



# EcoSmart

over IP Local Extender

for Zero Space in the Rack

Die KVM Local Unit für Zero Space im Rack  
KVM Extender- Transmitter over IP in DVI-D, VGA,USB in CATx

ECOSmart

Local Unit in Dongle Format

Part.No. 6035

user  
MANUAL

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

**Full HD**  
over IP

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# 1. INTRODUCTION

**Congratulations on the purchase of your new ECOsmart 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 ECOsmart 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. Following proper use and maintenance, your ECOsmart KVM Extender will bring you joy for many years to come.**

## 1.1 INTENDED USE

This product is intended as a device for professional use, for transmitting USB and video signals over huge distances.

The product may only be used according to the instructions as described in this manual. All use, other than that described in this manual, is seen as unintended use. Modifications in the course of technological progress are reserved. In these user instructions the ECOsmart is referred to as 'product' or 'extender'. The ECOsmart/PC is referred to as the Local unit/CPU

### **Use in combination with remote units:**

- Flexline
- media4Kconnect
- ScalableLine (Ecosmart Local) - can be combined unscaled

# 1. INTRODUCTION

## 1.2 SAFETY INTRUCTIONS

### **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.
- Prior to connecting to the mains, make sure your local mains voltage matches the rating indicated on the product.



# 1. INTRODUCTION



- The product must be connected to a permanent and earthed AC wall socket•
- Protect the cables from tension, crushing and buckling and lay them so that people cannot trip over them.
- Use the device with a suitable, properly installed and easily accessible power outlet.
- Unplug the appliance during lightning storms or when not in use.
- **Danger !** Never touch the adapter with wet hands.
- Use the product within the specified performance limits.
- 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
- Use the device with a suitable, properly installed and easily accessible power outlet. The appliance plug serves as a disconnection point.

# 1. INTRODUCTION

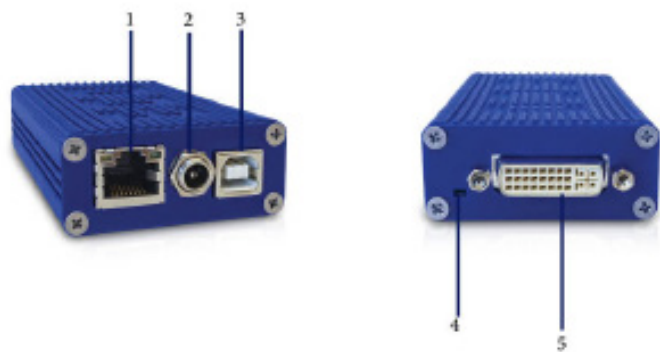
## 1.3 TECHNICAL SPECIFICATIONS

|                          |                                            |
|--------------------------|--------------------------------------------|
| Type:                    | ECOSmart (local unit-CPU)                  |
| Model:                   | KVM Extender                               |
| Power plug input voltage | 1 x 12 VDC 1A power supply                 |
| supply tolerances        | DC: +20% / -15%                            |
| Power requirement        | 5W without USB devices                     |
| Operating temperature    | 0 °C to 45 °C (32 bis 113 °F)              |
| Storage temperature      | -25 °C bis 80 °C (-13 to 176 °F)           |
| Relativ humidity:        | max. 80% (not condensing)                  |
| Casing material:         | anodized aluminum                          |
| Dimension:               | 45 x 20 x 95 mm<br>1.77 x 0.78 x 3.74 inch |
| Weight:                  | 170g/0.37lb LOC                            |
| Shipment weight          | 290g/0.64lb LOC                            |
| Expected product life    | 82 820 hours / 10 years                    |

# 1. INTRODUCTION

## 1.4 PRODUCT ELEMENTS ECOSMART

### Local Extender (CPU)



| Nr. | Name | Function |
|-----|------|----------|
|-----|------|----------|

- |    |            |                                    |
|----|------------|------------------------------------|
| 1. | kvm-link   | Connection Network cable           |
| 2. | DC         | Connection for 12V/2A power supply |
| 3. | USB        | USB to PC                          |
| 4. | Status LED | Extender-Status                    |
| 5. | DVI-Buchse | DVI in from PC                     |

# 1. INTRODUCTION

## 1.5 ABOUT THE STATUS LED

LED Status Update:

| Color                                                                             | Light display | Autoupdate Mode   |
|-----------------------------------------------------------------------------------|---------------|-------------------|
|  | fast flashing | Update runs       |
|  | shining       | Update failed     |
|  | shining       | Update successful |

Meaning of LED Indicators

| Color                                                                               | Light display | Meaning                           |
|-------------------------------------------------------------------------------------|---------------|-----------------------------------|
|    | shining       | only network connection available |
|    | fast flashing | no active connection              |
|   | shining       | no videosegnal                    |
|  | shining       | everything works                  |

## 2. EXTENDER INSTALLATION

### 2.1 UNPACKING AND CHECKING THE CONTENT

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:

- 1 x ECOSmart local Extender CPU
- 1 x 12 VDC 1A Netzteil
- 1 x DVI-DVI cable 1.8m/5.9ft
- 1 x USB cable 1,8m/5.9ft
- 4 x rubber feets

**The monitor or television in use has only one HDMI input, no DP.**

**With HDMI it is important to know that we need HDMI 2.0 for UHD @ 60Hz.**

#### **In combination with remote units:**

##### **Full HD:**

- Smartflex
- Masterflex
- Maxflex (Mouse Glide & Switch)
- Industryflexline (Mouse Glide & Switch)

