KVM solutions

G&D

KVM extenders switches matrix systems

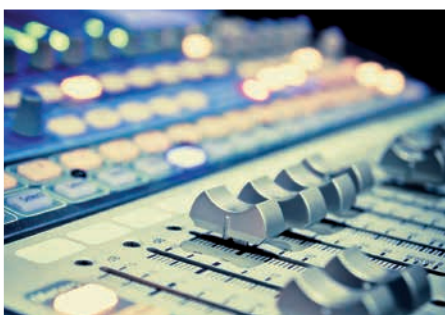**Intelligent solutions for:**

Broadcast

Post-Production

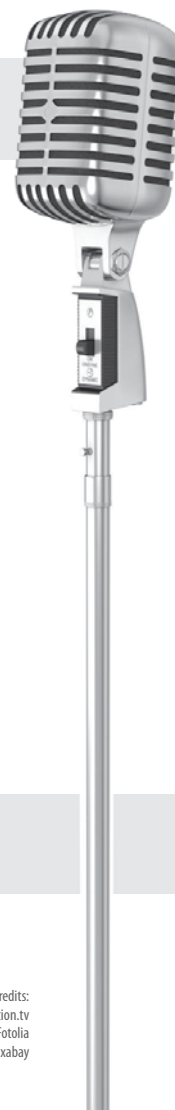OB Vans

Mobile Radio Broadcast

G&D IF IT'S KVM

G&D IF IT'S KVM

Guntermann & Drunck is regarded as one of the leading manufacturers of digital and analog KVM products for control rooms in broadcast, air traffic control, automation, marine and other sectors such as telecommunications and finances.

With a broad portfolio of powerful products to extend, switch and distribute keyboard, video and mouse signals and many years of experience when it comes to installing systems in broadcast station, post-production studios, OB vans or in mobile radio broadcasts, G&D provides users from all applications with maximum customer benefits and real added value.

KVM solutions for:

- Broadcast
- Post-Production
- OB Vans
- Mobile Radio Broadcast
- Any kind of Broadcast infrastructure

G&D offers the largest KVM product portfolio at the market.

All G&D products as well as their variants are compatible with each other and can be combined even in largest applications.

G&D KVM solutions optimise your IT equipment and increase productivity for man and machine. If you need the best possible KVM equipment, then ask for G&D – from professionals to professionals.

G&D is considered a top performer regarding:

- Failure safety, redundancies and preventive monitoring
- Reliable 24/7 operation especially during live broadcasts
- Highest quality requirements regarding long operating times and life of products
- Broad range of helpful functions that provide even more flexibility and usability
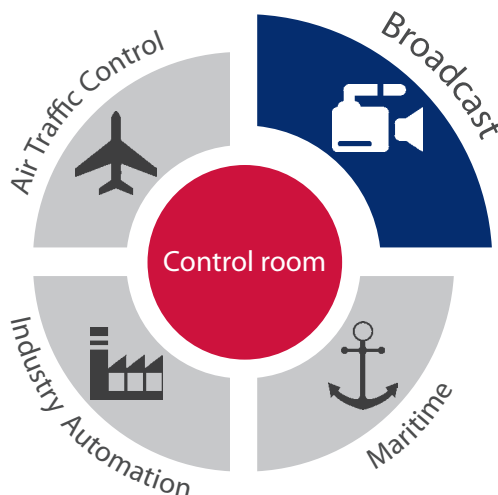
KVM extenders

Products for extending computer signals over long distances

- DP1.2-VisionXG
- DP1.2-Vision / DP-Vision
- DL-DVI-Vision / DVI-Vision
- DP-Vision-IP

KVM switches

Products for operating multiple computers by one workplace

- DP1.2-MUX3-ATC
- DP1.2-MUX-NT
- DL-DVI-MUX-NT
- DVIMUX

KVM matrix systems

Products for simultaneously operating multiple computers via multiple workplaces

- ControlCenter-Digital
- ControlCenter-Compact
- ControlCenter-IP

KVM features

Functions for increasing productivity of various KVM applications

- Preventive monitoring & SNMP
- Tally light
- CrossDisplay-Switching
- Screen-freeze function

Air Traffic Control · Broadcast · Control room · Industry Automation · Maritime

KVM solution for broadcast applications

Lossless transmission and operation in real time

Audiovisual experiences. Being captivated by the world of images, colours, sounds and emotions. Achieving this includes more than just recording and playing back video and audio files. Benefit from our KVM equipment, which transmits image data lossless and pixel-perfect – depending on the device even up to 8K@60Hz. KVM systems from G&D always give you access to the computer you need to ensure efficient production through latency-free transmission and intuitive operation.

Efficient and user-friendly

Thanks to KVM, you can store studio or workstation computers in an access-protected and air-conditioned technical room. This significantly improves the working conditions of the producers and the entire team, reduces the noise level in studios, prevents unnecessary heat emissions and saves space. Operators are still able to fully access these remotely stored computers from their studios in real-time and with full performance.

Tailor-made solutions

Our portfolio offers you solutions for a wide variety of requirements. KVM extenders let you extend computer signals as a 1:1 connection. We provide variants with multi-channel video making up to four video channels available at the same time and thus also supporting 8K resolutions at 60 Hz. KVM switches allow you to access multiple computers, while a KVM matrix enables you to access an entire computer pool from all workstations. Depending on the circumstances, you can use existing cabling or IP networks (KVM-over-IP™).

