

FLEXLINE



smart
flex

FLEXLINE

KT-6011 SET

SMARTflex single in copper

KT-6011L CPU/LOCAL

KT-6011R CON/REMOTE

KT-6021 SET

SMARTflex dual in copper

KT-6021L CPU/LOCAL

KT-6021R CON/REMOTE

kvm-tec
User Manual

www.kvm-tec.com

Check out our
Installation Channel:



V102022

Full HD
over IP

kvm-tec Extender Compatibility

	Easyline	Flexline	media4Kconnect	Scalableline	Remote Gateway2Go
remote					
local					
Easyline	●				
ECOsart		●	●	● not scalable	
Flexline		●	●	● Maxflex dual is scalable	
media4Kconnect		●	●	● not scalable	
media4Kconnect SPECIAL		●	●	● not scalable	
media4Kconnect 12G SDI		●	●	● not scalable	
Scalableline Full HD		●	●	● not scalable	
Scalableline 4K				● scalable	

	ECOsart	Easyline	Flexline	media4Kconnect	media4Kconnect SPECIAL	media4Kconnect 12G SDI	Scalableline	Gateway2Go	Gateway
point to point	✓	✓	✓	✓	✓	✓		✓	✓
Matrix Switching System without User-system		✓ bis zu 36 Endpunkte							
Matrix Switching System Full HD with Switching Manager	✓ bis zu 2000 Endpunkte		✓ up to 100/100 endpoints Flexline					✓	
Matrix Switching System 4K/8K				✓	✓	✓	✓	✓ with simultaneous downscaling	
Matrix Switching System mixed (Full HD & 8K)	✓		✓	✓	✓	✓		✓ with simultaneous downscaling	
Scalableline Full HD			✓ Maxflex Dual Local				✓	✓	
Scalableline 4K							✓ Scalableline Local & Remote	✓ with simultaneous downscaling	

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Congratulations on the purchase of your new SMARTflex KVM Extender. You have bought a high quality extender. These instructions are part of this product. They contain important information regarding safety, use and disposal for every user of the SMARTflex KVM Extender. Please familiarise yourself with the information within prior to using your product. Use the product only in the manner as described and for the areas of application as stated. When passing the product to a third party be sure to also supply all instructions and other relevant documentation. Following proper use and maintenance, your SMARTflex KVM Extender will bring you joy for many years to come.

1.1 INTENDED USE

This product is intended for professional use to transmit USB and video signals over long distances. The product may only be used in accordance with the instructions described in this manual. Any use other than that described in this manual is considered improper use. We reserve the right to make technical progress. In these operating instructions, the SMARTflex/SV is referred to as the „product“ or „extender“.

SMARTflex Single:

The SV1/PC is referred to as the Local Unit/ CPU and the SV1/Monitor is referred to as the Remote Unit/ CON.

SMARTflex Dual:

The SV2/PC is referred to as the Local Unit/ CPU and the SV2/Monitor is referred to as the Remote Unit/ CON.



WARNING The device may only be opened by an authorized technician. Danger of electric shock!

1.2 SAFETY INSTRUCTIONS



WARNING! Read and understand all safety instructions.

- Follow all the instructions. This will avoid accidents, fire, explosions, electric shocks or other hazards that may result in damage to property and/or severe or fatal injuries. Please ensure that everyone who uses the product has read and followed these warnings and instructions.
- Keep all safety information and instructions for future reference and pass them on to subsequent users of the product.
- The manufacturer is not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with the safety instructions. In such cases, the warranty will be voided.
- This product is not intended for use by persons (including children) with restricted physical, sensory or intellectual capability or lack of experience and/or knowledge, unless they are supervised by a person who is responsible for their safety or provides them with instructions on how to use the product.
- **DANGER!** Not for use in potentially explosive environments.
- **DANGER!** Be vigilant at all times, and always take care around this product. Do not use electrical equipment if you are lacking in concentration or awareness, or are under the influence of drugs, alcohol or medication. Even a moment of inattentiveness can lead to serious accidents and injuries when using electrical equipment. Check the product and the cables for any damage before use. If there is any visible damage, a strong odour, or excessive overheating of components unplug all the connections immediately and stop using the product.
- If the product is not installed and used in accordance with this manual, it may cause disruptive interference with radio or television reception or affect other electronic products in residential areas.
- Use shielded cables only to connect the components in order to avoid such interference. Non-compliance invalidates the permission to operate this product.
- Only the mains adapter included with the product should be used as the power supply. Do not use other adapters.
- Prior to connecting to the mains, make sure your local mains voltage matches the rating indicated on the product.
- The product must be connected to a permanent and earthed AC wall socket.



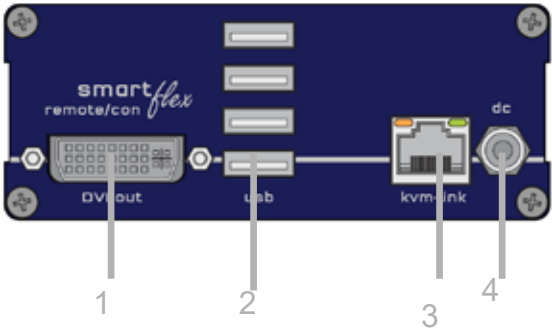
- Protect cables from being strained, pinched or buckled and place them in a way to prevent people from tripping over the cord.
- In particular, ensure to avoid damage to the mains adapter.
- Use the product with a suitable, properly installed and easily accessible mains power socket. Make sure the product can be disconnected from the power socket at all times.
- Unplug the product during electrical storms or when not in use.
- **DANGER!** Never touch the adapter with wet hands.
- Use the product within the specified performance limits.
- Keep the product away from flammable materials such as curtains and drapes.
- Protect the mains adapter from use by third parties (particularly children). Keep the unused mains adapter in a dry, elevated or locked location away from children.
- Do not place the product near heaters.
- Do not drop or hit the product.
- Unplug all connections before cleaning the product. Do not use wipes or chemicals as these could damage the surface. Wipe the housing with a damp cloth. Electrical/ electronic parts must not be cleaned.
- Alterations to the product and technical modifications are not permitted.

1.3 TECHNICAL SPEZIFICATIONS

Typ:	KVM Extender local/CPU Unit and remote/CON Unit
Modell:	SMARTflex single SV1 KVM Extender SMARTflex dual SV2 KVM Extender
Spannungsversorgung:	100 - 240 V; 50/60 Hz AC
Power supply	12VDC1A, external power supply
Power Input	6W pro Extender (without USB devices)
Operation enironment:	0 °C to 45 °C / /32 to 113 °F
Storage environment	-25°C to 80 / /-13 to 176 °F
Relative Luftfeuchtigkeit:	max. 80% (non condensing)
Humidity for storage:	max. 80% (non condensing)
Housing material:	anodized aluminum
Dimension:	109 x 43 x 107,5 mm/ 4.29 x 1.69 x 4,23 inch
Weight:	295 g/0,65 lb Local/CPU / 295g/0,65 lb Remote /CON
Shipment weight:	1005g/2,21 lb per set single 1895 g / 4,17 lb Dual
MTBF	82 820 calculated hours / 10 years

1.4 ABOUT THE PRODUCT - SMARTFLEX SINGLE

Remote /CON Extender



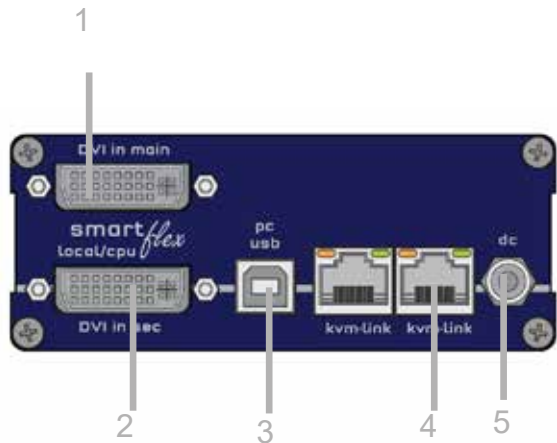
Nr.	Name	Function
1	dvi-out	DVI connection to monitor
2	USB	USB to Keyboard, mouse
3	kvm-link	Networkcable
4	dc	Connection 12V1A power supply

LED STATUS	
red	no active connection
yellow	no video signal
green	everything works



1. INTRODUCTION

Local /CPU Extender



Nr.	Name	Function
1	DVI out	DVI to monitor
2	DVI in	DVi from PC
2	USB	USB to PC
4	kvm-link	Conenction for CAT5/6/7 cable
5	dc	connection power supply 12V1A

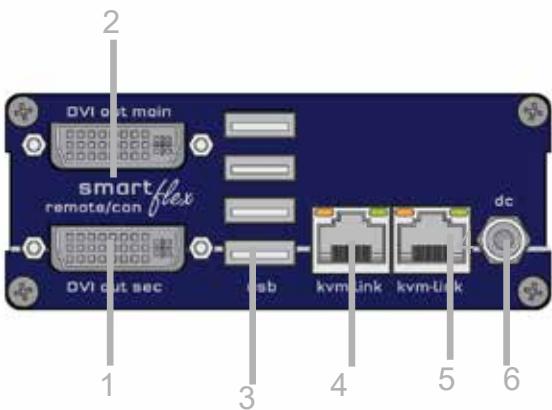
LED STATUS	
red	no active connection
yellow	no video signal
green	everything works



1. INTRODUCTION

1.5 PRODUCT ELEMENTS - SMARTFLEX DUAL

Remote/CON Extender

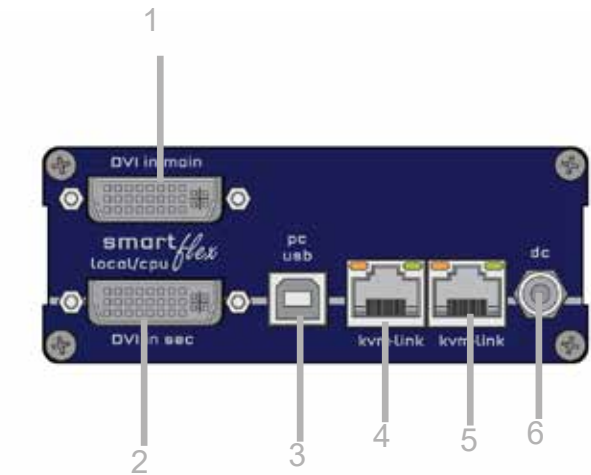


Nr.	Name	Function
1	DVI out sec	DVi to Monitor .
2	DVI out main	DVi to Monitor
2	USB	USB from keyboard and Maus
4	kvm-link	Connection for CAT5/6/7 cable
5	kvm-link	Connection for CAT5/6/7 cable
6	dc	Connection power supply 12V1A

LED STATUS	
red	no active connection
yellow	no video signal
green	everything works



Local /CPU Extender



Nr.	Name	Function
1	dvi-in second	DVI connection from PC
2	dvi-in main	DVI connection to PC
3	USB	USB to PC
4	kvm-link	Connection for CAT5/6/7 cable
5	kvm-link	Connection for CAT5/6/7 cable
6	dc	Conenction 12V1A power supply

LED STATUS	
red	no active connection
yellow	no video signal
green	everything works



1.5 PRODUCT ELEMENTS - SMARTFLEX BACKSIDE



Nr.	Name	Function
1	LED Status	Display the status of the extender
2	Reset	Button for reset

1. INTRODUCTION

1.5 ABOUT THE STATUS LED

Meaning LED displays

Color	Light display	Meaning
	fast flashing	no active connection
	shining	no video signal
	shining	everything works

1. INTRODUCTION

1.6 UNPACKING AND CHECKING THE CONTENTS



Before using the product for the first time it should be checked for damage. In case of damage due to transport inform the carrier immediately. Before delivery the product is checked for its function and its operating safety.

- Make sure that the packaging contains the following content:

SMARTflex Single

Local/CPU Unit

1 x SV1 local/CPU
1 x wall power supply unit 12 V 1A (EU-plug or Int plug)
1 x DVI-DVI cable 1,8m/5.9ft
1 x USB cable 1,8m/5.9ft
4 x rubber feet



Remote / CON Unit

1 x SV1 remote/CON
1 x wall power supply unit 12 V 1A (EU-plug or Int plug)
4 x rubber feet

SMARTflex Dual

Local/CPU Unit

1 x SV2 local/CPU
1 x wall power supply unit 12 V 1A (EU-plug or Int plug)
1 x DVI-DVI cable 1,8m/5.9ft
1 x USB cable 1,8m/5.9ft
4 x rubber feet



Remote / CON Unit

1 x SV2 remote/CON
1 x wall power supply unit 12 V 1A (EU-plug or Int plug)
4 x rubber feet

1. INTRODUCTION

1.7 MOUNTING OPTIONS

1.7.1 MOUNTING PADS AND RUBBER FEET

The mounting pads and rubber feet can be used to hold the extenders in place and prevents them from sliding and falling.

To attach the mounting pads or rubber feet:

1. Remove the protection layer from the **mounting pads** or **rubber feet** (G).
2. Attach the **mounting pads** or **rubber feet** (G) to the bottom the units.

1.7.2 MOUNTING KITS (OPTIONAL)

The following mounting kits are available:

Rackmounting RMK-FLEX-F Part Nr. KT - 6232 RMK-FLEX-F

The rack mounting kit RMK-FLEX- F is for mounting kvm-tec SMARTflex single and dual extenders. It consists of a 19" rack shelf and an alu-faceplate.

Rackmounting RMK- FLEX- FN - T Part-Nr. KT - 6232 RMK- FLEX-FN

The rack mounting kit RMK-FLEX-FN is for assembling kvm-tec SMARTflex extenders. It consists of 19" Rack Shelf, an alu-faceplate and a power supply. For 4 Single or dual Extender in one Rack

Under table mounting kit Part Nr KT - 6231 UMK-FLEX

The Under Desk Mounting kit is for underdesk mounting of the MX extender.

Din Rail mounting Part-Nr. KT - 6235 DINMK-FLEX

The DIN rail mounting is used for space-saving installation in control cabinets or on DIN rails. The attachment to the SMARTflex Extenders is possible in several ways.

