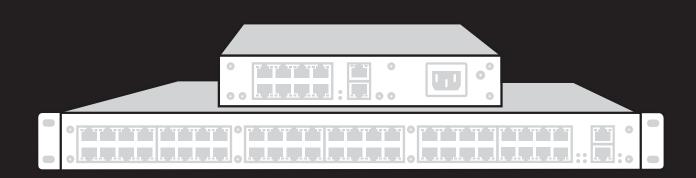
USER MANUAL

DKM FXC SWITCH SERIES

COMPACT KVM MATRIX SWITCHES

24/7 TECHNICAL SUPPORT AT 1.877.877.2269 OR VISIT BLACKBOX.COM







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SAFETY INSTRUCTIONS



To ensure reliable and safe long-term operation of your Compact KVM Matrix Switch, note the following guidelines.

INSTALLATION

- Only use the device according to this User Manual. Failure to follow these procedures could result in damage to the equipment or injury to the user or installer.
- Only use in dry, indoor environments.
- The Compact KVM Matrix Switch and the power supply units can get warm. Do not install components in an enclosed space without any airflow.
- Do not obscure ventilation holes.
- Only use power supplies originally supplied with the product or manufacturer-approved replacements. Do not use a power supply if it appears to be defective or has a damaged chassis.
- Connect all power supplies to grounded outlets. In each case, ensure that the ground connection is maintained from the outlet socket through to the power supply's AC power input.
- In case the device is equipped with one or more grounding screws, be sure to use these for normal operation to ensure the grounding of the chassis.
- Do not connect the link interface to any other equipment, particularly network or telecommunications equipment.
- Only connect devices to the serial interface that are protected against short circuit currents and incorrect voltages at the serial interface.
- To disconnect the Compact KVM Matrix Switch from the power supply, remove the power cord cables of all power supply units or switch supplies off.
- Take any required ESD precautions.
- To disconnect the device completely from the electric circuit, all power cables have to be removed.

REPAIR

- Do not attempt to open or repair a power supply unit.
- Do not attempt to open or repair the Compact KVM Matrix Switch. There are no user serviceable parts inside.
- Contact Black Box Technical Support at 877-877-2269 or info@blackbox.com if there is a fault.







1.1 INTERFACES

1.1.1 RJ-45 (NETWORK)

The communication of the CATx devices requires a 1000BASE-T connection.

The cabling must comply with EIA/TIA-568-B (1000BASE-T) standards with RJ45 connectors at both ends. All four wire pairs are used in both directions. The cabling is suitable for a full duplex operation. For the cable connection to a source (computer, CPU), you must use a crossed network cable (cross cable).

1.1.2 RJ-45 (SERIAL)

Communication takes place with a transmission speed of 115.2 KBaud, regardless of the file format. The transmission takes place with eight data bits and a stop bit, but without a parity bit. Limited hardware handshake (DSR) is possible.

1.1.3 RJ-45 (INTERCONNECT)

Communication between CATx devices requires a 1000BASE-T connection.

Connector wiring must comply with EIA/TIA-568-B (1000BASE-T), with RJ-45 connectors at both ends. All four cable wire pairs are used.

1.2 INTERCONNECT CABLE

CATX

NOTE: A point-to-point connection is required. Operation with several patch fields is possible. Routing over an active network component, such as an Ethernet Hub, Router or Matrix, is not allowed.

• Avoid routing CATx cables along power cables.

CAUTION: To maintain regulatory EMC compliance, correctly installed shielded CATx cable must be used throughout the interconnection link.

CAUTION: To maintain regulatory EMC compliance, all CATx cables need to carry ferrites on both cable ends close to the device.

TYPE OF INTERCONNECT CABLE

The Compact KVM Matrix Switch requires interconnect cabling specified for Gigabit Ethernet (1000BASE-T). The use of solid-core (AWG24), shielded, CAT5e (or better) is recommended.

CABLE TYPE	DESCRIPTION
CATx Solid-Core Cable AWG24	Cable S/UTP (CAT5e) cable according to EIA/TIA- 568-B. Four pairs of AWG24 wires. Connection according to EIA/TIA-568-B (1000BASE-T).
CATx Patch Cable AWG26/8	Cable S/UTP (CAT5e) cable according to EIA/TIA- 568-B. Four pairs of AWG26/8 wires. Connection according to EIA/TIA-568-B (1000BASE-T).

TABLE 1-1. INTERCONNECT CABLE TYPES



NOTE: The use of flexible cables (patch cables) type AWG26/8 is possible, but the maximum possible extension distance is halved.

TABLE 1-2. MAXIMUM ACCEPTABLE CABLE LENGTHS

CABLE TYPE	LENGTH
CATx Solid-Core Cable AWG24	400 ft. (140 m)
CATx Patch Cable AWG26/8	200 ft. (70 m)

1.3 CONNECTOR PINOUTS

		•		
PICTURE	PIN	SIGNAL	PIN	SIGNAL
	1	DCD	5	RxD
	2	DSR	6	TxD
	3	RTS	7	CTS
81	4	GND	8	DTR

TABLE 1-3. RJ-45 (SERIAL)

TABLE 1-4. RJ-45 (SERIAL)

PICTURE	PIN	SIGNAL	PIN	SIGNAL
	1	D1+	5	Not connected
	2	D1-	6	D2-
	3	D2+	7	Not connected
81	4	Not connected	8	Not connected

I/O PORT CATX

TABLE 1-5. RJ-45

PICTURE	PIN	SIGNAL	PIN	SIGNAL
	1	D1+	5	D3-
	2	D1-	6	D2-
	3	D2+	7	D4+
81	4	D3+	8	D4-





1.4 POWER SUPPLY

TABLE 1-6. MAXIMUM CURRENT/VOLTAGE

PRODUCT CODE	MAX. CURRENT/VOLTAGE
ACXC8, ACXC8U , ACXC8-M, ACXC8F-M, ACXC8F, ACXC8FHS	0.7 A, 100-240 VAC, 50/60 Hz
ACXC48, ACXC48F, ACXC48FHS, ACXC48U, ACXC32, ACXC32F, ACXC32FHS, ACXC32U, ACXC16, ACXC16F, ACXC16FHS, ACXC16U	1.4 A, 100-240 VAC, 50/60 Hz
ACXC80, ACXC80F, ACXC80FHS, ACXC48F32, ACXC64, ACXC64F, ACXC64FHS, ACXC48F16	12.3 A, 100-240 Vac, 50/60 Hz

TABLE 1-7. POWER REQUIREMENT

PRODUCT CODE	MAX. CURRENT/VOLTAGE
ACXC80, ACXC80F, ACXC80FHS	125 W max.
ACXC48F32	125 W max.
ACXC64, ACXC64F, ACXC64FHS	105 W max.
ACXC48F16	105 W max.
ACXC48, ACXC48F, ACXC48FHS, ACXC48U	90 W max.
ACXC32, ACXC32F, ACXC32FHS, ACXC32U	65 W max.
ACXC16, ACXC16F, ACXC16FHS, ACXC16U	40 W max.
ACXC8U, ACXC8F, ACXC8FHS, ACXC8U	13 W max.
ACXC8-M, ACXC8F-M	13 W max.

1.5 ENVIRONMENTAL CONDITIONS

TABLE 1-8. TEMPERATURE AND HUMIDITY

SPECIFICATION	VALUE
Operating Temparature	41 to 113°F (5 to 45°C)
Storage Temparature	-13 to 140°F (-25 to 60°C)
Relative Humidity	Max. 80% non-condensing

TABLE 1-9. NOISE EMISSION

SPECIFICATION	VALUE
Sound Pressure Level (SPL)	64/80-port chassis: max. 52 dBA per fan; 16/32/48-port chassis: max. 42 dBA per fan

TABLE 1-10. HEAT DISSIPATION

SPECIFICATION	VALUE
Thermal Output	Corresponds to power consumption in Watt (W)

1.6 DIMENSIONS

TABLE 1-11. DIMENSIONS

PRODUCT CODE	SPECIFICATION	DIMENSION
	Matrix	3.5"H x 17.4"W x 17.1"D (9 x 44.3 x 43.5 cm)
ACXC80, ACXC80F, ACXC80FHS	Shipping Box	7.9"H x 23.7"W x 20.7"D (20 x 60.2 x 52.6 cm)
402040522	Matrix	3.5"H x 17.4"W x 17.1"D (9 x 44.3 x 43.5 cm)
ACXC48F32	Shipping Box	7.9"H x 23.7"W x 20.7"D (20 x 60.2 x 52.6 cm)
	Matrix	3.5"H x 17.4"W x 17.1"D (9 x 44.3 x 43.5 cm)
ACXC64, ACXC64F, ACXC64FHS	Shipping Box	7.9"H x 23.7"W x 20.7"D (20 x 60.2 x 52.6 cm)
400040510	Matrix	3.5"H x 17.4"W x 17.1"D (9 x 44.3 x 43.5 cm)
ACXC48F16	Shipping Box	7.9"H x 23.7"W x 20.7"D (20 x 60.2 x 52.6 cm)
	Matrix	1.8"H x 17.4"W x 17.1"D (4.5 x 44.3 x 43.5 cm)
ACXC48, ACXC48F, ACXC48FHS, ACXC48U	Shipping Box	6.1"H x 23.7"W x 20.7"D (15.4 x 60.2 x 52.6 cm
	Matrix	1.8"H x 17.4"W x 17.1"D (4.5 x 44.3 x 43.5 cm)
ACXC32, ACXC32F, ACXC32FHS, ACXC32U	Shipping Box	6.1"H x 23.7"W x 20.7"D (15.4 x 60.2 x 52.6 cm
	Matrix	1.8"H x 17.4"W x 17.1"D (4.5 x 44.3 x 43.5 cm)
ACXC16, ACXC16F, ACXC16FHS, ACXC16U	Shipping Box	6.1"H x 23.7"W x 20.7"D (15.4 x 60.2 x 52.6 cm
	Matrix	1.8"H x 8.7"W x 5.7"D (4.5 x 22 x 14.6 cm)
ACXC8, ACXC8F, ACXC8FHS, ACXC8U	Shipping Box	4.5"H x 21.7"W x 14.4"D (11.5 x 55 x 36.5 cm)
	Matrix	1.6"H x 3.9"W x 5.5"D (4.3 x 10 x 14 cm)
ACXC8-M, ACXC8F-M	Shipping Box	1.8"H x 8.7"W x 5.7"D (4.5 x 22 x 14.6 cm)







1.7 SHIPPING WEIGHT

TABLE	1-12.	SHIPPING	WEIGHT

PRODUCT CODE	SPECIFICATION	DIMENSION	
	Matrix	15.9 lb. (7.2 kg)	
ACXC80, ACXC80F, ACXC80U	Shipping Box	21.1 lb. (9.6 kg)	
ACXC48F32	Matrix	15.9 lb. (7.2 kg)	
AUXU48F32	Shipping Box	21.1 lb. (9.6 kg)	
	Matrix	15.4 lb. (7.0 kg)	
ACXC64, ACXC64F, ACXC64FHS	Shipping Box	20.7 lb. (9.4 kg)	
40/04051/	Matrix	15.4 lb. (7.0 kg)	
ACXC48F16	Shipping Box	20.7 lb. (9.4 kg)	
	Matrix	9.0 lb. (4.1 kg)	
ACXC48, ACXC48F, ACXC48FHS, ACXC48U	Shipping Box	13.2 lb. (6.0 kg)	
	Matrix	8.8 lb. (4.0 kg)	
ACXC32, ACXC32F, ACXC32FHS, ACXC32U	Shipping Box	13.0 lb. (5.9 kg)	
	Matrix	8.6 lb. (3.9 kg)	
ACXC16, ACXC16F, ACXC16FHS, ACXC16U	Shipping Box	12.8 lb. (5.8 kg)	
	Matrix	1.9 lb. (0.9 kg)	
ACXC8, ACXC8F, ACXC8FHS, ACXC8U	Shipping Box	7.5 lb. (3.4 kg)	
	Matrix	2 lb. (0.9 kg)	
ACXC8-M, ACXC8F-M	Shipping Box	4 lb. (1.8 kg)	



1.8 MTBF

TABLE 1-13. MEAN TIME BETWEEN FAILURE (MTBF) IN HOURS

PRODUCT CODE	CHASSIS	PER FAN	PER PSU
ACXC80	90.690	280,000	238,000
ACXC80F, ACXC80FHS	83.350	280,000	238,000
ACXC48F32	87,250	280,000	238,000
ACXC64	97,300	280,000	238,000
ACXC64F	92,900	280,000	238,000
ACXC48F16	95,600	280,000	238,000
ACXC64FHS	92,900	280,000	238,000
ACXC48	140,000	280,000	295,700
ACXC48F	133,400	280,000	295,700
ACXC48FHS	133,400	280,000	295,700
ACXC48U	133,400	280,000	295,700
ACXC32	165,300	280,000	295,700
ACXC32F	161,200	280,000	295,700
ACXC32FHS	161,200	280,000	295,700
ACXC32U	161,200	280,000	295,700
ACXC16	208,322	280,000	295,700
ACXC16F	206,100	280,000	295,700
ACXC16FHS	206,100	280,000	295,700
ACXC16U	206,100	280,000	295,700
ACXC8	684,700	280,000	309,700
ACXC8F	684,700	280,000	309,700
ACXC8FHS	684,700	280,000	309,700
ACXC8U	684,700	280,000	309,700
ACXC8-M	684,700	280,000	N/A
ACXC8F-M	684,700	280,000	N/A

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2.1 APPLICATION

The Compact KVM Matrix Switch is used to establish connections from consoles (monitor, keyboard, mouse and other peripheral devices) to various sources (computer, CPU).

In its maximum configuration, up to 48 independent ports can be defined and switched either as a console or a CPU. The Compact KVM Matrix Switch is designed to operate with extenders that are able to transmit video, KVM and USB 2.0 signals. But it can also be used as a video matrix.

The connection between the matrix and the peripheral devices, such as KVM extenders or video sources, can be made by CATx cables.

The matrix serves as a repeater and can be run at a maximum distance of 400 feet (140 m) from the consoles and 400 feet (140 m) from the sources.

2.2 ACCESS OPTIONS

The following options are available to configure and operate the Compact KVM Matrix Switch.

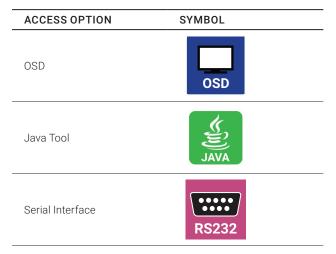


TABLE 2-1. SWITCH ACCESS OPTIONS



2.3 SYSTEM OVERVIEW

A Compact KVM Matrix Switch system consists of a Compact KVM Matrix Switch and, for KVM applications, one or more CPU Units / CON Units. The Compact KVM Matrix Switch is connected to the CPU Units / CON Units by interconnect cables or directly to the video devices where used as a video matrix.

CPU Units are connected directly to the sources (computer, CPU) by the provided cables.

Monitor(s), keyboard and mouse are connected to the CON Units.

Communication between the Compact KVM Matrix Switch and the CPU Units / CON Units occurs over the respective interconnect cables.

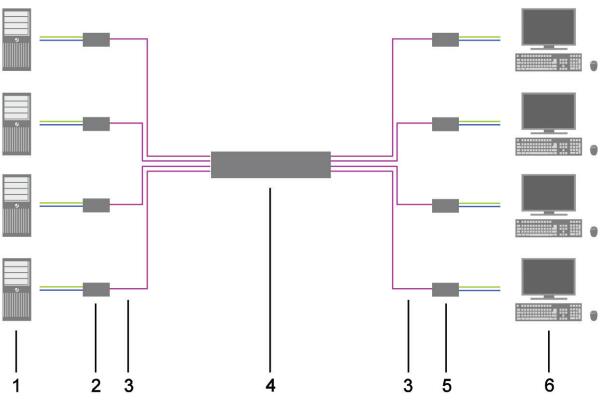


FIGURE 2-1. SYSTEM OVERVIEW

TABLE 2-2. SYSTEM OVERVIEW DIAGRAM COMPONENTS

NUMBER IN FIGURE 2-1	COMPONENT
1	Source (computer, CPU)
2	CPU units
3	Interconnect cable
4	Compact KVM Matrix Switch
5	CON units
6	Console (monitor, keyboard, mouse)

NOTE: See Section 3.3 for installation examples.

2.4 PRODUCT RANGE

TABLE 2-3. PRODUCT RANGE

PART NUMBER	DESCRIPTION
ACXC80	Compact KVM Matrix Switch with 80 ports, CATx, redundant power supply unit
ACXC80F	Compact KVM Matrix Switch with 80 ports, fiber, redundant power supply unit
ACXC80FHS	Compact KVM Matrix Switch with 80 ports, 2.5 Gbit/s transmission bandwidth, redundant power supply unit
ACXC48F32	Compact KVM Matrix Switch with 48 ports CATx and 32 ports fiber, redundant power supply unit
ACXC64	Compact KVM Matrix Switch with 64 ports, CATx, redundant power supply unit
ACXC64F	Compact KVM Matrix Switch with 64 ports, fiber, redundant power supply unit
ACXC64FHS	Compact KVM Matrix Switch with 64 ports, 2.5 Gbit/s transmission bandwidth, redundant power supply unit
ACXC48F16	Compact KVM Matrix Switch with 48 ports CATx and 16 ports fiber, redundant power supply unit
ACXC48	Compact KVM Matrix Switch with 48 ports, CATx, redundant power supply unit
ACXC48F	Compact KVM Matrix Switch with 48 ports, fiber, redundant power supply unit
ACXC48FHS	Compact KVM Matrix Switch with 48 ports, 2.5 Gbit/s transmission bandwidth, redundant power supply unit
ACXC48U	Compact KVM Matrix Switch with 48 universal ports, fiber, redundancy option
ACXC32	Compact KVM Matrix Switch with 32 ports, CATx, redundant power supply unit
ACXC32F	Compact KVM Matrix Switch with 32 ports, fiber, redundant power supply unit
ACXC32FHS	Compact KVM Matrix Switch with 32 ports, 2.5 Gbit/s transmission bandwidth, redundant power supply unit
ACXC32U	Compact KVM Matrix Switch with 32 universal ports, fiber, redundancy option
ACXC16	Compact KVM Matrix Switch with 16 ports, CATx, redundant power supply unit
ACXC16F	Compact KVM Matrix Switch with 16 ports, fiber, redundant power supply unit
ACXC16FHS	Compact KVM Matrix Switch with 16 ports, 2.5 Gbit/s transmission bandwidth, redundant power supply
ACXC16U	Compact KVM Matrix Switch with 16 universal ports, fiber, redundancy option
ACXC8-M	Compact KVM Matrix Switch with 8 ports, CATx
ACXC8	Compact KVM Matrix Switch with 8 ports, CATx, redundancy option
ACXC8F-M	Compact KVM Matrix Switch with 8 ports, fiber
ACXC8F	Compact KVM Matrix Switch with 8 ports, fiber, redundancy option
ACXC8FHS	Compact KVM Matrix Switch with 8 ports, 2.5 Gbit/s transmission bandwidth, redundant power supply unit
ACXC8U	Compact KVM Matrix Switch with 8 universal ports, fiber, redundancy option

2.5 OPTIONS

TABLE 2-4. OPTIONS

PART NUMBER	DESCRIPTION	
ACXC-ADAP	RJ-45/RS-232 adapter	
ACX-LPCAB-EU	IEC connection cable for power supply, lockable, EU power connector	
ACX-LPCAB-US IEC connection cable for power supply, lockable, US power connector		
ACXUSB-MM-SFP	SB-MM-SFP Multi-mode GBIC, LC duplex, bidirectional, USB 3.0 (6.25 Gbit/s), for use with Compact KVM Matrix Switch	
ACX3GSDI-COAX-SFP	Coaxial GBIC, bidirectional, for use with Compact KVM Matrix Switch (3G-SDI)	
ACX3GSDI-DIN123-SFP	DIN 1.0/2.3 GBIC, bidirectional, for use with Compact KVM Matrix Switch (3G-SDI)	
ACX3GSDI-SM-SFP	Single-mode GBIC, LC duplex, bidirectional, for use with Compact KVM Matrix Switch (3G-SDI)	



2.6 DEVICE VIEWS

The following views of the Compact KVM Matrix Switch illustrate the various available chassis types.

2.6.1 80-PORT CHASSIS MODELS (ACXC80, ACXC80F, ACXC80FHS, ACXC48F32)

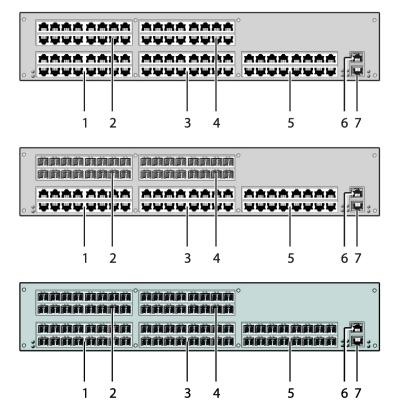


FIGURE 2-2. 80-PORT CHASSIS OPTIONS, FRONT VIEWS

TABLE 2-5. 80-PORT CHASSIS FRONT VIEW COMPONENTS

NUMBER IN FIGURE 2-2	COMPONENT
1	I/O ports #1–16
2	I/O ports #49-64
3	I/O ports #17-32
4	I/O ports #65-80
5	I/O ports #33-48
6	Serial connection (RJ-45)
7	Network connection (RJ-45)

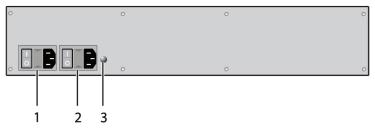


FIGURE 2-3. 80-PORT CHASSIS, BACK VIEW

TABLE 2-6. 80-PORT CHASSIS BACK VIEW COMPONENTS

NUMBER IN FIGURE 2-3	COMPONENT
1	Connect to power supply (standard)
2	Connect to power supply (redundancy)
3	Grounding



2.6.2 64-PORT CHASSIS MODELS (ACXC64, ACXC64F, ACXC64FHS, ACXC48F16)

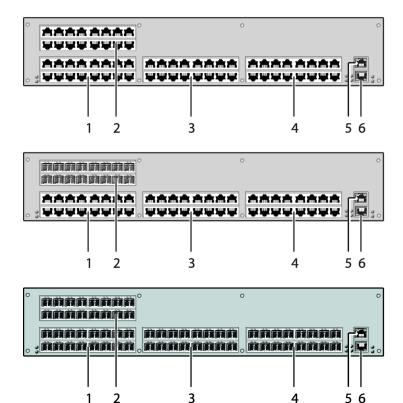


FIGURE 2-4. 64-PORT CHASSIS OPTIONS, FRONT VIEWS

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TABLE 2-7. 64-PORT CHASSIS FRONT VIEW COMPONENTS

1

NUMBER IN FIGURE 2-4	COMPONENT
1	I/O ports #1-16
2	I/O ports #49-64
3	I/O ports #17-32
4	I/O ports #33-48
5	Serial connection (RJ-45)
6	Network connection (RJ-45)



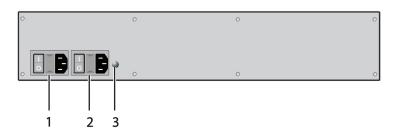


FIGURE 2-5. 64-PORT CHASSIS, BACK VIEW

TABLE 2-8. 64-PORT CHASSIS BACK VIEW COMPONENTS

NUMBER IN FIGURE 2-5	COMPONENT
1	Connect to power supply (standard)
2	Connect to power supply (redundancy)
3	Grounding

2.6.3 48-PORT CHASSIS MODELS (ACXC48, ACXC48F, ACXC48FHS, ACXC48U)

1	2	3	4 5

1	2	3	45

FIGURE 2-6. 48-PORT CHASSIS OPTIONS, FRONT VIEWS

TABLE 2-9. 48-PORT CHASSIS FRONT VIEW COMPONENTS

COMPONENT
I/O ports #1-16
I/O ports #17-32
I/O ports #33-48
Serial connection (RJ-45)
Network connection (RJ-45)

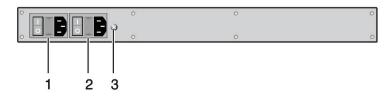


FIGURE 2-7. 48-PORT CHASSIS, BACK VIEW

TABLE 2-10. 48-PORT CHASSIS BACK VIEW COMPONENTS

NUMBER IN FIGURE 2-7	COMPONENT
1	Connect to power supply (standard)
2	Connect to power supply (redundancy)
3	Grounding

NOTE: When mounting a Compact KVM Matrix Switch with 16, 32 and 48 ports into a 19" rack, additional mounting support is recommended. It should be used in addition to the provided mounting brackets.



2.6.4 32-PORT CHASSIS MODELS (ACXC32, ACXC32F, ACXC32FHS, ACXC32U)

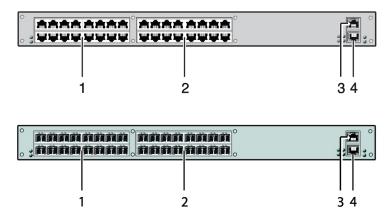


FIGURE 2-8. 32-PORT CHASSIS OPTIONS, FRONT VIEWS

TABLE 2-11. 32-PORT CHASSIS FRONT VIEW COMPONENTS

NUMBER IN FIGURE 2-8	COMPONENT
1	I/O ports #1-16
2	I/O ports #17–32
3	Serial connection (RJ-45)
4	Network connection (RJ-45)

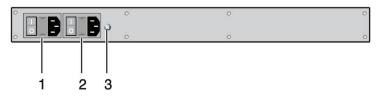


FIGURE 2-9. 32-PORT CHASSIS, BACK VIEW

TABLE 2-12. 32-PORT CHASSIS BACK VIEW COMPONENTS

NUMBER IN FIGURE 2-9	COMPONENT
1	Connect to power supply (standard)
2	Connect to power supply (redundancy)
3	Grounding

2.6.5 16-PORT CHASSIS MODELS (ACXC16, ACXC16F, ACXC16FHS, ACXC16U)

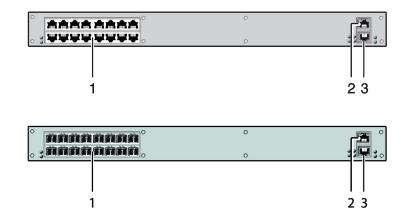


FIGURE 2-10. 16-PORT CHASSIS OPTIONS, FRONT VIEWS

TABLE 2-13. 16-PORT CHASSIS FRONT VIEW COMPONENTS

NUMBER IN FIGURE 2-10	COMPONENT
1	I/O ports #1-16
2	Serial connection (RJ-45)
3	Network connection (RJ-45)

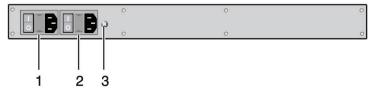


FIGURE 2-11. 16-PORT CHASSIS, BACK VIEW

TABLE 2-14. 16-PORT CHASSIS BACK VIEW COMPONENTS

NUMBER IN FIGURE 2-11	COMPONENT
1	Connect to power supply (standard)
2	Connect to power supply (redundancy)
3	Grounding



2.6.6 8-PORT CHASSIS MODELS (ACXC8, ACXC8F, ACXC8FHS, ACXC8U)

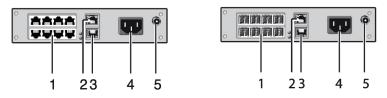


FIGURE 2-12. 8-PORT CHASSIS OPTIONS, FRONT VIEWS

TABLE 2-15. 8-PORT CHASSIS FRONT VIEW COMPONENTS

NUMBER IN FIGURE 2-12	COMPONENT
1	I/O ports #1-8
2	Serial connection (RJ-45)
3	Network connection (RJ-45)
4	Connect to power supply
5	Connect to 5-VDC power supply (redundancy, optional)

2.6.7 8-PORT CHASSIS MODELS (ACXC8-M, ACXC8F-M)

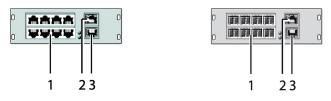


FIGURE 2-13. 8-PORT CHASSIS OPTIONS, FRONT VIEWS

TABLE 2-16. 8-PORT CHASSIS FRONT VIEW COMPONENTS

NUMBER IN FIGURE 2-13	COMPONENT
1	I/O ports #1-8
2	Serial connection (RJ-45)
3	Network connection (RJ-45)



2.7 DIAGNOSTICS AND STATUS

2.7.1 STATUS LEDS

Compact KVM Matrix Switch components are fitted with the following LEDs for overall status indication.

CPU

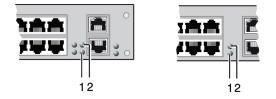


FIGURE 2-14. STATUS LEDS, CPU AND CHASSIS FRONT VIEWS

NOTE: The CPU unit is shown in Figure 2-14 at left, and the Compact KVM Matrix Switch is shown at right.

TABLE 2-17. STATUS LEDS

NUMBER IN FIGURE 2-14	COMPONENT
1	Status LED 2
2	Status LED 1

TABLE 2-18. CPU STATUS LEDS FUNCTIONS

NUMBER IN FIGURE 2-14	LED	STATUS	DESCRIPTION
	Status LED 2	White	CPU board is in registration process
1		Red flashing	Registration of the matrix has started
		OFF	Operating condition
	Status LED 1	White	CPU board is in registration process
		Blue flashing	Registration of the matrix has started
2		Red flashing	Registration in progress
		Green flashing	Operating condition
		Green	CPU board de-registered

NOTE: Due to variations in type, "white" might also appear as light purple or light blue.