Perfect interaction: KVM and IP transmission according to SMPTE 2110

The field of broadcast production shows a clear trend from „conventional" SDI transmission to IP transmission according to SMPTE 2110. For G&D, the shift to more powerful network structures is a key motivation for developing KVM-over-IP™ systems.
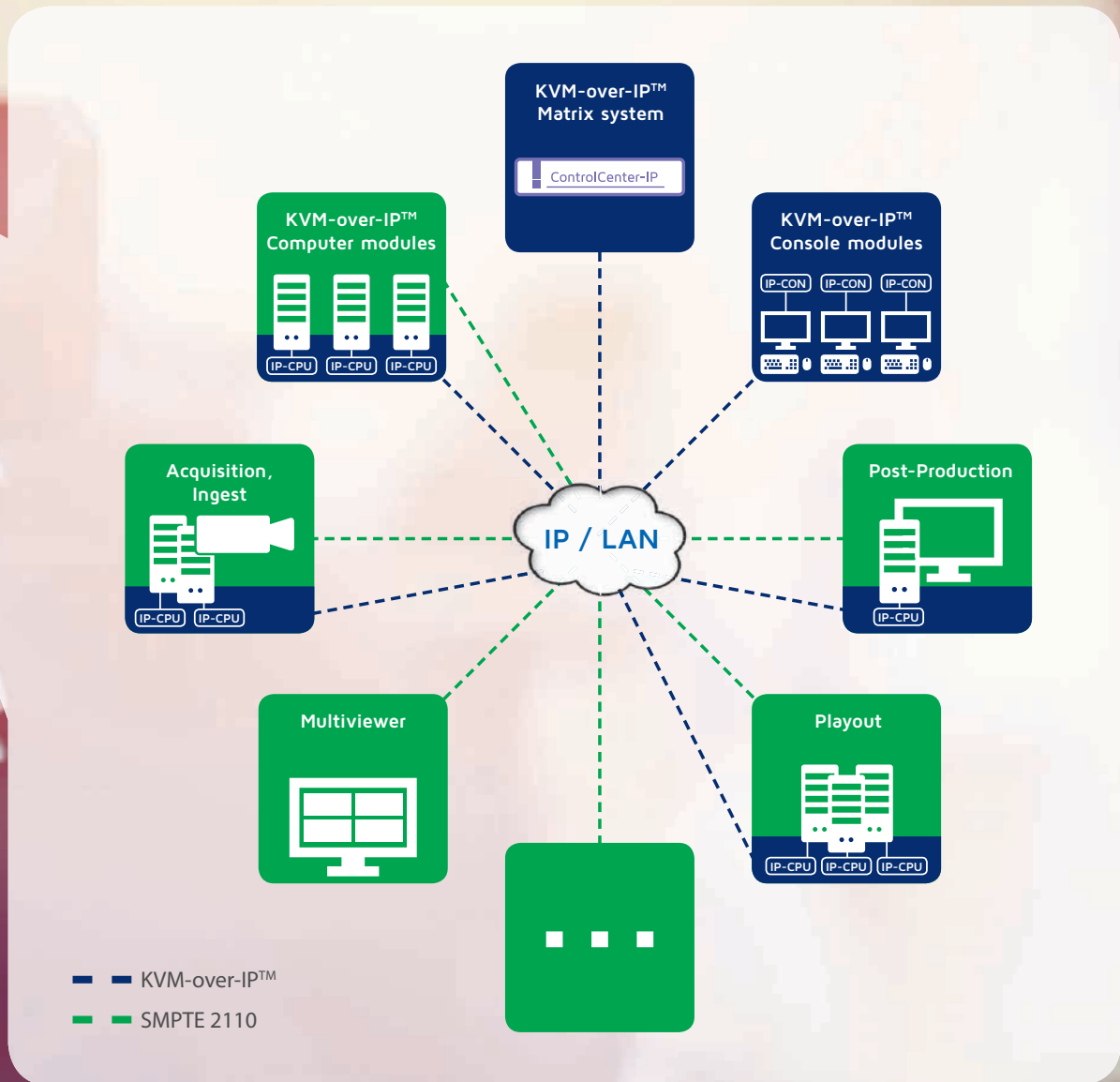
Just like standard productions, IP-based productions can be optimally combined with KVM installations. But how exactly does this interaction work?

The SMPTE 2110 standard regulates IP workflows to transmit data and data packets of the broadcast content. When it comes to productions, several people from different departments need to work with the same data streams. For this reason it may be useful to split the data into video, audio and additional data (e.g. subtitles, captions and time code). The SMPTE 2110 standard considers and regulates these requirements.

In addition, KVM-over-IP™ solutions can be used to make operating broadcast systems much more flexible. A KVM system has no actual contact to the broadcast content meaning that computer content is not transmitted in the form of data but rather as signals: KVM devices are connected to the computer's keyboard, video and mouse interfaces and extend or switch the corresponding signals. Since the KVM system therefore has no direct point of contact with the broadcast data, it does not necessarily have to be designed for the use of IP. Classic KVM solutions establish a direct connection between computer and workstation (via an intermediate KVM matrix system where necessary). The situation is different with KVM-over-IP™. Here computer signals are fed into the network and converted back into „normal" video, keyboard and mouse information on the receiver side.

IP workflows according to SMPTE 2110 and KVM-over-IP™ can thus share the same network and be used at the same time. For perfect interaction, G&D KVM-over-IP™ systems also support common network standards such as QoS and VLANs.

Talk to us – together we will find the KVM solution tailored to your needs!

KVM-over-IP™
Matrix system

ControlCenter-IP

KVM-over-IP™
Computer modules

IP-CPU IP-CPU IP-CPU

KVM-over-IP™
Console modules

IP-CON IP-CON IP-CON

Acquisition,
Ingest

IP-CPU IP-CPU

Post-Production

IP-CPU

IP / LAN

Multiviewer

Playout

IP-CPU IP-CPU IP-CPU

. . .

KVM-over-IP™

SMPTE 2110

KVM solutions for Broadcast applications

KVM at studio workplaces | Remove computer equipment from the studio


In studios, a quiet working environment is essential. Here, our powerful KVM products help create user-friendly workstations.

Computers from the studio can be placed into access-protected and air-conditioned equipment areas. The producers are still able to fully access those computers from their studios in real-time and with full performance.

KVM allows you to use your technical equipment more flexibly, offering stability in 24/7 operations and providing reliability – in studios, post-production and animation studios. The peripherals-saving solution reduces the noise level in studios and avoids unnecessary heat emissions.