Vesa mounting Part-Nr. KT - 6236 VH-FLEX

The robust VESA mounting is used to attach an extender to a monitor with existing VESA mounting points. The Extender becomes one unit with the monitor and saves a lot of space and cable clutter.

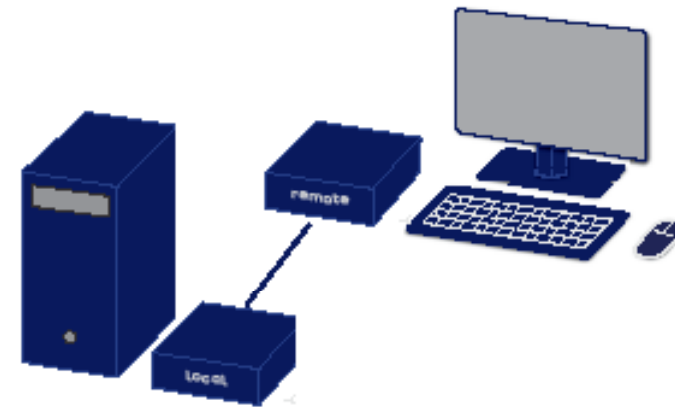
2. INSTALLATION OF THE EXTENDER

2.1 INSTALLING THE EXTENDER

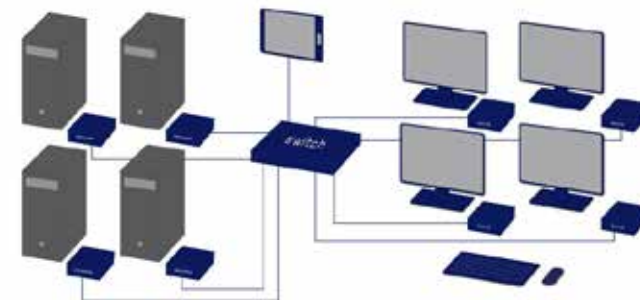


WARNING! Read and understand all safety information before installing the product.

The units can be set up to access one host computer, or to access numerous host computers. In the case of the latter, an additional Network Switch must be installed. With a Network Switch, each user can gain quick access to any of the required computers.

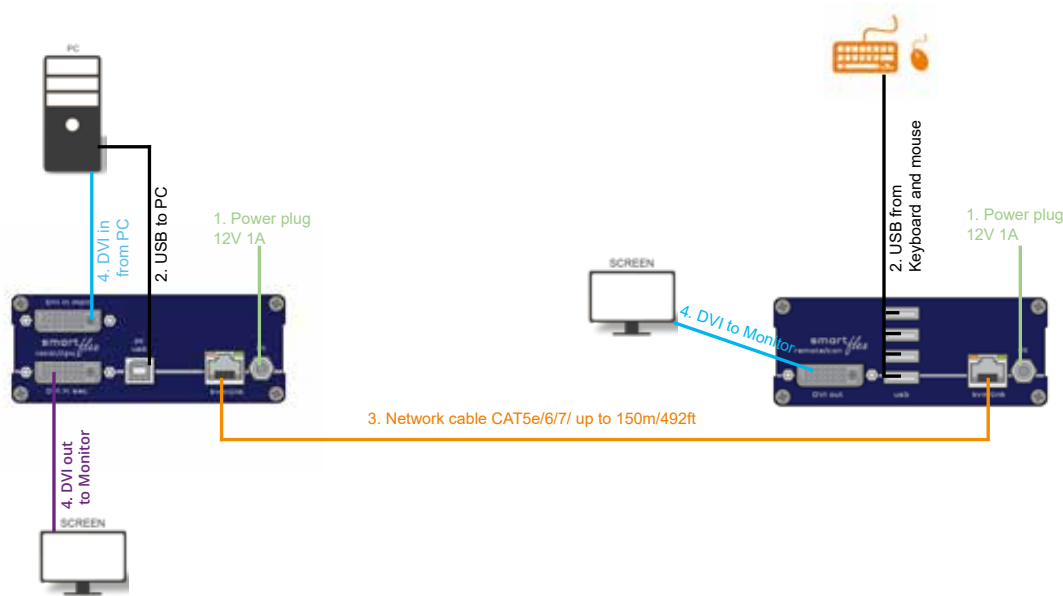


point to point connection & Matrix Switching System



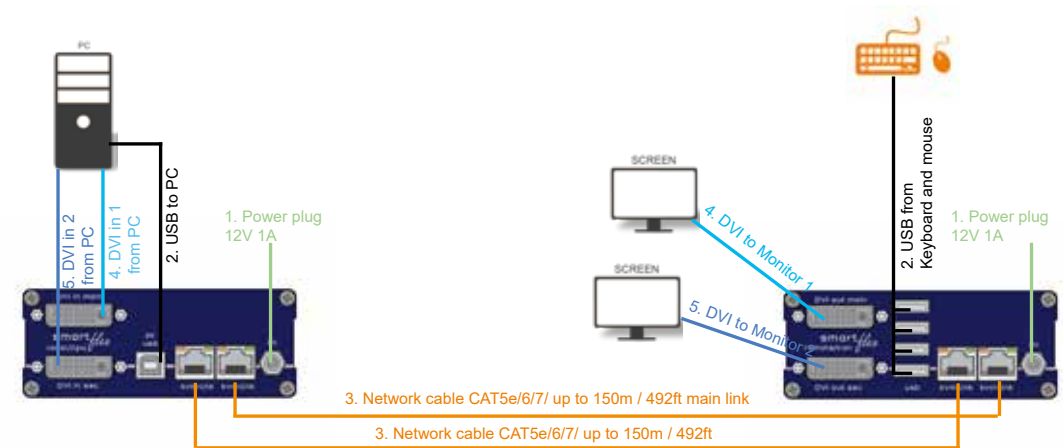
2. INSTALLATION OF THE EXTENDER

2.2 QUICKINSTALLATION SMARTFLEX SINGLE



2. INSTALLATION OF THE EXTENDER

2.3 QUICKINSTALLATION SMARTFLEX DUAL



Quick Installation SMARTflex Single local / CPU – remote / CON

1. Connect the CON / Remote and the CPU / Local Unit to the included 12V 1A power supply.
2. Now connect the USB cable to a USB port on your PC and connect the other end of the USB cable to the CPU / Local Unit. Connect keyboard and mouse to the CON / Remote Unit.
3. Connect the CPU / Local and the CON / Remote Unit with a network cable.
4. Now connect the DVI cable to the DVI socket of the PC and the other end to the DVI socket of the CPU / Local Unit (PC-in). Then connect the monitor with the DVI cable to the CON / Remote Unit.
5. Using a switch: Connect all endpoints to the switch. Ensure that all connections have a bandwidth of 1Gbit/sec. For video sharing the network has to support IGMP snooping.

Quick Installation SMARTflex Dual local / CPU – remote / CON

1. Connect the CON / Remote and the CPU / Local Unit to the included 12V 1A power supply.
2. Now connect the USB cable to a USB port on your PC and connect the other end of the USB cable to the CPU / Local Unit. Connect keyboard and mouse to the CON / Remote Unit.
3. Connect the CPU / Local and the CON / Remote Unit with the network cable.
4. Now connect the DVI cable to the DVI socket of the PC and the other end to the DVI socket of the CPU / Local Unit (PC-in 1).
5. Now connect the cable to the DVI socket of the PC and the other end to the DVI socket of the CPU / Local Unit (PC-in 2). Then connect the monitor with the DVI cable to the CON / Remote Unit.
6. Using a switch: Connect all endpoints to the switch. Ensure that all connections have a bandwidth of 1Gbit/sec. For video sharing the network has to support IGMP snooping.

2. INSTALLATION OF THE EXTENDER

2.4 START UP

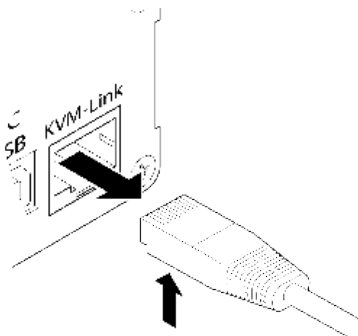
To start up the system without switch:

1. Make sure that the two monitors and the computer are switched on.
2. If you are using a Network Switch, connect the power supply to an earthed wall socket.
3. Connect both extender **power supplies** (C) to an earthed wall socket. Both extenders will start an initialisation process. The red status LED blinks a few seconds. After a few seconds the status LED lights green. The monitor will display your computer's desktop or any open applications.

2.5 REMOVING A CATX CABLE

To remove a CATx cable:

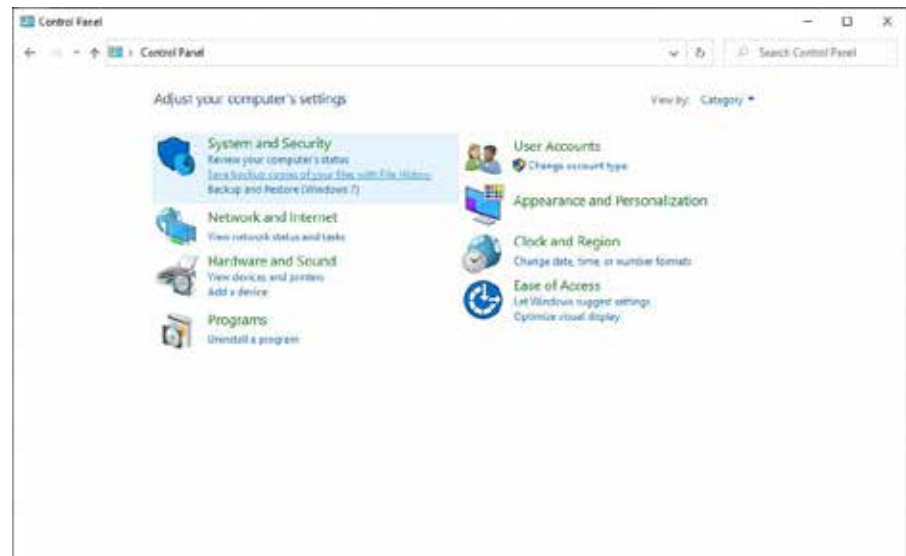
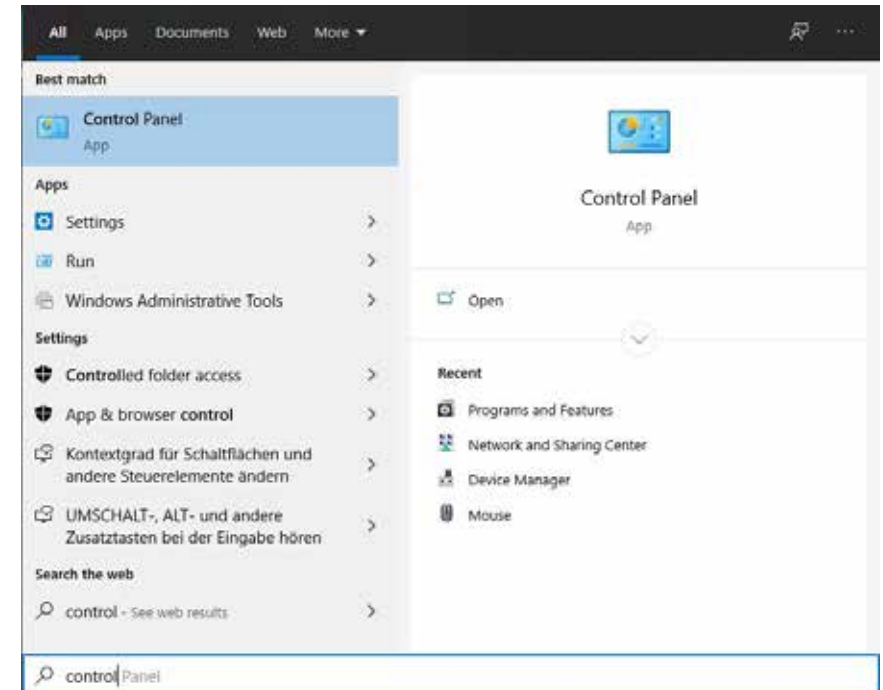
- Press the latch down and slowly pull the cable out.



