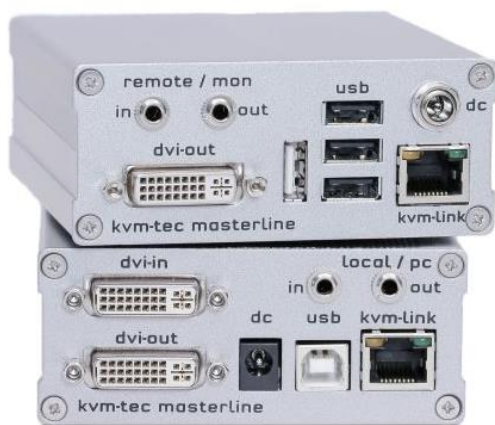


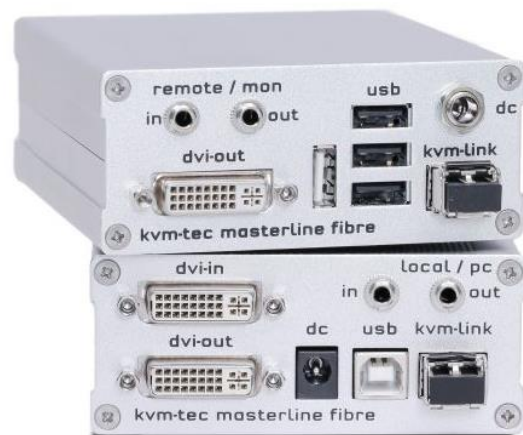


# Manual

## Masterline MVX/MVX-F KVM Extender SWITCHING OPTION



Art.Nr: 6701  
Masterline MVX1



Art.Nr: 6801  
Masterline MVX1-F

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## 1 Package contents

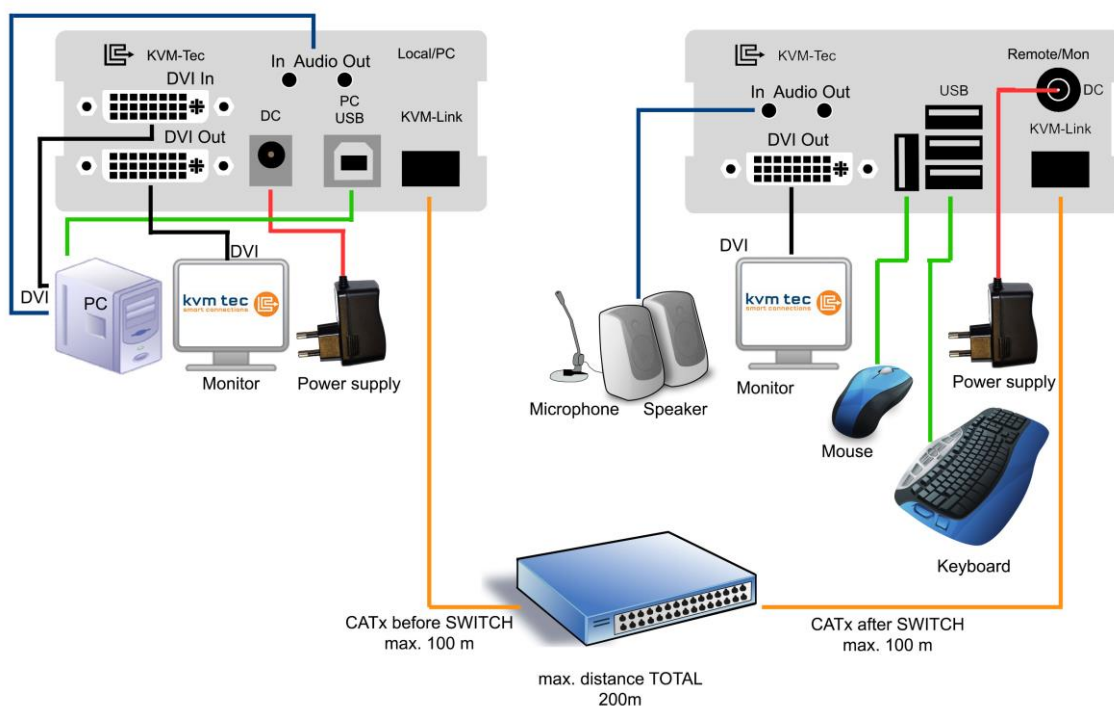
1x MVX1 / PC	1x USB cable
1x MVX1 / Monitor	1x Quick Start Guide
2x Power supply 12V 1A	4x Mounting Pads
1x DVI-cable	4x Rubber Feet