##### **4K:**

- media4Kconnect - all versions

##### **ScalableLine:**

- Ecosmart can be combined unscalable with ScalableLine remote

## 2. EXTENDER INSTALLATION

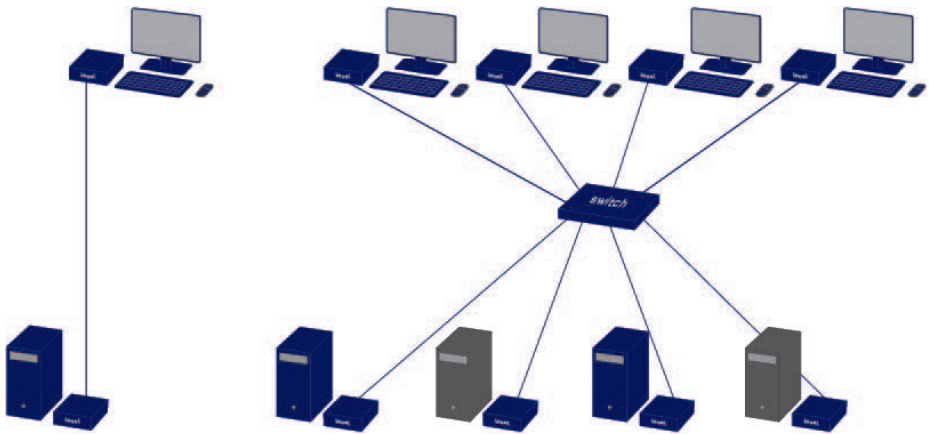
### 2.2 INSTALLING THE EXTENDER



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

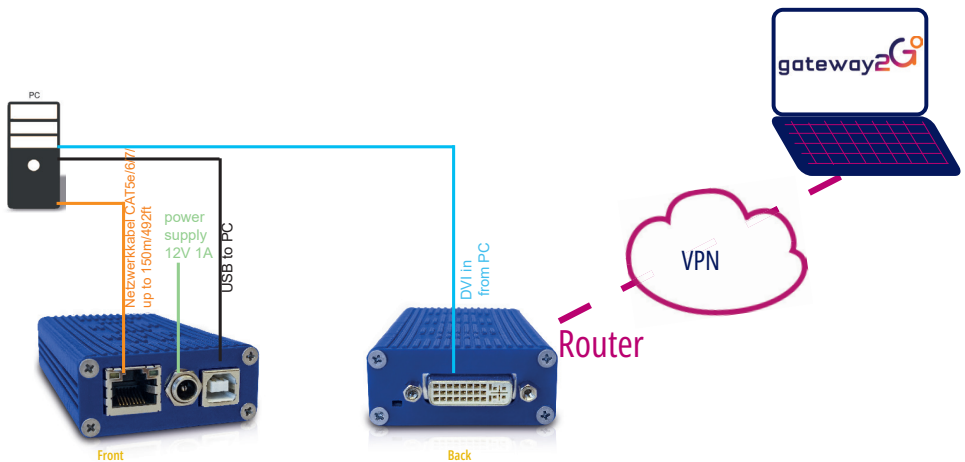
The units can be set up to access point to point or over a Switching System with a host computer.

In the case of the latter, an additional 10 G Network Switch and a Windows PC or tablet with the Switching Manager must be installed with a Network Switch, each user can gain quick access to any of the required computers.



## 2. EXTENDER INSTALLATION

### QUICK INSTALLATION ECOSMART



#### Quick Installation Ecosmart local / CPU

1. Connect the CPU / Local Unit with the included 12V1A power supply.
2. Now connect the USB cable to a USB socket of your PC and connect the other end of the USB cable to the CPU / Local Unit.
3. Connect the CPU / Local and the PC with a CAT5e/6/7 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).

