

VGA-KVM Extender

CATVision 7.6

KVM Extender

Extender systems to bridge IT-distances



Leading the way in digital KVM



The company

Experience the whole world of

KVM

Leading the way in digital KVM

Guntermann & Drunck is regarded as a leading manufacturer of digital and analogue KVM equipment used in control rooms in air traffic control, broadcast studios, on ships and to monitor industrial processes.

With a powerful portfolio consisting of KVM extenders, switches and matrix switches, G&D's users get real added value. G&D provides the broadest KVM product portfolio at the market. Even with different features, all G&D products are compatible and can be combined. Our KVM solutions optimise the application of IT equipment and improve the working conditions for humans and computers.

No matter where KVM devices are installed, there's always one main requirement - robust, reliable, user-friendly and easy to operate KVM systems that can be adapted to future requirements and grow with your demands.

By short lines of communication G&D is able to solve challenging requirements and tailor systems to our customers' needs. We keep direct contact to our customers and are personally available. We are proactive and always keep an eye on the trends in the industry. Functionalities required by our customers are quickly implemented into our products. Our success can only be measured with our customers' satisfaction.

Trust in G&D for your optimal KVM solution.

The KVM extender system CATVision extends the following signals:

- keyboard/mouse
- VGA
- audio
- RS232
- USB 2.0

The system consists of a computer module (transmitter) and a user module (receiver) and facilitates the remote operation of one computer. You can connect a console to each module.

CATVision transmits uncompressed signals via CAT x cables (x = 5, 6, 7) up to 300 m. The devices are available as variants displaying 1, 2 or 4 video channels.



above: CATVision-MC4-ARU2D-CPU computer module
below: CATVision-MC4-ARU2-CON user module

Highlights

Video

- single and multi channel variants
- automatic video optimisation

Operation

- at both modules console with all video channels
- access protection and user management which can be switched off

Signals

- transmission up to 300 m via CAT x cables at maximum resolution
- PS/2 and USB keyboard/mouse support
- support of special keyboards

Safety

- redundant power supply

Features

Video

- resolutions up to 1920 × 1440 @ 75 Hz or 2k x 2k @ 60 Hz (depending on cable length)
- video bandwidth up to 250 MHz
- automatic video optimisation
- Individual Video Tuning (IVT+) via OSD
- delay compensation (skew) up to 50 ns for all colours via OSD (optional)

Transmission

- up to 300 meters (depending on resolution)
- up to 100 meters for USB 2.0 (optional)
- via CAT-x cable (x = 5e, 6, 7)
- bidirectional audio and RS232 signals (optional)
- transparent transmission of USB 2.0 signals (optional)

Device

- internal power pack and redundant power supply (redundant, external power pack; optional)
- full keyboard/mouse emulation
- supports USB and PS/2 keyboard/mouse (including mixed mode)
- available as desktop and 19" variant

System upgrade

- all system components ready for flash upgrade (master + slave)

Variants

Design

- available as desktop (DT) or rack mount (RM) variant
- twin variant combines two identical CATVision modules behind one panel

Video channels

- single-channel, multi-channel 2 and 4

Expansion

CV-Power

CV-Power enables the user to remotely turn on/off a computer (reset and ATX power switching). A slot card is implemented in the computer and connected to the computer module. The customer provides the operating hardware at remote side (button or similar). The hardware is connected to the user module.

The function is available for all CATVision variants. For further details, please contact our sales team.

Delay Compensation

The delay compensation is only applied in the computer module. It automatically or manually adjusts the runtime differences of cables up to 50 ns. Thanks to this adjustment, the colours „reach“ the display at the same time.

We recommend applying the delay compensation for cable lengths over 100 m. When using the K-C5-OIL cable the compensation is obligatory. For cables other than G&D ones it may be useful to apply the delay compensation for shorter transmission lengths.

Installation

Link the computer to the back of the CATVision transmitter. Distinctive cables connect the computer's keyboard, video, mouse, audio, and USB interfaces to the CATVision computer module.

Installing the user console is just as easy: simply connect the operating hardware with the corresponding interfaces of the CATVision receiver.

Use the existing CAT-x cabling structure to link transmitter and receiver.

Feel free to download the CATVision manual to find out more details about the start-up.

Note

Please note that not all CAT-x cables can transmit the max. distance and resolution on the highest quality. Please do not hesitate to contact us in case of doubt.