LAN PORT

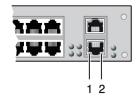


FIGURE 2-15. STATUS LEDS, LAN PORT BACK VIEW

TABLE 2-19. STATUS LEDS OF THE LAN PORT

NUMBER IN FIGURE 2-15	LED	STATUS	DESCRIPTION
1	Ctatua 1 (aranga)	ON	Connection to network available
I	Status 1 (orange)	OFF	No connection to network
0	Ctatus 2 (grass)	Flashing	Data traffic active
Ζ	Status 2 (green)	OFF	Data traffic not active

I/O PORTS



FIGURE 2-16. STATUS LEDS, I/O PORTS FRONT VIEW

TABLE 2-20. STATUS LEDS

NUMBER IN FIGURE 2-16	COMPONENT
1	Link Status Port 1
2	Link Status Port 2

TABLE 2-21. STATUS LEDS AT THE PORTS OF THE I/O BOARDS

NUMBER IN FIGURE 2-16	LED	STATUS	DESCRIPTION
	1 & 2 Link Status	OFF	Initialization
1 & 2		Green	Connection via interconnect cable OK, data traffic active
		Orange	Extender not recognized



POWER SUPPLY UNIT

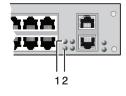


FIGURE 2-17. STATUS LEDS, POWER SUPPLY UNIT FRONT VIEW

TABLE 2-22. STATUS LEDS

NUMBER IN FIGURE 2-17	COMPONENT
1	Power Supply Unit 1 Status LED
2	Power Supply Unit 2 Status LED

TABLE 2-23. STATUS LEDS AT THE PORTS OF THE POWER SUPPLY UNITS

NUMBER IN FIGURE 2-17	LED	STATUS	DESCRIPTION
1	Status PSU 1 (green)	ON	Operating condition
Statu	Status PSO T (green)	OFF	Power supply unit OFF
0	Status DSU 2 (blue)	ON	Operating condition
Ζ	Status PSU 2 (blue)	OFF	Power supply unit OFF







FANS



FIGURE 2-18. STATUS LEDS, FAN FRONT VIEW

TABLE 2-24. STATUS LEDS

NUMBER IN FIGURE 2-18	COMPONENT
1	Left fan status LED 1
2	Left fan status LED 2
3	Right fan status LED 2
4	Right fan status LED 1

TABLE 2-25. STATUS LEDS OF THE FAN TRAYS

NUMBER IN FIGURE 2-18	LED	STATUS	DESCRIPTION
1	Laft for atotus 1 (rad)	ON	Error indication
I	Left fan status 1 (red)	OFF	Operating condition
2	Left for statue 2 (green)	ON	Operating condition
Z	Left fan status 2 (green)	OFF	Fan OFF
3	Dight for statue 2 (grash)	ON	Operating condition
3	Right fan status 2 (green)	OFF	Fan OFF
		ON	Error indication
4	Right fan status 1 (red)	OFF	Operating condition





2.7.2 PORT STATUS

The connections and the switching status between the various consoles and CPUs are shown in this menu. You have the following option to access the menu:



JAVA TOOL

The current port configuration of the Compact KVM Matrix Switch is illustrated in this menu. Select Status > Matrix View in the task area when connected to the matrix.

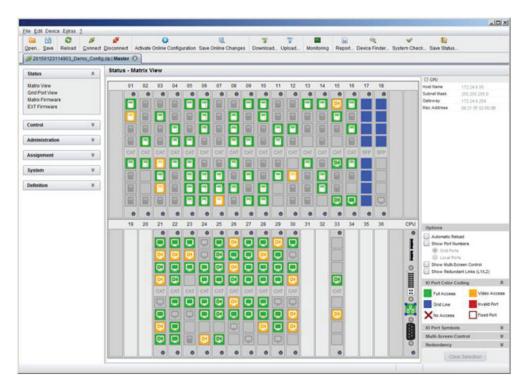


FIGURE 2-19. STATUS-MATRIX VIEW (EXAMPLE #1)

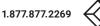








FIGURE 2-20. STATUS-MATRIX VIEW (EXAMPLE #2)

The colors indicate the connection status.

TABLE 2-26. STATUS LEDS

COLOR IN FIGURES 2-19 AND 2-20	DESCRIPTION
Gray	Port not connected
Yellow	Video connection
Green	KVM connection
Red	Faulty port
Blue	Port connected to another matrix via grid line

The symbol indicates the extender that is recognized and defined at a certain port.

TABLE 2-27. SYMBOLS

SYMBOL	DESCRIPTION
	Port connected to a CPU Unit
= P.	Port is connected to a CPU Unit that is switched to a CON Unit in Private Mode
	Port connected to a CON Unit
	Port connected to a CON Unit with Shared Access to a CPU
P	Port is connected to a CON Unit that is connected to a CPU Unit in Private Mode
CPU	Port connected to a USB 2.0 CPU Unit
	Port connected to a USB 2.0 CON Unit
CSC CON	Port is configured as Cascade-CON port for cascading of matrices
CSC CPU	Port is configured as Cascade-CPU port for cascading of matrices
UNI	Port is a UNI port of an I/O board that can be used for USB 3.0 or SDI switching





TABLE 2-27 (CONTINUED). SYMBOLS

SYMBOL	DESCRIPTION
UNI CON	UNI port is configured as CON port to connect USB 3.0 CON extenders, for example
UNI CPU	UNI port is configured as CPU port to connect USB 3.0 CPU extenders, for example

NOTES:

- Red framed ports are defined as "fixed" (e. g. for USB 2.0 connections).
- The port with four static blue squares is currently selected.
- If a port is selected, all other ports are transparent, except those connected to the currently selected port. To clear a selection, press the Clear Selection button.
- In Matrix View, a red cross on a port indicates that the console to be connected does not have access rights to the respective CPU at this port.

Press the left mouse button to show the extender information of the currently selected port on the right hand side of the working area.

The following information is available:

TABLE 2-28. EXTENDER INFORMATION OF THE CURRENTLY SELECTED PORT

FIELD	DESCRIPTION
Extender Name	Name of selected extender
Extender Type	Type of selected extender
Port ID	Number of selected port
Device Name	Name of connected console or CPU
Connections	Listing of assigned connections to marked port (Full Access or Video Access)

Press the right mouse button to open the context menu with additional functions for the currently selected port. The following functions are available:

FUNCTION	DESCRIPTION
Open Extender	The menu for definition of the currently selected extender will be opened
Open Device	The menu for definition of the currently selected console or CPU will be opened
Switch	The menu for execution of switching operations will be opened

TABLE 2-29. CONTEXT FUNCTIONS



To reload the Matrix View, you have the following options:

- Press <F5> on a connected keyboard
- Execute Edit > Reload in the menu bar
- Press the Reload button in the tool bar

2.7.3 PORT STATUS MATRIX GRID

In this menu, the connections and the switching status between the various CON and CPU Devices are shown within the Matrix Grid.

The port view is divided into the different Grid matrices. As a result, each matrix is displayed in an optimized view of 24 ports per line to be able to show also a larger number of ports.

You have the following option to access the menu:



JAVA TOOL

The current port configuration of the Matrix Grid is illustrated in this menu.

Select Status > Grid Port View in the task area when connected to the matrix.

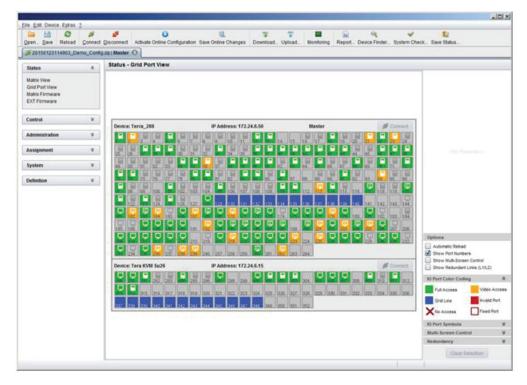


FIGURE 2-21. STATUS-GRID PORT VIEW





NOTE: Functions, colors and symbols used in the Grid Port View are identical to those in the port status of the Matrix View.

2.7.4 EXTENDER OSD

All extenders used with the Compact KVM Matrix Switch are provided with their own OSD to display the connection status of the console.

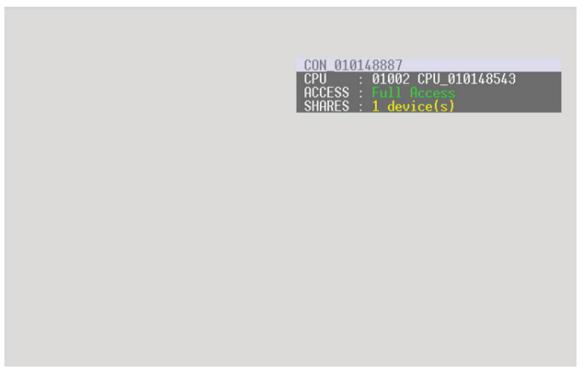


FIGURE 2-22. EXTENDER OSD



The following information is shown in the OSD menu:

TABLE 2-30. OSD MENU INFORMATION

FIELD	DESCRIPTION
CON	Name of console
CPU	Name of currently connected CPU
	Color Coding:
	Green: The connection to the selected CPU is completely established.
	 Yellow: The connection to the selected CPU is partially established.
	Red: The connection to the selected CPU cannot be established.
	NOTE: Possible reasons for any incomplete or non-established connection can be switched off extenders or insufficiently available Grid lines in Matrix Grid operation.
ACCESS	Full Access: Console has a KVM connection to the displayed CPU.
	 Video Access: Console has a video only connection to the displayed CPU.
	 Private Mode: Console has a Private Mode connection to the displayed CPU.
	 not connected: Console is not connected to a CPU.
SHARED	x device(s) shows the exact number of devices that are connected to the current CPU of the console (e.g. 3 devices).
	If the field remains empty, no other devices are connected to the current CPU.

NOTE: If the options Mouse Connect or Keyboard Connect are used, the name of the console with keyboard / mouse control will be displayed on those consoles that do not have current K/M control. The console is displayed in yellow under Access.







2.7.5 NETWORK STATUS

The current network configuration is shown in this menu.

You have the following options to access the menu:



The following information is shown in this menu:

TABLE 2-31. NETWORK CONFIGURATION

FIELD	DESCRIPTION
DHCP	Information whether the network settings are applied dynamically. Display Y (Yes) or N (No)
IP Address	Information about the IP address as provided manually or via DHCP
Subnet Mask	Information about the subnet mask as provided manually or via DHCP
Gateway	Information about the gateway address as provided manually or via DHCP
MACID	Information about the MAC address of the matrix

OSD

Select Status > Network in the main menu.

CON 010167832		
Status		ESC
Network Interface		
DHCP	: YES Enable configuration of network parameters via DHCP server	
IP Address	: 192.168.100.211	
Subnet Mask	: 255.255.255.000	
Gateway	: 192.168.100.001	
MAC ID	: 00:21:5F:02:00:61	
Network Services		
Network Services		
API Service	: YES Enable API Service port (5555)	
FTP Server	: YES Enable FTP Server for configuration file transfers	
	1: NO _Enable Syslog Server ⊎1 1: 000.000.000.000:514	
Syslog W Syslog Server W	2: NO Enable Syslog Server #2 2: 000.000.000.000:514	
LDAP LDAP Server LDAP Base DN	: NO Enable authentication with Active Directory Server : 000.000.000.000:389 :	
Log Levels		
Trace : DI Syslog #1: DI Syslog #2: DI	EB NO INF NO NOT YES WAR YES ERR YES	

FIGURE 2-23. STATUS>NETWORK



JAVA TOOL

1. Select Status > Network in the task area.

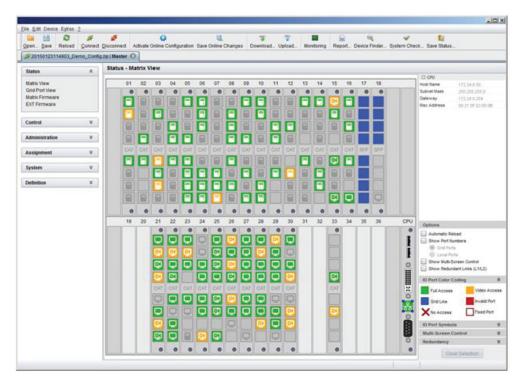


FIGURE 2-24. STATUS-MATRIX VIEW

2. Use the left mouse button to click on the network port of the CPU board. The corresponding network status will be shown on the right hand side of the working area.

The available information can be faded in or hidden by pressing the left mouse button on the "plus" or "minus" icon.



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2.7.6 FIRMWARE STATUS MATRIX

The current firmware status of the installed boards is shown in this menu.

You have the following options to access the menu:



The following information is shown in this menu:

TABLE 2-32. FIRMWARE STATUS INFORMATION

FIELD	DESCRIPTION
Name	Description of modules
Туре	Type number
Ports	Number of ports
Version	Complete description of firmware version
Date	Date of firmware version
Status	Module status

OSD

Select Status > Firmware in the main menu.

FIGURE 2-25. STATUS-FIRMWARE



JAVA TOOL

1. Select Status > Matrix Firmware in the task area.

Den Save Relo		E Disco	nned Activate Online Configu	tation Save Online Changes	Download. Upload		ort. Device Finder.	System Check Save	E Status	
20150123114903	_Demo_Conf	la sisi M	laster O			an an an Arthonya Anda				
Status		Sta	tus - Matrix Firmware							
		Slot	Name	Tipe	Ports	Serial Number	Version	Date	Status	
Matrix View Grid Port View Matrix Firmware			E III TERRA 288	Matrix	288	000000000				1
		00	E Cartose	CPU	1	000000000	F03.00	2014-00-21	Austable	
EXT Firmware			MATODM	050	t		F01.14	2013-02-28		
			MATOHIO	HD	2		F03.00	2014-08-18		
Control		01	B MATXCAT	108	8	0000000000	803.00	2014-08-21	Augitable.	
Administration	¥		MATXIDSD	050	1		F03.03	2014-04-04		
		02	E MATKCAT	108	4	0000000000	803.00	2214-08-21	Araitable	
Assignment	*		MATIOND	OSD	8		F03.03	2014-04-04		
System	¥	03	E MAJNCAT	108	1	0000000000	803.00	2014-08-21	Available	
ij sam			MATXOSD	osb	8		F03.03	2014-04-04		
Definition		04	E MINTREAT	108	1	000000000	803.00	2014-00-21	Available	
			MATKO9D	080			F03.03	2014-04-04		_
		05	E MATRICAT	101	8	6000808000	803.00	2014-08-21	Austable.	
			MATXQSD	OSD	8		F03.03	2014-08-04		_
		00	E MATRICAT	108	8	0000000000	803.90	2014-00-21	Austable	
			MATXOOD	OSD	8		F03.03	2014-04-04		_
		07	E MATKCAT	108	8	600000000	803.00	2014-08-21	Austable	
			MATXOOD	050	4		F03.03	2014-04-04		
		-08	ID MAKINGAT	108		0000000000	803.00	2014-00-21	Available	
		1000	MATXOOD	050	6		#03.03	2014-04-04		
		09	E MATRICAT	108	0	0000000000	803.00	2014-09-21	Available	
			MATXOSD	050	8		F03.03	2014-04-04		
		10	B BROUGAT	108	8	6000000000	803.00	2014-00-21	Available	
			MATXX00D	050	1.0		F03.03	2014-08-04		_
		11	B MATXCAT	108	8	0000000000	803.00	2014-08-21	Available	
			MATXOSD	080	8		F03.03	2014-04-04		_
		12	E MARKAT	108	8	0000000000	B03.00	2014-08-21	Austable	
			MATXOOD	000	0		F03.03	2014-04-04		_
		13	B MATRCAT	104		000000000	803.00	2014-06-21	Austable	

FIGURE 2-26. STATUS-MATRIX FIRMWARE

2. To read out the overall status of the matrix and store it locally (file extension .zip), select Matrix > Save Status or press the respective button in the symbol bar.

The various modules can expanded and retracted in the Name column by clicking with the left mouse button on the plus or minus symbols.

By clicking on the plus or minus symbol in the upper right corner of the working area you can expand and retract all module information with one click of the left mouse button.



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2.7.7 FIRMWARE STATUS EXTENDER

The current firmware status of connected extenders is shown in this menu.

You have the following option to access the menu:



The following information is shown in this menu:

TABLE 2-33. FIRMWARE STATUS OF CONNECTED EXTENDERS INFORMATION

FIELD	DESCRIPTION
Name	Description of firmware
Туре	Description of extender module
Ports	Number of ports
Cur. Version	Description of current firmware version
Cur. Date	Date of current firmware version

Select Status > Firmware in the task area.

		Disco			n Save Online Changes Do	wnload Upload Monit	-	R. Device Finder System	W Eatur Save Statur
Ø 20150123114903_D	emo_Config								
Status		-		XT Firmware					
Matrix View Grid Port View Matrix Firmware EXT Firmware		Ed	tender Vi	irmware Edender Firmwa iew Component View					
			ID .		Name	Port	Туре	Version	Date
Control	*		8	TERRA_288	Terra_288		Matrix		
Administration	¥	01	0	10128502	LH2_116_1_1 EXTCPU	1	CPU UNIT EXT	F02.39	2014-02-05
		-			HIDOPU		HD	F02.03	2014-02-05
Assignment	*	-			EXTMSD		MSD	802.31	2014-05-02
System	*	02	8	10135817	LH2_102_1_1	2	CPU UNIT		
oysiem	*	-		10100011	EXTCPU		EXT	F02 39	2014-02-05
Definition	8				HIDCPU		HD	F02.03	2014-02-04
					EXTMSD		MSD	802.31	2014-06-02
		03	8	10135875	LH2_101_3_1	3	CPU UNIT		
					EXTOPU		EXT	F02.39	2014-02-05
					HIDCPU		HD	F02.03	2014-02-04
					EXTMSD		MSO	802.31	2014-06-02
		04	0	40001109	UI2_116_6_1	4	CPU UNIT		
					EXTOPU		EXT	802.39	2014-02-05
					HIDCPU		HID	B02.03	2014-02-04
					EXTMSD		MSD	802.31	2014-05-02
		05		10135871	LH1_27_2_1	5	CPU UNIT		
					EXTOPU		EXT	F02.39	2014-02-05
					HIDCPU		HID	F02.03	2014-02-04
					EXTMSD		MSD	B02.29	2013-06-11
		÷							
		-		r firmware version conflict					
				update of EXTMSD / EXTIMS					
		=	Wrong m Undefine	nodule type (CPU/CON misr	nation)				

FIGURE 2-27. STATUS-EXT FIRMWARE





2.8 TRACE FUNCTION

All events, e.g. activities and switching operations of the Compact KVM Matrix Switch are logged and displayed in this menu.

This function is used for diagnostic purposes.

You have the following option to request various trace views in the menu:



The following information is shown in this menu:

TABLE 2-34. TRACE FUNCTION MENU

FIELD	DESCRIPTION
Date	Date stamp
Time	Time stamp
Message	Detailed description of the event

Trace possibilities:

- Select Status > Trace IO Board in the main menu to check the events on your current I/O board.
- Select Status > Trace Matrix to check the matrix events.





2.9 SYSLOG MONITORING

The complete logging of the Compact KVM Matrix Switch activities, switching operations and surveillance of the function of critical components such as fans or power supply units takes place in this menu.

You have the following option to access the menu:



To start Syslog Monitoring, proceed as follows:

• Select the Monitoring symbol in the symbol bar.

	onnect Disconnect Activate Online (Configuratio	on Save Online Ch	anges Download Upload.	. Monitoring R	eport. Devic	e Finder S	ystem Check Save Status.	
Aonitoring	* Status - Syslog								
lyslog	Filter Find								
iany	Date		Facility	Seventr	Host	Mes	sage		Filter
	From 16.04.15 🔹 11:1	4.28	kern	emergency					Clear
	To 16.04.15 🗘 11.1	14:28	i user mail daemon auth	error wam	App Name	Pro	10	🗌 Mag ID	Cita
	Date	Facility	Severity	Host	App Name	Proc ID	Msg ID	Message	
	2014-07-02T12-47:24.960	user	NOTICE	MAIN	CPU		NOT	swHandleSetCpu(): CPU	+1029 CON+3024
	2014-07-02T12:47:16.400	user	INFO	MAIN	CPU		INF	msSetOutputPort(): OUT-	193 IN=50
	2014-07-02T12:47:16.400	user	INFO	MAIN	CPU		INF	swConnectCpu() CPU=1	029 CON=3030
	2014-07-02T12:47:16.400	user	INFO	MAIN	CPU		INF	swDisconnedtCpuUsb():	CPU=1029
	2014-07-02T12:47:16.400	user	NOTICE	MAIN	CPU		NOT	swHandleSetCpu() CPU	=1029 CON=3030
	2014-07-02712:45:02:450	user	INFO	MAIN	CPU		INF .	msSetOutputPort(): OUT	193 IN+6
	2014-07-02T12:45:02:450	user	INFO	MAIN	CPU		INF .	swConnedCpu() CPU=1	029 CON=3024
	2014-07-02T12:45:02.450	user	INFO	MAIN	CPU		INF	swDisconnedtCpuUsb()	CPU=1029
	2014-07-02T12:45:02.450	user	NOTICE	MAIN	CPU		NOT	swHandleSetCpu(): CPU	=1029 CON=3024
	2014-07-02T12:44:56.390	user	INFO	MAIN	CPU		INF	msSetOutputPort(): OUT	43 IN=57
	2014-07-02T12:44:56.390	user	INFO	MAIN	CPU		11 AF	msSetOutputPort(): OUT	157 IN=43
	2014-07-02T12:44:56:390	user	INFO	MAIN	CPU		INF	swConnedCpuCon(): CP	U=1050 CON=304
	2014-07-02T12:44:56:370	user	INFO	MAIN	CPU	*	INF	msSetOutputPort(): OUT:	+43 IN=0
	2014-07-02T12:44:56:370	user	INFO	MAIN	CPU		INF	swDisconnedCon(): CON	¥=3041
	2014-07-02T12:44:56.360	user	INFO	MAIN	CPU		INF	msSetOutputPort(): OUT	
	2014-07-02T12:44:56.360	user	INFO	MAIN	CPU		11 AF	swDisconnedtCpu() CPL	J=1002
	2014-07-02T12:44:56:350	user	NOTICE	MAIN	CPU	-	NOT	swHandleSetCpuCon().(
	2014-07-02T12:44:48.730	USer	INFO	MAIN	CPU		INF	msSetOutputPort(): OUT	
	2014-07-02T12:44:48.730	user	INFO	MAIN	CPU		INF	swConnectCpu(): CPU=1	
	•[_							
								Save trace Clea	r trace Pause

FIGURE 2-28. MONITORING-SYSLOG

Logging of system activities starts when the Monitoring menu is opened and remains active until the tab is closed.

NOTE: Syslog messages are transmitted via UDP. Therefore, port 514 within the used network should not be blocked, e.g. by a firewall.

During logging, the activities are written continuously into logging files and stored locally. This process can be set with various options.

OPTIONS

• Select Extras > Options in the menu bar and open the tab.

The following options are available:

OPTION	DESCRIPTION
Log File Directory	Default directory to store the log files
Log File Name	Default name of the log file
Log File Extension	Default extension for the log file
Daily Log files	Log files are stored every 24 hours (daily)
Maximum Log File Size (KB)	Allowed maximum size of log file
Maximum Number of Log Files	Allowed maximum number of log files
Autostart	When starting the Java Tool, the Syslog function will be started in the background
Open Monitoring Tab	When starting the Java Tool, the Monitoring tab will be opened

TABLE 2-35. SYSLOG OPTIONS

NOTE: When reaching the maximum log file size, a new log file will be created. When reaching the maximum number of log files, the oldest one will be overwritten with the new information.

FILTER FUNCTION

To filter relevant messages out of a number of logged activities of the Compact KVM Matrix Switch, the Syslog Monitoring offers various filter options.

To set and activate a filter, proceed as follows:

- 1. Set the desired filter option(s) by activating the respective checkbox(es).
- 2. Activate the filter settings by pressing the Filter button.
- 3. To deactivate an activated filter setting, press the Clear button.

The following filter options are available:

TABLE 2-36. FILTER OPTIONS

OPTION	DESCRIPTION
Date	Messages for a defined date range will be filtered
Facility	Messages for a defined facility will be filtered
Severity	Messages for a defined severity will be filtered
Host	Messages for a defined host will be filtered
Message	Messages with defined text parts will be filtered

NOTE: Filter options are not valid within the locally stored log files.





RECORDING FUNCTION

All messages shown in the Syslog are equipped with various recording functions.

- To store messages shown in the Syslog (filtered or unfiltered), press the Save trace button. The messages will be stored in a .txt file.
- To remove messages shown in the Syslog, press the Clear trace button.
- To stop recording messages, press the Pause button. To continue, press the button again.

2.10 SNMP

The SNMP function allows all function-critical and safety-critical elements of the matrix to be monitored and queried. This function complies with the RFC 1157 standard.

NOTE: When using SNMP monitoring, we recommend using a dedicated network to maintain continuous access.

You have the following options to configure the SNMP monitoring:



OSD

To activate the SNMP agent, proceed as follows:

1. Select Configuration > SNMP in the main menu.



iguration SNMP Agent			
Enable	:	N Activate the SNM	AP agent for GET requests and traps
SNMP Server	1		
Enable Traps	:	N Server #1	N Server #2
Server Address	:	000.000.000.000	000 .000 .000 .000
Status Temperature		N N	NN
Insert Board Remove Board Invalid Board		N N N	N N N
Insert Extender Remove Extender			NN
Switch Command	:	N	N
Fan Tray ∥1 Fan Tray ∥2		N N	N
Power Supply #1 Power Supply #2 Power Supply #3	:	N	NNN
			Cancel Okay

FIGURE 2-29. CONFIGURATION-SNMP

2. Set the Enable option to Y (Yes) under SNMP Agent. By activating this option, the permission for an active query of the SNMP agent is granted.

To configure an SNMP server, proceed as follows:

- Select Configuration > SNMP in the main menu.
- Set the Enable Traps option to Y (Yes) within SNMP Server. This function allows an active transmission of trap messages from the SNMP agent to the SNMP server.
- Set the IP address of the SNMP server within Server Address.
- Activate the requested traps by enabling them to Y (Yes).



You can select the following traps:

TABLE 2-37. TRAPS

Notification about matrix status
Notification about temperature within the matrix
Notification about insertion of a new I/O board into a slot
Notification about removal of an I/O board out of a slot
Notification about a faulty I/O board
Notification about a newly connected extender to the matrix, notification about a switched on extender, notification about a newly established link between extender and matrix
Notification about a removed extender from the matrix, notification about a switched off extender, notification about an interrupted link between extender and matrix
Notification about a performed switching operation at the matrix
Notification about the status of fan tray #1
Notification about the status of fan tray #2
Notification about the status of power supply unit #1
Notification about the status of power supply unit #2
Notification about the status of power supply unit #3

To query the SNMP status, proceed as follows:

1. Select Status > SNMP in the main menu.

NOTE: To activate the SNMP agent function or the SNMP server function, you must restart the matrix.

Two SNMP servers can be used at the same time.

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JAVA TOOL

To activate the SNMP agent, proceed as follows:

1. Select System > Network in the task area.

	S S	e Online Configuration Save Online Change	es Download., Upload., Monitoria	Report Device Fin	er System Check Save Status	
20150416111833_Demo_		e onime contrigeration: daire onime onang	es communa. oproas. monitori	ny nepot. Dentern	ver opprent cireck carre clasos	
Status	System - Netwo	rik				
Control	General Syslog	SNMP LDAP				
Control	•					Show Hel
Administration		e changes require a matrix restart)				
Assignment	¥ SNMP Agent	Enable SNMP Agent for GET re	events and base			
fundam	* Port	151	quests and Tapa			
	-	changes require a matrix restart)				
System Data Access	Trap Receiver 1					
Switch	Enable Traps	8				
Date and Time	SNMP Server	10 . 1 . 10 . 50				
Matrix Grid	Port	162				
Definition	¥ Status	1702	Switch Command	Ø		
	Temperature	8	Fan Tray 1	8		
	Insert IO Board	8	Fan Tray 2	80		
	Remove I/O Board	8	Power Supply 1	8		
	Invalid I/O Board	20 20	Power Supply 1 Power Supply 2	8		
	Insert Extender	8	Power Supply 2 Power Supply 3	8		
	Remove Extender	8	Power suppry 5			
	Remove Extender	8				
						cancel



2. Activate the SNMP Agent option in the SNMP tab. By activating this option, the permission for an active query of the SNMP agent is granted.

To configure an SNMP server, proceed as follows:

- Select Configuration > Network in the task area.
- Activate the Enable Traps option within SNMP Server. This function allows an active transmission of trap messages from the SNMP agent to the SNMP server.
- Set the IP address of the SNMP within SNMP Server.
- Activate the requested traps.

NOTE: To activate the SNMP agent function or the SNMP server function, you must restart the matrix.



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2.11 SYSTEM CHECK

System Check offers a diagnostic function for checking the matrix configuration. The feature indicates suboptimal and faulty settings.

System Check is exclusively used for a confidence check and does not make any active changes in the configuration.

You have the following option to access the menu:



The following configuration parts are checked:

- Matrix Firmware
- Extender Firmware
- Multi-Screen Control
- Ext Units
- CPU Devices
- CON Devices
- User
- System Configuration
- Matrix Grid

The following notification levels can be shown:

TABLE 2-38. NOTIFICATION LEVELS

LEVEL	DESCRIPTION
OK (green)	System Check completed without any abnormalities
WARNING (yellow)	System Check revealed abnormalities in the configuration that point to incomplete parts of the configuration, firmware differences, duplications or unconnected extenders but without being system critical
ERROR (red)	System Check revealed errors in the configuration that can have both functional and system-critical influences on the system

NOTE: If the messages "WARNING" and "ERROR" are generated by the System Check function, the respective problem will be described and a basic guideline will be provided.