## 2 Specifications

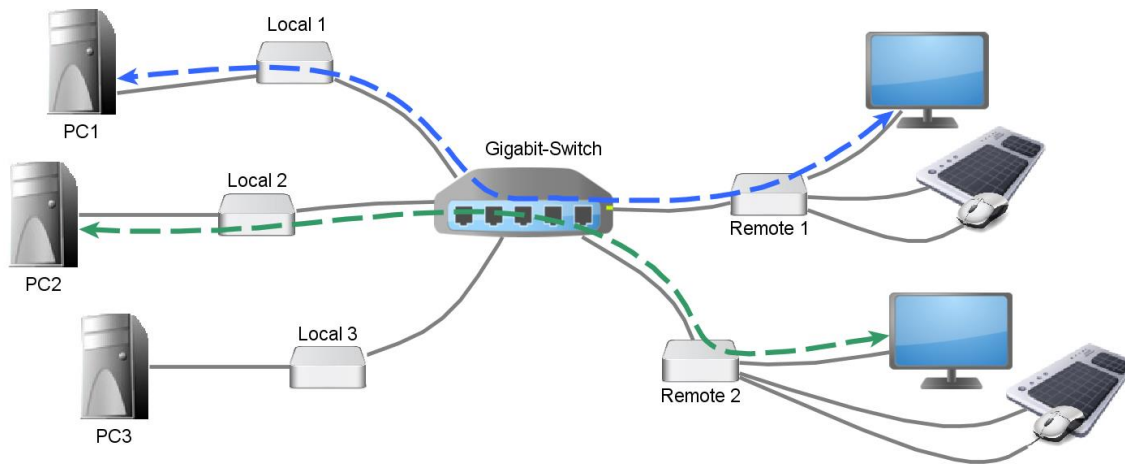
Max. ambient temperature: 45° Celsius  
Dimensions: 98 x 41 x 106mm  
Weight: 540g per Set  
Power input: 5 W per device  
Material: anodized aluminium  
Power supply: 12V 1A external power supply

## 3 Installation

Connect all the cables from your PC as shown in the following diagram:



Connect the respective work stations (Remote Extenders) and computers (Local Extenders) with the network switch.



### Note the following:

The entire switching network system requires its own dedicated network. For security reasons it cannot be integrated into an existing company network.

*The network switch must fulfil the following specifications: 1 Gigabit Switch, with true port to port transfer rates of 1 Gigabit/second*

List of recommended network switches that have been tested with kvm-tec extenders

- TP-LINK TL-SG3216, 16port
- TP-LINK TL-SG1016D, 16port
- TP-LINK TLSG1048, 48port
- DIGITUS DN80100, 16port
- LogiLink NS0050A, 5port

## 4 Start up

Switch on all devices. Both Extender units will start an automated initialisation process, signified by a blinking red status light, this may take a few seconds. When the status light turns green, all signals will be transmitted.

status	link	video
red	x	x
orange	✓	x
green	✓	✓

### 4.1 Status Overview

The Status Overview (Fig. 1) provides the user with the most important information about the status of the extender in a single screen. This will appear automatically whenever no video is been transmitted, but can also be opened manually via the OSD

Connected to	<untitled>
DDC Opt	remote monitor
Video Mode	DVI
Resolution	1920x1080
USB Status	High Speed
Options:	Mem Switch
Rem FW Ver	4267
Local FW Ver	4267

[Link]

[Conn]

[Video]

[USB]

Fig. 1

menu (see [item 0](#)). Of particular interest is the row at the bottom, showing the status of four subsystems as being either active (green) or inactive (red).

---

**Link:** Is there a physical link between this extender and another device via CATx or fibre.

**Conn:** Has this console unit negotiated a connection with a PC unit.

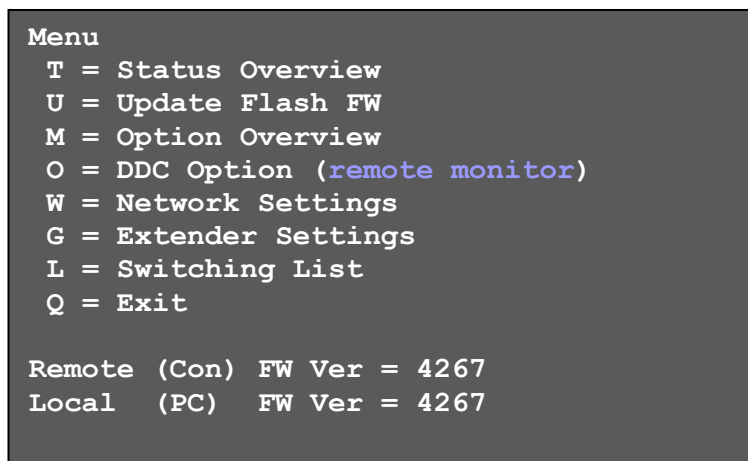
**Video:** Is video currently being transmitted from the PC unit to the console unit.

