4K Ultraline DP 1.2
UVX
6901 SET COPPER
6901L CPU/LOCAL
6901R CON/REMOTE

4K Ultraline DP 1.2
FIBER
UVX - F
6902 SET FIBER
6902L CPU/LOCAL
6902R CON/REMOTE
Congratulations on the purchase of your new Ultraline UVX1/UVX1-F 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 Ultraline UVX1 and UVX1-F 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. Following proper use and maintenance, your Ultraline UVX1/UVX1-F KVM Extender will bring you joy for many years to come.
1. INTRODUCTION

1.1 INTENDED USE

This product is intended as a device for professional use, for transmitting USB and video signals over high 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 Ultraline UVX1/UVX1-F is referred to as ‘product’ or ‘extender’. The UVX1/PC is referred to as the Local unit/CPU and the UVX1/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.
• 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 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.

1.3 TECHNICAL SPECIFICATIONS

Type: KVM Extender (local unit-CPU und remote unit-CON)
Model: 4K Ultraline UVX1/UVX1-F KVM Extender

Power plug input voltage: internal power supply
- AC 100-240V/50-60Hz
- IEC plug (IEC-320 C14)

Supply tolerances: AC and DC (e.g. AC: +/- 10%; DC: +20% / -15%)

Redundant Power supply: 12 VDC > 2A (optional)

Power requirement: 15W without USB devices

Operating temperature: 0 ºC to 45 ºC (32 bis 113 ºF)

Storage temperature: -25 ºC bis 80 ºC (-13 to 176 ºF)

Relative humidity: max. 80% (not condensing)

Casing material: anodized aluminum

Dimension: Local (CPU): 218 x 43 x 105 mm/8.58 x 1.69 x 4.14 inch, 676g/1.49 lbs.
Remote (CON): 218 x 43 x 105 mm/8.58 x 1.69 x 4.13 Inch, 707g /1.55lbs.

Shipment weight: 2.30kg/ 5.07 lbs.

Expected product life: 82 820 hours / 10 years
### 1.4 PRODUCT ELEMENTS

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>audio in</td>
<td>Audio in from PC</td>
</tr>
<tr>
<td>2</td>
<td>audio out</td>
<td>Audio Out to PC</td>
</tr>
<tr>
<td>3</td>
<td>RS232</td>
<td>RS232</td>
</tr>
<tr>
<td>4</td>
<td>ON/OFF</td>
<td>Power Switch ON/OFF</td>
</tr>
<tr>
<td>5</td>
<td>grounding</td>
<td>Grounding screw</td>
</tr>
<tr>
<td>6</td>
<td>power</td>
<td>Connection for 100-240V AC power supply</td>
</tr>
<tr>
<td>7</td>
<td>kvm-link</td>
<td>Connection for CAT 7 cable or fiber cable</td>
</tr>
<tr>
<td>8</td>
<td>dc</td>
<td>Connection für 12V power supply</td>
</tr>
<tr>
<td>9</td>
<td>dp out 2</td>
<td>Displayport Output to Monitor 2</td>
</tr>
<tr>
<td>10</td>
<td>dp out 1</td>
<td>Displayport Output to Monitor 1</td>
</tr>
<tr>
<td>11</td>
<td>dp in</td>
<td>DP Input from PC</td>
</tr>
<tr>
<td>12</td>
<td>AUX</td>
<td>Auxiliary Gigabit Network Connector</td>
</tr>
<tr>
<td>13</td>
<td>USB 2.0</td>
<td>USB 2.0 to PC</td>
</tr>
<tr>
<td>14</td>
<td>power/status LED</td>
<td>Displays the status of the extender</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>audio in</td>
<td>Audio In from microphone etc.</td>
</tr>
<tr>
<td>16</td>
<td>audio out</td>
<td>Audio Out to speakers etc.</td>
</tr>
<tr>
<td>17</td>
<td>RS232</td>
<td>RS232</td>
</tr>
<tr>
<td>18</td>
<td>power</td>
<td>Power Switch ON/OFF</td>
</tr>
<tr>
<td>19</td>
<td>grounding</td>
<td>Grounding screw</td>
</tr>
<tr>
<td>20</td>
<td>power</td>
<td>Connection for 100-240V AC power supply</td>
</tr>
<tr>
<td>21</td>
<td>kvm-link</td>
<td>Connection for CAT 7 cable or fiber cable</td>
</tr>
<tr>
<td>22</td>
<td>DC</td>
<td>Connection für 12V power supply</td>
</tr>
<tr>
<td>23</td>
<td>dp out 2</td>
<td>Displayport Output to Monitor 2</td>
</tr>
<tr>
<td>24</td>
<td>dp out 1</td>
<td>Displayport Output to Monitor 1</td>
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<tr>
<td>25</td>
<td>AUX</td>
<td>Auxiliary Gigabit Network Connector</td>
</tr>
<tr>
<td>26</td>
<td>USB</td>
<td>USB 2.0 to keyboard /Muse</td>
</tr>
<tr>
<td>27</td>
<td>power/status LED</td>
<td>Displays the status of the extender</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