How KVM works in studios
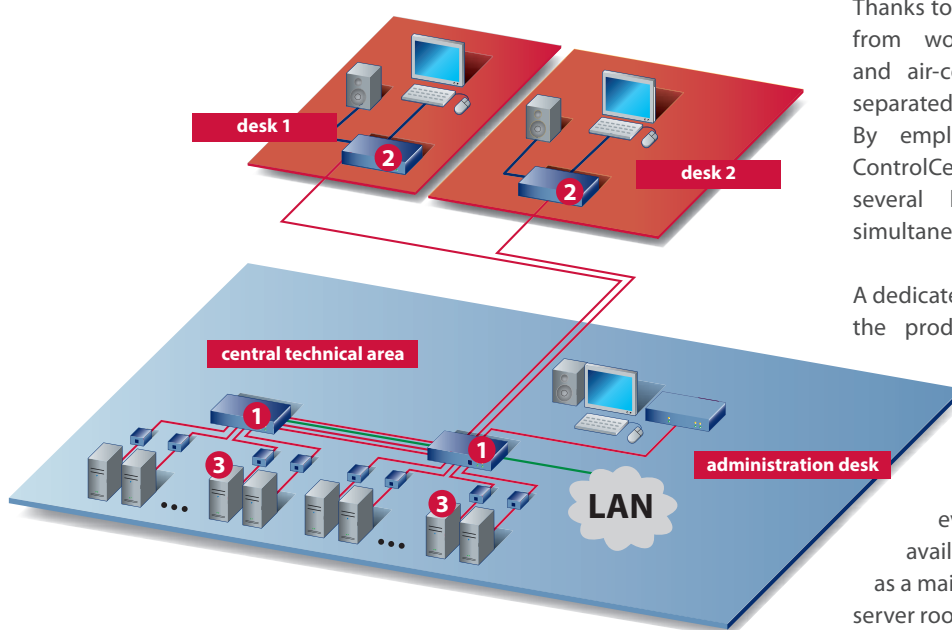
Thanks to KVM products, computers can be removed from workplaces into central, access-protected and air-conditioned equipment areas, completely separated from the production-level users. By employing KVM matrix switches, e.g. the ControlCenter-Digital 288, it is possible to operate several hundreds of computers via multiple simultaneous workstations.

A dedicated CAT x or fiber optic connection integrates the productive workplaces into the operational concept. Now the producers are able to access all computers. The ControlCenter-Digital guarantees performances without any latency or loss of quality. Each user can access every computer remotely. The decentralized availability of the computers is guaranteed just as a maintenance access for the administrator in the server room via a separate, local console.

1 KVM matrix system (ControlCenter-Digital)
2 Console module DVI-CON
3 Computer module DVI-CPU

KVM in post-production | Creating computer-free offices

The work in post-production requires powerful computer equipment to be able to provide best possible images and sound files.

High-performance computers for editing images require powerful processors causing noise and heat emissions. However, producers as well as the entire creative team need best possible working conditions to focus on their creative tasks without being distracted by noise and heat emissions.

To keep any emissions away from the staff, the computers can be moved out of the offices into a dedicated technical room using KVM extenders. Some producers operate more than one computer at the same time and have to access them from the distance. By implementing a KVM switch even this is easy and efficient to do.

How KVM works in post-production

The post-production sector requires high performance and reliable equipment at any time. Producers have to completely rely on their computers in such a way as to enable them to conclude their sophisticated video and sound cutting tasks.In this application the computers were removed into a separate technical room. Thanks to KVM extenders (e.g.

DVI-Vision-MC2), the remote users in the post-production area can work on their computers without any latency as if computers are still at the console. The KVM extender system consists of a computer module and a console module. The multi-channel variant (MC2) is also able to connect multi video computers to implement multi monitor

workstations. The local administration console in the computer room uses a KVM switch (e.g. DVIMUX8-OSD) to administrate and configure up to eight computers. With the broadcast function administrators can transmit keyboard and mouse signals to all eight channels. Now they can configure and operate all computers at the same time.
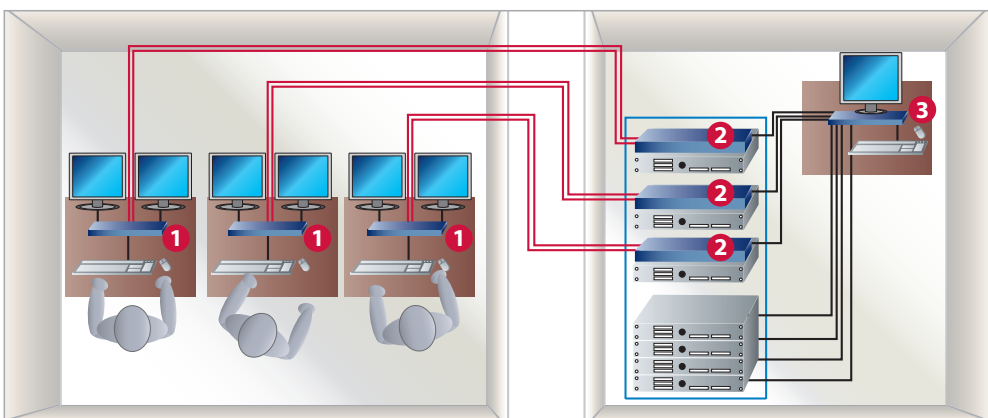
1 DVI-Vision-MC2-CON
2 DVI-Vision-MC2-CPU
3 KVM switch DVIMUX8

KVM solutions for Broadcast applications

OB Vans | Access technology from everywhere

photo: Live-Production.tv GmbH

photo: Live-Production.tv GmbH
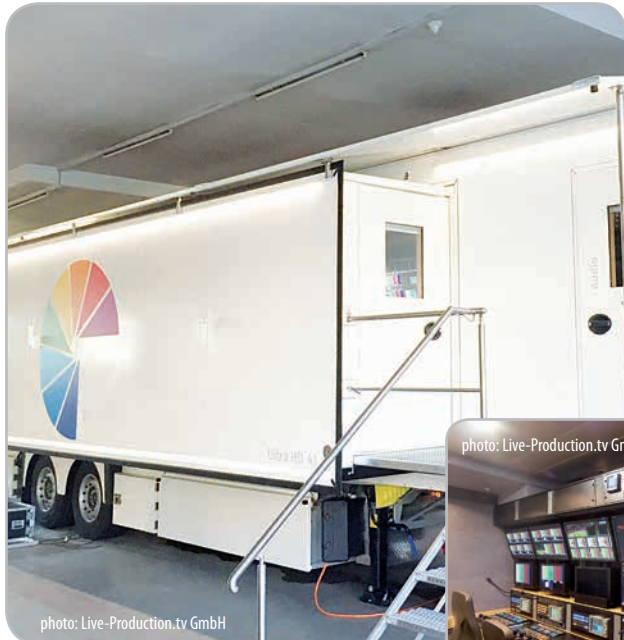
Whether it's the director's desk or Slo-Mo – despite the reduced space in OB vans, each console needs to have simultaneous access to the central computer technology stored in the server rack.