**USB:** Has a transparent USB connection been established between the console extender unit and the host PC.

## 5 Menu / Settings

To enter the menu, use a keyboard connected to the remote Extender and press the "<Scroll Lock>" key five times in quick succession.

The menu will be displayed (Fig. 2). Sub-menus are accessed by pressing the appropriate key. The currently installed firmware version is displayed below the menu.



```
Menu
T = Status Overview
U = Update Flash FW
M = Option Overview
O = DDC Option (remote monitor)
W = Network Settings
G = Extender Settings
L = Switching List
Q = Exit

Remote (Con) FW Ver = 4267
Local (PC) FW Ver = 4267
```

Fig. 2

### 5.1 Menu Item "U" - Update Flash FW

Used to perform a firmware update. The latest version of the firmware can be downloaded from [www.kvm-tec.com](http://www.kvm-tec.com). Each update file is accompanied by a detailed description of the update process.

### 5.2 Menu Item "M" - Option Overview

Displays the extender's activated options. The status is indicated by the colours green (activated), and red (not activated).

If the memory option on the extender is activated this can be enable or disabled at any point in this menu.

In order to active options complete the following steps:



The menu displays the ID number of the device (see Fig. 3). Please contact your distributor and advise him of the ID number of your device. They can then send you the activation code for the desired option. You can enter this activation code by pressing the "M" key. This will not alter other options that have already been activated. Return to the main menu with "esc".

#### Options Overview

```
[USB Memory] - Enabled
                (1 - enable, 0 - disable)
[RS232]         [VGA]
[Sound]         [Switching]

Device ID: 123456f7
Send ID to distributor to unlock
options.

Press M to enter code.
```

Fig. 3

### 5.3 Menu Item "O" - DDC Option

In this menu you can define DDC information is used by the PC .Pressing "0" specifies that the DDC information from the monitor attached to the remote Extender should be used. Pressing "1" specifies that the DDC information from the monitor attached to the local Extender should be used.

Pressing "2" saves the current DDC information allowing the system to continue on the same after the Extender has been restarted.

Using the keys "4" through "8" sets the system to use a predefined resolution which is saved (Fig. 4).

To return to the main menu press "ESC".

#### DDC Options

```
+-----+
0 = remote monitor
1 = local monitor
2 = last DDC fixed
4 = FIX 1024x768
5 = FIX 1280x1024
6 = FIX 1680x1050
7 = FIX 1920x1080
8 = FIX 1920x1200
```

Fig. 4

## 5.4 Menu Item “W” - Network Settings

The menu includes the preferences and settings for the switching option.  
See [item 7](#).

## 5.5 Menu Item “G” - Extender Settings

```
Extender Settings
+-----+
L = Local Settings
R = Remote Settings

Q = Return to Main Menu
```

This menu presents a range of further preferences. They are divided in to two sub-menus depending on whether the setting is stored on the Local (PC) unit or Remote (console) unit.

Fig. 5

```
Local Settings
+-----+
V = VGA parameters
U = USB Compatibility Mode (disabled)

Q = Return to Main Menu
```

Fig. 6

```

Remote Settings
+-----+
A = Audio Input Gain (5)
R = RS232 Baudrate (up to 9600)
S = Show Last Image (disabled)
I = Monitor Sync (disabled)
L = Lock Menu (disabled)
P = Power Save (enabled)
K = Keyboard Locale (EN)
O = Keyboard Fallback Mode (0)
H = Keyboard Shortcuts
Q = Return to Main Menu

```

Fig. 7

### 5.5.1 Menu Item "V" - VGA parameters

This is where VGA preferences can be set and optimised.

By pressing the "F1" and "F4" keys the display area can be moved up and down. "F2" and "F3" shift the display area left and right.

By using the "F5" and "F6" keys the display area can be reduced or enlarged to fit the display area of the monitor.

Press the "<space bar>" to change the rate of change of the above settings. By repeatedly pressing the "space bar" this is set back to 1.

Use the "M" button to switch the video mode between:

**Auto** – the mode is automatically detected and set by the Extender

**DVI** – only DVI input is detected

**VGA** – only VGA input is detected

For automatic adjustment and positioning of the image area, press "K".

Press "I" to reset parameters to default values.

To save the settings and exit the menu press "S" – for an exit without saving press "Q".

```

Shift      up F1  F4 down  0
Shift      <- F2  F3 ->    0
Zoom       out F5  F6 in    2200
Pixelfine  -  F7  F8 +      0

Space = 1/10 steps
M = Video Mode Auto
K = Automatic seek
I = Init VGA Table
S = Save - exit
Q = Quit - no save

```

Fig. 8

### 5.5.2 Menu Item "A" - Audio Input Gain

This menu sets the volume of the audio input on the remote extender (microphone). Default value is "5" and can be amplified up to "9" and reduced down to "0". At "0" the audio input on the remote extender is disabled.

```

Audio Input Gain (5)

0      = Off
1 - 9 = Amplification Level

```

Fig. 9

### 5.5.3 Menu Item "R" - RS232

The following signals are transferred, the pin numbers refer to a 9-pin D-sub plug. The remote interfaces are DTE.