To start System Check, proceed as follows:

• Select the System Check symbol in the symbol bar.

pen Save Reload	Connect Disconnect Activa	te Online Config	ration Save Online Changes Download, Upload, Monitoring Report, Device Finder, Syst	w Li lem Check Save St	
# 20150123114903_De	mo_Configize i Master (C)	NUC CONTR			
Status	System Check - REG	IL E		×	
	System Chock			D	
Control	The System Check help order to support your pe		ssible sources of error within the configuration of the matrix. Test results are listed as recommend: the configuration.	itions in	🗹 Show Help
Administration					
Assignment	Matrix Firmware	CK			
System					
	Extender Firmware	PART BY G	Extender firmware version conflict		
Definition	-				
	Ports	OK		U	
	EXT Units	WARBURIC	1 extender(s) with port number "0" detected = Check extender(s) with port number "0" in Definition > EXT Units		
	CPU Devices	WARDING	CPU Device without extender assignment		
			ID = 1305, Name = SKY E2 NL N = Check assignment in Definition > CPU Devices.		
	CPU Devices		CPU Device without extender assignment		
	Cr v benerv		ID = 1306, Name = SKY E2 NL S		
			Check assignment in Definition > CPU Devices.		
	CPU Devices	WARTING	Duplicated name within range of CPU Devices ID = 1203. Name = .		
			ID = 1105, Name = .		
			= Check name in Definition > CPU Devices		
	CPU Devices	WARNING	Duplicated name within range of CPU Devices		
			ID = 1205, Name = .	1	
			Close		
			(MAAAAA)		
			Shakhfuat be OFF during operation, enable during matrix updates only		
					Citysterio Center

FIGURE 2-31. SYSTEM CHECK

2.12 DEVICE FINDER

The Device Finder offers the possibility to find all matrices or SNMP boards that are located in the same subnetwork. This is useful, for example, if the IP address of a specific matrix is unknown and should be accessed via IP.

You have the following option to access the function:



1.877.877.2269

The following device information is shown in the Device Finder:

TABLE 2-39. DEVICE INFORMATION

INFORMATION	DESCRIPTION
Device	Name of device
Name	Name of the active configuration
IP Address	Current IP address of the device
MAC Address	MAC address of the device
Туре	Type of device

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NOTE: You can use the last column of the Device Finder to access the respective matrix directly using the Connect button. To start the Device Finder, proceed as follows:

• Select the symbol Device Finder in the symbol bar.

Date Reisd Cornect [pcconect] Actuate Online Configuration State Online Changes Download. Upload. Monitoring Report. Device Finder System Check State Status	Bare Reliad Connect Device Finder. System Check. Save Status.	Bare Reliad Connect Device Finder. Save Status.	Bare Reliad Connect Device Finder. Save Status.	I	e Egras	 5	0			7 8		e,	~	
Available RVH devices within the local setevol. Devices Name IP Address Nac Address Top 91 TERADORC_MEXE GPRD_MA 192 158 100 215 02 21 5F 02 01 5F Mark GConnect 92 TERADORC_MEXE GPRD_MA 192 158 100 17F 02 15F 02 01 5F Mark GConnect 93 TERADORC_MEXE GPRD_MA 192 158 100 27F 02 15F 02 01 5F Mark GConnect 94 TERADORC_MEXE GPRD_MA 192 158 100 274 02 15F 02 00 80 Mark GConnect	Available RVH devices within the local setevol. Devices Name IP Address Nac Address Top 91 TERADORC_MEXE GPRD_MA 192 158 100 215 02 21 5F 02 01 5F Mark GConnect 92 TERADORC_MEXE GPRD_MA 192 158 100 17F 02 15F 02 01 5F Mark GConnect 93 TERADORC_MEXE GPRD_MA 192 158 100 27F 02 15F 02 01 5F Mark GConnect 94 TERADORC_MEXE GPRD_MA 192 158 100 274 02 15F 02 00 80 Mark GConnect	Available KVH devices within the local settexts Devices Name IP Address Mac Address Tpe 91 TERNOBE_LASS GRD_MA 192 168 100 213 022 157 020 158 Mass Connect 92 TERNOBE_LASS GRD_MA 192 168 100 217 022 157 020 158 Mass Image: Connect 93 TERNOBE_LASS GRD_MA 192 168 100 217 02 157 02 02 52 Mass Image: Connect 94 TERNOBE_LISS GRD_MA 192 168 100 214 02 157 02 00 80 Mass Image: Connect	Available KVH devices within the local settexts Devices Name IP Address Mac Address Tpe 91 TERNOBE_LASS GRD_MA 192 168 100 213 022 157 020 158 Mass Connect 92 TERNOBE_LASS GRD_MA 192 168 100 217 022 157 020 158 Mass Image: Connect 93 TERNOBE_LASS GRD_MA 192 168 100 217 02 157 02 02 52 Mass Image: Connect 94 TERNOBE_LISS GRD_MA 192 168 100 214 02 157 02 00 80 Mass Image: Connect											
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											(Reload	10	

FIGURE 2-32. DEVICE FINDER



3.1 PACKAGE CONTENTS

Your package contains the following items:

- (1) Compact KVM Matrix Switch
- (1) power cord per built-in power supply unit
- (1) RJ-45/RS-232 adapter
- Mounting accessories
- (1) Quick Start Guide

If anything is missing or damaged, contact Black Box Technical Support at 877-877-2269 or info@blackbox.com.

3.2 SYSTEM SETUP

NOTE: We recommend that first-time users set up the system in the same room as a test setup. This will allow you to identify and solve any cabling problems, and experiment with your system more conveniently.

NOTE: Because of the construction of the matrix chassis, we recommend that you use an additional subfloor below the matrix if you are using it in a 19" rack.

MATRIX SETUP

- 1. Connect a CON Unit to an I/O port of the matrix for its configuration.
- 2. Connect keyboard, mouse and monitor to the CON Unit.
- 3. Connect the matrix and the CON Unit to the power supply.
- 4. Open OSD via keyboard command <hotkey>, <o> and log in with administrator rights in the main menu under configuration (see Section 4.2.1).
- 5. Configure initially as requested.

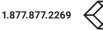
NOTE: After you configure the system, we recommend that you save the configuration by selecting Configuration > Save and restart the matrix by selecting Restart Matrix.

6. Optional: Establish a network connection between the matrix and the Java Tool so you can set an extended configuration (see Section 4.2.2).

The default IP address is 192.168.100.99 and DHCP is deactivated. When installing several matrices at the same time, we strongly recommend that you install them in sequence and to assign unique IP addresses in order to avoid IP address conflicts.

EXTENDER SETUP

- 1. Connect the CON Units to the matrix by using the interconnect cables (CATx).
- 2. Connect the CON Units to the input devices to be used (for example, keyboard and mouse).
- 3. Connect the 5-VDC power supply units to the CON Units.
- 4. Check the basic function of the CON Unit by opening the OSD via keyboard command <hotkey>, <o>.
- 5. Connect the source (computer, CPU) to the CPU Unit of the extender using the provided connection cables.
- 6. Connect the CPU Unit to the matrix using the interconnect cables (CATx).





- 7. Connect the 5-VDC power supply units to the CPU Units.
- 8. Start the system.

3.3 EXAMPLE APPLICATIONS

The Compact KVM Matrix Switch supports a wide and flexible range of system configurations:

A part of the Compact KVM Matrix Switch can be configured as a Single-Head work station, a part as Dual-Head, as Quad-Head or even as a video matrix for example. In addition to that, there are configurations with KVM and USB 2.0 available.

In addition to OSD access by a keyboard connected to the CPU board or and extender CON Unit, other methods of control are available, including:

- Java Tool
- Serial interface
- A connection to common media controls is also possible.

The following sections show typical example installations of the Compact KVM Matrix Switch.



3.3.1 KVM MATRIX

In Single-Head mode, up to 48 ports can be used either as an input or as an output port depending on components and equipment. Non-blocking access is available for all users, i.e. user access is not limited by the activities of another user.

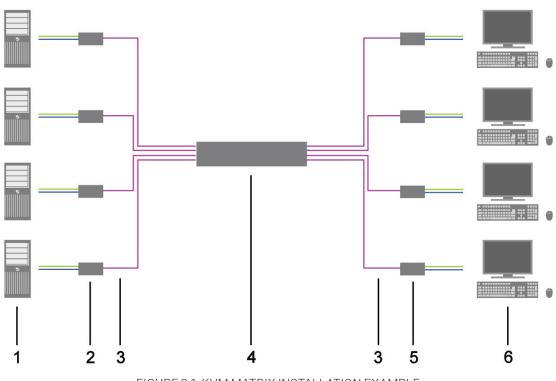


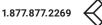
FIGURE 3-1. KVM MATRIX INSTALLATION EXAMPLE

TABLE 3-1. SINGLE-HEAD KVM MATRIX INSTALLATION COMPONENTS

NUMBER IN FIGURE 3-1	COMPONENT
1	Source (computer, CPU)
2	CPU Unit
3	Interconnect cable
4	Compact KVM Matrix Switch
5	CON Unit
6	Console (monitor, keyboard, mouse)

If you have a Single-Head console, you can also get access to a Dual-Head or Quad-Head console for example. However, control is only possible at monitor 1.

Any signal source can be switched to any number of monitors that will show the video signal at the same time. Audio may also be switched if required.



CHAPTER 3: INSTALLATION



3.3.2 PARALLEL OPERATION (STACKING)

If you have special configurations, especially at installations with several monitors per workstation or additional support of USB 2.0 transmission paths, the number of connectable CPUs and consoles can be increased by a parallel operation (stacking) of several Compact KVM Matrix Switches.

One Compact KVM Matrix Switch is defined as the Master Matrix and its IP address entered into the Master IP Address field (see Section 4.4.1). All other matrices are defined as Sub Matrices. Sub matrices must be connected to the master matrix via a network connector (RJ-45) on the CPU board. The Enable LAN Echo option has to be activated at the master matrix (see Section 4.4.1).

If a switching command is performed using the OSD, the synchronized matrices will also switch automatically.

NOTE: Switching of stacked devices might be delayed by several seconds.

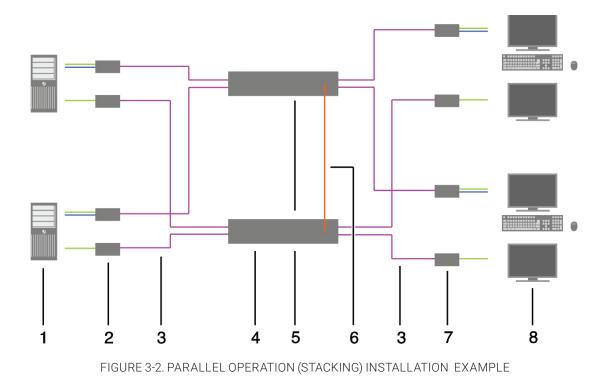


TABLE 3-2. PARALLEL OPERATION (STACKING) INSTALLATION COMPONENTS

NUMBER IN FIGURE 3-2	COMPONENT
1	Dual-Head Source (computer, CPU)
2	CPU Unit
3	Interconnect cable
4	Master matrix
5	Synchronized matrix
б	Network connection master matrix/synchronized matrix
7	CON Unit
8	Console (two monitors, keyboard, mouse)

CHAPTER 3: INSTALLATION



3.3.3 MATRIX GRID

You can use a matrix grid for applications where the required number of ports is not sufficient or important connections need to be made to several matrices to provide redundancy.

A matrix grid consists of one master matrix and at least one slave matrix. In its maximum configuration, it can consist of up to 16 matrices.

To build a matrix grid, the grid matrices are interconnected by "Grid Lines." In this case, the slave matrices can be connected directly to the master matrix or between themselves.

When arranging the grid lines, various grid setups can be realized, for example: a ring setup, a hub and spoke setup or a fully connected setup of matrices.

Grid lines can process signals bidirectional (Smart Connect). Per grid line, one KVM connection can be transmitted.

All switching operation will be exclusively performed through the Grid Master.

To configure the matrix grid, see see Section 4.15.



CHAPTER 3: INSTALLATION



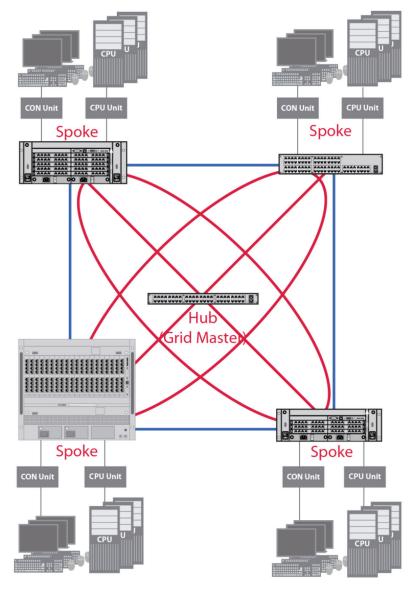


FIGURE 3-3. MATRIX GRID INSTALLATION EXAMPLE







4.1 COMMAND MODE

The Compact KVM Matrix Switch includes a Command Mode that allows several functions to be controlled by keyboard commands during normal use.

To enter Command Mode, use a Hotkey sequence, and to exit Command Mode, press <Esc>. While in Command Mode, the Shift and Scroll LEDs on the console keyboard will flash.

NOTE: In Command Mode, normal keyboard and mouse operation will cease. Only selected keyboard commands are available. If there is no keyboard command executed within 10 seconds after activating Command Mode, it will be deactivated automatically.

The following table lists the keyboard commands to enter and to exit Command Mode and to change the Hotkey sequence.

TABLE 4-1. KEYBOARD COMMANDS

FUNCTION	KEYBOARD COMMAND
Enter Command Mode (default)	2x <left shift=""> (or Hotkey)</left>
Exit Command Mode	<esc></esc>
	<current hotkey="">, <c>, <new code="" hotkey="">, <enter></enter></new></c></current>
Change Hotkey Sequence	Until 2011-30-09:
	<left ctrl=""> + <left shift=""> + <c>, <hotkey code="">, <enter></enter></hotkey></c></left></left>

NOTE:

<key> + <key></key></key>	Press keys simultaneously
<key>, <key></key></key>	Press keys successively
2x <key></key>	Press key quickly, twice in a row (similar to a mouse double-click)

The Hotkey sequence to enter Command Mode can be changed. The following table lists the Hotkey Codes for the available key sequences:

TABLE 4-2. HOTKEY CODES AND KEY SEQUENCES

НОТКЕҮ	
Freely selectable (from 2012-01-12 on)	
2x <scroll></scroll>	
2x <left shift=""></left>	
2x <left ctrl=""></left>	
2x <left alt=""></left>	
2x <right shift=""></right>	
2x <right ctrl=""></right>	
2x <right alt=""></right>	
	Freely selectable (from 2012-01-12 on) 2x <scroll> 2x <left shift=""> 2x <left ctrl=""> 2x <left alt=""> 2x <right shift=""> 2x <right ctrl=""></right></right></left></left></left></scroll>

NOTE: In a combined KVM matrix / U-Switch configuration, choose different Hotkeys for the KVM matrix and the U-Switch.







SET FREELY SELECTABLE HOTKEY (EXAMPLE)

To set a freely selectable Hotkey (e.g. 2x <Space>), use the following keyboard sequence: <current Hotkey>, <c>, <0>, <Space>, <Enter>

SET HOTKEY FOR DIRECT OSD ACCESS

Next to the Hotkey for standard functions, this Hotkey can be exclusively used for opening the OSD directly. To select a Hotkey from the Hotkey table for a direct opening of the OSD, use the following keyboard sequence: <current Hotkey>, <f>, <Hotkey code>, <Enter> To select a freely selectable Hotkey (e.g. 2x <Space>) for opening OSD directly, use the following keyboard sequence: <current Hotkey>, <f>, <0>, <Space>, <Enter>

RESET HOTKEY

To set a Hotkey back to default settings of the extender, press the key combination <Right Shift> + within 5 seconds after switching on the CON Unit or plugging in a keyboard.

To delete the Hotkey for direct OSD access, use the following keyboard sequence:

<current Hotkey>, <f>, <0>, , <Enter>

4.2 CONTROL OPTIONS

The Compact KVM Matrix Switch contains an internal CPU that allows you to control all functions from any console without the need for an external CPU or media control.

You have the following options to access the Compact KVM Matrix Switch for configuration and operation:

- via OSD
- via Java Tool
- via serial interface

4.2.1 CONTROL VIA OSD



Via OSD (On-Screen-Display), you set the configuration of the Compact KVM Matrix Switch operating system. The settings of the Configuration menu are described below. All other menus are described in later chapters.

You have the following options to enter the OSD of the Compact KVM Matrix Switch:

- via keyboard connected to the CPU board
- via keyboard connected to a CON Unit of an extender



ENTERING OSD

- 1. Start Command Mode with the Hotkey (see Section 4.1).
- 2. Press <o> to open OSD. You will see a list of all available CPUs as a start menu.
- 3. Press <Esc> to enter the main menu.

NOTE: If the Enable CPU Selection option is enabled in the Configuration menu, the selection list for switching CPU devices will be opened initially. To skip this list, press the <F7> key.

LEAVING OSD

Press <Esc> in the main menu or simultaneously <Left Shift> + <Esc> anywhere within the OSD. The OSD will be closed without any further changes and the currently active CPU connection will be displayed.

MENU STRUCTURE

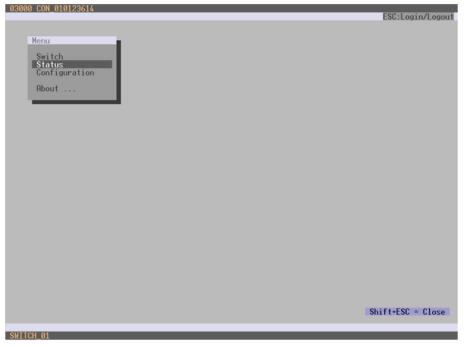


FIGURE 4-1. EXAMPLE VIEW

The general layout of the OSD is structured into three areas:

- Upper status area (topmost two text lines)
- Working area
- Lower status area (lowest two text lines)



KEYBOARD CONTROL

You can select the following keyboard commands.

TABLE 4-3. KEYBOARD COMMANDS

FUNCTION	KEYBOARD COMMAND
Left cursor - only within an input field or a switching screen	<cursor left=""></cursor>
Right cursor - only within an input field or a switching screen	<cursor right=""></cursor>
In input fields: Line up (with wrap around)	
 In menus: Line up (without wrap around) 	<cursor up=""></cursor>
 In input fields: Line down (with wrap around) 	<cursor down=""></cursor>
 In menus: Line down (without wrap around) 	<cursor down=""></cursor>
Previous page in menus with more than one page	<page up=""></page>
Next page in menus with more than one page	<page down=""></page>
Next input field	<tab></tab>
Previous input field	<left shift=""> + <tab></tab></left>
Next option in selection fields	<+>
Previous option in selection fields	<->
Switching in selection fields between two conditions, e. g. between ON / OFF or Y (Yes) / N (No)	<space></space>
In menus with input fields: Save data	-Futton
In menus: Select menu item	<enter></enter>
In menus with input fields: Cancel data input without saving	
 In menus with selection fields: Go back to the superior menu 	<esc></esc>

SORTING FUNCTION

Lists and tables in the Java Tool offer a sorting function for fast and smooth search.

The following sorting functions are available.

TABLE 4-4. SORTING FUNCTIONS

FUNCTION	KEYBOARD COMMAND
Sort ID numbers in descending order by pressing the keyboard command once. Sort ID numbers in ascending order by pressing the keyboard command twice (ID).	<f1></f1>
Sort ID names in descending order by pressing the keyboard command once. Sort ID names in ascending order by pressing the keyboard command twice (Name).	<f2></f2>
Go to the next result in the list of results of the search field (Next).	<f3></f3>
Go to the previous result in the list of results of the search field (Previous).	<f4></f4>
Refresh the currently shown list (Refresh).	<f5></f5>
Jump between the search field and the list of results (Find).	<f6></f6>



PASSWORD REQUEST

You have to login with administrator rights to be able to set configurations.

03000 CON_010123614	
	Login
	User
	Password
	Cancel Okay
	Cancel Okay
SWITCH_01	

FIGURE 4-2. LOGIN

Access to the configuration menu requires administrator rights. User login is mandatory.

FIELD	INPUT
User	admin
Password	admin

By pressing <F10> in the main menu of the OSD, the login mask will be opened. To log out a user, press <F10> again. For security reasons, please change the administrator password as soon as possible (see Section 4.4.1).





4.2.2 CONTROL VIA JAVA TOOL



REQUIREMENTS

If you want to use the Java Tool, you will need:

- Computer with an executable Java Tool and an installed Java Runtime Environment (JRE, version 1.7 or higher)
- Java Tool software
- Available network connection between the Java Tool and the matrix

NOTE: Contact your system administrator concerning JRE and network connection.

INSTALLATION OF THE JAVA TOOL

The Java Tool is available as a single executable program file that does not require a separate installation.

Copy the tool after receiving the file to a directory on your computer.

NOTE: If you do not have a copy of the Java Tool, contact Black Box Technical Support at 877-877-2269 or info@blackbox.com.

COMPUTER CONNECTION TO THE MATRIX

For a direct connection between computer and matrix, a cross-wired network cable is required.

For a connection between computer and matrix via switch or hub, a parallel assembled network cable is required.

Do not use a network connection between Java Tool and the matrix that is primarily used for transmitting audio data.

• Connect the network cable to the RJ-45 ports of computer and CPU board of the matrix.

START OF THE JAVA TOOL

• Open the Java Tool by double-clicking on the program icon or press the <Enter> key of the keyboard.

CONNECTION TO THE MATRIX

NOTE: At least FTP rights are required.

- 1. Open the Java Tool.
- 2. Select Matrix > Connect in the menu bar.
- 3. Enter the IP address in the popup input field according to the network configuration of the Compact KVM Matrix Switch (see Section 4.2.3).
- 4. Enter the user name and password for the Compact KVM Matrix Switch (see Section 4.4.1).
- 5. Confirm your inputs with the OK button or reject with Cancel.

0	15	10	0				- 12	Ŧ		- Bi	 ~	
				onfiguration :		anges (System Check.	
				0	onnect				×			
					Host Name / IP	Address	192.168	100.217				
					Name		admin		_			
									_			
					Password		*******	***				
								Qk	Cancel			
				_				2	Cancer			

FIGURE 4-3. CONNECT

NOTE: Up to twelve connections between the matrix and the Java Tool can be established at the same time due to a limitation of available sockets.

	s statut	ate Online Configuration Save Online Changes Download, Upload, Montoring Report, Device Finder, System Check, Save Status,	
20150305083205_Regie1			
Status	s System - System	em Data	
	General Autor	matic ID	
Control	8		Show Help
Administration	a Device	Repett	
	-	Nost name for network anumenment (recommended characters: a-2, 4-2, 5-9, -)	
Assignment	a Name	Repolt	
System	A	Name of current matrix configuration	
System Data		341128	
Access	info		
Switch Network		Description of current matrix configuration	
Date and Time	Sub Matrix		
Matrix Grid		Allow hollowy control in cascaded environment	
	Load Default		
Definition	¥	When performing a cold start or a restart of the matrix, the configuration shored is Default will be always activated	
	Auto Save	Seve metro status autoraticaly	
	Enable COM Ech		
	Diable Colling	Ethe all switch commands via communication ports	
	Enable LAN Echo		
		Eche al switch commands via LAW ports	
	Enable Redundar	tcy 🔲	
		Enable automatic analiziong for redundant extenders.	
	Synchronize		
		Synchroniza matrix with master matrix	
	Echo Osly		
		Equiphentize institut with archie andy	
	Master IP Addres	55 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	Invalid I/O Boards		
	mailed to boards	ShaltMust be OFF during operation, enable during matrix updates only	
		E Contraction of the second	Carical

FIGURE 4-4. SYSTEM-SYSTEM DATA



The menu structure of the Java Tool is subdivided into various sections:

- Menu bar (top line)
- Toolbar (second line)
- Tab bar (third line)
- Task area (left menu section)
- Working area (right menu section)
- Status bar (bottom line section)

OPERATING INSTRUCTIONS

The operation of the Java Tool is intuitive and corresponds to the user interface of common operating systems.

The Java Tool contains its own support function.

The integrated help texts in the working area of the Java Tool can be activated or deactivated by the checkbox in the upper right corner.

MOUSE CONTROL

You can select the following mouse commands.

TABLE 4-6. MOUSE COMMANDS

FUNCTION	MOUSE COMMAND
Menu selection, marking	Left mouse button
Open function-specific selection menus	Double-click left mouse button
Open context-specific selection menus	Right mouse button

KEYBOARD CONTROL

You can select the following keyboard commands.

TABLE 4-7. KEYBOARD COMMANDS

FUNCTION	MOUSE COMMAND
Cursor to the left	<cursor left=""></cursor>
Cursor to the right	<cursor right=""></cursor>
Line up	<cursor up=""></cursor>
Line down	<cursor down=""></cursor>
Previous page in input or status menus with more than one page	<page up=""></page>
Next page in input or status menus with more than one page	<page down=""></page>
Next field in input menus	<tab></tab>
Previous field in input menus	<left shift=""> + <tab></tab></left>

TABLE 4-7 (CONTINUED). KEYBOARD COMMANDS

FUNCTION	MOUSE COMMAND
• Switching in selection fields between two conditions (checkmark or not).	
Open already marked fields with editing or selecting possibility.	<space></space>
In menus: Data saving	· Fintern
Menu item selection	<enter></enter>
Leave tables	
Jump from tables into the next field	<ctrl> + <tab></tab></ctrl>
Leave tables	
 Jump from tables into the previous field 	<ctrl> + <left shift=""> + <tab></tab></left></ctrl>

NOTE: Various functions within the menus in the menu bar can be executed with the provided keyboard commands (e. g. press <Ctrl> + <S> to execute Save) that are listed to the right of the respective menu item.

RELOAD OPTIONS

The information shown in the Java Tool can be reloaded in different ways.

- Via <F5> on the keyboard used
- Via Edit > Reload in the menu bar
- Via "Reload" Symbol in the symbol bar

CONTEXT FUNCTION

The Java Tool offers several context functions that support user-friendly and effective operation. The context functions are described in the respective chapters.

• To execute a context function, use the right mouse button on the corresponding field and select the desired function.

SORTING FUNCTION

Lists and tables in the Java Tool offer a sorting function for fast and smooth search.

1. Ascending: Click left mouse button once on the header of the column to be sorted. The sort status is indicated by an arrow that points upwards.

2. Descending: Click left mouse button once on the header of the column to be sorted. The sort is displayed by an arrow that points downwards.

3. Cancel sort: Click left mouse button once or twice on the head of the sorted column. The arrow displayed disappears.

FILTER FUNCTION

Lists and tables in the Java Tool offer a filter function that allows a fast and smooth search.

1. To activate a filter, use the right mouse button to click on the header of the column to be filtered and select Set Filter.

2. Write the word or part of a word that has to be filtered into the header. The filter results are shown immediately.

3. To delete a filter, use the right mouse button to click on the header of the column that has to be filtered and select Clear Filter. NOTE: An active filter is indicated by an asterisk in the header.





The filter function is based on the functional principle of common web search engines.

OFFLINE CONFIGURATION

Configuration and system settings via Java Tool can be changed in offline mode without a direct connection between matrix and Java Tool.

To activate a matrix configuration, proceed as follows:

1. Select File > Upload in the menu bar.

2. Enter the IP address of the matrix (see Section 4.2.3) and the name and password of the user authorization and select the storage location of the new configuration (default or config01-08) in the Select Configuration menu.

3. Select Matrix > Connect in the menu bar and enter the IP address of the matrix and the name and password for user authorization.

4. Select Administration > Activate Configuration in the task area and select the storage location that has been selected above.

5. Use the Activate button to open the selected configuration within the matrix.

The connection and the open tab will be closed and the matrix will be restarted.

NOTE During the activation of a configuration, the matrix is temporarily unavailable.

ONLINE CONFIGURATION

Configurations and system settings can be also edited via Java Tool in online mode with an active connection between matrix and Java Tool.

	Country Country Con	e Configuration Save Online Changes Download, Upload, Monitoring Report, Device Finder, System Ch	E
20150305083205_Regie11.zp	and the second se	e conspiration save onine changes Downsold, opsaid, Monitoring Report, Dence Finder, system on	eor
Status V	System - System Data	Online	Configuration Mode activate
Control V	General Automatic ID		
Administration 8	Device	Rege11	Show Help
and the second	Device	Regent must name for refuscic anvirunment (recommended characters, a.z. A.Z. 6.8)	
Assignment #	Name	Regie11	
System A	100000	Name of current metric configuration	
Bystem Data Access	info	141128	
Switch Network Date and Time Matrix Grid	Sub Matrix	Description of current matrix configuration	
Definition ¥	Load Default	Union performing a cold attact or a realiset of the matrix, the configuration aboved in Carlauit will be adverge activitied	
	Auto Save	20 Save matrix status automatically	
	Enable COM Echo	Ecto el sevito comunication porte	
	Enable LAN Echo	Context and swelch commands via LAN ports	
	Enable Redundancy	California and an and a set of the set of th	
	Synchronize	Synchronize mattix with master matrix	
	Echo Only	Synchronice matrix with echic only	
	Master IP Address	0 . 0 . 0 . 0	
	Invalid I/O Boards	0	
			CARGE CARGE

FIGURE 4-5. SYSTEM-SYSTEM DATA



To edit a configuration in online mode, proceed as follows:

1. Select the menu item Matrix > Activate Online Configuration Mode. This setting will also be shown in the lower part of the working area.

2. Make any edits at the configuration and system settings and confirm them by pressing the Apply button. The changes will be applied immediately.

3. To deactivate the online mode, select the menu item Matrix > Deactivate Online Configuration Mode in the menu bar.

On newer firmware, you will need to enable the Java Tool using the local OSD from a receiver by logging into the Configuration Menu as admin, and go to System options. You will then find a setting to allow Java communication. Save the settings and the Java tool will be able to work using the Online Configuration Mode.