**Have fun - your kvm-tec Extender is now in use for many years (MTBF approx. 10 years)**

## 2. EXTENDER INSTALLATION

### 2.4 START UP



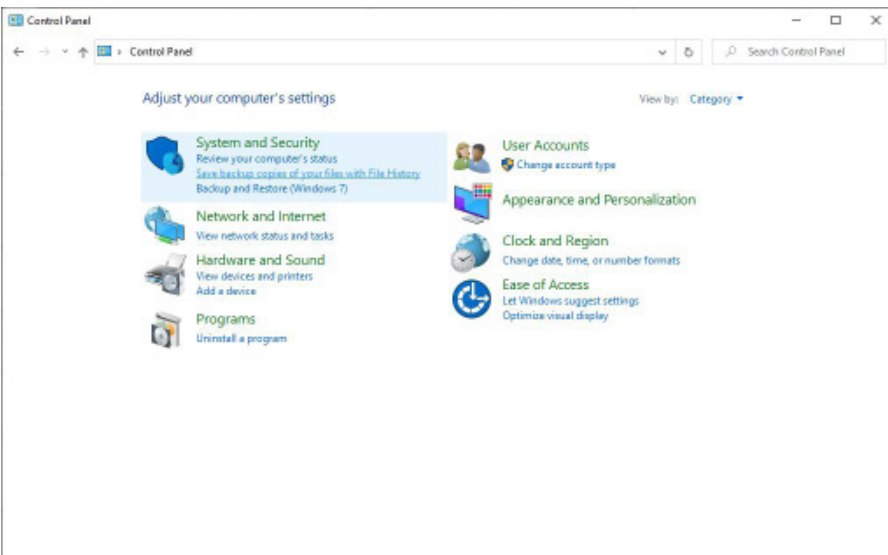
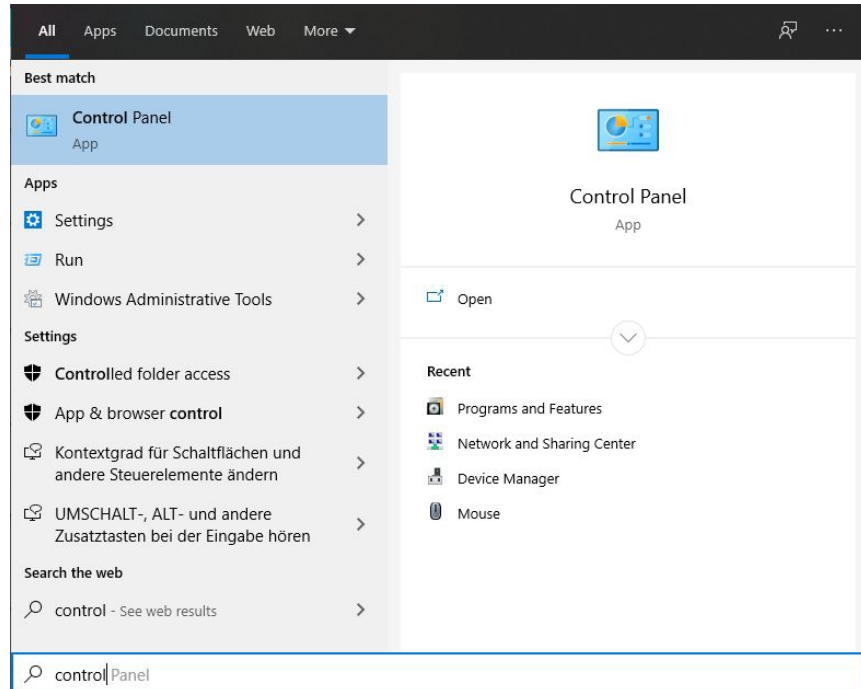
To start up the system:

1. Make sure that monitor and computer are switched on.
2. If you are using a Network Switch, connect the power cable to an earthed wall socket.
3. Connect both extender power cables ( 6 / 20 ) to an earthed wall socket. Switch on both units. Both extenders start an initialization process. The status LED blinks some seconds red and changes to green after a successful connection. The monitor will display your computer's desktop or any open applications.

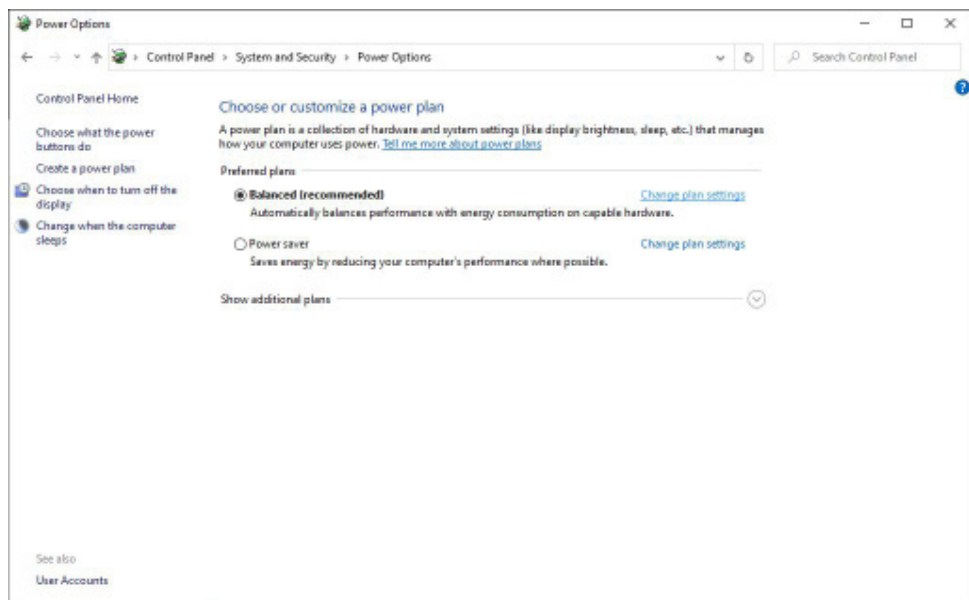
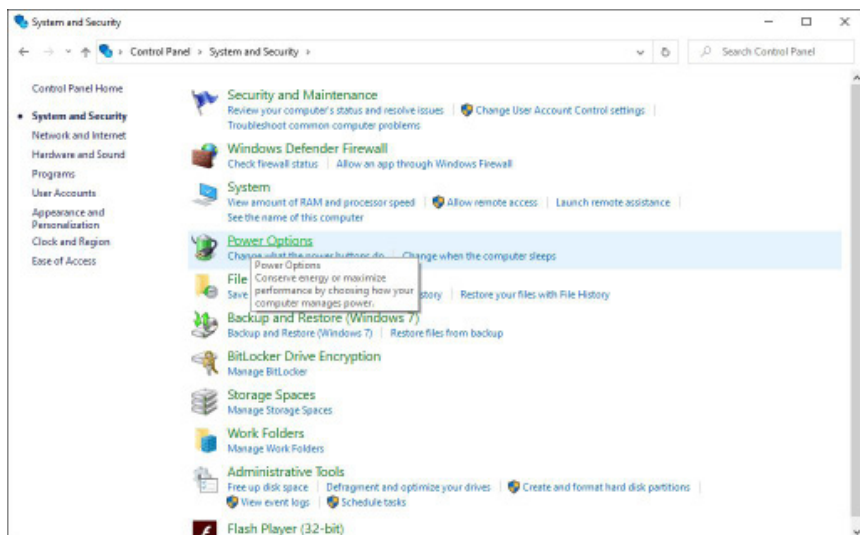
## 2. EXTENDER INSTALLATION

