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Guntermann & Drunck
GmbH

G&D miniMUX4

Installation and Operation

About this manual

This manual has been carefully compiled and examined to the state-of-the-art.

G&D neither explicitly nor implicitly takes guarantee or responsibility for the quality, efficiency and marketability of the product when used for a certain purpose that differs from the scope of service covered by this manual.

For damages which directly or indirectly result from the use of this manual as well as for incidental damages or consequential damages, G&D is liable only in cases of intent or gross negligence.

Caveat Emptor

G&D will not provide warranty for devices that:

- Are not used as intended.
- Are repaired or modified by unauthorized personnel.
- Show severe external damages that was not reported on the receipt of goods.
- Have been damaged by non G&D accessories.

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Proof of trademark

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Version 2.10 – 12/10/2011
Firmware: 1.3.3

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Contents

Safety instructions

Please read the following safety instructions carefully before you start operating the G&D product. The instructions well help in avoiding damages to the product and in preventing possible injuries.

Keep this manual handy for all persons who will be using this product.

Follow all warnings or operating instructions which are on the device or stated in this user manual.

⚠ **Beware of electric shocks**

To avoid the risk of electric shock, do not open the device or remove the covers. If service is required, please contact our technicians.

⚠ **Disconnect the main power plug or the power supply before installation**

Before installation, ensure that the device has been disconnected from the power source. Disconnect the main power plug or the power supply of the device.

⚠ **Ensure constant access to the power plugs**

During the installation of the devices, ensure that the power plugs remain accessible.

⚠ **Avoid tripping hazards**

Avoid tripping hazards while laying cables.

⚠ **Only use a grounded voltage source**

Operate this device by using a grounded voltage source.

⚠ **Use only the provided G&D power pack**

Operate this device with the provided G&D power pack or with the power pack listed in the manual.

⚠ **Operate the device only in designated areas.**

The devices are designed for indoor use. Avoid exposure to extreme cold, heat or humidity.

The »miniMUX4« KVM switch

With the *miniMUX4* KVM switch, you can operate up to four computers over one console.

Accessing a computer connected to the KVM switch establishes a connection to that computer. The computer is operated through keyboard and mouse that are connected to the KVM switch. The video signal is displayed at the monitor connected to the KVM switch.

NOTE: Apply a *Multichannel* variant if you want to operate computers to which several monitors are connected.

Multichannel variants provide interfaces to connect *two* (MC2), *three* (MC3), or *four* (MC4) monitors. They also provide the same amount of video inputs per computer.

You can switch between computers either by using key combinations or the On-Screen Display (OSD).

Support of PS/2 and USB input devices

You can operate the KVM switch and the connected computers with PS/2 *or* USB keyboards and mouses.

NOTE: Regardless of the type of console keyboard and mouse (PS/2 or USB), the signals of both input devices can be transmitted either via PS/2 or USB interfaces.

Depending on the mouse and keyboard interfaces of the computer you want to connected, either use USB or PS/2 cables to connect the computers to the KVM switch.

NOTE: Use the following cables to be able to perform advanced functions of special keyboards:

- **PixelPower or SKIDATA keyboard:** »CPU-PS/2« connection cable
- **USB Multimedia or Sun keyboard:** »CPU-USB« connection cable

Package contents

- 1 × »miniMUX4« KVM switch
- 1 × power cable
- 1 × update cable
- 1 × manual

NOTE: The package contents of the standard variant which enables the connection of one monitor also includes four cables to connect the computers (2 meters).

When purchasing a *Multichannel* variant for the connection of several monitors, the required cable sets must be ordered separately.

Installation

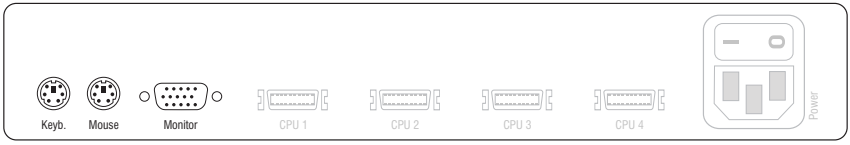
The following pages provide a description of how to connect console devices (keyboard, mouse and monitor) and computers to the KVM switch.

Mounting the device

1. Turn off the computers you want to connect to the KVM switch. Now, unplug any keyboard and mouse cables from the interfaces.
2. Place the KVM switch between the computers and the console. Please mind the maximum cable length between the KVM switch and the computers you want to connect to the KVM switch:
   - Up to 6 meters when using the *PS/2 variant* of the connection cables
   - Up to 6 meters when using the *USB variant* of the connection cables

NOTE: The numbers on the interfaces on the device‘s back panel comply with the number of the computers shown in the On-Screen Display of the KVM switch.

Connecting console devices



Keyb.: Plug the cable to connect the PS/2 keyboard into this interface.

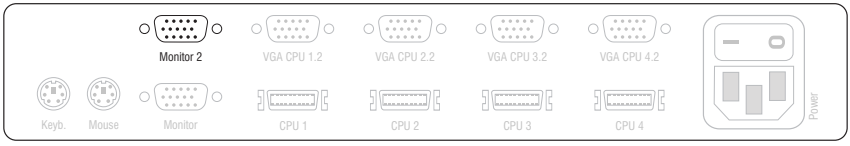
Mouse: Plug the cable to connect the PS/2 mouse into this interface.

> **NOTE:** You can also connect a USB keyboard and/or USB mouse to the **USB K/M** interfaces on the front panel of the device.
>
> The PS/2 interfaces for console keyboard and mouse as well as the USB interfaces on the front panel of the device can be used *at the same time*.

Monitor: Connect the console monitor to this interface.

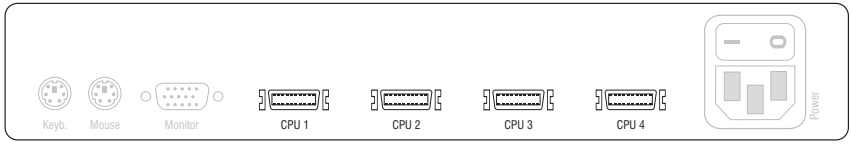
Additional interfaces of multichannel variants

> **NOTE:** Multichannel Variants provide interfaces to connect *two* (MC2), *three* (MC3), or *four* (MC4) monitors.
>
> The additional monitor interfaces are located above the **Monitor** interface. The following figure shows the interfaces for the *miniMUX4-MC2* KVM switch.



Monitor ×: Connect the console monitor for *Video Channel* ×.

Connecting computers



CPU ×: Connect the cable for *Computer* ×to this interface.

IMPORTANT: Computer connection cables are available as PS/2 and USB variant. Connect the cables to the computers to be operated (see below).

