

G&D DVICenter

Select Sort Alph+on Search	Show ALL
<pre>CPU-001 CPU-002 CPU-003 CPU-004 1CPU-005</pre>	
F9: Operation F11:Config	F10:Pers.Profile F12:Info

Operation and Configuration GuideConfiguring the matrix switch

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The matrix switches of the »DVICenter« series

Being the central components of a matrix system, the matrix switches of the *DVI-Center* series enable you to operate the connected computers via consoles, which are connected to the system.

The KVM matrix system consists of three main components:

- the matrix switch (DVICenter),
- the target modules (DIV-CPU),
- the user modules (*DVI-CON*).

The target modules and the user modules are both connected to the matrix system via category 5 (or better) twisted pair cabling.

By switching analog video, keyboard, mouse, and audio (optional) signals from a target module to a user module, the computer connected to the target module can be operated.

Operation

The following paragraphs provide you with various possibilities to operate the KVM matrix system.

On-screen display

Usually, the KVM matrix system is operated through the system's on-screen display. This display is provided at all user modules by default.

The on-screen display enables you to define additional select keys. The select keys provide the possibility to switch between the different target modules by pressing a key combination on the keyboard of the user module.

NOTE: This manual describes how to operate the matrix switch using the onscreen display of a user module.

Configuration

The KVM matrix system can be configured in different ways.

On-screen display

If the logged-in user holds the required rights, they can use the on-screen display to access or edit the matrix system's configuration settings.

NOTE: This manual describes how to configure the matrix switches of the *DVICenter* series via the on-screen display of a user module.

The »Config Panel« web application

The web application offers a graphical user interface to configure the KVM matrix switches of the *DVICenter* series. This application can be operated with any web browser.

The web application provides an alternative to configuring the matrix switch through the device's on-screen display at the user modules and can be applied independently from the user modules in the network.

Thanks to its enhanced possibilities, the graphical user interface provides the following easy to operate features:

- clearly-arranged user interface
- easy operation through drag & drop function
- comprehensive target administration
- enhanced network functions (netfilter, syslog, ...)
- backup and restore function

NOTE: The »Config Panel« manual provides a detailed description of these functions.

Getting started

This chapter describes the basic operation of the KVM matrix system.

NOTE: The following chapters of this manual provide a detailed description of the functions and the configuration settings.

User login at the matrix system

After the user module has been switched on, the KVM matrix system asks you to log in.

IMPORTANT: When starting the on-screen display for the first time, log in as administrator and immediately change the password (see page 3).

Login data for the administrator account:

- Username: Admin
- **Password:** 4658

How to log in at the KVM matrix system:

1. Enter the following data to the login box:

Username:	Enter your username.
Password:	Enter your user account password.

2. Press Enter to log in and start the on-screen display.

NOTE: If the *Default Target* function (see page 25) has been activated for the user account, you can directly access the target module that has been selected in the *Personal Profile* after your login.

In this case, restart the on-screen display (see page 7) to call up the Select menu.

Changing your password

How to change the password of your user account:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the Change password entry and press Enter.
- 4. Enter the new password into the Change own password menu:

New: Enter your new password.

Repeat: Repeat your new password.

- 5. Press F2 to save your settings.
- 3 · G&D DVICenter

Accessing a target module via on-screen display

How to access a target module via on-screen display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Use the arrow keys to select the target module to be accessed.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

3. Press Enter.

NOTE: It is also possible to access a target module via select keys (see page 28 ff.)

Disconnecting the target module

The *Disconnect* function disconnects the active connection to the target module. After this function has been carried out, the *Select* menu is displayed.

NOTE: After the *Disconnect* function has been carried out, you are still logged in at the matrix system.

Use the User logout function (see below) to log out of the system.

How to disconnect a target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to open the Operation menu.
- 3. Press D or select the D Disconnect entry and press Enter.

ADVICE: After the on-screen display has been called up, you can activate the *Disconnect* function by pressing Ctrl+D.

User logout at the KVM matrix system

Use the *User logout* function to log out of the KVM matrix system. If the logout was successful, the *Login* window opens.

IMPORTANT: Always use the *User logout* function of the matrix system to protect the user module and the KVM matrix system against unauthorised access.

How to log out of the KVM matrix system:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to open the Operation menu.

3. Press E or select the E - User logout entry and press Enter.

ADVICE: After the on-screen display has been called up, you can activate the *User logout* function by pressing Ctrl+E.

Starting the functions of the »Operation« menu via hotkeys

The *Select* menu is usually displayed after the on-screen display has been called up. To operate the system, press F9 to call up the *Operation* menu.

Through the use of hotkeys the functions of the *Operation* menu can also be carried out within the *Select* menu.

How to access a function in the Operation menu by using a hotkey:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press one of the hotkeys listed in the table below to call up the function:

Ctrl+A:	Automatic switching of all target modules (Autoscan)		
Ctrl+B:	Automatic switching of all activated target modules (Autoskip)		
Ctrl+C:	Manual switching of the target modules (Stepscan)		
Ctrl+D:	Disconnects the target module (Disconnect)		
Ctrl + E:	User logout		
Ctrl+F:	Calls up the <i>Mouse utility</i> function to activate or reset the PS/2 mouse interface of the computer connected to the target module		
Ctrl+G:	Accesses the previously accessed target module (<i>Return to last target</i>)		
Ctrl+H:	Shows an additional column in the list field of the <i>Select</i> menu (<i>Target info</i>)		
	Pressing the key combination enables you to switch between the following options:		
	• off: hides additional column		
	• id: displays the physical ID of the target modules		
	• select keys: displays the select keys of the target modules		
Ctrl+I:	Switches the power outlets of a connected and configured power switch (<i>Target power</i>)		
	Pressing the key combination enables you to switch between the following options:		
	• off: switches off power outlets		
	• on: switches on power outlets		
Ctrl + K:	Show comment of selected target module.		
	ADVICE: Press F5 to switch to the comment editor.		

Ctrl+U	If you grouped multiple ports in a channel group (see page 120 f.), you can hold the USB signal (<i>USB connection</i>) on the currently accessed computer.
	• Pin: The <i>hold function</i> is enabled. If you access another computer, the KVM signals are switched to that computer. The USB signal remains on the computer you accessed first.
	The <i>Select menu</i> shows the name of the computer that holds the USB signal.
	• Unpin : The <i>hold function</i> is disabled. The USB signal of the currently accessed computer is accessed.
Ctrl + X	Select what information you want to show on the Select menu:
	• select: The select menu shows the target modules connected to the matrix system.
	• script: The select menu shows the scripts stored in the matrix system.

The On-Screen Display (OSD)

The on-screen display allows you to operate and configure the KVM matrix system. By default, it is provided at all user modules.

Calling the on-screeen display at a console

The on-screen display can be activated with a configured key combination.

How to start the on-screen display:

1. Press the Ctrl+Num (default) hotkey to open the on-screen display.

The general OSD structure

Men tit Sort Al Search	le ph+on	Show All	1
Target Console Console	type	 Standard	2
ESC	F8:Toggle	F2:Save	3

The on-screen display menu is divided into three main sections:

Header ①	The header shows the title of the current menu.
	Some menus additionally provide a <i>Sort</i> and a <i>Search</i> function as well as a <i>View filter</i> (see page 9 ff.). Press the Tab key to move the cursor from the list field \textcircled{O} to the header \textcircled{O} .
List field @	The list field shows all menu entries.
	The menu entries are divided into two categories:
	Menu items with submenu:
	These entries are displayed in the right-hand column with three dots (). Select the entry with the arrow keys , and press Enter to open the submenu.
	Menu items without submenu:
	The current setting is displayed behind the menu entry and can be changed directly.
Footer 3	The footer shows the most important keys for operating the menu and, if applicable, further information regarding the menu.

Colour-coded target module names

The list field lists all target modules. If a computer is connected to the target module, the target module name is displayed in *green*.

If the target module is disconnected from the KVM matrix system or the computer connected to the target module is switched off, the name is displayed in *red*.

Displaying the status condition

The status condition of the target modules is displayed in the left column of the *Select* menu:

- An *arrow* () marks the currently accessed target module.
- If one or more users are currently accessing the target module, the *number* of accessing users is displayed in the column.

Operating the OSD via keyboard or mouse

Keyboard operation

The on-screen display is mainly operated by keyboard. The table below shows a list of frequently used keys:

Arrow keys:	Press the arrow keys Up and Down (in some menus also Left and Right) to switch between the different menu entries.
Enter key:	This key is often used to confirm entries (e. g. in the login box) or to call a submenu.
Esc:	This key closes the currently displayed menu and shows the superior menu.
	A message informs you if you changed your entries but forgot to save them.
Tab key:	Use this key to move the cursor from one menu entry to the next (or vice versa).
	In menu masks, which contain the sort-and-search function or the view filter, the cursor can be moved to the header by pressing this key.
F2:	Press this key to save your entries.
	The currently displayed menu closes after the data was saved. Afterwards, the toplevel menu is shown.
F8:	Press this key to switch between the different options of a menu entry.
F9:	Press this key on the top menu level to call the Operation menu.
F10:	Press this key on the top menu level to call the Personal Profile menu.
F11:	Press this key on the top menu level to call the Configuration menu.
F12:	Press this key on the top menu level to call the Information menu.

Table 1: Frequently used keys to operate the on-screen display

Mouse operation

As an alternative to operating the on-screen display by keyboard, you can use the mouse to execute the following functions:

Mouse movement »Up«:	This mouse movement moves the cursor <i>upwards</i> between the different menu entries in the list field.
Mouse movement »Down«:	This mouse movement moves the cursor <i>downwards</i> between the different menu entries in the list field.
Left mouse key:	This key is often used to confirm entries (e. g. in the login box) or call a submenu.
Right mouse key:	The currently displayed menu is closed after your set- tings are saved. Afterwards, the toplevel menu is shown.
	A message informs you if you changed your entries but forgot to save them.

Table 2: Mouse operations to operate the on-screen display

NOTE: The on-screen display (OSD) can only be called with the configured key combination (Ctrl+Num).

If a Microsoft »IntelliMouse Explorer« or another compatible mouse with five keys is connected to the user console, you can call the on-screen display through the mouse keys four and five, which are located at the side of the mouse (see page 18).

OSD functions

Search function

Some menus (e.g. the *Select* menu or the menu to choose a *select key set*) provide a search function to enable the fast selection of the desired entry in the list field.

How to search a particular entry with a known name:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. If necessary, press the Tab key to select the list field.
- 3. Enter the name of the entry you want to search. You can also enter the first letters of the name to enable a clear allocation. The entered characters are displayed in the **Search** field.

NOTE: After *every* entered character, the first entry this character does apply to is marked in the list field.

Placeholders are not supported.

Changing the sort criteria of the list entries

In the default settings, the list entries are sorted alphabetically in ascending order (default: **Alph+**).

Targets are listed according to their operating status. Active devices are displayed at first, followed by all inactive devices. Both groups are sorted in ascending order (default: Alph+on).

You can also activate another sort criterion or reverse the sort order.

How to change the sort criteria and/or sort order:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press the Tab key to select the Sort field in the header.
- 3. Press **F8** to select the desired sort criterion:

Alph+:	The names of the list entries are sorted alphabetically in <i>ascending</i> order.
Alph+on:	Active devices are displayed at first, followed by all inactive devices. Both groups are sorted in ascending order.
	This option is only available in the device list.
Alph-:	The names of the list entries are sorted alphabetically in <i>descending</i> order.
Alph-on:	Active devices are displayed at first, followed by all inactive devices. Both groups are sorted in descending order .
	This option is only available in the device list.
ID:	The names of the list entries are sorted in <i>ascending</i> order according to the physical device ID.
	This option is only available in lists that include target modules.

Limiting the entries using the view filter

The **Show** field enables you to limit the list of entries in the list field of some menus:

The *Select* menu lists all target modules by default. The view filter can limit the target module list of a particular view group (marked as *folder* in the web application).

ADVICE: Further information regarding the administration of the target modules of a view filter are provided in the chapter *Administrating view filters* on page 68 ff.

NOTE: If the *Config Panel* web application is used to create and administrate groups (folders) for the view filter, any number of folders can be added to the superior folder.

The on-screen display only shows the superior view filter. The included target modules of inferior locations are automatically listed.

How to change the view filter of the entries to be displayed:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press the Tab key to move the cursor to the Show field in the menu header.
- 3. Press F8 to select the desired view filter.

NOTE: You can select the ALL view filter directly by pressing Ctrl+A.

Showing an additional column in the Select menu

The *Target info* function enables you to display an additional info column in the *Select* menu list field. The column can display the physical ID or the select keys of the target module.

How to display an additional info column in the Select menu:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the Operation menu.
- 3. Press H (repeatedly) or select the **H** Target info entry and press F8 (repeatedly) to choose one of the following options:

off:	hide additional column
id:	display the physical ID of the target modules
select keys:	show the select keys of the target modules

ADVICE: After the on-screen display has been called, activate the *Target info* function in the *Select* menu by pressing Ctrl+H.

Configuration

Many of the on-screen display's basic functions and features can be adjusted to the user's demands.

You can change various settings e.g. define the hotkey and adjust the on-screen display's position and font size.

All adjustable settings are described on the following pages.

Changing the hotkey to call the on-screen display

The hotkey to call the on-screen display (OSD) is used at all user modules within the matrix system. This hotkey enables you to open the on-screen display in order to operate and configure the system.

NOTE: In the default, the hotkey Ctrl+Num is preset.

The hotkey consists of at least one hotkey modifier key and an additional hotkey, which you can select.

Both the Ctrl hotkey modifier key and the Num hotkey can be changed.

How to change the hotkey to call the on-screen display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **System** entry and press **Enter**.
- 4. Select the Hotkey entry and press Enter.
- 5. Use the **arrow keys** for selecting *at least* one of the listed hotkey modifiers in the **Modifier** entry. Afterwards, press F8.

Ctrl:	<i>Ctrl</i> key
Alt:	<i>Alt</i> key
Alt Gr:	Alt Gr key
Win:	Windows key
Shift	Shift key

6. Press F8 to select a hotkey in the **Key** entry. The on-screen display can be called up by pressing the hotkey and the selected hotkey modifier(s) at the same time.

Num:	Num key
Pause:	Pause key
Insert:	Insert key
Delete:	Delete key
Home:	Home key
End:	End key
PgUp	Page Up key
PgDn	Page Down key
Space	Space key

7. Press F2 to save your settings.

Opening the on-screen display via double keypress

In addition to opening the on-screen display (OSD) via hotkey (see above), you can open the OSD by pressing a previously selected key twice (Ctrl, Alt, Alt Gr, Win, Shift or Print).

How to enable/disable opening the on-screen display via double keypress:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the System entry and press Enter.
- 4. Select the Hotkey entry and press Enter.
- 5. Select the **OSD via 2x keypress** entry and press **F8** (repeatedly) to select one of the following options:

Off	The OSD can be opened only by pressing the hotkey.
Ctrl, Alt, Alt Gr, Win, Shift or Print	The OSD can also be opened by pressing the selected key twice.

6. Press F2 to save your settings.

Automatic closing of the OSD after inactivity

If desired, you can set the OSD to close automatically after a period of inactivity.

The period of inactivity can be defined by entering a value between 5 and 99 seconds.

NOTE: To disable the function, enter the value **0**.

How to change the period of inactivity after which the OSD closes:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Under **Close OSD when inactive for [s]** you can define a time span between **5** and **99** seconds.
- 4. Click on **OK** to save your settings.

Adjusting the on-screen display's transparency

In the on-screen display's default settings, the screen content under the OSD is semivisible. The screen content shines through the part that is covered by the OSD.

You can either adjust or turn off the OSD's transparency in the personal profile of a user.

How to adjust the on-screen display's transperency:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the **OSD transparency** entry and press **F8** (repeatedly) to select one of the following options:

high:	Screen content almost completely visible
average:	Screen content semi-visible (default)
low:	Screen content slightly visible
off:	Screen content is covered

4. Press F2 to save the changes.

Adjusting the information display

When switching to a target module, a temporary information display (5 seconds) opens. The display informs you about the console name, the name of the currently accessed target module and provides further information.

The information display can also be permanently displayed or deactivated. The selected setting is assigned to your user account and stored in your *Personal Profile*.

ADVICE: When active, the temporary information can be recalled by pressing Ctrl+Caps Lock.

How to change the settings of the information display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the **Display** entry and press F8 (repeatedly) to select one of the following options:

temp:	show information display (five seconds)
perm:	permanent information display
off:	deactivate information display

4. Press F2 to save the changes.

Changing the colour of the information display

By default, information displays (like when accessing a target module) are shownin light green. In their peronal profiles, users can change the colour of the information display.

How to change the colour of the information display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the **Display color** entry and press **F8** (repeatedly) to select one of the following options:

Light green:	Show information display in light greendefault)
Black, dark red, dark yellow, dark blue, purple dark tur- quoise, silver, yellow, blue, fuchsia, light turquoise or white	Show information display in the selected colour

4. Press F2 to save the changes.

Defining a standard view filter

After the user login, the *Select* menu (see page 21) is displayed. The default setting of the *Select* menu displays all target modules. By applying the view filter (see page 15), the displayed target modules can be filtered.

Use the *Default view filter* setting to activate a certain view filter directly after accessing the *Select* menu.

NOTE: The preset view filter is applied directly after the on-screen display has been called and after the user has logged in to the matrix system.

The use of a view filter (see page 10) allows you to change the default and therefore activate another filter.

How to select a standard view filter for the Select menu:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Default location entry and press F8 (repeatedly) to select the desired setting.

All:	All target modules are displayed.
ADVICE:	Press Ctrl+A to select this view filter directly.
Last:	The view filter that was used by the last user is applied when the <i>Select</i> menu is called.
Selection of a folder:	The view filter of the selected group is applied if the <i>Select</i> menu is called.

4. Press F2 to save your changes.

IMPORTANT: If the *LAST* option has been selected and two users are using one user account at the same time, the view filter of the previously active person is stored.

Changing the display's position

When accessing a target module, the information display of the matrix system e.g. provides you with the name of the accessed target module and the name of the user module.

By default, the information display is located in the left upper corner at the console monitor. You can adjust the display's position according to your wishes.

Your individual setting is assigned to your user account and stored in your *Personal Profile*.

How to change the display position:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Set display position entry and press Enter.

4. The menu on the right-hand side opens at the display position.

+ Display position F2: Save

5. Use the **arrow keys** or the mouse to move the menu to the desired position.

NOTE: Press Ctrl+D to reset the display's position and font size.

6. Press F2 to save your settings or press Esc to cancel.

Changing the OSD position

By default, the information is located in the centre of the console monitor. You can adjust the display's position according to your wishes.

The selected setting is assigned to your user account and stored in your Personal Profile.

How to change the OSD position:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Set menu position entry and press Enter.
- 4. Use the arrow keys or the mouse to move the menu to the desired position.

NOTE: Press Ctrl+D to reset the on-screen display's position and its font size.

5. Press F2 to save your settings or press Esc to cancel the process.

Selecting a keyboard layout for on-screen display entries

How to select the keyboard layout for the user module keyboard:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Console entry and press Enter.
- 4. Select the user module whose settings you want to change and press F5.
- 5. Select the OSD key. layout entry and press F8 to select one of the following options:

German:	Germany
English US:	USA
English UK:	Great Britain
French:	France
Spanish:	Spain
Lat. American:	Latin America
Portuguese:	Portugal

17 · G&D DVICenter

6. Press F2 to save your settings.

Operating the on-screen display by mouse

In the default settings of the matrix system, the on-screen display (OSD) can only be called with the configured key combination.

If a Microsoft »IntelliMouse Explorer« or another compatible mouse with five keys is connected to the user console, you can call the on-screen display through the mouse keys four and five at the side of the mouse

How to (de)activate the mouse support to operate the on-screen display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Console entry and press Enter.
- 4. Select the user module whose settings you want to change and press F5.
- 5. Select the **OSD by mouse** entry and press **F8** to select one of the following options:

yes:	calls the OSD via mouse keys 4 and 5 of a compatible mouse
no:	deactivates the possibility to call the OSD by mouse

6. Press F2 to save your settings.

(De)activating the on-screen display

This function defines if the users at the user module are enabled to activate the onscreen display or if they are only allowed to switch via select keys.

How to (de)activate the on-screen display at the user module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the user module you want to (de)activate and press F5.
- 4. Select the **OSD blocked** entry and press F8 to select one of the following options:

yes:	on-screen display blocked
no:	on-screen display available

5. Press F2 to save your settings.

Adjusting the OSD resolution

In the defaults of the matrix switch the OSD is displayed on the console monitor in a resolution of 1024×768 pixels if the monitor does support this resolution. If the monitor does not support this resolution, a resolution of 640×480 pixels is used.

You can also set the OSD resolution for the entire system (see table below). Adjusting the resolution for the entire system includes all user modules. However, you can also individually set the OSD resolution for each user module.