### 2.5 BEST PRACTICE FOR WINDOWS 10

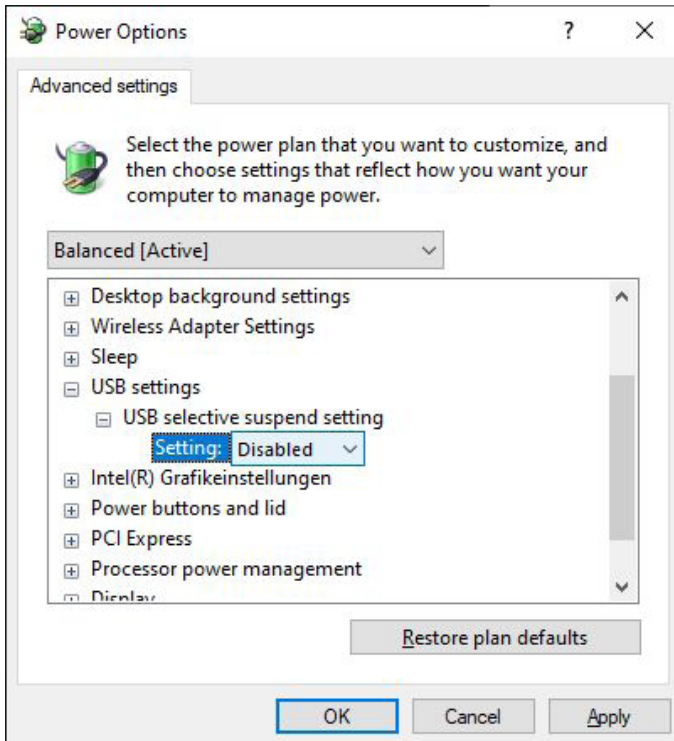
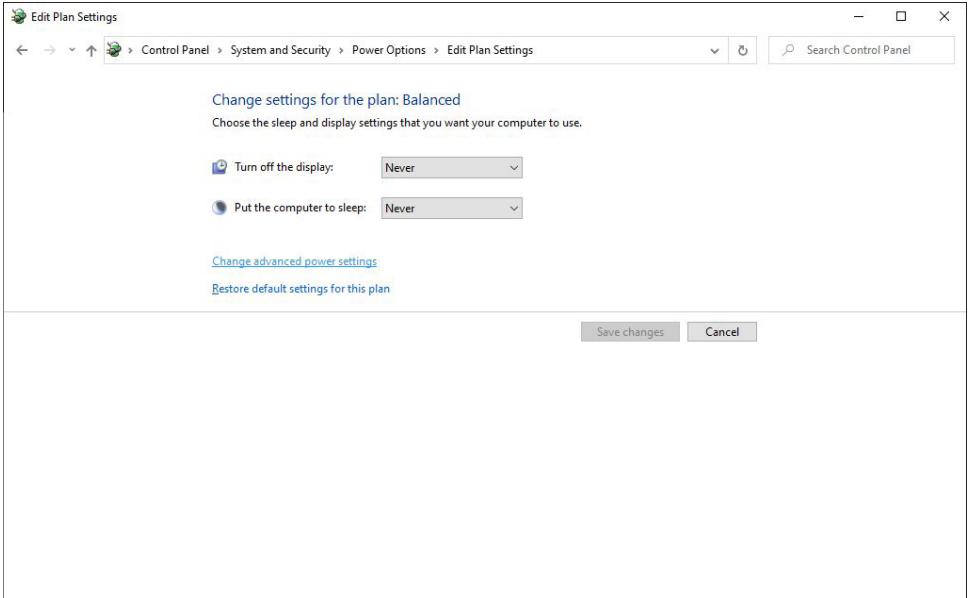
#### Disable USB Energy Savings in Windows 10



## 2. EXTENDER INSTALLATION



## 2. EXTENDER INSTALLATION



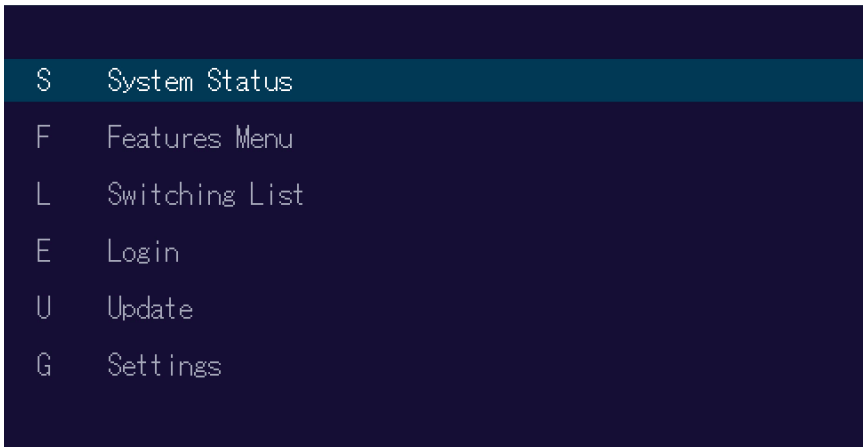
## 3. MAIN MENU & SETTINGS

### 3. USING ON SCREEN MENU

Use the monitor and keyboard to access the main menu.