»CPU-PS/2« Connection Cable:

- Insert the 15-pin D-Sub plug into the computer‘s graphics output.
- Insert the purple plug into the computer‘s PS/2 keyboard interface.
- Insert the green plug into the computer‘s PS/2 mouse interface.

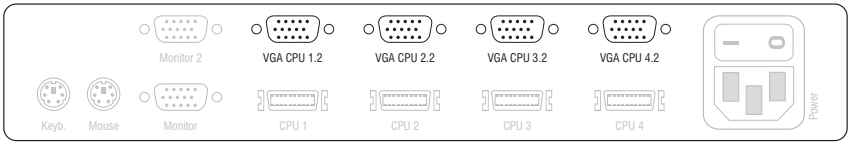
»CPU-USB« Connection Cable:

- Insert the 15-pin D-Sub plug into the computer‘s graphics output.
- Insert the USB-A plug into one of the computer‘s USB interfaces.

Additional interfaces of multichannel variants

NOTE: For each monitor that can be connected to the KVM switch, the device provides one video output per computer.

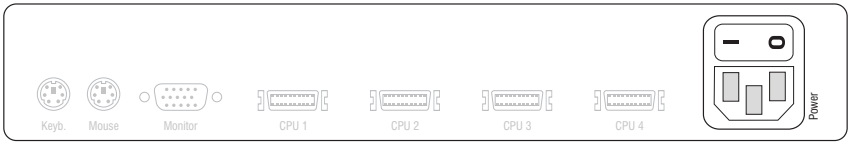
The additional video inputs of the multichannel variants are numbered with **VGA CPU x.y**. The following figure shows the additional interfaces for the two video channels of the video channels (**y**) of the four computers (**x**) of the *miniMUX4-MC2* variant.



VGA CPU x.y: Connect this interface to the additional video output **y** of the computer **x**.

Use one of the optionally available video cables for this purpose.

Connecting the power supply



Power: Connect the supplied power cable to this interface.

Startup

You can operate the KVM switch directly after its installation (see page 5 ff.).

ADVICE: You can use the console monitor at the KVM switch to monitor the messages the device sends during its booting process.

How to turn the KVM switch on:

1. Turn on the *Power button on the back panel of the* KVM switch.

System startup

After you turn on the KVM switch, the console monitor displays information about the **System Startup**. In addition to the installed firmware version, you are also informed if keyboard and mouse are detected.

ADVICE: Press the **Pause** button to pause the process. Press any key to continue.

You can operate the KVM switch when the **Select Computer** or **Login** dialogue opens.

Getting started

The KVM switch requires no user login in the default configuration (*OpenAccess*). The On-Screen Display directly displays the **Select Computer** dialogue.

NOTE: If the login window opens after the KVM switch is turned on, the user management is disabled (see page 20).

In this case, use a user account to log in to the KVM switch as described on page 21 and return to this paragraph.

Accessing computers

Accessing a computer connected to the KVM switch establishes a connection to that computer.

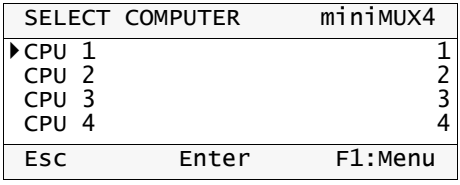
Operate the accessed computer with keyboard and mouse connected to the KVM switch. The video signal is displayed at the monitor connected to the KVM switch.

The computer can be easily accessed by using key combinations or the On-Screen Display.

NOTE: In addition to accessing a particular computer, the KVM switch offers three different accessing possibilities that are described on page 12.

Accessing computers by using the On-Screen Display

On the **Select Computer** menu of the On-Screen Display, you can access one of the connected computers.



A triangle (▸) indicates if the computer is already accessed by another user.

The names of active computers are displayed in green. Red names indicate that no computer is connected to this channel or the computer is inactive.

ADVICE: A detailed description of the On-Screen Display is given on page 17.

How to access a particular computer by using the On-Screen Display:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Use the **Arrow keys** to select the computer to be accessed and press **Enter**.

> **NOTE:** The On-Screen Display closes after the switching. An information display shows the active channel (see page 32).

> **NOTE:** If you leave the menu by pressing **ESC**, the channel is not switched.

Accessing a computer by using key combinations

You can access a computer by pressing a key combination at the console keyboard.

For accessing a computer with a key combination, you do not need to open the on-screen display. Switching by using a key combination is therefore the fastest way to switch between channels.

How to access a particular computer by using key combinations:

1. Press the **Hotkey+Select Key** key combination at the console keyboard.

   In the default configuration, you can switch the channel by pressing **Ctrl** and the select keys **1** to **4**.

   The channel is switched when the keys are released.

> **NOTE:** The On-Screen Display closes after the switching. An information display shows the active channel (see page 32).

> **ADVICE:** The select keys are displayed in the right column of the **Select Computer** menu (see page 10).

Further Information:

- *Changing hotkeys or double hotkeys* on page 37
- *Changing select keys* on page 39
- *Defining select keys* on page 27

Advanced switching functions

In addition to accessing a computer directly (see page 10), the KVM switch provides three special ways of switching:

- **Autoscan:** The *Autoscan* function accesses all computers in sequence.
- **Autoskip:** The *Autoskip* function accesses the next *active* computer.
- **Stepscan:** If the *Stepscan* mode is enabled, you can access the previous or next computer by pressing a key.

NOTE: Define the computers you want to include when performing the aforementioned functions (see page 25).

NOTE: You can change the time span between the switchings of the *Autoscan* or *Autoskip* function (see page 29).

Automatically accessing computers (Autoscan)

The *Autoscan* function accesses all computers in sequence (see page 29).

After each switching, an information display at the monitor shows the name of the active computer, the name of the KVM switch and **SCAN**.

```
CPU 1
miniMUX4
SCAN
```

NOTE: If the *Autoscan* function is enabled, any keyboard and mouse inputs are forwarded to the active computer.

During your inputs, the *Autoscan* function pauses and continues after you finish your inputs.

NOTE: In the default configuration the *Autoscan* function accesses all computers.

You can change this setting as described in the paragraph *Selecting computers to perform advanced switching functions* on page 28.

How to start the *Autoscan* process:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Select **Autoscan** and press **Enter**.

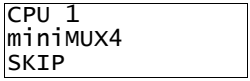
How to stop the *Autoscan* process

1. Press **Ctrl+Num** (standard) to open the On-Screen Display or use a key combination to switch the channel.

Auto accessing active computers (Autoskip)

The *Autoskip* function accesses any *active* computer in sequence.

After each switching, an information display at the monitor shows the name of the active computer, the name of the KVM switch and the information **SKIP**.



NOTE: If the *Autoskip* function is enabled, keyboard and mouse inputs are forwarded to the active computer.

The *Autoskip* function stops during those inputs and continues after the inputs have been made.