1.5 MEANING OF THE LED INDICATORS

The power/status LED (14/27) can light red, orange or green. Table shows the meaning of each colour. Also see chapter 6 Troubleshooting.

<table>
<thead>
<tr>
<th>Colour</th>
<th>Blinking</th>
<th>Physical Link</th>
<th>Active Connection</th>
<th>Video Extended</th>
<th>USB Initialisation</th>
<th>USB Data Received</th>
<th>Identify Command</th>
<th>Autoupdate Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main LED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Update Failed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>Slow</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Update in Progress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>Fast</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Update Succeeded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>V. fast</td>
<td>Yes**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red/Green</td>
<td>V. fast</td>
<td>Yes**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>-</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>Slow</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>-</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>V. fast</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RJ45 Socket LEDs:

* UVX only

** Rem. Only

Table: Meaning of LED indicators

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:

- 1x UVX1/local Extender CPU
- 1x UVX1/remote Extender CON
- 2x power cable IEC C13
- 1x DP - DP cable 1,8 m/5,9ft
- 1x USB A-B cable 1,8m/5,9ft
- 8 x mounting feets
- UVX Fiber
- 1 x SFP+ Module-Multimode up to 300m/984ft

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.
2.2 MOUNTING KIT

2.2.1 MOUNTING (OPTIONAL)

Rack Mounting Kit RMK-F - Part No. 6230
The rack mounting kit RMK-F is for assembling kvm-tec Ultraline UVX1 extenders. It consists of 19" rack tray and an alu-faceplate.

2.3 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 ULTRALINE 4K
local / CPU – remote / CON

1. Connect the CON / Remote and the CPU / Local Unit with the supplied IEC power cable. Optionally, you can also use a 12V > 2A power supply.
2. Now connect the USB cable to a USB port on your PC and connect the other end 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. Connect the DP cable in the DP socket of the PC -in and to the DP socket DP / in of the local device and connect the screen on the remote side with the DP cable. Optionally, connect the DP cable from the Local DP / out to another monitor.
5. Then connect PC audio/out with the audio cable to Local audio/in. Connect audio/out via the audio cable
6. Almost done! Now connect the audio cable Local audio/out to the PC audio/in and Remote audio/in with the audio cable to the microphone.

HAVE FUN - your kvm-tec Extender is now in use for many years (MTBF approx. 10 years)

Please note that the recommended length of the display port cable should be max. 1.8m, 5.9 ft otherwise interference-free 4K transmission may not be guaranteed.
2. EXTENDER INSTALLATION

2.4 START UP

To start up the system:
1. Make sure that the two monitors and the 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.

2.5 REPLACING THE SFP MODULE

The UVX1-F is delivered with a multimode SFP module.

To replace an SFP module with a different SFP+ module:
1. Remove the black dust protector from the SFP+ module.
2. Pull the metal latch of the SFP+ module forwards until it is at a right angle.
3. Replace the SFP+ module with the other module. Put the metal latch back in position. Only use SFP+ modules from kvm-tec, or recommended by kvm-tec.

2.6 REMOVING A CAT CABLE

To remove a CAT7 cable:
• Press the latch down and slowly pull the cable out.

2.7 REMOVING A FIBER CABLE

To remove a fiber cable:
• Press the latch down and slowly pull the cable out.
2. EXTENDER INSTALLATION

2.8 BEST PRACTICE FOR WINDOWS 10

Disable USB Energy Savings in Windows 10
3. ACCESS MAIN 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 hintereinander. 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  |  Setting  |  Description
-------|-----------|-----------------
S       |  System status |  menu system status/ current status
F       |  Features Menu  |  activated features
U       |  Update      |  update firmware
G       |  Settings    |  settings
A       |  About this device |  Informationen about the unit
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 FW 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 5 FEATURES

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.