OPTIONS MENU

The Java Tool can be adapted and customized by editing various default settings.

To activate or change the default settings, proceed as follows:

• Select Extras > Options in the menu bar. The Default Settings tab will open.

The following default settings parameters can be changed.

TABLE 4-8. DEFAULT SETTINGS PARAMETERS OPTIONS

OPTION	DESCRIPTION
IP / Hostname	Default IP address of the matrix required for connection
User	Default user name required for connection
Configuration Directory	Default directory for configuration files
Firmware Directory	Default directory for update files
Status Directory	Default directory for the firmware status
Import / Export Directory	Default directory for import and export files
Presets Directory	Default directory for macro files

To set various font sizes for the Java Tool, proceed as follows:

1. Select Extras > Options in the menu bar.

- 2. Open the Font tab.
- 3. Select the desired font size (normal or large).

REPORT

The Java Tool is equipped with a report function that shows the current switching status and all relevant parts of the matrix configuration in a PDF file.

To create a report, proceed as follows:

1. Select File > Report... in the menu bar. A selection assistant will be opened.

2. Select contents that should be included in the report (Matrix View, EXT Units, CPU Devices, CON Devices and Users) and confirm with the Next > button.

3. Select the preferred location for storage of the report and confirm with the Finish button.

The report will be created as a PDF file.



20150305083205_	Regie11.zip	0				
Status	8	System - System				
Control	¥	General Automat	el0		X s	tow bit
dministration	¥	Device	Manual I			
ssignment	Ψ.		Configuration Report	×		
		Name	Steps 1. Define Content	Define Content		
ystem			2. Save Report	System		
efinition		info		Assignment		
				CPU Devices		
		Sub Matrix		CON Devices		
		Load Default		Access Control		
		Auto Save		🗹 Macros	activated	
				Access Control		
		Enable COM Echo		✓ Favorites ✓ Macros		
		Enable LAN Echo		Macros		
		Enable Redundance		Select All		
		Synchronize		+ Box Next + Erith Cancel		
		Echo Only			Bill .	
		Master IP Address	Bynchronize mate			
		matrice in mod(655		Dross of the maker matrix		
		Invalid I/O Boards				

FIGURE 4-6. REPORT

NOTE: The report function can be used in both online or offline mode of the Java Tool.

4.2.3 CONTROL VIA SERIAL INTERFACE



The Compact KVM Matrix Switch operating system offers various functions for operation via a serial interface. There are telegrams for switching single or all connections available, both unidirectional and bidirectional. In addition, there are telegrams for an overall definition of the total switching status and for saving and loading such switching states.

The Compact KVM Matrix Switch optionally provides an echo of all affected switching operations via a serial interface or a network interface. This aids continuous tracking of a matrix configuration and enables your own applications to be updated.

As an additional application, you can switch matrix clones in parallel as synchronized matrices (Stacking) via a serial network interface.





4.3 ASSIGNMENT

The Compact KVM Matrix Switch offers the option of a console-specific or a CPU-specific assignment.

- Assign virtual CPUs to real CPUs.
- Assign real consoles to virtual consoles.

4.3.1 VIRTUAL CPU

You can assign virtual to real CPUs in this menu.

With this function, the effort of switching several consoles to the same CPU can be reduced. If several consoles are connected to a virtual CPU that is assigned to a real CPU, you only have to change the real CPU once and all consoles will receive the video signal of the new CPU.

You have the following options to access the menu:



OSD

• Select Assignments > Virtual CPU Devices in the main menu.

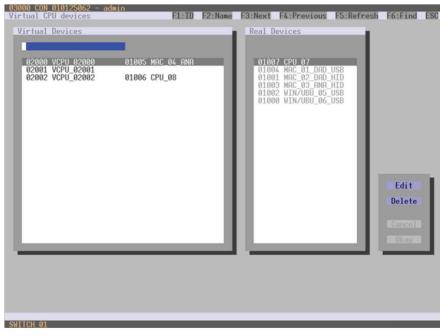


FIGURE 4-7. VIRTUAL CPU DEVICES





For an assignment, proceed as follows:

- 1. Select the virtual CPU in the Virtual Devices list that has to be assigned to a real CPU.
- 2. Press the Edit button.
- 3. Select the CPU in the Real Devices list that has to be assigned to the selected virtual CPU.
- 4. Press the Okay button to confirm the assignment.
- The assignment will be made.

NOTE: Only one virtual CPU can be assigned to a real CPU.

JAVA TOOL

• Select Assignments > Virtual CPU Devices in the task area.

Assignment	- Virtual CPU Devices Virtual CPU Name IlisatorOV1 Ilicoti 1 Ilicoti 2 Foprocher 5 EndproCh1 P8 sone Ulish	0 01111 01122 01113 01114 01115 01117 01117	Report. Device Finder. System Check. Save Status. Read CPU Name OFF-PC 111-001 Name OFF-PC 113 OFF-PC 113 OFF-PC 114 OFF-PC 114 OFF-PC 115-0011 OFF-PC 116 OFF-PC 116 OFF-PC 118	,
10 05111 0-Re: 05112 0-Mail 05113 0-Mail 05113 0-Mail 05114 0-0Fi 05115 0-Co: 05116 0-Sig 05117 0-Re: 05118 0-Sig 05119 0-Pro	Visual CPU Name IslastoCV11 TEch 1 STech 2 -Gprecher 3 -Gprecher 3 	01111 01112 01113 01114 01115 01115 01115 01117 01118	Name OFF-PC 111-D/v1 OFF-PC 112 OFF-PC 113 OFF-PC 113 OFF-PC 114 OFF-PC 115-D/v11 OFF-PC 116 OFF-PC 117 OFF-PC 118	
05111 O-Rec 05112 O-Mul 05113 O-Mul 05114 O-OFI 05115 O-Cor 05116 O-Sky 05117 O-Rec 05118 O-Sim 05118 O-Sim 05118 O-Sim 05119 O-Pro-	Name Name Name Name Name Name Name Name	01111 01112 01113 01114 01115 01115 01115 01117 01118	Name OFF-PC 111-DV11 OFF-PC 112 OFF-PC 113 OFF-PC 113 OFF-PC 114 OFF-PC 115-DV11 OFF-PC 116 OFF-PC 117 OFF-PC 118	
05111 O-Rec 05112 O-Mul 05113 O-Mul 05114 O-OFI 05115 O-Cor 05116 O-Sky 05117 O-Rec 05118 O-Sim 05118 O-Sim 05118 O-Sim 05119 O-Pro-	Name Name Name Name Name Name Name Name	01111 01112 01113 01114 01115 01115 01115 01117 01118	Name OFF-PC 111-DV11 OFF-PC 112 OFF-PC 113 OFF-PC 113 OFF-PC 114 OFF-PC 115-DV11 OFF-PC 116 OFF-PC 117 OFF-PC 118	
05111 O-Rec 05112 O-Mul 05113 O-Mul 05114 O-OFI 05115 O-Cor 05116 O-Sky 05117 O-Rec 05118 O-Sim 05118 O-Sim 05118 O-Sim 05119 O-Pro-	alisatorOV1 BTech 1 Tech 2 Techpether 1 mEng DV1 PB sine sine utilan	01111 01112 01113 01114 01115 01115 01115 01117 01118	0/FPC 111:0/H1 0/FPC 112 0/FPC 113 0/FPC 113 0/FPC 114 0/FPC 115 0/FPC 116 0/FPC 116 0/FPC 117	
05112 O-Mul 05113 O-Mul 05114 O-OFI 05115 O-Coi 05116 O-Sky 05117 O-Rei 05118 O-Sin 05119 O-Pro	NTech 1 STech 2 	01112 01113 01114 01115 01115 01116 01117 01118	OFF-PC 112 OFF-PC 113 OFF-PC 114 OFF-PC 115 OFF-PC 115 OFF-PC 116 OFF-PC 116 OFF-PC 118	
05113 O-Mul 05114 O-OFI 05115 O-Cor 05116 O-Sky 05117 O-Rei 05118 O-Sim 05119 O-Pro	01ech 2 -Oprocher 1 =Eng DV1 =Eng serve vultan	01113 01114 01115 01116 01117 01117 01118	0 0FF-PC 113 0FF-PC 114 0FF-PC 115-0011 0 0FF-PC 115 0FF-PC 117 0FF-PC 118	
05114 O-OFI 05115 O-Cor 05116 O-Sky 05117 O-Rer 05118 O-Skr 05119 O-Pro	r-Sprecher 1 =Eng DVH PB serve willan	01114 01115 01116 01117 01117 01118	0FF-PC 114 0FF-PC 115/0V1 0FF-PC 116 0FF-PC 117 0 0FF-PC 118	
05115 O-Col 05116 O-Sky 05117 O-Rei 05118 O-Sin 05119 O-Pro	mEng DV11 pe serve witan	01115 01116 01117 01118	0FF-PC 115-0V1 0FF-PC 116 1 0FF-PC 117 1 0FF-PC 118	
05116 O-Sky 05117 O-Rei 05118 O-Skr 05119 O-Pro	pe serve sultan	01116 01117 01118	0 0FF-PC 116 7 0FF-PC 117 1 0FF-PC 118	
05117 O-Rei 05118 O-Sin 05119 O-Pro	serve sultan	01117 01118	7 OFF-PC 117 8 OFF-PC 118	
05119 O-Pro				
	duzent	01119		
05120 O-Gra			OFF-PC 119	
	ditar	01120	OFF-PC 11A	
05121 O-Mo	Seculor S12	01121	OFF-PC 118	
05122 O-Mo	derator S13	01122	OFF-PC 11C	
05123 Telep	rompter S10	01123	OFF-PC 11D	
05124 Telep	rompter S11	01124	OFF-PC 11E	
05125 Telep	rompter S12	01125	OFF-PC 11F	
05126 O-Cor	mEng DVI2	01126	OFF-PC 115-DVI2	
05127 O-Rei	alisatorDVI2	01127	OFF-PC 111-DV2	
				Send Relo
	🖌 Auto Send	₫ Auto Send	중 Auto Send	🗹 Auto Send

FIGURE 4-8. VIRTUAL CPU DEVICES

For an assignment, proceed as follows:

- 1. Select a virtual CPU in the Virtual CPU list.
- 2. Double-click in the Real CPU column to display a list of all available real CPUs.
- 3. Select a real CPU.

You can select the following buttons.

TABLE 4-9. BUTTONS

BUTTON	FUNCTION
Send	Send assignments to the matrix
Reload	Reload changes



NOTE: When the Auto Send function in the left lower corner of the work area is ticked, switching operations will be completed immediately without user confirmation via the Send button.

The selection boxes in the Real CPU column contain a filter function for easy selection of a single CPU from a larger pool of CPUs (see Section 4.2.2).

The Java tool offers the option to switch directly from the Assignment menu to the Definition menu to check specific settings for the respective console or CPU.

• Use the right mouse button to select the respective console or CPU and select Open CON Device or Open CPU Device.

4.3.2 VIRTUAL CONSOLE

You can assign real consoles to virtual consoles in this menu.

This function reflects changes in permission made to virtual consoles onto real consoles.

Virtual consoles can be switched in the same way as real consoles. Real consoles that are assigned to a virtual console that is connected to a CPU will receive the video signal. The last-assigned console will also have control of the keyboard and mouse.

You have the following options to access the menu:



OSD

• Select Assignments > Virtual CON Devices in the main menu.

<u>03000 CON 010125062 - admi</u> Virtual CON devices	in F1:ID	F2:Name	F3:Next	F4:Previous	F5:Refresh	F6:Find	ESC
Real Devices 03000 CON 010123691 03000 CON 010125062 03001 CON 010125524 03004 CON 010125525 03005 CON 010129653 03003 CON_010148887	04000 VCON 04000 04000 VCON_04000 04001 VCON_04001		0400	1 Devices		Edit Delete Cancel Okay	

FIGURE 4-9. VIRTUAL CON DEVICES





For an assignment, proceed as follows:

- 1. Select the real console in the Real Devices list that has to be assigned to a virtual CPU.
- 2. Press the Edit button.
- 3. Select the virtual console in the Virtual Devices list that has to be assigned to the selected real console.
- 4. Press the Okay button to confirm the assignment. The assignment will be made.

NOTE: A virtual console can be assigned to more than one real console.

JAVA TOOL

• Select Assignments > Virtual CON Devices in the task area.

		Assignment - Virtual CON Devices			
tus	*	Assignment - virtual CON Devices			
trol	*	Real Console		Identification	
		ID Name	10	Virtual Console Name	
ninistration	¥ (13132 Grafiker 2		Grafiker R11	
ignment		13111 Realisator 1	09111	Realisator R11	
ual CPU Devices		I3131 Grafiker 1	09131	Grafiker R11	
al CON Devices	4	13113 Realisator 3	09111	Realisator R11	
I-Screen Control		13112 Realisator 2	09111	Realisator R11	
		0121 Produzent 1	09121	Produzent R11	
em	8	3101 Multi-Tech 1	09101	MuttTech R11	
nition	*	I3114 Realisator 4	09111	Realisator R11	
	(I3102 Multi-Tech 2	09101	MultiTech R11	
	4	3103 Multi-Tech 3	09101	MultiTech R11	
	4	13141 Audio-Tech 1	09141	AudioTech R11	
	4	13142 Audio-Tech 2	09141	AudioTech R11	
	4	I3143 Audio-Tech 3	09141	AudioTech R11	
	4	13104 Multi-Tech RBT	09101	MultiTech R11	
	4	I3105 Multi-Tech AUDIO	09101	MultiTech R11	
	4	13001 Simultan	09191	Simultan	
	4	I3161 Moderator S12	09151	Moderator S12	
	4	I3151 AppR		Support	
	4	13002 OFF-Sprecher	09181	OFF-Sprecher	
		13003 CON_040008846			

FIGURE 4-10. VIRTUAL CON DEVICES

To place an assignment, proceed as follows:

- 1. Select the required real console in the Real Console table.
- 2. Double-click in the Virtual Console column to display a list of all available virtual consoles.
- 3. Select the required virtual console.

You can select the following buttons:

TABLE 4-10. BUTTONS

BUTTON	FUNCTION	
Send	Send assignments to the matrix	
Cancel	Reject changes	

NOTE: When the Auto Send function in the lower left corner of the work area is ticked, switching operations will be completed immediately without user confirmation via the Send button.



The selection boxes in the Virtual Console column contain a filter function for easy selection of a single CON from a larger pool of CON devices (see Chapter 4.2.2).

4.4 SYSTEM SETTINGS

You have the option to configure the system settings of the Compact KVM Matrix Switch.

• The configuration of the system settings can only be done by users with administrator rights.

4.4.1 SYSTEM DATA

The system configuration is set in this menu.

You have the following options to access the menu.



You can select the following settings.

TABLE 4-11. SYSTEM DATA SETTINGS

FIELD	SELECTION	DESCRIPTION	
Device	Text	Enter the device name of the matrix (default: SWITCH_01)	
Name	Text	Enter the name of the configuration that is used to save the current settings	
		(default: Standard)	
Info	Text	Additional text field to describe the configuration	
		(default: Factory settings)	
Sub Matrix	activated	If the matrix is defined as a sub matrix in the OSD, the user will lose control. Control can be recovered by using the keyboard command <shift>, <shift>, <s>, <o>. The OSD for the matrix that has been defined as a sub matrix will be reopened.</o></s></shift></shift>	
	deactivated	Function not active (default)	
Load Default	activated	Starting the matrix after a restart or a switch-on with the default configuration	
	deactivated	Starting the matrix after a restart or a switch-on with the last saved configuration (default).	
Auto Save		Save the current configuration of the matrix in the flash memory periodically.	
	activated	NOTE: During the save operation, the matrix will not operate. Saving takes place ever 600 seconds, as long as changes of the configuration or switching operations have been executed in the meantime.	
	deactivated	Function not active (default)	



TABLE 4-11 (CONTINUED). SYSTEM DATA SETTINGS

FIELD	SELECTION	DESCRIPTION
		Send all switching commands performed in the matrix as an echo via serial interface.
Enable COM Echo	activated	NOTE: This function should be enabled when using a media control via serial interface.
	deactivated	Function not active (default)
		Send all switching commands performed in the matrix as an echo via LAN connection.
Enable LAN Echo	activated	NOTE: This function should be enabled when using a media control via LAN connection or when using stacking with two ore more matrices.
	deactivated	Function not active (default)
		Automatically switch to the second link of a connected redundant CON Unit when losing the primary link of a CPU Unit (default).
Enable Redundancy	activated	NOTE: This function will have to be activated for both matrices in a fully redundant setup.
	deactivated	Function not active
O w shu si - s	activated	Synchronize the slave matrix to the switch status of the master matrix.
Synchronize	deactivated	Function not active (default)
		Synchronize the matrix according to the echo of a second matrix.
Echo Only	activated	NOTE: This is a bidirectional synchronization where both matrices have to be configured as Synchronize with the Master IP of the respective other matrix.
	deactivated	Function not active (default)
Master IP Address	Numerical value	Set the network address of the master matrix (default value: 000.000.000.000)
		Keep I/O boards with incorrect or invalid firmware online in the matrix.
Invalid IO-Boards	activated	NOTE: To keep an I/O board with wrong or damaged firmware online in the matrix, the maintenance mode of the matrix will be activated.
	deactivated	Shut down I/O boards with incorrect or invalid firmware automatically (default).
Hor. Mouse Speed 1/x	1-9	Adjustment of the horizontal mouse speed, 1 = slow, 9 = fast (default value: 4)
Ver. Mouse Speed 1/x	1-9	Adjustment of the vertical mouse speed, 1 = slow, 9 = fast (default value: 5)
Double Click Time	100-800	Adjustment of the time slot for a double-click (default value: 200 ms)
Keyboard layout	Region	Set the OSD keyboard layout according to the keyboard used (default: German (DE))





• Select Configuration > System in the main menu.

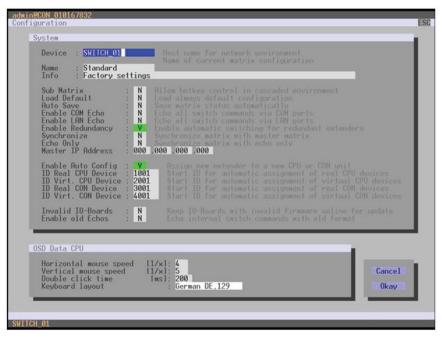


FIGURE 4-11. CONFIGURATION-SYSTEM

You can select the following buttons.

TABLE 4-12. BUTTONS

BUTTON	FUNCTION	
Cancel	Reject changes	
Save	Save changes	





JAVA TOOL

pen gave Reloa	d Connect	E Disconnect Activate Online		a Online Changes	Townload	Upload_	Monitoring	Report.	Bevice Finder.	System Check.	Save Status	
20150305083205	Regie11.zip	0										
Status	a	System - System Data										
		General Automatic ID										
Control	*	And the second s						_				Show Het
Administration		Device	Repett									
		Dence		r rativork anvironm	arti (recommend	ed characters	** AZ.00.					
kssignment		Name	Repett									
stem				ent matrix configura	tion							
	100		141128									
ccess		info										
witch			Departments of	f correct eatrie con	Amoralian							
letwork.		Sub Matrix		1.0.000								
Date and Time Matrix Grid		Job marrie		control la cascadari	anvironment .							
		Load Default										
efinition	*			many a cold shart or a	a restart of the r	white, the core	lpiration shreed	n Default in	the always activ	eted.		
		Auto Save	95									
			Save matrix	status automatically								
		Enable COM Echo										
				ch commande via co	minurication po	8						
		Enable LAN Echo	66									
		ADD COMPANYS		ch commande via LA	Vc ports							
		Enable Redundancy	ili ili	will a witching for re	at a dark makes t							
		Synchronize		and Antonio in a		77. C						
		synchromze		matrix with master 1	-							
		Echo Only										
				matths with exhibition	w							
		Master IP Address	0.0	0 0								
			Set the network	ors address of the t	nation mattin							
		Invalid I/O Boards										
			StatMust b	OFF during operation	or, etable durity	methics up deb	is only					
											6	Avenue Can

FIGURE 4-12. SYSTEM DATA

4.4.2 AUTOMATIC ID

Settings for automatic creation of CPU and CON Devices when a new extender unit is connected are made in this menu. You have the following options to access the menu.



You can select the following settings.

TABLE 4-13. AUTOMATIC ID SETTINGS

FIELD	SELECTION	DESCRIPTION
Enable Auto Config	activated	Automatic creation of a new CPU or CON Device if new extender units are connected (default)
	deactivated	Function not active
ID Real CPU Device	Numerical value	Initial value of the automatic ID for real CPUs (default value: 1000)
ID Virtual CPU Device	Numerical value	Initial value of the automatic ID for virtual CPUs (default value: 2000)
ID Real CON Device	Numerical value	Initial value of the automatic ID for real CONs (default value: 3000)
ID Virtual CON Device	Numerical value	Initial value of the automatic ID for virtual CONs (default value: 4000)

OSD

• Select Configuration > System in the main menu.

Device : SHITCH_01	Host name for network environment Name of current matrix configuration
Name : Standard Info : Factory settings	
Load Default : N Auto Save : N Enable COM Echo : N Enable LAN Echo : N Enable Redundancy : Y Synchronize : N Echo Dily : N	Allow hotkey control in cascaded environment Load always default configuration Save matrix status automatically Echo all switch commands via CDM ports Echo all switch commands via LDM ports Enable automatic switching for redundant extenders Synchronize matrix with matter matrix Synchronize matrix with matter matrix 2000 .000 .000
Enable Auto Config : Y ID Real CPU Device : 1001 ID Virt. CPU Device : 2001 ID Real CON Device : 3001 ID Virt. CON Device : 4001	Assign new extender to a new CPU or CON unit Start ID for automatic assignment of real CPU devices Start ID for automatic assignment of virtual CPU devices Start ID for automatic assignment of real COM devices Start ID for automatic assignment of virtual CON devices
Invalid IO-Boards : N Enable old Echos : N	
ISD Data CPU	
Vertical mouse speed [1	/x1: 4 /x1: 5 ms1: 200 : German DE,129 Okay

FIGURE 4-13. CONFIGURATION-SYSTEM

You can select the following buttons.

TABLE 4-14. BUTTONS

BUTTON	FUNCTION	
Cancel	Reject changes	
Save	Save changes	



JAVA TOOL

• Select the Automatic ID tab in System > System Data.

en Save Reload	Connect	Disconnect	Activate Online C	onfiguration Save Onl	ine Changes Do	wnload_Upload_	eport_ Device Find	er System Check	Save Status	
20150305083205_R										
tatus	¥		System Data							
ontrol	¥	General	Automatic ID							
									i i	Show H
ministration	8	Enable Auto	Config	2						
	¥			Assign new EXT u	nit to a new CPU or C	ON device				
signment	•	ID Real CPU	Device	1001						
tem				Start ID for automa	tic assignment of real	CPU devices				
stem Data		ID Virtual CR	PU Device	2001						
255				Start ID for automa	tic assignment of virtu	ual CPU devices				
ilich		ID Real CON	Device	3001						
twork te and Time				Start ID for automa	tic assignment of real	CON devices				
te and time trix Grid		ID Virtual CO	W Device	4001						
				Start ID for automa	tic assignment of virtu	al CON devices				
finition	¥									
									400	

FIGURE 4-14. SYSTEM-AUTOMATIC ID





4.4.3 ACCESS

The access configuration is set in this menu.

You have the following options to access the menu.



You can select the following settings.

TABLE 4-15. ACCESS SETTINGS

FIELD	SELECTION	DESCRIPTION				
	a attivista d	The user has to login with a user name and a password once to enter the OSD. The user remains logged in until he explicitly logs out or an auto logout occurs.				
Force User Login	activated	NOTE: When using the Force User Login function, console favorites and console macros still remain active.				
	deactivated	Function not active (default)				
		CPU access is restricted according to the permissions in the ACL (Access Control List).				
Enable User ACL	activated	User login is required.				
Enable User ACL		• Switching by keyboard Hotkeys requires a prior login.				
	deactivated	Function not active (default)				
Enable Console ACL	activated	CPU access is restricted according to the permissions in the respective Console ACL (Access Control List). No login required.				
	deactivated	Function not active				
Enable new User	activated	Newly created users automatically receive access to all CPUs				
Enable new User	deactivated	Function not active (default)				
Enable new CON	activated	Newly created CON Devices automatically receive access to all CPUs				
Enable new CON	deactivated	Function not active (default)				
Auto Disconnect	activated	Upon opening the OSD, the console will be automatically disconnected from the current CPU.				
	deactivated	Function not active (default)				
		Period of inactivity after which OSD will be closed automatically.				
OSD Timeout	0-999 seconds	Select 0 seconds for no timeout				
		(default: 0 seconds)				
		Period of inactivity of a logged-in user at a console after which he will be automatically logged out. There may be a disconnect because of the logout, depending on the defined rights in each CON and user ACL.				
Autolocout	0-999 minutes	• Select 0 minutes for an automatic user logout when leaving OSD.				
Auto Logout	0-999 minutes	 Using the setting -1 allows the user to be logged in permanently, until a manual logout is executed. 				
		 The timer is not active as long as the OSD is open (default: 0 minutes) 				





• Select Configuration > Access in the main menu.

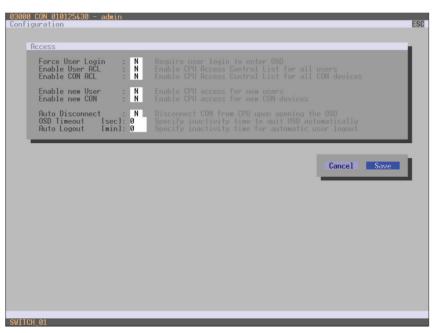


FIGURE 4-15. CONFIGURATION-ACCESS

You can select the following buttons.

TABLE 4-16. BUTTONS

BUTTON	FUNCTION
Cancel	Reject changes
Save	Save changes



JAVA TOOL

• Select System > Access in the task area.

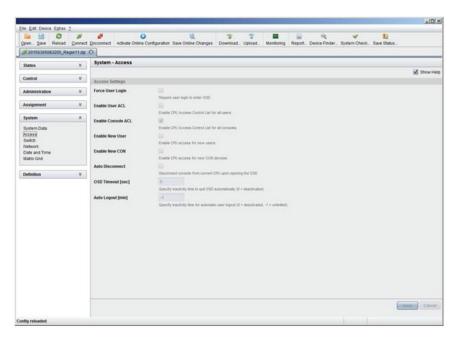


FIGURE 4-16. SYSTEM-ACCESS

4.4.4 SWITCH

The configuration of the switching parameters is set in this menu.

You have the following options to access the menu.



You can select the following settings.



TABLE 4-17. SWITCH SETTINGS

FIELD	SELECTION	DESCRIPTION
		The user can switch to any CPU as an observer, including ones that are already assigned to another user (observer is without keyboard/mouse access).
Video Charing	activated	NOTE: Switch with the <space> key, not the <enter> key.</enter></space>
Video Sharing		• The operator will not be informed if further users connect as an observer to the CPU that is connected to his console.
	deactivated	Function not active (default)
		The user can connect to every single CPU as an operator, including ones that are related to another user.
Force Connect	activated	NOTE: The previous user is set to video-only status.
		To share K/M control, Force Connect has to be activated.
	deactivated	Function not active (default)
	activated	Extension of Force Connect: If the user connects as an operator to a CPU already related to another user, the previous user will be disconnected.
Force Disconnect		NOTE: To share K/M control Force Disconnect has to be deactivated.
	deactivated	Function not active (default)
CPU Auto Connect	activated	If a console is not connected to a CPU, you can establish an automatic connection to the next available CPU by pressing any key or mouse button.
	deactivated	Function not active (default)
CPU Timeout	0–999 minutes	Period of inactivity after which a console will be automatically disconnected from its current CPU (default value: 0 minutes)
	activated	Activate request of K/M control by keyboard event (key will be lost)
Keyboard Connect	deactivated	Function not active (default)
Mouse Connect	activated	Activate request of K/M control by mouse event
mouse connect	deactivated	Function not active (default)
		Period of inactivity of a connected console after which K/M control can be requested by other consoles connected to the CPU.
Release Time	0–999 seconds	NOTE: Set "0" for an immediate transfer in real-time.
		Only one console can have keyboard and mouse control at the same time. The other consoles that are connected to the same CPU have a video only status (default value: 10 seconds)

NOTE: If the Keyboard Connect and/or Mouse Connect options are activated, the Release Time condition will have to be met until a new user will gain control.



OSD

• Select Configuration > Switch in the main menu.

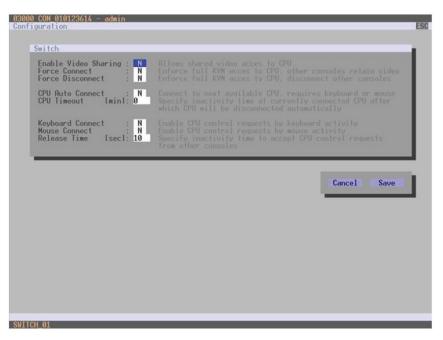


FIGURE 4-17. CONFIGURATION-SWITCH

You can select the following buttons.

TABLE 4-18. BUTTONS

BUTTON	FUNCTION	
Cancel	Reject changes	
Save	Save changes	





JAVA TOOL

• Select System > Switch in the task area.