#### Access to the main menu

1. Make sure that the extenders, monitors and computer are turned on
2. Press the Scroll Lock button five times one after the other. The main menu and the overview of the submenus are displayed.
3. To access a submenu, press the corresponding key or navigate with the arrow keys up and down to the corresponding line and then press Enter key.



SCREEN „OSD menu“

In the main menu you can make the following settings by selecting the corresponding letters:

#### Press

|          |                      |                                           |
|----------|----------------------|-------------------------------------------|
| <b>S</b> | <b>System status</b> | <b>menu system status/ current status</b> |
| <b>U</b> | <b>Update</b>        | <b>update firmware</b>                    |
| <b>G</b> | <b>Settings</b>      | <b>settings</b>                           |

## 3. MAIN MENU & SETTINGS

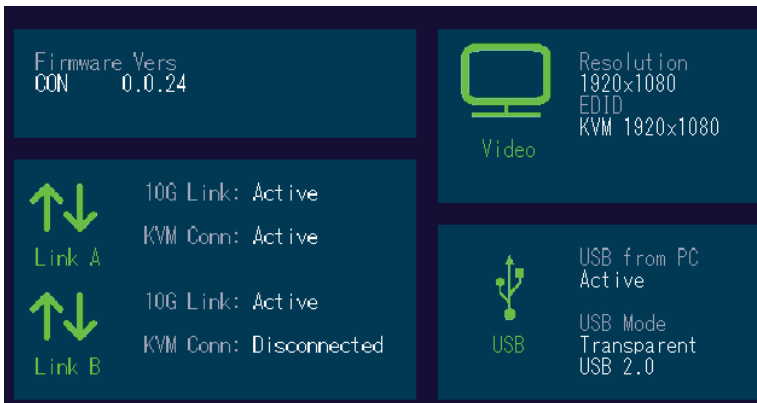
### 3.1. SYSTEM STATUS

By pressing the „S“ key or by selecting the arrow keys, you access the status menu, where you will find information about hardware and software versions, as well as the activated upgrades

The menu displays information about the connection, the resolution of the video channel and the USB status. The **current Firmware** version is displayed in the upper left corner.

The **link status** indicates whether a connection is possible.

Video and USB display data transfer status



SCREEN „System Status“

### 3.2. FEATURES MENU

Pressing the „F“ key or selecting the arrow keys will take you to the features menu, where you can operate the activated features.

go to chapter 4 FEATURES

## 3. MAIN MENU & SETTINGS

### 3.3 UPDATE MENU

#### Display of firmware version

By pressing the „U“ key or by selecting the arrow keys, you reach the update menu, in which the firmware of the Extender will be displayed and can be updated.

```
Please prepare your USB stick for updating:
1 Ensure your USB stick is formatted with the FAT-32
  filesystem.
2 Copy update file (.bin) to the USB stick. Make sure
  to put it in the main directory of the stick (not in
  any folders);
3 If you haven't already, insert stick in to extender.

Update file found for Rem & Loc
Version: 0.0.2

U   Start Update
```

SCREEN „Update“

### 3. MAIN MENU & SETTINGS

1. The current version of the firmware can be downloaded at <http://www.kvm-tec.com/support> . Each update file contains a detailed description of the update process. For further information please refer to the update chapter
2. Connect the USB stick to the CON (REMOTE) unit (wait a few seconds until the USB stick is connected to the CON unit).
3. Open the update menu with the „U“ key.
4. Press „S“ to display this file
5. The firmware is displayed with „**Configuration found**“
6. Press „U“ to start the update on the Remote (CON) Unit

```
MC4K - UPDATE

Remote (CON) Unit: 0.0.6          assuming MT25QU256
Local  (PC)  Unit: 0.0.6          assuming MT25QU256

U  USB-Stick Update (USB connection to local PC will be lost)
```

SCREEN „Update“

### 3. MAIN MENU & SETTINGS

Remote Update to Version 0.0.2

Erasing flash: 100% Done

Updating: 62%

Local Update to Version 0.0.2

Erasing flash: 0%

Updating: 0%

SCREEN „Update“

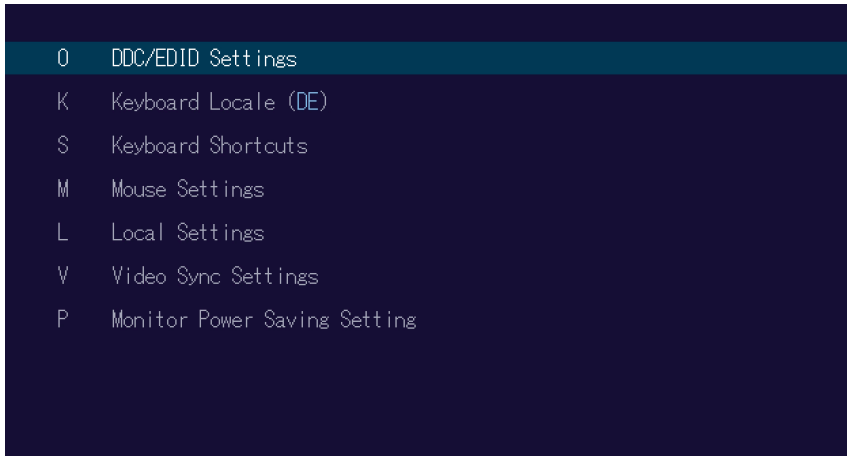
The UPDATE process is now started and takes place in two steps:

1. Erasing flash: erases the memory
2. Updating: the new version is installed

## 3. MAIN MENU & SETTINGS

### 3.4 SETTINGS

By pressing the „G“ key or selecting the arrow keys you will have access to the Settings menu, where you can access all Extender settings.