Switching between computers is carried out through a matrix switch, e.g. the ControlCenter-Compact 32C to which all computers are connected. These computers are operated over multiple user consoles consisting of keyboard, mouse and screen. The computer's KVM interfaces are accessed, forwarded to the matrix, which then establishes a connection to the user. Furthermore, the workstation must be provided with the required peripherally. The flexible operation concept of the OB van is therefore supported in an optimal way. Further advantages are space savings as well as improved working conditions for the staff regarding noise and heat emissions.

How KVM works in OB vans
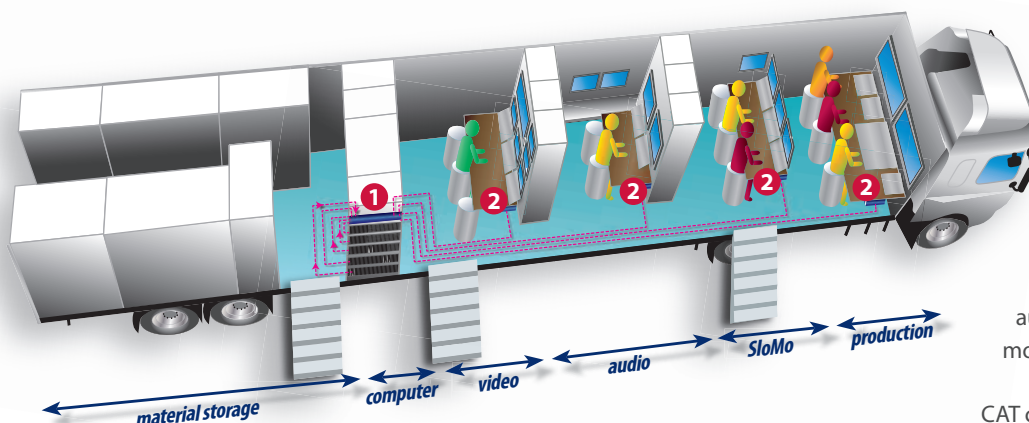
1 KVM matrix system   **2** KVM console module ‒ ‒ CAT-x cable

OB vans are equipped with the most sophisticated HD technology for live broadcasts and events. Using such small spaces efficiently is therefore essential. All workstations of production, slo-mo, audio and video areas access a computer pool in a server rack placed in the back of the truck. Here, any computers are connected to a KVM matrix switch, e.g.

the ControlCenter-Compact 32C from G&D. The solution optimises the existing working condition by saving valuable space and reducing noise and emissions. Via KVM matrix, users are able to access all computers from all workstations thus remaining flexible without always having to change their workplace in confined areas. Computers are connected

over their standard interfaces (keyboard, video, mouse and audio, USB and RS232) via according modules.

CAT cables connect these modules to the matrix switch and to the console module (DVI-CON) placed at the user's desk. Multi monitor workstations are operated with only one keyboard and one mouse thus reducing the number of required peripherals.

To switch between and access computers to carry out tasks, technicians either use the on-screen display, the intuitive CrossDisplay-Switching function or simply press a button.

## KVM in mobile radio broadcasting | Enable quick and flexible installation

One of the greatest challenges of outside radio broadcasting is the compromise between ever-changing, cramped confines and an effective working environment for broadcast technicians. The high requirements regarding operational safety and reliability must be considered as well. If a radio broadcast is on-air, the supervising technician in the master control room has to be able to access the relevant computer systems immediately – for operation as well as for urgent administrative tasks.

The computers are housed in a dedicated container and can be centrally operated from the MCR and the equipment container. The distance can be bridged with a KVM extender or KVM matrix switch.

How KVM works in mobile radio broadcasting

Discover the CrossDisplay-Switching!
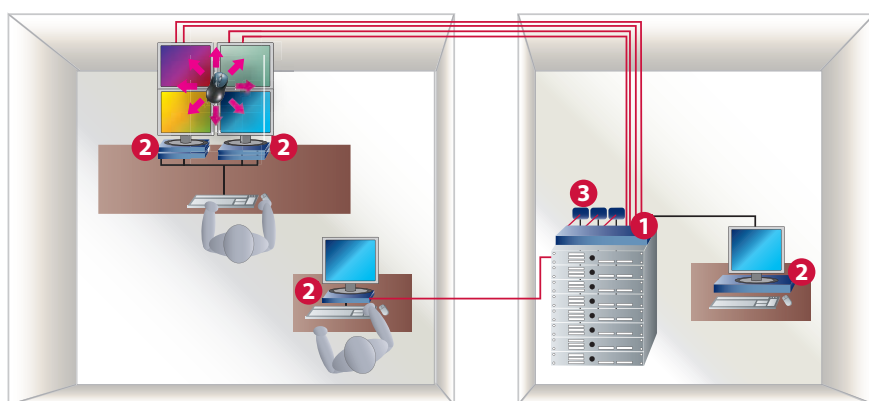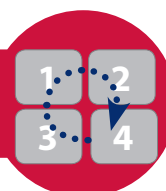
1. KVM matrix system (CCC)
2. Console module DVI-CON
3. Computer module DVI-CPU

workstation can be operated with one set of keyboard/mouse thus saving additional peripherals.

At mobile radio broadcasts, KVM products reunite computers and users despite their spatial separation.