Pin	Funktion
3	Transmit Data
2	Receive Data
4	DTR

The baudrate can be set in the menu. There is a universal setting for baudrates up to 9600 which transmits all different RS232 configurations transparently.

For higher baud rates the following settings are available via the menu:

Baudrate:	Parity:	Stopbits:
4800	No	1
9600	Odd	2
19200	Even	
38400	Mark	
57600	Space	
115200		
230400		

#### 5.5.4 Menu Item "S" - Show Last Image

When this is enabled the console extender will not show a black screen when it is no longer connected to a PC extender. Instead it will keep the last image that it received. To indicate that this image is no longer current the edges of the screen will flash red.

#### 5.5.5 Menu Item "I" - Monitor Sync

The monitor synchronization can be turned on and off. When enabled, the refresh rate of the graphics card of the PC and that of the remote monitor are adjusted to match one another. The advantage of this is to ensure that transmission remains smooth when the screen content changes rapidly (e.g. when using multimedia applications).

Not all monitors support this method so by default this option is disabled. Should the monitor start to flicker then it does not support this feature and it should be disabled again.

### 5.5.6 Menu Item “L” - Lock Menu

Here the extender menu can be locked. When enabled, access to the menu will be locked 5 minutes after start up. This prevents unauthorized access to the extender menu. The extender must be restarted to enter the main menu again (turn the power supply off and on).

The menu is enabled or disabled from this screen by pressing “0” or “1” respectively (Fig. 10). To return to the main menu press “ESC”.

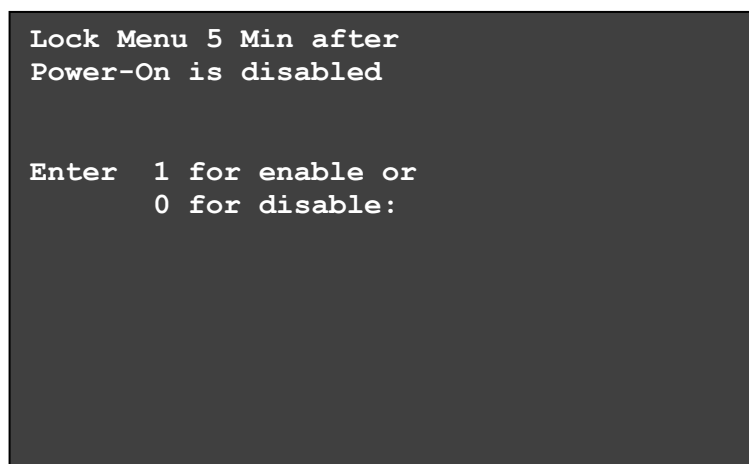


Fig. 10

### 5.5.7 Menu Item “P” - Power Save

When in power saving mode the remote extender will turn off its video out when it receives no video for more than a minute. This enables the monitor to enter sleep mode if supported. To wake press any key on keyboard.

### 5.5.8 Menu Item “K” - Keyboard Locale

Select between keyboard layouts for navigating the OSD. Choices are French (Azerty), English (Qwerty) and German (Qwertz).

### 5.5.9 Menu Item “U” - USB Compatibility Mode

The USB Compatibility Mode allows the local extender to go to the lowspeed mode in some cases. One use case for activating this setting is when the PC has problems initializing the keyboard in its BIOS. One reason for that could be that the USB initialization in the PC's BIOS is buggy and can't correctly initialize highspeed devices as it's the case in HP Z400 Series PCs. After activating, the USB compatibility mode the local extender first tries to initialize in highspeed mode and after it failed several times, enters lowspeed mode, which should solve the problem. Under normal operation, this setting should remain deactivated.

### 5.5.10 Menu Item "H" - Keyboard Shortcuts

In this menu alternative keyboard shortcuts can be defined. By default there is only one shortcut to change, the opening of the OSD. Note that if you enter in a new shortcut to open the OSD, the 5 x Scroll Lock will continue to function as well.

If the Switching Option is enabled then further shortcuts can be defined to open the Switching List, Disconnect the current connection, open the Connection Overview and connect to a favourite extender.