How to adjust the OSD resolution of the entire system:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the System entry and press Enter.
- 4. Select the **OSD resolution** entry and press **F8** to select one of the following options:

auto:	If supported by the monitor, the OSD is displayed in a resolution of 1024×768 pixels.
	If the monitor does not support this resolution, a resolution of 640×480 pixels is used. (<i>default</i>).
640×480/60:	OSD is displayed in a resolution of 640×480 pixels
720×400/70:	OSD is displayed in a resolution of 720×400 pixels
1024×768/60:	OSD is displayed in a resolution of 1024×768 pixels

5. Press F2 to save your settings.

How to adjust the OSD resolution of a particular user module:

How to configure the freeze mode for individual user modules:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.
- 4. Select the user module you want to configure and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select the **OSD resolution** entry and press **F8** to select one of the following options:

system:	Use systemwide (see above) setting (default).
auto:	If supported by the monitor, the OSD is displayed in a resolution of 1024×768 pixels.
	If the monitor does not support this resolution, a resolution of 640×480 pixels is used. (<i>default</i>).
640×480/60:	OSD is displayed in a resolution of 640×480 pixels
720×400/70:	OSD is displayed in a resolution of 720×400 pixels
1024×768/60:	OSD is displayed in a resolution of 1024×768 pixels

6. Press F2 to save your settings.

Overview of the menus and functions

The following pages show the main menus of the on-screen display.

Select menu

The *Select* menu is usually displayed after the on-screen display has been called.

The target modules of the matrix system are displayed in this menu:

Select Sort Alph+on Search	Show ALL
▶ CPU-001 2 CPU-002 1 CPU-003	
F9: Operation F11:Config	F10:Pers.Profile F12:Info

The chapter *Accessing target modules (basic functions)* on page 24 ff. describes how to access the user module via target module.

Both the *Search* and *Sort* function as well as the view filter can be used to limit the displayed target modules. Further information regarding these functions are provided on page 9 ff.

Operation menu

After you called the on-screen display, press F9 to open the *Operation* menu. This menu lists all functions of the KVM matrix system that the user can carry out directly:

Function	Description
A – Autoscan	page 45
B – Autoskip	page 46
C – Stepscan	page 48
D – Disconnect	page 4
E – User logout	page 4
F – Mouse utility	page 84
G – Return to last target	page 24
H – Target info	page 11
I – Target power	page 103
U – USB Connection	page 6
X – Selection dialog	page 34

Personal Profile menu

After you called the on-screen display, press F10 to open the *Personal Profile* menu. The menu settings only apply for the user whose name is displayed in the right corner.

This menu lists the settings of the matrix system, which can be individually defined for every user:

Function	Description
Display	page 14
Scantime	page 46
Stepkeys	page 49
Multiuser display	page 83
Default view filter	page 15
Default action	page 25
Scanmode set	page 49
Selectkey set	page 29
Script key set	page 39
Push-Get key set	page 129
Set display position	page 16
Set menu position	page 17
Change password	page 56

Configuration menu

After you called the on-screen display, press F11 to open the *Configuration* menu. This menu enables you to configure the settings of the devices connected to KVM the matrix system as well as all user settings.

Function	Description
User	page 55
User group	page 60
Target	page 70
Target group	page 65
View filter	page 68
EDID	page 101
Scripting function	page 33
Console	page 87
Cascade	page 108
System	page 116
Power switch	page 103
Network	page 116
Tradeswitch function	page 158

Information menu

After you called the on-screen display, press F12 to open the *Information* menu . This menu provides information on the different devices and versions of the KVM matrix system.

Function	Description
Firmware information	page 122
Dynamic port information	page 123
Feature information	page 126
Hotkey information	page 122
Hardware infomation	page 123
Cable information	page 123
Console status	page 97

Accessing target modules (basic functions)

Switching analog video, keyboard, mouse, and audio signals to a user module allows you to operate the computer connected to the target module.

This chapter describes how to access the target modules by using the on-screen display. Information on how to access the target modules via select keys are provided on page 28 ff.

Accessing a target module via on-screen display

The on-screen display of the matrix system allows you to access a target module via a user module.

How to access a target module via on-screen display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Use the arrow keys to select the target module you want to access.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

3. Press Enter.

NOTE: A target module can also be accessed using *select keys*. Further information regarding this topic are provided on page 28.

Returning to the previously accessed target module

The *Return to last target* function allows you to switch from the currently accessed target module to the previously accessed target module.

NOTE: This function does not apply if you have only worked on the currently accessing target module since your login.

How to return to the last accessed target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the Operation menu.
- 3. Press G or select the G Return to last target entry and press Enter.

ADVICE: After the on-screen display has been called, you are enabled to activate the *Return to last target* function in the *Select* menu by pressing Ctrl+G.

Disconnecting the target module

The *Disconnect* function disconnects the current connection to the target module. After the function has been carried out, the *Select* menu is displayed.

NOTE: After the *Disconnect* function has been carried out, you are still logged in at the matrix system.

Use the User logout function described on page 4 to log out of the system.

How to disconnect the connection to a target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the Operation menu.
- 3. Press D or select the D Disconnect entry and press Enter.

ADVICE: After the on-screen display has been called, you are enabled to activate the *Disconnect* function by pressing **Ctrl+D**.

Enhanced functions

Configuring default actions after a user logon

After the user has logged on to a user module, the OSD usually opens on the screen of said user module.

The configuration setting **Default execution** allows you to define a target module that is automatically accessed after the user logs on, *or* a script that runs automatically.

How to select a default target that is automatically accessed after a user logon:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Default execution entry and press F8 (repeatedly) to select target.
- 4. Select the Default target entry and press Enter.

The *Default Target* menu opens. If already defined, the footer displays the currently selected target module (*Current*).

5. Select the target module to be accessed directly after the login.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 6. Press F8 to activate the selection. The active target module is marked with an arrow (▶).
- 7. Press F2 to save your changes.

How to select a default script or a script group that is automatically executed after a user logon:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Default execution entry and press F8 (repeatedly) to select script.
- 4. Select the **Default script** entry and press Enter.

The *Default Script* menu opens. If already defined, the footer displays the currently selected script (*Current*).

5. Select the script to be executed directly after the login.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 6. Press **F8** to activate the selection. The active script is marked with an arrow ().
- 7. Press F2 to save your changes.

How to disable the configured default action:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Default execution entry and press F8 (repeatedly) to select off.
- 4. Press F2 to save your changes.

How to cancel the automatic access to a target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the Default target entry and press Enter.

The Default target menu opens. The active target module is highlighted in the list field.

- Press F8 to cancel the selection. The target module is no longer marked with an arrow (▶).
- 5. Press F2 to save your changes.

Messages when accessing a target module

»No free route to target«

For every time a user module simultaneously accesses a target module connected to the slave matrix switch, a data link is established from the master to the slave matrix switch.

IMPORTANT: The number of possible data links to the slave matrix switch depends on how many *CPU* ports of the master matrix switch are connected to the *Console* ports of the slave matrix switch.

In case all available data links are occupied, the message »No free route to target« is displayed when you try to access the target module. As soon as a data link is available, the desired connection can be established.

»No route to target known« or »Unknown route to target«

This message is shown when you try to access a target module connected to a slave matrix switch to which no connection can be established.

Check if the slave matrix switch is switched on and properly connected to the master matrix switch.

»Target not available«

This message is shown when the target module to which the target computer was connected has been removed from the system.

Ask the administrator of the matrix system if the desired target computer has been connected to another target module or if it has been removed from the system.
Accessing target modules via select keys

After the select key modifier(s) and a select key set have been adjusted and a select key set has been activated in the user account, the target module can be accessed with key combinations.

Accessing a target module using select keys

Calling the on-screen display is not required when accessing the target module using select keys. The target module can be accessed faster via select keys.

How to access a target module via select keys:

1. Press the select key modifier(s) that have been adjusted in the matrix system and the select keys assigned to the target module.

EXAMPLE:

- Select key modifiers: Alt Gr + Shift
- Select keys for target module: \$

Press Alt Gr+Shift and the select key S. As soon the keys are released, the switching to the target module takes place.

Further information:

- Changing the select key modifier and the valid keys on page 28
- Administrating select key sets on page 29
- Assigning a select key set to a user account on page 31

Changing the select key modifier and the valid keys

The select keys enable fast access to a particular target computer by pressing a key combination. For this, select key sets can be created in the matrix system.

Both the select key modifier and a select key set define the key combination to be pressed to access a particular target computer.

You can also define valid keys for the select keys.

How to change the select key modifier or the valid keys:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select System entry and press Enter.
- 4. Select the **Select key** entry and press Enter.

5. Use the **arrow keys** to select *at least* one of the select key modifiers listed in the **Modifier** entry. Afterwards, press F8.

Ctrl:	<i>Ctrl</i> key	
Alt:	<i>Alt</i> key	
Alt Gr:	Alt Gr key	
Win:	Windows key	
Shift	<i>Shift</i> key	

6. Select the Valid keys entry and press F8 to select one of the following options:

Num:	<i>only numerical keys</i> are interpreted as select keys when pressed in combination with the select key modifier
Alph:	<i>only alphabetic keys</i> are interpreted as select keys when pressed in combination with the select key modifier
AlphNum:	<i>alphabetical and numerical keys</i> are interpreted as select keys when pressed in combination with the select key modifier

IMPORTANT: Both the selected valid keys and the select key modifier are *no longer* provided as key combinations to the operating system and the applications on the target computer.

7. Press F2 to save your settings.

Administrating select key sets

The KVM matrix system enables you to create 20 global select key sets or ten individual select key sets for each user.

Within the select key sets, you can define the select key sets for the target modules you wish to access.

NOTE: The global select key sets are displayed in the *Personal Profile* menu of all users of the matrix system.

Creating a select key set

How to create a select key set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the *Personal Profile* menu.
- 3. Select the Select key set entry and press Enter.

4. Press F3 and enter the following data in the Add select key set menu:

Name:	Enter the new select key set name and press Enter.
Global:	Select yes by pressing F8 if you want the select key set in the personal profile to be available for all users of the system. default: n0
NOTE: 7 (see pag	This option can only be activated by users with the <i>Superuser</i> right ge 63).

5. Press F2 to save your inputs and to create the select key sets.

Changing the name and global allocation of a select key set

How to change the name and/or *Global* setting of a select key set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Select key set entry and press Enter.
- 4. Select the select key set whose setting you want to change.
- 5. Press F5 to change the following data in the *Edit select key set* menu:

Name:	Enter the new name of the select key set and press Enter.
Global:	Press F8 for selecting yes if you want to make the select key set in the personal profile available to all users of the system. default: no

6. Press F2 to save your settings.

Defining the select keys for the target modules

NOTE: Global select key sets can only be edited by users with activated *Superuser* right (see page 63).

Without this right, only the select keys, which are assigned to the target modules, can be viewed.

How to define the select keys for target modules:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu
- 3. Select the Select key set entry and press Enter.
- 4. Choose a select key set and press F5.
- 5. Select the Members entry and press Enter.

The *Assign select key set* dialogue opens. The left column displays the name of the target module and the right column shows the assigned select key(s).

6. Select the target module you want to assign a select key to or whose select key you want to change.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

7. Press F5 and enter the desired select key.

NOTE: The chapter *Changing the select key modifiers and the valid keys* provides information on how to use valid keys as select key set.

- 8. If you want to create or change the select keys for other target modules, repeat steps 6 and 7.
- 9. Press F2 to save your settings.

Assigning a select key set to a user account

By assigning a select key set to a user account, the select keys defined in the set are interpreted and the particular target module is accessed.

How to assign a select key set to a user account or cancel the existing assignment:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Select key set entry and press Enter.
- 4. Select the desired select key set.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Press F8 to (de)activate the assignment.

NOTE: An assigned select key set is marked with an arrow (**b**).

Deleting a select key set

NOTE: Only users with the *Superuser* right (see page 63) are allowed to delete a global select key set.

How to delete a select key set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Select key set entry and press Enter.
- 4. Select the select key set you want to delete and press F4.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Scripting function

IMPORTANT: Using the scripting function requires the purchase and activation of the premium function **IP-Control-API**.

The scripting function lets users store the switching condition of one or multiple consoles or of the entire system.

The switching conditions are stored in a script. The scripts stored in the matrix system can be accessed and executed via OSD provided that the console is assigned with the respective rights.

Users can create their own scripts and execute them. Global scripts can be executed by users without the **Superuser** right only if these users are assigned with **Script execute rights** for the global script.

NOTE: You can create up to 1024 scripts within a matrix system.

Executing scripts

The scripts stored in the matrix system can be executed via the on-screen display of the KVM matrix system.

In the defaults, after accessing the OSD at a user module, you can select a computer via the *Select* menu.

ADVICE: Press X in the *Operation* menu or use the hotkey Ctrl + X on the *Select* menu to access the *Script* menu (see page 5).

If desired, you can use your personal profile to define that the *Script menu* is shown directly after accessing the OSD (see page 34).

You can also use the mouse to switch between select menu and script menu (see page 34).

Executing a script via on-screen display

How to execute a script via on-screen display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. If the OSD is opened in the *Select* menu, press Ctrl+X to switch to the *Script* menu.
- 3. Use the arrow keys to select the script you want to execute.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

4. Press Enter.

Editing the default menu mode

In the defaults, after accessing the OSD at a user module, you can select a computer via the *Select* menu. If desired, you can use your personal profile to define that the *Script* menu is shown directly after accessing the OSD.

ADVICE: Independent of the default setting, you can always use the hotkey Ctrl+X to switch between *Select* menu and *Script* menu.

How to edit the default menu mode:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the **Def. selection dialog** entry and press F8 (repeatedly) to select one of the following options:

select:	The Select menu is shown after accessing the OSD.
script:	The Script menu is shown after accessing the OSD.

4. Press F2 to save your settings.

Switching threshold to switch the menu mode by mouse

In addition to switch the menu mode via the hotkey Ctrl+X you can also use the mouse to switch between menu modes.

ADVICE: After the activation of the switching of the menu mode by mouse, you can move the mouse to the left or to the right to switch between the two modes in the *Select* menu and in the *Script* menu.

IMPORTANT: Switching the menu mode by mouse is not possible if the entry is not available in the *Select* menu or in the *Script* menu!

How to activate/deactivate the switching threshold and/or adjust its sensitivity:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the *Personal Profile* menu.
- 3. Select the Sel. dialog replace sens entry.
- 4. Adjust the sensitivity of the switching threshold by entering a value between 1 and 10.

NOTE: To deactivate the switching between menus by mouse, enter **0**.

Creating, editing and deleting scripts

Creating scripts

NOTE: Users without **Superuser** rights can create and store scripts only for their console. The options **Owner** (*currentuser*) and **Scope** (*console*) are auto-assigned and can not be viewed or edited.

Users with Superuser rights can view and edit all options.

How to create a script:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Scripting function entry and press Enter.
- 4. Press F3 and enter the following data under Add Script:

Name: Enter the desired name of the script key set and press Enter.

Owner: Press F8 to select if the script should be assigned to the logged on user account (**current user**) or if it should be used globally by all users (**none**).

NOTE: Executing global scripts requires Script execute rights for the script...

Scope: Select if the switching condition of the user module (**console**), the entire system (**system**) or a list if user modules (**console list**) should be stored in the script.

The master console of a Tradeswitch console is provided with the option **workplace**.

NOTE: When selecting the option **console list** you can define the list of user modules via the **Consoles** entry.

5. Press F2 to save your settings and the script.

Editing the settings of a script

NOTE: Users without **Superuser** rights can view and edit only the names and **Enable** settings of their own scripts.

Users with Superuser rights can view and edit all settings of all scripts.

How to edit the settings of a script:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Scripting function entry and press Enter.
- 4. Select the script you want to edit and press F5.
- 35 · G&D DVICenter

5. Enter the following data under *Edit Script*:

Name: Enter the desired name of the script key set and press Enter.		Enter the desired name of the script key set and press Enter.
E	nable:	Select if the script should be activated and editable (yes) or if it should be deactivated (no).
Owner:		Press ${\bf F8}$ in the user list to assign a script to a user or to cancel the assignment.
		If the script is not assigned to any user account, it is a global script. global scripts can be used by all users.
	NOTE:	Executing global scripts requires Script execute rights for the script.
S A a	cript vail- bilty	Select the user modules whose script menu lists this script.

6. Press F2 to save your settings.

Deleting a script

How to delete a script:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Scripting function entry and press Enter.
- 4. Select the script you want to delete and press F4.
- 5. Confirm the security prompt with Yes and press Enter.

Defining rights to execute scripts

NOTE: Users are always able to view and delete their *own* scripts (**Owner**) without having to be assigned with additional rights.

Executing global scripts requires Script execute rights for the script.

You can assign this right directly in the settings of a user account. As an alternative, you are able to administrate this right via user groups (see *Efficient user group administration* on page 54).

How to change the right to execute global scripts:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right for a user account, select the **User** entry. For changing this right for a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose rights to execute scripts you want to edit and press F5.
- 6. Select the Script execute rights entry and press Enter.
- 7. Select the script from the list whose execute rights you want to edit.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

8. Press F8 t select one of the following options:

no: Denies right to execute script

yes: Grants right to execute script

9. Repeat steps 7. and 8. to edit the execute rights of another script.

Executing a script with script keys

After the script key modifier(s) and a script key set have been adjusted and a script key set has been activated in the user account, scripts can be executed at the console keyboard via key combinations.

Opening the on-screen display is not required to execute scripts using script keys. This way, scripts can be executed much faster.

How to execute a script with script keys:

1. Press the script key modifier(s) that have been adjusted in the matrix system and the script keys assigned to the script.

EXAMPLE:

- Script key modifiers: Win+Shift
- Script key for script: 1

Press and hold Win+Shift together with the script key 1. After releasing the keys, the script is executed.

Further information:

- Changing the script key modifier and the valid keys on page 38
- Administrating script key sets on page 39
- Assigning script key sets to user accounts on page 42

Changing the script key modifier and the valid keys

Script keys enable the fast execution of scripts by pressing a key combination. For this, script key sets can be created in the matrix system.

Both the script key modifier and a script key set define the key combination to be pressed to execute a script.

You can also define valid keys for the script keys.

How to change the script key modifier or the valid keys:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the System entry and press Enter.
- 4. Select the Script key entry and press Enter.

5. Use the **arrow keys** to select *at least* one of the script key modifiers listed under **Modifier**. Afterwards, press **F8**:

Ctrl:	<i>Ctrl</i> key
Alt:	<i>Alt</i> key
Alt Gr:	<i>Alt Gr</i> key
Win:	Windows key
Shift	<i>Shift</i> key

6. Select the Valid keys entry and press F8 to select one of the following options:

Num:	<i>only numerical keys</i> are interpreted as script keys when pressed in combination with the script key modifier	
Alph:	<i>only alphabetic keys</i> are interpreted as script keys when pressed in combination with the script key modifier	
AlphNum:	<i>alphabetical and numerical keys</i> are interpreted as script keys when pressed in combination with the script key modifier	
THRODTAN		

IMPORTANT: Both the selected valid keys and the script key modifier are *no longer* provided as key combinations to the operating system and the applications on the target computer.

7. Press F2 to save your settings.

Administrating script key sets

The KVM matrix system enables you to create 20 global script key sets or ten individual script key sets for each user.

Within the script key sets, you can define script keys to execute scripts.

NOTE: Global script key sets are displayed in the *Personal Profile* menu of all users of the matrix system.

Creating a script key set

How to create a script key set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the Script key set entry and press Enter.
- 4. Press F3 and enter the follwoing data under Add Script Key Set:

Name: Enter the desired name of the script key set and press Enter.

Global: Press **F8** for selecting **yes** if you want to make the script key set in the personal profile available to all users of the system. Default: **no**

NOTE: This option can only be activated by users with the *Superuser* right (see page 63).

5. Press F2 to save your settings and the script key set.

Changing name and global allocation of a script key set

How to change the name and/or global allocation of a script key set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the Script key set entry and press Enter.
- 4. Select the script key set whose name or global allocation you want to change.
- 5. Press F5-Taste and change the following data under *Edit Script Key Set*:

 Name:
 Enter the desired name of the script key set and press Enter.

 Global:
 Press F8 for selecting yes if you want to make the script key set in the personal profile available to all users of the system.

 Default:
 no

Defining script keys for scripts

NOTE: Global script key sets can be edited only by users with activated *Superuser* right (see page 63).

Without this right, only script keys assigned to scripts can be viewed.

How to define script keys for scripts:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the **Script key set** entry and press **Enter**.
- 4. Select a script key set and press F5.
- 5. Select the Members entry and press Enter.

The *Assign script key set* dialogue opens. The left column shows the name of the scripts and the right column shows the assigned script key(s).

6. Select the script you want to assign a script key to or whose script key you want to edit.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

7. Press F5 and enter the desired script key.

NOTE: The chapter *Changing the script key modifier and the valid keys* on page 38 provides information on how to edit valid keys that are used as script keys.

- 8. Repeat steps 6. and 7. to define or change the script keys of other scripts.
- 9. Press F2 to save your settings.

Assigning script key sets to user accounts

By assigning a script key set to a user account, the script keys defined in the set are interpreted and the particular script is executed.

How to assign a script key set to a user account or cancel the existing assignment:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the Script key set entry and press Enter.
- 4. Select the desired script key set.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Press F8 to activate or deactivate the assignment.