Usually, a mobile radio studio consists of master control room placed in an office container while the computers are placed in a separate equipment container. A KVM matrix system provides users with access to the remote computers. With the help of an administration console, administrator can access any computers placed in the equipment container and without distracting the on air staff. In the Master Control Room several receiver devices (DVI-CON) can be combined into one operation desk (TradeSwitch function). Advantage: This multi monitor

The innovative CrossDisplay-Switching lets users easily switch between different computers just by moving the cursor. The mouse acts as if on a "virtual desktop" and can be moved seamlessly across the connected displays. When moving the cursor from the active to an inactive display, the keyboard-mouse focus automatically switches to the connected computer. CrossDisplay-Switching guarantees fast operation across the entire system.

![G&D logo] **G&D IF IT'S KVM**

KVM extenders

Digital and analog extenders enable you to operate your computers over IP systems or dedicated distances up to 10,000 m whilst maintaining real-time performance. The systems consist of a transmitter and a receiver module. A local console at the transmitter module placed in the server room makes it easy for the IT staff to maintain the system.

KVM extenders transmit the following computer signals:

- DisplayPort™1.2a + 1.1a, HDMI, DVI (single link & dual link) and VGA
- Keyboard/mouse (PS/2 & USB)
- USB 2.0 transparent
- Audio & RS232
- Signal transmission over standard IP-based networks, CAT or up to 10,000 m via fiber optics
- Real time perfomance
- Remote power swichting sequences
- For up to four video channels
- Predictive maintanance via SMNP and Monitoring
- Redundant power supply
- Two network interfaces
- Screen-freeze function
- Transparent transmission of E-DDC information
- Ident LED for locating device in large installations

KVM switches

DP, DVI and VGA KVM switches are designed to operate two to eight computers via one console consisting of keyboard, monitor and mouse. By cascading several KVM switches, it is possible to switch and operate up to 64 computers from one workstation.

DVI switches also transmit VGA video signals and so enable users to work in mixed mode.

KVM devices switch the following computer signals:

- DisplayPort™1.2a + 1.1a, DVI (single link & dual link) and VGA
- Keyboard/mouse (PS/2 & USB)
- USB 2.0 transparent, USB 3.0 transparent
- Audio
- Mixed operation of DP, DVI and VGA on input and output side
- Available as variants transmitting one, two, three or four video channels
- Work in a user-friendly and ergonomic environment and have less peripherals at your desk

KVM matrix systems

With KVM matrix systems you can access multiple computers over multiple user consoles simultaneously. They consist of computer modules, central modules and console modules. G&D products allow a flexible operation of large, distributed IT installations even with multiple user consoles connected.

KVM matrix systems transmit the following signals:

- DisplayPort™1.2a + 1.1a, HDMI, DVI (single link & dual link), bidirectional signals and VGA
- Keyboard/mouse (PS/2 & USB)
- Audio
- RS232 and USB 2.0 transparent
- USB 3.0 transparent (CCD-160 + CCD-288)
- Signal transmission over standard IP-based networks, CAT or up to 10,000 m via fiber optics
- Available as variants transmitting multi-channel video
- Several thousand computers can be connected in cascading or with the KVM Matrix-Grid™
- Remote access (local and over IP)
- Push-Get function to show screen contents on other monitors or large screen projections
- Intuitive swichting via CrossDisplay-Swichting

KVM add-ons

Add-on products increase productivity and efficiency of computer application.

G&D provides the following add-on products:

- TFT-RackConsoles for DisplayPort™, single link DVI and VGA; 17" display requires only 1 HU
- Programmable input devices for optimised device control
- Solutions for space-saving rack fasteners
- Easy switching of KVM switches by pressing a button (Operator Panel)
- Centralized, proactive monitoring and configuration of network-capable G&D devices
- Integration of your individual applicated operating concepts (e.g. via touch panels)

With G&D's most reliable and proven KVM extenders, you can access computers from distances up to 10,000 m or, with KVM-over-IP™, within your entire network in real time without any loss of quality. A system always consists of a transmitter and a receiver module.

Common features of the digital extenders

- Transmission lengths from 140 m via CAT up to 10,000 m via fiber or unlimited transmission length for KVM-over-IP™, with up to 100 m between two active network components for CAT variants or up to 10,000 m for fiber variants
- Single- and multi-channel variants
- E-EDID support
- Redundant power supply
- Ident LED to quickly find devices in complex installations
- Screen-freeze function
- Operation and configuration via web interface and OSD
- Network interface

The digital extenders transmit the signals:

- DisplayPort™, HDMI, DVI and VGA (Depending on variants)
- Keyboard/mouse (USB & PS/2)
- Audio stereo bidirectional
- RS232 transparent
- USB 2.0 transparent (optional)
- Generic USB HID

DP1.2-VisionXG

Extension of DisplayPort™ uncompressed via optical fiber

- Resolution per channel up to 4096 x 2160 @ 60 Hz (4K @ 60 Hz), 3840 x 2160 @ 60 Hz (Ultra-HD @ 60 Hz)*
- Supports 4K and UltraHD resolutions at 60 Hz
- Supports 8K resolutions at 30 Hz using two video channels
- Supports 8K resolutions at 60 Hz using four video channels
- Uncompressed, transparent image transmission for perfect latency-free images – pixel by pixel
- Generic implementation of DDC/CI information possible
- Supports nVidia 3D-Vision 120Hz: 1680 x 1050 @ 120Hz
- Ventilation concept for the use in cold/hot aisle installations

The DP1.2-VisionXG extend the video signal:

- DisplayPort™1.2a video incl. embedded audio up to stereo PCM

DP1.2-VisionXG-Fiber-MC2

DP1.2-VisionXG-Fiber-MC4

* Further VESA and CEA standardised resolution possible for video bandwith/pixel rate and horizontal/vertical frequency.

With G&D's most reliable and proven KVM extenders, you can access computers from distances up to 10,000 m or, with KVM-over-IP™, within your entire network in real time without any loss of quality. A system always consists of a transmitter and a receiver module.