NOTE: In the default configuration the *Autoskip* function accesses all computers.

You can change this setting as described in the paragraph *Selecting computers for automatic access* on page 26.

How to start the *Autoskip* process:

1. Press **Ctrl**+**Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Select **Autoskip** and press **Enter**.

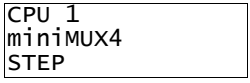
How to stop the *Autoskip* process:

1. Press **Ctrl**+**Num** (standard) to open the On-Screen Display or use a key combination to switch the channel.

Manually accessing computers (Stepscan)

After the *Stepscan* mode has been accessed, press a key to access the previous or next computer.

After each switching, an information display at the monitor shows the name of the active computer, the name of the KVM switch and the information **STEP**.



How to start the *Stepscan* process:

1. Press **Ctrl**+**Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Select **Stepscan** and press **Enter**.

How to access the previous or the next computer:

1. When the *Stepscan* function is active, use the **Arrow↑** key to switch to the next or the **Arrow↓** key to switch to the previous computer.

> **NOTE:** If you changed the step keys, proceed as described in the chapter *Defining select keys* on page 27 to find out the current settings.

How to stop the *Stepscan* process:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display or use a key combination to switch the channel.

Renaming computers

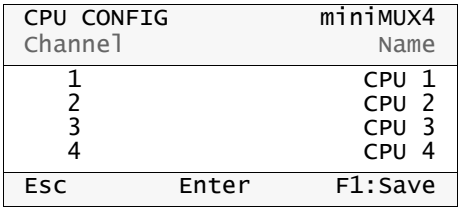
> **NOTE:** Only the *Supervisor* and users with configuration rights can rename a computer (see page 24).

In the defaults, the different computers are automatically named. The name comprises the term **CPU**, a space, and the number of the computer (for example **CPU 4**).

The names can be edited and may contain up to 14 alphanumeric characters.

How to rename a computer in the KVM switch:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **CPU Config** and press **Enter**.



4. Select the computer you want to rename.
5. Enter the name and press **Enter**.

> **NOTE:** You can also press **Enter** and edit the current name. Confirm your entry by pressing **Enter**.

6. Repeat steps 4 and 5 to rename further computers.
7. Press **F1** to save your settings.

Enabling or resetting PS/2 mouses

Unlike USB mouses, PS/2 mouses do not support hot plug technology. You can therefore insert the PS/2 plug during operation, but the input device might not be detected by the computer.

To enable or reset the PS/2 mouse, the KVM switch can be used to send a special command to the computer.

Since the commands differ depending on the used mouse type and the installed operating system, four different setup keys are provided.

How to enable or reset the PS/2 mouse:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Mouse Utility** and press **Enter**.
4. Select one of the following functions and press **Enter**:

Reset Mouse:	Resets PS/2 mouse interface of a Windows computer
Enable Mouse (for Unix):	Enables PS/2 wheel mouse of a Linux computer
Enable Intelli:	Enables PS/2 wheel mouse of a Linux computer
Enable Intelli-Explorer	Enables PS/2 wheel mouse with additional mouse keys of a Linux computer

On-Screen Display

With the On-Screen Display (OSD), you can operate and configure the KVM switch.

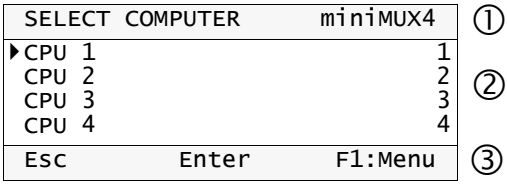
Opening the On-Screen Display

The **Hotkey+Num** (default: **Ctrl+Num**) key combination opens the OSD of the KVM switch. The OSD is now displayed at the console monitor.

> **ADVICE:** If you apply a Microsoft »IntelliMouse Explorer« or another compatible mouse, you can use the additional mouse keys to open the On-Screen Display (see page 36).

Layout of the On-Screen Display

The menus of the On-Screen Display comprise three main parts.



- The **Header** ① shows the name of the current menu.
- The **List field** ② displays the computers to be accessed or the menu entries of the currently opened menu.
- The **Footer** ③ shows the keys to operate the menu that is currently displayed.

Operating the On-Screen Display

You can use keyboard or mouse to operate the On-Screen Display.

Supported keys and mouse movements

The following table lists the supported keys and mouse movements.

Function	Keyboard	Mouse
Show On-Screen Display	Ctrl+Num	key 4 or 5
Move cursor up	Arrow↑	up
Move cursor down	Arrow↓	down
Move cursor to first visible entry	PgUp↑	
Move cursor to last visible entry	PgDn↓	
Move cursor to first entry	Home	
Move cursor to last entry	End	
Select option of a menu item	Space	
Open submenu of selected menu item	Enter	left mouse key
Close opened menu	Esc	right mouse key

IMPORTANT: If you apply a Microsoft »IntelliMouse Explorer« or another compatible mouse with the Stepscan function (see page 37), the On-Screen Display cannot be opened by mouse.

Opening OSD menus

After you call up the On-Screen Display ,the **Select Computer** menu opens.

Press the **F1** key to open the menu. You can use the **Arrow↑** and **Arrow↓** keys to select a submenu. Now press **Enter** to open the menu.

ADVICE: After you open the OSD, you can also use one of the keys listed below to access a menu directly.

Function	Key
Menu or Select Computer	F1
Autoscan	F2
Console Setup	F3
CPU Config	F4
User Profile	F5
User Account	F6
Logout	F8
Autoskip	F9
Stepscan	F10

Changing settings in the On-Screen Display

The **List field** ② of the On-Screen Display provides different types of menu entries:

- **Configuration settings:** The setting that is currently active is displayed in the right column. Press the **Space** key (repeatedly) to select between the options.

```
Hotkey:                          CTRL
```

After you configured a menu according to your demands, press **F1** to save your settings and return to the main menu.

- **Select menus:** If a menu bar is too short to display the name or the option, the entries are displayed in a context menu.

```
PixelPower Clarity (blue)   X
SKIDATA 1
```

Choose the menu bar you want to enable/disable and press **Space**. Confirm your settings with **Enter** and leave the menu.

- **Submenus:** Submenus group configuration settings and detailed information according to topic.

```
USB Keyboard Mode           ...
```

Submenus are indicated with three dots in the right column. Press **Enter** to open the submenu. The **Footer** ③ displays the key to close the submenu.

- **Text fields:** Enter the text. This overwrites the existing entry.

```
Console Name:          miniMUX4
```

ADVICE: You can also press **Enter** to edit the entered text.

Confirm your entries by pressing **Enter**.

Menu entries in different colours

The **List field** ② entries are displayed in different colours:

- **White:** name of the menu entry
- **Light blue:** disabled menu entry (check user rights if necessary)
- **Yellow:** settings that can be edited by the user
- **Green:** tactive computer (in list field of *Select Computer* menu)
- **Red:** tinactive computer (in list field of *Select Computer* menu)

User management

The integrated user management provides free (*OpenAccess*) or restricted access to the KVM switch.