NOTE: Script key sets that are already assigned to a user account are marked with an arrow (\bullet) .

6. Press F2 to save your settings.

Deleting script key sets

NOTE: Only users with the *Superuser* right (see page 63) are allowed to delete global script key sets.

How to delete a script key set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the Script key set entry and press Enter.
- 4. Select the script key set you want to delete and press F4.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Confirm the security prompt with Yes and press Enter.

Push events

NOTE: This function is available only after activating the additional **IP-Control-API** function.

Push event keys let users at consoles trigger push events via XML control. The triggered push event contains the following information:

- the string entered by the user,
- the console's name and device ID,
- name and device ID of the target switched to the console.

Triggering push events

You can trigger push events by pushing and holding the push event key modifier and entering a valid string (see below).

PUSH EVENT OF THE XML SERVICE

```
<?xml version="1.0" encoding="utf-8"?>
<root>
    <pushNotification type="user push event">
        <sourceId>0x00000115</sourceId>
                                                         <!-- Geräte-ID des Arbeitsplatzes, an dem
                                                             das Push-Event ausgelöst wurde -->
        <sourceCl>DviConsole</sourceCl>
                                                         <!-- Geräte-Klasse -->
        <sourceName>CON-NixStn</sourceName>
                                                         <!-- Geräte-Name -->
                                                         <!-- Benutzer-Eingabe -->
        <text>123</text>
        <targetId>0x00001D4E</targetId>
                                                         <!-- Geräte-ID des Target-Moduls -->
        <targetCl>DviCpu</targetCl>
                                                         <!-- Geräte-Klasse des Target-Moduls -->
        <targetName>CPU HW 1</targetName>
                                                         <!-- Geräte-Name des Target-Moduls -->
        <originatorId>0x00000115</originatorId>
                                                         <!-- Geräte-ID des Arbeitsplatzes,
                                                             an dem der Benutzer arbeitet -->
        <originatorCl>DviConsole</originatorCl>
                                                         <!-- Geräte-Klasse -->
        <originatorName>CON-NixStn</originatorName>
                                                         <!-- Geräte-Name -->
    </pushNotification>
</root>
```

NOTE: The values of **<originatorId>** and **<sourceId>** differ only when using Tradeswitching.

Changing push event key modifiers and valid keys

You can trigger push events by pushing and holding the push event key modifier and entering a valid string (see entry **Valid keys**).

How to change push event key modifiers or valid keys:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to open the *Configuration* menu.
- 3. Select the System entry and press Enter.
- 4. Select the Push event key entry and press Enter.
- 5. Under **Modifier**, select *at least* one modifier key by selecting the control box with the **arrow keys** and press F8 to confirm your selection:

Ctrl:	<i>Ctrl</i> key
Alt:	<i>Alt</i> key
Alt Gr:	Alt Gr key
Win:	Windows key
Shift:	<i>Shift</i> key

6. Under Valid keys, press F8 to select one of the following options:

Num:	<i>Only numerical keys</i> are interpreted as push event keys when pressed together with the push event key modifier.
Alph:	<i>Only alphabetic keys</i> are interpreted as push event keys when pressed together with the push event key modifier.
AlphNum:	<i>Numerical and alphabetical keys</i> are interpreted as push event keys when pressed together with the push event key modifier

Switching the target modules automatically or manually

Auto scanning all target modules (Autoscan)

The *Autoscan* function successively accesses all target modules that are mentioned in the active scancode set and available to the user.

The *Scantime* setting (see page 46) enables you to define how long a target module is to be accessed.

When accessing the target modules, the workplace name, the name of the currently accessed target module, and a note regarding the *Autoscan* function are displayed.

NOTE: If the *Autoscan* function is active, the keyboard and mouse inputs are transmitted to the currently accessed target module.

During your inputs, the *Autoscan* function stops and continues after you finished your inputs.

Applying the Autoscan function

Requirements for using the Autoscan function:

- Creating a scanmode set (see page 49)
- Assigning a scanmode set to a user account (see page 52)

How to start the Autoscan function:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the Operation menu.
- 3. Press A or select the A Autoscan entry and press Enter.

ADVICE: After the on-screen display has been called, you can activate the *Autoscan* function in the *Select* menu by pressing Ctrl+A.

How to stop the Autoscan function:

1. Press the hotkey Ctrl+Num (default) to call the on-screen display.

This causes the Autoscan function to stop.

Configuring the scantime of the Autoscan function

By default, each target module is accessed for five seconds. After that, the target module is disconnected and the next target module is accessed.

Select a time span between 1 and 99 seconds to define how long the target module is to be accessed.

How to change the scantime:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Move the cursor to the Scantime entry and enter a span between 1 and 99 seconds.
- 4. Press F2 to save your settings.

Auto scanning all active target modules (Autoskip)

The *Autoskip* function successively accesses any target module that is included into the active scancode set and available to the user.

The connected computer must be active to carry out this function.

The *Scantime* setting (see page 46) enables you to define how long each target module is to be accessed.

When accessing the target modules, the workplace name, the name of the currently accessed target module, and a note regarding the *Autoskip* function are displayed.

NOTE: If the *Autoskip* function is active, the keyboard and mouse inputs are transmitted to the currently accessed target module.

During the inputs, the *Autoskip* function stops and continues after you finished your inputs.

Applying the Autoskip function

Requirements for using the Autoskip function:

- Creating a scanmode set (see page 49)
- Assigning a scanmode set to a user account (see page 52)

How to start the Autoskip function:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the Operation menu.
- 3. Press B or select the B Autoskip entry and press Enter.

ADVICE: After the on-screen display has been called, you are enabled to activate the *Autoskip* function in the *Select* menu by pressing Ctrl+B.

How to stop the Autoskip function:

1. Press the Ctrl+Num (default) hotkey to open the on-screen display.

This causes the Autoskip function to stop.

Configuring the scantime of the Autoskip function

By default, each target module is accessed for five seconds. After that, the target module is disconnected and the next target module is accessed.

Select a time span between 1 and 99 seconds to define how long the target module is to be accessed.

How to change the scantime:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Move the cursor to the **Scantime** entry and enter a span between 1 and 99 seconds.
- 4. Press F2 to save your settings.

Scanning the target modules manually (Stepscan)

By pressing a key, the *Stepscan* function successively accesses any target module that is included in the scanmode set and available to the user.

When accessing the target modules, the workplace name, the name of the currently accessed target module, and a note regarding the *Stepscan* function are displayed.

(De)activating the Stepscan function

Requirements to use this function:

- Creating a scanmode set (see page 49)
- *Configuring keys to scan the targets manually* (see page 49)
- Assigning a scanmode set to a user account (see page 52)

How to activate the Stepscan function:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the Operation menu.
- 3. Press C or select the C Stepscan entry and press Enter.

ADVICE: After the on-screen display has been called, you are enabled to activate the *Stepscan* function in the *Select* menu by pressing Ctrl+C.

How to deactivate the Stepscan function:

1. Press the Ctrl+Num (default) hotkey to open the on-screen display.

This causes the Stepscan function to stop.

Switching between the target modules

How to switch between target modules via Stepscan function:

1. Press the Up stepkey (default) to access the next target module or the **Down** stepkey (default) to access the previous target module.

Configuring keys to scan the targets manually

By pressing a key, the *Stepscan* function successively switches to all target modules that are available to the user.

You can select different keys to access the next (default Up) or the previous (default Down) target module.

How to select the keys for using the Stepscan function:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the **Stepkeys** entry and press F8 (repeatedly) to select between the following options:

Up/Down:	Up and Down arrow keys
PgUp/PgDn:	Page 1 and Page 4 keys
Num Up/Down:	Up and Down arrow keys of the numeric keypad
Num PgUp/PgDn:	Page <i>t</i> and Page <i>t</i> keys of the numeric keypad
Num +/-	plus and minus keys of the numeric keypad

4. Press F2 to save your changes.

Administrating the scanmode sets

The matrix system enables you to create 20 global select key sets or ten individual scanmode sets for each user.

The select key sets allow you to define the computers to be accessed when performing the *Autoscan*, *Autoskip* or *Stepscan* function.

NOTE: The global scanmode sets are displayed in the *Personal Profile* menu of all users of the matrix system.

Creating a scanmode set

How to create a scanmode set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Scanmode set entry and press Enter.

4. Press F3 and collect the following data in the Add Scanmode Set menu:

Name:	Enter the desired scanmode set name and press Enter.
Global:	Select yes by pressing F8 if you want the scanmode set in the personal profile to be available for all users of the system. default: n0
NOTE: 7 (see pag	This option can only be activated by users with the <i>Superuser</i> right ge 63).

5. Press F2 to save your settings.

Changing the name and global allocation of a scanmode set

How to change the name and/or *Global* setting of a scanmode set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Scanmode set entry and press Enter.
- 4. Select the scanmode set whose setting you want to change.
- 5. Press F5 to change the following data in the Edit Scanmode Set menu:

Name:	Enter the desired scanmode set name and press Enter.
Global:	Select yes by pressing F8 if you want the scanmode set in the personal profile to be available for all users of the system. default: n0
NOTE: 7	This option can only be activated by users with the <i>Superuser</i> right ge 63).

Assigning the target modules to a scanmode set

NOTE: Global scanmode sets can only be edited by users with activated *Superuser* right (see page 63).

Without this right, only the assigned target modules can be viewed.

How to assign target modules to a scanmode set or cancel the existing assignment:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Scanmode set entry and press Enter.
- 4. Press F5 to edit the selected scanmode set.
- 5. Select the Members entry and press Enter.

The *Scanmode Set Members* menu opens. This menu lists all target modules within the matrix system that you are allowed to access.

6. Mark a target module to be assigned to the scanmode set or whose assignment is to be cancelled.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

7. Press F8 to (de)activate the selection.

NOTE: The target module that has been assigned to the scanmode set is marked with an arrow (\bullet) .

- 8. If you want to assign further target modules to the scanmode set, repeat steps 6 and 7.
- 9. Press F2 to save your settings.

Assigning a scanmode set to a user account

A scanmode set defines the targets to be accessed when the *Autoscan, Autoskip* or *Stepscan* function is carried out.

How to assign a scanmode set to the user account or cancel the existing assignment:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Scanmode set entry and press Enter.
- 4. Select the desired scanmode set in the list field.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Press **F8** to (de)activate the selection.

NOTE: An assigned scanmode set is marked with an arrow (**b**).

6. Press F2 to save your settings.

Deleting a scanmode set

NOTE: Only users with activated *Superuser* right (see page 63) can delete a global scanmode set.

How to delete a scanmode set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to open the Personal Profile menu.
- 3. Select the Scanmode set entry and press Enter.
- 4. Select the scanmode set you want to delete and press F4.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Users and Groups

Efficient rights administration

The matrix system administrates up to 256 user accounts and the same amount of user groups. Each user within the system can be a member of up to 20 groups.

Both user accounts and user groups can be provided with different rights.

ADVICE: The rights administration can almost completely be carried out through user groups. Therefore, the user groups and the assigned rights have to be adequately planned and implemented.

This way, the user rights can be quickly and efficiently changed.

The effective right

The effective right determines the right to carry out a particular function.

IMPORTANT: The effective right is the maximum right that consists of the user account's individual right and the rights of the assigned group(s).

In the OSD, the individual right is highlighted in yellow. The effective right is highlighted in green.

Press Ctrl+F12 to open the **Right Source** window. Here you can see the groups the effective right results from.

Example: The user JDoe is member of the groups Office and TargetConfig.

The following table shows the user account rights, the rights of the assigned groups, and the resulting effective right:

Right	User JDoe	Group Office	Group TargetConfig	Effective right
Target config	No	No	Yes	Yes
Change own password	No	Yes	No	Yes
Target access	Full	View	No	Full

The settings of the *Target config* and *Change own password* rights result from the rights assigned to the user groups. The *Target access* right which, in this case, enables full access to a target module, was given directly in the user account.

NOTE: To be able to better differentiate between individual and effective right displayed in the menus of the user management, the rights are highlighted in different colours.

- Individual rights are displayed in *yellow*.
- Effective rights are displayed in green.

Efficient user group administration

User groups enable the creation of a shared right profile for several users with identical rights. Furthermore, the user accounts that are included in the member list can be grouped and therefore no longer have to be individually configured. This facilitates the rights administration within the matrix system.

If the rights administration takes place within the user groups, the user profile only stores general data and user-related settings (key combinations, language settings, ...).

When initiating the matrix system, it is recommended to create different groups for users with different rights (e. g., *»Office«* and *»IT«*) and assign the respective user accounts to these groups.

EXAMPLE: Creat more groups if the user rights are to be further divided. If, for example, some users of the *»Office«* group are to be provided with the *multi-access* right, a respective user group can be created:

- Create a user group (e. g., »Office_MultiAccess«) with identical settings for the »Office« group. The multi-access right is set to full. Assign the respective user accounts to this group.
- Create a user group (e. g., »MultiAccess«) and only set the multi-access right to Yes. In
 addition to the »Office« group, also assign the respective user accounts to this
 group.

In both cases, the user is provided with the *full* effective right for *multi-access*.

ADVICE: The user profile offers the possibility to provide extended rights to a group member.

Administrating user accounts

Creating a new user account

A matrix system can contain up to 256 user accounts.

The owner of a user account is provided with individual login data, rights and userrelated settings for the system.

How to create a new user account:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the User entry and press Enter.
- 4. Press F3 and enter the following data in the Add User menu:

Name:	username of the new account
Password:	password of the new account
Repeat:	repeat new password

5. Press F2 to save your inputs and create a user account.

IMPORTANT: The recently created user account can neither configure nor access the target modules.

Before the account can be used, it has to be added to an existing user group or provided with individual rights.

Renaming the user account

How to rename a user account:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the User entry and press Enter.
- 4. Select the user account you want to rename and press F5.
- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.
- 7. Press F2 to save your settings.

Changing the user account password

NOTE: The personal password can be changed in the *Personal Profile* menu (see page 3) if the user account is provided with the *Personal Profile* or the *Change own password* right.

How to change the user account password:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the User entry and press Enter.
- 4. Select the user account whose password you want to change and press F5.
- 5. Select the **Password** entry and press **Enter**.
- 6. Enter the following data into the Change Password menu:

New:	Enter the new password.
Repeat:	Repeat the new password.

Changing the user account rights

A user account can be assigned with different rights.

The following table lists the different rights. Further information regarding these rights are provided in the respective chapters.

Name	Right	Page
Change own password	Change own password	page 64
Mouse reset	Reset or reactivate PS/2 mouse	page 74
Multi access	Access mode when a target computer is simoul-taneously accessed	page 72
Personal profile	Change personal user settings	page 64
Script execute rights	Carry out a global script	page 37
Push-Get rights	Carry out Push-Get function	page 133
Superuser right	Unrestricted access to the configuration of the system	page 63
Target access rights	Access to a target module	page 70
Target config	Configuration of target modules	page 74
Target group access rights	Access to a target group	page 71
Target multi access rights	Access if a target computer is accessed by several users	page 72
Target USB access	Access USB devices for all target computers	page 73
Target (group) USB access rights	Access USB devices for a certain target module or target group	page 73
Target power group rights	Switch power outlets of a target group	page 105
Target power rights	Switch power outlets of a target module	page 104
Weblf login	Login to the Config Panel web application	page 125

Changing a user account's group membership

NOTE: Any user within the matrix system can be a member of up to 20 user groups.

How to change a user account's group membership:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the User entry and press Enter.
- 4. Select the user account whose group membership you want to change and press F5.
- 5. Select the Group membership entry.
- 6. Select the user group to which you want to add a user account or from which you want to delete a user account.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

7. Press **F8** to add the user account to or delete it from the selected user group.

NOTE: User groups to which the user account is assigned to are marked with an arrow (\bullet) .

- 8. Repeat steps 6 and 7 to edit the group membership for further accounts.
- 9. Press F2 to save your settings.

(De)activating a user account

How to (de)activate a user account:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the user account you want to (de)activate and press F5.
- 4. Select the Enable entry and press F8 to select one of the following options:

yes:	user account activated
no:	user account deactivated

5. Press F2 to save your settings.

Deleting a user account

How to delete a user account:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the User entry and press Enter.
- 4. Mark the user account you want to delete and press F4.
- 5. Select Yes and press Enter to respond to the prompt for confirmation.

Administrating user groups

Creating a new user group

The matrix system can contain up to 256 user groups.

How to create a new user group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **User group** entry and press **Enter**.
- 4. Press F3 and enter the user group name.
- 5. Press F2 to save your inputs and create a user group.

IMPORTANT: The recently created user group can neither configure nor access the target modules.

Renaming a user group

How to rename a user group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the User group entry and press Enter.
- 4. Select the user group you want to rename and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.
- 7. Press F2 to save your settings.

Changing the user group rights

The user groups can hold different rights.

The following table lists the rights that can be assigned to a user group. The rights are described in the respective chapters.

Name	Right	Page
Change own password	Change own password	page 64
Mouse reset	Reset or reactivate PS/2 mouse	page 74
Multi access	Access mode when a target computer is simoul-taneously accessed	page 72
Personal profile	Change personal user settings	page 64
Script execute rights	Carry out a global script	page 37
Push-Get rights	Carry out Push-Get function	page 133
Superuser right	Unrestricted access to the configuration of the system	page 63
Target access rights	Access to a target module	page 70
Target config	Configuration of target modules	page 74
Target group access rights	Access to a target group	page 71
Target multi access rights	Access if a target computer is accessed by several users	page 72
Target USB access	Access USB devices for all target computers	page 73
Target (group) USB access rights	Access USB devices for a certain target module or target group	page 73
Target power group rights	Switch power outlets of a target group	page 105
Target power rights	Switch power outlets of a target module	page 104
Weblf login	Login to the Config Panel web application	page 125

Administrating the user group members

How to administrate the members of a user group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the User group entry and press Enter.
- 4. Select the user group whose members you want to administrate and press F5.
- 5. Select the **Member management** entry and press **Enter**.
- 6. Select the user account you want to add to or delete from the user group.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

7. Press F8 to add the user account to the selected user group or to delete it from this group.

User accounts that are assigned to the user group are marked with an arrow ().

- 8. Repeat steps 6 and 7 to change the group membership for further accounts.
- 9. Press F2 to save your settings.

(De)activating a user group

How to (de)activate a user group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the User group entry and press Enter.
- 4. Select the user group whose status you want to change and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select the Enable entry and press F8 to select one of the following options:

yes: activate user group

no: deactivate user group

IMPORTANT: If the user group is deactivated, the group rights do *not* apply to the assigned members.

Deleting a user group

How to delete a user group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **User group** entry and press **Enter**.
- 4. Select the user group you want to delete and press F4.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Rights regarding the user account

The »Superuser« right

The Superuser right enables you to fully access and configure the matrix system.

NOTE: The information on the user rights that have been assigned before are still stored when the *Superuser* right is activated. After the *Superuser* right has been withdrawn, the saved rights do apply again.

How to change the Superuser right of a user account:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right for a user account, select the **User** entry. For changing this right for a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose *Superuser* rights you want to change and press F5.
- 6. Select the Superuser right entry and press F8 to select one of the following options:

yes:	full access to KVM matrix system
no:	access authorisation according to user and group rights
Changing settings in the »Personal Profile« menu

How to change a user account's operating rights:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. If you want to change this right for a user account, select the **User** entry. For changing this right for a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose config rights you want to change and press F5.
- 6. Select the **Operation rights** entry and press **Enter**.
- 7. Select the **Personal Profile** row and press **F8** to select one of the following options:

yes:	allows to view and edit the personal profile
no:	denies to view and edit the personal profile

8. Press F2 to save your settings.

Changing your own password

How to change a user account's operation rights:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right for a user account, select the **User** entry. For changing this right for a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose config rights you want to change and press F5.
- 6. Select the **Operation rights** entry and press **Enter**.
- 7. Select the **Change own password** row and press F8 to select one of the following options:

yes: allows to change the password of the own user account

no: denies to change the password of the own user account

8. Press F2 to save your settings.

Target groups and view filters

Difference between target groups and view filters

The target modules of the matrix system can be organised into target groups and view filters.

Intended use of target groups

Target groups enable the administrator to quickly assign the rights of a user or a user group for all target modules within a group.

NOTE: The different target modules can be members of *several* target groups.

Intended use of target groups

View filters enable the users of a matrix system to organise the different target modules into view groups. Especially in large matrix systems, the creation of view groups gives you the possibility to keep a better overview over the system.

You can group the target modules according to their view filter (e.g. the server room) or to any other features (e.g. to the operating system of the connected computer).

Administrating target groups

The »New Targets« target group

The *New Targets* target group is preconfigured in the matrix system. This group automatically contains any target module that is connected to the system. For this, the computer connected to the module also has to be switched on.

If you want to provide a user or a user group with particular rights to all recently connected target modules, change the device group rights of either the user account or the user group.

Creating a new target group

How to create a new target group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Target group entry and press Enter.
- 4. Press F3 and enter the target group name.
- 5. Press F2 to save your inputs and create a target group.

NOTE: The rights for this target group can be assigned when access rights to a target group (see page 71) of either the user account or the user group are changed.

