kvm-tec

Know how

KVM Extender
the blue Powerboxes

Markets & Applications

Boosting Features

made in Europe/Austria
We turn complex applications into clever and intelligent KVM solutions and convince with innovative technology and a sensational price-performance ratio for many markets.

What are the skills of the blue KVM power boxes

KVM means Keyboard Video and Mouse and KVM Extender

For us, KVM extenders are absolutely power boxes, capable of transmitting video and USB signals over long distances (up to 160km/99mi) without any loss of quality. With the development of our own compression, we have placed great emphasis on achieving visually lossless ultra-low latency of less than 1ms (0.47 ms to be exact). For 4K extenders with a simultaneous color coding of 4:4:4 with 24 bit color depth (8 bit per color) and 60 Hz refresh rate. This makes it possible to work without delay and there is no tearing and stuttering of the mouse.

kvm-tec extenders are available in CAT and Fiber, as PoE version, redundant and as industrial version for high temperature ranges. The kvm-tec Extender are also suitable for 24VApplications.

kvm-tec Extenders over IP are compatible with Standard network components and can be used in Matrix Switching Systems up to 2000 endpoints and more.

Like everything at kvm-tec, the USB 2.0 transparent transmission was developed in-house. This has the great advantage for our users that we can adapt our USB 2.0 transparent at any time. Now and in the future. Since new USB devices are constantly coming onto the market, it is an extremely important factor that the USB packages are changeable. What took us a lot of development time at the beginning, now turns out to be a big advantage.

Markets and Applications for KVM Powerboxes

The KVM market has turned into a fast growing market in the last few years due to innovations like ergonomic features, ease of use, flexibility etc.. The KVM market gets a special boost from crisis-proof systems, which allow an immediate move to remote workplaces and home offices and are optimally suited for security-critical applications and even extreme bit patterns due to redundancy and uncompressed extenders. New KVM systems over IP are compatible with standard network components, which on the one hand allows a very good price-performance ratio and on the other hand is absolutely secure against cyberattacks in the dedicated network. We at kvm-tec are always tinkering how we can improve the user comfort and benefit. With our Connect Combine & Go system, an existing system (from other manufacturers) can be expanded by connecting a FLEXline local unit into a future-proofed KVM system that meets the latest requirements of the KVM market and can be permanently adapted through expansions.
KVM extenders feel at home here and can show their full power

**BROADCAST**
TV Studio, Post Production, OB Vans, Radiostudio

**INDUSTRY**
process driven Industry, Utility companies
Public Security, Control Rooms

**CONTROL ROOMS**
for all Markets

**EDUCATION & CONFERENCE CENTER**
KVM in Universities, Schools, Conference Rooms & Center

**DIGITAL SIGNAGE**
Events, Museum, Digital Signage, POS

**FINANCE**
Bank Establishment, Insurance companies, Trading Rooms

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The blue KVM Extender - Powerboxes for many Markets and Applications

**EXPLOSION HAZARD AREAS**
Refineries, oil rigs, chocolate factories

**ESPORTS**
Arenas, Postproduction, Mobile Esports events, Digital Signage

**MEDICAL SECTOR**
Hospitals, Surgery Rooms, Video and USB Live Broadcasting, Infopoints, POS

**TRANSPORT MANAGEMENT**
for all markets Road, Rail Water & Air

**REMOTE WORKPLACES & HOME OFFICE**
for remote Workplaces and home Office

**MORE APPLICATIONS**
Hotel & offices buildings, public buildings, digital signage in sports, maritime applications - cruise ships and yachts,

You may already notice that the blue kvm-tec powerboxes are very flexible and although super slim and compact (4 KVM Extenders in 1RU - means 8 video streams) they have a wide range of applications. We do admit that it is also a pity that the stylish powerboxes are often installed in the server room and you don’t see them. But in all applications you can be happy about the low latency 1.38ms at Full HD, <2ms at 4K and the visual lossless compression, because these in-house developments allow a smooth video - and USB transmission over long distances possible (up to 160km/99mi).
Why are our KVM Extender so special, what are the highlights of the boosting features and why is it possible to have such a good price-performance ratio compared to other products on the market?