SCREEN „Settings“

## 3. MAIN MENU & SETTINGS

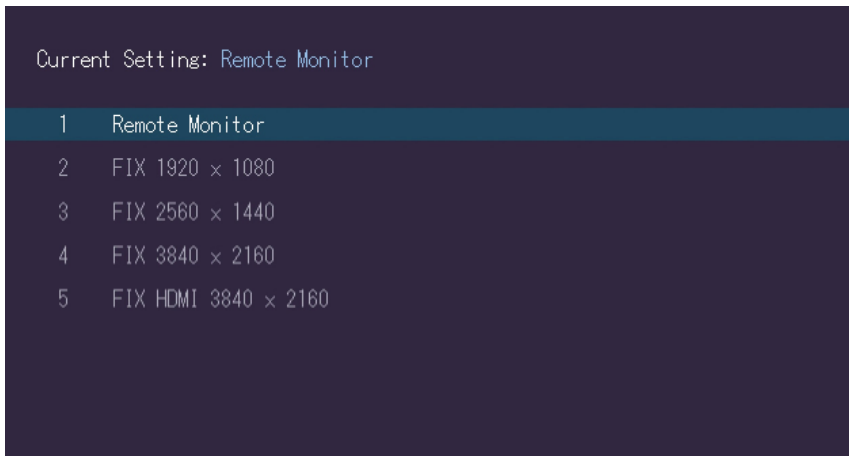
### 3.4.1 DEFINING WHAT DDC DATA YOUR PC USES

#### Definition of the DDC information used in the PC:

Make sure that the main menu is open ( 5 x scroll)

1. Press the **0** to display the DDC-option menu
2. Press **1** to display the DDC information of the monitor connected to the remote (CON)
3. The Extender is connected. The DDC information is automatically saved
4. Press **2** for a fix resolution 1920 x 1080
5. Press **3** for a fix resolution 2560 x 1440
6. Press **4** for a fix resolution 3840 x 2160
7. Press **5** for a Fix HDMI 3840 x 2160

Press **ESC** to return to the main menu



SCREEN „DDC/EDID Settings“

### 3.4.2 SELECT KEYBOARD LAYOUT

In the Keyboard Layout menu you can switch between the keyboard layouts with which you can navigate the on screen display menu (OSD).

Press ENTER for selecting DE, EN or FR keyboard

**EN** for selecting Englisch (QWERTY).

**DE** for selecting German (QWERTZ).

**FR** for selecting French (AZERTY).

# 3. MAIN MENU & SETTINGS

## 3.4.3 KEYBOARD SHORTCUTS

By pressing the „S“ key or by selecting the arrow keys you will access the Keyboard Shortcuts menu.

If you want to change one of the shortcuts, you have to press the letter specified for the shortcut.

Now you can press any key or key combination.  
(Please note that only a key combination with the keys 1 or F1 is possible with point F.)

Use the arrow keys to determine the number of keystrokes required to trigger the shortcut.

Then confirm with Enter.

| M             | Main Menu         | 5x < SCROLLLOCK >              |
|---------------|-------------------|--------------------------------|
| L             | Device List       | < LEFT_CTRL + LEFT_ALT + F12 > |
| S             | Status            | < LEFT_CTRL + LEFT_ALT + F9 >  |
| D             | Disconnect        | < LEFT_CTRL + LEFT_ALT + F11 > |
| F             | Favourites Prefix | < LEFT_CTRL + LEFT_ALT + F1 >  |
| Enter to Edit |                   |                                |

SCREEN „Keyboard shortcuts“

## 3. MAIN MENU & SETTINGS

### 3.4.4 MOUSE SETTINGS

By pressing the „M“ button or by selecting the arrow buttons, you enter the Mouse Settings menu.

With the M button you will open the Mouse Settings where you can adjust the speed of the mouse with the arrow keys.



```
Mouse Speed X: 14
Mouse Speed Y: 25
```

SCREEN „Mouse Settings“

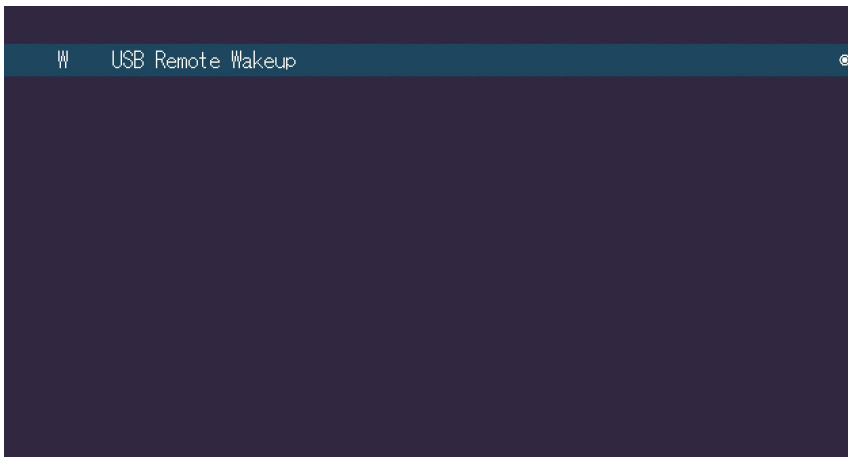
## 3. MAIN MENU & SETTINGS

### 3.4.5 MANAGING LOCAL SETTINGS

By pressing the L key, or by selecting the arrow keys, you can access the Menu Local Settings

Press the L key to open the Local Settings.