A shortcut can either be a combination of modifier keys (i.e. Shift, Ctrl, Win and Alt) with another key, for example Ctrl-Shift-Home, or it can be tapping a single key multiple times, for example double tap Caps Lock.

```

KEYBOARD SHORTCUTS
+-----+
> Main Menu      5x<scroll>
  Switching List <L-Ctrl><L-Alt><F12>
  Conn. Overview <L-Ctrl><L-Alt><F10>
  Disconnect     <L-Ctrl><L-Alt><F11>
  Favourites     <L-Ctrl><L-Alt><F1>

Use arrows to scroll up and down.

E = Edit
Q = Exit

```

## 5.6 Menu Item "L" - Switching List

Takes you to the switching list (see [section 7](#)).

## **5.7 Menu Item “Q”**

To close the extender menu press the “Q” key.



## 6 SWITCHING Menu Guide / Settings

By pressing “W” in the main menu of the OSD you can access the settings of the Switching Option and configure your network.

Please note that this menu item is only active when the Switching Option has been unlocked on the Remote Extender.

To unlock an Option see [item 5.2](#).

In order to prevent unauthorised access to the Network Settings this item is protected by a user/password. Access is only allowed for users with administrator rights.

The factory settings provide an administrator user with User: admin and Password: admin.

```
Enter User/Password
+-----+

> USER:      admin-----
> PASSWORD:   admin-----

ESC = Cancel
```

Fig. 11

```
NETWORK SETTINGS
+-----+
V = Master View (Device Configuration)
M = Network Mode

T = Set Timeout (Immediately)

Q = Save and Exit
```

Fig. 12

## 6.1 Network Settings Item “V” - Master View (Device Configuration)

The master view menu provides the administrator with the ability to view, add, edit or remove user, console and computer information.

```
MASTER VIEW menu
+-----+
O = Connections Overview
U = User List
C = Console Extender List
P = PC Extender List
M = Multi-Head Configuration

R = Restart All Extenders

Q = Exit
```

Fig. 13

### 6.1.1 Master View Item “O” - Connections Overview

Provides an overview of the current connections as well as the free PCs and consoles on the network.

You may break a connection remotely, or assign a PC a new console or vice versa.

```
MASTER VIEW connections overview
+-----+
> SERVER 1      <-->  CONSOLE 1
  SERVER 2      <-->  CONSOLE 2
  SERVER 3      <-->  CONSOLE 3
                  CONSOLE 4

I = Show Details
Q = Exit
```

Fig. 14

```

MASTER VIEW connections detail
+-----+
> Computer:      SERVER 1
  Workstation:   CONSOLE 1
  User:          <None>

D = Force Disconnect
E = Select PC for workstation
Q = Exit

```

Fig. 15

### 6.1.2 Master View Item “U” - User List

With this menu item you may manage user details, rights and groups.

Press the “A” key to add a new user. Delete a user by pressing the “R” key. Pressing “I” displays details about the user which may be edited.

```

MASTER VIEW user list
--USER-----+---GROUPS---+---RIGHTS---+
> admin      | 1,2,3,4,5.. | admin
  master     | 1,2          | master
  user       | 1            | user
             |              |
             |              |
             |              |
             |              |

A = Add      R = Remove
I = Info     Q = Exit

```

Fig. 16

```
MASTER VIEW user list
```

--USER-----+--BOUND PC-----+	
> admin	<None>
User1	SERVER 1
User2	SERVER 2

A = Add                      R = Remove  
I = Info                     Q = Exit

Fig. 17

**User:** Assign each user a login name with max. 16 characters.

**Full Name:** For clarity the full name of a user may be entered. This name is displayed when informing other users who interrupted their connection.

**Password:** Each user requires a password for the login. Max. 16 characters

**Rights:** There are three types of rights: USER, MASTER and ADMIN. By pressing the "+" key the rights of the selected user can be changed.

The rights control access to the Network Settings menu (only ADMIN), and which users may interrupt the connection of which other users.

Admin: May interrupt connections of Masters and Users. In the case that an Admin interrupts the connection of another Admin, the interrupted Admin may reclaim the original connection. Private connections can't be interrupted.

Master: May interrupt connections of Users. In the case that a Master interrupts the connection of another Master, the interrupted Master may reclaim the original connection. Admins and private connections can't be interrupted.

User: In the case that a User interrupts the connection of another User, the interrupted User may reclaim the original connection. Admins, Masters and private connections can't be interrupted.

**Groups:** Each user can join up to 8 user groups. Each computer is defined as belonging to one user group. By default all computers are in the same user

group. This system makes it possible to allow or deny different users access to a computer. The user's group access is set by pressing the buttons 1 – 8.

