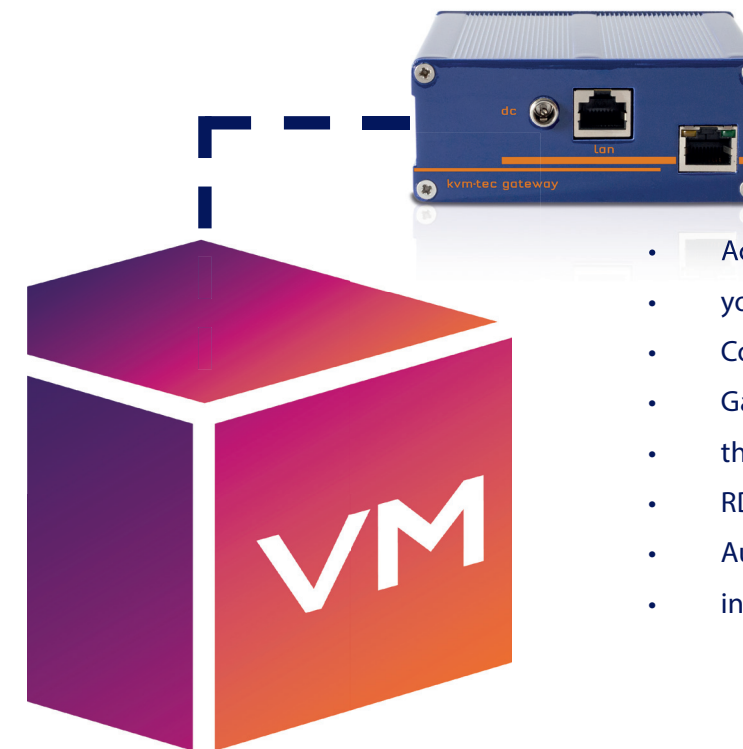


For increased performance requirements we offer the Gateway for Video as a system solution in the rack

- powered by Debian
- RDP and VNC Standard

Access to Virtual Machines

Gateway



- Access to virtual machines additional to your real time switching system
- Connection to a PC via RDP VNC with Maxflex Local
- Gateway powered by DEBIAN
- the KVM gateway can be used to access the virtual machines
- RDP and VNC are standard. Other protocols on request.
- Audio with RDP Transmission
- intuitive Usersystem





Windows App for live pics  
from the Switching System &  
Remote Workplaces

Gateway2GO

# gateway2Go

... smart connection

the flexible connection to the kvm-tec  
local Switching System & for Remote Workplaces

Innovative user application in real time for  
performant laptop or desktop devices  
with Windows 10

In a local Switching System the performance is up  
to 60 fps without any delay

Special bandwidth management reduces the required bandwidth  
and allows remote working in near real time. Gateway2 go is con-  
nected to the Internet via VPN tunnel (for remote Workplaces)  
and thus it can be connected from the remote workstation to any  
PC in the matrix switching system.

Requirement:

for remote workplaces 70Mbit bandwidth

500 Mbit for smooth video playback



Part Nr KT - 4005

Windows APP with unlock code  
for installation on a PC

compatible with:

Ecosmart

Flexline Extender

media4Kconnect DP1.2

Scalableline

REAL REMOTE

the web-based kvm-tec software for the management of all kvm-tec extenders in the Matrix Switching System

Basic version included - can be operated from one Admin  
Extra charge for additional Admin licenses and redundant switching manager

Communication in the switching Manager Web takes place via the API service, which translates the information for the extenders into understandable commands.  
The switching Manager can be operated via a web browser or as an app and can be used for a wide range of platforms and operating systems (Windows, Linux).  
For the installation a tablet or PC is required and it can be chosen between automatic installation or self-configuration of the web server.  
In the case of automatic installation, the API is automatically installed if desired. In the other case, the web server is configured first and then the installation continues. The server for API can also be set up virtually or in the cloud.