Renaming a target group

How to rename a target group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Target group entry and press Enter.
- 4. Select the target group you want to rename and press F5.
- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.
- 7. Press F2 to save your settings.

Administrating the target group members

NOTE: You can assign up to 20 target modules to a target group within the matrix system.

How to administrate the members of a target group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Target group entry and press Enter.
- 4. Select the target group whose members you want to administrate and press F5.
- 5. Select the Members entry and press Enter.

6. Select the target module you want to add to or delete from the target group.

NOTE: The special *MEMBERS* and *NONMEMBERS* options of this menu's view filter (see page 10) enable you to only list the target modules that are or are not assigned to this group.

You can also use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

7. Press F8 to add the target module to the selected target group or to delete it from this group.

NOTE: The target modules that are assigned to a target group are marked with an arrow (\blacktriangleright) .

8. Repeat steps 6 and 7 to edit the group membership of further target modules.

Deleting a target group

How to delete a target group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Target group entry and press Enter.
- 4. Select the target group you want to delete and press F4.
- 5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Administrating view filters

Creating a new view filter

How to create a new view filter:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the View filter entry and press Enter.
- 4. Press F3 and enter the view filter name.
- 5. Press F2 to save your inputs and create a view filter.

Assigning a target module to a view filter

How to assign a view filter to a target module or cancel the existing assignment:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the View filter entry and press Enter.
- 4. Select the view filter which you want to assign a target module to or whose assignment you want to cancel and press F5.
- 5. Select the Members entry and press Enter.

The *Assign View Filter* menu opens. This menu contains a list of all target modules within the matrix system.

6. Mark a target module which you want to assign to the view filter or whose assignment you want to cancel.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

7. Press F8 to (de)activate the assignment.

NOTE: A target module, which is assigned to a view filter, is marked with an arrow (\bullet) .

- 8. Repeat steps 6 and 7 for further target modules.
- 9. Press F2 to save your settings.

Renaming a view filter

How to rename a view filter:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the View filter entry and press Enter.
- 4. Select the view filter you want to rename and press F5.
- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.
- 7. Press F2 to save your settings.

Deleting a view filter

The created view filters can be deleted at any time. Deleting a view filter has no effect on the target modules assigned to the view filter.

How to delete a view filter:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the View filter entry and press Enter.
- 4. Select the view filter you want to delete and press F4.
- 5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Target modules

The target modules serve to connect the target computers to the matrix system. The target modules can be accessed through the user modules.

Adjusting the access and config rights

Accessing a target module

ADVICE: It is recommended to use target groups to assign the target access rights (see page 61).

This way, you are able to keep an overview of the KVM matrix systems. It also benefits the operating performance within the on-screen display of the system.

In order to carry out setting deviating from the rights assigned to the existing target groups, you can assign individual access rights in addition to the group rights.

How to change the user account's target access rights:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing the right of a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose target access rights you want to change and press F5.
- 6. Select the Target access rights entry and press Enter.
- 7. Select the desired target module whose access right you want to change.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

8. Press F8 to select one of the following options:

no:	denies access to the computer connected to the target module
view:	enables to view the screen content of the computer connected to the target module
full:	full access to the computer connected to the target module

NOTE: The *View mode* enables you to access the monitor image of the target computer. Inputs, however, are *not* possible.

9. Repeat steps 7 and 8 to change the access rights to further target modules.

10.Press F2 to save your settings.

Accessing a target group

How to change the user account's target group access right:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing the right of a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose target group access rights you want to change and press F5.
- 6. Select the Target group access rights entry and press Enter.
- 7. Select the desired target group whose access rights you want to change.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

8. Press F8 to select one of the listed options:

no:denies access to the computer connected to the group's target modulesview:enables to view the screen content of the computer connected to the
group's target modulesfull:full access to the computer connected to the group's target modules

NOTE: The *View mode* enables you to access the monitor image of the target computer. Inputs, however, are *not* possible.

9. Repeat steps 7 and 8 to change the access rights to further target modules.

10.Press F2 to save your settings.

Access mode when simultaneously accessing a target computer

In the default settings of the KVM matrix system, only one user can access a target computer.

This restriction can be lifted by changing the access rights for a user account or a user group.

You can either change the global settings to allow multiple users to access a target computer at the same time (for all target computers a user or a user group has access to) *or* you can change the rights for particular target computers or target groups only.

NOTE: The right for simultaneous access depends on the user's effective right (see page 53). The effective right is the highest right that results from the individual right of the user accounts and the rights of the assigned group(s).

How to change the multi access rights:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing the right of a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose multi access rights you want to change and press F5.
- 6. Select the **Operation rights** entry and press **Enter**.
- 7. Select the **Multi access** entry and press **F8** (repeatedly) to select one of the following options:

no:	denies access to an already accessed target computer	
view:	allows to view the screen content of the targer computer; no inputs possible	
full:	full access to an already accessed target computer	

8. Press F2 to save your settings.

Access to USB devices

In the defaults of the matrix system, users have access to USB devices of a channel group.

This right can be denied by changing the right »Access to USB devices« of a user account or a user group.

The right to access USB devices of a certain target computer can be denied either globally (for all target computers a user or a user group can access) *or* for certain target computers or groups.

NOTE: The access right depends on the user's effective right (see page 53). The effective right is the highest right that results from the individual right of user accounts and the rights of assigned group(s).

How to change the right to access USB devices for *all* target computers:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing the right of a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose multi access rights you want to change and press F5.
- 6. Select the **Operation rights** entry and press **Enter**.
- 7. Select the Target USB access entry and press F8 (repeatedly) to select one of

yes:	Allow access to USB devices of the channel group.
no:	Deny access to USB devices of the channel group.

8. Click **0k** to save you settings.

How to change the right to access USB devices for *a certain* target module or target group:

NOTE: You can configure and apply access to USB devices if the user account or the user group are assigned with *general access rights* (see page 70 f.) for the target computer.

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing the right of a user group, select the **Usergroup** entry.
- 4. Press Enter.

- 5. Select the user account or the user group whose multi access rights you want to change and press F5.
- 6. Select the Target (group) USB access rights entry and press Enter.
- 7. Select the desired target or target group whose access rights you want to change.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

8. Press **F8** to select one of the listed options:

yes:	Allow access to USB devices of the channel group.
no:	Deny access to USB devices of the channel group.

- 9. Repeat steps 7 and 8 to change the access rights to further target modules.
- 10.Press F2 to save your settings.

Rights for configuring the target modules

How to change the target config rights:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing the right of a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose rights to edit and configure the target modules you want to change and press F5.
- 6. Select the **Config rights** entry and press **Enter**.
- 7. Select the Target Config entry and press F8 to select one of the following options:

yes: allows the right to view and edit the target module configno: denies the right to view and edit the target module config

8. Press F2 to save your settings.

Rights to reset or reactivate a PS/2 mouse

Compared to USB mouses, PS/2 mouses do not support hot plug technology. You can therefore insert the PS/2 plug during operation, but it may be possible that the computer does not detect the input device.

In order to activate or reset the PS/2 mouse, the matrix system can be used to send a special command to the computer connected to the target module.

Further information regarding this topic can be found in the chapter Activating or resetting a PS/2 mouse on page 84.

How to change the rights to reset or reactivate the PS/2 mouse:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing the right of a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose rights to reset or reactivate the PS/2 mouse you want to change and press F5.
- 6. Select the **Operation rights** entry and press **Enter**.
- 7. Select the Mouse reset entry and press F8 to select one of the following options:

yes:	allows the reset or reactivation of the PS/2 mouse interface of a tar- get computer
no:	denies the reset or reactivation of the $\mathrm{PS}/\mathrm{2}$ mouse interface of a target computer

- 8. Repeat step 6 if you want to change further menu settings.
- 9. Press F2 to save your settings.

Basic configuration of the target modules

Renaming a target module

During the booting process of the matrix system, the target modules are automatically named. The text *CPU-ID* is put before the physical device ID.

All target modules that are automatically named can be renamed.

ADVICE: The target modules can be renamed in the *Configuration* (see below) or the *Select* menu (see page 76).

How to rename a target module in the Configuration menu:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Target entry and press Enter.
- 4. Select the target module you want to rename and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.

NOTE: The message *»Name exists«* is displayed if a target module with the same name has already been connected to the system.

The settings of such target modules are stored within the matrix system and are only visible in the *Config Panel* web application. If necessary, use the web application to delete the target module from the system.

Afterwards, this name can be assigned to another target module.

7. Press F2 to save your settings.

How to rename a target module in the Select menu:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Select the target module to be renamed.

NOTE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 3. Press F5.
- 4. Change the name and press Enter.

NOTE: The message *»Name exists«* is displayed if a target module with the same name has already been connected to the system.

The settings of such target modules are stored within the matrix system and are only visible in the *Config Panel* web application. If necessary, use the web application to delete the target module from the system.

Afterwards, this name can be assigned to another target module.

Deleting a target module from the KVM matrix system

If the matrix system is not able to detect a target module that has already been connected to the system, the device is defined as inactive.

Therefore, the list entry of the target module you want to permanently remove from the system has to be manually removed.

NOTE: Only inactive target modules can be deleted.

How to delete a target module that is inactive or disconnected from the system:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Target entry and press Enter.

4. Select the target module you want to delete and press F4.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Copying the target module config settings

If a target module of the KVM matrix system is replaced by another device, it is possible to copy the previous config settings to the new device.

After the config settings have been copied to the new device, it can be operated immediately.

IMPORTANT: The target module whose settings you want to copy is afterwards deleted from the KVM matrix system.

How to copy the target module config settings:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the **Target** entry and press **Enter**.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 4. Select the active target module to which you want to copy the config settings of a target module that is switched off or disconnected from the matrix system and press F7.
- 5. Select the target module whose settings you want to copy and press Enter.

NOTE: Only target modules that are switched off or disconnected from the system are listed in this menu.

- 6. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.
- 7. Press F2 to save your settings.

Settings for special hardware

Choosing the USB keyboard type

NOTE: This setting can only be edited with USB versions of the target modules.

USB target modules support different USB input devices. You can use the special features of a USB input device after selecting the specific USB keyboard mode (see page 79).

As an alternative to the specific USB keyboard modes, you can use the **Generic HID** mode. In this mode, the data from the USB devices connected to the top **Keyb**./Mouse interface is transmitted to the active target module.

IMPORTANT: When connecting a USB hub or a USB composite device containing multiple USB devices, only the first of the connected HID devices can be used in the **Generic HID** mode (see page 92).

• **USB keyboards:** In addition to the keys of standard keyboard layouts, the default USB keymode **PC Multimedia** supports several multimedia keys like **Loud** and **Quiet**.

With *Apple* or *Sun Keyboards*, you can apply special keymodes to use the special keys of these keyboards.

The following table lists the supported USB keyboards:

INPUT DEVICE	SETTING
PC keyboard with additional multimedia keys	 PC Multimedia
PC keyboard with standard keyboard layout	 PC Standard
Apple Keyboard with numeric keypad (A1243)	▶ Apple A1243
Sun Keyboard (German keyboard layout)	► SUN German
Sun Keyboard (American keyboard layout)	→ SUN US

• **Displays and tablets:** You can operate computers connected to the target module with one of the supported *displays* or *tablets*:

INPUT DEVICE	SETTING
HP 2310t	• HP 2310t
iiyama T1931	∙iiyama T1931
NOTTROT N170 KGE	• N170 KGE
Wacom Cintiq 21UX	• Wacom Cint.21
Wacom Intuos3	• Wacom Int.3
Wacom Intuos4 S	 Wacom Int.4S
Wacom Intuos4 M	 Wacom Int.4M
Wacom Intuos4 L	• Wacom Int.4L
Wacom Intuos4 XL	 Wacom Int.4XL
Wacom Intuos5 S	• Wacom Int.5S

Target modules

INPUT DEVICE	SETTING
Wacom Intuos5 M	 Wacom Int.5M
Wacom Intuos5 L	 Wacom Int.5L

• Generic HID mode: •In this mode, the data from the USB devices connected to the top Keyb./Mouse interface is transmitted to the active target module.

INPUT DEVICE	SETTING
Any USB device	▸ Generic HID

IMPORTANT: To use a generic HID device, you need to activate the **Generic HID** support of the user module to which the USB device is connected to (see page 92).

• **Controller:** With **ShuttlePR0 v2** multimedia controllers, you can operate audio and video programs. You can use a special USB keymode to operate computers connected to the target module using the controller:

INPUT DEVICE	SETTING
Contour ShuttlePRO v2	 Contour SP2

• LK463 compatible keyboard: You can connect an LK463 compatible keyboard to the user modules of the KVM matrix system. The order of the 108 keys of these keyboards is the same as the OpenVMS keyboard layout.

A special USB keyboard mode guarantees that the keypress of a special key on this keyboard is forwarded to the target computer:

INPUT DEVICE	SETTING
LK463 compatible keyboard	• LK463

How to select a USB keyboard mode:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Target entry and press Enter.
- 4. Select the target module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the USB keyboard entry and press F8 to select one of the options.
- 6. Click **OK** to save your settings.

IMPORTANT: After changing the keyboard layout of *Sun Keyboards*, Sun computers require a reboot.

How to use the special function of Sun keyboards on a standard keyboard:

IMPORTANT: You can use the emulation of »Solaris Shortcut Keys« in the **SUN DE** and **SUN US** keyboard mode only.

If the target module is provided with a *Sun Keyboard*, you can use *Solaris Shortcut Keys* after enabling their support.

When using a standard keyboard, you can perform these functions by using the key combinations listed below:

KEY COMBINATIONS	»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	Сору
Ctrl+Alt+F7	Open
Ctrl+Alt+F8	Paste
Ctrl+Alt+F9	Find
Ctrl+Alt+F10	Cur
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 for servers of IBM's RS/6000 series

NOTE: This setting can only be edited with PS/2 versions of the target modules.

Activate the support for UNIX servers of IBM's RS/6000 series in the *IBM RS/6000* support menu if the target computer is a server of this series.

How to (de)activate the special support for servers of IBM's RS/6000 series:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Target entry and press Enter.

4. Select the target module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select the IBM RS/6000 support entry press F8 to select one of the following options:

yes: support for servers of IBM's RS/6000 series is activatedno: support for servers of IBM's RS/6000 series is deactivated

6. Press F2 to save your settings.

Defining the EDID profile to be used

The EDID information (*Extended Display Identification Data*) of a monitor inform the graphics card of a connected computer about the technical features of the device.

The EDID profile of the monitor, which is connected to the user module, is not available at the target module. Therefore, the target module transmits a standard profile to the computer. The EDID information of this profile are optimised for the majority of available graphics cards.

We provide additional profiles for special resolutions.

ADVICE: In some cases it is recommended to read out the EDID profile of the console monitor (see page 101 f.) and activate the configuration of the target module.

How to choose the EDID profile to be transmitted to the computer:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Target entry and press Enter.
- 4. Select the target module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select the **EDID** entry and press **F8** to choose between the standard profile (**Device specific default profile**) or another profile from the list.

default: activates the device-specific default profiles

user: activates a user-defined profile

IMPORTANT: Select the **Assign EDID** entry to choose the user-defined profile and press **Enter**.

Select the desired profile and press F8.

Press F2 to save your settings.

NOTE: The names of the special G&D profiles provide information on the maximum resolution and refresh rate for the profile.

The **GUD DVI1024D4 060 1280×1024/60** profile is provided for a resolution of 1280×1024 pixels at 60 Hz refresh rate.

6. Press F2 to save your settings.

Reducing the colour depth of the image data to be transmitted

In the default settings of a target module, the central module transmits the image information with a maximum colour depth of 24 bit to the user module.

Using a high resolution and displaying moving images can result in the user module "skipping" several images.

In such cases, reduce the colour depth of the image data to 18 bits. This way the data volume to be transmitted can be reduced.

NOTE: Depending on the image contents, reducing the colour depth may result in slight colour grades.

How to change the colour depth of the image data to be transmitted:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Target entry and press Enter.
- 4. Select the target module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the **Colour depth** entry and press F8 to choose between the following options:

24 Bit:	transmits the image data with a maximum colour depth of 24 bits
18 Bit:	reduces the colour depth of image data to 18 bits

6. Press F2 to save your settings.

Enhanced functions

Remembering the last target module

Enable the **Remember last target** function in your personal profile to remember the target module the user last accessed even after the logout. After the next login, the user automatically accesses the last target module.

NOTE: Turning off the user module on which the user is logged in is treated like a logout.

IMPORTANT: When enabling the **Remember last target** function, the user's configured standard targer is ignored.

How to enable/disable automatic access to the last accessed target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the **Remember last target** entry and press F8 (repeatedly) to select one of the following settings.

yes:	After the user logs in, the remembered target is accessed.
no:	After the user logs in, the configured standard target is accessed. If no standard target is configured, the Select menu opens (default).

4. Press F2 to save your settings.

Displaying »Multiuser« information

If several users are accessing a target computer (*Multiuser* mode), the *»Multiuser«* information can be activated. This way, all accessing users are provided with the information that at least one other user is currently accessing the target computer.

NOTE: The setting to display the *»Multiuser«* information for the entire system are usually carried out in the *Configuration* menu. This setting of the *Personal Profile* menu enables you to individually configure this setting for each user account.

Both possibilities are described on this page.

How to (de)activate the »Multiuser« information for the entire system:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the **System** entry and press Enter.
- 4. Select the Multiuser display entry and press F8 to select one of the following options:

yes:	activates »Multiuser« display
no:	deactivates »Multiuser« display

5. Press F2 to save your settings.

How to (de)activate the »Multiuser« information for a particular user account:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.

3. Select the **Multiuser display** entry and press F8 (repeatedly) to select one of the following settings.

System:	The global setting made in the <i>Configuration</i> menu applies for this user account.
on:	displays Multiuser information
off:	does not display Multiuser information

4. Press F2 to save your settings.

Activating or resetting a PS/2 mouse

Compared to USB mouses, PS/2 mouses do not support hot plug technology. You can therefore insert the PS/2 plug during operation, but it may be possible that the computer does not detect the input device.

In order to activate or reset the PS/2 mouse, the matrix system can be used to send a special command to the computer connected to the target module.

NOTE: Since the commands differ depending on the used mouse type and the installed operating system, four different functions are provided.

How to start and use the Mouse utility function:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the *Operation* menu.
- 3. Press F or select the F Mouse utility entry and press Enter.

ADVICE: After the on-screen display has been called, you are enabled to activate the *Mouse utility* function by pressing Ctrl+F.

4. Select one of the following functions with the arrow keys and press Enter:

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

Resetting the video profiles of a analog target module

A video profile is created for each analog target module (*Bridge mode* only). This video profile stores information on different cable parameters. This information ensures that an optimum video image is displayed at the monitor.

Changing the cable length between a target module and the matrix switch can affect the image quality.

In this case, delete the existing video profiles of the target module. When accessing the target module the next time, a new profile is created at the workplace.

How to delete the stored video profiles of a target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Target entry and press Enter.
- 4. Select the analog target module (*CATpro2*) whose video profiles you want to delete and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Mark the entry **Reset target video data** and press **Enter**.
- 6. Use the arrow keys to mark the entry **Yes** and press Enter to confirm the appearing security request.
- 7. Press F2 to save your settings.

NOTE: Every time a connection without an existing entry in the video profile database is established between the user module and the target module, the image signal coming from the computer is switched off within the target module. A test signal is created instead and transmitted to the user module.

With the aid of this test signal, the required parameters to display an optimized image are determined. If other users are trying to access this target module at the same time, they receive a message regarding the video adjustment.

Depending on the cable length, the cable quality, and the connected monitor type, it takes between 5 and 10 seconds until the image is displayed again at these user modules.

Viewing the route information of the target module

The route information provides an overview of how the target module is physically connected to the other devices of the matrix system.

How to view the route information:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Move the cursor to the target module whose route information you want to view.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

3. Press Ctrl + F12 to display the route information:

The exemplary information window provides the following information:

- The *CPU-Server* target module is connected to the *Master* matrix switch. The devices are connected through the *Transmission* port of the target module and the *CPU 1* of the matrix switch.
- 4. The *CON-Admin* user module is connected to the *Master* matrix switch. The devices are connected through the *Console 1* port of the matrix switch and the *Transmission* port of the user module.

ADVICE: If the user module accesses a target module, the arrows of this active connection are displayed in *blue*.

NOTE: Any slave devices, which are connected to the master device of the matrix system, are also displayed in the route information as long as the connection between target module and user module is established through the devices.

User modules

The target computers connected to the KVM matrix system are operated at the user modules of the system.

Operating modes of user modules

Depending on the intended use of the user module, the module's operating mode can be selected from the following three options:

Standard operating mode

NOTE: This operating mode is preset in the default.

The *Standard* operating mode only permits access to the matrix system after the user has entered their username and password.

The user rights can be individually adjusted in the settings of the user accounts.

Open Access operating mode

In this mode, the access to the matrix system is not password-protected.

For this user module, you can configure the same access rights as for a user account.

IMPORTANT: The configured access rights apply for all users at this user module.

Video operating mode

A video console (only possible when combined with the optional *Push/Get function*) is especially suited when used with a projector since mouse and keyboard do not have to be connected.