**Bound PC:** When in User-PC Binding mode (see 6.2.5) each user must have a PC bound to them. That user will only be able to connect to that PC. When selected the User Detail menu, press "RETURN" a list of PCs on the network will be displayed to select from.

```
MASTER VIEW user detail
+-----+
> USER:      admin
  FULL NAME:  Administrator
  PASSWORD:   admin
  RIGHTS:     *** (admin)
  GROUPS:     1,2,3,4,5,6,7,8
  Bound PC:   SERVER 1

A = Add      R = Remove
I = Info     Q = Exit
```

Fig. 18

### 6.1.3 Master View Item "C" - Console Extender List

In the console list you may view all console extenders (remote extenders) in the switching network and their current status.

```
MASTER VIEW console extender list
--NAME-----+--STATUS--+
> Workstation1 | this
  Workstation2 | in use
  Workstation3 | free
               |
               |
               |

R = Remove (Disconnected Only)
I = Info      Q = Exit
```

Fig. 19

"this" defines the extender which you are currently using.

"in use" indicates that the extender is in use.

"free" indicates that this extender is not busy.

Each console extender (remote extender) can be assigned a name. Press the "I" key to bring up the submenu.

#### 6.1.4 Master View Item "P" - PC Extender List

In the computer list you may view all the PC extenders (local extenders) in the switching network, their group and current status.

Again, you can change the details like extender name and user group in the submenu by pressing the "I".

```
MASTER VIEW PC extender list
```

--NAME-----	+GROUP+	+STATUS--
> SERVER1	1	conn'd

R = Remove (Disconnected Only)  
I = Info                      Q = Exit

Fig. 20

### 6.1.5 Master View Item “M” - Multi-Head Configuration

If you use multiple monitors with a PC then you can group individual local and remote extenders together with the Multi-Head settings, making them switch as a single unit.

In order to simplify the following steps it is recommended that you first name every extender by way of the menu items PC Extender List and Console Extender List. To help identify the extenders, when in these menus, the selected extender will start blinking red-green.

It is recommended that before performing the final installation that you first bring all the extenders to a single location, connect them all to a single switch and configure the network.

This configuration setup requires a monitor, a keyboard and a network switch.

```

MASTER VIEW multi-head configuration
--MULTI-HEAD SET-----+---TYPE---+---SIZE--+
> MULTIHEAD_SERVER      |    PC    |    3
  DUALHEAD_CONSOLE      | Console |    2
  DUALHEAD_SERVER        |    PC    |    2
  MULTIHEAD_CONSOLE      | Console |    3
  |                      |         |
  |                      |         |
  |                      |         |
  |                      |         |
  |                      |         |
  |                      |         |

A = Add          R = Remove
I = Info         Q = Exit

```

Fig. 21

Bring up the Multi-Head menu and create a new Multi-Head set by pressing <A>. The Detail menu will open in which you can give the Multi-Head Set a name.

In this menu you can add individual extenders to the set by pressing <A>. The extender type is automatically determined once the first extender has been selected. By pressing <R> you can remove an extender from the Multi-Head set. Leave this menu and save by pressing <Q>.

### Highly recommended:

**In order to ensure that USB is always available, ensure that the first extender in every multi-head set is the one with USB connectivity.**

```

MASTER VIEW multi-head detail
+-----+
> Name:    mhs1
  Type:    Undefined
  Heads:   0
--Module List-----
  SERVER 1/1      | conn'd
  SERVER 1/2      | in use
  SERVER 1/3      | in use

A = Add Module    E = Edit
Q = Exit and Save

```

Fig. 22

When you select a Multi-Head set in the main Multi-Head menu you can bring up the details again to read or edit by pressing the <I> key.

You may remove a dismantled or altered Multi-Head set from the system by selecting it in the menu and pressing <R>.

## 6.2 Network Settings Menu Item “M” - Network Mode

The network modes allow you define just how you want the network system to operate. Each of the modes available may individually be activated or deactivated by pressing the appropriate key. You may have more than one selected depending on their function. Some modes require others, and others are incompatible with each other, but the system will automatically recognise this for you.

```

NETWORK MODES
+-----+
P = Passwords ..... [Enabled ]
C = Auto Connect ..... [Disabled]
V = Private Connections ..... [Disabled]
B = User-PC Binding ..... [Disabled]
D = Discon on PC Power Down . [Disabled]
H = Hide Info Display ..... [Disabled]
T = Reconnect on Startup .... [Disabled]
S = Video Sharing ..... [Disabled]

Q = Exit

```

Fig. 23

### 6.2.1 Network Settings Mode Item “R” - Reset Modes to Factory Default

This will reset the extenders to factory settings.

ATTENTION: All user/console/computer tables will be deleted.

### 6.2.2 Network Settings Mode Item “P” - Passwords Disabled

By turning on the password system - user groups and rights and login access will be activated.

For more information about user groups and rights see [item 6.1.2](#).



Access to the network settings is always protected by a login and password, even when the password system is disabled.

### **6.2.3 Network Settings Mode Item “C” - Auto Connect**

If your connection is interrupted by another user the switching system will automatically connect you with a free computer when the Auto Connect setting is active.

This function is unavailable while using the Password System.