You can also combine the two access modes.

IMPORTANT: Access to the KVM switch is not password-protected (*OpenAccess*) in the default configuration. You do not need to enter a username or a password to log in to the KVM switch.

For controlled access, you can create eight user accounts in addition to the *Supervisor* account.

Overview of the different access levels

The KVM switch differentiates between user accounts, the special *OpenAccess* account, and the *Supervisor* account.

The following table lists the rights of the different user types as adjusted in the default configuration:

Access Right	User	Open Access	Supervisor
Use KVM switch without login	×	✓	×
Switch to connected computers	✓	✓	✓
Execute Autoscan, Autoskip, and StepScan function	✓	✓	✓
Configure console	✓	✓	✓
Edit own user profile	✓	✓	✓
Activate or reset PS/2 mouse	✓	✓	✓
Rename computer	×	✓	✓
Administrate user accounts	×	✓	✓
View and change system settings	×	✓	✓
Reset default configuration	×	✓	✓
Changing Scancode sets	×	×	✓
Configure »Supervisor« account	×	×	✓

NOTE: In addition to the *Supervisor*, users that are assigned with the particular rights can rename computers, administrate user accounts and view and change the system settings.

The Supervisor can assign or deny configuration rights to other user accounts.

IMPORTANT: In the default configuration, the *OpenAccess* user account is assigned with configuration rights.

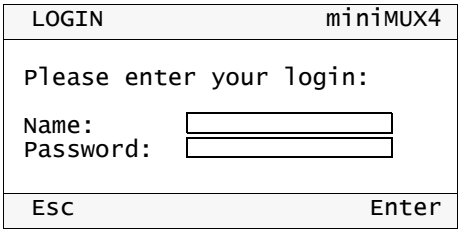
User or Supervisor login/logout

Login as user or Supervisor

IMPORTANT: In the default configuration, access to the KVM switch is not password-protected (*OpenAccess*). The login box is *not* displayed after you turn on the device. The **Select Computer** menu opens instead.

Log off the active user to open the login box (see below).

The KVM switch asks you to log in after the user module is turned on or another user logs out:



How to log in as user or Supervisor at the KVM switch:

1. Enter the following data into the login box:

Name:	Enter your username.
Password:	Enter the password for your user account.

NOTE: In the default configuration, the **SUPERVISOR** account is assigned with the password **4658**. Change this password after the first login (see page 23).

ADVICE: Access to the KVM switch is not password-protected (*OpenAccess*) in the default configuration. You do not need to enter a username or a password to log in to the KVM switch.

2. Press **Enter** to log in and to open the On-Screen Display.

NOTE: A computer is automatically accessed if the access is defined in the user account (see page 26).

User logout

NOTE: The *OpenAccess* is enabled in the default configuration of the KVM switch. The *OpenAccess* user only needs to log out if another user, for example the *Supervisor*, wants to log in.

Use the *Logout* function to log out from the KVM switch. The *Login* box is displayed after the logout.

How to log out from the KVM switch:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Logout** and press **Enter**.

Disabling OpenAccess

In the default configuration, you can access the KVM switch without restrictions. Access to the KVM switch is *not* protected with a login box.

Depending on the use of the KVM switch, it might be useful to restrict access by creating user accounts.

Enabling a user account and disabling the *OpenAccess* account (see below) disables the open access.

Creating or changing user accounts

IMPORTANT: Only the *Supervisor* or users with the required rights (see page 24) can create or change user accounts.

In the default configuration, the eight user accounts are named **USER 1** to **USER 8**. The accounts are disabled.

If you want to configure a user account, you can enable the account and assign it with username and password.

The following paragraphs describe the required procedure.

ADVICE: You can use the **User Account** menu to change the settings. After you finish, press **F1** to save your changes.

Disabling/Enabling user accounts

NOTE: You cannot disable the *Supervisor* account.

NOTE: After you enable a user account, the *OpenAccess* account is disabled.

The *OpenAccess* and the *Supervisor* account are enabled in the default configuration. After a user account is disabled, the user has no longer access to the KVM switch.

During longer absences it might be useful to lock access to the device.

How to disable/enable a user account:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Account** and press **Enter**.
4. Select the user account you want to edit and press **Enter**.
5. Select **Account enabled** and press **Space** to choose one of the following options:

Yes:	Enables user account
No:	Disables user account locks access to KVM switch

6. Press **F1** to save your settings.

Renaming user accounts

NOTE: The name of the user account can contain up to 14 alphanumeric characters.

How to rename user accounts:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Account** and press **Enter**.
4. Select the user account you want to edit and press **Enter**.
5. Select **User Name** with the **Arrow keys**.
6. Enter the username and press **Enter**.
7. Press any key to define a password.

8. Enter the password (at least four characters) and press **Enter**.
9. Repeat the password and press **Enter**.

> **IMPORTANT:** The password is not assigned to the user account when leaving the window by pressing **Esc**. The user cannot log in.

10. Press **F1** to save your settings.

Changing the password of a user account

> **NOTE:** You cannot edit the password of the *OpenAccess* account.

How to change the password of a user account:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Account** and press **Enter**.
4. Select the user account whose password you want to change and press **Enter.**
5. Use the **Arrow keys** to select **Change Password** and press **Enter**.
6. Enter the password (at least four characters) and press **Enter**.
7. Repeat the password and press **Enter**.

> **IMPORTANT:** The password is not assigned to the user account if you leave the window by pressing **Esc**. The user is not allowed to log in.

8. Press **F1** to save your settings.

Resetting the default configuration of user accounts

Use this function to reset the default configuration of user accounts.

> **NOTE:** Username and password are not reset.

How to reset the default configuration of a user account:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Account** and press **Enter**.
4. Select the user account you want to edit and press **Enter**.
5. Use the **Arrow keys** to select **Set Account Defaults** and press **Enter**.
6. Press **F1** to save your settings.

Assigning configuration rights

NOTE: The configuration right of the *Supervisor* account cannot be denied.

In the default configuration, only the *Supervisor* can administrate user accounts, view and change system settings, or rename computers.

If these rights are to be assigned to another user, you can change the settings in the user account.

IMPORTANT: Only the *Supervisor* can reset the default configuration or change the scan code sets and the configuration of the Supervisor account.

How to assign or deny configuration rights to user accounts:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Account** and press **Enter**.
4. Select the user account you want to edit and press **Enter**.
5. Use the **Arrow keys** to select **Config Right** and press **Space** to choose one of the following options:

Yes:	Allow viewing and changing the configuration
No:	Deny viewing and changing the configuration

6. Press **F1** to save your settings.

Assigning access rights to connected computers

NOTE: The *Supervisor* account can access the connected computers at all time.