Everything starts with passion

Development is one of our passions and is anchored in the DNA of our technical engineers. (To tell you a secret, we have three passions - the other two are marketing and sales.)

Here are some reasons what makes our kvm-tec products so special!

COST EFFICIENCY

The developers have one goal and that means efficiency in the design of the board and efficiency in the selection of components and FPGA chips. You’d be surprised how long it takes to tinker and design components on the board to create super cost efficiency.

IN HOUSE DEVELOPMENT

Our development team places great emphasis on in-house developments. This makes our products unique and offers an excellent price-performance ratio. We would like to present you some of our own developments - like our Line-to-Line transmission with almost zero latency, how we transmit 4K signals without quality loss with Redrivers, or how it is possible to make a native transmission (uncompressed) also redundant possible, or how you can work from a remote workstation and have full access to the matrix switching system, or how you can connect to an existing KVM system with a single FLEXline local unit and thus make your KVM system fit for the future.

BOOSTING FEATURES

The kvm-tec development team has set itself another goal: To give each KVM extender a very special touch and thus develop innovative features that enrich the KVM world. Through our own developments in the field of video compression, video transmission and USB transmission, we have managed to perfectly match these 3 factors and thus we have the greatest possible flexibility in the USB area and can therefore also offer the shortest mouse monitor latency on the market with perfect video compression. (~2ms) for our new generation of Full HD Extender FLEXline and EASYline the latency is 1.38 ms.

You like it in the short version, then read our USP Overview
You want to tune in deeper into KVM Know How? Then just have a look at our website www.kvm-tec.com in the sector Know-how Transfer.

USP KVM EXTENDER, FEATURES . . .

There are now seven pages with USP and the reading time is about 5 minutes.

We know, it is already a lot to read, but kvm-tec and the blue powerboxes and the orange turbo boxes have a lot of USPs
OVERVIEW
USPs for our blue KVM Powerboxes

Visual lossless Compression
Latency time 0,47 ms
USB2.0 transparent
Lossless transmission of video and USB for distances up to 160 km/99mi
Perfect color coding with 4:4:4@8bit per color
Included software management - Switching Manager
Redundant KVM Extender
Redundancy with uncompressed
Compressed and uncompressed ( native ) transmission
Full HD, 4K and 5k resolutions at 60 Hz
Access to virtual machines
Remote workplaces with access to the matrix switching system
CAT Extender for distances up to 150 m/492ft
Fiber Extender for distances up to 160km/99mi

Embedded sound, analog sound
For EASYline – Full HD Extender switching without Switch
For Esports – refresh rate 240Hz, 1920 x 1080, uncompressed, 30 Bit)

Software features (no additional Hardware)

Mouse glide & Switch – with one mouse and one keyboard up to 16 monitors can be operated

4K MultiView Commander
content from 4 PCs can be displayed and operated on one 4K screen.

Ultra slim and compact housing
4 Single or 4 dual KVM Extender in 1 RU - means up to 8 videostreams

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line - to line transmission
therefore flicker-free monitor display, no stuttering
and perfect lip synchronization

kvm-tec compression method
therefore clear price advantage and almost zero latency time

delay-free 4K transmission - through Re-Driver

USB 2.0 transparent
therefore best possible flexibility with USB devices

Uncompressed redundant
A completely new standard was developed to enable uncompressed,
- native 4K transmission also redundant. 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 critical factor.

Compatible with standard network components
Switching systems up to 2000 endpoints and more

Superfast switching - as the switching endpoint is passive at the switching moment, there is less traffic in the
system and therefore switching is superfast

Secure against cyberattacks with dedicated network

Expandable endpoint packages - matrix switching systems can be expanded with 50 or 100 endpoints at any
- time

Included Switching Manager Software
with EASYline Full HD Extender - switching without switch
Front - Backbridging, no user system necessary

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OVERVIEW
USPs for our orange KVM Turbo Powerboxes

THE kvm-tec ROAD for a flexible Systemarchitecture
4K and Full HD can be flexibly combined and up to 16 sources can be displayed, operated and scaled.