### **6.2.4 Network Settings Mode Item “V” - Private Connections**

By activating the private connection function, users can set up a private connection with a computer, which can't be interrupted by other users.

To establish a private connection hold down “<Shift>” while you select a new connection (either in the switching menu or by pressing the hotkey combination).

See [item 7 Switching](#).

### **6.2.5 Network Settings Mode Item “B” - User-PC Binding**

When in the User-PC Binding mode the switching system behaves quite differently. Each console start unconnected and displaying the log in screen (Fig. 11). The switching menu and switching hot keys are not available. The admin must configure each user to have a specific PC bound to them ([see 6.1.2](#)). When a user logs on they will be automatically connected to their bound PC. If another user wishes to use the console the first user must disconnect and logout with the key combination Ctrl-Alt-F11.

Users with Master or Admin rights are able to access the switching menu as normal once they've entered their login details.

### 6.2.6 Network Settings Mode Item “D” - Disconnect on PC Power Down

When enabled any local extender that is connected to a PC that is powered down will automatically break its connection allowing the remote extender to find a different local extender to connect to.

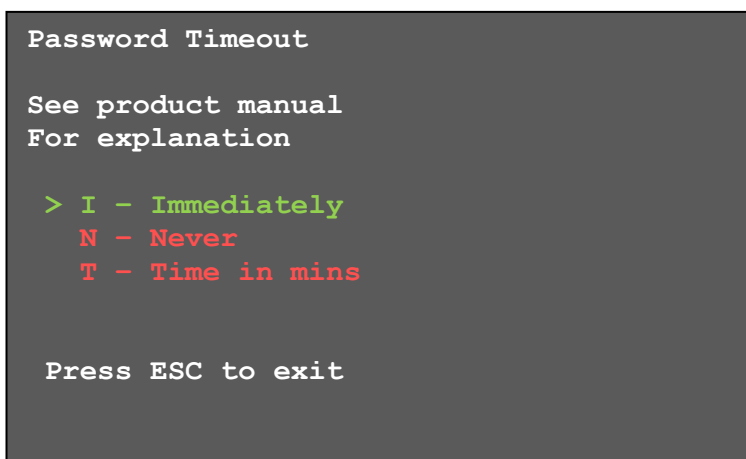
### 6.2.7 Network Setting Mode Item „S“ - Video Sharing

For further information, please see [item 8.1](#)

## 6.3 Network Settings Item “T” - Set Timeout

When the password system is activated you can define under what circumstances the user will required to enter their login details when switching.

- I – Immediately: User and password must be entered for each switch.
- N – Never: User and password are not required until the current user logs out. See [item 7](#).
- T – Time in min: You define the number of minutes since the last switch before the user and password details are required again to switchs.



```
Password Timeout

See product manual
For explanation

> I - Immediately
  N - Never
  T - Time in mins

Press ESC to exit
```

Fig. 24

## 7 Switching between different computers

The menu for the switching option is accessed via a USB keyboard on the Remote Extender. Press “Ctrl+Alt+F12” to display the switching menu (see Fig. 25).

The switching menu will list all the computers (Local Extenders) connected to the switching network.

**Blue** indicates the computer with which you are currently connected. The status is listed as “conn’d”.

**White** indicates a computer which is currently connected to by another work station (Remote Extender). The status is listed as “in use”.

**Green** indicates a computer in the switching network that isn’t connected to any work station (Remote Extender). The status is listed as “free”.

**Red** indicates a computer which was once in the switching network but isn’t currently available. This usually indicates that the Extender has been disconnected from the network. If this is the case the computer can be removed from the switching menu with the “delete” key.

The list can be navigated by the “arrow up” and “arrow down” keys. The currently selected computer is indicated by the greater than symbol on the left edge of the OSD (On Screen Display). By pressing the “Return” key **you will switch to the selected computer.**

The left column defines the **favourites menu**, and provides each computer with a favourite number. Each favourite number corresponds to a hotkey combination that can be used to quickly connect to the desired computer without having to access the switching menu. For example favourite “1” has **the hotkey combination “Ctrl+Alt+F1”**, for favourite “2” it’s “Ctrl+Alt+F2” and so on up to favourite “8” with “+Alt+F8”. All other computers can still be accessed via the switching menu.

If the password system is active, the user in currently logged in is displayed at the bottom. You can manually logout by pressing the "x" key or disconnect from the current PC by pressing the „d" key.

```
> 1 | PC1 | conn'd
   2 | PC2 | in use
   3 | PC3 | free
   4 | PC4 | discon
   |
   |
User: admin      X - Logout
D - Disconnect
[Link] [Conn] [Video] [USB]
```

Fig. 25

## 8 Multicast

### 8.1 Video Sharing

When the Video Sharing Mode is enabled, users can share their screen with other users on the network.