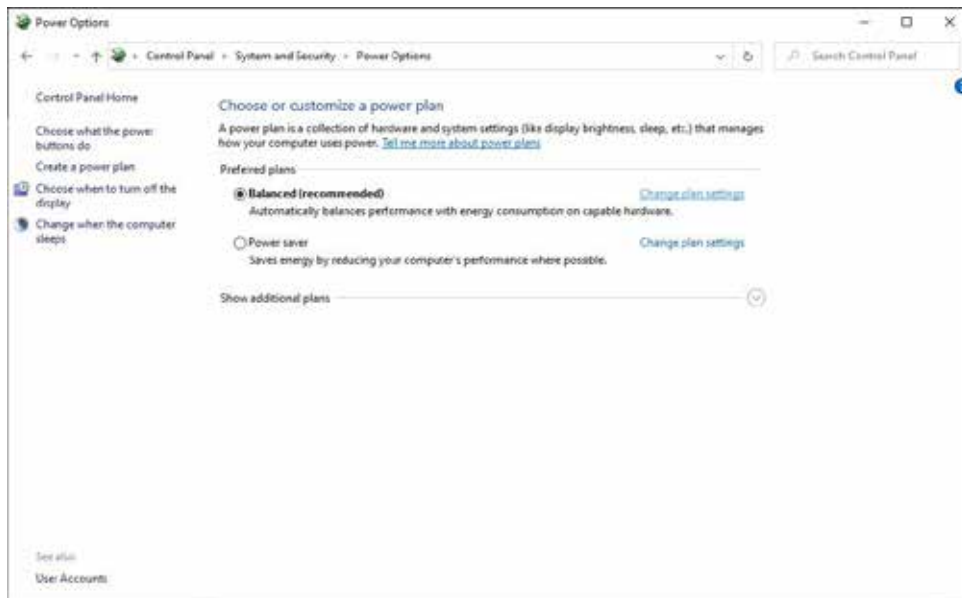
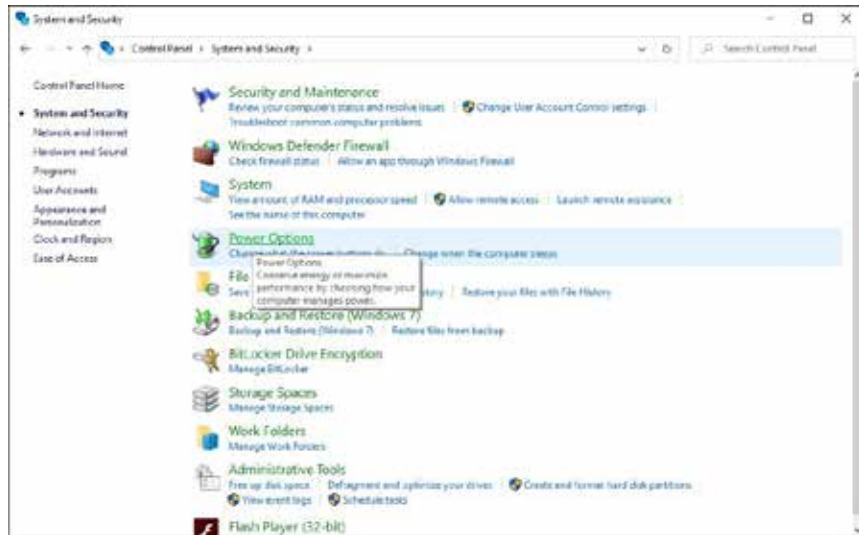
2. INSTALLATION OF THE EXTENDER

2.6 BEST PRACTICE FOR WINDOWS 10

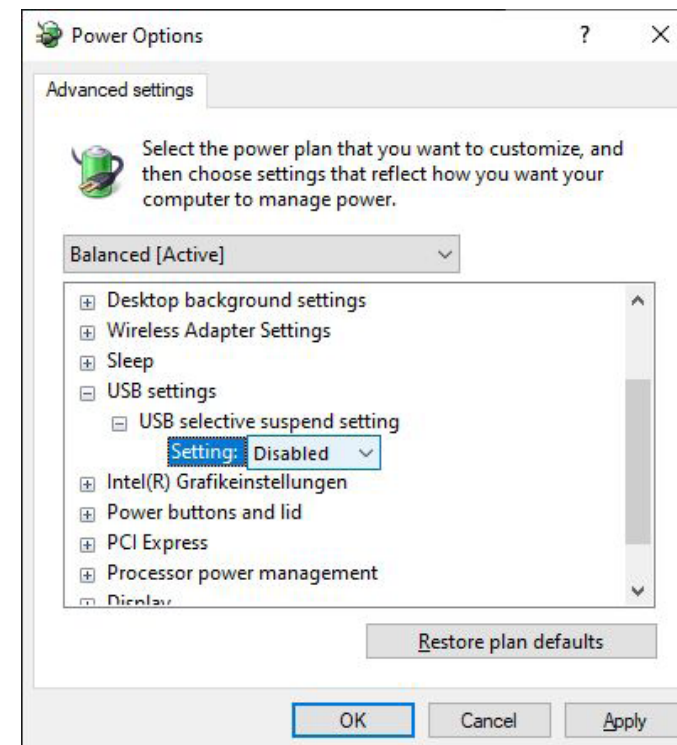
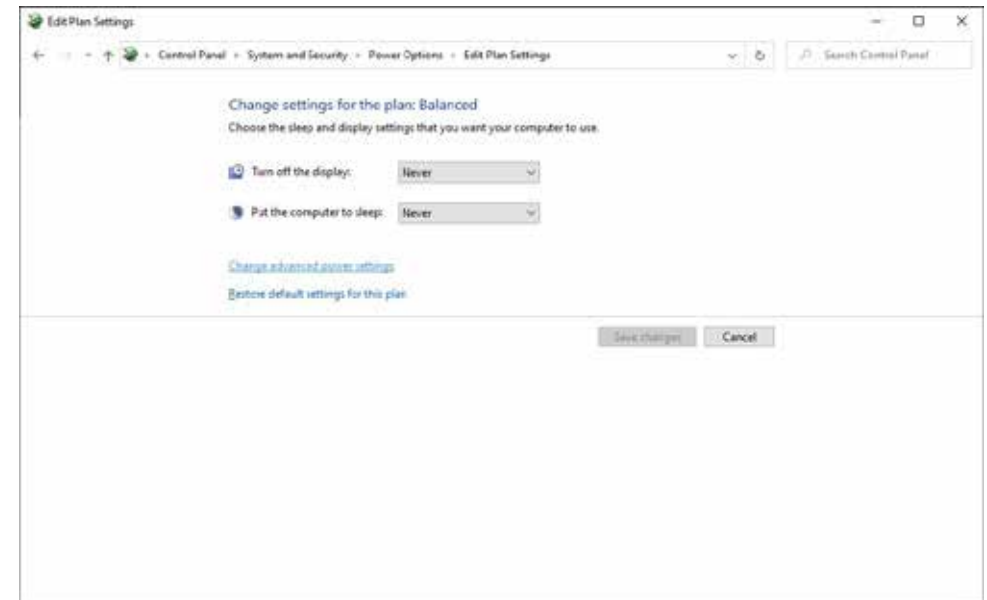
Disable USB Energy Savings in Windows 10



2. INSTALLATION OF THE EXTENDER



2. INSTALLATION OF THE EXTENDER



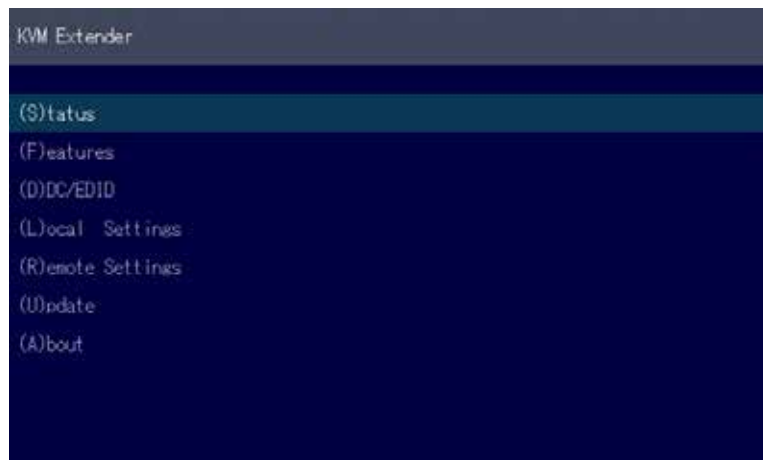
3. EXTENDER SETTINGS

3.1 ACCESS TO THE MAIN MENU

Use the monitor and keyboard to access the main menu

Access to the main menu (main menu):

1. Make sure the extenders, monitors and computers are turned on.
2. Press the Alt Gr key five times quickly. The **main menu** and an overview of the an overview of the submenus is displayed.
3. To enter a submenu, press the corresponding key.



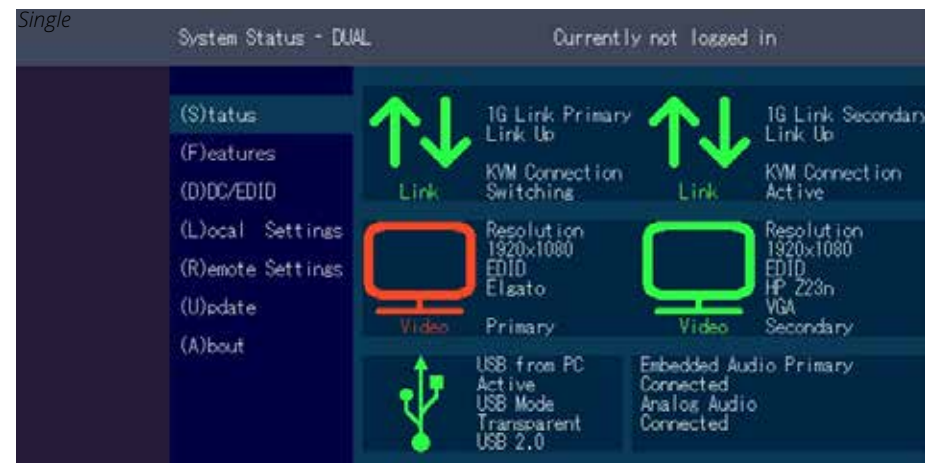
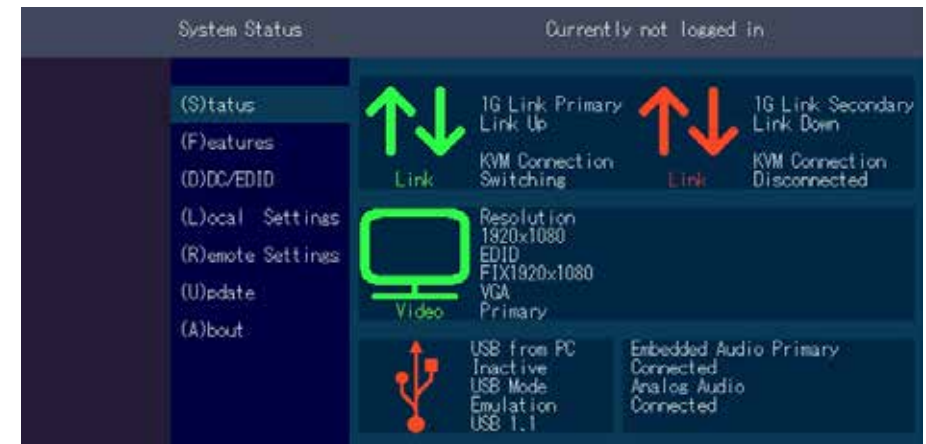
Main Menu

Main menu Short Cuts :

S	Status Overview	Status menu / current status
F	Features Overview	Features settings
D	DDC Option	DDC Option Fixed Setting 1020 x 1080
L	Local Settings	Settings Local
R	Remote Setting	Settings Remote
U	Update Flash FW	Update firmware
A	About Overview	Upgrade overview
L	Link redundancy	for single units
Q	Exit	Finish

3. EXTENDER SETTINGS

3.2 SYSTEM STATUS



Dual

In the status overview menu the current status of the extender connection is displayed. It provides information on the connection itself as well as resolution of the video channel, and USB-status.

The enabled options and the current firmware-version is displayed in the left top corner. Link status shows whether there is a physical connection available. **Connected** indicates if kvm data is currently able to be transmitted.

Video and USB show if data is currently being transmitted.

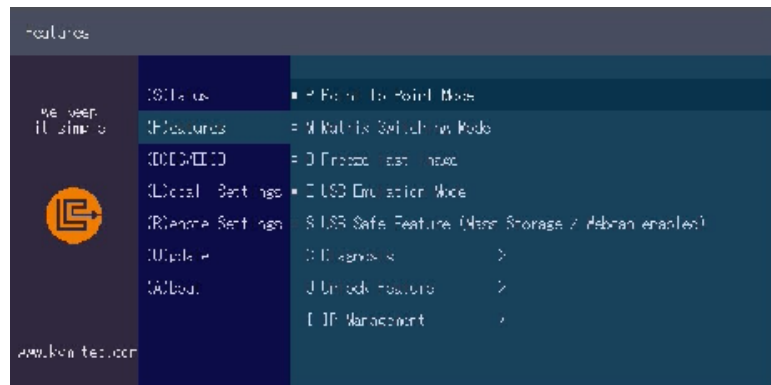
3. EXTENDER SETTINGS

3.2 FIRMWARE VERSION DISPLAY

Make sure that the main menu is open. Under „A“ - About the currently installed firmware version of the remote (CON) and local (CPU) extender is displayed.

3.3 FEATURES MENU

Press the F key to enter the Features menu.



Features Menu

P	Point to Point Mode	Enabled/Disabled (Point to Point excludes itself with Matrix mode)
M	Matrix Switching Mode	Disabled/Enabled
D	Freeze last Image	(Disabled)Disabled/Enabled
E	USB Emulation Mode	(Disabled) Disabled/Enabled
S	USB Save Feature	(mass storage usable) Disabled/Enabled
C	Diagnosis	Diagnostic menu
U	Unlock Features	Activate features
I	IP Management	IP Management
L	Link redundancy	for single units

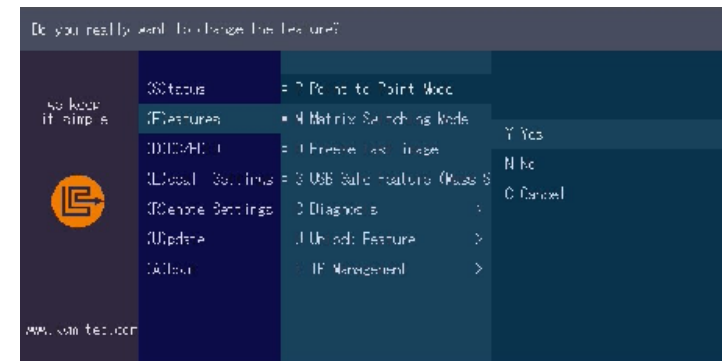
3. EXTENDER SETTINGS

3.4.1 POINT TO POINT

You can switch the Point to Point mode on and off by pressing the „P“ key



ATTENTION! - if the point to point mode is activated, the switching mode cannot be activated



3.4.2 MATRIX SWITCHING MODE

By pressing the „M“ button you can switch the Matrix Switching Mode off and on

3.4.3 USB SAVE FEATURE

The kvm-tec feature „**USB save**“ prevents the intrusion of viruses via the USB interface by deactivating mass storage devices.