#### Additional operator licenses

The basic version of the switching Manager can be operated from one Admin For additional Admins extra operator licenses are required (part number KT- 4013).

#### Redundant Switching Manager

For all safety-critical applications, the switching Manager redundant is the perfect choice. If one Switching Manager fails, the second immediately takes over the management of the KVM Extenders in the Matrix Switching System.

#### The KVM Software management is intuitive - flexible - expandable

The intuitive operation simplifies the management of all KVM extenders in the matrix switching system. The assignment of user rights in different levels and the definition of main and user rights make the KVM system flexible.

The Switching Manager has a useful function to check the correct setting of a network switch

With the KVM software, matrix switching systems are managed up to 2000 endpoints and the system can be expanded at any time with endpoint packages.

#### Upgrade:

- Switching Manager Web up to 100 endpoints
- Switching Manager Web up to 1000 endpoints

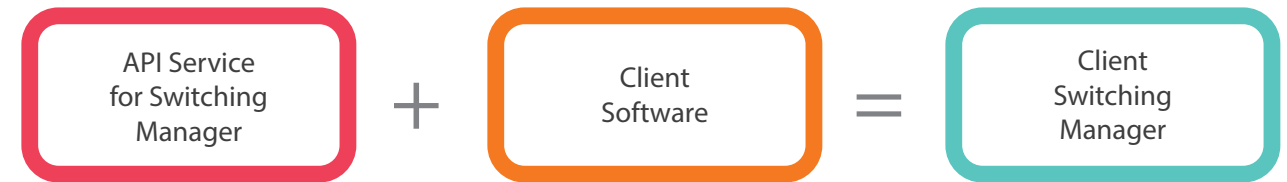


# Switching Manager

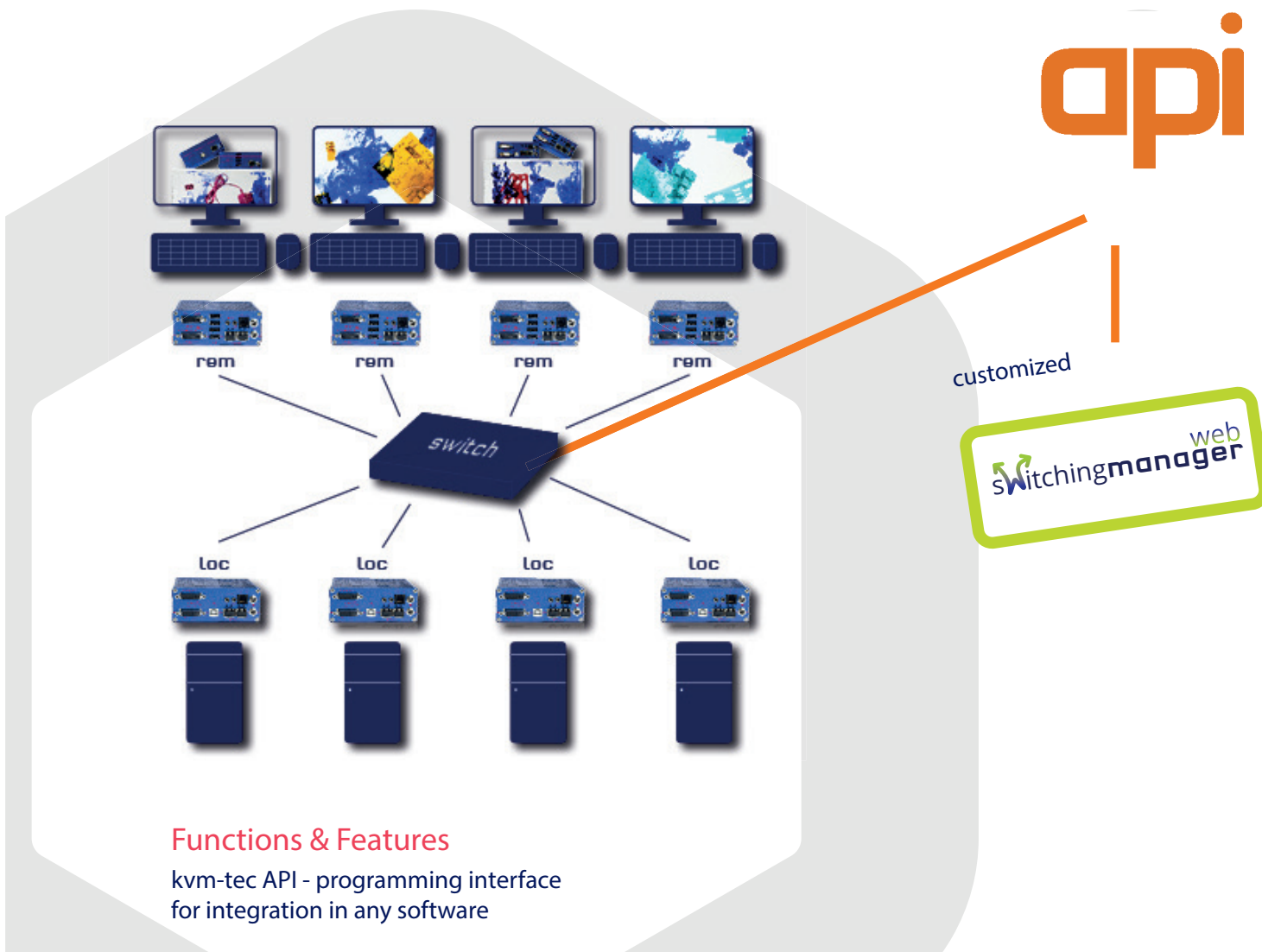
Connect Extenders															
Locals							Remotes								
CONNECTION	POWER	VIDEO	VIDEO2	USB HID	USB 2	SOUND	RS232	CONNECTION	POWER	VIDEO	VIDEO2	USB HID	USB 2	SOUND	RS232
SingleLocal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SingleRemote - DualLocal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DualLocal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dual Remote - DualLocal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# api