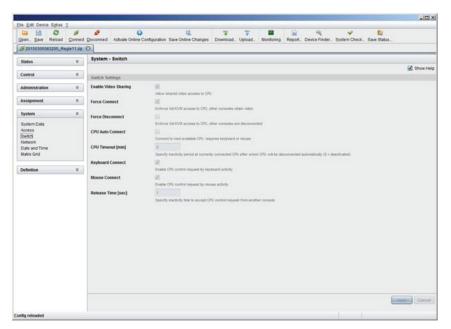


FIGURE 4-18. SYSTEM-SWITCH





4.4.5 NETWORK

FIELD

The network configuration is set in this menu.

You have the following options to access the menu.

SELECTION

INF



You can select the following settings.

		The network settings are automatically supplied by a DNS server
DHCP	activated	NOTE: If DHCP is activated and there is no physical network connection available, the boot times might increase.
	deactivated	Function not active (default)
IP address	Byte	Input of the IP address, if DHCP is not active (default: 192.168.100.99)
Subnet Mask	Byte	Input of the subnet mask in the form "255.255.255.0" if DHCP is not active (default: 255.255.255.0)
Gateway	Byte	Input of the subnet mask in the form "192.168.1.1" if DHCP is not active
API Service	activated	LAN interface at the Compact KVM Matrix Switch activated for access via Java tool (API service port 5555)
	deactivated	Function not active
FTP Server	activated	FTP server for transmission of configuration files activated
FTP Server	deactivated	Function not active
Quale a #1/#0	activated	Syslog server for status request is active
Syslog #1/#2	deactivated	Function not active (default)
Syslog Server #1/#2 Byte		Input of the IP address of the Syslog servers in the form "192.168.1.1" and of the Syslog port (default: 514)
	activated	LDAP for the request of information from a user administration is active
LDAP	deactivated	Function not active (default)
I LIAP Sorvor BVTo		Input of the IP address for the LDAP-Servers in the form "192.168.1.1" and the LDAP port (Default: 389)
LDAP Base DN	Text	Input of the LDAP Base DN according to the existing stucture of the user directory
		Activate debug messages in Trace (default: NO)
Trace	DEB	NOTE: The debug messages are exclusively for matrix diagnostics. They only should be activated after consultation with the manufacturer. Otherwise, increased data traffic

TABLE 4-19. NETWORK SETTINGS

DESCRIPTION



(default: NO)

might limit the performance of the CPU board. Activate information messages in Trace

TABLE 4-19 (CONTINUED). NETWORK SETTINGS

FIELD	SELECTION	DESCRIPTION			
	NOT	Activate notification messages in Trace (default: YES)			
Trace (continued)	WAR	Activate warning messages in Trace (default: YES)			
	ERR	Activate error messages in Trace (default: YES)			
		Activate debug messages in Syslog (default: NO)			
Syslog #1/#2	DEB	NOTE: The debug messages are exclusively for matrix diagnostics. They only should be activated after consultation with the manufacturer. Otherwise, increased data traffic might limit the performance of the CPU board.			
	INF	Activate information messages in Syslog (default: NO)			
	NOT	Activate notification messages in Syslog (default: YES)			
	WAR	Activate warning messages in Syslog (default: YES)			
	ERR	Activate error messages in Syslog (default: YES)			

NOTE: Activate the modified network parameters by restarting the matrix.

CAUTION: Consult your system administrator before modifying the network parameters. Otherwise, unexpected results and failures can occur in combination with the network.



• Select Configuration > Network in the main menu.



FIGURE 4-19. CONFIGURATION-NETWORK

You can select the following buttons.

TABLE 4-20. BUTTONS

BUTTON	FUNCTION	
Cancel	Reject changes	
Save	Save changes	



RELEASE OF NETWORK PORTS

The following ports are used by the matrix depending on the configuration and have to be released at the security gateway, if necessary. The ports only will have to be released if you want to use the respective function.

TABLE 4-21. NETWORK PORTS

FUNCTION	PORT
FTP	21
DNS	53
SNTP	123
SNMP	161/162
LDAP	389
Syslog	514
API	5555
Broadcast	5556
Matrix-Grid	5557

JAVA TOOL

• Select System > Networik in the task area.

Ele Edit Device Estras		Disconnect Activate Online C	till. The second	
20150305083205_R	legie11.zip	0		
Status	a.	System - Network		
Control	¥	General Systog Shillip		D Show Help
Administration	. 8	Network Interface (Online cl	uanges require a matrix restart)	C price rep
Assignment	8	DHCP	Dynamic configuration of nativors' parameters via DNCP antiver	
System	(A)	IP Address	10 . 110 . 4 . 56	
System Data		Subnet Mask	255 , 255 , 295 , 0	
Access Switch		Gateway	10 . 115 . 4 5	
Network Date and Time Matrix Grid		Mac Address	00.21.07.02.03.80	
Matrix Grid		Notwork Services (Online c)	tanges require a matrix restar()	
Definition		API Service	(m) Enable API service (Part 5555)	
		FTP Server	(d) Enable FTP server for configuration the burnchers	
		Trace		
		Log Lovel	Debog 🖬 info 🖬 Notice 🖬 Warning 📽 Error 📽	
Config reloaded				Cancel

FIGURE 4-20. SYSTEM-NETWORK



4.4.6 DATE AND TIME

Date and Time are set in this menu, based on Simple Network Time Protocol (SNTP).

You have the following options to access the menu.



You can select the following settings.

TABLE 4-22. DATE AND TIME SETTINGS

FIELD	SELECTION	DESCRIPTION
SNTP Client	activated	Enable network time server synchronization
SINTP Client	deactivated	Function not active (default)
SNTP Server	Byte	Input of the SNTP server IP address (default: 000.000.000)
Time Zone	Region	Set your specific time zone
Month	1–12	Enter month
Date	1-31	Enter date
Year	1-99	Enter year
Day	1–7	Enter day of week
Hours	0-23	Enter hour
Minutes	0-59	Enter minutes
Seconds	0-59	Enter seconds

NOTE: This is date format according to the English notation.





• Select Configuration > Date + Time in the main menu.

Screens : 1 x 4 Manual : N		One row with four screens or two rows with two screens each Reduce switching to manual switching with hotkeys Disable automatic switching with mouse for multihead CPUs				
Screen W1 CON_010125349 Enabled : V Control : N Owner : Shared Frame : 0 sec	Screen H2 screen nat awailabe Enabled : N Control : N Owner : Frame : sec	Screen H3 Screen not available Enabled : N Control : N Owner : Frame : sec	Screen H4 Screen not available Enabled : N Control : N Owner : sec			
			Cancel Okay			

FIGURE 4-21. CONFIGURATION-DATE + TIME

- To configure a time server, follow these steps:
- 1. Set the SNTP Client option to Y (Yes).
- 2. Enter the IP address of your SNTP server in the SNTP Server field.
- 3. Select your time zone in the Time Zone field.
- 4. Press the Okay button to confirm your settings.
- 5. Restart the matrix. The system time will be now provided by the SNTP server.

To set the real time clock without using SNTP, follow these steps:

- 1. Set the current date in the Date field.
- 2. Set the current Day in the Day field.
- 3. Set the current time in the Time field.
- 4. Press the RTC button to confirm your settings.



JAVA TOOL

• Select System > Date + Time in the main menu.

nan One Deland	ø		😧 🛄 🧊 🐨 🖬 🔛 🔫 ✔ 🔝 line Configuration Save Online Changes Download Upload	
20150305083205_R			me comparator save onne changes Downoau Opoau monitoring Report Dence rinter opierin Creck cave oaio	D
Status	¥	Date and Time		
Control	¥			🗹 Show H
CONDIC		SNTP (Online changes (require a matrix restart)	
Administration	¥	SNTP		
		SHIP	Enable network time server synchronisation	
Assignment	¥	SNTP Server	0.0.0.	
System				
System Data		Time Zone	(GMT) Coordinated Universal Time, Casablanca, Dublin, Lisbon, London	
Access		Real Time Clock		
Switch		Date And Time	Thu 2015-04-16 • 12.47.21 Cet Local Time	
Network Date and Time		Cane Para Laine	Date and time of real time clock. Cet local time of this computer	
Matrix Grid				
Definition	¥			
				Apply Canad

FIGURE 4-22. CONFIGURATION-DATE + TIME

- To configure a time server, follow these steps:
- 1. Enable SNTP option.
- 2. Enter the IP address of your SNTP server in the SNTP Server field.
- 3. Select your time zone in the Time Zone field.
- 4. Press the Apply button to confirm your settings.
- 5. Restart the matrix. The system time will be now provided by the SNTP server.

To set the real time clock without using SNTP, follow these steps:

- 1. Set the current date in the Date and Time field.
- 2. Set the current time in the Day and Time field.
- 3. Press the Apply button to set the system time.
- 4. Option: If you want to receive the time from your currently used computer, press the Get Local Time button.





4.5 USER SETTINGS

You have the option to configure the following user settings.

4.5.1 USER

New users and their user settings and permissions are set in this menu.

You have the following options to access the menu.



You can select the following settings.

TABLE 4-23. USER SETTINGS

FIELD	SELECTION DESCRIPTION					
Name	Text	User name (case-sensitive)				
Password	Text	User password (case-sensitive)				
Repeat Password	Text	Repeat user password (case-sensitive)				
FTP	activated	Access permission via FTP. This setting is necessary for file access from the Java tool or any web browser.				
	desactivated	Function not active (default).				
		User has user rights				
Power User	activated	 Permission to switch consoles to CPUs in Extended Switching according to the CON or User ACL 				
	desactivated	Function not active				
Quantilan	activated	Permission to switch any console to any CPU in Extended Switching.				
Super User	desactivated	Function not active				
		Permission for system configuration and all switching operations				
A dura in is turata n	activated	User has administrator rights				
Administrator		 This setting is required for an online connection with the Java tool 				
	desactivated	Function not active				
LDAP User	activated	Permission to login via domain user				
LUAP USEI	desactivated	Function not active				



• Select Configuration > User in the main menu.

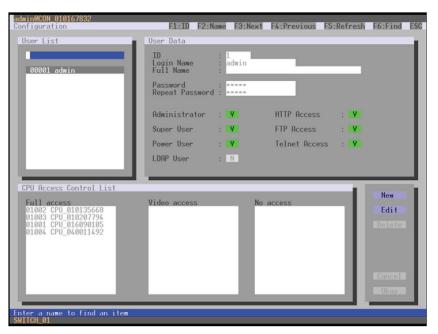


FIGURE 4-23. CONFIGURATION-USER

You can select the following buttons.

TABLE 4-24. BUTTONS

BUTTON	FUNCTION
New	Create a new user
Edit	Edit an existing user
Delete	Delete an existing user
Cancel	Reject changes
Save	Save changes





JAVA TOOL

• Select Definition > User in the task area.

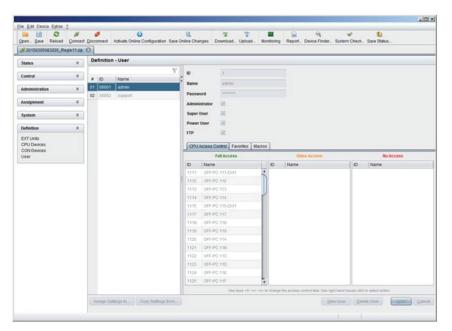


FIGURE 4-24. DEFINITION-USER

You can select the following buttons.

TABLE 4-25. BUTTONS

BUTTON	FUNCTION
New	Open a new user configuration
Delete	Delete an existing user
Apply	Create a new user account
Cancel	Reject changes

To configure user access rights for CPUs, follow these steps.

1. Select a user in the User list.

- 2. Click the right mouse button once on a CPU in one of the respective access lists (Full Access, Video Access and No Access). Two lists for selection will appear in which you can move the respective CPU and change the access rights.
- 3. Confirm the configuration with the Apply button.

To create a new user, follow these steps.

- 1. Press the New button.
- 2. Select a template of an existing user if applicable (Choose template).
- 3. Press the OK button.



- 4. Set a user name.
- 5. Set a password.
- 6. Set general access permissions.
- 7. Set user permissions for CPU access (paste function).
- 8. Set user favorites for OSD access.
- 9. Press the Apply button to save the new user settings.

You can select the following keyboard commands.

TABLE 4-26. KEYBOARD COMMANDS

FUNCTION	KEYBOARD COMMAND
Add CPU to Full Access list	<f></f>
Add CPU to Video Access list	<v></v>
Add CPU to No Access list	<n></n>

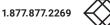
4.5.2 FAVORITE LIST USERS

Individual favorite lists of CPUs that will be switched frequently can be created for different users in this menu. A favorite list can contain up to 16 different CPUs.

The switching of the favorites is done via hotkey using the keyboard (see Section 5.1.1).

You have the following options to access the menu.







• Select Assignments > User Favorites in the main menu.

admin@CON_0101488887 User Favorites	F1:ID	F2:Name	F3:Next	F4:Previous	F5:Refresh	F6:Find	ESC
CPU Devices 01000 CPU_010129182 01005 CPU_010129232 01009 CPU_010129390 01001 CPU_010148585 01007 CPU_03 01006 CPU_04	Favorites/CPU Data User 00001 admin User Favorites 1 01003 CPU_05 2 01008 CPU_06 3 02000 VCPU_02000 4 02001 VCPU_02001 5 6 7 8 9 10 11 12 13 14 15			CPU device 01006 CPU_04 CPU assigned CON connected Status ONLINE EXT list 010148543 010 EXT_10148543			
					Cancel	Okay	1
SWITCH 01							

FIGURE 4-25. ASSIGNMENTS-USER FAVORITES

To create a favorite list for your user, proceed as follows:

1. Select a CPU to be moved to the favorite list on the CPU Devices list. Press <a> to move a CPU Device to the favorite list. Press <r> to remove a CPU.

- 2. The order of the CPU Devices within the favorite list can be changed by pressing <+> and <->.
- 3. Press the Save button to save the settings.



JAVA TOOL

Select the respective user in the working area of the User menu for the favorite list and open the Favorites tab.

en. Save Reloa		the second second second	Activate Online Configu	ation Save Online Cha	nges Download. Upload. M	onitaring Repo	nt. Devic	e Finder	System Check.	Save Status_	
latus	3	-	on - User					_			_
utus		-		V o	3						
ontrol	¥	# 10	Name	15							
ministration		01 0000	01 admin	Name	admin						
		02 0000	12 support	Passw							
signment				Admini							
stem				Super							
finition				Power	User 🔣						
				FTP	94						
IT Units PU Devices				CON	Access Control Favorites Macro	1					
N Devices. er				10.00	CPU available	64. 	_	_	Faiote	CPU	
				10	Name			# ID	Name		
				1151	Playout 11A	-	0				
				1152	Playout \$10	1	0	2			n
				1183	AVT-R11-MGCTCH		0	13			
				1104	AVT-R11-SCRa	1	** (14			
				1105	AM-CLCK-R11	1		15			
					AM-DCM-R11	- 1		6			
					AM-CLM-R11	_	0				_
					4M-DCB-R11 4M-CLE-R11			8			
					Audio PC	- 11	44	0			
					HAV-PC Auda			1			
				1161	Kontig-PC 01		1	2			1
				1142	Kontlig PC 02			3			
				1104	Kontig-SRV		1	4			÷
				1173	KSC-CL-R11	÷.			Non knys <+> and	C-> to mine CPU	

FIGURE 4-26. DEFINITION-USER

To create a favorite list for any user, proceed as follows:

1. Select the CPUs in the CPU available list that should be added to the favorite list (CPU assigned). By pressing the <Ctrl> at the same time, more than one CPU Device can be marked.

2. Press the > button to move the marked CPU Devices to the favorite list. If you press the >> button, the first eight CPU Devices from the CPU available list will be moved to the favorite list (CPU assigned).

3. The order of marked CPU Devices within the favorite list can be changed by pressing <+> and <->.

4. To remove marked CPU Devices from the favorite list, press the < button. If you press the << button, all CPU Devices will be removed from the favorite list.

4.5.3 USER MACROS

In this menu, macro commands for switching, disconnection or user administration can be created. Macro commands are created for each user separately.

A macro can execute up to 16 switching commands successively.

The execution of the macros is done via hotkey and the <F1>-<F16> function keys (see Section 5.1.3).

To execute user macros, the user has to be logged in to the matrix.



You can select the following settings.

FIELD	SELECTION	DESCRIPTION
	Connect (P1 = CON, P2 = CPU)	Set bidirectional connection from console P1 to CPU P2
	Connect Video (P1=CON, P2=CPU)	Set video connection from console P1 to CPU P2
	Disconnect (P1=CON)	Disconnect console P1
	Logout User	Logout current user
	Set Real CPU (P1=VCPU, P2=RCPU)	Assign a virtual CPU to a real CPU
Function (01–16)	Set Virtual CON (P1=RCON, P2=VCON)	Assign a real console to a virtual console
	Push (P1=CON)	The user's KVM connection is forwarded to console P1 and is changed to a video only connection.
	Push Video (P1=CON)	The video signal of the current connection (KVM or video only) is forwarded to console P1. The user's connection remains unchanged (KVM or video only).
	Get (P1=CON)	The user's console gets a KVM connection to the CPU that is currently connected to console P1. The connection of console P1 is changed into a video only connection.
	Get Video (P1=CON)	The user's console gets a video only connection to the CPU that is currently connected to console P1. The connection of console P1 remains unchanged (KVM or video only).
	Login User console P2	Login a certain user P1 at console P2
P1	CON or CPU Device	Name of CON or CPU Device
P2	CPU or CPU Device	Name of CPU or CPU Device

TABLE 4-27. USER MACROS SETTINGS

You have the following options to access the menu.





• Select Configuration > User Macros in the main menu and select the user for which a user macro will be created.

<u>03000 CON_010125349 - admin</u> Configuration	F1:ID F2:	Name F3:Next F4:Pre	vious F5:Refresh	F6:Find ES
User List	User Macros Key : F01 Connect Connect Video	Parameter ⊯1 03000 CON 01012534 Actual CON device	Parameter #2 9 01000 CPU 010 Disconnect CO	<u>3129250</u> IN
Macro Data Function empty Parameter W1 Retual CON device Parameter W2 Disconnect CON	CON Devices	CPU Device	5	Edit Delete Cancel Okay

FIGURE 4-27. CONFIGURATION-USER MACROS

To create a macro for the selected user, proceed as follows:

- 1. Select in the Key field the function key (F1–F16) for which a macro has to be created.
- 2. Select the position in the Key list where a macro command is to be inserted.
- 3. Select a macro command in the Macro Data field.
- 4. Set the necessary parameters P1 and P2 (e.g., CON Devices or CPU Devices) for the selected macro command.
- 5. Confirm your selection by pressing <Enter> and repeat the process for further macro commands, if necessary.





JAVA TOOL

Select in the working area of the Definition > User menu the user for which macros are to be created and open the Macros tab.

Coen Save Reload	Connect	Disconect	Activate Or	ine Configuration Save C	LL.	annes D	T technol	Teologi	Monitoring	Report	Real Constant	Sustem Ch	eck. Save Status.	
20150305083205_Rep								-						
Status	8	Definitio	n - User											
Control	¥	# ID	Name	Ÿ	10 Name		1							
Administration		01 00001	and the second se		Passa									
Assignment		02 00002	support			nistrator	10							
System					Super		10							
	101011				Powe	r User	18							
Definition	A.				FTP		105							
EXT Units CPU Devices CON Devices					CPU	Access Co	ontrol Favo	rites Ma	ACTOR					
User					Key	F1.		000						
								6			Pt		P2	
					01 0	Disconnect	(P1+CON)		Cur	rent CON De	ev/ca			
						Connect Pro	vala (P1+CO	N. P2+CP	U) 021	13 Realisa	dar 3	8	1113 OFF-PC 113	
					03									
					04									
					05									
					07									
						Connect Pri	als (P1-C0	NL P2-CP	10 Car	rant CON De	evica	0	1112 OFF-PC 113	
					09									
					10									
					11									
					12									
					13									
										(B) Cos	te Key Macros	-	Nay Marros	Setate Key Macrus
				Copy Settings Norm.								inie Uner		Senter Cancel

FIGURE 4-28. DEFINITION-USER

To create a macro for the selected user, proceed as follows:

1. Select in the Key field the function key (F1-F16) for which a macro has to be created.

2. Select in the Function column the commands that should be part of the macro. The selection list is opened by a double-click on the empty fields.

3. Select in the P1 and P2 columns the respective parameters for the macro functions (e.g. corresponding consoles and CPUs).

4. Confirm your selections by pressing the Apply button.

For an efficient macro configuration, the following context functions are available:

- Via right-click on the Macros tab, macros can be assigned to other users by using the Assign Macros to ... function and can be copied from other users by using the Copy Macros from ... function.
- Via right-click on the macro list, macros of the selected key can be copied into the cache by using the Copy Key Macros function. You can paste the macros from the cache into a key by using the Paste Key Macros function and you can reset all macros of the selected key by using the Reset Key Macros function.



4.6 EXTENDER SETTINGS

All extender units are managed in this menu. This includes the creation of new extender units and the deletion of existing extender units.

The extender unit describes the connection of an physical extender to the matrix. Every extender board with a direct cable connection to the matrix is recognized as an extender unit. Dual-Head KVM extenders will be recognized as two independent extender units.

NOTE: KVM Extenders automatically create extender units inside the matrix.

You have the following options to access the menu.



You can select the following settings.

TABLE 4-28. EXTENDER SETTINGS

FIELD	SELECTION	DESCRIPTION
ID	Text	Numerical value of the extender ID (KVM extenders: ID is provided by extender unit [Serial No.] and cannot be changed)
Name	Text	Name of the extender unit
Fixed	activated	Create an extender unit with a fixed port assignment (default)
Fixed	deactivated	Function not active.
Port	1–288 (depending on the matrix)	Port number of the extender unit





• Select Configuration > EXT Units in the main menu.

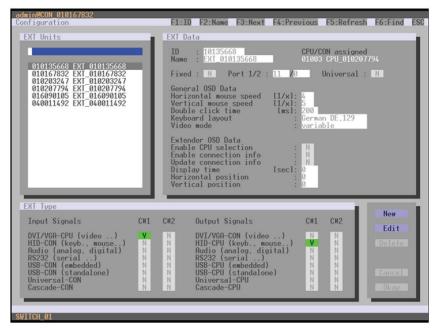


FIGURE 4-29. CONFIGURATION-EXT UNITS

You can select the following buttons.

TABLE 4-29. BUTTONS

BUTTON	FUNCTION
New	Create a new extender unit
Edit	Edit an existing extender unit
Delete	Delete an existing extender unit
Cancel	Reject changes
Save	Save changes

The settings fo the OSD Data are described in Section 4.11.2.



JAVA TOOL

• Select Definition > EXT Units in the task area.

Den Save Reloa	id Connect		nned Adv	de Online Configura	dion Sav	e Online Changes	Download	Uplead_	Monitoring Report. De	vice Finder System Check	Save Status	
20150305083205	Regie11.zip	0										
Status		De	finition - E	T Units								
							Ŷ	10		CPU Assigned	OTTAL OFF.PC	
Control	¥		ID	Name	Port	Type	1.5					
Administration		01	010229682	75-101 Fr.291	1	OPU		Name	75-101 (Ft 291			
		02	010229680	75-102 (Pr.291	2	CPU	n	Port	P.			
Assignment		03	010229670	75-103 (Fr.291	3	CPU		Fixed				
System		04	010229683	75-1041Fx292	4	CPU		-				
		05	010229659	75-1051Fr.293	5	CPU		Extender	Type Firmware Version			_
Definition		06	010229671	75-107 Ft 292	2	CPU .		Type	CPU		Standard View	Expertive
EXT Units		07	010229673	76-1081Fr.292		OPU					Concentration of the local distance	
CPU Devices		.08	010229679	75-100 (Ft 292		CPU			Name	Basic	Mod A	Mod B
CON Devices User		09	010229662	75-110 Ft 293	10	CPV		DVINCHIV	GA (xideo)	10		88
		10	010229661	75-111 (Ft.293	33	OPU	- 11	HD (tejbo	ant mouse)	- 56	10	- 10
		11	010229500	75-112)#1200	13	CPU		Analog Aud	10		66	10
		12	040002041	75-1541 Ft 293	54	CPU		Digital Aud		(A)	10	- 82
		13	940005508	75-180 (8.11	80	CON		R5232/R5	422 (Lettal)	10	86	10
		14	040002039	75-1411Fr.282	41	CPU	- 10	USB-CPU	embedded)		10	- 10
		15	010229674	75-127 (Fr.295	27	CPU		USB-CPU	atlandalone)	- 11	10	100
		16	010229048	75-1281Fr.295	20	CPU .	- 11	Universal-	PV .	10		- 10
		17	010235038	75-100 (Ft.262	50	CPU		Cascade-C	PU CPU		- H	- 10
		18	010225029	75-1491Ft-261	40	CPU						
		19	010229655	78-1251Fr 262	25	CPU	_					
		20	010229451	75-121 Fr.261	21	CPU						
		21	010229678	75-1231Fc201	23	CPU						
		22	010229950	76-1221Fx282	22	CPU	_					
		23	010229665	75-124151262	24	CPU						
		24	010229664	75-1321Fr.241	32	CPU.						
		25	010229655	75-1301Ft241	30	CPU						
			a suisia			199						

FIGURE 4-30. DEFINITION-EXT UNITS

You can select the following buttons.

TABLE 4-30. BUTTONS

FUNCTION
Create a new extender unit
Delete an existing extender unit
Confirm changes of an extender unit
Reject changes

FLEXIBLE PORT EXTENDER UNITS

Extenders with auto-ID functionality are automatically recognized and cannot be created manually. This is the Flex Port function of the matrix.

CAUTION: The connection of a fixed port extender unit (e.g., USB 2.0) to a Flex-Port can cause unintended results.





4.7 USB 2.0 EXTENDER

This section helps you to configure and use your USB 2.0 extenders. These extenders will have to be connected to standard I/O boards in this case. USB 2.0 extenders can be configured for independent switching or can be assigned to already existing KVM extenders.

You have the following options to access the menu.



OSD

• Select Configuration > EXT Units in the main menu.

admin@CON_010167832 Configuration	F1:ID F2:Name F3:Next F4:Previous F5:Refresh F6:Find ESC
EXT Units 010135668 EXT 010135668 010203247 EXT 0100167832 010203247 EXT 010203794 016090105 EXT 010207794 016090105 EXT 010201794 040011492 EXT 040011492	EXI Data ID : 10135668 CPU/CON assigned Name : EXI 010135668 01003 CPU_010207794 Fixed : N Port 1/2 : 11 /0 Universal : N General OSD Data Horizontal mouse speed 11/x1: 4 Vertical mouse speed 11/x1: 5 Double click time Ims1: 200 Keyboard layout : German DE,129 Video mode : Variable Extender OSD Data Enable CPU selection : N Enable CPU selection : N Enable connection info : N Horizontal position : 0 Vertical position : 0
Input Signals CH1 DVI/VGA-CPU (video) HUD-CON (keyb., mouse) Audio (analg, digital) NS232 (serial) USB-CON (standalone) Universal-CON Cascade-CON SWITCH 01	CW2 Output Signals CW1 CW2 N DVI/VGA-CON (video) N N HID-CPU (keyb., mouse.) Y N Rudio (analog, digital) N N N RS232 (serial) N N N USB-CPU (enbedded) N N N USB-CPU (enbedded) N N N USB-CPU (standalone) N N Cascade-CPU N N N Cascade-CPU N N N Okay

FIGURE 4-31. CONFIGURATION-EXT UNITS

- 1. To configure a USB 2.0 extender unit, press the New button. An extender with an eight-digit ID will be created, starting with digit 9.
- 2. Assign an appropriate name to the extender in the Name field.
- 3. Enter the port number of the matrix physically connected to the USB 2.0 extender unit into the Port field.
- 4. To configure the created extender as a CON Unit, set the USB-CON (standalone) option to Y (C#1 in the Input Signals column) and confirm by pressing the Okay button.
- 5. To configure the created extender as a CON Unit, set the USB-CPU (standalone) option to Y (C#1 in the Output Signals column) and confirm by pressing the Okay button.

6. To create an individually switchable Device for the USB 2.0 CON extender, select Configuration > CON Devices and press the New R button. Alternatively, you can assign the USB 2.0 CON extender to an already existing CON Device. For this purpose, select the Device and move the USB 2.0 CON extender from the EXT available field into the EXT assigned field.

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- 7. Give an appropriate name to the new Device in the Name field.
- 8. Repeat steps 6 and 7 for all USB 2.0 CPU extenders in the Configuration > CPU Devices menu.
- 9. If you use parallel operation within the matrix, set the Release Time in the Configuration > Switch menu to 10 seconds or more (see Section 4.11.6).
- 10. Restart all I/O boards on which USB 2.0 extenders have been configured or alternatively restart the matrix.

The USB 2.0 extenders are now configured and can be used.