SCREEN „Update“
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.

### 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

The upgrade menu shows all already installed and activated settings:

- Analog sound: Fix displayed (active)
- Embedded Sound: Fix displayed (active)
- RS232: Fix displayed (active)
- USB Save Feature: default off
- Matrix Switching

USB MEMORY UPGRADES

USB flash memory and external storage devices can be accessed via the extender via the already activated upgrade USB memory. The USB memory upgrade can be switched off and on by pressing “M”.

SOUND

The upgrade is already activated and transmits sound in CD quality analog over 3.5mm sockets in both directions. Furthermore, the embedded sound information of the display port is transmitted.

RS 232

A maximum serial transfer rate of 115200kBd possible
It is not necessary to set the baud rate and bits per character.
“R” appears in the menu item and this function is permanently active.

Switching up to 2000 endpoints

The already activated Switching upgrade can be activated from the Switching menu (in the main menu).
By pressing “S”, you can access the switching menu and thus activate or de-activate the switching upgrade.
In the main menu you can configure the switching system with “S”.

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 DDC SETTINGS

In the DDC Information menu, the user can define which DDC information is used by the PC.

Definition of the DDC information used in the PC:

1. Make sure that the main menu is open
2. Press the O to display the DDC-option menu (5 x scroll)
3. Press 1 to display the DDC information of the monitor connected to the remote (CON)
4. The Extender is connected. The DDC information is automatically saved
5. Press 2 for a fix resolution 1920 x 1080
6. Press 3 for a fix resolution 2560 x 1440
7. Press 4 for a fix resolution 3840 x 2160

Press ESC to return to the main menu

SCREEN „DDC/EDID Settings“

3. MAIN MENU & 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 the K button. The Keyboard Local menu opens:
Press E to select English (QWERTY).
Press D to select German (QWERTZ).
Press F to select 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.

SCREEN „Keyboard shortcuts“

3. MAIN MENU & SETTINGS

3.4.4 MOUSE SETTINGS

By pressing the „G“ 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.

SCREEN „Mouse Settings“
3. MAIN MENU & SETTINGS

3.4.5 DEFINITION LOCAL SETTINGS

By pressing the „G“ 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“

3.4.6 OVERLAY

The following modes can be selected by pressing the „N“ key or by selecting the arrow keys:

- **PERMANENT**
  With this setting, the names of the connected units are permanently displayed.
- **FOLLOW RED FRAME**
  With this setting, the names are only displayed if the red frame is active.
- **OFF**
  No names are displayed with this setting.

SCREEN „Overlay“
3. MAIN MENU & SETTINGS

3.4.7 VIDEO SYNC SETTING

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

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

SCREEN „Video Sync Setting“

3.5 ABOUT THIS DEVICE

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

SCREEN „About this device“

General:
- Hardware Version: 1.1
- Firmware Version: 0.32

Upgrades:
- Analogue Sound: enabled
- Embedded Sound: enabled
- RS232: enabled
4. FEATURES

4.1 MENU FEATURES

Pressing the „F“ key or selecting the arrow keys, you will access the FEATURES menu, where you can select all the functions and the features.

V- Multiview Commander
M- Mouse Glide & Switch
P- Point to Point Mode on/off
S- Matrix Switching Mode
D- Displayport Multistream

Two features are already pre-installed, which can be set by pressing „F“ in the main menu. You can activate either the 4K Multiview Commander or the Mouse Glide & Switch.

4.1.2 MULTIVIEW COMMANDER

By pressing „V“ you activate the 4K Multiview Commander and therefore you can display and operate 4 PC screens on a 4K Monitor simultaneously. The 4K Multiview Commander requires up to 4 MX local (CPU) devices on the CPU side, which are connected to the UVX CON part via a network switch.

If Local Units are not displayed, they can be found by pressing the F key. Use the A key to activate/deactivate the Auto Connection function.

To change the Highlight Settings press the H key. This key is used for the visual position display of the mouse in your setup.

By using the arrow keys you can select from the four monitors displayed to assign the desired position of the Local Units.