# API



api



### Functions & Features

kvm-tec API - programming interface for integration in any software

The intelligent software solution from kvm-tec allows the management and control of all KVM extenders connected in a matrix switching system.

- Display of all available information from all extenders 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
- Definition based on the open API 3.0 standard
- Easy integration into customer-specific software
- Create, edit scenarios
- Set the fallback scenario



# Matrix Switching System



# Matrix Switching

## Switching in the dedicated network up to 2000 endpoints and more

With the switching solution from kvm-tec, systems of up to 2000 endpoints can be flexibly and cost-effectively implemented in all market areas, such as control rooms, Industry 4.0, medical technology, flight and traffic monitoring, training and conference centers, broadcast industry, etc. Systems up to 2000 endpoints can be realized flexibly and economically, where no central, expensive and in the endpoints limited switches are needed.

Due to the in-house developed switching technology of kvm-tec there is almost no limitation in the number of endpoints in the switching system and due to the control via software the single endpoints (PC, monitor etc.) can behave passively. Thus, the endpoint only needs the information at the right switching moment, which results in less data traffic in large systems.

## Network Requirements - UDP Version

The KVM-TEC Matrix Switching System communicates via IP between the individual endpoints (local/CPU or remote/CON), as well as with the KVM-TEC Switching Manager, Gateway2Go and API. Sharing of videos is realized via the IGMP function of the switch via multicast.

Each endpoint joins a multicast group, even if only one connection is established. This process is repeated cyclically so that the switch keeps the multicast group active.

One exception is the Gateway2Go, which uses unicast and communicates via UDP just like the other devices.

The following UDP ports are required for the transmission:

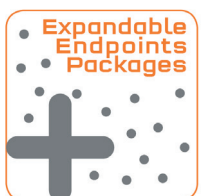
Port number 53248 (0xD000) to 53260 (0xD00C) and Port number 50000 (0xC350).