CATVision Single-Channel



left: CATVision-ARU2-CPU computer module
right: CATVision-ARU2-CON user module

	Computer module	User module
Video		
Number of monitors	1	
Signal type/video	analog video	
Analog resolution	up to 1920 × 1440 @ 75 Hz or 2k x 2k @ 60 Hz (depending on cable length)	
Standards	DDC support for DVI	
Video bandwidth	250 MHz	
Interfaces for user console	1 × D-sub HD 15 socket	
Interfaces to computer (KVM)	1 × 20-pin MDR socket	
Keyboard/Mouse		
Interfaces for user console	2 × Mini-DIN 6 socket	
		2 × USB-A socket
Interfaces to computer (KVM)	1 × 20-pin MDR socket	
	1 × USB-B socket	
Audio		
Design	internal	
Sampling rate	48 kHz	
Resolution	18 bit digital	
Bandwidth	22 kHz	
Microphone preamplification		20 dB
Interfaces for user console		3 × 3.5 mm jack plug (speaker, micro in)
Interfaces to computer	2 × 3.5 mm jack plug (line in, line out)	
RS232		
Design	internal	
Transmission rate 300 m	max. 38,400 bit/s	
Transmission rate 100 m	max. 57,600 bit/s	
Transmittable signals	RxD, TxD, RTS, CTS, DTR, DSR	
Interfaces for user console		1 × D-Sub 9 plug
Interfaces to computer	1 × D-Sub 9 plug	

Transparent USB 2.0		
Design	internal	
Transmission length	up to 100 m	
USB power supply	high power devices up to 500 mA	
USB transmission rate	up to 480 Mbit/s	
Interfaces for user console		4 × USB-A socket
Interfaces to computer	1 × USB-B socket	
Transmission		
Type of cable connection	dedicated CAT-x link	
Transmission cable type	CAT-x cable	
Transmission length	up to 300 m at max. resolution	
Connection	1 × RJ45 socket	
Connection with USB 2.0	1 × RJ45 socket	
No. of CAT-x cables	1	
Audio - RS232 transmission	no additional CAT-x cable	
USB 1.1 transmission	no additional CAT-x cable	
USB 2.0 transmission	1 additional CAT-x cable	
Main power supply		
Type	internal power pack	
Connection	1 × IEC plug	
Voltage	AC100-240V/60-50Hz	
	140-80 mA	240-100 mA
USB 2.0 variant	0.2-0.1A	0.5-0.2A
Redundant power supply		
Type	external power pack	
Connection	Mini-DIN 4 socket	
Voltage	+12VDC/0.7A	+12VDC/0.7A
USB 2.0 variant	+12VDC/0.7A	+12VDC/1.8A
Casing		
Material	anodised aluminium	
Desktop (W × H × D)	210 × 44 × 210 mm	
USB 2.0 variant	270 × 44 × 210 mm	
Rackmount (W × H × D)	19" × 1 U × 210 mm	
Weight	approx. 1.2 kg	approx. 1.1 kg
USB 2.0 variant	approx. 1.5 kg	
Update		
Process	with wizard at service socket of computer module or user module	
Connection	1 × 2.5 mm jack plug	
Operating environment		
Temperature	+5 to +40 °C	
Air humidity	20 - 80% non-condensing	
Conformity	CE, RoHS	

CATVision Multi-Channel 2



left: CATVision-MC2-ARU2-CPU Computer module
 right: CATVision-MC2-ARU2-CON User module

	Computer module	User module
Video		
Number of monitors	2	
Signal type/video	analog video	
Analog resolution	up to 1920 × 1440 @ 75 Hz or 2k x 2k @ 60 Hz (depending on cable length)	
Standards	DDC support for DVI	
Video bandwidth	250 MHz	
Interfaces for user console	2 × D-sub HD 15 socket	
Interfaces to computer (KVM)	1 × 20-pin MDR socket	
Keyboard/Mouse		
Interfaces for user console	2 × Mini-DIN 6 socket	
		2 × USB-A socket
Interfaces to computer (KVM)	1 × 20-pin MDR socket	
	1 × USB-B socket	
Audio		
Design	internal	
Sampling rate	48 kHz	
Resolution	18 bit digital	
Bandwidth	22 kHz	
Microphone preamplification	20 dB	
Interfaces for user console	3 × 3.5 mm jack plug (speaker, micro in)	
Interfaces to computer	2 × 3.5 mm jack plug (line in, line out)	
RS232		
Design	internal	
Transmission rate 300 m	max. 38,400 bit/s	
Transmission rate 100 m	max. 57,600 bit/s	
Transmittable signals	RxD, TxD, RTS, CTS, DTR, DSR	
Interfaces for user console	1 × D-Sub 9 plug	
Interfaces to computer	1 × D-Sub 9 plug	