The DP1.2-Vision extends the video signal:

• DisplayPort™1.2a video

The DP-Vision extends the video signal:

• DisplayPort™1.1a video

DP1.2-Vision-CAT

DP1.2-Vision + DP-Vision

DisplayPort™ via CAT or fiber optics

■ **DP1.2-Vision** exemplary resolutions:
4096 x 2160 @ 60 Hz (4K @ 60 Hz),
3840 x 2160 @ 60Hz (U-HD @ 60 Hz)*

■ **DP-Vision** exemplary resolution:
2560 x 1600 @ 60 Hz*

■ Transmission is compressed, pixel perfect, with low latency and ideal hand eye coordination

■ Embedded audio on DisplayPort™ up to stereo PCM

DL-DVI-Vision + DVI-Vision

Digital dual link or single link video via optical fiber or CAT cable

■ **DL-DVI-Vision:**
Resolution up to 2560 x 1600 @ 60 Hz and 1280 x 1024 @ 85 Hz*

■ **DVI-Vision:**
Resolution up to 1920 x 1200 @ 60 Hz and 1280 x 1024 @ 85 Hz (incl. FUll HD, 1080p)*

■ Supports digital and analog monitors at the console

The DL-DVI-Vision extends the video signal:

• Dual link DVI video

The DVI-Vision extends the video signal:

• Single link DVI video

DVI-Vision-CAT

KVM-over-IP™

All extenders shown on this page are also available as IP variant. IP variants transmit signals on standard IP-based networks, Layer 3. Thus, transmission can take place within your entire network infrastructure.

When using CAT variants, the distance between two network components can be up to 100 m, for fiber variants up to 10,000 m.
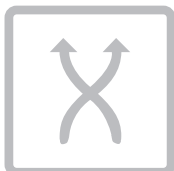
Mix & match

The extenders shown on this page are compatible with each other and can therefore be combined. ** You can also mix them with matrix end devices and implement them into a matrix system. For example: a DP-CPU computer module can be directly connected to a DVI-Vision-CAT-CON.

* Further VESA and CEA standardised resolution possible for video bandwith/pixel rate and horizontal/vertical frequency.
** Depending on the basis technolgoy (IP or classic transmission) and the resolution of the source.
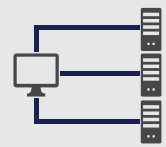
KVM switches let you operate multiple computers from one console consisting of keyboard, mouse and monitor. Switching is carried out via keyboard hotkeys. Computers with multi-monitor graphics cards can be connected to multi-channel switches.

DP1.2-MUX2

For operating up to two computers with single video

- DisplayPort™ 1.2-resolution up to 4096 x 2160 @ 60Hz (4K @ 60 Hz)
- Colour mode DisplayPort™ up to 48 bit
- Colour mode DVI up to 24 bit
- Data transfer rate up to 21.6 Gb/s
- E-DDC support

The DP1.2-MUX2 switches the following signals:

- · DisplayPort™ 1.2
- · Keyboard/Mouse
- · Audio
- · USB 2.0 transparent

DP1.2-MUX2

DL-MUX

For up to two computers up to one console

- Resolutions DVI up to 2560 x 1600 @ 60 Hz VGA up to 1920 x 1440 @ 75 Hz including 2k resolution (2048 x 2048 @ 60 Hz)
- For up to four video channels
- Two network ports
- Including SNMP Monitoring and reporting function
- Channel switching via hotkey, SNMP, buttons, external serial device or IP-Control-API
- Web interface to configure and display monitoring values remotely
- Ident-LED to locate devices in large installations
- Redundant power supply

The DL-MUX switches the following signals:

- · PS/2 + USB Keyboard/Mouse
- · Video (Dual-Link DVI & VGA)
- · Audio
- · USB 2.0

DL-MUX4

By cascading several KVM switches, it is possible to switch and operate up to 64 computers from one workstation.

DVIMUX

Operation of four or eight computers via one console

- Mixed operation of DVI/VGA on input and output side
- Channel switching via hotkey, buttons or external serial device
- DVIMUX8 with on-screen display and broadcast function (for simultaneous configuration and operation of up to eight computers via one console)

The DVIMUX switches the signals:

- • Keyboard/mouse (USB & PS/2)
- • Single link DVI & VGA
- · Audio bidirectional
- · USB 2.0

DVIMUX8

KVM switches let you operate multiple computers from one console consisting of keyboard, mouse and monitor. Switching is carried out via keyboard hotkeys. Computers with multi-monitor graphics cards can be connected to multi-channel switches.

Common features of the DP1.2-MUX3-ATC and MUX-NT switches

- Channel switching via hotkey, SNMP, buttons, OSD, web interface, IP-Control-API or external serial device
- E-EDID support
- two network interfaces
- Suitable for all operating systems
- Web interface for remote configuration and displaying of the Monitoring values and channel switching
- Comprehensive proactive diagnostics by monitoring and SNMP

The DP1.2-MUX3-ATC and NT variants switch the following signals

- DP1.2a, DP1.1a or dual link DVI (depending on model)
- Keyboard/mouse (USB & PS/2)
- USB 3.0 transparent
- Audio analog stereo bidirectional
- Audio embedded (except DL-DVI-MUX-NT)

DP1.2-MUX3-ATC

For up to three computers via one console

- Resolution up to 4096 x 2160 @ 60Hz (4K @60 Hz)*
- Data transfer rate up to 21,6 Gbit/s (DP1.2a) or 10.8 Gbit/s (DP1.1a)
- Instant switching technology

The DP1.2-MUX3-ATC also switches the signals:

- DisplayPort™ 1.2a + 1.1a
- Audio ambedded in DisplayPort™

Instant switching of DP1.2 signals using unique G&D technology

DP1.2-MUX3-ATC

The DP1.2-MUX-NT + DL-DVI-MUX-NT also switch the signals:

- Dual link DVI & VGA video (DL-DVI-MUX-NT) or DisplayPort™ 1.2a + 1.1a (DP1.2-MUX-NT)