Use the Number buttons to select a Local Unit and press the C button to confirm. If you want to disconnect a local unit, use the D key. To disconnect all connections press the E key.
4.1.3 SWITCHING IN MULTIVIEW COMMANDER

With a multiview commander setup - multiple sources can be displayed on one or more monitors.
The displayed source can be selected as follows:

Move the mouse to the area where the source is to be displayed.
Then open the „Switching List“ with OSD, either by pressing the scroll key 5 times and then into the menu item „L“ or by shortcut (default is Ctrl+ALT+F12).

Then confirm the desired source with the Enter key. The selected source appears in the quadrant in which the mouse is located.

By pressing the „D“ key, the displayed source can be separated again. The menu can be closed with the ESC key.

4.1.4 MOUSE GLIDE & SWITCH

Multiple UVX Extenders can be configured to automatically switch the USB operation of any computer and follow the mouse movement.
Up to 8 monitors can be configured both vertically and horizontally.
Press „M“ to go to the configuration of the Mouse Glide & Switch function. The corresponding local parts are connected to the REM part via a 10 G network switch.
To change the existing layout press the T button.
If not all extenders are available, these can be found with the F key. Use the arrow keys to navigate to the screen symbols and assign a local unit with the L key and a number and a remote unit with the R key and a number. This must be confirmed with Enter.
With the key „I“ you can identify assigned extenders by starting the LED to blink when activated.
With „B“ you reach the border settings, in which you can set the visual position display of the mouse in your setup.
Use the C key to reset all settings.
Press the A key to apply all the settings you have made.
4. EXTENDER FEATURES

4.1.5 POINT TO POINT

By pressing „P“ you reach the configuration point to point.

By default, the remote is directly connected to the Local.

4.1.6 MATRIX SWITCHING SYSTEM

Pressing „S“ takes you to the Matrix Switching System configuration.

If this function is active, the Multiview Commander and Mouse Glide functions are controlled via the Switching Manager software (see Switching Manager manual).

All functions of the Switching System can be managed via the Switching Manager Software.

With this link you can download the Switching Manager Software Manual: www.kvm-tec.com/dt/support/handbuecher

4.1.7 USB SAVE FEATURE

Press „U“ to go to the USB SAVE FEATURE configuration.

With the activation, the intrusion of computer viruses can be prevented via USB-mass storage. Data from a connected USB mass storage device cannot be accessed.

4.1.8 DISPLAYPORT MULTISTREAM

By pressing „D“ you access the Displayport Multistream configuration and activate the Multistream functionality.

5. HUB SPLITTER

5.1 BUILT - IN MST HUB SPLITTER

The built-in MST/HUB splitter allows the transmission of two different image contents via one cable up to a max. resolution of 2 - times 2560 x 1440 @ 60 Hz or 2 - times 3840 x 2160 @ 30 Hz.

The CPU (local) and the CON (remote) part has two video outputs with splitter / multistream function.

With a 4k resolution one screen content is transmitted which is available on both outputs at the same time.

With a resolution of 2 - times 2560 x 1440 @ 60 Hz or 2 - times 3840 x 2160 @ 30 Hz two different picture contents can be transferred to two monitors.

Both the graphics card and the monitor must comply with the Displayport Standard 1.2. For some monitors the Display port function 1.2 must be activated in the monitor menu.
6. DOWNSCALING FROM 4K TO HD

Extenders can automatically downscale 4K (3840 x 2160) resolutions to Full HD (1920 x 1080) when a Full HD (1920 x 1080) monitor is used.

7. MAINTANCE AND CARE

7.1 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.

7.2. 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.
First Aid

8. SUPPORT & FIRST AID

Error | Cause | Solution
---|---|---
LED is not lighting | The devices get no power | Is the power supply connected? New start device
LED is lighting in red | No connection between Loc and Rem | Check if the RJ45/network cable is connected well.
| (Clicking noise when plugging in) | Control both, if it does not work please send an e-mail to support@kvm-tec.com or phone +43 2253 81912
LED is lighting in orange | No picture on the monitor | Check if the local (PC) cable is connected well.
| Check if the remote (monitor) cable is connected well. | If everything is connected well but no function appears, reconnect power supply again.
| If the menu is visible, press the O key and choose the resolution of the monitor. Then press the assigned number on your keyboard.