These ports must be taken into account when configuring the firewall.

For the connection via WAN a secured VPN connection is necessary.

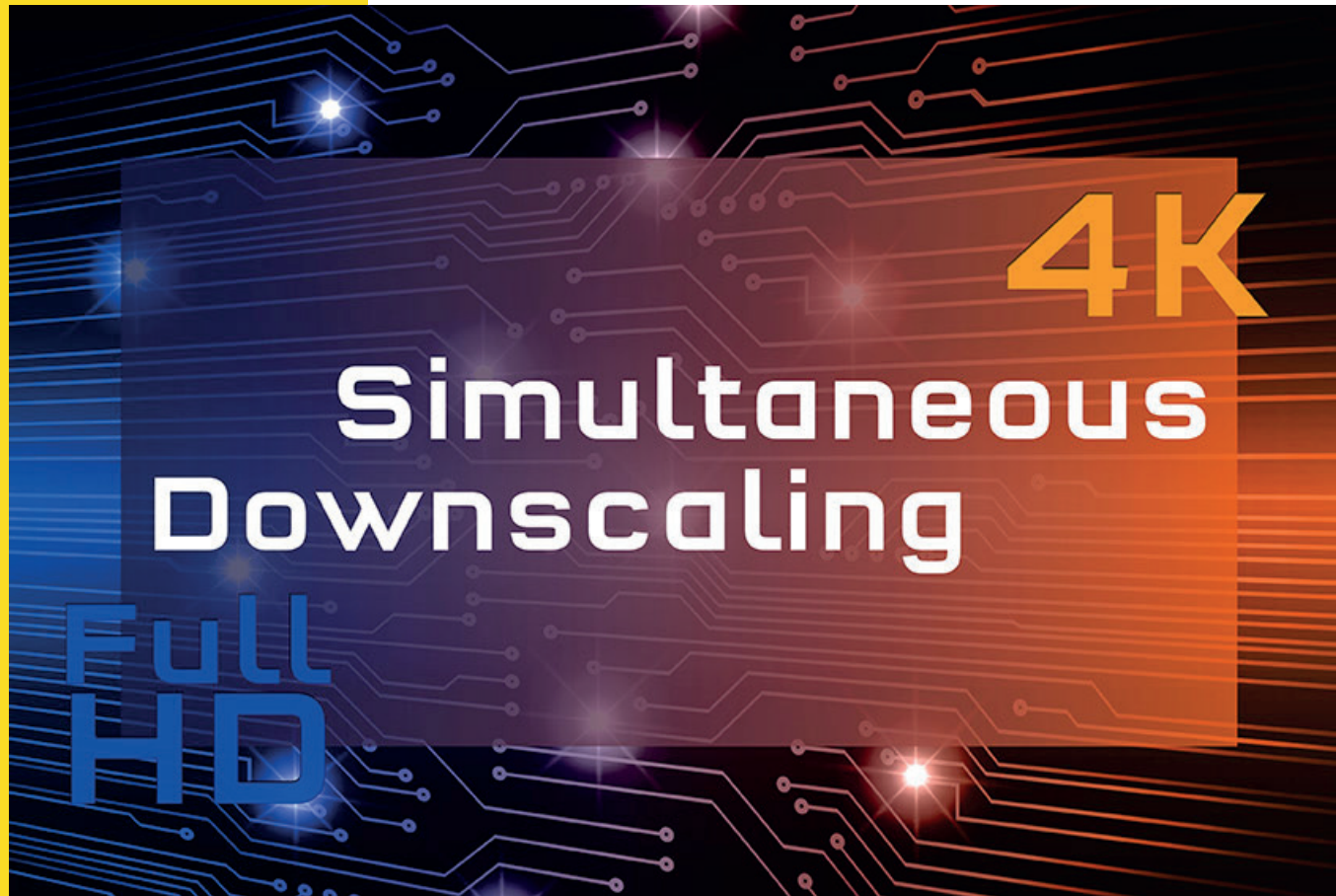
DHCP management of IP addresses is supported by the KVM-TEC Matrix system, static IP addresses are possible, internal default address range and assignment of IP addresses via a DHCP server.