For Full HD sources, MAXflex dual local with Scalable Remote Unit becomes ultra-flexible the remote unit of ScalableLine. For 4K applications, Scalable Local is combined with Scalable Remote. Flexible - more flexible - most flexible is that HD and 4K can be used together for the different sources.

SCALABLE LINE 4K & Full HD the new KVM Dimension
In this ultra-flexible KVM Multiview Commander system, up to 16 sources, in Full HD or 4K can be combined and displayed on a 4K monitor with one mouse and keyboard, scaled and operated as desired.

Assignment of any sources via the user interface

Images can be moved flexible across different monitors

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

PIP and overlapping Picture in Picture Display and overlapping windows

several monitors can be combined to a video wall e.g. 4 monitors in 4K can display up to 64 images in real time

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

5K Super Ultrawide resolution 5120 x 1440 @60 Hz

Multiview Systeme
Real Remote
The REAL REMOTE system with Gateway and Gateway2go offers access to virtual machines, home office and remote workplaces with extremely good performance.

License model
With Gateway2go’s licensing model, the complete workflow can be maintained without any problems even in times of increased demand for home office or remote workstations.

Connect Combine & GO
You have an existing KVM system - very good, because then you already know the advantages of KVM solutions and we do not need to convince you here about KVM extenders or matrix switching systems.
Your current KVM system works analog and is not expandable. then it becomes interesting for you now - because with the connect combine & GO system your already existing KVM system is connected with a FLEXline local unit and you can extend and expand your KVM system as a KVM high performance system with all advantages.

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 critical factor.

Something is wrong - immediate message
Since there is almost no noticeable difference between compression and uncompressed with kvm-tec, the link failure could also be easily overlooked. Not with kvm-tec Extender - because there is an immediate notification by email.

Hot hot - it gets too hot
If the ambient temperature becomes too hot for the kvm-tec Extender (kvm-tec Extender have passive cooling), it will sound an alarm and notify you immediately that the temperature in the environment is too high and that you need to take the necessary corrective action.

Never powerless - failure of a power supply
Not good! But also here the extender immediately sounds an alarm and reports 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 disconnected, then the Switching Manager raises an alarm and sends a warning.
**API Service for Switching Manager**
for integration with your software

**USB - Save feature**
the virus protection - all USB hard disks are recognized immediately and can be locked if desired

**Videosharing**
Push & get or connect
Cross with Supervisor
Get & Multishow

**USB Sharing**
High Speed mode
Emulation Mode

**Freeze last image**
if the connection to the computer is interrupted, this function displays the last image on the screen with a red flash frame

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**made in EUROPE/Austria and excellent price performance**

Since all core technologies are developed in-house at kvm-tec, we are more flexible, and can pass this price advantage on to our customers, offering an excellent price-performance ratio in the high performance area.

We focus on transparency in the KVM High Performance World and you will find our recommended retail prices listed with each product on our website.

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**KVM TEC DISTRIBUTORS & SALES PARTNER**

Our authorized kvm-tec Sales Partners in the KVM Global concept have built up a lot of know-how about kvm-tec products and each of our Sales Partners is an expert in his field... .

contact one of our local partners, or get connected from our headquarter

office@kvm-tec.com
phone +43 2253 81912

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LET´S TALK ABOUT THE BENEFITS

Ready for Testing
Free testing device with Rapsberry + tablet with all information and got to meeting

Ready for Designing the KVM System
we make a technical sketch according to your specifications

Ready for Configuration
to make everything run smoothly we offer you a test and configuration service

Ready for Installation
our support is happy to attend the installation phase live (virtually) via go to meeting and look over your shoulder

kvm-tec Support - we also love to speak directly with our customers
And by the way - we don't leave our support to a call center, because when the shoe pinches, we are there for you personally ......
Crisis proofed KVM Systems requires Innovation - because REMOTE is not equal to REMOTE

... KVM4 future System with access to virtual machines and Remote Workplaces
With Full HD Extender FLEXline and with Gateway you have access to virtual machines and with Gateway2go APP remote workplaces are possible. For times of high demand, additional remote workplaces can be installed with Gateway2go APP for any period of time.