DL-DVI-MUX2-NT

DP1.2-MUX-NT + DL-DVI-MUX-NT

### KVM switches with mission-critical features

- **DP1.2-MUX-NT:** Resolution up to 4096 x 2160 @ 60 Hz* (4k @ 60 Hz)
- Data transfer rate up to 21,6 Gbit/s (DP1.2a) or 10.8 Gbit/s (DP1.1a)
- **DL-DVI-MUX-NT:** Resolution up to 4096 x 2160 @ 30 Hz (4K @ 30 Hz) or 2560 x 1600 @ 60 Hz at 24 bit colour depth*

Operator Panel

- Switching by pressing a button
- Simplifies the operation of KVM Switches
- Switching up to eight channels by RS232
- „Enable" key prevents accidental switching
- InDesk version for mounting in a desk

Operator Panel
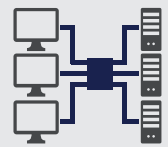
G&D

KVM matrix systems allow users to operate several computers via several consoles as well as transmit computer signals in real-time over long distances. The basic system consists of three modular components and can be modulated to your demands.

ControlCenter-Compact + ControlCenter-Digital

Digital matrix systems for the operation of multiple computers over several consoles

- Transmission via CAT cable up to 140 m between two system components; via fiber optics up to 10,000 m
- Automatic device detection
- System cabling via CAT cables and fiber optics (mixed mode)
- More flexibility with dynamic port technology: from 8 to 288 dynamic ports that can be freely configured for either user or computer connection
- Cascadable to up to three levels, expandable through bidirectional cascading over KVM Matrix-Grid™
- Expansion of connected signals through channel grouping

The digital matrix systems ControlCenter-Compact, ControlCenter-Digital and ControlCenter-IP switch the following signals:

- DisplayPort™1.2a + 1.1a
- HDMI (on CC-IP via adapter)
- DVI single link + dual link
- Keyboard/mouse (USB & PS/2)
- VGA (only CCD + CCC)
- Audio bidirectional

- USB 2.0 transparent (only CCD + CCC, for CC-IP in preparation)
- USB 3.0 (only CCD)
- RS232 transparent
- Generic USB HID

ControlCenter-Compact-32F-32C

ControlCenter-Digital-80

Common features of the ControlCenter-Compact, -Digital and -IP

- Resolution: up to 4096 x 2160 @ 60 Hz depending on computers and consoles
- Monitoring & SNMP
- Two network interfaces (web interface, updates, administration, configuration and monitoring)
- Local console for administration and configuration
- Text based media control over TCP/IP, e.g. AMX, Crestron, VSM as KSC-Commander
- Multi monitor workstations incl. CrossDisplay-Switching
- Operation and configuration via web interface and OSD
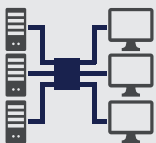- Operation via touchscreen possible

KVM over IP™

ControlCenter-IP

ControlCenter-IP

Experience the diverse functionalities of G&D matrix systems combined with the flexibility of KVM-over-IP™

- The device takes over the central system logic

Operating multiple computers
from multiple desks
KVM matrix systems

KVM matrix systems allow users to operate several computers via several consoles as well as transmit computer signals in real-time over long distances. The basic system consists of three modular components and can be modulated to your demands.

Specials ControlCenter-Digital

- Modular setup: Controller- and Switchcard, I/O CAT, & I/O Fiber cards, I/O-Card-Multi, I/OCard-Trunk, fan boards and the power supplies are modular and can be replaced
- The system can be adapted or extended during operation
- Up to three redundant power packs that can be changed during operation
- System control logic on a separate controller card and can be easily replaced / switch card can be replaced as well

ControlCenter-Digital-288

Mix & Match

All digital matrix components are compatible with each other.** Computer or console modules for matrix systems can be mixed with extender systems. Extender systems can also be used in the matrix. This provides full flexibility and helps at future-oriented planning of growing systems.

Digital matrix system components

Product variety of CON and CPU modules

- **Video signal transmission:**
  DisplayPort™ HR, HDMI, DisplayPort™, DVI Single-Link, VGA, MultiChannel modules (Establish multimonitor workplaces), dual head (integrate two video channels using one single transmission line)
- **Transmission:**
  Fiber optics (up to 10,000 m), CAT (up to 140 m)
- **USB transmission**
  Generic-HID, U (USB 2.0 Full Speed), U2-R (USB 2.0 High Speed + RS232 via one separate cable)
- **Redundancy:**
  CON-2 (connect one console in two clusters) UC (connect computers to two different matrix systems)


DP-HR-U-CON-MC4

DP-HR-CON-Fiber

DP-HR-CPU

** Depending on the basis technolgoy (IP or classic transmission) and the resolution of the source.

G&D

Monitoring, SNMP trap and agent are helpfull functions for predictive maintenance of the G&D devices and connected peripherals. Thanks to permanent monitoring, reporting and configuration of G&D devices administrators can react early enough to critical conditions like exceeding temperatures before they lead to failures.

Web interface with monitoring values
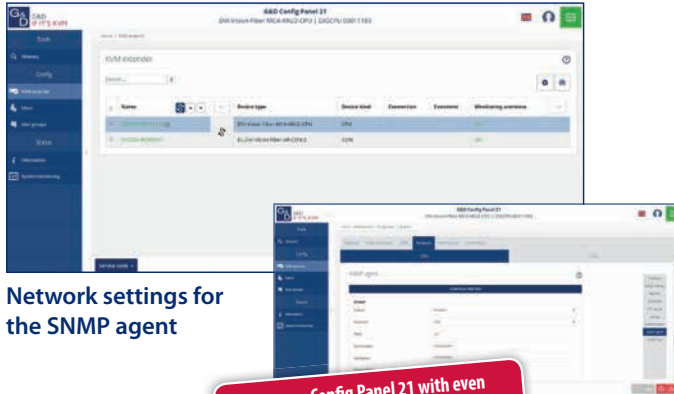
Network settings for the SNMP agent

Our new Config Panel 21 with even easier handling

Preventive device monitoring

High operational safety and reliability are essential for G&D devices. The monitoring function of many G&D devices offers the following options:

- Query of system status
- Dispatch these information via SNMP and as Syslog message

These settings can be carried out for each device individually via its web interface. G&D products with monitoring functions provide at least one connection to the network as well as an integrated web interface to configure and monitor the device. Any values of G&D devices are monitored internally and system status messages are continuously transmitted to common trap receivers.

