The kvm-tec connection to virtual machines

MANUAL

Gateway Part Nr KT - 6851

www.kvm-tec.com
**WHY KVM-TEC**

The kvm-tec connection to virtual machines

**gateway**

The kvm-tec connection to virtual machines

kvm-tec Gateway - the perfect combination of a Real-Time KVM system and a flexible remote desktop system. The gateway has the function of a thin client and in combination with MX Local Extender is the ideal combination with virtual machines in the switching system. With the kvm-tec gateway it is possible to connect to virtual machines or remote PCs outside the switching network.

A gateway can connect to virtual machines. Login credentials can be stored and retrieved by hotkey. In addition to your Real-Time Switching system, the kvm-tec gateway can be used to access the virtual machines.

Easy installation - first connect the remote unit, then select the RDP protocol on the kvm-tec gateway, further enter the login data and connect to the desired PC. RDP and VNC are used as standard. Other protocols on request.

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1. INTRODUCTION

Congratulations on the purchase of your new Gateway 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 Gateway 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 Gateway KVM Extender will bring you joy for many years to come.

1.1 INTENDED USE

The kvmtec gateway offers the possibility to connect a PC to a KVM network via a RDP or VNC remote desktop connection. The gateway is a Linux based device that runs with Debian as operating system and Free RDP as connection client.

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

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. INTRODUCTION

1.3 TECHNICAL SPECIFICATIONS

Typ: KVM Gateway local/CPU Unit
Modell: kvm-GW KVM Extender
Voltage supply: 12V
Power supply: 12VDC1A, external power supply
Operation environment: 0 ºC to 45 ºC /32 to 113 ºF
Storage environment: -25ºC to 80 / -13 to 176 ºF
Relative Luftfeuchtigkeit: max. 80% (non condensing)
Humidity for storage: max. 80% (non condensing)
Housing material: anodized aluminum
Dimension: 198 x 40 x 103,5 mm/ 7.79 x 1.57 x 4.03 inch
Weight: 604 g/1.33 lb Local/CPU
MTBF: 82 820 calculated hours / 10 years

1.4 ABOUT THE PRODUCT - GATEWAY

1. power/status LED  display RDP/VNC Status
2. DC  connection for 12V/1A power supply
3. LAN  connection to LAN
4. reset  button for reset
5. kvm-link  connection for CAT X cable to KVM network
6. power/status LED  display the extender status
1. INTRODUCTION

1.5 ABOUT THE STATUS LED

<table>
<thead>
<tr>
<th>Color</th>
<th>Light display</th>
<th>Autoupdate Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>fast flashing</td>
<td>Update runs</td>
<td></td>
</tr>
<tr>
<td>shining</td>
<td>Update failed</td>
<td></td>
</tr>
<tr>
<td>shining</td>
<td>Update successful</td>
<td></td>
</tr>
</tbody>
</table>

Bedeutung LED Anzeigen

<table>
<thead>
<tr>
<th>Color</th>
<th>Light display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>shining</td>
<td>only network connection available</td>
<td></td>
</tr>
<tr>
<td>fast flashing</td>
<td>no active connection</td>
<td></td>
</tr>
<tr>
<td>shining</td>
<td>no video signal</td>
<td></td>
</tr>
<tr>
<td>shining</td>
<td>everything works</td>
<td></td>
</tr>
</tbody>
</table>

A detailed error description can be found in chapter First Aid

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:

  Gateway
  Local/CPU Unit
  1 x kvm-GW local/CPU
  1 x wall power supply unit 12 V 1A (EU-plug or Int plug)
  4 x rubber feet

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.
2. INSTALLATION OF THE EXTENDER

2.1 INSTALLING THE EXTENDER

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

Easy installation - first connect the MX or UVX remote unit, then select the RDP or VNC protocol on the KVM gateway. Then the login data is entered and connected to the desired PC.

2.2 QUICK INSTALLATION GATEWAY

Quick Installation kvm-tec GATEWAY

1. Connect the CON/Remote Unit and the Gateway with the supplied 12V 1A power supply.
2. Connect the keyboard and mouse to the remote unit.
3. Connect the gateway and the remote unit with a network cable.
4. Connect the screen on the remote side with the DVI cable.
5. Then connect Remote audio/out to speakers or headphones using the audio cable.
6. Connect the gateway to the Internet with a network cable via the Lan port.