... sounds easy, but remote is not equal to remote
In the kvm-tec 4 Future System, VGA and DVI signals can be transmitted in a switching system via kvm-tec FLEXline Full HD Extender. This makes it possible to work remotely via an Internet connection with almost no time delay.

... for real remote it needs Innovation
in-house development and innovation is in the DNA of the engineers at kvm-tec. Therefore, the conclusion was logical to develop a crisis-proof KVM system that allows an immediate transition to the home office or remote workplaces and also allows a connection to existing systems (Classi-cline), as well as to existing systems from other manufacturers. With the license model of Gateway2go, the complete workflow can be maintained without any problems even in times of increased demand for home office or remote workplaces.

We all learned during the COVID crisis that business continuity is an extremely important factor in all sectors of the economy. It has become clear to all of us that an immediate switch to remote workplaces is a „must“ and that the coverage of additional demand for remote workplaces must be covered over a certain period of time to ensure a smooth workflow.

With the kvm-tec 4Future REAL REMOTE system it is possible, for example, to work from remote workplaces in the KVM system in the broadcast sector. kvm-tec has also developed a technology to connect the new generation FLEXline Full HD Extender to existing systems to enable modern and crisis-proof workplaces at low cost.

The REAL REMOTE system was developed in addition to our kvm-tec 4Future High performance KVM system, where flexible customized, future proofed, secure engineered and hardware optimized set the new trends in the KVM world.

... THIS IS HOW CRISIS-PROOFED INNOVATION LOOKS LIKE

Bandwidth reduction
Video compression with low latency time
for analog signals elimination of noise and jitter signals
also in combination in a network with high bandwidth an extremely good performance is possible
the connection can also be made to our CLASSIcline (Smartline, Master-line, Matrixline) via the one Flexline local extender.
also already existing systems of other manufacturers, which do not have VNC, RDP or similar, can be made remotely accessible with kvm-tec 4Future System.
Bandwidth reduction
kvm-tec systems are optimized for high bandwidth and low latency. If less bandwidth is available then the extenders can also work quickly with lower bandwidth, because an automatic bandwidth reduction has been implemented. The response and latency time depends on the available bandwidth. For desktop applications 70Mbit/sec are necessary.

Video compression with low latency time
There are many video compressions that have the disadvantage of not having full 4:4:4 color accuracy and most systems have high latency. For us low latency means 0.47 ms. (Here the latency from the internet is added). In LAN there is almost no delay. The latency for kvm-tec FULL HD Extender is 0.47 ms with 1 Gbit bandwidth.

for analog signals elimination of noise and jitter signals
We have developed special algorithms, because without the reduction of noise and jitter signals would not be compressible.

also in combination in a network with high bandwidth an extremely good performance is possible
Since Gateway2go can decode and display the signals from the KVM extenders directly in the Windows APP and therefore an extremely good performance is possible.

also already existing systems of other manufacturers, which do not have VNC, RDP or similar, can be made remotely accessible with kvm-tec 4Future System.

So that existing systems can be connected or e.g. if a server is restarted, also on Bios level can be accessed.
If a modification is to be made in the Bios on the server, then it is not possible to use remote protocols (such as Teamviewer, because the operating system is not yet satrtet). With kvm-tec, the KVM system can be accessed from a remote workstation, so that analog VGA signals, and modern DVI and HDMI signals can be connected. The gateway can also be used to access virtual machines.
Matrix Switching System with standard 1G/10G Switch

Decentralized Matrix with 10G uplinks

Matrix Switching System for larger systems

LAN System plus WAN over router and Gateway2GO for remote workplaces
## KVM EXTENDER COMPATIBILITY

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