By pressing the key „**U**“ you can switch the USB save feature on and off

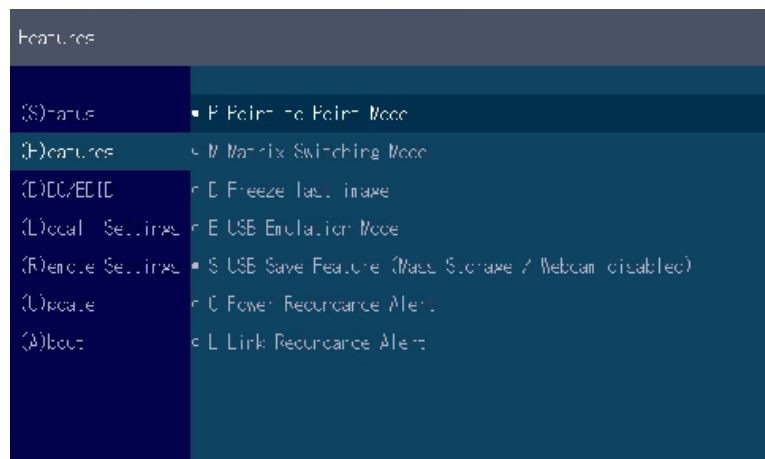
3. EXTENDER SETTINGS

3.4.4 DISPLAY THE LAST RECEIVED IMAGE „FREEZE LAST IMAGE“

With the function „freeze last image“ the last received image can be displayed instead of a black screen when the remote extender (CON) is disconnected from the local extender (CPU). To show that this is the last received image, the frame of the image flashes red.

To enable or disable the freeze last image function:

1. From the **main menu**, press **F**. The **Features Settings menu** is displayed.
2. Press **D** to enable or disable the function.
3. Press **ESC** to return to the main menu.



Main Menu

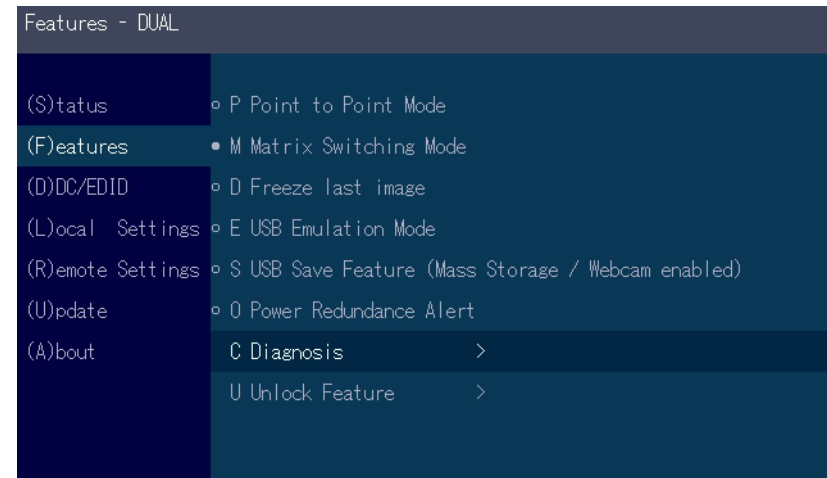
3.4.5 USB EMULATION MODE

When this mode is set, the local extender emulates a keyboard and mouse always connected to the PC. The result is switching from one PC to another PC without any switching delay. Emulation Mode is restricted to mouse and keyboard only.

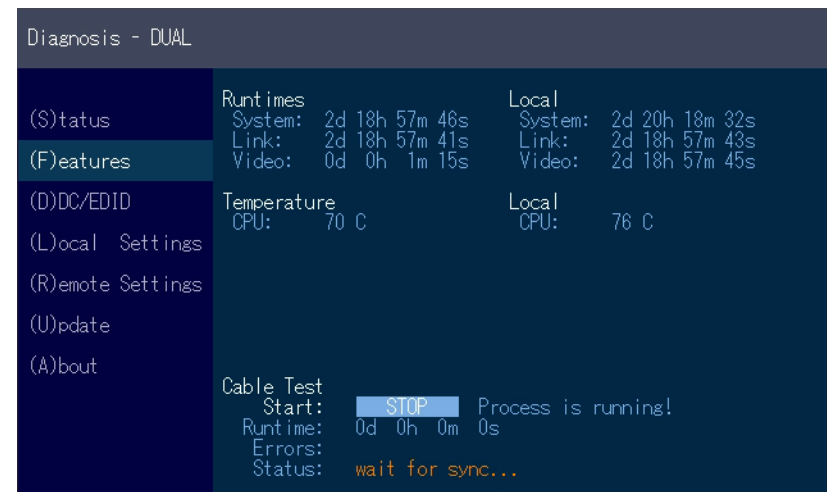
3. EXTENDER SETTINGS

3.4.6 DIAGNOSIS MENU

In the Diagnosis menu, the runtimes of the individual connected channels are displayed. Both Remote Unit and Partner Local Unit are listed.



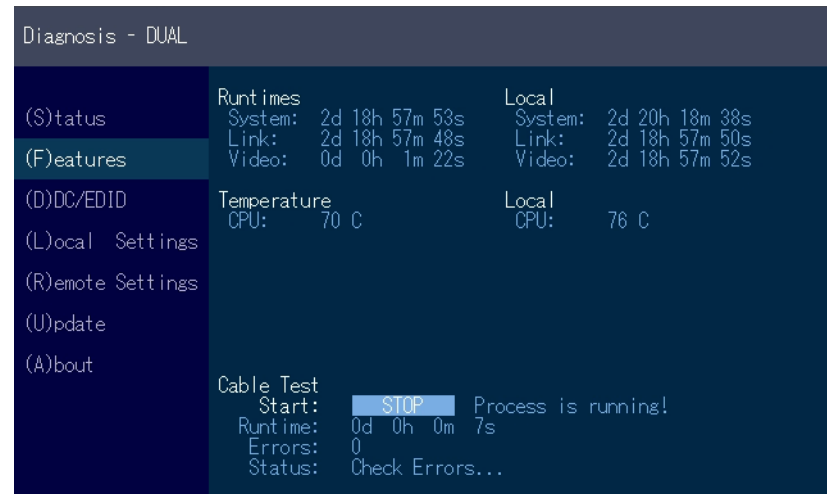
Additionally you get the CPU temperature information of both units. Another feature is the cable test



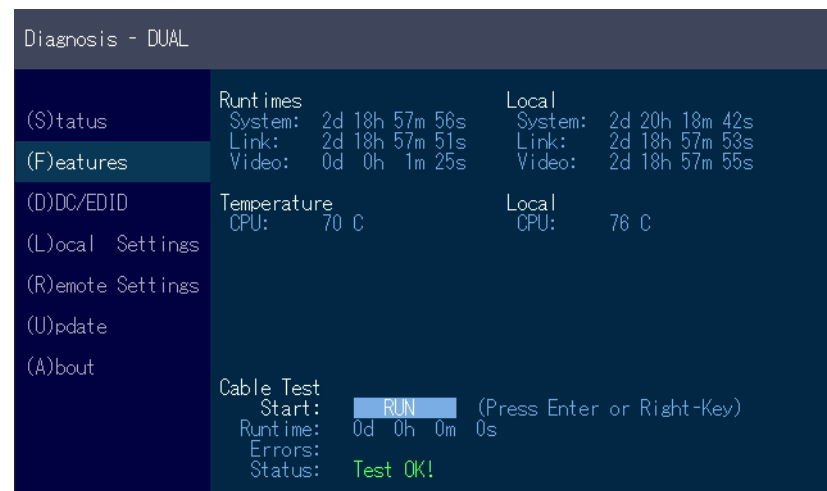
3. EXTENDER SETTINGS

As soon as a connection to the partner has been established, the test can be started with the „Enter“ key or the arrow key on the right „→“.

After a valid synchronization process, the test is started and the test run time and errors are displayed.



The test can be ended at any time by pressing the “Enter” or “→” key. If no error has occurred, the status reports: “Test OK! If errors occurred during the test, the status displays the sum of all errors that occurred.



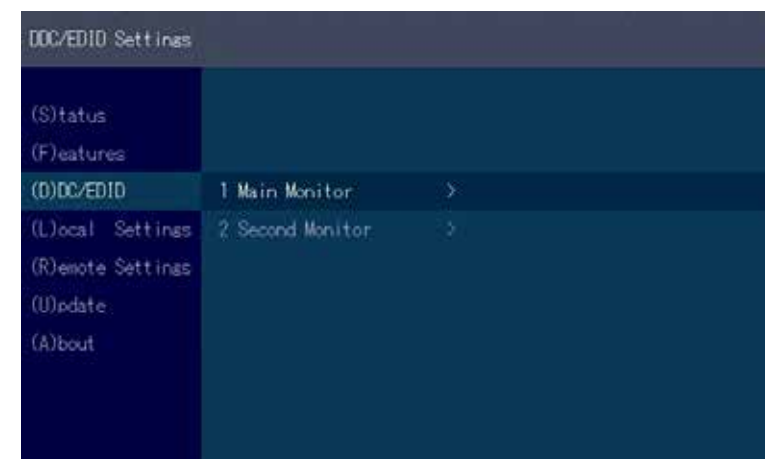
3. EXTENDER SETTINGS

3.5 DDC MENU

The DDC Information menu allows the user to specify which DDC information is used by the PC.

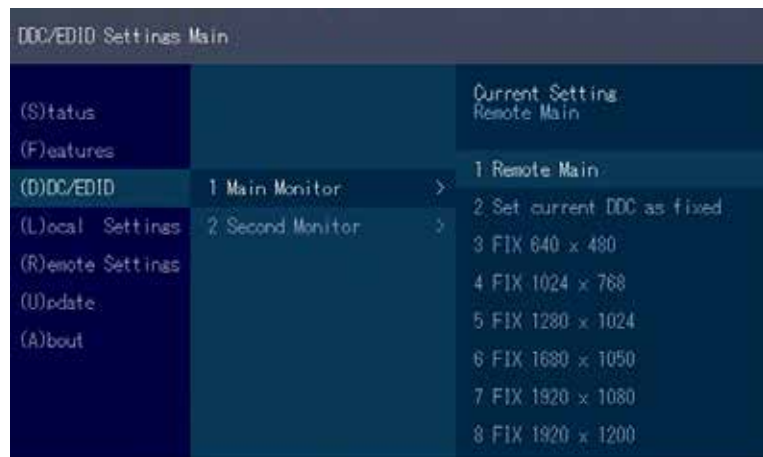
Definition of the DDC information used by the PC:

1. make sure that the **main menu** is open.
2. Press the **D** button and the **DDC option menu** will be displayed.
 - Press **1** to display the DDC information of the monitor connected to the remote (CON) Extender is connected.
 - Press **2** to save the current DDC information. The system will applies the same settings after restarting the Extender
 - Press the keys **4** to **8** to use a predefined resolution, which is saved.
3. press **ESC** to return to the main menu

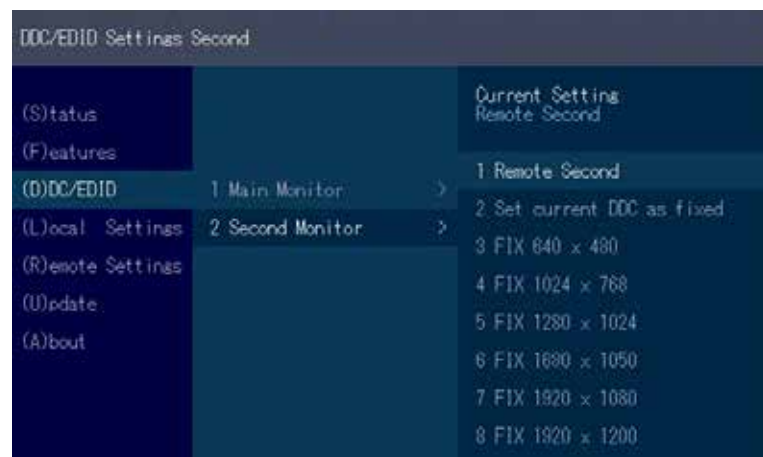


3. EXTENDER SETTINGS

3.5.1 DDC MAIN (SINGLE UNITS)



3.5.2 DDC SECOND (DUAL UNITS)



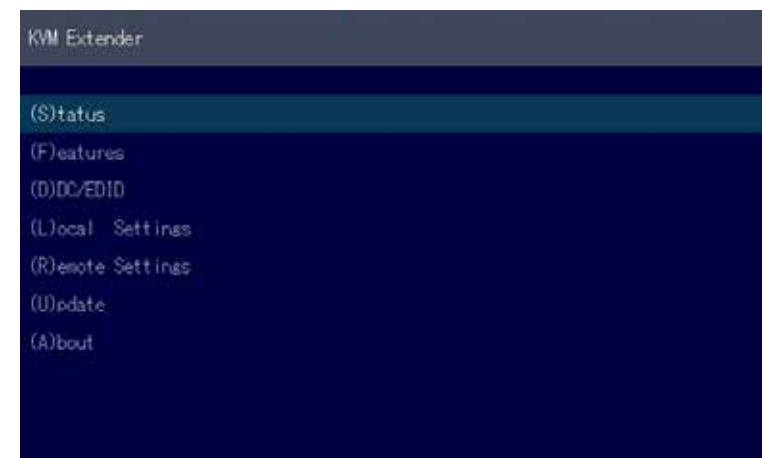
3. EXTENDER SETTINGS

3.6 EXTENDER SETTINGS

The **Extender Settings menu** allows the user to change a number of other settings.

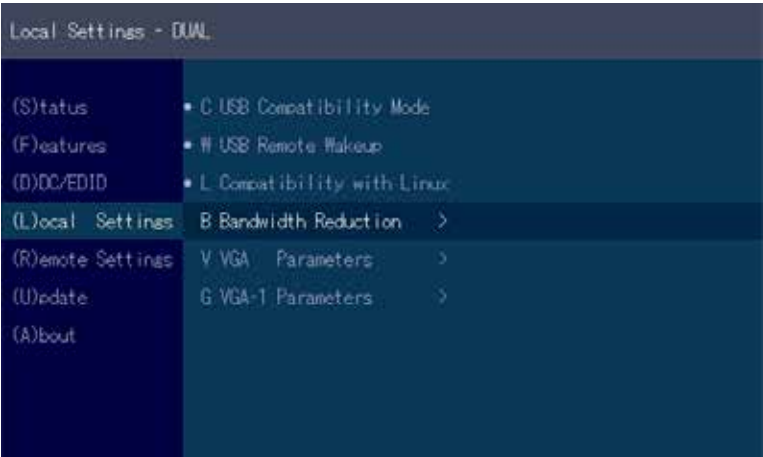
Display the Extender Settings menu:

1. Make sure that the main menu is open.
2. Press the L button. The Local Settings menu is displayed.
3. Press the R button. The Remote Settings menu is displayed.