If the video console is provided with mouse and keyboard, inputs can only be made in the on-screen display.

It is possible to configure the same access rights for this user module as for a user account.

IMPORTANT: The configured access rights apply for all users at this user module.

NOTE: A video console is *not* displayed. The accessing video console is therefore not highlighted to other accessing users. A user without *Multiuser* rights can access the user module simultaneously to the video console.

Selecting the user module's operating mode

How to select the user module's operating mode:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Console entry and press Enter.
- 4. Select the **Console type** entry and press **F8** to select an access type:

Standard:	Standard operating mode
Open Access:	Open Access operating mode
Video:	Video operating mode

NOTE: By selecting the *Open Access* or *Video* options, you can activate further submenus to configure the access rights.

The settings are explained in the chapter Administrating user accounts on page 55 ff.

5. Press F2 to save your settings.

Basic configuration of the user modules

Renaming a user module

How to rename a user module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.
- 4. Select the user module you want to rename and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.
- 7. Press F2 to save your settings.

(De)activating the user module

If you want to deny a user module the access to the matrix system, the user module can be deactivated.

NOTE: After the user module has been deactivated, the monitor displays the message *»This console has been disabled«.* It is therefore not possible to call the on-screen display or the login box.

If a user is currently accessing this user module, access is *immediately* withdrawn.

How to (de)activate the user module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the user module you want to (de)activate and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

4. Select the Enable entry and press F8 to select one of the following options:

yes:	activate user module
no:	deactivate user module

5. Press F2 to save your settings.

Enabling/disabling the keyboard support for user modules

By default, user modules start without a keyboard. After the startup, the console monitor shows the OSD of the matrix switch. Operating the OSD, however, requires a keyboard.

As an alternative, the user module can inerrupt startup by showing a message regarding the missing keyboard. Once you connect a keyboard to the user module, the startup process continues.

How to enable/disable the startup of a user module without a keyboard:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the user module you want to (de)activate and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

4. Select the **Keyboard support** entry and press F8 to select one of the following options:

yes: User module can be started only when a keyboard is connected.no: User module can be started without a keyboard (default).

5. Press F2 to save your settings.

Copying the user module config settings

If a user module of the matrix system is replaced by another device, the config settings of the device can be copied to the new device.

The new device can be operated immediately.

IMPORTANT: The user module whose settings are to be copied is deleted from the system.

How to copy the user module config settings:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press Enter.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 4. Select the active user module to which you want to copy the config settings of an inactive or disconnected user module. Press F7.
- 5. Select the user module whose settings you want to copy and press Enter.

NOTE: This menu only list user modules that are switched off or disconnected from the system.

- 6. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.
- 7. Press F2 to save your settings.

Deleting a user module from the matrix system

If the matrix system is not able to detect a target module that already has been connected to the system, the device is considered inactive.

Therefore, you have to manually delete the list entry of the user module you want to permanently remove from the system.

NOTE: Only inactive user modules can be deleted by the administrator and all users with the *Superuser* right.

How to delete an inactive or disconnected user module from the system:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.
- 4. Select the user module you want to delete and press F4.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Settings for special hardware

Adjusting the scancode set of a PS/2 keyboard

If a key is pressed on the PS/2 keyboard, the keyboard processor sends a data packet that is called scan code. The two common scan code sets (sets 2 and 3) contain different scan codes.

The KVM switch interprets all inputs of the PS/2 keyboard with scan code set 2.

If the pipe ("|") cannot be entered or if the arrow keys of the keyboard do not work as expected, it is recommended to switch to scan code set 3.

How to select the scancode set of the PS/2 keyboard:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Console entry and press Enter.
- 4. Select the user module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Scancode entry and press F8 to select the scancode sets 2 or 3.
- 6. Press F2 to save your settings.
- 7. Restart the user module to apply your changes.

Activating the support for special PS/2 keyboards

How to activate the support for a special PS/2 keyboard:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Console entry and press Enter.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

4. Select the Enh. keyboard entry and press F8 to select the keyboard type:

default:	standard keyboard
PixelPower Clarity (blue):	special PixelPower Clarity (blue) keyboard
PixelPower Rapid Action:	special PixelPower Rapid Action keyboard
SKIDATA1:	special SKIDATA1 keyboard

5. Press F2 to save your settings.

Support of any USB device

In the **Generic-HID** mode, the data from the USB devices connected to the top **Keyb**./ **Mouse** interface is transmitted to the active target module.

NOTE: When the **Generic-HID** mode is enabled, it is *not possible* to operate the OSD with a keyboard connected to the top **Keyb**./**Mouse** interface.

In the **Generic-HID** mode, you can connect USB hubs or USB composite devices to the top **Keyb**./**Mouse** interface of the user module.

USB composite devices are USB devices that are connected to a computer via *one* USB cable, but consist of separate HID devices (e.g. keyboard/mouse or touchpad/ mouse).

When connecting a USB hub or a USB composite device containing multiple USB devices, only the first of the connected HID devices can be used in the **Generic HID** mode. The OSD informs you if other HID devices of the composite device or the hub are detected.

NOTE: In the *Multi User* mode, the generic HID device is available at the first active user module. Once this user module logs off and another user module logs in, the generic HID device of the other user module is available.

How to enable/disable the generic HID mode of the user module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press **F11** to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

4. Select the Generic HID entry and press F8 to select the keyboard type:

off: You can connect either a USB keyboard or a USB mouse to the top **Keyb./Mouse** interfaceof the user module.

IMPORTANT: To use the generic HID device, enable the USB HID mode **Generic HID** of the target modules you want to access (see page 78).

5. Press F2 to save your settings.

Reinitialising USB input devices

After connecting a USB keyboard or mouse to the KVM extender, the input devices are initialised and can be used immediately.

Some USB input devices require a reinitialisation of the USB connection. Enable the automatic reinitialisation of USB devices if a USB keyboard or mouse does not respond to your inputs during operation.

How to enable/disable the reinitialisation of USB devices:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

on: The data from any USB device connected to the top **Keyb./Mouse** interface is transmitted to the active target module.

off:	The connected USB input devices do not need to be reinitialised (recommended setting).
all:	All USB devices are regularly reinitialised.
only faulty:	The status of USB devices is monitored. If the communica- tion with a USB devices is interrupted, the device is reini- tialised.

4. Select the USB Auto Refresh entry and press F8 to select the keyboard type:

5. Press F2 to save your settings.

Enhanced functions

Setting the auto user logout

The user module can be configured so that it auto-disconnects the access to the target module after a user has been inactive for a certain amount of time. After the configured period of time, the user is logged out from the matrix system.

How to set the auto user logout:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Console entry and press Enter.
- 4. Select the user module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Auto logout (min) entry and press Enter.
- 6. Enter a number between 1 and 99 minutes to set the auto logout and press Enter.

NOTE: The value »0« deactivates the automatic user logout.

7. Press F2 to save your settings.

Auto-disconnecting the access to a target module

The user module can be configured so that the active access to a target module is auto-disconnected after the user has been inactive for a certain amount of time.

If the on-screen display is opened at the moment of disconnection, it remains on the screen even after it has been auto-disconnected.

In case the on-screen display is closed at the moment of disconnection, the message displayed on the right appears **Not connected** on the screen of the user console.

How to auto-disconnect the access to a target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Console entry and press Enter.
- 4. Select the user module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Auto disconnect (min) entry and press Enter.
- 6. Enter a number between 1 and 99 minutes to start the screensaver and press Enter.

NOTE: The value »0« deactivates the auto disconnection when a target module is accessed.

7. Press F2 to save your settings.

Adjusting the logoff procedure of user modules of the »DVI-CON-2« series

You can connect user modules of the **DVI-CON-2** series to up to two digital matrix switches of the *ControlCenter-Digital* or the *DVICenter* series.

The button on the front panel of the user module or configured key combinations (select keys) let you switch between the connected matrix switches.

In the defaults of the matrix switches, the existing connection between the first and the second matrix switch is disconnected via logout during a switching operation while the connection to the second matrix switch is established. Due to the logout users are required to logon again after each switching operation.

In the settings of the matrix switches connected to the user module you can adjust that the connection is not disconnected via logout when switching but that it should be held. If you switch back to the matrix switch at a later point, you can continue work without having to log on again.

IMPORTANT: Activating this option can pose a security risk since other users can switch your session at this user module without having to log on again!

How to adjust the logoff procedure of user modules of the »DVI-CON-2« series:

IMPORTANT: Adjust this setting separately for both matrix switches connected to the user module.

How to change the system setting of the mouse position:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.
- 4. Select the Stay connected to the matrix entry and press F8 to select the keyboard type:
 - **No:** When switching to the second channel of the user module, the existing connection is disconnected via logout (*default*).
 - **Yes:** When switching to the second channel of the user module, the existing connection is held. If you switch back to the matrix switch at a later point, you can continue work without having to log on again
- 5. Press F2 to save your settings.

Channel auto-switching for user modules of the »DVI-CON-2« series

You can connect user modules of the **DVI-CON-2** series to up to two digital matrix switches of the *ControlCenter-Digital*, the *ControlCenter-Compact* or the *DVICenter* series.

The buttons on the front panel of the user module or configured key combinations (select keys) let you switch between the connected matrix switches.

You can configure the matrix switch to automatically switch to the other channel when a connection is lost on the channel selected by the user.

ADVICE: For example, you can use this function to automatically switch to a redundant matrix switch when a connection is terminated.

How to configure the channel auto-switching for user modules of the »DVI-CON-2« series:

IMPORTANT: Change this setting separately for both matrix switches connected to the user module.

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press Enter.

4. Select the **Channel auto-switching** entry and press **F8** to select the keyboard type:

never:	The channel accessed by the user is maintained in case of a disconnection (<i>default</i>).
online:	If a connection is terminated, the device auto-switches to the other channel if this channel has an active connection.
always:	If a connection is terminated, the device auto-switches to the other channel regardless of the conenction status of the other channel.

5. Press F2 to save your settings.

Activating or resetting a PS/2 mouse

Compared to USB mouses, PS/2 mouses do not support hot plug technology. You can therefore insert the PS/2 plug during operation, but it may be possible that the computer does not detect the input device.

In order to activate or reset the PS/2 mouse, the matrix system can be used to send a special command to the computer connected to the target module.

Further information regarding this topic are provided in the chapter *Target modules* on page 70.

Viewing technical information about the user modules

The *Console status* menu provides detailed information about the user modules and displays e.g. the physical ID, the accessing user, and the firmware version.

How to call detailed information about the user modules:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F12 to call the *Information* menu.
- 3. Select the Console status entry and press Enter.

4. Press F8 (repeatedly) to select the information to be displayed in the right-hand column:

ID:	displays physical device ID
Port:	displays connection port at matrix switch
User:	displays active user
Target:	displays accessing target module
Firmware:	displays firmware version of user module
Туре:	displays operating type of user module
Comment:	displays a comment about the user module
	ADVICE: Press Enter to show the comment viewer of the user module. Press F5 to switch to the comment editor.

5. Press **Esc** to leave the menu.

Remembering the username in the login box

If the same user often works at a certain user module, their username can be saved as default in the login box.

After a user has logged out of the system, the login box remembers the username of the last active user.

How to remember the username in the login box:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Console entry and press Enter.
- 4. Select the user module whose settings you want to change and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select the **Remember last username** entry and press **F8** to select one of the following options:

yes:	remember last username
no:	do not remember last username

6. Press F2 to save your settings.

Setting the hold time for the screensaver

The screensaver deactivates the screen display at the user module after the user has been inactive for a configurable amount of time.

NOTE: This setting works independently from the screensaver settings of the target computer.

How to set the hold time of the screensaver:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the **Console** entry and press **Enter**.
- 4. Select the user module whose settings are you want to change and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Screensaver (min) entry and press Enter.
- 6. Enter a number between 1 and 99 minutes to activate the screensaver and press Enter.

ADVICE: The value »0« deactivates the screensaver.

7. Press F2 to save your settings.

Enabling or disabling DDC/CI support

Most of the target and user modules supported by the *DVICenter* system are ready to support monitors with **DDC/CI** functionality.

After the function has been activated, the DDC/CI information is *transparently* forwarded to the monitor in order to support as many monitors as possible. However, we *cannot* guarantee the support for all monitors.

NOTE: The paragraph *Technical data* of the manuals of the target and user modules shows which modules (after an update to the latest firmware) support DDC/CI.

You can set the **DDC/CI** support for the entire system. The system-wide setting is used by all user modules. In addition, you can define these settings for each user module individually.

How to configure the sytem-wide setting of the DDC/CI support:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the System entry and press Enter.
4. Select the DDC/Cl support entry and press F8 to select the desired option:

Disabled:	The transmission of DDC/CI signals is disabled (default).
Target > monitor:	The transmission of DDC/CI signals is carried out exclusively from the target to the monitor.
Bidirectional:	The transmission of DDC/CI signals is carried out by bidirectionally.

5. Press F2 to save your settings.

How to configure the individual settings of the DDC/CI support of a user module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.
- 4. Select the user module whose settings are you want to change and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select the **DDC/Cl support** entry and press **F8** to select the desired option:

System:	Use system-wide setting (see above).
Disabled:	The transmission of DDC/CI signals is disabled (default).
Target > monitor:	The transmission of DDC/CI signals is carried out exclusively from the target to the monitor
Bidirectional:	The transmission of DDC/CI signals is carried out by bidirectionally.

6. Press F2 to save your settings.

Administrating EDID profiles

The EDID information (*Extended Display Identification Data*) of a monitor inform the graphics card of a connected computer about various technical features of the device.

The EDID profile of the monitor that is connected to the user module, is not available at the target module. Therefore, the target module transmits a standard profile to the computer. The EDID information of the profile are optimised for the majority of available graphics cards.

We provide additional profiles for special resolutions.

ADVICE: In some cases it is recommended to read out the EDID profile of the console monitor (see page 81) and then activate the configuration of the target module.

Importing the EDID profile of a monitor

NOTE: An EDID profile can either be imported from a bin file or directly from a monitor, which is connected to the KVM switch.

How to import the EDID profile of a connected monitor:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the EDID entry and press Enter.
- 4. Press F3.
- 5. Select the user module to which the monitor whose EDID profile you want to import is connected to and press Enter.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

The imported data is displayed in the *Add EDID* entry.

- 6. If you wish, you can rename the EDID profile.
- 7. Press F2 to save the imported EDID profile.

Renaming the EDID profile of a monitor

How to rename an existing EDID profile:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the EDID entry and press Enter.
- 4. Choose the EDID profile you want to rename and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Rename the EDID profile.
- 6. Press F2 to save your settings.

Deleting the EDID profile of a monitor

How to delete an EDID profile:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **EDID** entry and press **Enter**.
- 4. Choose the EDID profile you want to delete and press F4.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Respond to the confirmation prompt by selecting Yes and press Enter.

Defining the EDID profile to be applied for a target module

In some cases it is recommended to read out the EDID profile of the console monitor and then activate the configuration of the target module.

Detailed information regarding this topic is provided on page 81.

Power switch

By integrating a remote power switch (*G&D Hardboot CCX*) into the matrix system, you can (de)activate the power supply of the devices through the system.

For this, one or several power outlets are assigned to a target module. Afterwards, the outlets can be switched in the *Operation* menu.

Switching the power outlets assigned to the target

The *Target power* function enables you to switch the power outlets of a connected and configured power switch.

Requirements to use this function:

- Installed G&D Hardboot CCX power switch
- *A power switch power outlet that is assigned to the target module* (see page 106)
- Assigned target rights (see page 104) or target group rights (see page 105) for power switching

How to switch on/off the power outlets assigned to the currently accessed target module:

IMPORTANT: At first, access the target whose assigned power outlet you want to switch (see page 4).

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F9 to call the Operation menu.
- 3. Press I (repeatedly) or select the I Target power entry and press F8 (repeatedly) to select one of the following options:

off: switches off power outlets

on: switches on power outlets

IMPORTANT: The *»n.c.«* entry (not connected) indicates that no power outlets of a power switch that is connected to the matrix system are assigned to the accessed target module.

ADVICE: After the on-screen display has been called, you are enabled to activate the *Target power* function in the *Select* menu by pressing Ctrl+1.

Rights administration

Rights for switching the power outlets of a target module

How to change the rights for switching the power outlet(s) assigned to a target:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing this right for a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose target power switching rights you want to change and press F5.
- 6. Select the Target power rights entry and press Enter.
- 7. Select the desired target module whose power switching right you want to change.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

8. Press F8 to select one of the following options:.

yes:	allows the switching of the power outlets assigned to the selected target module
no:	denies the switching of the power outlets assigned to the selected tar- get module

9. Repeat steps 7 and 8 to change further power switching rights.

10.Press F2 to save your settings.

Rights for switching the power outlets of a target group

How to change the right for switching the power outlet(s) assigned to the target modules of the group:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. If you want to change this right of a user account, select the **User** entry. For changing this right for a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose target power switching group rights you want to change and press F5.
- 6. Select the Target power group rights entry and press Enter.
- 7. Select the desired target group whose power switching right you want to change.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

8. Press F8 to select one of the following options:

yes:	Allow the switching of the power outlets assigned to the target mod- ules of the selected group.
no:	Deny the switching of the power outlets assigned to the target modules of the selected group.

9. Repeat steps 7 and 8 to change further power switching rights.

10.Press F2 to save your settings.

Configuration

Assigning a power switch power outlet to the target module

If at least one *G&D Hardboot CCX* power switch is provided to the system, you can assign one or more power outlets to a target module.

The assigned power outlets can be switched via the Operation menu.

Further information:

• Switching the power outlets assigned to the target on page 103

How to change the assigned power switch outlets:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Target entry and press Enter.
- 4. Select the target module you want to assign one or several power switch power outlets to or whose assignment you want to cancel and press F5.
- 5. Select the Assign power switch outlets entry and press Enter.
- 6. The *Target Power* menu lists all power switches and the available power outlets. The right column displays the target module name if the power outlet has already been assigned to a target module:

Target Power Sort Alph+ Search	
power switch1 1.1 1.2	CPU-001
power switch2 1.1 1.2	CPU-002 CPU-002
F9: Operation F10:Pers F11:Config F12:Info	.Profile

- 7. Select the power outlet which you want to assign to the target module or whose assignment you want to cancel.
- 8. Press F8 to assign the power outlet to the currently active target module or to cancel this assignment.

Power outlets assigned to the currently active target module are marked with an arrow (\blacktriangleright) .

9. Press F2 to save your settings.

Renaming a power switch

How to rename a power switch:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Power switch** entry and press **Enter**.
- 4. Select the power switch you want to rename and press F5.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.
- 7. Press F2 to save your settings.

Deleting a power switch from the matrix system

If the matrix system is not able to detect a power switch that has already been connected to the system, the switch is considered as inactive.

Therefore, manually delete the list entry of the power switch you want to permanently remove from the matrix system.

NOTE: Only inactive power switches can be deleted.

How to delete a power switch that is switched off or disconnected from the system:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Power switch entry and press Enter.
- 4. Select the power switch you want to delete and press F4.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Special functions for cascaded KVM matrix systems

Cascading allows you to increase the number of target computers, which can be connected to the KVM matrix system. For this, several matrix switches are integrated into the system.

This chapter describes the configuration settings for a cascaded KVM matrix switch.

Basic functions

Renaming the master matrix switch

How to rename a matrix switch:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **System** entry and press Enter.
- 4. Select the Name entry and press Enter.
- 5. Enter the new name and press Enter.
- 6. Press F2 to save your settings.

Renaming the slave matrix switch

How to rename a slave matrix switch:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the Cascade entry and press Enter.
- 4. Select the matrix switch you want to rename and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 5. Select the Name entry and press Enter.
- 6. Enter the new name and press Enter.
- 7. Press F2 to save your settings.

Deleting a slave matrix switch from the system

If the matrix system is not able to detect a matrix switch that has already been connected to the system, the switch is considered as inactive.

Therefore, you have to manually delete the list entry of a matrix switch that you want to permanently remove from the system.

NOTE: Only inactive matrix switches can be deleted by the administrator and by all users with the *Superuser* right.

How to delete a matrix switch that is switched off or disconnected from the system:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. Select the **Cascade** entry and press **Enter**.
- 4. Select the matrix switch you want to rename and press F4.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Configuration settings

Defining the cascade mode of a matrix switch

In a cascaded KVM matrix system, the single matrix switches auto-detect if they have been installed as master or slave device within the cascaded system.

NOTE: Using the *Auto* setting in the cascade mode can change the matrix switch's operating mode if the devices' cabling has been changed by accident.

In order to avoid this, the operating mode of every matrix switch can be separately adjusted in the on-screen display.

How to change the cascade mode of a matrix switch:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the System entry and press Enter.
- 4. Select the **Cascade mode** entry and press **F8** to choose between the following options:

Auto:	The matrix switch decides whether it is operating in the master or slave mode.
Master:	In this operating mode, only user consoles can be connected to the <i>Console</i> ports. The names of the connected target modules can be edited. The edited names are auto updated at the slave devices within the cascade.
Slave:	In this operating mode, the connected target modules cannot be renamed. The target modules are auto named by the master device.