Transparent USB 2.0		
Design	internal	
Transmission length	up to 100 m	
USB power supply	high power devices up to 500 mA	
USB transmission rate	up to 480 Mbit/s	
Interfaces for user console		4 × USB-A socket
Interfaces to computer	1 × USB-B socket	
Transmission		
Type of cable connection	dedicated CAT-x link	
Transmission cable type	CAT-x cable	
Transmission length	up to 300 m at max. resolution	
Connection	2 × RJ45 socket	
Connection with USB 2.0	1 × RJ45 socket	
No. of CAT-x cables	2	
Audio - RS232 transmission	no additional CAT-x cable	
USB 2.0 transmission	1 additional CAT-x cable	
Main power supply		
Type	internal power pack	
Connection	1 × IEC plug	
Voltage	AC100-240V/60-50Hz	
	0.3-0.2A	0.3-0.2A
USB 2.0 variant	0.3-0.2A	0.5-0.2A
Redundant power supply		
Type	external power pack	
Connection	Mini-DIN 4 socket	
Voltage	+12VDC/1.1A	+12VDC/1.0A
USB 2.0 variant	+12VDC/1.2A	+12VDC/2.0A
Casing		
Material	anodised aluminium	
Desktop (W × H × D)	435 × 44 × 210 mm	270 × 44 × 210 mm
USB 2.0 variant	435 × 44 × 210 mm	
Rackmount (W × H × D)	19" × 1 U × 210 mm	
Weight	approx. 1.8 kg	approx. 1.3 kg
USB 2.0 variant	approx. 1.5 kg	
Update		
Process	with wizard at service socket of computer module or user module	
Connection	1 × 2.5 mm jack plug	
Operating environment		
Temperature	+5 to +40 °C	
Air humidity	20 - 80% non-condensing	
Conformity	CE, RoHs	

CATVision Multi-Channel 4



links: CATVision-MC4-ARU2-CPU computer module
 rechs: CATVision-MC4-ARU2-CON user module

	Computer module	User module
Video		
Number of monitors	4	
Signal type/video	analog video	
Analog resolution	up to 1920 × 1440 @ 75 Hz or 2k x 2k @ 60 Hz (depending on cable length)	
Standards	DDC support for DVI	
Video bandwidth	250 MHz	
Interfaces for user console	4 × D-sub HD 15 socket	
Interfaces to computer (KVM)	1 × 20-pin MDR socket	
Keyboard/Mouse		
Interfaces for user console	2 × Mini-DIN 6 socket	
		2 × USB-A socket
Interfaces to computer (KVM)	1 × 20-pin MDR socket	
	1 × USB-B socket	
Audio		
Design	internal	
Sampling rate	48 kHz	
Resolution	18 bit digital	
Bandwidth	22 kHz	
Microphone preamplification	20 dB	
Interfaces for user console	3 × 3.5 mm jack plug (speaker, micro in)	
Interfaces to computer	2 × 3.5 mm jack plug (line in, line out)	
RS232		
Design	internal	
Transmission rate 300 m	max. 38,400 bit/s	
Transmission rate 100 m	max. 57,600 bit/s	
Transmittable signals	RxD, TxD, RTS, CTS, DTR, DSR	
Interfaces for user console	1 × D-Sub 9 plug	
Interfaces to computer	1 × D-Sub 9 plug	

Transparent USB 2.0		
Design	internal	
Transmission length	up to 100 m	
USB power supply	high power devices up to 500 mA	
USB transmission rate	up to 480 Mbit/s	
Interfaces for user console		4 × USB-A socket
Interfaces to computer	1 × USB-B socket	
Transmission		
Type of cable connection	dedicated CAT-x link	
Transmission cable type	CAT-x cable	
Transmission length	up to 300 m at max. resolution	
Connection	4 × RJ45 socket	
Connection with USB 2.0	1 × RJ45 socket	
No. of CAT-x cables	4	
Audio - RS232 transmission	no additional CAT-x cable	
USB 2.0 transmission	1 additional CAT-x cable	
Main power supply		
Type	internal power pack	
Connection	1 × IEC plug	
Voltage	AC100-240V/60-50Hz	
	0.4-0.2A	0.4-0.2A
USB 2.0 Variant	0.5-0.2A	0.6-0.3A
Redundant power supply		
Type	external power pack	
Connection	Mini-DIN 4 socket	
Voltage	+12VDC/1.7A	+12VDC/1.5A
USB 2.0 Variant	+12VDC/1.8A	+12VDC/2.6A
Casing		
Material	anodised aluminium	
Desktop (W × H × D)	435 × 44 × 210 mm	
Rackmount (W × H × D)	19" × 1 U × 210 mm	
Weight	approx. 2.0 kg	
Update		
Process	with wizard at service socket of computer module or user module	
Connection	1 × 2.5 mm jack plug	
Operating environment		
Temperature	+5 to +40 °C	
Air humidity	20 - 80% non-condensing	
Conformity	CE, RoHS	