3.6.1 CHANGE THE LOCAL SETTINGS

View the local or remote Extender settings:
- Press the L button to display the Local Setting menu.

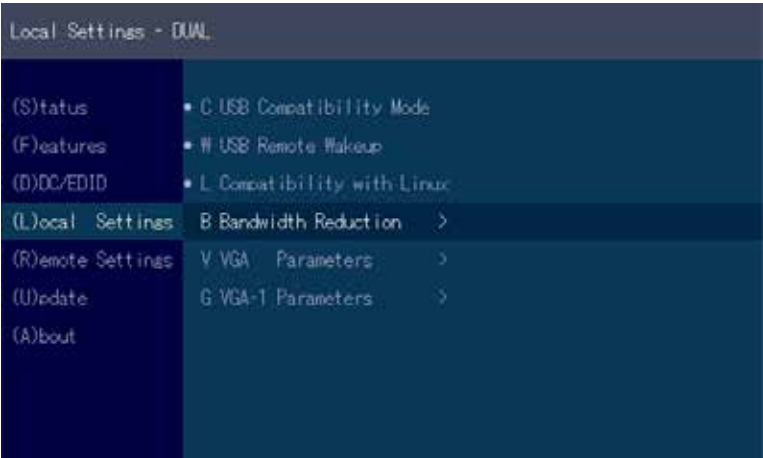


- C USB Compatibility Mode Disabled/Enabled
- W USB Remote Wakeup Disabled/Enabled
- L Compatibility with Linux Disabled/Enabled
- B Bandwidth Reduction
- V VGA Parameters for Masterflex, Maxflex
- G VGA-1 Parameters for Masterflex, Maxflex

3.6.2 USB COMPATIBILITY MODE



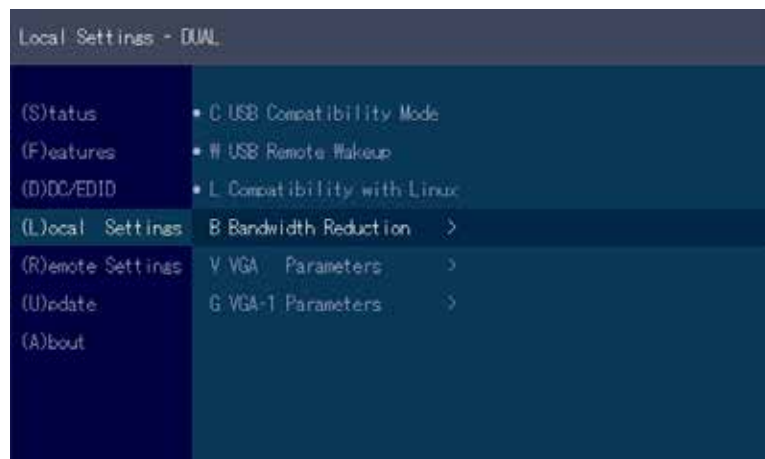
Some PC's need a USB FullSpeed (USB 1.1) connection during the boot process. Our extenders are detected as USB HUB's - this can cause some PC's to abort the boot process. This can be bypassed with the USB Compatibility Mode.



3. EXTENDER SETTINGS

3.6.3. USB REMOTE WAKE UP

The PC can be set into sleep mode and can be reactivated with any key.

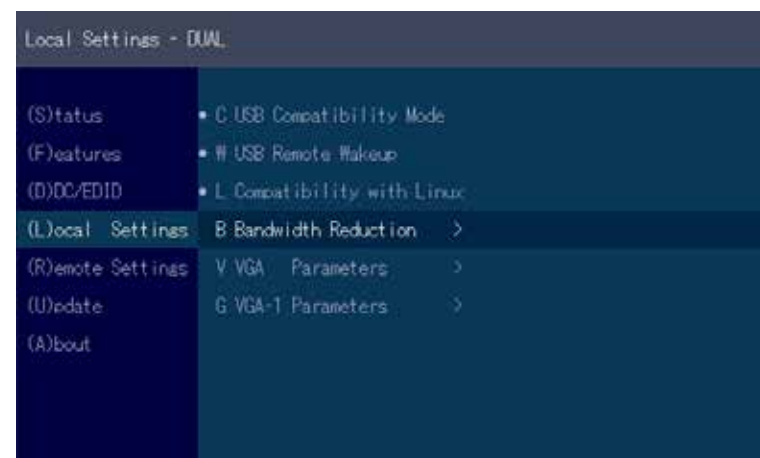


3. EXTENDER SETTINGS

3.6.4 COMPATIBILITY WITH LINUX

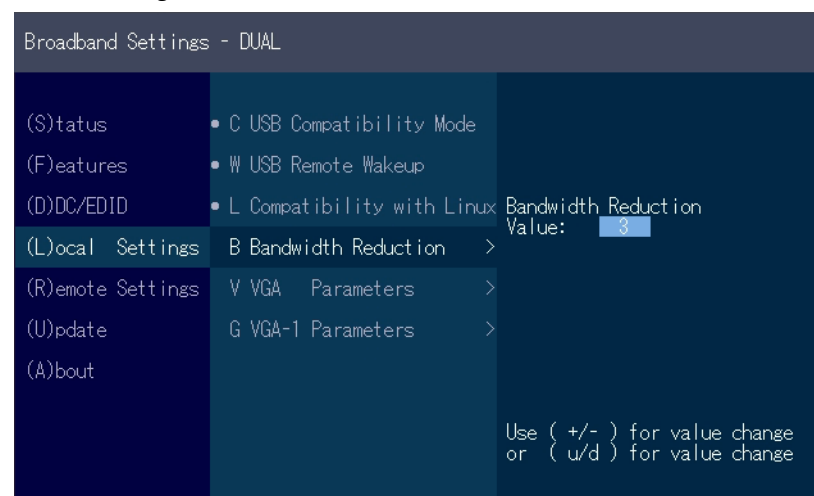


Older Linux (before 2010) versions may not recognize the keyboard.
In this case please activate the Linux compatibility mode



3.6.5 BANDWIDTH REDUCTION

Here the bandwidth can be reduced. The basic setting is 0!
You can change the bandwidth with +/- or u/d.



3. EXTENDER SETTINGS

3.6.6 VGA PARAMETERS

FOR MASTERFLEX AND MAXFLEX

VGA Settings		
(S)tatus	◦ C USB Compatibility Mode	Shift up / down 89
(F)eatures	• W USB Remote Wakeup	Shift <-- --> 195
(D)DC/EDID	◦ L Compatibility with Linux	Zoom out / in 2200
(L)ocal Settings	V VGA Parameters >	Pixelfine 15
(R)emote Settings		Pixelfrequenz 148520 kHz
(U)pdate		Increment Size [1]/[10]
(A)bout		Restore Reinit Value
		Use (+/-) for value change

VGA Parameters

VGA-1 Settings - DUAL		
(S)tatus	• C USB Compatibility Mode	Shift up / down 89
(F)eatures	• W USB Remote Wakeup	Shift <-- --> 195
(D)DC/EDID	• L Compatibility with Linux	Zoom out / in 2200
(L)ocal Settings	B Bandwidth Reduction >	Pixelfine 15
(R)emote Settings	V VGA Parameters >	Pixelfrequenz 148520 kHz
(U)pdate	G VGA-1 Parameters >	Increment Size [1]/[10]
(A)bout		Restore Reinit Value
		Use (+/-) for value change or (u/d) for value change

VGA-1 Parameters

3. EXTENDER SETTINGS

3.7 REMOTE SETTINGS

- Press the **R** button to display the Remote Setting menu.

Remote Settings	
(S)tatus	K Keyboard Locale (DE)
(F)eatures	S Keyboard Shortcuts >
(D)DC/EDID	◦ U USB Share any Key
(L)ocal Settings	A Audio Input Gain >
(R)emote Settings	◦ P Power Save Mode
(U)pdate	◦ H Hide Status Screen
(A)bout	F Fallback Mode (1)
	L Lock Menu
	M Mouse Settings >
	◀

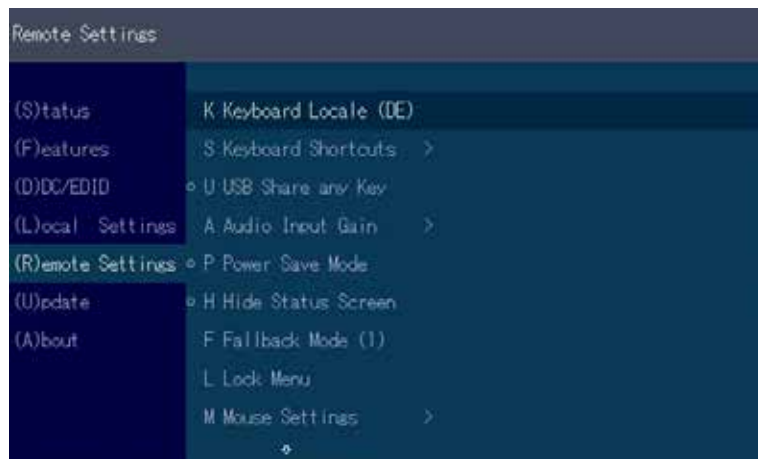
3. EXTENDER SETTINGS

3.7.1 EDITING A KEYBOARD LAYOUT

The **Keyboard Local menu** lets you switch between keyboard layouts for navigating the on screen display menu (OSD). You can choose between French (FR), English (EN) and German (DE).

Selecting a keyboard layout:

1. Press **R** in the **main menu**- The **Remote Settings** menu appears.
2. Press the **K** key. The **Keyboard Locale** menu opens:
 - Press **E** to select English (EN)
 - Press **D** to select German (DE)
 - Press **F** to select French (FR)



3. EXTENDER SETTINGS

3.7.2 KEYBOARD SHORTCUTS

With the **hotkeys** you can select your preferred keyboard mappings for your common commands.

To edit the shortcuts:

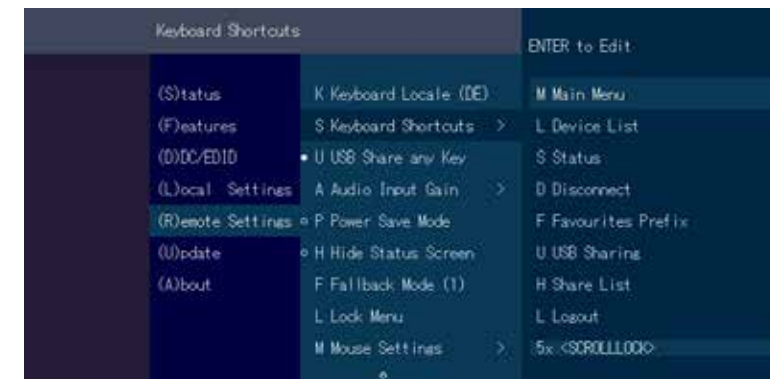
1. From the **Extender Settings** menu, press the **R** key. The **Remote Settings** menu appears.
2. Press the **S** key. The **Keyboard Shortcuts** menu opens.
3. Use the arrows to select a command.
4. Press **E** to edit the shortcut.

To edit:

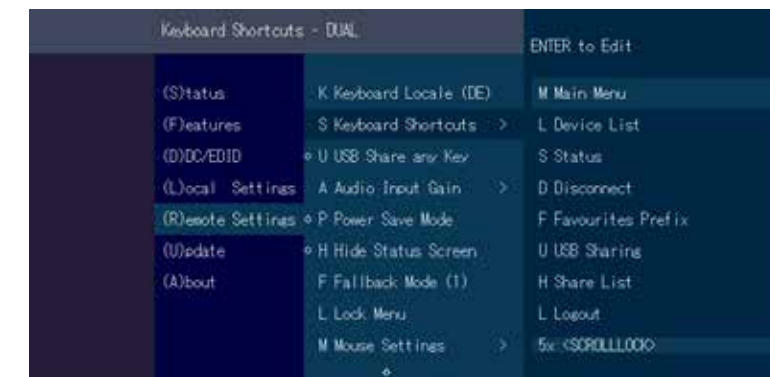
Press a single key. Edit the frequency with left and right arrows.

OR -

Press a key combination



single



dual

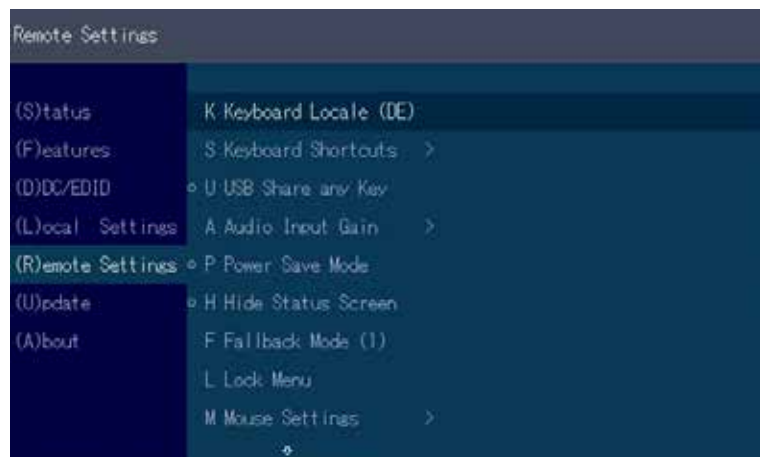
3. EXTENDER SETTINGS

3.7.3 USB SHARE ANY KEY

By pressing the button „B“ the USB Share any Key mode can be activated or deactivated.

If the USB share any key, the USB function can be taken over with any key.

If the function is deactivated, this works with the predefined hotkeys (see 3.7.2.)