The users of the KVM switch can be assigned with different rights to access the connected computers. Users can either have full access, only view the screen contents, or no access (see below).

How to allow or deny certain access rights to a user account:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Account** and press **Enter**.
4. Select the user account you want to edit and press **Enter**.
5. Use the **Arrow keys** to select **Edit Access Rights** and press **Enter**.
6. Select the computer whose access rights you want to edit and press **Space** to choose one of the following options:

Full Access:	Enables full access to computer (standard)
No Access:	Denies access to computer
View Only:	Enables user to view the computer‘s screen contents No operation possible

7. Repeat step 6 to change the rights for another computer.
8. Press **F1** to save your settings.

Editing user profiles

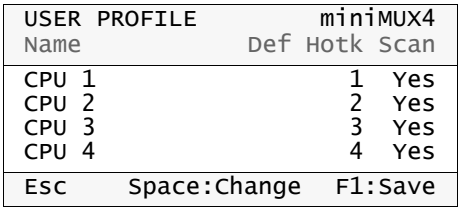
Selecting computers for automatic access

The **Select Computer** dialogue opens directly after the KVM switch has been turned on.

It is also possible to define a computer to be accessed when the user logs in.

How to enable/disable automatic access computers:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Select **User Profile** and press **Enter**.



NOTE: A yellow asterisk highlights the computers to be accessed.

4. Use the **Arrow←** or **Arrow→** keys to select the **Def** column.
5. Use the **Arrow←** or **Arrow→** keys to select the computer whose access settings you want to edit.
6. Press **Space** to enable or disable the automatic access to the computer.
7. Press **F1** to save your settings.

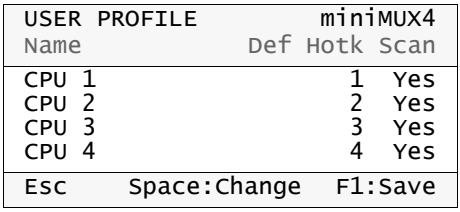
Defining select keys

In the default configuration, the computers are assigned with numeric select keys (**1** to **4**). Each user of the KVM switch can assign their own select keys.

> **NOTE:** Another select key set (for example **A ... K** or **F1 ... F10**) can be enabled as described in chapter *Changing select keys* on page 39.

How to change the defined select keys of the individual computers:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Profile** and press **Enter**.



4. Use the **Arrow←** or **Arrow→** key to select the **Hotk** column.
5. Use the **Arrow←** or **Arrow→** key to select the computer whose select key you want to edit.
6. Press the select key to be activated.

> **NOTE:** If the select key is already assigned to another computer, the existing assignment is deleted.

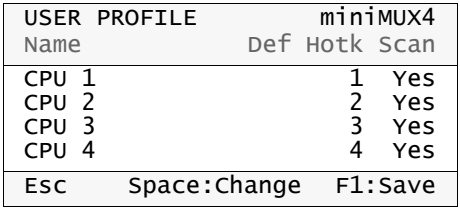
7. Repeat steps 5 and 6 to change further select keys.
8. Press **F1** to save your settings.

Selecting computers to perform advanced switching functions

The computers to be included when performing advanced switching options can be individually defined for each user.

How to define the computers to be included in advanced switching options:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **User Profile** and press **Enter**.



4. Use the **Arrow←** or **Arrow→** keys to select the **Scan** column.
5. Use the **Arrow←** or **Arrow→** keys to select the computer whose scan settings you want to edit.
6. Press **Space** to choose one of the following options:

Yes:	Include computer when performing advanced switching functions
No:	Skip computer when performing switching functions

7. Repeat steps 5 and 6 to change the scan settings for further computers.
8. Press **F1** to save your settings.

Configuration

Configuring consoles

Any user can view and edit the console configuration settings by using the **Console Setup** menu.

IMPORTANT: Only the Supervisor and users with active configuration rights can change the **Scancode Set**.

The following settings are active in the default settings of the KVM switch:

CONSOLE SETUP	miniMUX4
Autoscan Time:	5 Sec
Keyboard Layout:	German
Screensaver:	Off
Auto Logout:	Off
Console Name:	miniMUX4
Show Display:	Temp
Display Position	...
Menu Position	...
Scancode Set:	2
OSD by Mouse:	No
Stepkeys:	Up Dwn
Esc Enter	F1:Save

Adjusting the time between automatic switchings

In the default configuration, the *Autoscan* or *Autoskip* function access a new computer every five seconds (see page 12 ff.).

The time span between switchings can be between 2 and 60 seconds.

How to adjust the time span between automatic switchings:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Autoscan Time**.
5. Use the **Numeric keys** to enter the value and press **Enter**.
6. Press **F1** to save your settings.

Selecting a keyboard layout for the console keyboard

If the On-Screen Display of the KVM switch displays other characters than entered, the adjusted keyboard layout does not comply with the keyboard.

Make sure what keyboard layout complies with the connected keyboard, and select the applicable layout in the console settings.

IMPORTANT: The setting only applies for keys pressed within the On-Screen Display of the KVM switch.

If necessary, check the keyboard layout settings of the operating systems of the connected computers.

How to select the layout of the console keyboard:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Keyboard Layout** and press **Space** to select one of the following options:

German:	German (Germany)
English US:	English (USA)
English UK:	English (Great Britain)
French:	French (France)

5. Press **F1** to save your settings.

Configuring the screensaver

NOTE: The screensaver is disabled in the default configuration.

The screensaver of the KVM switch sets the connected monitor into power down mode if the user is inactive during a defined period of time.

Pressing a key at the keyboard or moving the mouse reactivates the monitor.

ADVICE: After the screensaver is active at the KVM switch, you can disable the screensavers of the connected computers.

How to set the waiting time or disable the screensaver:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Screensaver**.
5. Use the **Numeric keys** to enter a value between **1** and **60** minutes and press **Enter**.

> **NOTE:** Entering the value **0** disables the screensaver.

6. Press **F1** to save your settings.

Configuring the automatic user logout

> **NOTE:** You can disable the automatic logout in the default configuration.

The automatic logout can be enabled to protect the KVM switch from unauthorized access. The logged in user is logged out after the defined period of time and the login window is displayed.

You can set the time period for inactive users between **1** and **60** minutes. Enter **0** to disable the automatic logout.

How to set the automatic logout for a user:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Auto Logoff**.
5. Use the **Numeric keys** to enter a value between **1** and **60** minutes and press **Enter**.

> **NOTE:** Entering the value **0** disables the function.

6. Press **F1** to save your settings.

Renaming KVM switches

It is easier to operate combined G&D devices if you give them self-explanatory names.