5. Press F2 to save your settings.

Forwarding target names to the slave matrix switches

Within a cascaded KVM matrix system, the target module names from the superior matrix switch are forwarded to the connected matrix switch(es). This way, the target modules are named identically across the entire system.

If you want to define different target module names within the different matrix switches of the cascaded system, deactivate the *Forward target names* function.

IMPORTANT: Deactivating the function for forwarding the target names in the *first level* of the matrix switch only affects the directly connected matrix switches of the *second level*.

If the *third level* also includes slave matrix switches, this function has to be deactivated in the matrix switches of the second level!

How to (de)activate the forwarding of target names to the slave matrix switches:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **System** entry and press Enter.
- 4. Select the **Forward target names** entry and press **F8** to choose between the following options:

On: The target module names are forwarded from the superior matrix switch to the connected matrix switch(es).Off: The target module names are not forwarded from the superior matrix switch to the connected matrix switch(es).

5. Press F2 to save your settings.

Expanding switchable signals

You can expand a computer's or a console's switchable signals either through *port* grouping or stacking.

EXAMPLE: To transmit a second video signal and a USB 2.0 signal of the same computer, in addition to the **DVI-CPU** computer module, connect a second **DVI-CPU** module (second video channel) and a **U2-CPU** module (USB2.0/RS232) to the computer.

In addition to the **DVI-CON** user module, connect the **DVI-CON-Video** (second video channel) and a **U2-CPU** module (USB2.0/RS232) to the console, the aforementioned computer is accessing.

With the *DVICenter*, you can switch various computer modules of *one* computer or various user modules of *one* console at the same time.

To expand the switchable signals, you can use two different ways of connection:

• **Channel grouping:** In the *Config Panel* web application, you can assign the KVM channel of a computer or console with up to seven additional video channels and a USB or RS232 channel.

NOTE: Only in this mode, you can hold the USB signal using the OSD's **Operation** menu at the currently accessed computer. If you switch to another computer after pressing the *hold function*, the USB signal remains on the computer that you accessed first.

After disabling the *hold function* on the **Operation** menu, the USB signal switches to the currently accessed computer.

• **Stacking**: In *Stacking* mode, you can switch multiple matrix switches at the same time. Connect multiple matrix switches to the **Bus** ports. Connect an *additional* satellite matrix switch for each additional user module of *one* console.

Expanding through channel grouping

The the *Config Panel* web application (see separate manual) lets you assign up to seven additional video channels and one USB 2.0 or RS 232 channel to the KVM channel of the console.

You can assign up to seven additional video channels to the KVM channel of the computer, too. In addition, you can create a **pool** of four devices for the USB 2.0/RS 232 channel.

NOTE: Within the channel groups of the console a USB 2.0/RS 232 channel represent one single device. For computers such a channel represents a group of up to four devices.

By using pools, you can grant up to four users the right to access the USB 2.0/ RS 232 channel *at the same time*. For this, the matrix switch selects an available device from the pool after switching.

Assigning multiple ports to a console or computer creates a *channel group*.

NOTE: The OSD does *not* show any user or computer modules that you added as additional channels to the channel group.

Expanding through stacking

In Stacking mode, you can switch multiple matrix switches at the same time.

For this, connect the matrix switches via **Bus** ports and assign them with continuous bus addresses.

Each stacking matrix switch consists of a matrix switch that provides the **KVM Main Channel**. You can add up to 9 satellite matrix switches to the matrix switch. The satellites can be used either as **Video Follower Channel** or as **USB/RS232 Main Channel**.

IMPORTANT: Within a channel, you can only use compatible target and user modules:

Video Follower Channel: User and target modules of the DVI-CON or DVI-CPU series

USB/RS232 Main Channel: User and target modules of the *U2-CON* or *U2-CPU* series

Multi Channel: virtual user modules and target modules at multi IO cards

NOTE: Connect the user modules of *one* console to the same port numbers of the different channels.

The same applies for the different target modules of one computer.

When using three matrix switches, for example, you can transmit a second video signal and USB 2.0 signals in addition to the standard signals of a user module (video signal and keyboard and mouse signals):

Matrix switch	User module	Signals
Matrix switch 1 (Primary)	DVI-CON	DVI, PS/2, USB
Matrix switch 2 (Satellite 1)	DVI-CON-Video	DVI
Matrix switch 3 (Satellite 2)	U2-R-CON	USB 2.0, RS232

Adjusting the bus address of matrix switches

The primary matrix switch automatically makes the stack matrix switches access the same port that the user accesses at the primary matrix switch.

This requires the correct setting of the bus address in the individual matrix switches.

How to change the bus address of a matrix switch:

- 1. Press Ctrl (default) to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Choose System and press Enter.
- 4. Choose **Bus address** and press **F8** to select one of the following options:

primary:	The central module is operated by the user. It switches the satellite matrix switches automatically.
satellite 1 9:	Assign the addresses continuously to the individual stacking matrix switches.

5. Press F2 to save your settings.

Shared editing

The matrix system enables two users with the respective rights to edit the settings at the same time.

If two users simultaneously change the user account settings, for example, the onscreen display informs the other user about these changes:

- The upper row of the footer displays a *purple* message, which highlights the changes of the other user.
- The changed setting or the menu item in the submenu ,which contains this setting, is displayed in *green*.

If you made changes in this sector, the following options are provided to process the entered data when leaving the menu (by pressing Esc):

Save:	In order to save the changes, select this menu entry with the Tab key or the arrow keys and press Enter.
Discard:	In order to discard the changes, select this menu entry with the Tab key or the arrow keys and press Enter .
Cancel:	In order to cancel the data storage, select this menu entry with the Tab key or the arrow keys and press Enter.
	Tour values are displayed again.
Load:	In order to load the current values from the databank, select this menu entry with the Tab key or the arrow keys and press Enter.

System settings and functions

Basic configuration

Renaming the matrix switch

How to rename the matrix switch:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the *Configuration* menu.
- 3. Select System and press Enter.
- 4. Select Name and press Enter.
- 5. Enter the new name and press Enter.
- 6. Press F2 to save your settings.

Network settings

The network ports on the back panel of the matrix switch enable you to carry out the following network functions:

- execute the matrix switches' network configuration
- authenticate against directory services (LDAP, Active Directory, RADIUS, TACACS+)
- time synchronisation via NTP server
- forward log messages to syslog servers
- execute firmware updates and backups

NOTE: The functions listed above are carried out in the *Config Panel* web application and described in the manual of the web application.

Configuring the network ports

NOTE: In the defaults, the following settings are pre-selected:

- IP address of network interface A: 192.168.0.1
- IP address of *network interface B*: address obtained using **DHCP**
- global network settings: settings obtained using DHCP

Configure the network settings in the on-screen display in order to make the matrix switch available for the entire network.

How to configure the network port settings:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the *Configuration* menu.
- 3. Select Network and press Enter.
- 4. Select Settings and press Enter.
- 5. Enter the following data in the Interface A (interface Network A) or Interface B (interface Network B) section:

Operational mode:	Press F8 to select the operating mode of the interface Network A or Network B:
	 Off: switches off network interface. Static: uses static settings. DHCP: obtains the settings from a DHCP server.
IP address:	Enter the interface IP address.
	This setting is auto obtained in the DHCP operating mode.
Netmask:	Enter the network netmask.
	This setting is auto obtained in the DHCP operating mode.
Connection type:	Press F8 to define if the network port and its communication partner are to negotiate the connection type automatically (Auto) or select one of the listed types.

6. Press F2 to save your settings.

Configuring global network settings

In complex networks global network settings ensure that the matrix switch is available from all sub networks.

How to configure the global network settings:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the Configuration menu.
- 3. Select Network and press Enter.
- 4. Select Settings and press Enter.

5. Enter the following data in the Main Network paragraph:

Global prefer- ences	 Select the operating mode by pressing F8: Static: uses static settings. DHCP: auto obtains the settings described below from a
Hostname:	DHCP server. Enter the matrix switch hostname.
Domain:	Enter the domain the matrix switch is to belong to.
Gateway:	Enter the gateway IP address.
DNS Server 1:	Enter the DNS server IP address.
DNS Server 2:	Enter the IP address of another DNS server (option).

6. Press F2 to save your settings.

Resetting the netfilter rules

In the default settings, all network computers can access the system's IP address (open system access).

With the *Config Panel* web application, you can create netfilter rules to control access to the matrix system. After a netfilter rule is created, the open system access is deactivated and all incoming data packets are compared to the netfilter rules.

The created netfilter rules can also be deleted with this function.

How to delete the created netfilter rules:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the Configuration menu.
- 3. Select System and press Enter.
- 4. Select Reset netfilter configuration and press Enter.
- 5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Enhanced functions

Freeze mode

When the cable connection between the target module and the user module is lost during operation, the console monitor no longer shows an image in the default settings of the KVM matrix system. Enable the freeze mode if you want to display the last image received at the user module before the loss of connection. This image is displayed until the connection is re-established.

ADVICE: To emphasize the lost connection, the image last received is either highlighted by a coloured frame and/or the note **Frozen** and the time past since the loss of connection.

You can set the freeze mode for the entire system, too. The setting for the entire system applies to all user modules. In addition, you can set the freeze mode individually for each user module.

How to configure the freeze mode for the entire system:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the Configuration menu.
- 3. Select **System** and press **Enter**.
- 4. Select Freeze function and press F8 to select one of the following options:

off:	Shows no image when connection is lost (default).
on:	Shows last image when connection is lost.

5. If the *Freeze function* is enabled, select one of the options under Freeze visualization:

frame:	Shows a coloured frame when connection is lost.
OSD:	Shows the note Frozen and the time past since the loss of connection.
frame+OSD:	Shows a coloured frame and the note \ensuremath{Frozen} with the time past since the loss of connection.

6. Press F2 to save your settings.

How to configure the freeze mode individually for a user module:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the *Configuration* menu.
- 3. Select Console and press Enter.
- 4. Select the user module you want to configure and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select Freeze function and press F8 to select one of the following options:

system:	Apply setting to the entire system (see above).
off:	Shows no image when connection is lost.
on:	Shows last image when connection is lost.

6. When the *Freeze function* is explicitly enabled for this user module, enable one or both options under **Freeze visualization**:

frame:	Shows a coloured frame when connection is lost.
OSD:	Shows the note Frozen and the time past since the loss of connection.
frame+OSD:	Shows a coloured frame and the note \ensuremath{Frozen} with the time past since the loss of connection.

7. Press F2 to save your settings.

Reading out the status of the network interfaces

The current status of both network interfaces can always be read out via the onscreen display.

How to detect the status of the network interfaces:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the Configuration menu.
- 3. Select Network and press Enter.
- 4. Select Link Status and press Enter.
- 5. The Interface A (*Network A* interface) or Interface B (*Network B* interface) paragraph provides you with the following data:

Link detected:	connection to network established (yes) or interrupted (no).
Auto-negotiation:	The transmission speed and the duplex mode have been con- figured automatically (yes) or manually by the administrator (no).
Speed:	transmission speed
Duplex	duplex mode (full or half)

NOTE: Press Enter to update the displayed data.

6. Press **Esc** to leave the menu.

Checking the availability of a host in the network (Ping)

The on-screen display of a user module can be used to test if a particular host (e. g., a computer or a network device) is available in the network.

How to check the availability of a host in the network:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the Configuration menu.
- 3. Select Network and press Enter.
- 4. Select **Ping Host** and press **Enter**.
- 5. Select Host to enter the IP address or the host name and press Enter.
- 6. The test results are displayed in the following table:

Max. RTT:	maximum round-trin-time
Avg. RTT:	average round-trip-time
Min. RTT:	minimum round-trip-time
Lost:	number of lost data packets
Received:	number of received data packets
Transmitted:	number of transmitted data packets

NOTE: A message informs the user if the host name cannot be resolved into an IP address.

7. Press Esc to leave the menu.

Resetting the default settings

This setting resets the default settings of the matrix switch. All settings that have been changed by the user are reset.

How to reset the default settings of the matrix switch:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the Configuration menu.
- 3. Select **System** and press **Enter**.
- 4. Select Set system defaults and press Enter.
- 5. Select **Delete dynamic ports** and press F8 to enable/disable the option to delete the Dynamic Port configuration.
- 6. Select **Delete network config** and press F8 to enable/disable the option to delete the network interface configuration.
- 7. Press Enter to reset the default settings.
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Adjusting the RS232 mode and the baud rate of the service port

The RS232 interface of the matrix switch can be used for different applications. In addition to controlling a power switch, this interface can be used by the customer service team for service diagnoses.

Depending on the interface application, you need to select the interface mode and, if necessary, the baud rate.

How to change the mode and/or the baud rate of the RS232 interface:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to open the Configuration menu.
- 3. Select System and press Enter.
- 4. Select **RS232 service** and press **F8** to choose if you want to use the interface for controlling the **Powerswitch (G&D Hardboot)** or for diagnoses that are carried out by the customer service team (**Debug**).
- 5. Select **RS232 baud rate** and press **F8** to choose the desired baud rate (**9600**, **19200**, **38400**, **57600** or **115200**).

NOTE: Depending on the interface's operating mode, the baud rate is possibly preset.

6. Press F2 to save your settings.

Retrieving information about the system

Hotkey settings

The active hotkey, the valid select keys and the tradeswitch keys are displayed in the *Hotkey information* menu.

How to display the hotkey settings:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F12 to open the *Information* menu.
- 3. Select Hotkey information and press Enter.

The desired information is displayed.

4. Press Esc to leave the menu.

Displaying firmware information of the matrix system

The *Firmware information* menu displays the firmware of the matrix switch, the user module and the accessing target module.

How to call the Firmware information:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F12 to open the *Information* menu.
- Select Firmware information and press Enter. The desired information is displayed.
- 4. Press **Esc** to leave the menu.

ADVICE:

Displaying dynamic port information of the matrix system

Use the Dynamic port menu to query the modes and amount of ports.

How to call the dynamic port information:

- 1. Press **Ctrl+Num** (default) to open the on-screen display.
- 2. Press F12 to open the Information menu.
- 3. Select Dynamic port information and press Enter.

The desired information is displayed.

4. Press **Esc** to leave the menu.

Displaying hardware information of the matrix switch

The hardware information of the matrix switch are displayed in the *Hardware information* menu.

This menu lists e.g., the firmware version, the device's serial number and the MAC addresses of the network ports.

How to display the hardware information:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F12 to open the Information menu.
- 3. Select Hardware information and press Enter.

The desired information is displayed.

4. Press **Esc** to leave the menu.

Displaying cable information

The *Cable information* menu lets you display information about the length and status of the connected twisted pair cables. This way, transmission errors due to wrong or damaged cables can be discovered faster.

Value	Meaning
Result	 Ok: The cable connection to the remote station was measured successfully. Error: There is no or a faulty cable connection to the remote station. Busy: The measurement could not be finished within the given time frame.
Pair:	Wire pairs displayed by columns (1-2, 3-6, 4-5 and 7-8)
Value	Meaning
State	 Open: The wire pair has an open end. Possible causes are a cable break or a cable that was not connected. Short: The wire pair is short-circuited. XShrt: The wire pair is connected to another wire pair. X1-2: The wire pair is connected to wire pair 1-2. X3-6: The wire pair is connected to wire pair 3-6. X4-5: The wire pair is connected to wire pair 4-5. X7-8: The wire pair is connected to wire pair 7-8. Imped: The wire pair shows a faulty terminating resistor (impedance error).
Length	Approximate length of the successfully measured distance to the remote station
Dist.	Approximate distance (of the cable connection) to the point of failure
Skew	Time delay of the signals on the different wire pairs

For each tested port, the following data is determined and displayed:

How to show cable information:

IMPORTANT: Any measured connections are interrupted during measuring!

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F12 to open the Information menu.
- 3. Select Cable information and press Enter.
- 4. Enter the number of the port you want to measure and press Enter.

NOTE: The port to which "your" user module is connected to cannot be measured.

ADVICE: You can also create a list of individual ports or port ranges (e. g. **7-11**). You can combine the list elements in any way. The elements are separated with a comma. The list is interpreted from left to right.

By putting an exclamation mark in front of a list element, the element is excluded from the list of ports to be tested.

Enter the list **1-16,!3-10,5**, for example to test ports 1 to 16 and to exclude ports 3 to 10. Port 5 is tested as well.

The desired information is displayed.

5. Press Esc to leave the menu.

Rights administration

Login rights for the »Config Panel« web application

The *Config Panel* web application offers a graphical user interface to configure the matrix system.

The web application provides an alternative to configuring the matrix switches via the devices' on-screen display at the user consoles and can be applied independently from the user modules in the network.

IMPORTANT: For applying the web application, the user accounts or the user groups have to hold the *WebIfLogin* right.

How to change the login right for the Config Panel web application:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. If you want to change this right of a user account, select **User**. For changing this right for a user group, select **Usergroup**.
- 4. Press Enter.
- 5. Select the user account or the user group whose login rights for the *Config Panel* web application you want to change and press F5.
- 6. Select **Config rights** and press **Enter**.
- 7. Select Weblf Login and press F8 to select one of the following options:

yes:	allows access to Config Panel web application
no:	denies access to Config Panel web application

8. Press F2 to save your settings.

Optional premium functions

The functional range of the matrix system can be expanded by purchasing additional premium functions.

Name	Function	Description
Push-Get function	The Push-Get function enables you to push the image to or get the image from any computer connected to the matrix system to the display of another user console.	page 127
IP-Control-API	Use the C++ class library supplied with this additional function to externally access the matrix system over a TCP/IP connection.	page 134
Tradeswitch function	The Tradeswitch function optimises the opera- tion of user modules that monitor several com- puters over several monitors.	page 158
	Instead of connecting keyboard and mouse to every monitor, the Tradeswitch function pro- vides a central keyboard/mouse for all operat- ing tasks of the user console.	

Activating a premium function

NOTE: The premium functions can be activated in the Config Panel web application.

The necessary steps are described in the manual of the web application.

Displaying the premium functions

The Feature information menu lists the activated premium functions.

How to display the list of active premium functions:

- 1. Press Ctrl+Num (default) to open the on-screen display.
- 2. Press F12 to open the Information menu.
- 3. Select Feature information and press Enter.

The desired information is displayed.

Push-Get function (optional)

NOTE: The functions and settings described in this chapter are only available if the additional *Push-Get function* has been purchased.

The Push-Get function enables you to shift the image to or get the image from any computer connected to the KVM matrix system to the monitor of another user console.

This way, you can exchange and edit computer or display contents.

The addressed user console can be a standard console or a large screen projection, for example.

Moving the screen content (Push)

Moving the monitor content to another user module

How to move the screen contents to another user module:

- 1. Press the hotkey Ctrl+Num (default) to call the on-screen display.
- 2. Use the *Select* menu to choose the target module whose screen content you want to move.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

3. Press F7 to open the Push menu.

The menu displays all active user modules within the KVM matrix system, which you have access to and are therefore allowed to perform the *Push-Get* function. The right-hand column additionally provides you with the names of the target modules that are accessing the user module.

4. Select the user module to which the screen content is to be moved to and press Enter.

Stopping the moving of the screen content

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F7 to call the Push menu.

The menu displays all active user modules within the KVM matrix system, which you have access to and are therefore allowed to perform the *Push-Get* function. The right-hand column additionally provides you with the names of the target modules that are accessing the user module..

3. Select the user module to be disconnected from the target module with the arrow keys and press F4.

Getting the screen content (Get)

Getting the screen content from another user module

How to get the screen content from another user module:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F8 to call the *Get* menu.
- 3. The menu displays all active user modules within the KVM matrix system, which you have access to and are therefore allowed to perform the *Push-Get* function. The right-hand column additionally provides you with the names of the target modules that are accessing the user module.
- 4. Use the arrow keys to select the user module whose screen content you want to access and press Enter.

NOTE: This function stops if another target module (see page 4) is accessing the user module.

Moving screen contents via push get keys

After having defined push get key modifier(s) and a push get key set and after having activated a push get key set in the user account, you can move the screen content of the user module between screens by using the console keyboard.

Push screen contents	1. Press and hold configured modifier key(s).
	2. Press P
	3. Press push get key of user module.
	4. Release configured modifier key(s).
Stop moving of screen	1. Press and hold configured modifier key(s).
coments	2. Press D
	3. Press push get key of user module.
	4. Release configured modifier key(s).
Get screen contents	1. Press and hold configured modifier key(s).
	2. Press G
	3. Press push get key of user module.
	4. Release configured modifier key(s).

Setting push get keys

After you adjust the push-get key modifier(s) and a push/get key set and activate the push-get key set in the user account, you can use key combinations on the console keyboard to move screen contents.

Changing push-get key modifiers and valid keys

Push-get keys let you move screen contents from or to a console by using key combinations. For this, you can create *Push-get key sets* in the matrix system.

In combination with a defined push-get key modifier a push-get key set defines the key combination to be pressed for moving screen contents.

In addition to the push-get key modifier you can also define valid keys to be used as push-get keys.

How to change push-get key modifiers or valid keys:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select System entry and press Enter.
- 4. Select the **Push-Get key** entry and press **Enter**.
- 5. Use the **arrow keys** to select *at least* one of the Push-Get key modifiers listed in the **Modifier** entry. Afterwards, press F8.