3. EXTENDER SETTINGS

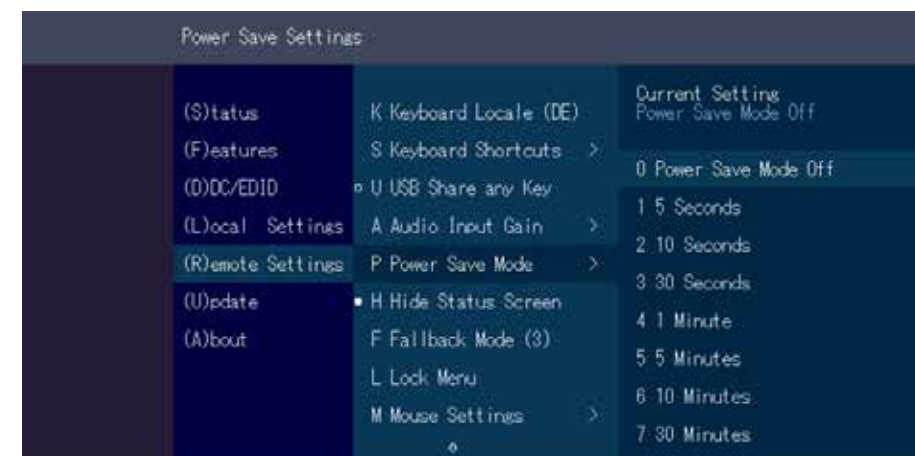
3.7.4 USING THE POWER SAVING MODE

In power save mode, the extender can turn off the video output. The delay can be set or deactivated in the Power Save Setting menu.

Power Save mode:

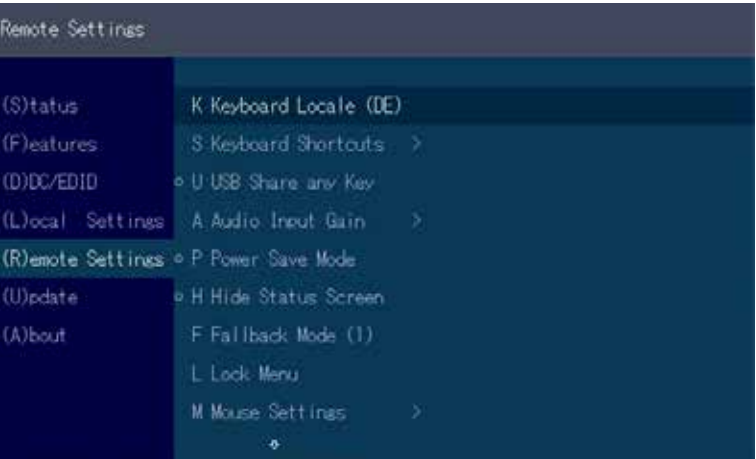
1. From the **main menu**, press the **R** key. The Remote Settings menu is displayed.
2. Press the **P** key to enable or disable the Power Saving Mode.
3. If you are in the power save mode, press any key to return to the return to the menu.

If the Powersave Mode is active, the image output at the video outputs will be turned off after the time has elapsed. To reactivate the monitor, any key on the keyboard must be pressed, or a connection to a partner must be established.



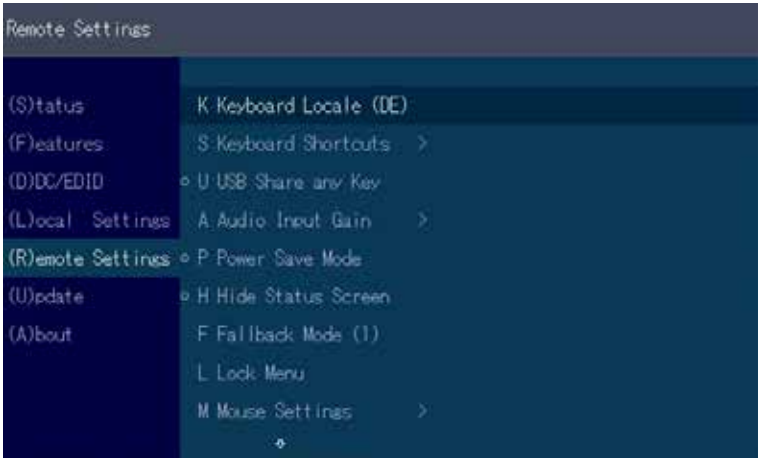
3.7.5 HIDE STATUS SCREEN

Press **H** in the Remote Settings menu.
This will remove the status screen and the image remains black.



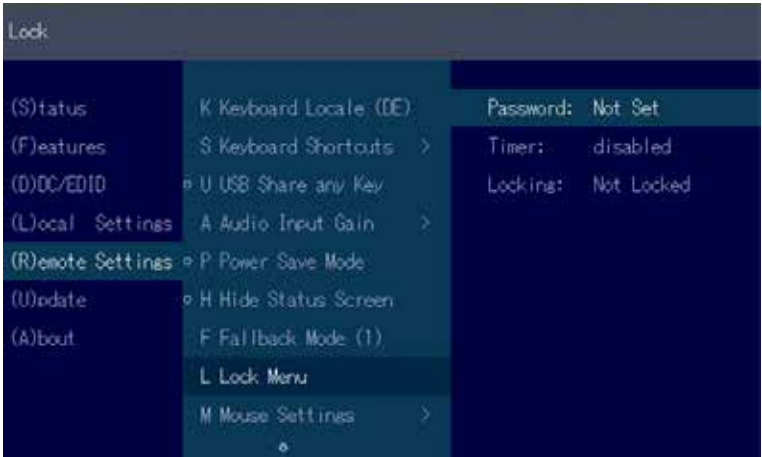
3.7.6 CHANGE KEYBOARD FALLBACK MODUS

To use the OSD menu, the keyboard on the remote device must be identified.
For most keyboards, use the 0 setting.
When using USB, some mice act like a keyboard. In this case, select fallback mode 1 or 2.



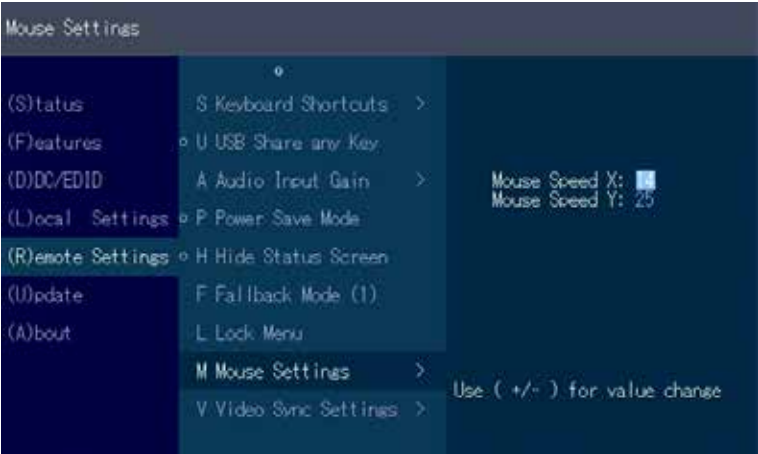
3.7.7 LOCK MENU

This menu protects the OSD control and after 5 minutes the OSD can no longer be activated.
After restarting the Remote Unit, the OSD menu is enabled again for 5 minutes.



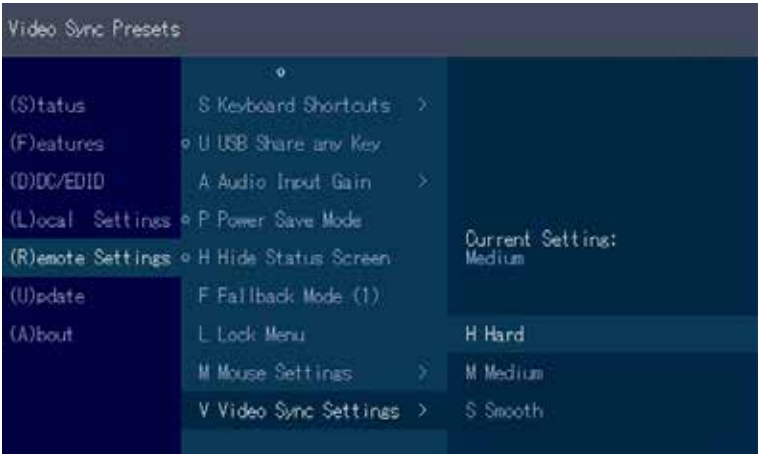
3.7.8 MOUSE SPEED

Can be used in USB Emulation mode, Mouse glide & Switch.
This function can be used to set the horizontal and vertical speed.
It can be selected between 0-50 (default 30)



3.7.9 MONITOR SYNC STRENGTH

The frame start of the monitor is synchronized with the graphic card.
Some monitors are very sensible regarding frequency changes. Therefore the changes should be done slow and the synchronization takes a bit more time
The monitor sync strength can be adjusted between 0-3 - Hard/Medium/Smooth (Standard-Medium)



3. EXTENDER SETTINGS

Video Sync Presets		
(S)tatus	K Keyboard Locale (DE)	Current Primary: Medium
(F)eatures	S Keyboard Shortcuts >	1 Primary-Hard
(D)DC/EDID	U USB Share any Key	2 Primary-Medium
(L)ocal Settings	P Power Save Mode	3 Primary-Smooth
(R)emote Settings	H Hide Status Screen	4 Primary-Disable
(U)pdate	F Fallback Mode (1)	
(A)bout	L Lock Menu	
	M Mouse Settings >	
	V Video Sync Settings >	

Single

Video Sync Presets		
(S)tatus	K Keyboard Locale (DE)	Current Primary: Medium Current Secondary: Medium
(F)eatures	S Keyboard Shortcuts >	1 Primary-Hard
(D)DC/EDID	U USB Share any Key	2 Primary-Medium
(L)ocal Settings	P Power Save Mode	3 Primary-Smooth
(R)emote Settings	H Hide Status Screen	4 Primary-Disable
(U)pdate	F Fallback Mode (1)	5 Secondary-Hard
(A)bout	L Lock Menu	6 Secondary-Medium
	M Mouse Settings >	7 Secondary-Smooth
	V Video Sync Settings >	8 Secondary-Disable

Dual

3. EXTENDER SETTINGS



3.8 UPDATE

3.8.1 PERFORMING A FIRMWARE UPDATE VIA THE SWITCHING MANAGER

The update management can be done comfortably via a Switching Manager WEB demo version. The Switching Manager WEB software can be found on the website in the support area <https://www.kvm-tec.com/en/support/firmware-download/>



In the Switching Manager WEB under the item Update -> FlexLine, all EasyLine extenders are displayed.

To update the extenders, the firmware must first be uploaded with the „**Select Option**“ file.

All extenders for which an update is to be performed are selected by a check mark.

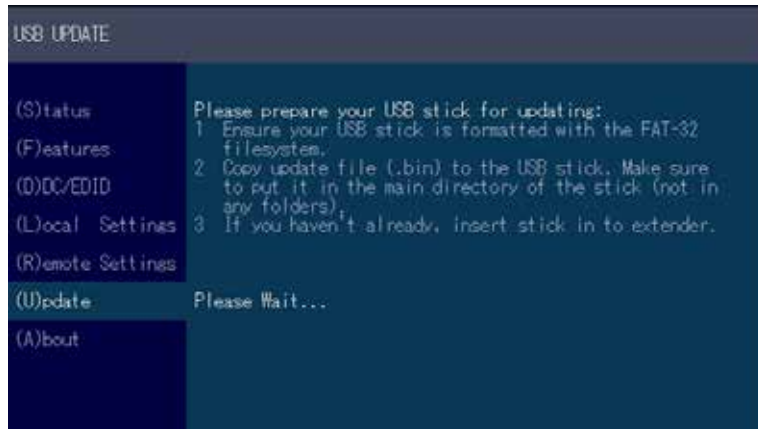
By clicking the button **Send and Update** the update will be started.

You can see the progress by a blue bar and if a green check mark appears on the right side, the update was successful.