JAVA TOOL

• Select Definition > EXT Units in the task area.

pen. gave Reload	gonnect	Disco		te Online Configura	don Save	Online Changes	Townload	d_ Upload_	Monitoring	Report. Devic	e Finder Sy	stem Check	Save Status	
20150305083205_R	legie 11.zip	0												
Status	8	De	finition - EX	TUnits										
							V	Ð			CRU	Assigned	01111 OFF-PC-1	
Control	*		ID .	Name	Port	Type		5			cro	Assident		
Administration		01	010229682	75-101 Fr.291	1	CPU		Name	20-3011153					
		02	010229680	76-102 Ft.291	2	CPU	- 1	Port	9.1					
Assignment		03	010229870	75-103 Ft:291	3	CPU		Fixed						
System		04	010229683	75-104 Fic292	4	CPU		Contractor	need man	(a block for a				
		05	010229858	75-1051Ft.293	5	CPU		Ledender	Type Firmwa	re version	_	_		_
Definition	A.	06	010229671	75-107 Fr 282	7	CPU		Type	CPU				Standard View	Expert V
EXT Units		07	010229073	75-1081Fr.292	8	CPU.								
CPU Devices CON Devices		08	010229878	75-109 Fr 292	9	CPU			Name		Basic	c	Mod A	Mod B
User		09	010229663	75-110 Fr.293	10	CIPU		CVIHCIAN	GA nedeo 1		10		10	11
		10	010229661	25-111 Ft 283	31	CPU	_	HID (keybo	and, moose		10		10	10
		11	010229560	75-112 (Ft 293	12	CPU		Analog Aud	10				18	- 10
		12	040002041	75-154 Ft.290	54	CPU		Ekgitat Aud	4				10	- 8
		13	040005508	75-180 R11	80	CON		R9232R5	122 (senal)		11		HS .	- 11
		14	040002039	75-1411Ft.292	41	OPU	_	USB-CPU	embeddedi				10	88
		15	010229674	75-127 (FL285	27	CIPU		USB-CPU	(standalone)		62		- 10	- 10
		16	010229669	75-128 (Fr.295	28	CPU		Universal-	SPU		- 11		- 82	- 10
		17	010235638	75-150 Fr 252	50	CPU		Cascade-C	PU		- 52		10	- 10
		18	010235039	75-149 (Ft.201	40	CPU								
		19	010229666	75-1251Fr262	25	CPU								
		20	010229851	75-121 (Ft 261	21	CPU	_							
		21	010229678	76-123 (Ft.261	23	CPU								
		22	010229850	75-1221Ft 282	22	CPU								
		23	010229665	75-124 Fr:262	24	CPU								
		24	010229664	75-1321 Fr 241	32	CPU								
		25	010229655	75-130 Ft 241	30	CPU								
		-20		Ni Copy Sett	11		141					Chill De	inte Unit	Circle

FIGURE 4-32. DEFINITION-EXT UNITS

- 1. Press the New button. A popup window opens.
- 2. Select (Templates) in the selection box, if you want to use a template for a USB 2.0 CON Unit (USB CON Unit) or a USB 2.0 CPU Unit (USB CPU Unit). An extender with an eight-digit ID will be created, starting with digit 9.
- 3. Give an appropriate name to the extender in the Name field.
- 4. Enter the port number of the matrix physically connected to the USB 2.0 extender unit into the Port field.
- 5. Confirm your settings by pressing the Apply button.
- 6. The USB 2.0 CON extender now has to be either assigned to an existing CON Device in the menu Definition > CON Devices or a new CON Device has to be created for the assignment by pressing the New button.





- 7. The USB 2.0 CPU extender now has to be either assigned to an existing CON Device in the Definition > CPU Devices menu or a new CON Device has to be created for the assignment by pressing the New button.
- 8. If you use parallel operation within the matrix, set the Release Time in the Configuration > Switch menu to 10 seconds or more (see Section 4.11.6).
- 9. Restart all I/O boards on which USB 2.0 extenders have been configured or alternatively restart the matrix.

The USB 2.0 extenders are now configured and can be used.

NOTE: Created extender units are always set as fixed-port extenders. This configuration is necessary if you want to switch, e.g. USB 2.0 connections via the matrix.

NOTE: To make a fixed port available again for Flex-Port extender units after deleting a fixed-port extender unit, you must restart the I/O board.

4.8 EXTENDERS FOR UNI I/O BOARDS (USB 2.0/USB 3.0)

This section will help you to configure and use your USB 2.0/3.0 extenders. To use USB 3.0 extenders, you need at least one UNI I/O board and SFP modules based on 6.25 Gbit/s for the matrix.

You have the following options to configure the system:





OSD

• Select Configuration > EXT Units in the main menu.

admin@CON_010167832 Configuration	F1:ID F2:Name F3:Next F4:Previous F5:Refresh F6:Find ESC
EXT Units 010125668 EXT 010135668 010167832 EXT 010167832 010203247 EXT 01020774 010207794 EXT 010207794 016090105 EXT 016090105 040011492 EXT_040011492	EXI Data ID : 10135668 CPU/CON assigned Name : EXI 010135668 01003 CPU_010207794 Fixed : N Port 1/2 : 11 /0 Universal : N General OSD Data Horizontal mouse speed Vertical mouse speed Video mode I/X1 : 5 Double click time Extender OSD Data Enable CPU selection In Section Info Usplay time Green ISE Connection Info Usplay time For Connection Info Usplay time For Connection Info Usplay time For Connection Info Usplay time Secti 0 Horizontal position Vertical position I Secti 0 I Secti 0 I Secti 0 I Secti 0 I Secti 0 I Secti 0 I Secti 0 Horizontal position I Secti 0 I Se
EXT Type Input Signals CW1 DVI/VGA-CPU (video) HID-CON (keyb., mouse) Audio (analog, digital) RS232 (serial) USB-CON (embedded) USB-CON (embedded) NUSB-CON (embedded) NUSB-CON (sandalone) Universal-CON Cascade-CON	CW2 Output Signals CW1 CW2 N DVI/VGA-CON (video) N N HID-CPU (keyb., mouse) V N N Audio (analog, digital) N N N R52-CPU (embedded) N N USB-CPU (embedded) N N USB-CPU (embedded) N N USB-CPU (embedded) N N USB-CPU (embedded) N N Universal-CPU N N N Cascade-CPU N N

FIGURE 4-33. CONFIGURATION-EXT UNITS

1. Insert the SFP modules into the matrix and connect the extenders according to the required application.

One extender will be created for each SFP module in the EXT Units list. The appropriate names always start with "UNI."

- 2. To configure a CON Unit, select one of the extenders in the EXT Units list that are physically connected to a USB CON Unit.
- 3. Edit the extender by setting the USB-CON (standalone) option in the Input Signals field to Y for C#1. Set also the Universal-CPU option in the Output Signals field to N for C#1.
- 4. To configure a CPU Unit, select one of the extenders in the Ext Units list that are physically connected to a USB CPU Unit.
- 5. Edit the extender by setting the USB-CPU (standalone) option in the Output Signals field to Y for C#1. Set also the Universal-CPU option in the Input Signals field to N for C#1.
- 6. The edited EXT Units for the respective USB CON Units now have to be either assigned to an existing CON Device or you have to create a new CON Device by using the New R. button for an assignment in the Configuration > CON Devices menu.
- 7. The edited EXT Units for the respective USB CPU Units now have to be either assigned to an existing CPU Device or you have to create a new CPU Device by using the New R. button for an assignment in the Configuration > CPU Devices menu.
- 8. If you use parallel operation within the matrix, set the Release Time in the Configuration > Switch menu to 10 seconds or more.
- 9. Restart the matrix.

The USB extenders are completely configured now and can be used.







JAVA TOOL

• Select Definition > EXT Units in the task area.

2pen Save Reloa						e Online Changes Down		Monitoring Report. Dev	ice Finder System Check		
Status	¥	De	finition - EX	(T Units			-				
Control	¥						10	10229482	CPU Assigned	01111 OFF-PC	115-0411
CORDICK			ID.	Name	Port	Туре	Name	75-101171291			
Administration		-	010229682	75-101 Fr.291	1	CPU	Port				
Assignment	¥.		010229680	75-102 Ft:281	2	CPU		1			
Assignment		03	010229870	75-103 (F= 201	3	CPU	Fixed				
System		04	010229683	78-104 Fx 292	4	CPU	Edente	er Type Fernware Version			
200100		05	010229858	75-1051 Ft 293	5	CPU					
Definition	*	06	010229671	75-107 Fr 282	7	CPU	Type	OPU		Standard View	Expertive
EXT Units		07	010229073	75-108 Fr 292		CPU		Name	0.00		-
CPU Devices CON Devices		08	010229679	75-109 Fr 292		CPU	Co.11.0210	WGA (sideo _)	Basic	Mod A	Mod B
User		09	010229683	75-110 Fr.293	10	CPU	and a second		10	10	-
		10	010229661	75-111 j Fr 203	31	CPU		ioard.moose1		12	-
		11	010229500	75-112 (Fr.293	.12	CPU	Analog Au				
		12	040002041	75-154 (Ft.293	54	CPU	 Digital Au 			M	-
		13	040005508	75-180 R11	80	CON		5422 (senal)		10	10
		14	040002039	75-141 Ft 292	43	CPU		J (embedded)			
		15	010229674	75-127 (Ft.285	27	CPU		/(standolone)	8	- 13	- 10
		16	010229669	75-1281Fr.295	28	CPU	Universal		-	- 10	- 52
		17	010235038	78-150 (Fr 262	50	CPU	Cascade	-CPU		10	- 53
		18	010235039	75-149 Ft 201	-49	CPU					
		19	010229666	75-1251Fr.262	25	CPU					
		20	010229851	75-121 Ft 261	-21	CPU					
		21	010229678	76-123 (Ft.261	23	CPU					
		22	010229550	75-1221Ft 282	22	CPU .					
		23	010229665	78-1241Fx.262	24	CIPU					
		24	010229664	75-1321Fr.241	32	CPU					
		25	010229655	75-1301Fr 241	30	CPU	-				

FIGURE 4-34. DEFINITION-EXT UNITS

1. Insert the SFP modules into the matrix and connect the extender according to the required application.

One extender will be created for each SFP module in the Ext Units list. The appropriate names always start with "UNI."

- 2. To configure a CON Unit, select one of the extenders in the Ext Units list that are physically connected to a USB CON Unit.
- 3. Select the item UNI CON USB in the Type selection box of the Extender Type tab and confirm your settings by pressing the Apply button.
- 4. Restart the I/O board upon request in the popup window by pressing the Yes button.
- 5. To configure a CPU Unit, select one of the extenders in the Ext Units list that are physically connected to a USB CPU Unit.
- 6. Select the item UNI CPU USB in the Type selection box of the Extender Type tab and confirm your settings by pressing the Apply button.
- 7. Restart the I/O board upon request in the popup window by pressing the Yes button.
- 8. The edited EXT Units for the respecting USB CON Units now have to be either assigned to an existing CON Device or you have to create a new CON Device by using the New button for an assignment in the Definition > CON Devices menu.
- 9. The edited EXT Units for the respecting USB CPU Units now have to be either assigned to an existing CPU Device or you have to create a new CPU Device by using the New button for an assignment in the Definition > CPU Devices menu.
- 10. If you use parallel operation within the matrix, set the Release Time in the System > Switch menu to 10 s or more ().

The USB extenders are completely configured now and can be used.





4.9 CONFIGURATION OF SDI

This section will help you to configure the matrix for the use of SDI. Using SDI requires at least one I/O board and appropriate SFP modules according to the SDI video signal to be used.



OSD

• Select Configuration > EXT Units in the main menu.

admin@CON_010167832 Configuration	EL	:ID F2:Name	F3:Next	F4:Previou	s F5:Refresh	F6:Find	ESC
EXT Units 010135668 EXT 010135668 010167832 EXT 010167832 010203247 EXT 010203247 0160203247 EXT 01020324 016090105 EXT 016090105 040011492 EXT_040011492	ID Na Fi Ge Ho Ve Do Ke En En En En Di Di	Data : 101356 me : EXT 01 xed : N neral 0SD Da rizontal mour rical mouse uble click ty yboard layou deo mode tender OSD D able CPU sel able connect splay time rizontal posit	ta se speed speed ime t ata ection ion info ion info ition	010 11 /0 (1/x): 4 (1/x): 5 [ms]: 200	man DE.129	794	
Input Signals DVI/VGA-CPU (video) HID-CON (keyb., mouse.) Audio (analog, digital) RS322 (serial) USB-CON (embedded) USB-CON (standalone) Universal-CON Cascade-CON	CH1 CH2 Y N N N N N N N N N N N N N N	HID-CPU Audio (a RS232 (s USB-CPU	CON (video (keyb., mo nalog, dig erial) (embedded) (standalon 1-CPU	use) Y ital) N N		New Edit Delete Cancel Okay	

FIGURE 4-35. CONFIGURATION-EXT UNITS

- 1. Insert the SFP modules into the matrix. One extender will be created for each SFP module in the EXT Units list. The appropriate names always start with "UNI."
- 2. To configure an SDI input, select one of the extenders in the EXT Units list that corresponds to the respective SFP and is intended to be used as input.
- 3. Edit the extender by setting the Universal-CPU option in the Output Signals field to Y for C#1. Set also the Universal-CON option in the Input Signals field to N for C#1.
- 4. To configure an SDI output, select one of the extenders in the EXT Units list that corresponds to the respective SFP and is intended to be used as output.
- 5. Edit the extender by setting the Universal-CON option in the Input Signals field to Y for C#1. Set also the Universal-CPU option in the Output Signals field to N for C#1.





- 6. The edited EXT Units for the SDI inputs now have to be either assigned to an existing CPU Device or you have to create a new CPU Device by using the New R. button for an assignment in the Configuration > CPU Devices menu.
- 7. The edited EXT Units for the SDI outputs now have to be either assigned to an existing CON Device or you have to create a new CON Device by using the New R. button for an assignment in the Configuration > CON Devices menu.
- 8. Restart the Matrix.

The SDI inputs and outputs are completely configured now and can be used.

JAVA TOOL

Select Definition > EXT Units in the task area.

	Save Status	System Check	Device Finder.	Report.	Monitoring	. Upload.	Downloa	a Online Changes	dion Save	ate Online Configura	d Adivi	-			
_				_			_		_	KT Units	tion - EX	-	gie11.00 2	083205_Re	
						-	v					-			tus
	G1111 OFF-PC	CPU Assigned				Ю		Type	Port	Name		# 10	¥		forth
				291	75-101172	Name	4	CPU.	1	75-101 Fr.291	229682	01 01			ninistra
					9	Port		CPU	2	76-102 Ft 291	229100	02 0			
						Fixed		CPU	3	75-103 Ft 291	229070	03 0			signme
			_					CPU	4.	78-1041Fx282	229683	04 0			tem
_			n.	are Version	Type Firmut	Extender		CPU	5	75-1051Ft.293	229658	05 0			
Expert Vi	Standard View				CPU .	Type		CPU	7	75-107 Ft 282	229671	06 0	A		Inition
Casting	Contraction							CPU.	8	75-108 Fr.292	1229073	07 0			r Units
Mod B	Mod A	lasic	8		Name			CPU		75-109 Fr 292	229979	08 0			UDevi
11	- 10	10			GA (sedeo _7	OVEROMAN	2	CPU	50	75-110 Fr.293	229962	09 0			N Devi er
- 10	10	10			ant. moose1	HID (Mybo)		CPU	31	25-111 Fr.283	229661	10 0			
- 10	18	11			ia :	Analog Aud		CIPU	12	75-112 (Ft.293	229660	11 0			
8	10				6	Digital Audi		CPU	54	75-154 (Ft.293	0002041	12 0			
- 10	H	11			622 (senal)	R9232R54		CON	80	75-180 R11	1005508	13 0			
- 68	10	EI			embedded)	USB-CPU /	_	CPU	43	75-141 Ft:292	1002039	14 04			
- 69	10	62			(standalone)	USE-CPU (CPU	27	75-127 Ft.295	229674	15 0			
- 10	- 11	11 - C			(FU	Universial-C		CPU	28	75-128 Ft 295	229669	16 0			
- 10	10	60			PU	Cascade-D		CPU	50	75-150 Fr 252	235038	17 0			
								CPU	-40	75-149 Ft 201	235039	18 0			
								CFU	25	75-1251Fr.262	229665	19 0			
								CPU	21	75-121 (Fr.261	229651	20 0			
								CPU	23	75-123 (Ft.261	229678	21 0			
								CPU .	22	76-1221Ft:282	1229550	22 0			
								CPU	24	75-124 Fr.262	1229665	23 0			
								CPU	32	75-1321 Fr.241	229664	24 0			
								CPU	30	75-130 Fr 241	229655	25 0			

FIGURE 4-36. DEFINITION-EXT UNITS

1. Insert the SFP modules into the matrix.

One extender will be created for each SFP module in the EXT Units list. The appropriate names always start with "UNI."

- 2. To configure an SDI input, select one of the extenders in the EXT Units list that corresponds to the respective SFP and is intended to be used as input.
- 3. Select the item UNI CPU in the Type selection box of the Extender Type tab and confirm your settings by pressing the Apply button.
- 4. Restart the I/O board upon request in the popup window by pressing the Yes button.
- 5. To configure an SDI output, select one of the extenders in the EXT Units list that corresponds to the respective SFP and is intended to be used as output.
- 6. Select the item UNI CON in the Type selection box of the Extender Type tab and confirm your settings by pressing the Apply button.
- 7. Restart the I/O board upon request in the popup window by pressing the Yes button.
- 8. The edited EXT Units for the SDI inputs now have to be either assigned to an existing CPU Device or you have to create a new CPU Device by using the New R. button for an assignment in the Configuration > CPU Devices menu.
- 9. The edited EXT Units for the SDI outputs now have to be either assigned to an existing CON Device or you have to create a new CON Device by using the New R. button for an assignment in the Configuration > CON Devices menu.







The SDI inputs and outputs are completely configured now and can be used.

4.10 CPU SETTINGS

New CPU Devices are configured in this menu including their assignment to extenders.

The assignment helps to describe and switch more complex computer configurations (e.g. Quad-Head with USB 2.0) in the matrix. You have the following options to access the menu.



You can select the following settings.

TABLE 4-31. CPU SETTINGS

FIELD	SELECTION	DESCRIPTION
ID	Text	ID of the CPU Unit (see Section 4.4.2)
Name	Text	Name of the CPU Device
Virtual Device	activated	Create new CPU Device as a virtual one
VII tuai Device	deactivated	Function not active (default)
Allow Private	activated	Allow switching to the respective CPU Device in Private Mode
Allow Plivate	deactivated	Function not active (default)
Force Private	activated	Force switching to the respective CPU only in Private Mode
FOICE Private	deactivated	Function not active (default)
Fix Frame	activated	Force showing a red frame when switching to the respective CPU
	deactivated	Function not active (default)





• Select Configuration > CPU Units in the main menu.

Configuration F1:ID F2:Name F3:Next F4:Previous F5:Refresh F6:Find CPU Devices CPU Data ID : 1000 Name : CPU 010124911 CPU assigned	ESC
ID : 1000 Name : CPU 010124911 CPU assigned	
Name : CPU_010124911	
A1AAA CPU A1A124911	L
01001 CPU_010122232 Virtual Device : N CON connected 01002 CPU_010122250 Allow Private : N CON connected 01002 CPU_010122250 Allow Private : N N 02000 VCPU_02000 FIX Frame : N N	L
EXI available EXI assigned 010124911 044 EXT_10124911	l
New R. New V. Edit Delete Cancel Okay	
Enter a name to find an item SWITCH 01	

FIGURE 4-37. CONFIGURATION-CPU DEVICES

You can select the following buttons.

TABLE 4-32. BUTTONS

BUTTON FUNCTION New R. Create a new real CPU device		
	BUTTON	FUNCTION
	New R.	Create a new real CPU device
New V. Create a new virtual CPU devic	New V.	Create a new virtual CPU device
Edit Edit an existing CPU device	Edit	Edit an existing CPU device
Delete Delete an existing CPU device	Delete	Delete an existing CPU device
Cancel Reject changes	Cancel	Reject changes
Save Save changes	Save	Save changes



JAVA TOOL

• Select Definition > CPU Devices in the task area.

Cen Save Reloa	f Connect		Page 1	Activate Online Configura	ton Save	tal	Toonlaad	Unicad	Monitorina	Report		Ender 5	witem Check S	E Status		
20150305083205_		-									-					
Status	*	De	finition	- CPU Devices												
		_			Ÿ	10	1111			CPU As						
Control	8		iD	Name												
dministration	8	01	01111	OFF-PC 111-DVIT	4	Name	OFF-PC	111-0/11		CON Co	anecte	d 021	11 Realizator 1			
		02	01112	OFF-PC 112	0	Virtual Device										
ssignment		03	01113	OFF-PC 113		Allow Private	10									
ystem		04	01114	OFF-PC 114		Force Private										
Asum		05	01115	OFF-PC 115-DV11		Fix Frame										
Definition	. A	06	01117	OFF-PC 117												
EXT Linits		07	01118	OFF-PC 118		Extender Assig	pment C	ON Access Co	ontrol User	Access C	Intero	-		_	_	_
CPU Devices		08	01110	OFF-PC 118			Extender	puiptatzia					Extender ansig	red		
DON Devices Jaer		00	01120	OFF-PC 11A		ID N	eme Por					10	Name	Port		
		10	01171	OFF-PC 118	P	40002024 71	-ta 0		1		01	10229683	75-101 (Fr.291	1	4	
		11	01122	OFF-PC 11C							02					
		12	01123	OFF-PC 11D		6					03					
		13	01124	OFF-PC 11E							04					
		14	01125	OFF-PC 11F							05				- 11	19
		.15	01551	Playout 11A	_						06					
		16	01152	Ptayout 11B	_						07					
		17	01183	AVT-R11-MOCTCH							08				_	
		18	01184	AVT-R11-SCRa						. e					- 11	1
		19	01105	AM-CLCK-R11						44					- 11	12
		20	01100	AM-DCM-R11											- 11	
		21	01101	AM-CLM-R11	_										- 11	
		22	01107	AM-DCB-R11											- 11	
			01103	AM-CLB-R19												
				Audio PC											1	
		-	01182	HAV-PC Audo								Unite.	y6.542 and 5-236	rove extender		
		- **		Brigs to Copy Sets	Louis and Louis								Ros)	Nos	-	Garie

FIGURE 4-38. DEFINITION-CPU DEVICES

You can select the following buttons.

TABLE 4-33. BUTTONS

BUTTON	FUNCTION
New	Open a new CPU device
Delete	Delete a new CPU device
Apply	Confirm a created CPU device
Cancel	Reject changes
>	Assign selected extender units
>>	Assign all available extender units
<	Remove selected extender units
<<	Remove all extender units

You can select the following keyboard commands.

TABLE 4-34. KEYBOARD COMMANDS

FUNCTION	KEYBOARD COMMAND
Change assignment number of EXT unit upwards	<+>
Change assignment number of EXT unit downwards	<->





To create a new CPU Device, proceed as follows:

1. Press the New button.

2. Select a real CPU (Create a real CPU) or a virtual CPU (Create a virtual CPU) or a template of an existing CPU (Choose template).

NOTE: A template can only be used if there is at least one existing CPU Device.

- 3. Press the OK button.
- 4. Determine all parameters that are relevant for the CPU.
- 5. To confirm the new CPU, press the Apply button.

To access a new CPU via matrix, an assignment of one or more CPU type extender units is required. Proceed as follows:

- 1. Select the new CPU in the CPU Devices list.
- 2. Select one or more extenders in the Extender available list.
- Perform the assignment by pressing the > button. To assign all available extenders to the CPU, press the >> button.
 The assignments are displayed in the Extender assigned list.
- 4. Confirm the assignment by pressing the Apply button.
- To remove an extender assignment, proceed as follows:
- 1. Select a CPU in the CPU Devices list.
- 2. Select one or more extenders in the Extender assigned list.
- 3. Remove the assignment with the < button. To remove all existing assignments, press the << button.
- 4. Confirm the removal with the Apply button.

4.11 CONSOLE SETTINGS

You have the option to perform the following console settings.

4.11.1 CON DEVICES

New CON Devices are created in this menu including access rights and assignment to extenders.

You have the following options to access the menu.



You can select the following settings.

TABLE 4-35. CON DEVICES SETTINGS

FIELD	SELECTION	DESCRIPTION						
ID	Text	ID of the CON Unit (see Section 4.4.2)						
Name	Text	Name of the CON Device						
Virtual Davias	activated	Create new CON Device as a virtual one						
Virtual Device	deactivated	Function not active (default)						
Allow User ACL	activated	Allow activation of the User ACL at the local console						
Allow User ACL	deactivated	Function not active (default)						
Force Login	activated	Force user login at this CON Device						
Force Login	deactivated	Function not active (default)						
	activated	 When the video signal between source (computer, CPU) and the CPU Unit or the connection between matrix and the CON Unit is lost, an orange frame will be displayed. 						
LOS Frame		 When switching to a CPU without video signal, a blank screen will appear surrounded by an orange frame. 						
	deactivated	Function not active (default)						
Allow CPU Scan	activated	Allow a scan mode with an automatic change of the video signal for the favorite list (CPU Devices) of the respective console or a logged in user						
	deactivated	Function not active (default)						
Force CPU scan	activated	Force a scan mode with an automatic change of the video signal for the favorite list (CPU Devices) of the respective console or a logged in user						
	deactivated	Function not active (default)						
Scan Time	0-99 seconds	Retention period until switching to the next CPU Device						
		The favorite list will be replaced by a port list where the ports from 1-99 can be directly selected at each matrix.						
Port Mode	activated	NOTE: The selection only works for CPU Devices and has to be made according to the switching of favorites.						
		When using the Port Mode, CON and User favorites will be deactivated						
	deactivated	Function not active (default)						
	activated	Function not active						
Redundancy OFF	deactivated	Automatically switch to the second link of a connected redundant CON Unit when losing the primary link of a CPU Unit (default)						





• Select Configuration > CON Devices in the main menu.

admin@CON_010167832 Configuration	F1:ID F2:Name F3:Next	F4:Previous F5:Refresh F6:Find ESC
CON Devices 03002 CON 010157832 03001 CON_010203247 CPU Access Control List	CON Data ID :: 3002 Name :: CON 010167832 Virtual Device :: N Allow User ACL :: N Force Login :: N LOS Frame :: N EXI available	CON assigned Allow CPU Scan : N Force CPU Scan : N Scan Time [sec]: 0 Port Mode : N Redundancy Off : N EXI assigned D10167832 033 EXI 010167832 010203247 034 EXI_010203247
Full access	010 010 010	Access 002 CPU 010135668 003 CPU 010287794 001 CPU 016090105 004 CPU_040011492 Cancel 0kay

FIGURE 4-39. CONFIGURATION-CON DEVICES

You can select the following buttons.

TABLE 4-36. BUTTONS

BUTTON	FUNCTION
New R.	Create a real console
New V.	Create a virtual console
Edit	Edit an existing console
Delete	Delete an existing console
Cancel	Reject changes
Save	Save changes



JAVA TOOL

• Select Definition > CON Devices in the task area.

pen Save Reloa	d <u>C</u> onnect	Disco	nned	Activate Online Configuration	Save	Online Changes	Dow	nload. Upload	Monitoring	Report.	Devic	e Finder S	ystem Check 1	Save Status		
20150305083205_	Regie11.zip	0				1000	_									
itatus	¥	De	finition	- CON Devices												
ontrol	¥		ID ID	(mark)	Y	10	3	122		CON As	signed	091	21 Gradiver P(11			
		-	03132	Name Orafixer2		Name	0	ration2		CPU Co	nnecte	d 051	18 O-Simultan			
dministration		-		Realizator 1	- 1	Virtual Device				Red. CF	U Com	rected				
ssignment	u.	10000	03131	Grafiter 1	- 11	Allow User A	a 10			Allow C	-					
		1000	63113	Realizator 3	-11											
ystem		1000	03112	Realisator 2	-11	Force Login				Force C						
efinition	*		03124		-11	LOS Frame				Scan Ti	me (se	4	0			
	-		10100		-11	Redundancy				Port Me	de					
XT Units PU Devices			03114	Realizator 4	-11	Granes		1								
ON Devices		1000		Multi-Tech 2	- 11	Litencerva	10000	ot CPU Access C	onerol Favori	eo Ma	cros [_	-
ler			03193	Multi-Tech 3	-11			ender available					Exhandler as all			
			03141		- 11			Port				ID .	Name	Port	12	
			03142	Audio-Tech 2			75-118		- fi		01	10229714	75-170 R11	79	- i	
		to be all	03143			10230800	75-50	0	_		02				_	
		a second	00111		-11						03				-	
			09171	Support	-11					++	04					
			02104	Multi-Tech RDT	- 11						05				_	
		in the second	09101	MultiFech R11	- 11					1000	06				- 1	
			09121	Producent R11	-11						07				_	
		and the second second	00131	Grafiker R11	- 11						08					
		1000	09141	AudoTech R11	-11					44					- 11	
			09151	Moderator S12												
			OUTEL		T											
			03105	Multi-Tech AUDID	- 11										- 11	
		24	03001	Diroutan											-	
		25	03161	Moderator \$12	1						-					
				the second		11			1			One or	Receipted evolution	ante enjanger		

FIGURE 4-40. DEFINITION-CON DEVICES

You can select the following buttons.

TABLE 4-37. BUTTONS

FUNCTION
Open a new CON device
Delete a new CON device
Confirm a created CON device
Reject changes
Assign selected extender units
Assign all available extender units
Remove the selected extender units
Remove all extender units

You can select the following keyboard commands.

TABLE 4-38. KEYBOARD COMMANDS

FUNCTION	KEYBOARD COMMAND
Decrease assignment number of EXT unit	<+>
Increase assignment number of EXT unit	<->





To create a new console, proceed as follows:

- 1. Press the New button.
- 2. Select a real console (Create a real Console) or a virtual console (Create a virtual Console) or a template of an existing console (Choose template).

NOTE: A template can only be used if there is at least one existing CON Device.

- 3. Press the OK button.
- 4. Determine all parameters that are relevant for the console.
- 5. To confirm a created console, press the Apply button.

To run a CPU via a matrix, one or more CON Units (extender) must be assigned. To place an assignment, proceed as follows:

- 1. Select the console in the CON Devices list that has to be assigned to an extender.
- 2. Select the extender in the Extender available list that should be assigned to the CON.
- 3. Perform the assignment by pressing the > button. To assign all available extenders to the console, press the >> button. The assignments are displayed in the Extender assigned list.
- 4. Confirm the assignment by pressing the Apply button.

To remove an extender assignment, proceed as follows:

- 1. Select the console in the CON Devices list to be modified.
- 2. Select the extender(s) in the Extender assigned list to be removed.
- 3. Remove the assignment with the < button. To remove all existing assignments, press the << button.
- 4. Confirm the changes by pressing the Apply button.