LED is lighting in green

Screen occurs but the keyboard is not working
Plug out/in USB of keyboard and wait until driver is installed (after few seconds).
| Check all USB connections on both sides (Local and Remote) | If it is still not working, plug out/in USB once more
LED is lighting in green

no audio
Establish audio connection:
| plug stereo-jack to the audio output of the PC (green) | connection with local: IN
| remote: headset OUT | Establish microphone connection:
| plug stereo-jack to the microphone input of the PC (pink) | connection with local OUT, connect the microphone on the CON side.

LED is lighting in green

The screen flickers, has an incorrect display
Install current firmware from our homepage: http://www.kvm-tec.com/support

LED is lighting in green

Different firmware or USB is not compatible
Please contact the kvm-tec support team via e-mail: support@kvm-tec.com or by phone: +43 2253 81912 30

LEDS different different firmware
To enter on screen menu/check firmware version:
| 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. | If firmware update does not work, please send an e-mail to support@kvm-tec.com

smart connection

No Power (No LED)

Check the powerplug
Is the power supply ok? Try another Unit
Try reprogramming the Unit by using a JTAG programmer
Contact kvm-tec support

USB is not working
Are the USB Devices plugged in correctly?
Is the USB cable on the Local side plugged into the PC?
Are the USB Devices working directly on the PC?
Replace the USB cable from PC to the Local Extender
Check if all USB cables are plugged in correctly
Check if the PC is sending an image by plugging in a monitor on the local out of the local Unit
Check if the DDC is set correctly (in menu under point „O“)
Check if both Units have the correct firmware
Check if local and remote Unit have the same firmware
Check if the local or the remote Unit is causing the problem by swapping first the local and then the remote Unit to another Unit
Check if other units have the same behaviour
Contact kvm-tec support

No Video

Check if all cables are plugged in correctly
Check if the PC is sending an image by plugging in a monitor on the local out of the local Unit
Check if the DDC is set correctly (in menu under point „O“)
Check if local and remote Unit have the correct firmware
Contact kvm-tec support

Video error (stripes in the picture)

Check if all cables are plugged in correctly
Check if the PC is sending an image by plugging in a monitor on the local out of the local Unit
Check if the DDC is set correctly (in menu under point „O“)
Check if local and remote Unit have the same firmware
Replace the USB cable from PC to the Local Extender
Check if the local or the remote Unit is causing the problem by swapping first the local and then the remote Unit to another Unit
Check if other units have the same behaviour
Contact kvm-tec support

USB is not working

We are here for you to answer your questions about installation?
Manual download www.kvm-tec.com or kvm-tec installation channel on our homepage personally +43 2253 81912
9. CABLE REQUIREMENTS

9.1 REQUIREMENTS FOR CAT 7 CABLE

A Cat 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-568B (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 CAT 7 specifications and be suitable for 10 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**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Orange/White</td>
</tr>
<tr>
<td>2</td>
<td>Orange</td>
</tr>
<tr>
<td>3</td>
<td>Green/White</td>
</tr>
<tr>
<td>4</td>
<td>Blue</td>
</tr>
<tr>
<td>5</td>
<td>Blue/White</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
</tr>
<tr>
<td>7</td>
<td>Brown/White</td>
</tr>
<tr>
<td>8</td>
<td>Brown</td>
</tr>
</tbody>
</table>

9.2 REQUIREMENTS FIBER CABLE

9.2.1 MULTI-MODE (STANDARD)

A multi-mode fiber cable should meet the following requirements
• The maximum length should be 300 m (984ft). The UVX-F is equipped with a multimode - SFP+ module, which allows a transmission distance of up to 300 m /984ft
• Dedicated fiber optic connection cable type Duplex Multimode with LC plug
10. 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.

The following switches have all been tested and verified to work with all kvm-tec extenders.

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.

An up-to-date list of all recommended switches can be found on our website under Switching System - Recommended Switches.

https://www.kvm-tec.com/fileadmin/user_upload/Produkte/Switching/Switching_Box_eng/NETGEAR_recommended_Switches_EN_01.pdf
11. 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.

11.1 EXTENDED WARRANTY

2 years standard warranty

Art Nr 9003 warranty extension to 5 years per Set

Art Nr 9002 warranty extension to 5 years per Unit

12. ADDRESS & PHONE / EMAILS

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

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2523 Tattendorf
Austria
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Fax: 0043 (0) 2253 81 912 99
Email: support@kvm-tec.com
Web: www.kvm-tec.com

Find our newest updates and FAQs on our homepage: https://www.kvm-tec.com/en/support/overview-support/

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