3. EXTENDER SETTINGS

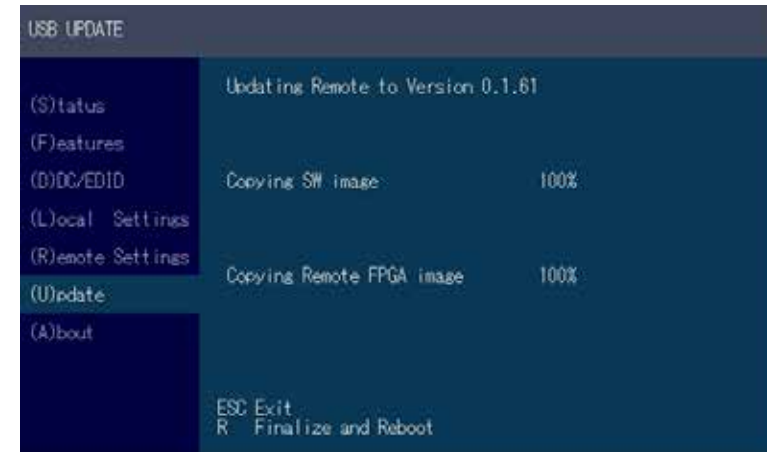
3.8.2 FIRMWARE UPDATE WITH USB STICK

For the update with an USB stick the following steps are necessary



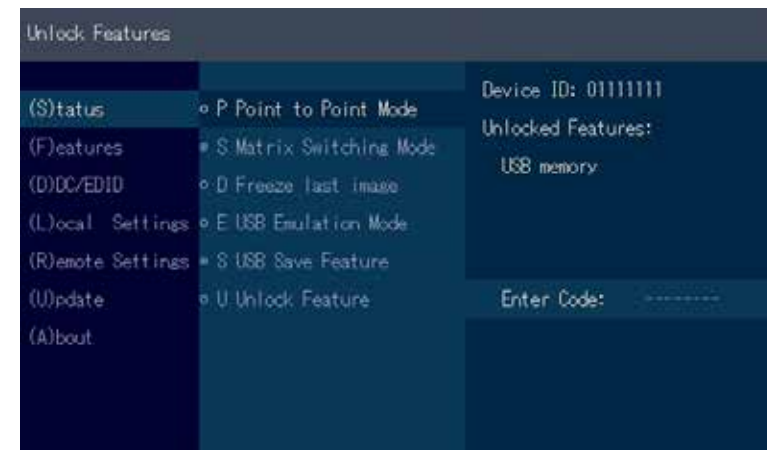
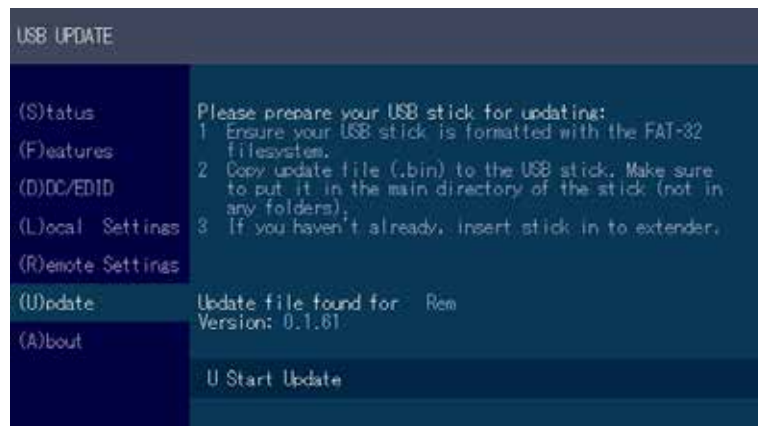
1. you receive the message that you can plug in the USB stick.
2. copy the update file (ending in .kvm) to the USB stick
3. make sure that the update file is directly on the stick and that it is not in any subdirectory
4. the USB stick must be formatted with FAT-32

3. EXTENDER SETTINGS



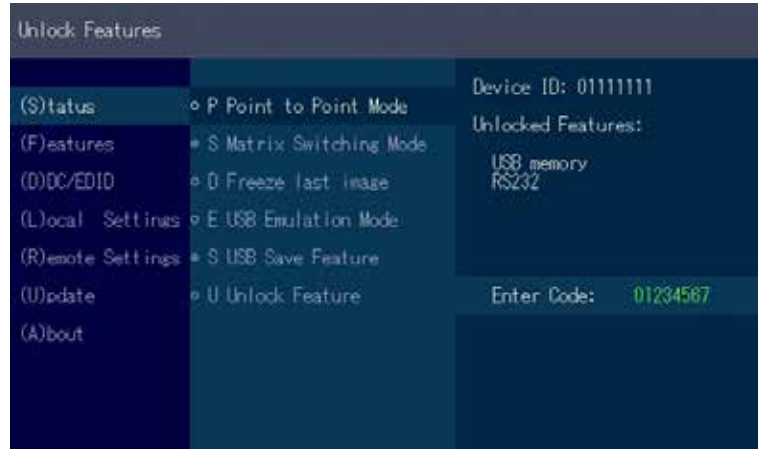
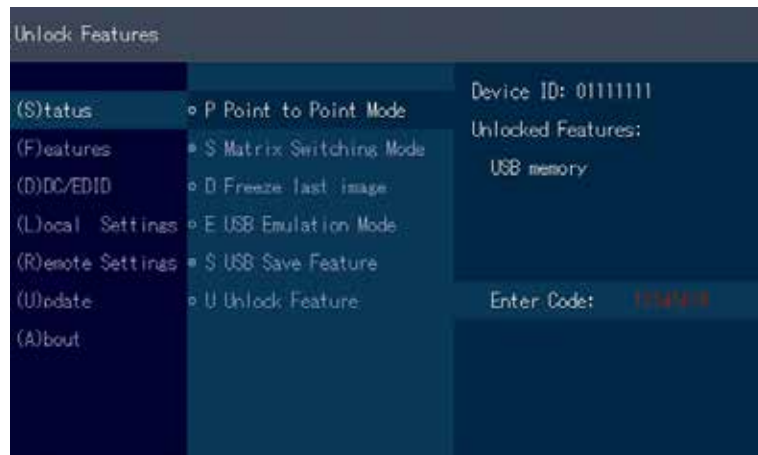
3.9 UNLOCK AN UPGRADE

1. Make sure the main menu is open.
2. Press the **U** key. The Options Overview menu opens. The device ID will be shown.
3. Order the unlock code from your supplier by providing them with the 9-character device ID and the serial number of your KVM-extender.
4. Enter the unlock code your supplier provided.
5. The extender will automatically restart.
6. To confirm the upgrade has been unlocked return to the Options Overview menu and check that the relevant upgrade is now displayed in green



3. EXTENDER SETTINGS

3. EXTENDER SETTINGS



3.9 ENABLE OR DISABLE USB MEMORY UPGRADE

The USB Memory upgrade allows the user to enable or disable the memory upgrade. When the USB Memory upgrade is enabled, USB flash storage and external storage devices can be accessed via the extender. If your extender was provided with the USB Memory upgrade you can enable and disable at any time.

Enable or disable the USB memory upgrade:

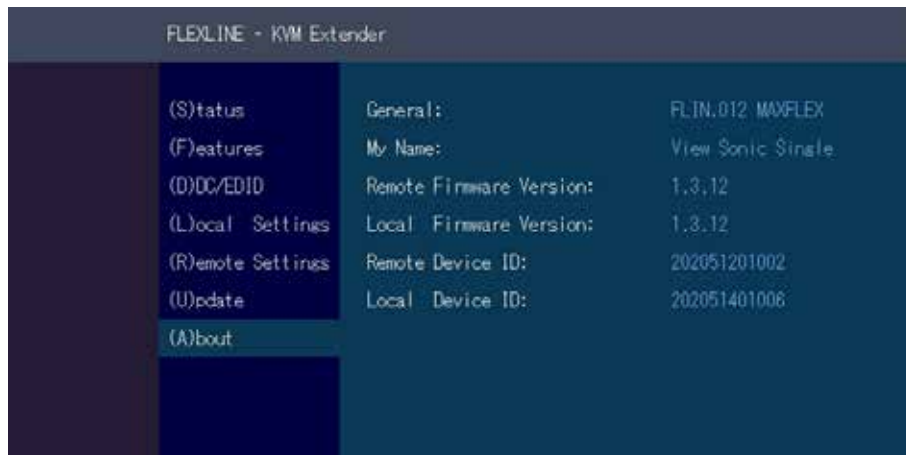
1. Make sure the main menu is open.
2. Press the F key. The Features menu opens. The current USB Memory status is displayed (Enabled or Disabled).
3. Press 1 to enable or 0 to disable the USB Memory upgrade.

3. EXTENDER SETTINGS

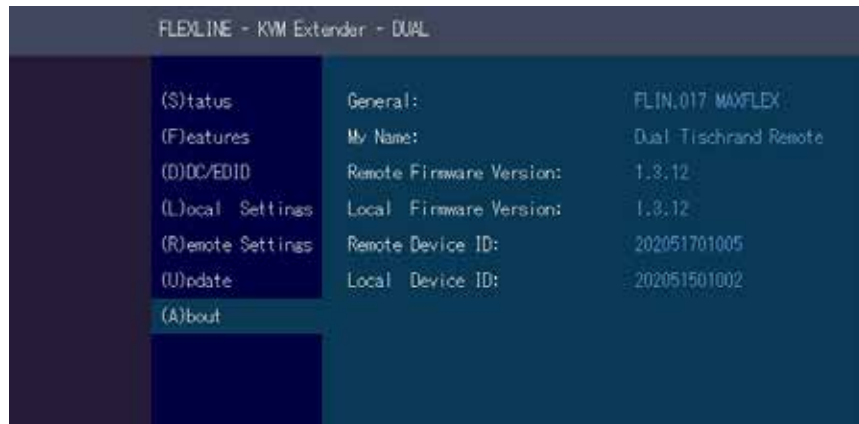
3.10 ABOUT THIS DEVICE

By pressing the „A“ button, or by selecting the arrow keys, you can access the info menu, where you can obtain information about hardware and software versions, as well as the activated upgrades.

You can also see the current firmware version here.



single



dual

4. NETWORK SETTINGS

4. NETWORK SETTINGS AND MANAGEMENT SWITCHING SYSTEMS

All network settings, the user administration and the management of the extenders are done via the included Switching Manager software and all functions are described in the Switching Manager Web manual.

4.1 DISPLAY SWITCHING LIST

Available devices that the user can connect to are displayed here.

Create shortcut:

The switching list can be opened with the following key combination „Strg+Alt+Print“

Switching List 2.2.100 No User Logged In Remote: Fiber Remote					
	Nr.	Device	MultiHead	State	Name
	1	Flex		ready	local02
	2	Flex		ready	test 11
	3				
SPACE:	4				
ViewOnly-Mode	5				
SHIFT+ENTER:	6				
Private-Mode	7				
	8				
D:					
Disconnect	P Push-List F Favourites C Scenarios S Search 1 / 1				

4. NETWORK SETTINGS

4.2 PUSH / GET LIST

Display of all extenders that can be shared. The current image of the workstation can be shared with other remote units via this list

Nr.	Device	MultiHead	State	Name
1	Flex		free	REM_2
2				
3				
4				
5				
6				
7				
8				

SPACE: ViewOnly-Mode
SHIFT+ENTER: Private-Mode
D: Disconnect
G Get-List | S Search

4.3 FAVORITE LIST

A total of 8 favorites can be defined. This is possible with the key combination Ctrl+Shift+F1 - F8.

ATTENTION: This is only possible if the user system is activated.

Nr.	Device	MultiHead	State	Name
1	Flex		ready	local02
2	Flex		ready	test 11
3				
4				
5				
6				
7				
8				

SPACE: ViewOnly-Mode
SHIFT+ENTER: Private-Mode
D: Disconnect
F Device List | DEL Delete Favourite

4. NETWORK SETTINGS

4.4 SCENARIOS

Scenarios can be defined in the Switching Manager and are selectable in the Switching List.



Scenarios can also be set as favorites using the F keys.

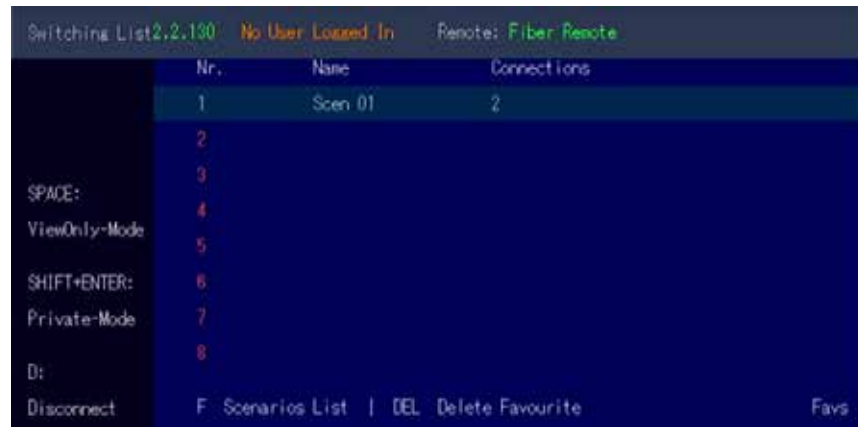
Nr.	Name	Connections
1	Scen 01	2
2		
3		
4		
5		
6		
7		
8		

SPACE: ViewOnly-Mode
SHIFT+ENTER: Private-Mode
D: Disconnect
G Get-List | F Favourite Scenarios | S Search

4. NETWORK SETTINGS

The shortcut for favourite scenarios is CTRL+leftAlt+F1-F8.

ATTENTION: This is only possible if the user system is activated.



4.5 CONNECTING, DISCONNECTING OR SELECTING A CURRENT WORKPLACE CONNECTED DEVICES

The Overview display gives an overview of the currently connected PCs as well as the free PCs and consoles in the network.

Press **D** to disconnect the devices.

The user administration in general is done in the Switching Manager software. After the login the user gets his personalized lists (devices, favorites list).

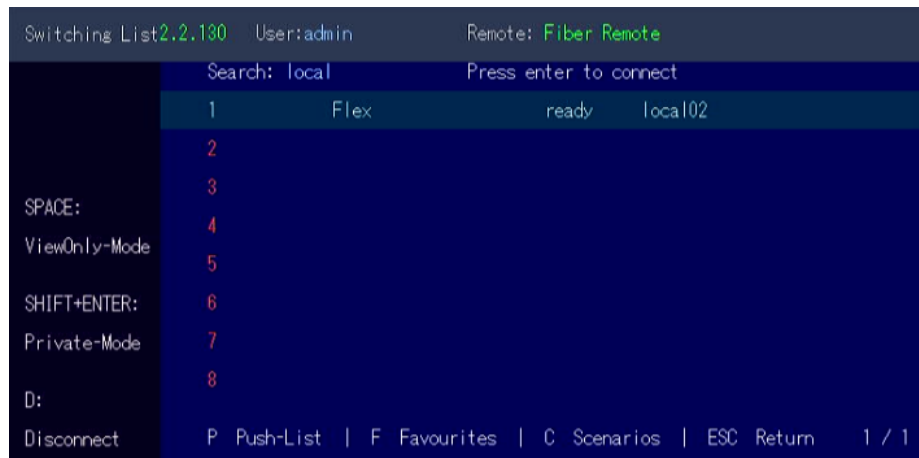
By pressing the „Blank“ button, you can establish a View Only connection. Only 1 image is displayed without USB control.

With the key combination Shift+Enter you create a private connection, which cannot be accessed by anyone else.