List of Item Numbers Single-Channel

Item No.	Computer modules	Audio	RS232	USB 2.0	Delay	Desktop	Rack-mount
A1110003	CATVision-CPU					DT	
A1110004	CATVision-CPU-RM						RM
A1110005	CATVision-D-CPU				D	DT	
A1110006	CATVision-D-CPU-RM				D		RM
A1110007	CATVision-R-CPU		R			DT	
A1110008	CATVision-R-CPU-RM		R				RM
A1110009	CATVision-RD-CPU		R		D	DT	
A1110010	CATVision-RD-CPU-RM		R		D		RM
A1110011	CATVision-AR-CPU	A	R			DT	
A1110012	CATVision-AR-CPU-RM	A	R				RM
A1110013	CATVision-ARD-CPU	A	R		D	DT	
A1110014	CATVision-ARD-CPU-RM	A	R		D		RM
A1110120	CATVision-U2-CPU			U2		DT	
A1110123	CATVision-U2-CPU-RM			U2			RM
A1110121	CATVision-U2D-CPU			U2	D	DT	
A1110124	CATVision-U2D-CPU-RM			U2	D		RM
A1110119	CATVision-ARU2-CPU	A	R	U2		DT	
A1110125	CATVision-ARU2-CPU-RM	A	R	U2			RM
A1110122	CATVision-ARU2D-CPU	A	R	U2	D	DT	
A1110126	CATVision-ARU2D-CPU-RM	A	R	U2	D		RM
A1110027	Twin-CATVision-CPU					DT	RM
A1110028	Twin-CATVision-D-CPU				D	DT	RM
A1110029	Twin-CATVision-R-CPU		R			DT	RM
A1110030	Twin-CATVision-RD-CPU		R		D	DT	RM
A1110031	Twin-CATVision-AR-CPU	A	R			DT	RM
A1110032	Twin-CATVision-ARD-CPU	A	R		D	DT	RM
A1110136	Twin-CATVision-U2-CPU			U2		DT	RM
A1110137	Twin-CATVision-U2D-CPU			U2	D	DT	RM
A1110138	Twin-CATVision-ARU2-CPU	A	R	U2		DT	RM
A1110139	Twin-CATVision-ARU2D-CPU	A	R	U2	D	DT	RM
A1800001	CV-Power-CPU						

List of Item Numbers Single-Channel

Item No.	User modules	Audio	RS232	USB 2.0	Delay	Desktop	Rack-mount
A1120003	CATVision-CON					DT	
A1120004	CATVision-CON-RM						RM
A1120005	CATVision-R-CON		R			DT	
A1120006	CATVision-R-CON-RM		R				RM
A1120007	CATVision-AR-CON	A	R			DT	
A1120008	CATVision-AR-CON-RM	A	R				RM
A1120121	CATVision-U2-CON			U2		DT	
A1120122	CATVision-U2-CON-RM			U2			RM
A1120120	CATVision-ARU2-CON	A	R	U2		DT	
A1120123	CATVision-ARU2-CON-RM	A	R	U2			RM
A1120043	Twin-CATVision-CON					DT	RM
A1120044	Twin-CATVision-R-CON		R			DT	RM
A1120045	Twin-CATVision-AR-CON	A	R			DT	RM
A1800002	CV-Power-CON						