To keep a better overview, you can choose names which refer to the function or the location of the devices. This way, the name that is displayed in the On-Screen Display indicates the device that triggers the displayed OSD.

NOTE: Cascading several KVM switches disables the On-Screen Display of the slave switch.

Therefore, you cannot rename the slave switch

How to rename the KVM switch:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Console Name**.
5. Enter the name (max. ten characters) and press **Enter**.
6. Press **F1** to save your settings.

Configuring information displays

In the default configuration, a temporary information display is displayed when a computer is accessed. The display contains the name of the accessed computer, the name of the KVM switch, and, in some cases, further information.

The information display can also be shown permanently or it can be disabled.

ADVICE: If the temporary information display is enabled, you can use **Ctrl+Caps Lock** to show the display again.

How to change the setting for information displays:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.

4. Use the **Arrow keys** to select **Show Display** and press **Space** to select one of the following options:

Temp:	Temporary information display (5 seconds)
Perm:	Permanent information display
Off:	Disable information display

5. Press **F1** to save your settings.

Positioning information displays

In the default configuration, the information display is shown at the left upper corner of the console monitor. However, you can adjust the position to your needs.

How to move information displays:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Display Position** and press **Enter**.
5. This message is shown at the current position of the information display.

```
+
Display position
```

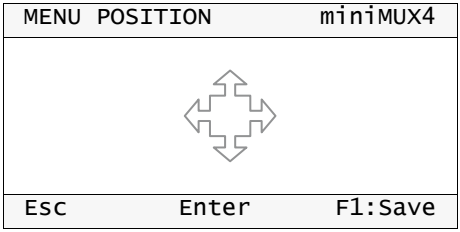
6. Press the **Arrow keys** or the mouse to move the menu to the desired position.
7. Press **Enter** or the left mouse key.
8. Press **F1** to save your settings.

Positioning the On-Screen Display

In the default configuration, the On-Screen Display of the KVM switch is displayed in the middle of the console monitor. However, you can adjust the position to your needs.

How to change the position of the On-Screen Display:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Menu Position** and press **Enter**.



5. Press the **Arrow keys** or the mouse to move the menu to the desired position.
6. Press **Enter** or the left mouse key.
7. Press **F1** to save your settings.

Adjusting the scancode set of the PS/2 keyboard

IMPORTANT: Only the *Supervisor* can change this setting.

If you press a key at the PS/2 keyboard, the keyboard processor sends a data packet that is called scancode. The two common scancode sets (sets 2 and 3) contain different scancodes.

In the default configuration, the user module interprets any entry made at the PS/2 keyboard with the scancode set 2.

Use the scancode set 3 if you cannot enter the pipe "|" or the Arrow keys do not work as expected.

How to select the scancode set for PS/2 keyboards:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Scancode Set** and press **Space** to select scancode set **2** or **3**.
5. Press **F1** to save your settings.
6. Restart the KVM switch. The setting applies after the restart.

Calling the On-Screen Display by mouse

In the default configuration, you can only the On-Screen Display can only be called up with the preset key combination.

If a Microsoft »IntelliMouse Explorer« or another compatible mouse is connected to the KVM switch, you can use the mouse keys **4** and **5** to access the On-Screen Display.

NOTE: If you access the On-Screen Display by mouse, you cannot use Microsoft's »IntelliMouse Explorer« or another compatible mouse when performing the Step-scan function (see page 36).

How to disable/enable the mouse support to operate the On-Screen Display:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **OSD by mouse** and press **Space** to select one of the following options:

No:	OSD cannot be opened by mouse
Yes:	OSD can be opened with keys **4** and **5** of a compatible mouse

5. Press **F1** to save your settings.

Selecting step keys

You can use the *Stepscan* function (see page 13 ff.) to access the previous or the next computer by pressing a key.

In the default configuration, the **Arrow↑** und **Arrow↓** keys are used for accessing the computers. These keys can be changed according to your needs.

How to select the keys to use the *Stepscan* function:

1. Press **Ctrl**+**Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **Console Setup** and press **Enter**.
4. Use the **Arrow keys** to select **Stepkeys** and press **Space** to choose one of the following options:

Up Dwn:	**Arrow↑** and **Arrow↓** keys
PgUp PgDwn:	**Pg Up↑** and **Pg Dn↓** keys
NUM Up Dwn:	**Arrow↑** and **Arrow↓** keys of numeric keypad
NUM PgUp PgDwn:	**Pg Up↑** and **Pg Dn↓** keys of numeric keypad
Num + -:	**Plus** and **Minus** keys of numeric keypad
Explorer mouse	Keys **4** and **5**

NOTE: If you access the On-Screen Display by mouse, you cannot use Microsoft's »IntelliMouse Explorer« or another compatible mouse when performing the Stepscan function (see page 35).

5. Press **F1** to save your settings.

Configuring the system

Only the *Supervisor* or (apart from resetting the default configuration) users with configuration rights can view and edit the system settings of the KVM switch.

The following settings are enabled in the default configuration:

```
SYSTEM CONFIG          miniMUX4
Hotkey:                    Ctrl
Double Hotkey:               No
Select Keys:               0..9
Cascade Setup               ...
USB Keyboard Mode           ...
PS/2 Keyboard Type          ...
Set System Defaults         ...
Esc          Enter       F1:Save
```

Changing hotkeys or double hotkeys

NOTE: The **Ctrl** hotkey is preset in the default configuration.

Enable the usage of double hotkeys (see page 38) if you want to use a combination of two hotkeys.

Press the hotkey and the **Num** key at the same time to open the On-Screen Display of the KVM switch. Access a computer by pressing the hotkey and a select key (see page 11) at the same time.

The hotkey can be adjusted in the settings of the KVM switch. This is required if an application program on one of the connected computers or a combined G&D device uses the same hotkey.

How to change current hotkeys or double hotkeys:

1. Press **Ctrl**+**Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **System Config** and press **Enter**.
4. Use the **Arrow keys** to select **Hotkey** and press **Space** to select one of the following options.

   The following keys are available as **single hotkeys**:

Ctrl:	Enables **Ctrl** hotkey
Alt:	Enables **Alt** hotkey
Alt Gr:	Enables **Alt Gr** hotkey
Win:	Enables **Win** hotkey
Shift:	Enables **Shift** hotkey

The following keys are available as **double hotkeys**:

Ctrl+Shift:	Enables **Ctrl+Shift** double hotkey
Alt+Shift:	Enables **Alt+Shift** double hotkey
Alt Gr+Ctrl:	Enables **Alt Gr+Ctrl** double hotkey
Win+Ctrl:	Enables **Win+Ctrl** double hotkey
Shift+Win:	Enables **Shift+Win** double hotkey

5. Press **F1** to save your settings.

Further Information:

- *Enabling single or double hotkeys* on page 38

Enabling single or double hotkeys

If many application programs with key combinations are operated on one computer, or if different G&D devices are used in one cascade, the number of available key combinations might be restricted.