Ctrl:	<i>Ctrl</i> key
Alt:	Alt key
Alt Gr:	Alt Gr key
Win:	Windows key
Shift	<i>Shift</i> key

6. Select the Valid keys entry and press F8 to select one of the following options:

Num:	<i>Only numerical keys</i> are interpreted as push-get keys when pressed in combination with the push get key modifier
Alph:	<i>Only alphabetic keys</i> are interpreted as push-get keys when pressed in combination with the push get key modifier
AlphNum:	<i>alphabetical and numerical keys</i> are interpreted as push-get keys when pressed in combination with the push get key modifier

IMPORTANT: Both the selected valid keys and the Push-Get key modifier are *no longer* provided as key combinations to the operating system and the applications on the target computer.

7. Press F2 to save your settings.

Administrating push get key sets

The KVM matrix system allows you to create 20 global push get key sets or ten individual push get sets for each user.

Within push get key sets you can define push get keys for selected user modules to move the screen content of a console.

NOTE: Global push get key sets are displayed in the personal profile of all users of the KVM matrix system.

Creating push get key sets

How to create push get key sets:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Push-Get key set entry and press Enter.
- 4. Press F3 and enter the following data in the Add Push-Get key set menu:

Name: Enter the new Push-Get key set name and press Enter.

Global: Select **yes** by pressing **F8** if you want the Push-Get key set in the personal profile to be available for all users of the system.

default: no

NOTE: This option can only be activated by users with the *Superuser* right (see page 63).

5. Press F2 to save your inputs and to create the Push-Get key sets.

Changing name, comment or global allocation

How to change the name, comment and/or the Global setting of push get key sets:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Push-Get key set entry and press Enter.
- 4. Select the Push-Get key set whose setting you want to change.

5. Press F5 to change the following data in the Edit Push-Get key set menu:

Name:	Enter the new name of the Push-Get key set and press Enter.
Global:	Press F8 for selecting yes if you want to make the Push-Get key set in the personal profile available to all users of the system.
	default: no

6. Press F2 to save your settings.

Defining push get keys for user modules

NOTE: Global push get key sets can only be edited by users with activated *Superuser* rights (see page 63).

Without this right, only push get keys assigned to the user modules can be viewed.

How to define push get keys for user modules:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu
- 3. Select the **Push-Get key set** entry and press **Enter**.
- 4. Choose a Push-Get key set and press F5.
- 5. Select the Members entry and press Enter.

The *Assign Push-Get key set* dialogue opens. The left column displays the name of the target module and the right column shows the assigned Push-Get key(s).

6. Select the user module you want to assign a Push-Get key to or whose Push-Get key you want to change.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 7. Press F5 and enter the desired Push-Get key.
- 8. If you want to create or change the Push-Get keys for other target modules, repeat steps 6 and 7.
- 9. Press F2 to save your settings.

Assigning push get key sets to user accounts

By assigning a push get key set to a user account, the push get keys of the set are evaluated for entries at the console and the screen content of the console can be moved between monitors.

How to assign a push get key set to a user account or cancel an existing assignment:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the *Personal Profile* menu.
- 3. Select the Push-Get key set entry and press Enter.
- 4. Select the desired Push-Get key set.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Press F8 to (de)activate the assignment.

NOTE: An assigned Push-Get key set is marked with an arrow (**b**).

6. Press F2 to save your settings.

Deleting push get key sets

NOTE: Global push get key sets can only be deleted by users with activated *Superuser* rights (see page 63).

How to delete a push get key set:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F10 to call the Personal Profile menu.
- 3. Select the Push-Get key set entry and press Enter.
- 4. Select the Push-Get key set you want to delete and press F4.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Changing a user account's »Push-Get right«

How to change a user account's Push-Get right:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to call the Configuration menu.
- 3. If you want to change this right of a user account, select **User** entry. For changing the rights of a user group, select the **Usergroup** entry.
- 4. Press Enter.
- 5. Select the user account or the user group whose right to execute the *Push-Get* function you want to change and press F5.
- 6. Select the **Push-Get rights** entry and press **Enter**.
- 7. Select the user module whose user rights you want to change.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

8. Press **F8** to select one of the following options:

yes: allows usage of *Push-Get* functionno: denies usage of *Push-Get* function

- 9. Repeat steps 7 and 8 to change the *Push-Get* right for further user modules.
- 10.Press F2 to save your settings.
- 11.Press **Esc** to leave the menu.

IP-Control-API (optional)

After you activate the additional »IP-Control-API« function, use the supplied C++ class library to access the KVM matrix system over a TCP/IP connection.

You can also use the network interfaces to send text-based commands in the form of XML files to the matrix switch.

ADVICE: The separate »IP-Control-API« manual provides you with detailed information on this topic.

Supported functions via API and text-based control

You can use the API functions or text-based control to perform the following functions:

- Logon User: user logon at user module
- Logout User: user logout at user module
- Connect CPU: accesses target module with user module
- Disconnect CPU: disconnects active access
- Get Connections: queries connection data of »occupied« user modules
- Get DVICenter: queries known matrix switches
- Get CPUs: queries known target modules
- Get Consoles: queries known user modules
- Redirection: redirects keyboard and mouse data

Controlling the matrix switch via XML

 $\label{eq:IMPORTANT: Activate the additional $``IP-Control-API```function to send text-based commands.''$

XML enables you to control digital matrix switches using third-party devices (e.g. AMX® and Crestron®). The matrix switch uses the ethernet interface to process any XML commands received from third-party devices.

Structure of a valid XML document

Any commands are transmitted as XML documents to the G&D device. Valid XML documents start with an optional, standardized header. On the top level, they are surrounded by the **<root>** tag:

STRUCTURE OF A VALID XML DOCUMENT

<?xml version="1.0" encoding="utf-8"?> <!-- optional header -->
<root> <!-- start tag of document -->
</root> <!-- end tag of document -->

Any commands you want to execute are placed between a tag that starts and ends the document (**root**). The commands are described on page 144.

Selecting devices

As of version 1.1, the XML API lets you specify devices not only by ID, but also by name.

Use the attribute **type** to select devices via ID (**"id"**) or via name (**"name"**). The attribute is supported by all commands referring to devices with a name.

ADVICE: The use of the **type** attribute is optional. If you do not use this attribute, devices are identified via ID.

USING THE NAME OF A USER MODULE FOR IDENTIFICATION

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<logon>
<DviConsole type="name">CON1</DviConsole>
<User>JohnDoe</User>
<Password>secret</Password>
</logon>
</root>
```
USING THE ID OF A USER MODULE FOR IDENTIFICATION

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<logon>
<DviConsole type="id">0x22222222</DviConsole>
<User>JohnDoe</User>
<Password>secret</Password>
</logon>
</root>
```

Use of device IDs

For responses and messages, device IDs are output as hexadecimal values including the prefix **0x** (as of version 1.1 of the XML API).

IMPORTANT: In version 1.0, device IDs were often output as described above. In some responses, however, IDs were output as hexadecimal values.

In commands, device IDs can be stated as hexadecimal values including the prefix 0x, as octal values including the prefix 0 or as decimal values.

Use of port names

As of version 1.1 of the XML API, port names are always output in a *visible notation*. The port names are teh same as printed on the device panel:

- For matrix switches of the **DVICenter series**, ports are output starting with 1 (1, 2, ...).
- For matrix switches of the **ControlCenter-Digital** series, ports are output as a combination of slot and port (1.1, 1.2, ...).

NOTE: The new port names are the same as the names stated in the logs and the printings on the device panel.

Responses and messages of G&D devices

As of version 1.1 of the XML API, G&D devices respond with a *complete* XML document after processing an XML document.

IMPORTANT: In some cases, version 1.0 of the XML API sent a message in unstructured plain text.

Responses of G&D devices

Responses of the device are included in a <result> tag.

The attribute **<type>** includes the name of the executed command. When executing several commands within an XML document (see below), you can assign the responses to the different commands.

In the following example, data of a user module was requested. The available information is listed within **<item>** tags:

EXEMPLARY RESPONSE OF XML API

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<result type="list">
    <DviConsole>
        <item>
            <id>0x22222222</id>
            <cl>DviConsole</cl>
            <type>DVI-CON</type>
            <name>CON1</name>
            <ownerId>0x11111111</ownerId>
            <ownerCl>DviMatrix</ownerCl>
            <ownerPort>1.11</ownerPort>
            <enable>1</enable>
            <powered0n</pre>>true
        </item>
    </DviConsole>
</resúlt>
</root>
```

Messages of G&D devices

If the XML service is not able to process a request, the service responds with an error document:

STRUCTURE OF AN ERROR DOCUMENT

<?xml version="1.0" encoding="utf-8"?> <root> <Error>Invalid request document</Error> </root>

Depending on the type of message, responses to commands, which are not executed by the XML service itself, but are delegated to the device service of the matrix switch, are output in different XML containers.

The following containers are used for this purpose:

- Error messages are output within the container **<Error>**.
- Warnings are output within the container <Warning>.
- Success messages and general messages not fitting the categories given above are output within the container <commandStatus>.

IMPORTANT: Until version 1.0 of the XML API, all responses of delegated commands were output within the container **<commandStatus>**.

EXEMPLARY ERROR MESSAGE

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<result type="logon">
<Error>authentication failed</Error>
</result>
</root>
```

Combining multiple commands in an XML document

You can combine several commands within one XML document. The XML service processes the commands in the same order in which they are listed in the XML document.

An XML document as described above can look as follows:

COMBINING MULTIPLE COMMANDS IN ONE XML DOCUMENT

```
<?xml version="1.0" encoding="utf-8"?>
<root>
    <loqon>
        <DviConsole>0x2222222</DviConsole>
        <User>JohnDoe</User>
        <Password>secret</Password>
    </logon>
    <connect>
        <DviConsole>0x2222222</DviConsole>
        <DviCpu>0x33333333</DviCpu>
    </connect>
    <showmessage>
        <Type>INFO</Type>
        <Text> Message</Text>
        <DviConsole>0x22222222</DviConsole>
    </showmessage>
</root>
```

The corresponding response combines individual commands in one document.

Push notifications for events occurred

For TCP connection, the service for text-based control sends *push notifications* to inform users about events occurred.

Such events are reported via **<pushNotification>** container. The type of notification is listed as **type** attribute of this tag.

EXAMPLE: Connecting and disconnecting of devices triggers push notifications for every channel. It is not important how the connection was established or disconnected (e.g. via OSD or XML).

```
PUSH NOTIFICATION WHEN ESTABLISHING A CONNECTION
```

PUSH NOTIFICATION WHEN DISCONNECTING A CONNECTION

<?xml version="1.0" encoding="utf-8"?> <root> <pushNotification type="disconnection_event" ><consoleId>0x2222222</consoleId> <consoleCl>DviConsole</consoleCl> <consoleName>CON1</consoleName> </pushNotification> </root>

ADVICE: When evaluating push notifications, you can reproduce any switching processes of the device, for example.

By default, the following notifications are active:

- connection event: Connection between user module and target module established
- **disconnection_event:** Connection between user module and target module disconnected
- user_push_event: Push event triggered by user

In addition, you can subscribe to the following notifications:

- device_online_event: Status change of a module to online
- device_offline_event: Status change of a module to offline
- peripheral_power_on_event: The computer connected to the target module is active.
- peripheral power off event: The computer connected to the target module is inactive.
- redirect event: Redirection of keyboard and mouse data executed

Subscribing to push notifications

NOTE: The subscription applies only for the connection on which the *subscribe* command is sent.

Use the **<subscribe>** container, to subscribe to push notifications for one or more types of notifications.

Within the **<Notification>** tag, you can specify the type of notification (see above) by using the **type** attribute.

To activate notifications for the event that the device status changes, you can use the following XML document:

ACTIVATING NOTIFICATIONS FOR CHANGES OF THE DEVICE STATUS

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<subscribe>
<Notification type="device_online_event"/>
<Notification type="device_offline_event"/>
</subscribe>
</root>
```

Unsubscribing from push notifications

NOTE: The unsubscription applies only for the connection on which the *subscribe* command is sent.

Use the **<unsubscribe>** container, to unsubscribe to push notifications for one or more types of notifications.

Within the **<Notification>** tag, you can specify the type of notification (see above) by using the **type** attribute.

To activate notifications for events regarding connections, you can use the following XML document:

DEACTIVATING NOTIFICATIONS FOR EVENTS REGARDING CONNECTIONS

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<unsubscribe>
<Notification type="connection_event"/>
<Notification type="disconnection_event"/>
</unsubscribe>
</root>
```

Configuration and encryption

As of version 1.1, the XML API supports two ways of encryption:

• **Transport encryption:** If this type of encryption is enabled, the entire outgoing data stream is encrypted by the XML service.

Incoming XML commands are only accepted and executed when encrypted with the identical key and initialisation vector.

 Password encryption: This type of encryption encrypts only the passwords of user accounts included in XML responses of G&D devices. For this, a subset of XML encryption (see page 142) is used.

Within XML commands, passwords can either be encrypted (recommended) or in plain text when sent to the device.

Both types of encoding use the **CBC-3DES** algorithm. The required key and the initialization vector (only required with transport encryption) are configured in the web application *Config Panel*.

Configuring accesses of devices for XML control

Use the web application *Config Panel* to define »remote control« accesses and their settings.

IMPORTANT: These accesses are required to control the device via XML.

How to create a new access or edit an existing access:

- 1. In the directory tree, click KVM matrix systems > [Name] > Matrix switches.
- 2. Right-click the device you want to configure and click **Configuration** on the context menu.
- 3. Click the Network> Remote Control tabs.
- 4. To add a new remote control access, click Add. To edit an existing access, click Edit.
- 5. Enter or edit the following data:

Access:	Select the protocol (TCP) or (UPD) to process XML communication.
Port:	Enter the port to process XML communication.
	Ports 80, 443 and 27996 are used for other services. They are <i>not</i> available for XML control.
Status:	Select if access is Enabled or Disabled .
Encryption:	The following types of encryption are supported:
	• Unencrypted: Select the option None to transmit data without encryption (default).
	• Password encryption: Select the option Password: CBC-3DES to transmit login passwords with encryption.
	• Transport encryption: Select the option CBC-3DES to encrypt the entire connection.
Encrytion key:	After enabling an encryption type, enter the key (192 bit) in the form of 48 hex digits.
Initialization vector:	Enabling the encryption type CBC-3DES additionally requires an initialization vector. Enter the initialization vector (64 bit) in the form of 16 hex digits.

6. Click **OK** to save your settings and to close the window.

Instructions for encrypting passwords

If the transcription type *transport encryption* is enabled, the entire outgoing data stream is encrypted. When using *Password encryption*, however, only the passwords of user accounts are encrypted in XML requests.

NOTE: In XML requests, passwords can either be encrypted (recommended) or in plain text when sent to the device.

A subset of the W3C standard XML encryption is used to encrypt passwords. An <EncryptedData> container replaces the password with the XML namespace "http:// www.w3.org/2001/04/xmlenc#". This container includes the <CipherData> container, which inlcudes the <CipherValue> container:

PASSWORD AS EMBEDDED ENCRYPTED TEXT

```
<?xml version=\"1.0\" encoding=\"utf-8\"?>
<root>
        <logon>
        <DviConsole>0x22222222</DviConsole>
        <User>JohnDoe</User>
        <Password>
        <EncryptedData xmlns="http://www.w3.org/2001/04/xmlenc#">
              <CipherData>
              </cipherData>
              </cipherData>
              </cipherValue>B2Wmn52te0PvY31wq0l4nw==</CipherValue>
              </cipherValue>
              </cipherValue>
```

The encrypted data block (**CipherValue**) consists of a combination of initialization vector and encrypted text with BASE64-coded padding.

The data block is formed as follows:



Padding is required to make the data block to be encrypted multiple times larger than block size (8 bytes). The XML API expects that the last byte of the padding states the number of added padding bytes. The padding bytes are to be randomly selected.

The initialization vector is required for stream ciphers (here: **CBC**). It is randomly selected in the encryption mode **Password encryption**. Its size corresponds to the block size of the selected encryption (8 bytes).

Commands

User logon and user logoff

User can log in with the command **<logon>**. The command **<logoff>** logs users off.

A successful login requires the following parameters:

<dviconsole></dviconsole>	User module of user logon
<user></user>	Name of user who wants to log in
<password></password>	Password of user who wants to log in

Transmitting username and password is not required when logging in.

USER LOGIN

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<logon>
<DviConsole>0x2222222</DviConsole>
<User>JohnDoe</User>
<Password>secret</Password>
</logon>
</root>
```

NOTE: Information about optional password encryption is given on page 142.

USER LOGOFF

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<logoff>
<DviConsole>0x2222222</DviConsole>
</logoff>
</root>
```

Establishing a connection to a target module or disconnecting a connection

The command **<connect>** allows a user module to access a target module.

The ID or name of the target module to be accessed and the ID or name of the user module are used as parameters:

<dviconsole> <usbdviconsole></usbdviconsole></dviconsole>	User module of the DVI-CON series or a USB user module
<dvicpu> <usbdviconsole></usbdviconsole></dvicpu>	Target module of the DVI-CPU series or a USB target module
<closedialogs></closedialogs>	Close OSD after establishing a connection (connect)
<openselectdialog></openselectdialog>	Close OSD after disconnection (disconnect)

NOTE: When connecting an analogue matrix switch via bridging, you can address its target modules via <NeoCpu>.

ADVICE: In channel groups the additional video and USB channels are *automatically* switched with the main channel.

NOTE: USB modules can also be switched directly – independently from a channel group.

ESTABLISHING A CONNECTION

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<DviConsole>0x2222222</DviConsole>
<DviCpu>0x3333333</DviCpu>
<CloseDialogs/>
</root>
```

DISCONNECTING A CONNECTION

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<disconnect>
<DviConsole>0x2222222</DviConsole>
<OpenSelectDialog/>
</disconnect>
</root>
```

Switching the channel of the target module »DVI-CON-2«

The command **<selecttransmission>** is used to switch the channel of the user module *DVI-CON-2*.

The ID or name of the user module as well as the intended channel are used as parameters.

ADVICE: In addition to entering the channel number with the parameter **<TransmissionInterface>**, you can use the parameter **<Pull>** to switch to the channel that is used to connect the user module to the implemented matrix switch.

<dviconsole></dviconsole>	User modules
<transmissioninterface></transmissioninterface>	Channel of user module: 1 or 2
<pull></pull>	Activates the channel that is used to connect the user module to the implemented matrix switch.

SWITCHING THE USER MODULE TO CHANNEL 1

SWITCHING THE USER MODULE TO THE CHANNEL CONNECTED TO THE MATRIX SWITCH

```
connected to the matrix switch
<?xml version="1.0" encoding="utf-8"?>
<root>
<selecttransmission>
<DviConsole>0x22222222</DviConsole>
<Pull/>
</selecttransmission>
</root>
```

Transferring the configuration settings of a module

If a module within the KVM matrix system is replaced by another module, you can use the command **<movedevice>** to transfer the configuration settings of the previous module to the new module.

Once the configuration settings have been transferred, the new module is immediately ready for use.

The ID of the old and the new module and the access data of the user account are transferred as parameters.

IMPORTANT: The transmission of the configuration settings is only possible if both modules belong to the same device class (e.g. **DVIConsole**).

<dviconsole> <multiconsole> <usbdviconsole></usbdviconsole></multiconsole></dviconsole>	User module of the DVI-CON series, Virtual user module of a multi-IO card or USB user module
<dvicpu> <multidviconsole> <usbdvicpu></usbdvicpu></multidviconsole></dvicpu>	Target module of the DVI-CPU series, Virtual target module of a multi-IO card or USB target module
<user></user>	Name of the user account (has to be assigned with the required rights) to exevute the command
<password></password>	User password

HOW TO TRANSFER THE CONFIGURATION SETTINGS OF A USER MODULE

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<movedevice>
<DviConsole>0x2222222</DviConsole>
<DviConsole>0x3333333</DviConsole>
<User>JohnDoe</User>
<Password>secret</Password>
</movedevice>
</root>
```

Defining the master workplace of a tradeswitch workplace

Within a tradeswitch workplace, you have to define a user module to which you want to connect a keyboard and a mouse. This master workplace also provides information dispalys containing information about the current connection.

Use the command **<setworkplacemasterconsole>** to determine the master workplace of a specific tradeswitch workplace.

The ID of the tradeswitch worksplace and the master user module as well as the access data of the user account are transferred as parameters.

IMPORTANT: To delete the assignment of the master workstation, execute the

command without the <dviconsole></dviconsole> parameter.		
<workplace></workplace>	Tradeswitch workplace	
<dviconsole></dviconsole>	User module of the DVI-CON series	
 Name of the user account (has to be assigned with the re rights) to exevute the command 		
<password> User password</password>		

HOW TO DEFINE THE MASTER WORKPLACE

<?xml version="1.0" encoding="utf-8"?>
<root>
<setworkplacemasterconsole>
<Workplace>101</Workplace>
<DviConsole>0x2222222</DviConsole>
<User>JohnDoe</User>
<Password>secret</Password>
</setworkplacemasterconsole>
</root>

HOW TO DELETE THE ASSIGNMENT OF THE MASTER WORKPLACE

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<setworkplacemasterconsole>
<Workplace>101</Workplace>
<User>JohnDoe</User>
<Password>secret</Password>
</setworkplacemasterconsole>
</root>
```

Showing messages

Use the command **<showmessage>** to send a message to a user module. Users at the user module can see the message on their OSD.