4. NETWORK SETTINGS

4.5 SEARCHBOX-FUNCTION

In the list view you can search for the different extenders

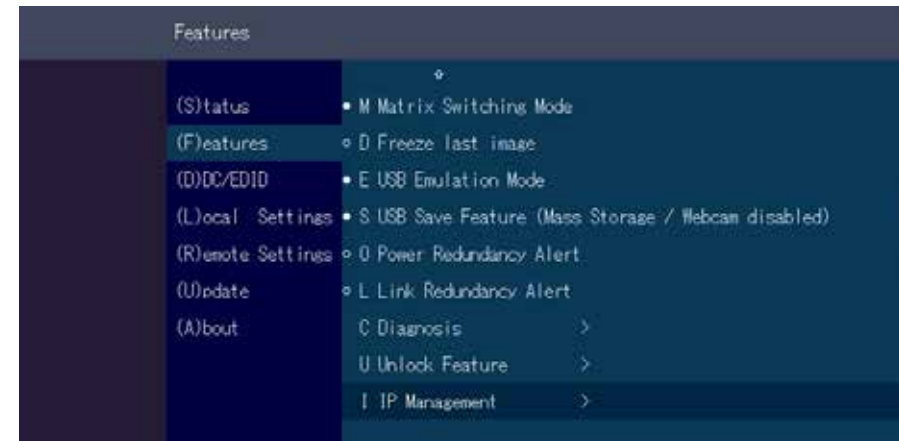


In the List-View you can see all available extenders. To search for specific extenders, you have to press the „S“ key. Now you can enter a string to search for the extender you want to see. Press the Return key, now you should see a reduced list of extenders.

4. NETWORK SETTINGS

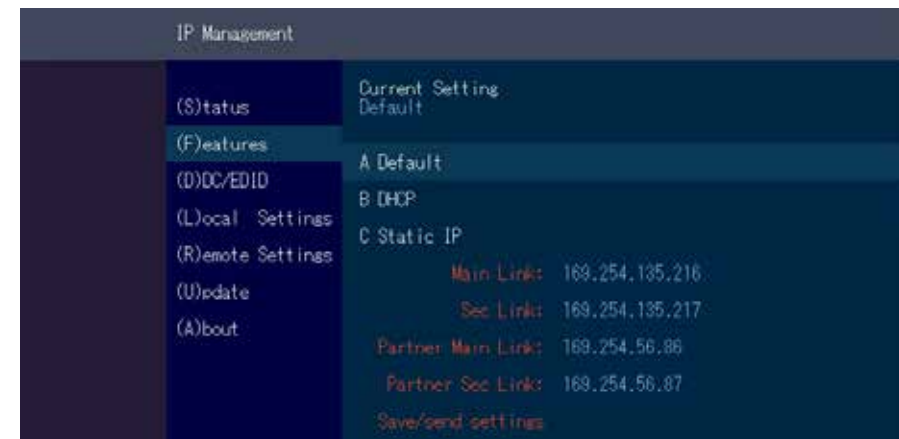
4.6 IP MANAGEMENT

The KVM extenders from kvm-tec support three different addressing methods. The IP Management menu is only accessible in the active “Matrix Switching Mode” under Features.



Default

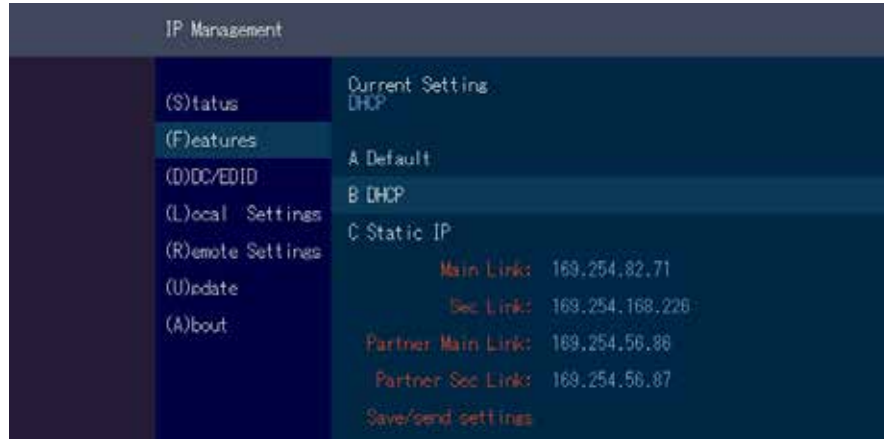
In default mode, each Extender generates an IP address using the ID number to avoid number collisions in the network.



4. NETWORK SETTINGS

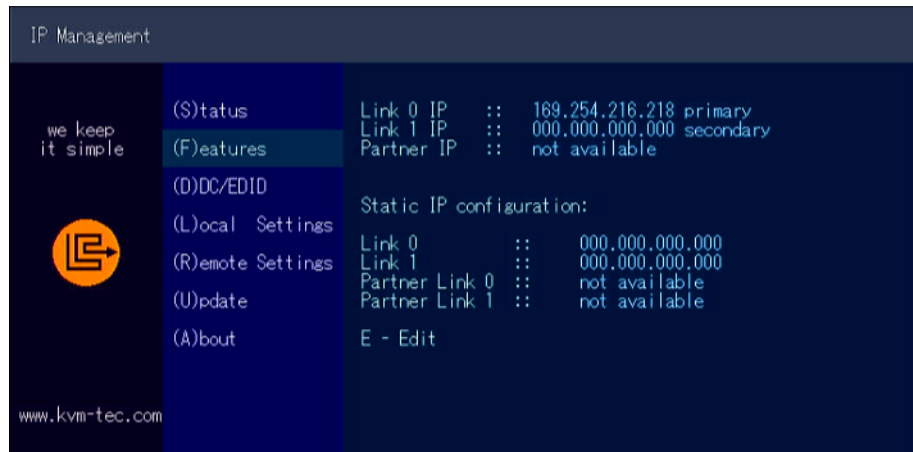
DHCP

The KVM extenders from kvm-tec support the DHCP protocol (Dynamic Host Configuration Protocol). This allows the assignment of network addresses by a DHCP server.



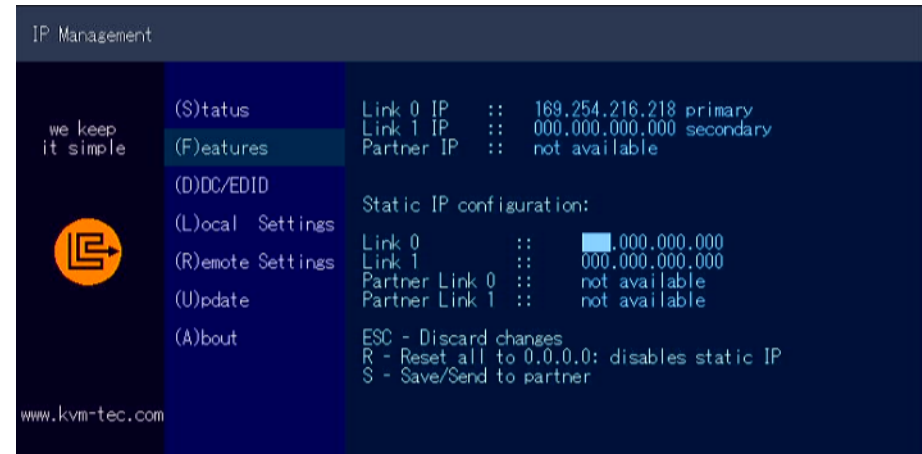
Static IP

In Static-IP mode the IP addresses can be assigned via the OSD. It is necessary to be connected to a local partner to be able to transmit IP addresses. The blue values show the currently assigned IP addresses. With the arrow keys up / down you can overwrite the respective IP address. The addresses can be overwritten by entering a valid 12-digit number. E.g.: for the IP address 10.0.0.1 the 12-digit number 010.000.000.001 must be entered in the OSD. The separator points are added automatically.



4. NETWORK SETTINGS

If all four IP addresses are overwritten, "Save/send settings" must be used to transmit the new values to the extenders.



Static IP addresses can only be overwritten in Static IP mode.

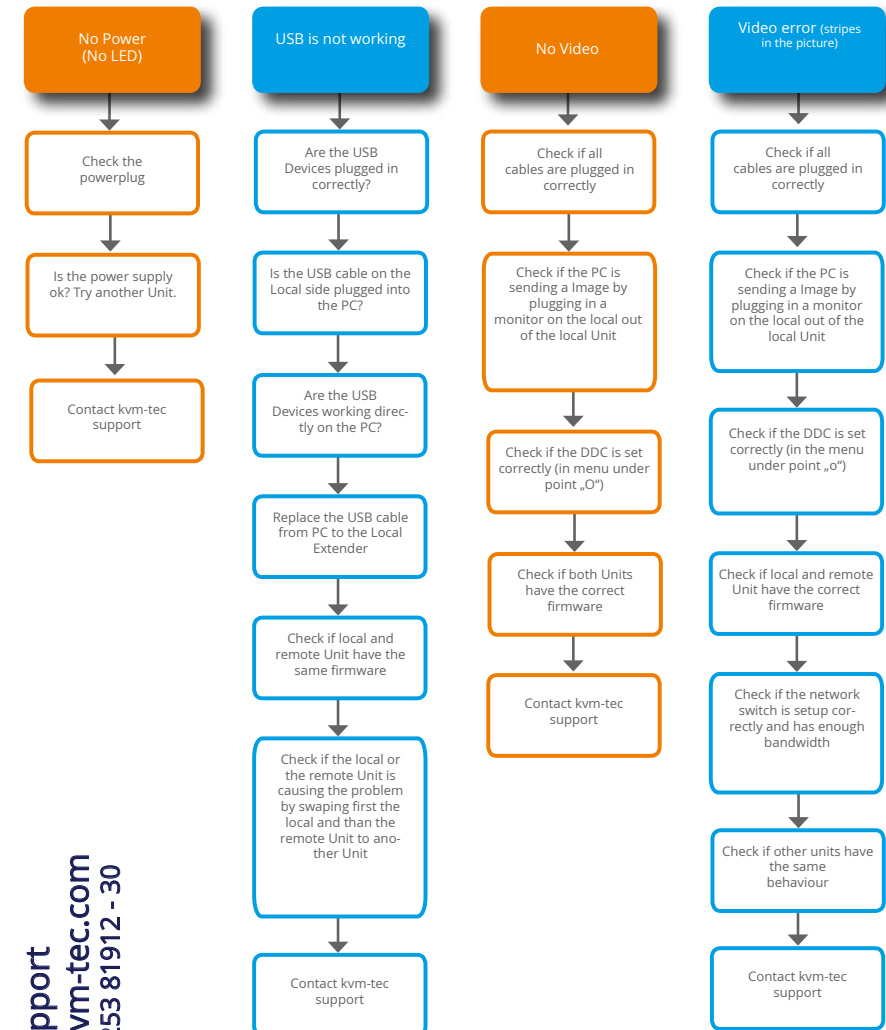
MEANING OF THE LED DISPLAYS

Meaning LED displays

Color	Light display	Meaning
	fast flashing	no active connection
	shining	no video signal
	shining	everything works

kvm-tec First Aid

smart connection



kvm-tec Support
support@kvm-tec.com
Phone: +43 2253 81912 - 30

We are here for you to answer
your questions about installation?

Manual download www.kvm-tec.com

or
kvm-tec Installationchannel on our homepage
personally +43 2253 81912



6. MAINTANCE & CARE

6.MAINTANCE AND CARE

6.1 EXTENDER CARE

 **Caution!** Do not use solvent-containing cleaners. Do not use wipes, alcohols (e.g. spiritus) or chemicals as these could damage the surface.

6.2. DISPOSAL



This symbol on the product, the accessories or packaging indicates that this product must not be treated as unsorted municipal waste, but must be collected separately! Dispose of the product via a collection point for the recycling of waste electrical and electronic equipment within the EU and in other European countries that operate separate collection systems for waste electrical and electronic equipment. By disposing of the product in the proper manner, you help to avoid possible hazards for the

 environment and public health that could otherwise be caused by improper treatment of waste equipment. The recycling of materials contributes to the conservation of natural resources. Therefore do not dispose of your old electrical and electronic equipment with the unsorted municipal waste.

The packaging is made of environmentally friendly materials, which may be disposed through your local recycling facilities. By disposing of the packaging and packaging waste in the proper manner, you help to avoid possible hazards for the environment and public health.

7. WARRANTY

7.1. STANDARD WARRANTY

The warranty period is 24 months from the date of purchase. (A flexible warranty extension is optionally available) The warranty expires in case of:



- External effort
- improper maintenance
- Violation of the operating instructions
- lightning damage

Please, contact us first before returning the product.

7.2 EXTENDED WARRANTY



2 years standard warranty



flexible warranty extension

8. CABLE REQUIREMENTS

8.1 REQUIREMENTS FOR CAT5E/6/7 CABLES

⚠ Cat5e/6/7 cable should meet the following requirements:

- The pins are connected 1:1. **Caution:** the cable pairs must be twisted to EIA/TIA- 568A (rare) or EIA/TIA-568 B (common) pairs.
Erroneous assignments cannot be found with a simple cable tester.
- The pins for the green pair of wires are not adjacent to one other.
- The cable must at the very least meet the CAT5 specifications and be suitable for Gigabit transmission.
- The cable should meet one of the following standards: Class D ISO/IEC 11801:2002 or EN 50173-1:2002. Schema EIA/TIA-568 B.
- Only use shielded installation cable with min. cross section of 24 AWG throughout the length.
- The shield should be contiguous and connected to both ends. A shielded patch cable is allowed for connection to the device.

Schema EIA/TIA-568 B

Pin	Color
1	Orange/White
2	Orange
3	Green/White
4	Blue
5	Blue/White
6	Green
7	Brown/White
8	Brown

9. REQUIREMENTS NETWORK-SWITCH

9. REQUIREMENTS NETWORK SWITCH

The entire switching network system requires its own separate network. For security reasons, it cannot be integrated into an existing corporate network.

The network switch must meet the following specifications:

1 Gigabit switch, with a port-to-port transfer rate of 1 Gigabit/second (Layer3).

Network requirements Matrix System 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.

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.

The KVM-TEC Matrix system supports DHCP management of IP addresses, static IP addresses are possible, internal default address range and assignment of IP addresses via a DHCP server. To meet all these requirements, the use of Layer 3 switches is recommended.

10. ADDRESS & PHONE/EMAIL

If you have any questions about our products, please contact the manufacturer or your specialist dealer.

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