List of Item Numbers Multi-Channel 2

Art.Nr.	Computer modules	Audio	RS232	USB 2.0	Delay	Desktop	Rack-mount
A1210001	CATVision-MC2-CPU					DT	RM
A1210003	CATVision-MC2-D-CPU				D	DT	RM
A1210005	CATVision-MC2-R-CPU		R			DT	RM
A1210007	CATVision-MC2-RD-CPU		R		D	DT	RM
A1210009	CATVision-MC2-AR-CPU	A	R			DT	RM
A1210011	CATVision-MC2-ARD-CPU	A	R		D	DT	RM
A1210080	CATVision-MC2-U2-CPU			U2		DT	RM
A1210081	CATVision-MC2-U2D-CPU			U2	D	DT	RM
A1210082	CATVision-MC2-ARU2-CPU	A	R	U2		DT	RM
A1210083	CATVision-MC2-ARU2D-CPU	A	R	U2	D	DT	RM
A1210025	Twin-CATVision-MC2-CPU					DT	RM
A1210026	Twin-CATVision-MC2-D-CPU				D	DT	RM
A1210027	Twin-CATVision-MC2-R-CPU		R			DT	RM
A1210028	Twin-CATVision-MC2-RD-CPU		R		D	DT	RM
A1210029	Twin-CATVision-MC2-AR-CPU	A	R			DT	RM
A1210030	Twin-CATVision-MC2-ARD-CPU	A	R		D	DT	RM
A1800001	CV-Power-CPU						
Art.Nr.	User modules	Audio	RS232	USB 2.0	Delay	Desktop	Rack-mount
A1220001	CATVision-MC2-CON					DT	
A1220002	CATVision-MC2-CON-RM						RM
A1220003	CATVision-MC2-R-CON		R			DT	
A1220004	CATVision-MC2-R-CON-RM		R				RM
A1220005	CATVision-MC2-AR-CON	A	R			DT	
A1220006	CATVision-MC2-AR-CON-RM	A	R				RM
A1220062	CATVision-MC2-U2-CON			U2		DT	
A1220063	CATVision-MC2-ARU2-CON	A	R	U2		DT	
A1220031	Twin-CATVision-MC2-CON					DT	RM
A1220032	Twin-CATVision-MC2-R-CON		R			DT	RM
A1220033	Twin-CATVision-MC2-AR-CON	A	R			DT	RM
A1800002	CV-Power-CON						

List of Item Numbers Multi-Channel 4

























Art.Nr.	Computer modules	Audio	RS232	USB 2.0	Delay	Desktop	Rack-mount
A1410001	CATVision-MC4-CPU					DT	RM
A1410003	CATVision-MC4-D-CPU				D	DT	RM
A1410005	CATVision-MC4-R-CPU		R			DT	RM
A1410007	CATVision-MC4-RD-CPU		R		D	DT	RM
A1410009	CATVision-MC4-AR-CPU	A	R			DT	RM
A1410011	CATVision-MC4-ARD-CPU	A	R		D	DT	RM
A1410029	CATVision-MC4-U2-CPU			U2		DT	RM
A1410030	CATVision-MC4-U2D-CPU			U2	D	DT	RM
A1410031	CATVision-MC4-ARU2-CPU	A	R	U2		DT	RM
A1410032	CATVision-MC4-ARU2D-CPU	A	R	U2	D	DT	RM
A1800001	CV-Power-CPU						
Art.Nr.	User modules	Audio	RS232	USB 2.0	Delay	Desktop	Rack-mount
A1420001	CATVision-MC4-CON					DT	RM
A1420003	CATVision-MC4-R-CON		R			DT	RM
A1420005	CATVision-MC4-AR-CON	A	R			DT	RM
A1420021	CATVision-MC4-U2-CON			U2		DT	RM
A1420022	CATVision-MC4-ARU2-CON	A	R	U2		DT	RM
A1800002	CV-Power-CON						

Legend

ABBREVIATIONS

CPU	=	Computer module	M	=	Multimode
PC	=	Computer module	S	=	Singlemode
CON	=	User module	RM	=	For assembly in a 19" rack
REM	=	User module	DT	=	Available as desktop variant
MC2	=	Multichannel 2	DP	=	DisplayPort
MC4	=	Multichannel 4	A	=	Audio
			AR	=	Audio + RS232
			R	=	RS232
			U2	=	transparent USB 2.0
			D	=	Delay

EQUIPMENT FEATURES

	= modular setup		= Fire Wire
	= keyboard/mouse		= VT100
	= dual-link DVI video		= KVM IP access
	= single-link DVI video		= Network connection
	= DisplayPort 1.1		= Web interface
	= single-link DVI + VGA		= DevCon support
	= VGA video		= Monitoring
	= Audio		= CAT cable
	= USB 2.0		= Fiber optics
	= Delay		= Single user
	= Screen Freeze		= Multi user
	= Power Switching		= Separat local/remote user