HAVE FUN - your kvm-tec Gateway is now ready for all virtual machines!
2. INSTALLATION OF THE EXTENDER

2.3 OPERATION, ADDING GENERAL

To establish a new connection to a PC, you must first press the following button on the main page to add a new connection of your choice (RDP/VNC).

This button takes you to the Add window.

2.4 OPERATION FOR RDP

To establish an RDP connection to a PC, the following parameters are required:

- **Name**: Freely selectable name (serves only the recognition of the user)
- **Username**: User name of the PC
- **Password**: Password of the user
- **Server**: Server address (e.g. 192.168.0.100 or name of the server)
- **Domain**: Domain name of the RDP server (e.g. RDPTEST)
- **Reconnect**: Disable/enable. Maximum attempts 0-1000 adjustable (0 corresponds to infinite)
- **Favoritise**: Disable/enable. (Serves, in order to be able to sort on the Mainpage, after sort by favorites.

Once all the parameters are in place, you can press the „Finish Adding” button to save the RDP connection.
2. INSTALLATION OF THE EXTENDER

2.5 OPERATION FOR VNC

First, select the VNC connection type:

Choose Connection Type VNC

Now you can enter the following parameters:

- **Name**: Freely selectable name, only serves to recognize the user.
- **Server**: Server address (e.g. 192.168.0.100 or name of the server)
- **Favoriteise**: Disable/enable. Used to be able to sort by favorites on the main page.

Once all the parameters are in place, you can press the „Finish Adding“ button to save the VNC connection.

2.6 EDITING A SAVED CONNECTION

First you have to select the saved connection you want to edit on the main page. Selected connections are highlighted in blue, with white text.

Once you have selected a connection, click the following button.

Now you reach the edit window. The data, which were already stored, are taken over, except for the password!
2. INSTALLATION OF THE EXTENDER

Now you can adjust the connection parameters or switch to a VNC connection. The parameters correspond to those found in the Add window.

When you are done editing, save your input by clicking the “Finish Editing” button. You will now return to the main page with the updated changes.

2.7 SORTING THE SAVED CONNECTIONS

If you have already saved some connections, you can filter using the sorting function.

In order to be able to sort now, press on the desired head of a column (except Delete), after which should be sorted.

If you want to sort e.g. by favorites, click once on „Favorites”. Now the entries are sorted in ascending order.
2. INSTALLATION OF THE EXTENDER

If you click on the “Favorites” header again, the entries will be sorted in descending order.

2.8 DELETING A SAVED CONNECTION

To do this, simply press the “trash can” button on the main page, which you will find in the Delete column.

2.9 QUICK FAVORITING

To do this, press the star icon of the desired list item and the star will turn yellow or gray.

yellow - Favorited
gray - not favorited
2. INSTALLATION OF THE EXTENDER

2.10 CONNECT

First select the desired connection on the main page. This will then be highlighted in blue.

In the footer you will now find:
- An info, about the currently stored entries
- The button to connect „Connect“
- The option to start the connection in fullscreen mode „Fullscreen“.

If you want to use the virtual connection in fullscreen mode, activate the function by clicking on „Fullscreen“.
Now a check mark should appear, Fullscreen is now activated.

If you are satisfied with your selection in the list and the settings, press the „Connect“ button, the virtual connection will start.

3. CONFIGURE THE EXTENDER

3. SETTINGS OF THE KVM GATEWAY

3.1 FEATURES

The gateway has the following features, which can be viewed as a list by pressing the right mouse button:

3.2 APPS

KVM-Client:
If the KVM client is closed for any reason, you can restart the „KVM Client“ input software.
3.3 UPDATE

Unique update process for versions 0.9 and lower:
The device has to be updated in a specific order, via the listview above.

1. Preparation
2. Update: Over USB or Over Lan
3. Reboot
4. Preparation

Over USB:
With the feature update „Over USB“ a software update can be performed via a USB stick. Please make sure that a connection to a remote partner exists and that the USB save feature on the connected remote unit is deactivated (USB Mass Storage enable).