kvm-tec Extender are based on Layer3 and UDP

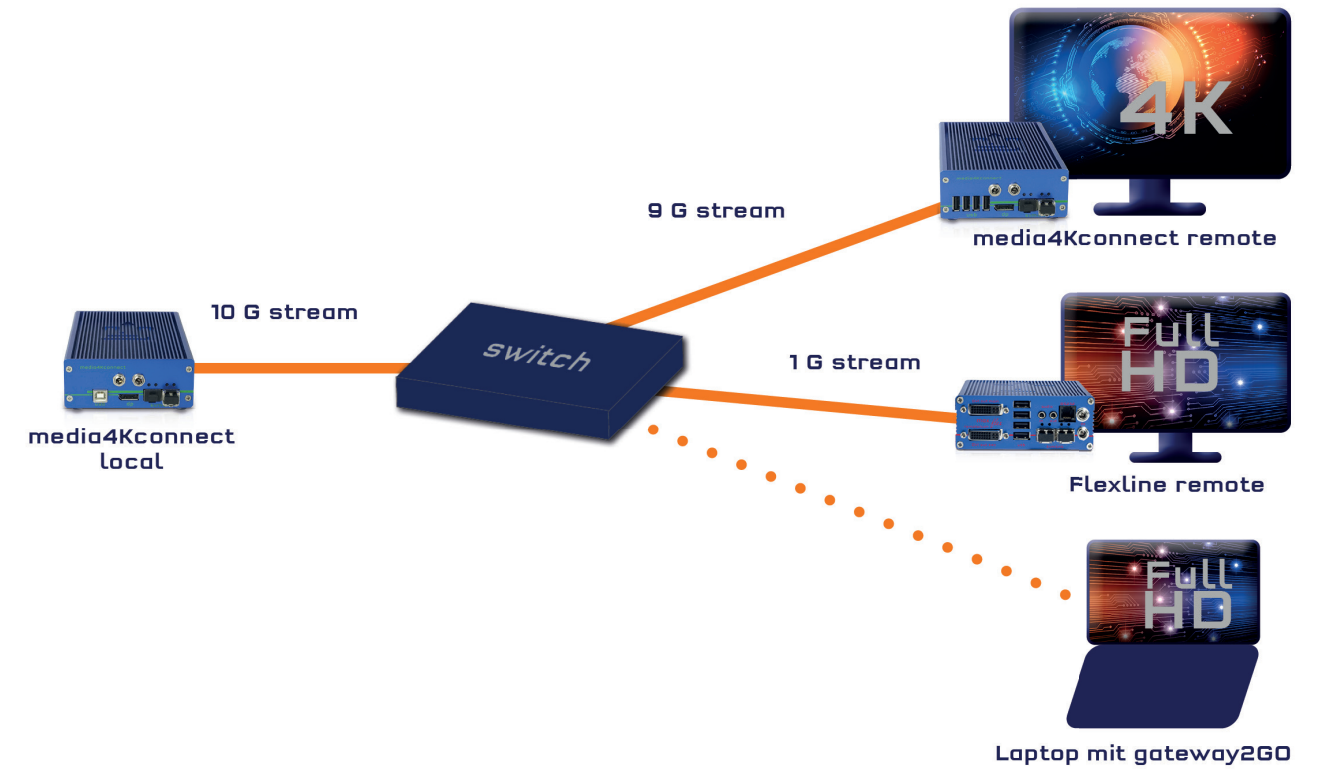


	Easyline	Flexline	media4kconnect	Scalableline	Gateway	Remote Gateway2GO
Easyline	●					
ECOsmart		●	●	● nicht skalierbar		●
Flexline		●	●	● Maxflex dual ist skalierbar	●	●
media4kconnect		●	●	● nicht skalierbar		
media4kconnect SPECIAL		●	●	● nicht skalierbar		
Scalableline Full HD		●	●	● nicht skalierbar		
Scalableline 4K				● skalierbar		





# simultaneous downscaling



## Simultaneous Downscaling from 4K to Full HD

A video can be displayed natively and downscaled at the same time.