Here you will find the Remote Wakeup setting.

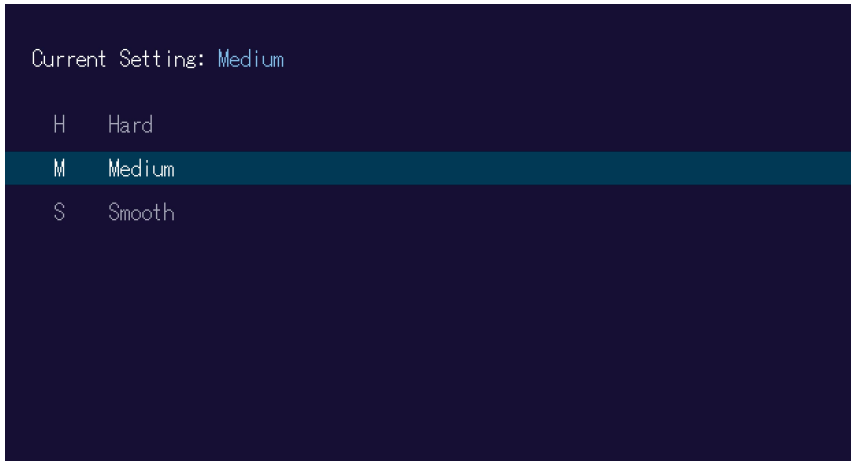


SCREEN „Local Settings“

## 3. MAIN MENU & SETTINGS

### 3.4.6 VIDEO SYNC SETTINGS

Pressing the „V“ button or selecting the arrow buttons selects the Video Sync Settings menu.



SCREEN „Video Sync Settings“

This feature can be used to determine the control loop for video synchronization.

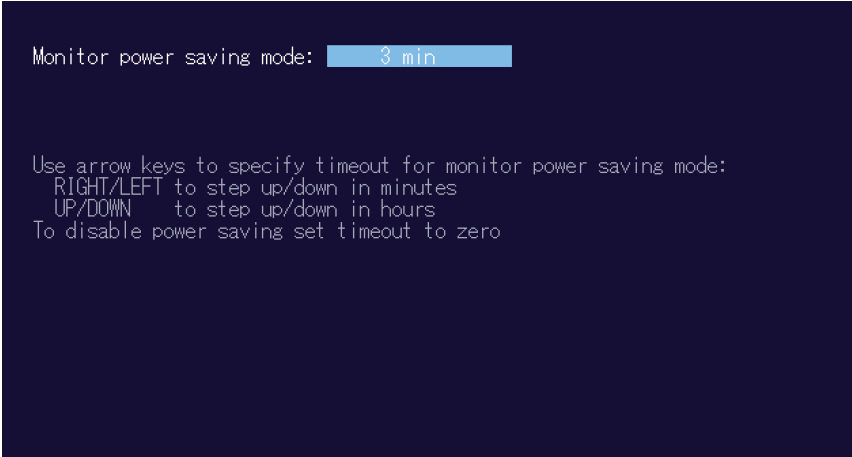
The following modes can be used:

- HARD - key „H“  
Rapid rate of regulation
- MEDIUM - „M“ button  
Mean rate of regulation
- SMOOTH - „S“ button  
Slow speed of regulation

## 3. MAIN MENU & SETTINGS

### 3.4.7 MONITOR POWER SAVE MODE

Power saving mode: The monitor turns off when no video signal is transmitted

A screenshot of a dark blue terminal window showing the 'Monitor power saving mode' menu. The text is white. At the top, it says 'Monitor power saving mode:' followed by a light blue rectangular box containing the text '3 min'. Below this, there are four lines of instructions: 'Use arrow keys to specify timeout for monitor power saving mode:', 'RIGHT/LEFT to step up/down in minutes', 'UP/DOWN to step up/down in hours', and 'To disable power saving set timeout to zero'.

Monitor power saving mode: 3 min

Use arrow keys to specify timeout for monitor power saving mode:  
RIGHT/LEFT to step up/down in minutes  
UP/DOWN to step up/down in hours  
To disable power saving set timeout to zero