Before the update is carried out, the entry must be confirmed as follows:

Over LAN:
With the feature update „Over LAN“ a software update can be done over the internet. Please note that the existing „lan/wan“ RJ45 beech is connected to the Internet.

Before the update is carried out, the entry must be confirmed as follows:

Update OS:
With the Update OS feature, the installed Gateway operating system can be updated to the latest version. Please note that the existing „lan/wan“ RJ45 beech is connected to the Internet.

Before the update is carried out, the entry must be confirmed as follows:
3. CONFIGURE THE EXTENDER

3.4 SETTINGS

Desksops:
With the feature Desktop the operating system can be individualized. Among other things, up to 4 desktops can be created and renamed.

By pressing the key combination „Windows key“ + „F1“ (up to „F4“) or with „Tab“ + „Mouse wheel rotation“ you can switch to up to four different desktops. Attention! Simultaneous access is not possible, as the system reacts slowed down in case of simultaneous access.

Preparation:
If the operating system cannot be updated with Update OS, the feature „Preparation“ must be started. This will clean up unneeded and faulty installations and additionally expand the operating system partition to the maximum hard disk size. Thus, future extensions can be installed without problems.

3.5 EXIT

Reboot:
With the selection „Reboot“ the operating system of the gateway is restarted.

3.6 CLOSE RDP CONNECTION

Since the connection is always in full screen mode, with RDP the connection can only be terminated by logging out of the connected PC (accessible via the Windows icon in the task bar).

3.7 CLOSE VNC CONNECTION

To terminate an existing VNC connection proceed as follows:

By pressing the key „F8“ a VNC setting selection window appears.

With a left mouse click on „Exit viewer“ the existing session is closed.
3. CONFIGURE THE EXTENDER

3.8 USING THE OSD FOR GATEWAY CONNECTIONS

Setup

The Switching Manager that runs in the System requires a xml file, with the Connection data of the Virtual Machines. The file should be written manually in the “your-SwitchingManager-folder”/api/virtualMachines.xml.

The Data should look like this:

```
<Environment version="1.0" encoding="UTF-8">
  <VirtualMachineConnection api:type="VirtualMachineConnection">
    <Name>TestConnection</Name>
    <ConnectionType api:type="ConnectionType">
      <Value>RDP</Value>
    </ConnectionType>
    <CredentialServer api:type="CredentialServer">
      <Domain>Test</Domain>
      <UserName>VirtualMachineCredentila</UserName>
      <Password>VirtualMachineCredentila</Password>
    </CredentialServer>
    <Credentials api:type="Credentials">
      <Value>VirtualMachineCredentila</Value>
      <UserName>VirtualMachineCredentila</UserName>
      <Password>VirtualMachineCredentila</Password>
    </Credentials>
  </VirtualMachineConnection>
</Environment>
```

Server is for the IP-Adress so replace the x.

Connecting

Open the Switching List and choose a Local Device that has the Device type Gateway, press enter and now Local and Remote connect to each other and since it’s a Gateway Device a new window will open, called Virtual Machine List.

In this list you select a virtual machine by pressing enter, all the virtual machines that you can see are not in use now, so feel free to take any of them. Once you pressed the enter button, the OSD menu will close, and a virtual machine should open now.

Disconnecting

Open the Switching List and press d, this closes the Virtual Machine if there is one and disconnects Local and Remote.

Restrictions for Setup

- Name should not be longer than 14 signs
- No duplicate Names
- ConnectionType must be RDP or VNC (capital Letters!)
- The Credentials should never include the following characters: ',', ' ', '
- For VNC leave Username, Password and Domain empty (as shown in the picture)
4. MAINTANCE & CARE

4.1 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.

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. WARRANTY

5.1. STANDARD 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.

5.2 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
6. CABLE REQUIREMENTS

6.1 REQUIREMENTS FOR CAT5E/6/7 CABLES

A 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.

7. 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.
8. CONTACTS & PHONE / EMAILS

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

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overview-support/