To configure CPU access rights of consoles, proceed as follows:

- 1. Select a console in the CON Devices list.
- 2. Open the CPU Access Control tab.
- 3. Assign new access rights by using the right mouse button or the respective keyboard commands.
- 4. Confirm the configuration by pressing the Apply button.

You can select the following keyboard commands.

TABLE 4-39. KEYBOARD COMMANDS

FUNCTION	KEYBOARD COMMAND
Add CPU to Full Access list	<f></f>
Add CPU to Video Access list	<v></v>
Add CPU to No Access list	<n></n>



4.11.2 MOUSE AND KEYBOARD

The OSD configuration for mouse and keyboard is made in this menu.

You have the following options to access the menu.



You can select the following settings.

TABLE 4-40. MOUSE AND KEYBOARD SETTINGS

FIELD	SELECTION	DESCRIPTION
Hor. Speed 1/x	1-9	Adjustment of the horizontal mouse speed, 1 = slow, 9 = fast (default value: 4)
Ver. Speed 1/x	1-9	Adjustment of the vertical mouse speed, 1 = slow, 9 = fast (default value: 5)
Double Click	100-800	Adjustment of the time slot for a double click (default value: 200 ms)
Keyboard layout	Region	Set the OSD keyboard layout according to the used keyboard (default: German [DE])
Video Mode	Variable or specific resolution	Resolution that is used when opening OSD

NOTE: The mouse and keyboard settings are console specific and can be set separately for each console.





• Select Configuration > EXT Units in the main menu.

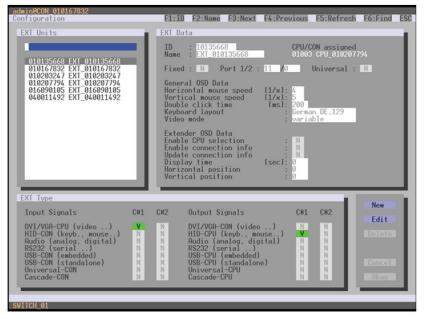


FIGURE 4-41. DEFINITION-EXT UNITS

You can select the following buttons.

TABLE 4-41. BUTTONS

BUTTON	FUNCTION	
Cancel	Reject changes	
Save	Save changes	



JAVA TOOL

• Select Configuration > EXT Units in the task area.

NOTE: Mouse and keyboard settings are made in the OSD Data tab.

pen Save Reloa	gonnect		inned Adv	ate Online Configura	wion Sav	e Online Changes	Download	1. Upload	Monitoring	Report.	Device Finder_ Sys	em Check.	Save Status	
20150305083205	Regie11.2p	0							- Countered		Contraction Contraction			
Status	3	De	finition - E)	KT Units										
							Ŷ	10				ssigned	03102 Seute-T	24 W
Control			ID	Name	Port	Type	1.6				CONS	assigned	0.0 TOC - BODD-1	Plan a
Idministration		20	010229647	75-1441Ft 242	-64	CPU	4	Name	25-1771R					
		29	010220056	75-126 (Fr 231	26	CPU		Port	77.					
asignment	8	30	010229648	75-1451Fr.231	-45	CPU	_	Fixed						
stem		31	010229649	75-140 (Ft:231	45	CPU		-			1	1		
		32	010229654	75-1161Fr.202	10	CPU		Extender	Type Firmw	are Version	General OSD Data	Extender	OSD Data	
efinition		33	010229653	75-120181202	20	CPU		Horizont	al Mouse Spee	d [1x] b	4 4			
XT Units		34	010229657	75-1181Fr.202	10	OPU .	_	-	Mouse Speed		4 [2]			
PU Devices		35	010229967	75-117 Fr 282	17	CPU			1					
DN Devices Her		36	010229958	76-110 Ft 282	19	CPU.		Double 0	lick Time (ms)	L	250 121			
		37	010229584	75-1081Ft.243	6	CPU		Keyboar	d Layout		German (DE, 129)			
		38	010220711	75-1731811	73	CON		Video M	ode		Mahapie			
		39	010229704	75-1761831	76	CON								
		40	010229714	75-1701R11	20	CON								
		41	010229713	75-1741R11	24	0.014								
		-42	010220690	75-1751R11	75	CON								
		43	010220705	75-1711831	71	CON								
		44	010229702	75-170 R11	79	CON								
		45	010229698	75-172 R11	72	CON	2							
		46	010229701	75-177 R11	m	CON								
		47	010228712	75-1781R11	78	CON								
		-48	010229708	75-107 LR11	0	CON	- 11							
		49	010229708	75-108 (R11	0	CON								
		50	010225710	75-109 R11	0	CON	_							
		51	040002033	7510	0	CON								
		52	010235000	75-133 Fr 202	33	CPU								
		I.A	LEigh Sellings	to Copy Sett			-				These L	NA Di	intertonit inter	IN CH

FIGURE 4-42. DEFINITION-EXT UNITS







4.11.3 EXTENDER OSD

In this menu, the settings for the Extender OSD can be adjusted. These are local settings that can be made individually for each console.

You can select the following Extender OSD settings.

FIELD	SELECTION	DESCRIPTION
Enable CPU Selection List	activated	When executing the key sequence for opening the OSD, a selection list for switching CPU Devices will be displayed in the center of the monitor. Pressing the <f7> button within the selection list opens the standard OSD.</f7>
	deactivated	Function not active (default)
Frahla Oannastian Infa	activated	Enable Extender OSD (default: YES)
Enable Connection Info	deactivated	Function not active
Lindete Oppresetion Info	activated	Update connection changes during fade-in of Extender OSD (default: YES)
Update Connection Info	deactivated	Function not active
Display Time	0–999 seconds	Duration of OSD fade-in (default: 10)
Horizontal Position	10 pixels	Horizontal OSD position (default: -2)
Vertical Position	10 pixels	Vertical OSD position (default: 2)

TABLE 4-42. EXTENDER OSD SETTINGS

NOTE: When setting the horizontal OSD position, a prefixed minus describes the orientation to the right edge of the monitor, e.g. -2 means $2 \times 10 = 20$ pixels to this edge. When setting a vertical position, a prefixed minus describes the orientation to the bottom edge of the monitor.

If the Update Connections function is deactivated, the Extender OSD only appears when switching via OSD.

You have the following options to access the menu.





• Select Configuration > EXT Units in the main menu.

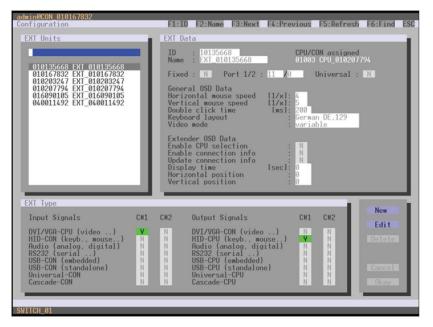


FIGURE 4-43. CONFIGURATION-EXT UNITS

To change the Extender OSD settings, proceed as follows:

- 1. Select the console extender in the EXT Units list whose Extender OSD settings has to be adjusted.
- 2. When confirming the selection by pressing <Enter>, the respective console extender will be enabled for editing.





JAVA TOOL

• Select Definition > EXT Units in the task area.

pen Save Reloa	1 Connect		sined Adiv	ate Online Configura	tion Sav	e Online Changes	Townload	. Upload	Monitoring	Report.	Device Finder	r_ Syste	W Check	Save Status
20150305083205_	Regie11.zip	0												
Status	8	De	finition - E)	(T Units										
							V	D				CON As	beneit	03102 Multi-Tech 2
Control	*		ID .	Name	Port	Type								
Administration	U.	28	010229647	75-144 (Fr.242	44	CPU	-	Name	25-172181					
		29	010229555	75-125 Fr.231	21	CPU		Port	11					
Assignment		30	010229648	75-145 (Ft 231	45	CPU	_	Fixed						
System		31	010229548	75-145 Fr.231	45	CIPU	_	(married	Ter I Frence		Terrenter	in mate	P	(un name
	0.511	32	010229654	75-110 Fr.282	- 10	CPU		Ledender	Type Firmwo	are version		0084	Excervicer of	USU Data
Definition	. A	33	010229653	75-129 Fr 282	20	CPU	_	Enable C	connection Info		16			
EXT Units		34	010229957	75-118 (Fr.282	158	CPU		Update	Connection Info					
CPU Devices CON Devices		36	010229667	75-117 Ft282	17	CPU		Faultin	PU Selection					
User		36	010229658	75-119 (Fr.282	10	CPU	_							
		37	010229684	25-108 Fr.241	5	CIPU	2	Display	Time [sec]		10.			
		38	010229711	75-1731R11	73	CON		Horizoet	al Position [10	px)		22		
		39	010229704	75-128.IR11	76	CON		Vertical	Position (10 px	4				
		-40	010229734	75-170 R11	79	CON			ution Presets		and stores			
		41	010229713	75-174JR11	74	CON		USD POR	NOON Presets		Top Flopts	10		
		42	010229699	75-175 R11	25	CON		-					EDICEO	
		43	010229705	75-1711811	71	CON							Linkacoroca	
		44	010229702	75-1791811	79	CON								
		45	010229698	75-172 R11	72	CON	2							
		46	010229701	75-177 R11	177	CON								
		47	010229712	75-178 R11	79	CON								
		48	010229706	25-1871R11	0	CON	_							
		49	010229709	75-100 R11	0	CON								
		50	010225710	75-369(R11	8	CON								
		51	040902033	75-1ex	0	CON								
		62	010235009	75-133 Fr 252	33	cru								
				NI. Copy Setti			18.1						t Dei	ris Unit Distanti

FIGURE 4-44. DEFINITION-EXT UNITS

- To change the Extender OSD settings, proceed as follows:
- 1. Select the console extender in the EXT Units list for which the Extender OSD settings are to be adjusted.
- 2. Open the Extender OSD Data tab.
- 3. Adjust the desired settings and confirm your changes by pressing the Apply button.

4.11.4 FAVORITE LIST CONSOLES

Individual favorite lists of CPUs to be switched frequently can be created for all consoles in this menu. A favorite list can contain up to 16 different CPUs.

The switching of the favorites is done via hotkey using the keyboard (see Section 5.1.1).

You have the following options to access the menu.





• Select Assignments > CON Favorites in the main menu.

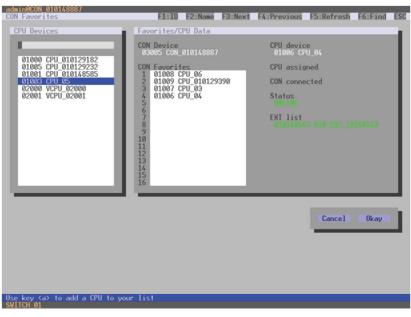


FIGURE 4-45. ASSIGNMENTS-CON FAVORITES

To create a favorite list for your own console, proceed as follows:

- 1. Select a CPU to be moved to the favorite list on the CPU Devices list. Press <a> to move a CPU Device to the favorite list. Press <r> to remove a CPU from the favorite list.
- 2. The order of the CPU devices within the favorite list can be changed by pressing <+> and <->.
- $\ensuremath{\mathsf{3.Press}}$ the Save button to save the settings.





JAVA TOOL

• Select the user in the working area of the CON Devices menu for the favorite list and open the Favorites tab.

pen_ Save Reload	Connect		med	Activate Online Cont	figuration Save	4. Online Changes	Townload	Upload_	Monitoring	Report.	Device		System Check.	Save Status	
¥ 20150305083205_F	egie11.zip	0									_				
Status		De	finition	- CON Devices											
					Ÿ	10	Ditt			CON As					
Control	8		10	Name		5									
Administration		06	03121	Producent 1	1	Name	Realize			CPU Co	nsected				
			03101	Multi-Tech 1		Virtual Device	16			Red. CP	U Conne	cted			
ssignment			02114	Reats ator 4		Allow User ACL	18			Allow C	PU Scan				
stem			03102	Muth-Tech 2		Force Login				Force C	PU Scat				
********				Multi-Tech 3	5	LOS Frame				Scan Ti	me (sec)		4.5		
efinition	- A -		03141	Audio-Tech 1		Redundancy				Port Me	1994				
EXT Units			03142	Audio-Tech 2		reservency				Post Sec					
PU Devices ON Devices		13	03143	Audio-Tech 3		Externition Addard	0	PU Access C	ontrol Favori	tes Ma	ros				
laer		14	09111	Realisator R11		-	- CPU I	icatable -					Favoria	CPUe /	
		15	00171	Support		ID Name						ID.	Name		
		16	02104	Multi-Tech RDT					1		01	1151	Playout 114		4
		17	00101	MultiTech R11					- 1		02	1152	Playout ttB		n
		18	09121	Producent R11							03	1105	AM-CLOK-R11		
		19	09131	Grafiter R11						1.85	04	1101	Alf-CLN-R11		
		20	09141	AudioTech R11							05	1103	AM-CLD-R11		112
		21	09151	Modelator S12						1.0	06	1134	VIZ-Pilot 111		
		22	00101	Modelator 513							07	1125	VIZ-Pilot 112		
		23	02105	Mutti-Tech AUDIO							08	5111	O-Realization	NER	
		24	03001	Druta.								5117	O-Raserve		
		25	03151	Modelator S12							10	5118	hesuborf-0		18
		26	03151	AppR							11	5121	O-Moderator D	12	
		27	09181	OFF-dgrecher							12	8122	O-Moderator d	H2	T
		28	09181	Simultan							13	5123	Teleprompter	010	1
		29	03002	OFF-Sprecher							14	5124	Teleprortipler		
		30	03003	CON_94000846								3	its trys <+> and	<-> 30 million CPU	
		17.A	taiph Tel	Republic Copy	Satings from.							I Married D	even Detet	Desica Desica	0

FIGURE 4-46. DEFINITION-CON DEVICES

To create a favorite list for any console, proceed as follows:

- 1. Select the CPUs in the CPU available list that should be added to the favorite list (CPU assigned). At the same time, multiple CPU Devices can be marked by pressing and holding <Ctrl>.
- 2. Press the > button to move the marked CPU Devices to the favorite list. If you press the >> button, the first eight CPU Devices from the list will be moved to the favorite list (CPU assigned).
- 3. To change the order of marked CPU Devices within the favorite list, press <+> and <->.
- 4. To remove marked CPU Devices from the favorite list, press the < button. If you press the << button, all CPU Devices will be removed from the favorite list.





4.11.5 CONSOLE MACROS

In this menu, macro commands for switching, disconnection or user administration can be created. The macro commands are created for each console separately.

A macro can execute up to 16 switching commands successively.

The execution of the macros is done via hotkey and the function keys <F1>-<F16> (see Section 5.1.3).

You can select the following settings.

FIELD	SELECTION	DESCRIPTION					
	Connect (P1 = CON, P2 = CPU)	Set bidirectional connection from console P1 to CPU P2					
	Connect Video	Set video connection from console P1 to CPU P2					
	(P1=CON, P2=CPU)						
	Disconnect (P1=CON)	Disconnect console P1					
	Logout User	Logout current user					
	Set Real CPU	Assign a virtual CPU to a real CPU					
	(P1=VCPU, P2=RCPU)						
	Set Virtual CON	Assign a real console to a virtual console					
Function (01–16)	(P1=RCON, P2=VCON)						
	Push (P1=CON)	The user's KVM connection is forwarded to console P1 and is changed to a video only connection.					
	Push Video (P1=CON)	The video signal of the current connection (KVM or video only) is forwarded to console P1. The user's connection remains unchanged (KVM or video only).					
	Get (P1=CON)	The console gets a KVM connection to the CPU that is currently connected to console P1. The connection of console P1 is changed into a video only connection.					
	Get Video (P1=CON)	The console gets a video only connection to the CPU that is currently connected to console P1. The connection of console P1 remains unchanged (KVM or video only).					
	Login User	Login a certain user P1 at console P2					
P1	CON or CPU Device	Name of CON or CPU Device					
P2	CPU or CPU Device	Name of CPU or CPU Device					

TABLE 4-43. CONSOLE MACROS SETTINGS

You have the following options to access the menu.







• Select via Configuration > CON Macros in the main menu the console for which a console macro is to be created.

<u>03000 CON_010125349 - admin</u> Configuration	F1:ID F2:Name F3:Next F4:Previous F5:Refresh	F6:Find ES0
CON devices	CON Macros Key : F01 Parameter W1 Parameter W2 Connect 03000 010125349 01001 CPU_01 Disconnect 03000 CON_010125349 01001 CPU_01	0135060
Macro Data Function Disconnect Parameter #1 03000 CON_010125369 Parameter #2	CON Devices Actual CON device 03000 CON 010125349	Edit Delete Cancel Okay

FIGURE 4-47. CONFIGURATION-CON MACROS

To create a macro for the selected console, proceed as follows:

- 1. Select in the Key field the function key (F1-F16) for which a macro should be created.
- 2. Select the respective place on the list (1-16) the key that should be set with a macro key.
- 3. Select for the highlighted position on the list a macro command in the Macro Data field.
- 4. Set the necessary parameters P1 and P2 (e.g. CON Devices or CPU Devices) for the selected macro command.
- 5. Confirm your inputs by pressing <Enter> and repeat the process for further macro commands, if necessary.



JAVA TOOL

• Select the console in the working area of the Definition > CON Devices menu for which a macro has to be created and open the Macros tab.

pen_ Save Reloa	d Connect	Disco		Activate Online Configuration	Save Onl	til. Ine Cha	iges Downi		anitoring	Report. Device Finder	. System	Check Save Status	
20150305083205	Regie11.zip	0	Contract (Contraction of the second second		1993513							
Status	а	De	finition	- CON Devices									
Control	¥		iD	Name	1.5	D	933	1 Realtyr R11		CON Assigned CPU Connected			
Administration		06	03121	Produzent 1	1	Virtual D				Red. CPU Connected			
Assignment		07	10100	Muth-Tech 1									
A sugar s	1.000	08	03114	Realizator 4		Allow U							
System		09	03102	Mutti-Tech 2		Force L	gin			Force CPU Scan			
Definition		10	03103	Mutti-Tech 3	1	LOSFra	ne 📰			Scan Time (sec)	0		
	-	11	03141	Audio-Tech 1		Redund	incy			Port Mode			
XT Units PU Devices			03142	Audio-Tech 2				T-mail and		- []			
ON Devices		-	_	Audio-Tech 3	- 12	Enfanto	er Auto-germani	CPU Access Cont	rol Favo	rteo Macros	_		
lser		-	09111	Realizator R11	115	Key [1						
			00171	Buggot	- 17			unction		P1		P2	
			02134	Multi-Tech RBT	- 6	01 Co	ned (P1+C0)	(, P2+CPU)	0311	Featurator 3		01113 OFF-PC 113	
			00101	MultiTech R11	- 12	02 Co	ment Video (P	I-CON P2+CPU)	0310	Multi-Tech 3		01117 GFF-PC 117	
			09121	Producent R11		03 Co	ned Private d	PERCON, P2×CPU)	0310	Multi-Tech AUDIO		01114 CFT-PC 114	
			09131	Grafter R11	- 10	54							
				AudioTech R11		95							
			09151	Moderator S12 Moderator S13	- 12	26							
			03105	Muth-Tech AUDIO	- 12	37							
				limitat	- 12	14							
						99							
			03151	AppR		10							
				OF7-Spracher		11							
				Diraubas		12							
			03002	OFF-Sprecher		13							
				CON_94000846	2					Cole Key Macros	In r	ante Navy Macron 🖉	Delete Key Macro
				Engs to Copy Settings I	15							Delete Device	

FIGURE 4-48. DEFINITION-CON DEVICES

To create a macro for the selected console, proceed as follows:

- 1. Select in the Key field the function key (F1-F16) for which a macro has to be created.
- 2. Select in the Function column the commands that should be part of the macro. The selection list will be opened by a double-click on the empty fields.
- 3. Select the respective parameters for the macro functions (e.g. corresponding consoles and CPUs) in the P1 and P2 columns.

4. Confirm your inputs by pressing the Apply button.

For an efficient macro configuration, the following context functions are available:

- When clicking on the Macros tab, macros can be assigned to other consoles by using the Assign Macros to ... function and can be copied from other consoles by using the Copy Macros from ... function.
- When clicking on the macro list, macros of the selected key can be copied into the cache by using the Copy Key Macros function. You can paste the macros from the cache into a key by using the Paste Key Macros function and you can reset all macros of the selected key by using the Reset Key Macros function.







4.11.6 SHARED OPERATION

This menu enables shared operation of a CPU Device by two or more CON Devices. A CPU Device can be controlled by only one CON Device at a time but can be taken over successively by other CON Devices. Control of a CPU Unit by a CON Unit is relinquished after the expiration of an inactivity timer associated with the controlling CON Device. The mouse or keyboard may also be used to take control.

To allow a smooth and accurate function of the shared operation, you should use identical mice and keyboards. They should be connected to the same USB-HID ports of each CON Unit.

The alternative is using USB-HID Ghosting (see Section 5.11).

When taking over control within 10 seconds, any assigned USB 2.0 / 3.0 extenders, if available, will not be switched because of security and stability aspects.

You have the following options to configure shared operation.



OSD

• Select via Configuration > Switch in the main menu.

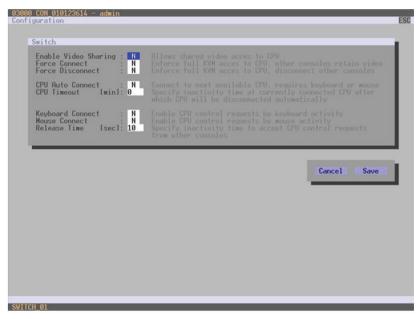


FIGURE 4-49. CONFIGURATION-SWITCH



To configure shared operation, proceed as follows:

- 1. Activate the Enable Video Sharing function.
- 2. Activate the Force Connect function.
- 3. Activate the Keyboard Connect function, if taking over control by a keyboard event should be possible.
- 4. Activate the Mouse Connect function, if taking over control by a keyboard movement should be possible.
- 5. Define a Release Time of inactivity (0-999 sec.) after which control can be taken over.

JAVA TOOL

• Select via System > Switch in the task area.

								_(0) x
Elle Edit Device Egitar Device Egitar Qpen. Save Reloar	15	# Disconnect Activate Online 0	Configuration Save Online Changes	Townload. Upload.	Monitoring Report	. Device Finder System		
20150305083205	Regiett.zip	0						
Status	¥	System - Switch						Show Help
Control	¥.	Switch Settings						Super Held
Administration	¥	Enable Video Sharing	Allow shared video poonse to CPU					
Assignment		Force Connect	10					
System		Force Disconnect	Enforce full KVM access to CPU, after					
System Data Access Switch Network		CPU Auto Connect	Enforce full KVM access to CPU, othe Connect to next evaluate CPU, require		5			
Date and Time Matrix Grid		CPU Timeout [min]	0 Specify mattivity period at summity o	onvected CPU after which	CPU will be decomede	i automatically (0 = deactivated	i.	
Definition	¥	Keyboard Connect	Enable CPD control request by keybox	et activity				
		Mouse Connect	Enable CPC control request by mouse	sticty				
		Release Time (sec)	1 Specify maching the to accept CPU o		(consume			
								Australia Cancel
Config reloaded								

FIGURE 4-50. SYSTEM-SWITCH

To configure shared operation, proceed as follows:

- 1. Activate the Enable Video Sharing function.
- 2. Activate the Force Connect function.
- 3. Activate the Keyboard Connect function, if taking over control by a keyboard event is to be permitted.
- 4. Activate the Mouse Connect function, if taking over control by a keyboard movement should be possible.
- 5. Define a Release Time of inactivity (0 999 sec.) after which control can be taken over.







4.11.7 MULTI-SCREEN CONTROL

This menu configures the USB-HID switching operation, allowing a CON Device with several monitors to control several connected sources (computers, CPUs). Smooth switching can be performed for up to four connected sources by dragging the mouse pointer beyond the respective monitor to an adjacent one.

Monitors can be arranged side-by-side or in a grid layout.

CAUTION: When using sources (computers, CPUs) in multi-head operation (e.g. dual-head), switching only works manually via keyboard commands. Noncompliance may have a negative influence on the stability of the system.

When using CON Units with the possibility to connect a local source (computer, CPU) in a Multi-Screen Control environment, the local switching will be disabled.

NOTE: To enable Multi-Screen Control, all Extender Units assigned to the related CON Device, must be physically connected to the same block of 4 ports on the I/O board of the matrix.

CON Units that have been already configured for Multi-Screen Control can be connected together to other blocks of 4 ports. In this case, any further configuration is not necessary; their functionality will remain as set previously.

You have the following options to access the menu.



• Select Assignments > Multi-Screen Control in the main menu.

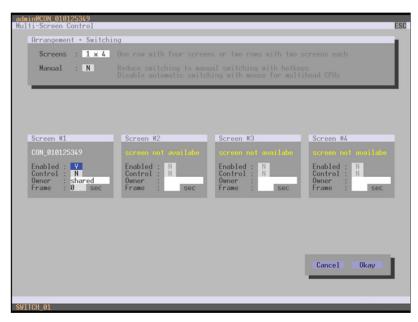


FIGURE 4-51. ASSIGNMENTS-MULTI-SCREEN CONTROL

To configure the Multi-Screen Control, proceed as follows:

1. In the Arrangement field, select the layout for the CON Device you want to configure (1 x 4 or 2 x 2). The fields for the configuration of the individual displays will be arranged accordingly.

2. Activate Manual option, if USB-HID switching is to be restricted to keyboard commands (see Section 5.6). Manual switching allows the use of multi-head consoles.

3. Ensure that the Enabled option is set to Y on all displays in order to activate the respective display for Multi-Screen Control.

- 4. Select one or more control displays within the CON Device by setting the Control function to Y in the display field. Control displays are referred to the extender units within the Multi-Screen Control that are connected to keyboard and mouse.
- 5. When using the Owner function, you can determine which control display is permitted for USB-HID switching to the different displays. Select that display from the list. To make a display accessible to all neighboring control displays, set the Owner function to shared.
- 6. Use the Frame function to configure a red frame that shows the current display with mouse control after the expiration of a selectable timer. The frame to fade in can be individually activated by using a timer >0 seconds.





JAVA TOOL

• Select Assignment > Multi-Screen Control in the task area.

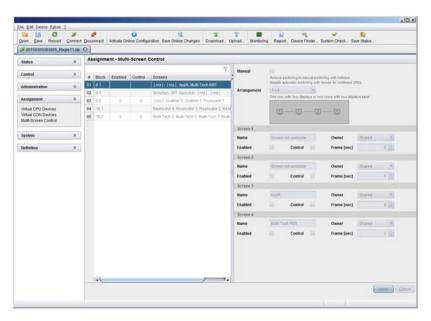


FIGURE 4-52. ASSIGNMENTS-MULTI-SCREEN CONTROL

To configure the Multi-Screen Control, proceed as follows:

- 1. Select the block of four ports in the list of the working area that should be configured for Multi-Screen Control. Only blocks of four ports that contain at least one CON Unit are shown.
- 2. Activate Manual option, if the USB-HID switching is to be restricted to keyboard commands (see Section 5.6). Manual switching allows the use of multi-head consoles.
- 3. In the Arrangement field, select the layout for the CON Devices you want to configure (1 x 4 or 2 x 2). The fields for the configuration of the individual displays will be arranged accordingly.
- 4. Select one or more control displays within the CON Device by setting the Control function to Y in the respective display field. Control displays are referred to the extender units within the Multi-Screen Control that are connected to keyboard and mouse.
- 5. When using the Owner function, you can determine which control display is permitted for USB-HID switching to the different displays. Select that display from the list. To make a display accessible for all neighboring control displays, set the Owner function to shared.
- 6. Use the Frame function to configure a red frame that shows the current display with mouse control after the expiration of a selectable timer. The frame to fade-in can be individually activated by using a timer >0 seconds.





4.12 SAVING AND LOADING CONFIGURATIONS

You have the option to set the following administration of configurations.

4.12.1 ACTIVE CONFIGURATION

You have the following option to access the menu.



• Select Configuration > Save in the main menu.

By selecting this menu item, the active configuration of the matrix is saved to the permanent matrix memory. By default, the last configuration that has been saved in this way will be restored after a restart of the matrix.

NOTE: Changing or saving configurations blocks the matrix memory and leads to a freeze of all OSD menus for a few seconds. The switching connections are not affected by this freeze.

If you select Auto Save within the system settings, an additional automatic saving of the configuration will be periodically performed (see Secton 4.3.2).

4.12.2 SAVING CONFIGURATION (INTERNAL)

In this menu, the current matrix configuration is saved to predefined storage locations. However, it does not replace the buffering of configuration (see Section 4.12.1).

You have the following options to access the menu.



In Active, the name and detailed information of the current configuration are shown. This configuration can be saved.

In Default and File #1 to File #8, the name and detailed information of the respective saved configuration are shown. These storage locations can be overwritten.

The storage location to be overwritten by the current configuration must be selected explicitly.

The current configuration will be saved to this storage location and will be shown immediately in the menu. The previously saved configuration saved to this storage location is deleted.







You have the possibility to save the created configuration within eight storage locations in the matrix (File #1 – File #8). Additionally, a configuration can also be saved as default configuration.

- 1. Select Configuration > Save As... in the main menu.
- 2. Select the required storage location (File #1 File #8) or Default.

CON_010123614 Iguration	
Save as	
Active :	
Default	
File #1	
File #2	
File #3	
File #4	
File #5	
File M6	
File #7	
File #8	

FIGURE 4-53. CONFIGURATION-SAVE AS

JAVA TOOL

• Select via Assignment > Multi-Screen Control in the task area.