What happens with the control over the local extender depends on the initial state.

There are two main use-cases which can both be controlled in the "MASTER VIEW connections overview" menu - which can be reached with the key combination Ctrl-Alt-F10.

#### 1. A user needs his/her screen to be mirrored to other consoles:

This can be done by opening "MASTER VIEW connections overview" and pressing "P" over the console that should display the user's screen.

In this case "P" stands for "push to screen". Such a command is only valid if the console which initiates the mirroring is currently connected to a local extender and has video.

#### 2. A user needs to see the screen of other consoles on the network:

This is done by opening "MASTER VIEW connections overview" and pressing "G" over the console that should display the user's screen.

The key "G" stands for "get screen". If the console extender from which this command is executed currently has a partner, a disconnect is executed before the video of the other local extender is displayed.

If the selected local extender currently isn't connected, a connection including USB, etc. is established.

"D" disconnect

For help press "Strg+H"

## **9 Mounting Options**

### **9.1 Mounting Pads**

Included. These can be used to hold the Extenders in place by preventing them from sliding and falling.

### **9.2 Rack Mounting Kit**

Our rack mounting kits are optional extras, available in three varieties and make installation convenient.

Now available with a redundant power supply.

RMK-F Part No. 6130; RMK-FN Part No. 6131; RMK-FRN Part No. 6132

### **9.3 Under desk Mounting Kit**

Optional (Part No. 6937)

### **9.4 Din Rail Mounting Kit**

Optional (Part No. 6136)

### **9.5 Dual Mounting Kit**

Optional (Part No. 6937)

## 10 Requirements

### Requirements for Cat 5/6/7 cables:

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 can not 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.

Applicable standards: Class D ISO/IEC 11801:2002 or EN 50173-1:2002.

### 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

Shielded installation cable with min. cross section of 24AWG throughout the length, shield is contiguous and connected to both ends.

Shielded patch cable is allowed for connection to the device.

### Requirements fibre

#### Multi-Mode (standard)

Included with the MVX1-F is a LWL Multimode – SFP Module which allows a transmission distance of up to 500m.

Requires dedicated fibre connection, cable type Duplex Multimode 50/125 $\mu$  (OM2), LC connector

#### Single-Mode (optional)

LWL Singlemode – SFP Module up to 20km transmission distance

Requires dedicated fibre connection, cable type Duplex Singlemode, LC connector

LWL Singlemode – SFP Modul BiDi up to 20km transmission distance

Requires dedicated fibre connection, cable type Singlemode, LC connector

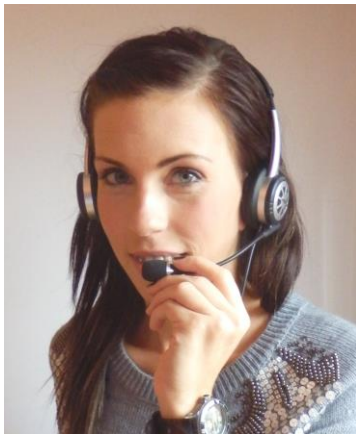
Wavelength ( $\lambda$ ) 850nm in multimode

1310nm TX – 1550nm RX in singlemode



## 11 Support

If you have any questions about our products, please contact your dealer.



**kvm tec**  
smart connections



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Find our latest updates and FAQs on our homepage: <http://www.kvm-tec.com/support>



## 12 Guidelines

### KVM-TEC Electronic GmbH

Kulturstrasse 1, 2522 Oberwaltersdorf, Austria

Commercial register number: FN 272328h LG Wr. Neustadt

### DOCUMENT OF CONFORMITY

### CE KONFORMITÄTSERKLÄRUNG

I hereby declare that the device:

**KVM-Extender** Type/Model:

**MX Digital KVM Extender/PC and Digital KVM Extender/Mon**

when used with a shielded CATx cable fulfils the requirements of EU Directive 2004/108/EC (EMV / EMC) "Electromagnetic Compatibility" and the harmonized European standards listed within.

In particular, the limits of the following standards are observed:

#### Safety

EN 60950-1:2006+A2:2013, IEC 60950: 2005

LASER CLASS 1: EN 60825-1:2007 compatible with IEEE 803.3z

#### EMC / EMV

EN 55022: 2010 Class A

EN 55024: 2010

EN 61000-3-2 2014

EN 61000-3-3 2013

#### EU Directive

2006/95/EC low voltage directive

EMC directive 2004/108/EC EMV guideline

EU directive 2011/65/EU (RoHS II)

The device was tested in a typical application with a PC.

Oberwaltersdorf, November 2015



Dietmar Pfurtscheller  
Geschäftsführer / CEO

Warning !

This is a Class A product. This product may cause radio interference in residential areas. In this case adequate counter measures may be requested from the operator.