SNMP trap & agent

Monitoring function for the predictive maintenance

- Defined conditions and exceeded thresholds are stored in the web interface and can be viewed anytime
- SNMP management software receives automatically any status event sent by G&D devices
- Integrated SNMP-GET function enables you to query, for example, the device temperature and to provide statistics on top values as well as to recognise critical values in advance
- SNMP-SET has active impact on a G&D product (for example when changing channels at a KVM switch)

The following devices provide the monitoring function:
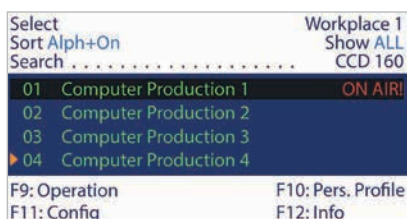
KVM extenders
- DP1.2-VisionXG
- DP1.2-Vision, DP1.2-Vision-IP
- DP-Vision, DP-Vision-IP
- DL-Vision, DL-Vision-DP
- DL-DVI-Vision, DL-DVI-Vision-IP
- DVI-Vision, DVI-Vision-IP

KVM switches
- DP1.2-MUX3-ATC
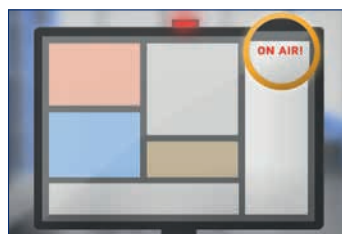- DP1.2-MUX-NT
- DL-DVI-MUX-NT
- DL-MUX

KVM matrix systems
- ControlCenter-Digital and -Compact
- ControlCenter-IP
- CATCenter NEO
- CompactCenter X2

Example Computer select menu

On-screen display / Tally light

GPIO status function "Tally light"

Transmit external switching status via matrix systems

- Application fields: Alarms in the control room, critical monitoring status in automation, tally light as on-air signal in broadcasting
- Information like operating conditions or monitoring status can be reported
- GPIO status can be displayed via On-screen display, computer select menu, warning light or as any other signalling device at the monitor
- Connection via PS/2 sockets or GPIO-Changer-PS/2
- Easy configuration via Config Panel

Monitoring, SNMP trap and agent are helpfull functions for predictive maintenance of the G&D devices and connected peripherals. Thanks to permanent monitoring, reporting and configuration of G&D devices administrators can react early enough to critical conditions like exceeding temperatures before they lead to failures.

Touchpanel
for scenario switching
1 2 3 4
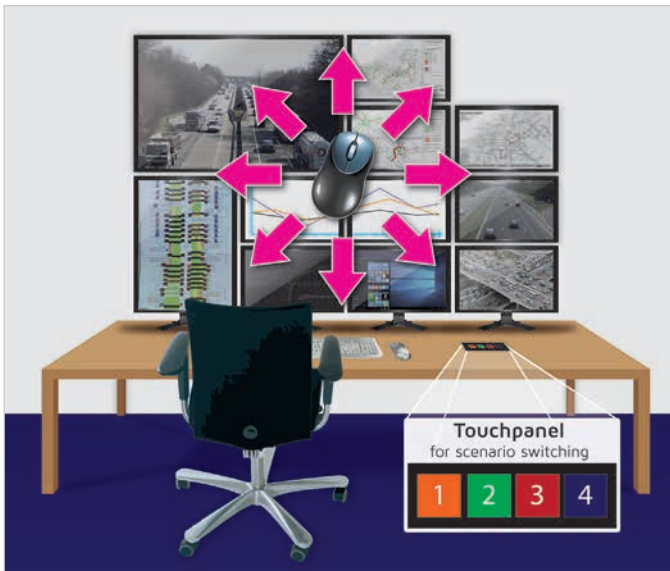
Customer benefits:

■ Easy switching by using the mouse, in addition to switching between channels using hotkeys or the OSD

■ Intuitive operation and more efficiency for your workplace

■ Multi-monitor workstations can be operated by keyboard-mouse

CrossDisplay-Switching

With the innovative CrossDisplay-Switching as part of the TS function (DVICenter and ControlCenter range), users can use the mouse to easily switch between channels.

The mouse acts as if on a "virtual desktop" and can be moved seamlessly across the connected displays. Moving the cursor from the active to another display, the keyboard-mouse focus automatically switches to the connected computer. Now users can create a multimonitor console and need only one keyboard and one mouse to operate all computers. The mouse becomes the ultimate intuitive switching tool.

Right from the start, the CrossDisplay switching was not limited in the number of integrated screens, and so now also computers with multi-head graphics are supported. Thus, an unlimited mix of scenarios can be switched from all sources and the user always operates in the visible area and never "flies blind". The configuration is easily adapted to the screen arrangement, and thus does not need to be strictly ordered in row or one above the other. Also in combination with a multiviewer, the flexible CrossDisplay switching can significantly simplify the application.

GPIO-Changer-PS/2

Comfortable expansion for using GPIO status

■ Connection of switching contacts via Phoenix Combicon connector

■ Support the operation of switches that use external power supply up to 24VDC

■ DIP switches determine the switching direction (computer to workstation or vice versa)

■ LEDs or emergency buttons can be connected with PS/2 plugs

GPIO-Changer-PS/2

Screen-freeze function

If the display loses the video signal due to a broken connection or a problem with the computer's graphics card, the Sreen-Freeze function „freezes" the image last displayed on the monitor. This status is highlighted by a red semi-transparent frame. In the meantime, the monitor displays the time and how long the video signal has been down so far. This way, users are still provided with a static image instead of having to wait in front of a blank screen. In control rooms, this possibly allows them to continue working until the issue is solved by the administrator. The function is automatically cancelled when the display receives an active video signal.

G&D
IF IT'S KVM

G&D

From professionals to professionals:

Trust in our professional solutions – from planning through to aftersales support.

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