With simultaneous downscaling, two different resolutions can be displayed and processed simultaneously with a local media4Kconnect on the remote side. displayed and edited on the remote side.

4K sources can be displayed simultaneously in 4K and with downscaling in Full HD on the remote unit. The output of the stream is done at 4K over 10G bandwidth. Here two streams are transmitted simultaneously, so the 4K stream has 9 Gbit and the second stream in Full HD 1 Gbit. The data streams can be routed and shared independently of each other. The data streams can be routed and shared independently and one source can be split to any number of screens. One user has full USB control (keyboard and mouse etc).

## 4K or Full HD

Many solutions have the disadvantage that a decision has to be made between 4K and Full HD already during planning. Simultaneous Downscaling allows 4K to be used where it is needed, making the solution more affordable and flexible to use.

Local Unit/TX/CPU:	media4Kconnect – DP1.2 Extender in Fiber
Remote Unit/RX/CON:	media4Kconnect for 4K resolutions Flexline KVM Extender over IP Extender for Full HD resolution Gateway2go APP – in the LAN the KVM solution without remote unit

# Security

in front of and beyond the stage



## Most wanted NETWORK SECURITY

The KVM Secure Hardware Network Separator is the combination of a Flexline Remote part with a local part.

The KVM Secure Network Separator is used to completely shield a dedicated KVM Matrix network from the outside world (office network, WAN, Internet). Since the two modules are only internally connected via DVI and USB, it is absolutely guaranteed that no network traffic of any kind can enter the other network. The KVM Secure Network Separator is completely immune to viruses or other attacks from the internet.

The KVM Secure Network Separator simplifies the planning of a large KVM network in a security-critical environment. The KVM network with high bandwidths for 4K video transmission can thus be considered completely isolated as a „hardware matrix“. The switching manager can be operated within the KVM network and can also be administered from the outside via a KVM Separator.

The KVM Secure Network Separator is compatible with the KVM-TEC UDP switching manager and the Gateway2Go. The remote part can be addressed via multicast IP addresses, the local part via unicast from Gateway2Go via VPN with limited bandwidth.

## Network SECURE Separator

by kvm-tec



### A new Standard is born Uncompressed redundant



A completely new standard was developed to enable uncompressed - native 4K transmission even redundantly.

If one link fails, the second link immediately takes over the transmission in compressed form. Due to the in-house developed visual lossless compression no difference is noticeable. For all applications where pixel-perfect, native transmission and redundancy are a decisive factor.



**Hot hot - it gets too hot** - Should the ambient temperature becomes too hot for the kvm-tec extender, which has passive cooling, it will sound an alarm and immediately notify that there is too high temperature in the environment, and it needs remedial action



**Never powerless** - Failure of a power supply - Not good! But again, the extender immediately sounds an alarm and notifies that the power supply has failed



**Who changed what here?** - Failure or unplugging of an extender. If one of the endpoints in a system fails or is shut down, then the Switching Manager sounds an alarm



The Extender is a Teamplayer – Health Status

Via the Health Status, the monitor type and serial number, brightness can be queried and controlled and the volume can be changed.