In such a case, it is appropriate to apply double hotkeys.

How to enable/disable double hotkeys:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **System Config** and press **Enter**.
4. Use the **Arrow keys** to select **Double Hotkey** and press **Space** to select one of the following options:

No:	Enable single hotkeys
Yes:	Enable double hotkeys

IMPORTANT: The **Hotkey** row shows the adjusted single or double hotkey.

5. Press **F1** to save your settings.

Further Information:

- *Changing hotkeys or double hotkeys* on page 37

Changing select keys

The default configuration provides the select keys **1** to **4** to access the computers connected to the KVM switch.

For example, access Computer 4 by pressing **Hotkey+4** (standard: **Ctrl+4**) in the default configuration. You can adjust the select keys to your needs.

How to select a different set of select keys:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **System Config** and press **Enter**.
4. Use the **Arrow keys** to select **Select Keys** and press **Space** to select one of the following options:

0...9:	Enable select keys **0** to **9**
NUM 0...9	Enable select keys **NUM 0** to **NUM 9**
A...K:	Enable select keys **A** to **K**
F1...F10:	Enable select keys **F1** to **F10**

5. Press **F1** to save your settings.

Further information:

- *Defining select keys* on page 27

Changing the mode of »CPU« interfaces

In the default configuration, the KVM switch is configured to connect computers to the **CPU** interfaces.

If you want to connect a slave switch to one of the **CPU** interfaces, change the mode of the interface accordingly. Now, the master switch can access the computers connected to the slave switch.

Detailed information about this topic is given in the paragraph *Increasing the number of connectable computers* on page 43 ff..

Selecting the USB keyboard mode

IMPORTANT: The USB keyboard mode is only available in the On-Screen Display of a master device and only applies for the master device.

If the KVM switch is used as slave device within a cascade, this setting is not available. You can change this setting by temporarily operating the KVM switch as master device.

Any USB keyboard can be connected to the KVM switch. The active computer highlights if a key has been pressed at the standard keyboard.

If the applied USB keyboard provides additional functions, enable the USB keyboard mode to support the special keys. In the preset **PC Multimedia** mode, common multimedia keys are transmitted to the different computers.

Compared to standard keyboards, Sun desktops and servers are provided with separate keys (*Solaris Shortcut Keys*) to operate special system functions. After the keyboard mode for Sun desktops and servers has been enabled, Solaris Shortcut Keys can be used at the console. If the console only provides a standard keyboard, several key combinations can be applied to emulate Solaris Shortcut Keys (see page 41).

Select one of the various *USB Keymodes* to be able to use the special keys of such keyboards.

How to select a USB keyboard layout for a particular computer:

1. Press **Ctrl**+**Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **System Config** and press **Enter**.
4. Use the **Arrow keys** to select **USB Keyboard Mode** and press **Enter**.
5. Select the channel and press **Space** to select one of the following options:

PC Multimedia:	Enables support for special multimedia keys
SUN German	Keyboard layout (German layout) for Sun
SUN US:	Keyboard layout (American layout) for Sun
PC Standard:	Disables support for special keys

IMPORTANT: If a slave device is connected to a channel, you cannot edit the USB keyboard mode setting in the OSD of the master device.

However, you can change this setting by temporarily operating the KVM switch as master device.

6. Repeat step 5 to change the keyboard layout of another channel.
7. Leave the menu by pressing **Enter**.
8. Press **F1** to save your settings.

How to use *Solaris Shortcut Keys*:

If a Sun keyboard is connected to the console, you can enable *Solaris Shortcut Keys*.

You can also execute the additional functions on a standard keyboard. The following table lists the key combinations for the functions:

Key combination	Solaris Shortcut Key of Sun Keyboards
Ctrl+Alt+F2	Again
Ctrl+Alt+F3	Props
Ctrl+Alt+F4	Undo
Ctrl+Alt+F5	Front
Ctrl+Alt+F6	Copy
Ctrl+Alt+F7	Open
Ctrl+Alt+F8	Paste
Ctrl+Alt+F9	Find
Ctrl+Alt+F10	Cut
Ctrl+Alt+F11	Help
Ctrl+Alt+F12	Mute
Ctrl+Alt+NUM+	Loud
Ctrl+Alt+NUM-	Quiet
Ctrl+Alt+NUM*	Compose
Ctrl+Alt+Pause	Shutdown
Pause+A	Stop

Support of special PS/2 keyboards

The KVM switch supports the following special keyboards:

- **PixelPower Clarity (blue)**
- **SKIDATA1**

If you apply such a keyboard at the console, you can enable the support of one of these keyboards in the KVM switch.

How to enable/disable the support of special keyboards:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **System Config** and press **Enter**.
4. Use the **Arrow keys** to select **PS/2 Keyboard Type** and press **Enter**.

> **IMPORTANT:** A yellow **X** highlights the active special keyboard. If no special keyboard is highlighted, the keyboard is treated as standard keyboard.

5. Select the keyboard layout you want to disable/enable, and press **Space**.
6. Leave the menu by pressing **Enter**.
7. Press **F1** to save your settings.

Resetting the defaults

This function resets the defaults of the KVM switch. After you perform the function, all defaults apply again.

How to reset the default configuration:

1. Press **Ctrl+Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **System Config** and press **Enter**.
4. Use the **Arrow keys** to select **Set System Defaults** and press **Enter**.
5. Press **Esc** to cancel the function or **Space** to reset the defaults.

Increasing the number of connectable computers

By cascading multiple KVM switches, you can increase the number of connectable computers to up to 32 computers.

For this, simply connect more KVM switches to one or several **CPU** interfaces of the KVM switch.

NOTE: The *master switch* is the KVM switch of a cascade to which the console devices are connected. The *slave switches* are connected to the **CPU** interfaces of the *master switch*.

EXAMPLE: Instead of a computer, connect the *miniMUX8* slave switch to the **CPU 1** interface of the master switch.

You can connect up to eight computers to the slave switch that can be accessed from the console that is connected to the master switch.

Connecting a slave switch to the master switch

NOTE: Instead of a computer, you can also connect a slave switch to each **CPU** interface of the master switch.

Follow the instructions below to connect a slave switch to each CPU interface.

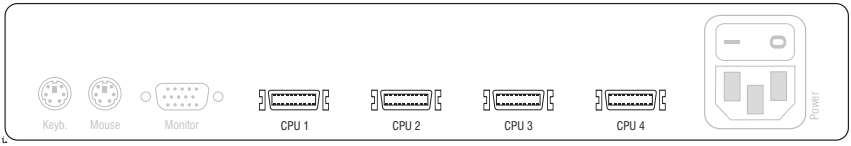


Figure 1: CPU interfaces of the master switch

CPU ×: Connect the CPU-PS/2 cable to the master switch.