NOTE: As of version 1.1 of the XML API, you can add an optional timeout (time in seconds). After the time elapses, the message closes automatically.

The following parameters are required to send commands:

<type></type>	Type of message (INFO, WARNING or ERROR)	
<text></text>	Text of message to be shown	
<timeout></timeout>	Time in seconds after which the message is closed automatically	
<dviconsole></dviconsole>	User module, which shows the message	

SHOWING A MESSAGE (WITH TIMEOUT)

Opening or closing the OSD

Use the commands **<openmenu>** and **<closemenu>** to open or close the OSD (*Select menu*) on a user module.

The following parameters are required to send commands:

<openmenu></openmenu>	Open OSD on a user module
<closemenu></closemenu>	Close OSD on a user module

OPEN OSD

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<penmenu>
<DviConsole>0x2222222</DviConsole>
</openmenu>
</root>
```

CLOSE OSD

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<closemenu>
<DviConsole>0x2222222</DviConsole>
</closemenu>
</root>
```

Redirecting keyboard and mouse data

NOTE: Redirecting keyboard and mouse data to another user module or target module requires the premium **Tradeswitching** function.

With the optional Tradeswitching function, you can use the command **<redirect>** to redirect a device's in- and outputs to another device.

IMPORTANT: As of version 1.1 of the XML API, the command **<redirect>** supports a new syntax. The earlier syntax is supported as well.

In the new syntax, the target of the redirection is stated by a device-specific marker. The same applies to the source.

<dviconsole></dviconsole>	User module (tag can be used for source and target)
<dvicpu></dvicpu>	Target module (tag can be used for target only)

NOTE: When connecting an analogue matrix switch via bridging, you can address its target modules via <NeoCpu>.

REDIRECTING KEYBOARD AND MOUSE DATA

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<redirect>
<DviConsole>0x2222222</DviConsole>
<DviCpu>0x33333333</DviCpu>
</redirect>
</root>
```

Executing scriptlets

Use the command **<executeScriptlet>** to execute a scriptlet stored in the matrix switch.

Sending the command requires the following parameters:

<dviconsole></dviconsole>	User module you want to use to trigger the scriptlet
<name></name>	Name of the scriptlet

NOTE: The scriptlet can be executed only if a user with the rights required to execute the scriptlet is logged on to the user module.

EXECUTING SCRIPTLETS

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<br/><br/>cotosole>0x2222222</DviConsole>
<Name>MyScriptlet</Name>
</root>
```

Listing information about devices and connections

Use the command **<list>** to list information about devices and connections.

The parameters of the command define the type of information you want to list:

<dvicpu></dvicpu>	Data about target modules
<usbdvicpu></usbdvicpu>	Data about USB target modules
<dviconsole></dviconsole>	Data about user modules
<usbdviconsole></usbdviconsole>	Data about USB user modules
<dvimatrixswitch></dvimatrixswitch>	Data about matrix switches
<matrixconnectionlist></matrixconnectionlist>	Connections between connected devices
<workplace></workplace>	Data about configured Tradeswitch workplaces
<team></team>	Data about channel groups

NOTE: When connecting an analogue matrix switch via bridging, you can address its target modules via **<NeoCpu>**.

List of information about matrix switches

```
REQUESTING DATA FROM MATRIX SWITCHES
<?xml version="1.0" encoding="utf-8"?>
<root>
</root></or>
```

LIST OF INFORMATION ABOUT A MATRIX SWITCH

```
<?xml version="1.0" encoding="utf-8"?>
<root>
    <result type="list">
        <DviMatrixSwitch>
            <item>
                 <id>0x11111111</id>
                                                        <!-- ID -->
                 <cl>DviMatrix</cl>
                                                        <!-- Device class -->
                 <type>ControlĆenter-Digital 288</type> <!-- Variant -->
                                                        <!-- Name -->
                 <name>Matrix1</name>
                 <poweredOn>true
                                                        <!-- Status of power supply -->
                 <pushGet>yes</pushGet>
                                                        <!-- Push/Get function enabled? -->
                 <tradeSwitching>yes</tradeSwitching>
                                                       <!-- TradeSwitch function enabled? -->
                 <ipSwitching>yes</ipSwitching>
                                                        <!-- IP-Control-API enabled? -->
                 <monitoring>yes</monitoring>
                                                        <!-- Monitoring enabled? -->
             </item>
        </DviMatrixSwitch>
    </result>
```

```
</root>
```

List of information about a user module

REQUESTING DATA FROM USER MODULES

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<list>
</list>
</root>
```

LIST OF INFORMATION ABOUT USER MODULES

- <?xml version="1.0" encoding="utf-8"?> <root> <result type="list"> <DviConsole> <item> <id>0x22222222</id> <cl>DviConsole</cl> <type>DVI-CON (2.0)</type> <name>CON1</name> <ownerId>0x11111111</ownerId> <ownerCl>DviMatrix</ownerCl> <ownerPort>5</ownerPort> <transmission>1</transmission> <enable>1</enable> <powered0n</pre>>false/powered0n> </item> </DviConsole> </result> </root>
- <!--- ID ---> <!-- Device class ---> <!-- Variant --> <!-- Name --> <!-- Device class of connected device --> <!-- Device class of connected device --> <!-- Port at connected device --> <!-- active channel --> <!-- User module enabled? --> <!-- Status of power supply -->

List of information about a target module

REQUESTING DATA FROM TARGET MODULES

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<list>
</DviCpu/>
</list>
</root>
```

LIST OF INFORMATION ABOUT TARGET MODULES

<!-- ID --> <!-- Device class --> <!-- Variante--> <!-- Name --> <!-- Status of power supply -->

List of connections between connected devices

ADVICE: You can restrict the list of connections to a specific user or target module. To do this, use the **<DviConsole>** or **<DviCpu>** parameter.

REQUESTING CONNECTIONS BETWEEN CONNECTED DEVICES

<?xml version="1.0" encoding="utf-8"?> <root> <list> </list> </list> </root>

LIST OF CONNECTIONS BETWEEN CONNECTED DEVICES

xml version="1.0" encoding="utf-8"?	
NUUL/	
<result type="tist"></result>	
<matrixlonnectionlist></matrixlonnectionlist>	
<item></item>	
<cpuid>0x33333333</cpuid>	CPU ID
<cpucl>DviCpu</cpucl>	CPU device class
<cpuname>CPU1</cpuname>	CPU name
<cpupoweredon>false</cpupoweredon>	CPU power supply
<signaltype>normal</signaltype>	Signal: normal/viewonly
<consoleid>0x2222222</consoleid>	(ON ID
<consolecl>DviConsole</consolecl>	CON device class
<consolename>CON1</consolename>	(ON name
<connectionownerid>0x11111111<td>nerId> <' Matrix ID></td></connectionownerid>	nerId> <' Matrix ID>
<connectionowner(l>DviMatrix<td>(l> <!-- Matrix class--></td></connectionowner(l>	(l> Matrix class
<connectionownerport>1 11</connectionownerport> 1	rt> Matrix port
<pre><contectionownerror 1.11="" contectionownerror<br=""><contectionownerror 1.11="" contectionownerror<br=""><contectionownerror 1.11="" <br="" contectionownerror=""><contectionownerror 1.11="" <br="" contectionownerror=""><contectionownerror <br=""></contectionownerror></contectionownerror></contectionownerror></contectionownerror></contectionownerror></pre>	
	< CON enableu?>
<consolepoweredun>true</consolepoweredun>	CON power supply
<username>JohnDoe</username>	Username
<userrealname>John Doe</userrealname>	Realname

List of configured Tradeswitch workplaces

NOTE: The output of the list of workplaces has been changed.

The output lists the members of a workplace within a **<members>** container.

REQUESTING DATA OF CONFIGURED TRADESWITCH WORKPLACES

<?xml version="1.0" encoding="utf-8"?> <root> <list> </list> </root>

LIST OF CONFIGURED TRADESWITCH WORKPLACES

```
<?xml version="1.0" encoding="utf-8"?>
<root>
    <result type="list">
        <Workplace>
             <item>
             <id>0x88888888</id>
                                                                 <!-- Workplace ID -->
             <name>Workplace1</name>
                                                                 <!-- Workplace name -->
             <catcenterId>0x11111111</catcenterId>
                                                                 <!-- Matrix ID -->
             <catcenterCl>DviMatrix</catcenterCl>
                                                                 <!-- Matrix class -->
             <masterconsoleId>0x2222222</masterconsoleId>
                                                                 <!-- ID of master console -->
             <masterconsoleCl>DviConsole</masterconsoleCl>
                                                                 <!-- Class of master console -->
                 <members>
                      <item>
                          <id>0x22222222</id>
                                                                 <!-- Member ID (CON or CPU) -->
                          <cl>DviConsole</cl>
                                                                 <!-- Member class -->
                          <keys>1</keys>
                                                                 <!-- Member key -->
                      </item>
                      <item>
                          <id>0x22222223</id>
                          <cl>DviConsole</cl>
                          <keys>2</keys>
                      </item>
                      <item>
                          <id>0x22222224</id>
                          <cl>DviConsole</cl>
                          <keys>3</keys>
                      </item>
                      <item>
                          <id>0x22222225</id>
                          <cl>DviConsole</cl>
                          <keys>4</keys>
                      </item>
                 </members>
             </item>
        </Workplace>
    </result>
</root>
```

· Requesting a list of configured channel groups

The list of configured port groups supports four different variants:

REQUESTING LIST OF ALL CHANNEL GROUPS

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<list>
</list>
</root>
```

REQUESTING LIST OF ALL CHANNEL GROUPS WITH A USER MODULE AS MAIN CHANNEL

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<list>
</list>
</root>
```

REQUESTING LIST OF ALL CHANNEL GROUPS WITH A PARTICULAR USER MODULE AS MAIN CHANNEL

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<list>
<ream><DviConsole>0x2222222</DviConsole></Team>
</list>
</root>
```

REQUESTING LIST OF ALL CHANNEL GROUPS WITH A PARTICULAR TARGET MOD-ULE AS MAIN CHANNEL

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<list>
<Team><DviCpu>0x33333333</DviCpu></Team>
</list>
</root>
```

This is an exemplary response of the XML service:



Requesting monitoring values

The XML tag **<monitor>** is used to request monitoring values. As parameter, the **<monitor>** tag expects the class tag (e.g. **<DviCpu>**) of the device class for which you want to request monitoring values.

REQUESTING ALL MONITORING VALUES OF ALL TARGET MODULES

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<DviCpu />
</monitor>
</root>
```

In addition to the class tag, you can also add the ID or name of the requested monitoring value as shown in the example:

REQUESTING ALL MONITORING VALUES OF TARGET MODULE 0X3333333

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<monitor>
<DviCpu><id>0x33333333</id></DviCpu>
</monitor>
</root>
```

By stating the desired monitoring value, you can limit the list even further.

REQUESTING MONITORING VALUE »TEMPERATURE SWITCH« OF MATRIX SWITCH 0X1111111

This is an exemplary response of the XML service:

LIST OF MONITORING VALUES OF MATRIX SWITCHES

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<result type="monitor">
<DviMatrixSwitch>
<item>
<id>0x11111111</id>
<monitorName>Temperature switch</monitorName>
<value>35.0</value>
<alarm>off</alarm>
<acknowledged>no</acknowledged>
</item>
</DviMatrixSwitch>
</root>
```

NOTE: In addition to name and value of the respective monitoring value, the two flags **acknowledged** and **alarm** are always returned as well. With the **alarm** flags, you can check if the monitoring value lies inside (**off**) or outside (**on**) of its defined range. **Acknowledged** complies with the *Viewed* function of the web application.

You can list several device class tags within the XML tag <monitor>:

REQUESTING MONITORING VALUES OF ALL TARGET MODULES AND USER MODULES

```
<?xml version="1.0" encoding="utf-8"?>
<root>
<DviCpu />
<DviCon />
</monitor>
</root>
```

Tradeswitch function (optional)

NOTE: The functions and settings described in this chapter are only available if the purchased *Tradeswitch* function has been activated.

The Tradeswitch function optimises the operation of user modules, which monitor several computers over several monitors.

Instead of connecting keyboard and mouse to every monitor, the Tradeswitch function provides a central keyboard/mouse for all operating tasks of the user console.

In order to enable this, several modules of a KVM matrix system are arranged into groups. Each user module within a group is provided with a monitor, but only one of the group's user modules is provided with keyboard and mouse.

By using a hotkey, you can switch the two input devices to any monitor and each computer of the group can be operated.

Switching keyboard and mouse signals

The switching of the keyboard and mouse signals from a user module to another user module or a target computer is carried out by entering one of the configurable key combinations.

How to switch the keyboard and mouse signals:

1. Press the Tradeswitch key modifier adjusted in the KVM matrix system and the Tradeswitch key assigned to the target module.

EXAMPLE:

- Tradeswitch key modifier: Ctrl+Shift
- Tradeswitch key of a target module: T

Press Ctrl+Shift and the tradeswitch key t. When the keys are released, the keyboard and mouse signals are switched to the target module.

Further information:

- Creating Tradeswitch workplaces on page 159
- Assigning devices to a Tradeswitch workplace on page 161
- Defining the master workplace of the Tradeswitch workplace on page 162
- Changing the Tradeswitch key and the valid keys on page 160

Basic configuration

Creating Tradeswitch workplaces

How to create a new Tradeswitch workplace:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Tradeswitch function entry and press Enter.
- 4. Press F3 and enter the name of the new workplace in the Add Workplace menu.
- 5. Press F2 to save your inputs and create the Tradeswitch workplace.

Renaming a Tradeswitch workplace

How to rename a Tradeswitch workplace:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Tradeswitch function entry and press Enter.
- 4. Select the Tradeswitch workplace you want to rename.
- 5. Press **F5** and change the name in the **Name** entry.
- 6. Press F2 to save your settings.

Deleting a Tradeswitch workplace

How to delete a Tradeswitch workplace:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Tradeswitch function entry and press Enter.
- 4. Select the Tradeswitch workplace you want to delete and press F4.
- 5. Use the arrow keys to select **Yes** and press **Enter** to respond to the prompt for confirmation.

Changing the Tradeswitch key and the valid keys

The Tradeswitch keys enable you to switch the keyboard and mouse signals from one user module to another or to a target computer by pressing a key combination.

In the *Tradeswitch function* section of the *Configuration* menu, several user modules and/or target computers can be grouped to a workplace. You can also define the keys to be pressed for switching the keyboard and mouse signals to a particular user module or a particular target computer.

In addition to the Tradeswitch key modifier, you can also define the valid keys for the Tradeswitch keys.

How to change the Tradeswitch key modifier or the valid keys:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the System entry and press Enter.
- 4. Select the Tradeswitch key entry and press Enter.
- 5. Select *at least* one of the listed select key modifiers in the **Modifier** entry by marking the respective box using the **arrow keys**. Press **F8**.

Ctrl:	<i>Ctrl</i> key
Alt:	Alt key
Alt Gr:	Alt Gr key
Win:	Windows key
Shift	Shift key

6. Select the Valid keys entry and press F8 to select one of the following options:

Num:	<i>only numerical keys</i> are interpreted as select keys when pressed in combination with the select key modifier
Alph:	<i>only alphabetic keys</i> are interpreted as select keys when pressed in combination with the select key modifier
AlphNum:	<i>alphabetical and numerical keys</i> are interpreted as select keys when pressed in combination with the select key modifier

IMPORTANT: Both the selected keymode and the selected tradeswitch key modifier(s) are *no longer* provided as key combinations to the operating system and the applications on the target computer.

7. Press F2 to save your settings.

Detailed configuration of a Tradeswitch workplace

Assigning devices to a Tradeswitch workplace

NOTE: Giving the targets self-explanatory names refering to the function or the location of the device facilitates configuring the Tradeswitch workplace.

Detailed information on renaming the target modules is provided on page 75.

How to assign target or user modules to the Tradeswitch workplace:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Tradeswitch function entry and press Enter.
- 4. Press F5 to edit the selected Tradeswitch workplace.
- 5. Select the Members entry and press Enter.
- 6. The *Assign Tradeswitch Function* menu opens. The left-hand column displays the target module name or the user module name. The right-hand column provides the assigned Tradeswitch key(s).

ADVICE: The *view filter* (see page 10) can be used to either display the user modules (*Consoles*) or the target modules (*Targets*) in the list.

7. Select the user or the target module to assign a Tradeswitch key to or whose Tradeswitch key you want to change.

ADVICE: Use the menu's *search function* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

- 8. Press F5 and enter the desired Tradeswitch key.
- 9. Repeat steps 7 and 8 to create or change the Tradeswitch keys.
- 10.Press F2 to save your settings.

Defining the master workplace of the Tradeswitch workplace

ADVICE: Giving the targets self-explanatory names that refer to the function or the location of the device simplifies the configuration of the Tradeswitch workplace.

Detailed information on how to rename the target modules can be found on page 75.

Define a user module within the Tradeswitch workplace to which keyboard and mouse are connected to. This master workplace also provides information on any accessing users.

How to define a master workplace of the Tradeswitch workplace:

- 1. Press the hotkey Ctrl+Num (default) to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the Tradeswitch function entry and press Enter.
- 4. Select the Tradeswitch workplace whose master workplace you want to change and press F5.
- 5. Select the Members entry and press Enter.
- 6. Select the desired master workplace and press F8.

NOTE: The active master workplace is marked with an arrow (**)**.

7. Press F2 to save your settings.

Enhanced functions

(De)activating the Tradeswitching information display

If you purchased the additional *Tradeswitch function*, the messages *»Forwarding to…«* (at the master workplace) or *»Forwarded«* (at the target workplace) can be displayed at the monitor.

How to (de)activate the Tradeswitching information display:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Console** entry and press **Enter**.
- 4. Select the user module you want to (de)activate and press F5.
- 5. Select the **Display Tradeswitching** entry and press **F8** to select one of the following options:

yes:	activated information display
no:	deactivated information display

6. Press F2 to save your settings.

CDS mouse positioning

When moving the mouse cursor to an edge of the active monitor with a second monitor placed next to the active monitor, the mouse cursor remains at the position at which the switching to the module of the second monitor takes place.

NOTE: When switching between channels via CDS, a mouse cursor may be visible on several monitors.

In addition, when leaving the monitor, the matrix switch can position the mouse cursor so that it is barely visible. For this, you can use the settings **Right** and **Bottom**.

You can define this setting for the entire system. By default, all CDS user modules use the systemwide setting. However, you can also individually define the mouse position for each CDS user module.

How to change the system setting of the mouse position:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the System entry and press Enter.
- 4. Select the **CDS mouse positioning** entry and press **F8** to select one of the following options:

off:	The mouse cursor remains at the position at which the switching to the module of the next monitor takes place (<i>default</i>).
on:	According to the CDS mouse hide setting the mouse cursor is positio- ned so that it is barely visible.
	Only during <i>multi-user access</i> , the cursor remains at the position at which the switching to the next monitor takes place.
on+Multi:	According to the CDS mouse hide setting, even during <i>multi-user access</i> , the mouse cursor is positioned so that it is barely visible.

ADVICE: You can activate or deactivate this function for particular modules independently from the selected system setting (see below).

5. If the *CDS mouse positioning* is enabled, select one of the options under **CDS mouse** hideout:

right:	The mouse cursor is placed at the right edge of the monitor so that it is barely visible.
bottom:	The mouse cursor is placed at the bottom edge of the monitor so that it is barely visible.

- 6. Press F2 to save your settings.
- 7. Press F2 to save your settings.

How to change the mouse position of a particular target module:

- 1. Press the Ctrl+Num (default) hotkey to open the on-screen display.
- 2. Press F11 to call the *Configuration* menu.
- 3. Select the **Target** entry and press **Enter**.
- 4. Select the target module you want to configure and press F5.

ADVICE: Use the menu's *search function*, the *view filter* or the *sort criteria* (see page 9 ff.) to limit the selection of list entries.

5. Select the **CDS mouse positioning** entry and press **F8** to select one of the following options:

System:	Use systemwide (see above) setting (default).
Off:	The mouse cursor remains at the position at which the switching to the module of the next monitor takes place.
On:	According to the CDS mouse hide setting the mouse cursor is positio- ned so that it is barely visible.
	Only during <i>multi-user access</i> , the cursor remains at the position at which the switching to the next monitor takes place.
On+Multi:	According to the CDS mouse hide setting, even during <i>multi-user access</i> , the mouse cursor is positioned so that it is barely visible.

6. When the *CDS mouse positioning* is explicitly enabled for this user module, enable one or both options under **CDS mouse hideout**:

Right:	The mouse cursor is placed at the right edge of the monitor so that it is barely visible.
Bottom:	The mouse cursor is placed at the bottom edge of the monitor so that it is barely visible.

7. Press F2 to save your settings.

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The manual is constantly updated and available on our website. http://gdsys.de/A9200105

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