SCREEN „Monitor Power dasve mode“

## 4. MAINTANCE & CARE

### 4.MAINTANCE AND CARE

#### 4.1 EXTENDER CARE



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

#### 4.2. 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

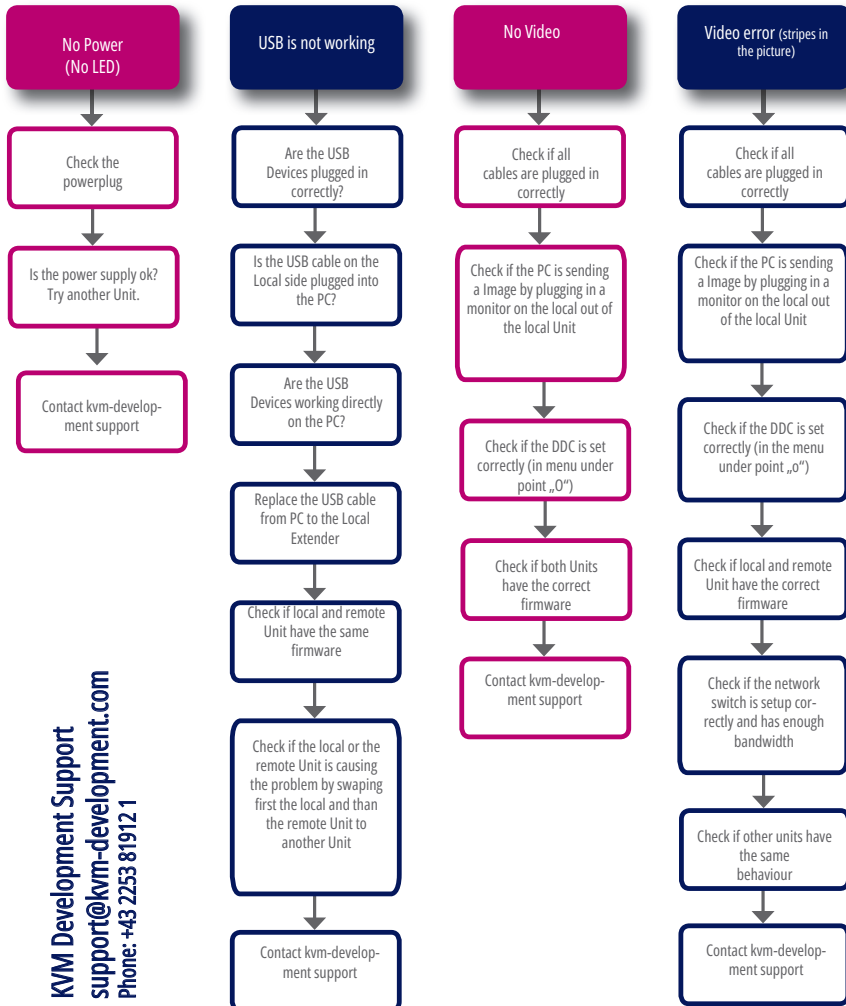
environment and public health that could otherwise be caused by improper treatment of waste equipment. The recycling of materials contributes to the conservation of natural resources. Therefore do not dispose of your old electrical and electronic equipment with the unsorted municipal waste.

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.

## 5. SUPPORT & FIRST AID

# First Aid ECOsmart

KVM Development &  
Support



KVM Development Support  
support@kvm-development.com  
Phone: +43 2253 81912 1

## 5. SUPPORT & FIRST AID

| Error                            | Cause                                         | solution                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LED is not lighting</b>       | The devices get no power                      | Is the power supply connected?Ne start device                                                                                                                                                                                                                                                                                                                                   |
| <b>LED is lighting in red</b>    | No connection between Loc and Rem             | <p>Check if the RJ45/network cable is connected well.<br/>(Clicking noise when plugging in.)</p> <p>Control both, if it does not work please send an e-mail to <a href="mailto:support@kvm-development.com">support@kvm-development.com</a> or phone +42 2253 81912</p>                                                                                                         |
| <b>LED is lighting in orange</b> | No picture on the monitor                     | <p>Check if the local (PC) cable is connected well.</p> <p>Check if the remote (monitor) cable is connected well.</p> <p>If everything is connected well but no function appears, reconnect power supply again.</p> <p>If the menu is visible, press the 0 key and choose the resolution of the monitor. Then press the assigned number on your keyboard.</p>                   |
| <b>LED is lighting in green</b>  | Screen occurs but the keyboard is not working | <p>Plug out/in USB of keyboard and wait until driver is installed (after few seconds).</p> <p>Check all USB connections on both sides (Local and Remote)</p> <p>If it is still not working, plug out/in USB once more</p>                                                                                                                                                       |
| <b>LED is lighting in green</b>  | The screen flickers, has an incorrect display | Contact our support via mail: <a href="mailto:support@kvm-development.com">support@kvm-development.com</a>                                                                                                                                                                                                                                                                      |
| <b>LED is lighting in green</b>  | Different firmware or USB is not compatible   | Please contact the kvm-tec support team via e-mail: <a href="mailto:support@kvm-development.com">support@kvm-development.com</a> or by phone: +43 2253 81912 30                                                                                                                                                                                                                 |
| <b>LEDs different</b>            | different firmware                            | <p><b>To enter on screen menu/check firmware version:</b></p> <p>To enter the On screen menu, press the Scroll Lock key five times in quick succession. The currently installed firmware version is displayed below the menu</p> <p>If firmware update does not work, please send an e-mail to <a href="mailto:support@kvm-development.com">support@kvm-development.com</a></p> |

## 6. SWITCH SPECIFICATION

### 6. 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:

**Full HD:** 1Gigabit Switch

**4K:** 10Gigabit Switch

#### 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.

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

**The following UDP ports are required for the transmission:**

Port Number 53248 (0xD000) to 53260 (0xD00C)

and Port Number 50000 (0xC350)

These ports must be taken into account when configuring the firewall. For the connection via WAN a secured VPN connection is necessary.

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.

## 7. WARRANTY

### 7. WARRANTY

The warranty period is 24 months from the date of purchase. 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.

#### 7.1 EXTENDED WARRANTY



2 years standard warranty



Art Nr 9003 warranty extension to 5 years  
per Unit

## 8. ADDRESS & PHONE / EMAILS

### 8. ADDRESS & PHONE/EMAIL

If you have any questions about our products, please contact kvm-tec or your dealer.

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