# Upgrades & Functionalities

## Full HD

	Full HD Upgrades							Functionalities	
	USB	Sound analog	Analog VGA	RS232	Interlaced	PoE	PoF	Mouse glide & switch	Switching Manager Basic
ECOsmart			✓ opt. [KT6036]						✓
Smarteasy	✓ opt. [KT-8147]								
Mastereasy	✓ opt. [KT-8143]	✓ opt. [KT-8141]	✓ opt. [KT-6042]						
Smartflex	✓ opt. [KT-6047]				✓ opt. [KT-4053]	✓ opt. [KT-6033] Set [KT-6034] Unit			✓
Masterflex	✓ opt. [6043]	✓ opt. [6041]	✓ opt. [KT6042]		✓ opt. [KT-4053]	✓ opt. [KT-6033] Set [KT-6034] Unit			✓
Maxflex	✓	✓	✓ opt. [KT6042]	✓	✓ opt. [KT-4053]	✓ opt. [KT-6033] Set [KT-6034] Unit		✓	✓
Industryflex	✓	✓	✓ opt. [KT6042]	✓	✓ opt. [KT-4053]	✓ opt. [KT-6033] Set [KT-6034] Unit		✓	✓
USBflex	✓				✓ opt. [KT-4053]	✓ opt. [6033] Set [6034] Unit			✓



Switching Manager - Basic Version included  
Additional Operator Licenses  
Redundant Switching Manager up to 100 endpoints

[KT-4012] Redundant Switching Manager up to 1000 endpoints  
[KT-4013] Expandable Endpoints for 50 endpoints  
[KT-4014] Expandable Endpoints for 100 endpoints

[KT-4015]  
[KT-6048]  
[KT-6049]

## 4K

	redundant	Uncompr.	RS232	Sound analog	5K	Simultaneous Downscaling	Switching Manager Software Basic
media4Kconnect Single					✓	✓ opt. [KT-4020]	✓
media4Kconnect redundant	✓				✓	✓ opt. [KT-4020]	✓
media4Kconnect uncompressed		✓			✓	✓ opt. [KT-4020]	✓
media4Kconnect SPECIAL redundant	✓		✓	✓	✓	✓ opt. [KT-4020]	✓
media4Kconnect SPECIAL uncompressed		✓	✓	✓	✓	✓ opt. [KT-4020]	✓

	Mouse glide & switch	PoF	Alarm up to 100 endpoints	Alarm up to 1000 endpoints	Health up to 100 endpoints	Health up to 1000 endpoints	Expandable endpoints
media4Kconnect Single	✓	opt. [KT-7146]	✓ opt. [KT-4016]	✓ opt. [KT-4017]	✓ opt. [KT-4018]	✓ opt. [KT-4019]	50 endpoints [KT-6048]
media4Kconnect redundant	✓	opt. [KT-7146]	✓ opt. [KT-4016]	✓ opt. [KT-4017]	✓ opt. [KT-4018]	✓ opt. [KT-4019]	
media4Kconnect uncompressed	✓	opt. [KT-7146]	✓ opt. [KT-4016]	✓ opt. [KT-4017]	✓ opt. [KT-4018]	✓ opt. [KT-4019]	
media4Kconnect SPECIAL redundant	✓	opt. [KT-7146]	✓ opt. [KT-4016]	✓ opt. [KT-4017]	✓ opt. [KT-4018]	✓ opt. [KT-4019]	100 endpoints [KT-6049]
media4Kconnect SPECIAL uncompressed	✓	opt. [KT-7146]	✓ opt. [KT-4016]	✓ opt. [KT-4017]	✓ opt. [KT-4018]	✓ opt. [KT-4019]	



Switching Manager - Basic Version included  
Additional Operator Licenses  
Redundant Switching Manager up to 100 endpoints

[KT-4012] Redundant Switching Manager up to 1000 endpoints  
[KT-4013] Expandable Endpoints for 50 endpoints  
[KT-4014] Expandable Endpoints for 100 endpoints

[KT-4015]  
[KT-6048]  
[KT-6049]







Let's create your own KVM System now...

*... or simply take some notes!*

Let's create your own KVM System now...

*... or simply take some notes!*

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