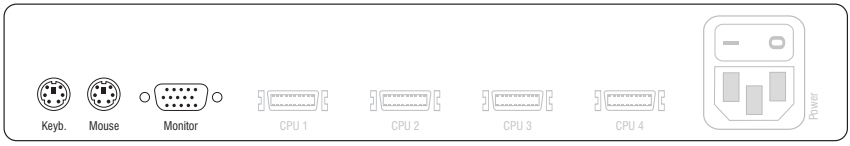


Figure 2: Interfaces for the connection of slave and master switch

Keyb.: Insert the purple plug of the computer connection cable (CPU-PS/2) that is connected to the master switch.

Mouse: Insert the green plug of the computer connection cable (CPU-PS/2) that is connected to the master switch.

Monitor: Insert the 15-pin D-Sub plug of the computer connection cable (CPU) that is connected to the master switch.

NOTE: To connect the computer to the slave switch, follow the instructions on page 8.

Changing the mode of »CPU« interfaces

In the default configuration, the KVM switch is configured to connect computers to the **CPU** interfaces.

When connecting a slave switch to one of the **CPU** interfaces, change the mode of the interface accordingly. Now, the master switch can access the computers that are connected to the slave switch.

How to change the mode of CPU interfaces:

1. Press **Ctrl**+**Num** (standard) to open the On-Screen Display.
2. Press **F1** to open the menu.
3. Use the **Arrow keys** to select **System Config** and press **Enter**.
4. Use the **Arrow keys** to select **Cascade Setup** and press **Enter**.
5. Select the interface whose mode you want to change. Press **Space** to select one of the following options:

CPU:	Connection of a computer
miniMUX4:	Connection of the *miniMUX4* KVM switch
miniMUX8; CC1/8:	Connection of the *miniMUX8* or *ControlCenter1plus-8* KVM switch
CC1/16:	Connection of the *ControlCenter1plus-16* KVM switch

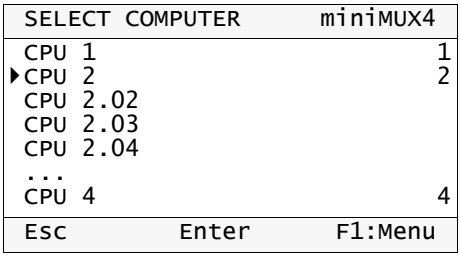
6. Repeat step 5 to change the mode of another interface.
7. Press **F1** to save your settings.

NOTE: The On-Screen Display of the slave switch is disabled. You can operate the switch by using the On-Screen Display of the master switch.

Displaying computers at slave switches

The computers that are connected to a slave switch are displayed in different menus (**Select Computer**, **CPU Config**, **User Profile**, **Edit Access Rights**).

The order in which the computers are displayed complies with the interface at which the slave switch is connected to the master switch.



EXAMPLE: The *miniMUX4* slave switch is connected to the **CPU 2** interface of the master switch.

The list contains four **CPU 2** entries. Use these interfaces to access or configure the computers that are connected to the four **CPU** interfaces of the slave switch.

Status displays

The LEDs on the front panel of the KVM switch display the device's current operating status:

Section	LED	Status	Meaning
CPU 1...4	Active	On	The computer's KVM signals are forwarded to the console of the KVM switch. The computer can be operated at the console.
		Off	The channel is not active.
	Status	On	The computer is ready for operation.
		Off	No computer is connected or the computer is turned off.
User	Active	On	The keyboard was successfully initialised.
		Blinking	No console keyboard was found.
	Status	On	The KVM switch is supplied with the required voltage.
		Off	The KVM switch is turned off or is not provided with the required voltage. Check the proper connection of the power pack.

Technical Data

MINIMUX4 (SERIES FEATURES)		
Switchable signals	Signal types:	Keyboard, mouse, and video
User module	Interfaces per device:	1
	Number of monitors	‣ see specific features
	Connection:	Directly at the device
Interfaces per user module	PS/2 keyboard/mouse:	2 × PS/2 socket
	USB keyboard/mouse:	2 × USB-A socket
	Monitor:	‣ see specific features
Computer	Interfaces per device:	4
	Number of video sources:	‣ see specific features
	Connection:	KVM connection cable
Interfaces per computer	Keyboard, mouse, and video:	1 × MDR20 socket
Video	Signal type:	analog
	Resolution:	up to 1920 × 1440 @ 75 Hz
	Bandwidth:	up to 400 MHz
	Horizontal frequency:	30 - 135kHz
	Vertical frequency:	50 - 150Hz
Update	Mode:	Update wizard
	Interface:	1 × 2,5-mm jack plug
Power supply	Type:	Internal power pack
	Connection:	IEC plug (IEC-320 C14)
	Voltage:	100 - 240 VAC, 60-50Hz
	Power consumption:	‣ see specific features
Casing	Material:	Anodised aluminium
	Dimensions (W × H × D):	‣ see specific features
	Weight:	‣ see specific features
Operational environment	Temperature:	+5 to +40 °C
	Air humidity:	< 80%, non-condensing
Conformity		CE, RoHs

MINIMUX4 (BASIC VERSION)		
User module	Number of monitors	1
Interfaces per user module	Monitor:	1 × D-Sub HD 15 socket
Computer	Number of video sources:	1
Power supply	Power consumption:	0,2A-0,1A
Casing	Dimensions (W × H × D):	270 × 44 × 210 mm (Desktop) 19" × 1U × 210 mm (Rackmount)
	Weight:	Approx. 1,3 kg

MINIMUX4-MC2		
User module	Number of monitors	2
Interfaces per user module	Monitor:	2 × D-Sub HD 15 socket
Computer	Number of video sources:	2
Power supply	Power consumption:	170-75mA
Casing	Dimensions (W × H × D):	270 × 44 × 210 mm (Desktop) 19" × 1U × 210 mm (Rackmount)
	Weight:	Approx. 1,4 kg

MINIMUX4-MC3		
User module	Number of monitors	3
Interfaces per user module	Monitor:	3 × D-Sub HD 15 socket
Computer	Number of video sources:	3
Power supply	Power consumption:	195-85 mA
Casing	Dimensions (W × H × D):	270 × 66 × 210 mm (Desktop) 19" × 1,5U × 210 mm (Rackmount)
	Weight:	Approx. 1,8 kg

MINIMUX4-MC4		
User module	Number of monitors	4
Interfaces per user module	Monitor:	4 × D-Sub HD 15 socket
Computer	Number of video sources:	4
Power supply	Power consumption:	200-95 mA
Casing	Dimensions (W × H × D):	270 × 88 × 210 mm (Desktop) 19" × 2U × 210 mm (Rackmount)
	Weight:	Approx. 1,9 kg

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