🛏 🛅 🦁		*		ation Save Online Changes				Quein Destre	e Charles	E:	
pen gave Heload 20150305083205_F		_	Activate Unline Contigue	ation Save Unline Changes	Download Up	oad Monitorin	ig Kepon	. Device Finder	. system Check.	. save status	
			- System Data				_				
tates	¥		Automatic ID								
ontrol	¥										Show H
Idministration	¥	Device		Regie 11							
				lost name for network environment	nt (recommended cha	acters: a-z, A-Z, 0	8, -)				
ssignment	¥	Name	Upload_						×		
ystem	¥		Steps	Connect							
Definition	¥		1. Connect 2. Select Configuration Slot	Host Name / IP Address			192.15	100.217			
				Name			admin		- 1		
		Sub Ma		Password							
		Load D									
		Auto Si									
		Enable									
		Enable									
		Enable				< Bac	Net >	Enish C	ancel		
		Synchroni	ize	1							
				lynchronize matrix with master m	etrix						
		Echo Only		ynchronize matrix with echo only							
		Master IP		0.0.0.0							
				iet the network address of the me	ister matrix						
		Invalid I/O		1							
			1	hallMust be OFF during operation	, enable during matri	updates only				6	
											Apply Ca

FIGURE 4-54. FILE-UPLOAD





4.12.3 LOADING CONFIGURATION (INTERNAL)

Previously saved configurations are loaded in this menu. You have the following options to load configurations from files.



In Active, the currently loaded configuration is displayed.

In addition to the default configuration, up to eight further configurations can be loaded.

The selection of the configuration to be loaded can be made between eight personalizable configurations and the default settings.

The selected configuration is immediately loaded and displayed in the menu as Active. The previously active configuration is deleted.

OSD

- 1. Select Configuration > Open in the main menu.
- 2. Select the desired configuration.
- 3. Load the configuration by pressing <Enter>.

CON_010123614 guration	
Open	
Active :	
Default	
File #1	
File #2	
File M3	
File #4	
File M5	
File M6	
File #7	
File #8	

FIGURE 4-55. CONFIGURATION-OPEN





JAVA TOOL

- 1. Select Administration > Activate Configuration during online mode in the task area.
- 2. Select the desired configuration.
- 3. Load the configuration by pressing the Activate button.

pen Save Reload	ø ⊆onnect	Discor		Configuration Save Online Change	s Download_ Upload_ Monitoring	Report Device Finder System Check	Save Status	
\$ 20150305083205_Re	egie11.zip (
Status	¥	Adr	ministration - Activ	ate Configuration				
Control	¥	Act	ive Configuration:	Name Regio11				
				Info 141128				
Administration	R.							
Update Matrix Firmware			File	Name		Info	IP Address	Version
Update EXT Firmware Activate Configuration		01	Default (default.dtc)	Regie11	140915		192.158.100.99	V03.00
Activate Configuration Miscellaneous			File #1 (config01.dtc)	Regie11	140915		192.158.100.99	V03.00
		03	File #2 (config02.dtc)	Regie11	140924		192.158.100.99	V03.00
Assignment	¥	04	File #3 (config03.dtc)	Regie11	140929		10.116.4.54	V03.00
		05	File #4 (config04.dtc)	Regie11	151029		10.115.4.55	V03.00
System	¥	06	File #5 (config05.dtc)	Regie11	141128		10.116.4.56	V03.00
Definition	¥	07	File #6 (config06.dtc)	Standard	Factory settings		192.158.100.99	V03.00
	-	08	File #7 (config07.dtc)	Standard	Factory settings		192.168.100.99	V03.00
		09	File #8 (config08.dtc)	Standard	Factory settings		192.168.100.99	V03.00

FIGURE 4-56. ADMINISTRATION-ACTIVATE CONFIGURATION

4.12.4 SAVING CONFIGURATIONS (EXTERNAL)

Configurations can be saved as files that can be stored independent of the matrix.

You have the following option to access the menu.



- 1. Select File > Save As in the menu bar.
- 2. Enter a name for the configuration.
- 3. Select the directory of the configuration on your storage medium where it is to be saved.

NOTE: Configurations are always saved in a file with the ending dtc.



pen, Save Reload	Connect	Disconnect	Activate Online C	onfouration Save	Online Changes	Townload	Upload	Monitoring	Report	Device Finder	System Check.	E Save Status	
20150305083205_R													
Status	8	System	- System Data										
		Genera	Automatic ID										
Control	*	-											Show Hel
Administration	¥	Device		Repett									
lasignment				Host name for	r rativork anvironme	ré (recoramende	characters	a.z. A.Z. 0.0, -					
caseptenent		Name		Repett									
lystem	A.				eré matrix configurat	00							
System Data		Info		141128		_			-				
Access Twitch					RECOVERY (D.)								
Vetwork		Sub Matr		a Dell				Carl and C					
Date and Time Natrix Grid				a recovery									
		Load Def	ault										
Definition									10.0	ell be always act	ored		
		Auto Sav	•	Finitiana	Repett_orbuit				-				
		Enable C	OM Echo	Fins of Law									
								gas co					
		Enable L	AN Echo				_	the Con					
					h connarda via LA	K ports							
		Enable R	edundancy	Testin admin	dic a witching for re	Locdarit extende							
		Synchron	wize										
				Synchronize	netra with master r	atra							
		Echo Onl	¥										
					natrix with echo and	53							
		Master B	Address		0 0	atter mattin							
		Invalid 10	Boards										
					OFF during operato	, enable during	100.000	is only					
												í.	Nets Can

FIGURE 4-57. FILE-SAVE AS

4.12.5 LOADING CONFIGURATIONS (EXTERNAL)

Externally saved configurations are opened and activated in this menu. You have the following option to load configurations from files.



1. Select File > Open... during offline mode and select the storage location of the configuration file that has to be opened.

2. Open the configuration by pressing the Open button.

3. Select File > Upload in the menu bar to transfer the opened configuration to the matrix. Enter the necessary parameters.

4. Select Matrix > Connect in the menu bar to make a connection between the matrix and the Java tool. Enter the necessary parameters.

5. Select Administration > Activate Configuration and select the configuration to be activated.

6. Confirm the process with the Activate button.

The opened configuration is activated.







en. Save Reload <u>(</u> 20150305083205_Rege Islans ontrol dministration ssignment ystem ystem Data			ita 2] Repett	for calivicit anvisona						System Check	
ontrol dministration ssignment ystem	¥ ¥	General Automatic I) Repett Hed rate	for entirests environme				_			
ontrol dministration ssignment ystem	¥ ¥	Device	Reputs Net rate	for calcords another the				_			
dministration ssignment ystem	u u		Host name	før nefwork environme							
ssignment ystem			Host name	for nativoris environme							Show Help
ystem		Name		for extinors environme							
ystem		Name	Redett		na Cardinanandad	characters a-	z, A.Z, 0-0, -)				
	. A.			ment matrix configurat							
ystem Data			DA	ried many opengorie	10	_	-	-	×		
ccess		info		DOVERY (D.)					100		
witch									2		
letwork late and Time		Sub Matrix	DELL								
latrix Grid		000000									
efinition		Load Default							showys activ	and .	
		Auto Save									
			File Sjame:								
		Enable COM Echo	Files of Jupe.	(Rc)					3		
		Enable LAN Echo					Open	Cancel			
							(Sherrin)	- cancer	2		
		Enable Redundancy	English and	malic a witching for re-	fundari extender	2					
		Synchronize									
				a matrix with measure of	with						
		Echo Only	iii .	a mattile with exchanged	51						
		Master IP Address		0 0							
				vicri address of the m	aster matter						
		Invalid I/O Boards									
			Shahfund	re OFF during specialis	r, ecable during in	ena spones i	inty.				Number Cano

FIGURE 4-58. FILE-OPEN

4.13 EXPORT AND IMPORT OPTIONS

The Compact KVM Matrix Switch offers the ability to read out available configuration lists (extender, CPUs, consoles and users) for export and import again via Java tool. You have the following option to handle configuration lists.

Exported configuration lists are always saved in .csv format that allows offline editing with common spreadsheet applications.

You have the following option to export or import configuration lists:



4.13.1 EXPORT OPTIONS

Configuration lists are exported in this menu. In order to export, proceed as follows:

- 1. Select File > Export in the menu bar.
- 2. After opening the menu, select the list to export (Extender, CPU, Console or User).
- 3. Select the storage location for the export file.
- 4. Confirm the export with the Finish button.

		Online Configuration Save Onlin	1. Two interview of the second	B						
🖋 20150305083205_Regie11.zij										
Status V	System - System									
Control V		in to		Show He						
Administration ¥	Device	Regie11								
Assignment ¥		Most name for natio	ork anvironment incremented characters: a.v. 4.7 8.8 -1							
Assignment V	Name	Export	×							
System A		Steps	Select Type							
System Data Access Switch Network	info	Select Type Export Configuration to CSV File								
Date and Time	Sub Matrix									
Matrix Grid	Load Default		Extender CPU							
Definition ¥			Console activated							
	Auto Save		O User							
	Enable COM Echo									
	Enable LAN Echo									
	Enable Redundanc									
			< Back Neid> Enish Cancel							
	Synchronize	Synchronize matrix	with master matrix							
	Echo Only									
		Synchronize matrix								
	Master IP Address	Master IP Address 0 . 0 . 0 . 0								
	Set the network address of the master matrix Invalid I/O Boards									
	The second secon		luring operation, enable during matrix updates only							
				Apply Car						

FIGURE 4-59. FILE-EXPORT

4.13.2 IMPORT OPTIONS

Configuration lists are imported in this menu. To import, proceed as follows:

- 1. Select File > Import in the menu bar of an offline configuration.
- 2. After opening the menu, select the list to import (Extender, CPU, Console or User).
- 3. Select the directory of the list to import.
- 4. Confirm the import with the Finish button.

NOTE: Importing configuration lists is only possible in offline configurations.

le Edit Device Egitas	2			0	10		-			-		E	
Open Save Reload					e Online Changes					Device Finder	System Check		
# 20150305083205_R	legie11.zip	0		an or other services	2000 M 8151 B 8								
Status	8	System -	System Da	ta									
Control		General	Automatic IC	2			_		_				
	1000												Show Help
Administration		Device		Hopett .	for nativork anuironm	eril (recommend	ed characters	******					
Assignment		Name		Barnet.									
System	A.			Steps	Select	Type							
Bystem Data Access Switch Network Date and Time Matrix Grid		Info Sub Matrix Load Defas		1. Select Type 2. Import Config to File	10000		C Die						
Definition	8	Auto Save Enable COI Enable LAN					Con Use			henys act	wind		
	Em		lundancy				span)	int.	Car	cet.			
		Synchroniz Echo Only		iii Byncheonig	e matrix with master o								
		Master IP /		Set the ref	0 0 0		a metrix spółe	is only					_
												6	August Cancel
afig reloaded													

FIGURE 4-60. FILE-IMPORT





4.14 MATRIX CASCADING

This simple method of cascading allows a switchable connection between two matrices via Tie Lines.

The Matrix Cascading does not require Bundle 4.

This kind of configuration may become necessary if the number of ports in the entire system has to be increased or if certain important connections should be distributed to several matrices because of redundancy.

The Tie Lines are unidirectional and can only be used in one direction according to their configuration. For bidirectional use of cascading, you have to configure opposite Tie Lines.

To connect Tie Lines to the matrices, you have to create intended Master/Slave CON and Master/Slave CPU Devices that have to be switched within the cascaded environment.

You have the following options to configure Matrix Cascading:



GENERAL PREPARATION

- 1. Define a Master Matrix. All further matrices will be configured as Sub Matrices in the configuration process.
- 2. Ensure that the Tie Lines will only be connected after finishing the configuration.

OSD

• Select Configuration > EXT Units in the main menu of the master matrix.

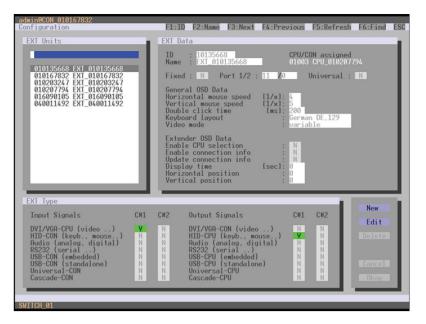


FIGURE 4-61. CONFIGURATION-EXT UNITS





- 1. Press the New button. A new Extender Unit will be created that is needed for the connection of Tie Lines.
- 2. Enter an appropriate extender name into the Name field.
- 3. Enter a port number into the Port field according to the required connection of the Tie Line.
- 4. If the Tie Line should be directed from the Sub to the Master, set the Cascade-CON option to Y (C#1) in the Input Signals column. If the Tie Line should be directed from the Master to the Sub, set the Cascade-CPU option to Y (C#1) in the Output Signals column.
- 5. Save your settings by pressing the Okay button.
- 6. If you have created a Master/Slave CON Unit, select Configuration > CON Devices in the main menu of the master matrix and press the New R button. A switchable CON Device will be created.
- 7. If you have created a Master/Slave CPU Unit, select Configuration > CPU Devices in the main menu of the master matrix and press the New R button. A switchable CPU Device will be created.
- 8. Enter an appropriate Device name into the Name field.
- 9. Assign the previously configured Extender Unit to the just created Device by moving the Extender Unit from the Ext available field into the Ext assigned field and save your settings.
- 10. Repeat steps 1 to 9 for the Sub Matrix.
- 11. Select Configuration > System in the main menu of the Sub Matrix and set the Sub Matrix option to Y.

The OSD of the Sub Matrix will immediately freeze and will be only accessible by using the keyboard command <Hotkey>, <s>, <o>.

- 12. Restart all I/O boards on which any Master/Slave CON or CPU Units have been configured or alternatively restart the matrix.
- 13. Connect the Tie Lines to the matrices. Ensure that each Master/Slave CON on one matrix is connected to Master/Slave CPU on the other matrix to achieve switchability between two matrices.

The Matrix Casacading is now configured and can be used. Additional Tie Lines are configured accordingly. The use of cascading is described in Section 5.1.4.

JAVA TOOL

1. Connect to the Master Matrix and activate the Online Configuration Mode.

2. Select the menu Definition > EXT Units in the task area and press the New button. A popup window opens.

Den Save Reloa	d <u>C</u> onnect	Disco		te Online Configura	wion Sav	e Online Changes	Download	L. Upicad.	Monitoring	Report. D	evice Finder	System Check.	Save Status	
20150305083205	Regie11.2p	-												
Status		De	finition - ED	TUnits										
Control	¥		10	Name	Port	Type	Ÿ.	10	10229042			CPU Assigned	OTTT OFF.PC	111-0711
		-	010229682	75-101 Fr 291	1	lopu	4	Name	25-101(Ec	291				
Administration		-	010229680	75-102 (Pr.291	2	CPU		Port	1.					
Assignment			010229670	75-103 LFr.201	3	CPU		Fixed						
			010229683	75-1041Fr.292	4	CPU								
System			010229059	75-1051Fr.293	1.5	CPU		Extender	Type Firmwi	are Version				
Definition		06	010229671	75-107 (Fr 292	2	CPU.		Type	CPU				Standard View	Expertive
EXT Units		07	010229673	75-108 Fr 292		OPU.		Obe					SPRICE ANAM	Expertive
CPU Devices		08	010229678	25-1091Ft 292		CPU.			Name			Basic	Mod A	Mod B
CON Devices User		09	010229002	75-110 Ft 293	10	CPU.	J	DVINDHIN	GA (Mdeo)			81	EE	13
User		10	010229061	75-111 (Fr.293	11	CPU		HD (keybo	ard mouse)			50	10	- 10
		11	010229500	75-112(#1293	12	CPU		Analog Aud	io			11	68	10
		12	040002041	75-1541Fr.293	54	CPU	- 1	Digital Aud	0			-	10	82
		13	94000508	75-100 (811	80	CON	_	R5232/R5	422 (Lemai)			11	80	10
		14	040002039	75-1411Fr.282	41	CPU		USB-CPU	entedded			10	100	10
		15	010229674	75-127 (Fr.205	27	CPU		USB-CPU	(atlandaligne)			8	10	60
		18	010229048	76-1281Fr.295	20	CPU .		Universal-C	DPU			10		- 10
		17	010235038	75-100 (Fr.262	50	CPU		Cascade-C	PU			11 I		- 10
		18	010225029	75-1481Ft 281	40	CPU.								
		19	010229055	75-125) Fr 262	25	CPU								
		20	010229651	75-121 Ft 261	21	CPU								
		21	010229678	75-1231Fr.201	23	CPU								
		22	010229550	75-122 (Pr.282	22	CPU								
		23	010229065	75-1241Ft:262	24	CPU								
		24	010229954	75-1321Fr.241	32	CPU.								
		25	010229655	75-1301Fr241	30	CIPU								
		- 44				1.00	4				2			-
		L.A.	redu Skilluby	Ospy Satt	rega Kors							These Cove	interioral interior	Care
infig reloaded														

FIGURE 4-62. DEFINITION-EXT UNITS





- 3. If the Tie Line should be directed from the Sub to the Master, select Master/Slave CON Unit in the Choose Extender Type selection box. If the Tie Line should be directed from the Sub to the Master, select Master/Slave CPU Unit in the Choose Extender Type selection box.
- 4. Enter an appropriate extender name into the Name field.
- 5. Enter a port number into the Port field according to the required connection of the Tie Line.
- 6. Confirm your settings by pressing the Apply button.
- 7. If you have created a Master/Slave CON Unit, select Definition > CON Devices in the task area of the master matrix and press the New button. A switchable CON Device will be created.
- 8. If you have created a Master/Slave CPU Unit, select Definition > CPU Devices in the task area of the Master Matrix and press the New button. A switchable CPU Device will be created.
- 9. Enter an appropriate extender name into the Name field.
- 10. Assign the previously configured Extender Unit to the just created Device by moving the Extender Unit from the Extender available field into the Extender assigned field and save your settings by pressing the Apply button.
- 11. Connect to the Sub Matrix and repeat steps 1 to 10.
- 12. Select System > System Data in the task area of the Sub Matrix and activate the Sub Matrix option.

The OSD of the Sub Matrix will immediately freeze and will be only accessible by using the keyboard command <Hotkey>, <s>, <o>.

- 13. Restart all I/O boards on which any Master/Slave CON or CPU Units have been configured or alternatively restart the matrix.
- 14. Connect the Tie Lines to the matrices. Ensure that each Master/Slave CON on one matrix is connected to Master/Slave CPU on the other matrix in order to achieve switchability between two matrices.

The Matrix Cascading is now configured and can be used. Additional Tie Lines are configured accordingly. The use of cascading is described in Section 5.1.4.

4.15 MATRIX GRID

In this menu, you can configure a Matrix Grid to connect two or more matrices. This kind of configuration may be necessary if the number of ports in the entire system has to be increased or if certain important connections should be distributed to several matrices because of redundancy.

The connections between two matrices have to be established by Grid Lines that are connected between particular I/O ports as connecting links. The Grid Lines can be used bidirectionally and can respectively handle a full access connection of a CON Device to a CPU Device.

The number of Grid Lines in the system specifies if a CON Device can be switched to a CPU Device in Non-Blocking Access or in Blocking Access and has to be separately determined for each Grid environment.

In this case, Non-Blocking Access means that a Grid Line for a cross-matrix switching operation of a CON Device to a CPU Device is available at any time.

Blocking Access means that for a certain switching operation no Grid Line may be available according to the switching status within the Grid. As a result, no cross-matrix switching will be possible.





You have the following options to configure Matrix Grid:



ADMINISTRATION OF SETTINGS

Within a Matrix Grid, you have to differ between settings that have to be made locally for each matrix and settings that can be made globally so that they are valid for the whole Matrix Grid.

The settings in the following menus have to be made separately for each matrix or within the master matrix to affect all matrices in the Grid:

System, Access, Switch, Network, Date + Time, SNMP, Matrix Grid, Multi-Screen Control

The settings in the following menus have to be made globally and only once within the Matrix Grid:

EXT Units, CPU Devices, CON Devices, User, CON Macros, User Macros, CON Favorites, User Favorites, Virtual CPU Devices, Virtual CON Devices

NOTE: If global settings are made in the respective menus, they will be immediately available on each matrix within the Matrix Grid.

GENERAL PREPARATION

The following requirements have to be fulfilled before starting the Matrix Grid configuration:

- 1. The Matrix Grid function (Bundle 4) must be activated on all matrices to be connected to the Grid by a license key (see Section 4.17).
- 2. Firmware V03.10 must be installed on all matrices to be connected to the Grid.
- 3. All matrices to be connected to the Grid must be within the same TCP/IP network (see Section 4.4.5).
- 4. The port 5556 needed for network communication must not be blocked by a firewall.





OSD

To configure a Matrix Grid, proceed as follows. The following configuration steps have to be repeated for each matrix separately:

• Select Configuration > System in the main menu.

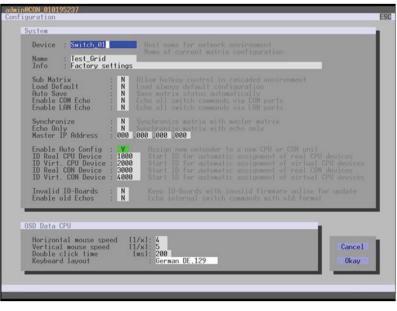


FIGURE 4-63. CONFIGURATION-SYSTEM

- 1. Enter a unique name for each matrix into the Device field. Each name only may exist once within the Matrix Grid.
- 2. Enter a unique Grid name into the Name field. The Grid name has to be same within all Grid matrices.
- 3. Select Configuration > Matrix Grid in the main menu.

admin@CON_0 Configuratio						
comiguratio	UT					
Matrix	Grid					
Y	Enable	Matrix Grid				
	Active	Device	Ports	Active	Device	Ports
-	Y	Switch01	48	N		0
	Y	Switch02	48	Ν		0
	Ν		0	Ν		0
	Ν		0	Ν		0
	N		0	Ν		0
	N		0	Ν		0
	Ν		0	Ν		0
	Ν		0	Ν	_	0
	_			_		
					Car	ncel Okay
					_	

FIGURE 4-64. CONFIGURATION-MATRIX GRID

- 4. Activate the Enable Matrix Grid function.
- 5. Write all device names of the Grid matrices into the Matrix Grid list, starting in the left column. Based on the listings, a Grid master will be automatically determined for the Matrix-Grid. The more on the top a matrix is listed in the matrix Grid list, the more likely the matrix is considered in the automatic master selection, provided that certain criteria like system availability are fulfilled.
- 6. Activate the single matrices in the Matrix Grid list by enabling the Y (YES) function.
- 7. Enter the number of chassis ports for each matrix (8, 16, 32, 48, 64, 80, 160 or 288).
- 8. Restart all matrices, beginning with the master matrix.

The Matrix Grid can be used now and offers the possibility for a cross-matrix switching of CON Devices to CPU Devices.





JAVA TOOL

• To use the Matrix Grid, execute the configuration wizard in the menu System > Matrix Grid. It guides you through the configuration of Matrix Grids.

* Matrix Grid						
8						Show
Matrix Grid Confi		Start Configuration	n Wizard			
# Matrix Grid Enabl	led 📄					
4	Active	Device	IP address / Hostname	Ports	Master	Connect to Matrix
			0.0.0.0	0		# Connect
A Matrix 02			0.0.0.0	0		# Connect
Matrix 03			0.0.0.0	0		# Connect
Matrix 04			0.0.0.0	0		# Connect
Matrix 05			0.0.0.0	0		# Connect
Matrix 06			0.0.0.0	0		# Connect
Matrix 07			0.0.0.0	0		# Connect
Matrix 08			0.0.0	0		Ø Connect
Matrix 09	10		0.0.0.0	0		Connect
Matrix 10			0.0.0.0	0		# Connect
Matrix 11			0.0.0.0	0		# Connect
Matrix 12			0.0.0.0	0		# Connect
Matrix 13			0.0.0	0		Connect
Matrix 14			0000	0		# Connect
Matrix 15			0.0.0	0		# Connect
Matrix 16			0.0.0.0	0		Connect
	V Matrix Galaxy A Matrix G2 Matrix G2 Mat	V Matrix Gel Exatted V Active Marce 02 Active Matrix 02 Active Matrix 03 Active Matrix 04 Active Matrix 05 Active Matrix 06 Active Matrix 06 Active Matrix 07 Active Matrix 08 Active Matrix 03 Active Matrix 13 Active Matrix 15 Active	V Matrix Gel Catable V Active Device A Matrix O2 Device Matrix O2 Device Matrix O2 Matrix O2 Device Matrix O3 Matrix O3 Device Matrix O3 Matrix O4 Device Matrix O3 Matrix O5 Device Matrix O3 Matrix O5 Device Matrix O3 Matrix O1 Device Matrix O4 Matrix O3 Device Matrix O4 Matrix O3 Device Matrix O4 Matrix O5 Device Matrix O4	V Matrix Gel Casted V Active Device P address / Hophane A Active Device P address / Hophane Matrix Q2 0 0000 0000 Matrix Q2 0 0000 0000 Matrix Q2 0 0000 0000 Matrix Q3 0 0000 0000 Matrix Q6 0 0000 0000 Matrix Q6 0 0000 0000 Matrix Q6 0 0000 0000 Matrix Q1 0 0000 0000 Matrix Q2 0 0000 0000 Matrix Q1 0 0000 0000 Matrix Q2 0 0000 0000 Matrix Q2 0 0000 0000	Nation Col Examination Active Desice P address // ideatants Putts A Active Desice P address // ideatants Putts A Matho 0 0.00.0 0 0 Matho 04 0.00.0 0 0 0 Matho 05 0.00.0 0 0 0 Matho 05 0.00.0 0 0 0 Matho 15 0.00.0 0 0 0	National Control Centor Paddress / Notame Poils Mader N Attive Device Paddress / Notame Poils Mader Markey Image: Control Image: Con

FIGURE 4-65. SYSTEM-MATRIX GRID

4.16 FIRMWARE UPDATE

4.16.1 MATRIX UPDATE

The firmware of the matrix can be updated in this menu. You have the following option to access the menu:



JAVA TOOL

NOTE: To update the matrix, only use computers that are not integrated into the KVM extender / matrix setup. Ensure that the computer used for the update is not set into standby mode or sleep mode during the update. Ensure that your configuration has been saved externally before you start the update. For network stability, we do NOT recommend updating via a WLAN.





PREPARATION

Take the following steps to prepare for the matrix update:

1. Save the matrix configuration externally (see Section 4.12.4).

2. Open Extras > Options in the menu bar and insert in the setting Firmware Directory the directory from which the update files should be standardly sourced.

- 3. Put all hot spare boards into the matrix.
- 4. Activate the Syslog function (see Section 4.12.4) for the monitoring of the update, if unlocked via license key.

NOTE: Ensure that all USB 2.0 extenders are only connected to the provided ports (fixed ports) before you start the matrix update. Non-compliance may affect the stability of the update.

PERFORMING THE UPDATE

Take the following steps in order to be prepared for the matrix update:

1. Select Administration > Update Matrix Firmware in the task area.

All components of the matrix that can be updated will be automatically selected and highlighted in green.

pen. Save Reload	Connect	Discor	nect Activate Online C	onfiguration Save Or	ine Changes Down	and the second second second second	initiaring Report.	Device Finder Syst	em Check Save S		
20150305083205_R		and the second second									
Status	8	Adm	ninistration - Update	Matrix Firmwar	•						
Control		and the second	date Protocol								_
CONTERN			Name	Type	Cur. Version	Upd. Version	Cur. Date	Upd. Date	Status	Update	
dministration		00	MATADEOC	CPU	F03.00	F03.00	2014-07-02	2015-01-28	Available	R	
odate Matrix Firmware		01	ET MADICAT	108	F03.00	F03.00	2014-07-02	2015-01-29	Available	8	
Apdate EXT Firmware			MATXOR	OSD	F03.04	103.00	2018-07-07	2014-10-07		R.	
divate Configuration Iscellaneous		02	E MATICAT	808	F03.00	F03.00	2014-07-02	2015-01-28	Available	2	
rocerameous			MATICOSL	OSD .	F03.04	F03.00	2014-07-07	2014-10-07		2	
ssignment	*	03	E MADICAT	108	F03.00	P03.00	2014-07-02		Available	2	
and and and and			MATIONL	050	F03.04	103.04	2014-07-07	2014-10-07		2	
ysteen	. 8	04	E MATICAT	108	F03.00	F03.00	2014-07-02	2015-01-28	Available	2	
			MATXO9L	080	F03.84	F03.08	2014-07-07	2014-10-07		2	
efinition	*	05	El MATROAT	108	F03.00	F03.00	2014-07-02	2015-01-28	Austable		
			MATXOG4.	080	F03.04	F03.00	2014-07-07	2014-10-07		8	
		05	B MATACAT	108	F03.00	F03.00	2014-07-02	2015-01-28	Available	2	
			MATIOSL	080	702-04	F83.08	2014-07-07	2014-10-07		2	
		07	E MATACAT	108	F93.00	F63.00	2014-07-02	2015-01-28	Available	8	
			MATXOSL	080	F03:04	103,00	2014-07-07	2018-10-07		2	
		00	EI MADICAT	108	F03.00	F03.00	2014-07-02	2015-01-28	Austable	2	
			MATXOSL	050	F03.04	F03.08	2014-07-07	2014-10-07		2	
		09	E MATACAT	108	F03.00	F03.00	2014-07-02	2015-01-28	Available	2	
			MATXOSL.	080	F03:04	F03.00	2014-07-07	2014-10-07		8	
		10	EB MATRICAT	108	F03.00	F03.00	2014-07-02	2015-01-28	Available	2	
			MATXORL	080	F03.04	F03.00	2014-07-07	2014-10-07		2	

FIGURE 4-66. ADMINSTRATION-UPDATE MATRIX FIRMWARE

2. Start the update by pressing the Update button in the appearing pop up window.

3. Restart the Matrix after the update by pressing the Restart matrix button in the lower part of the working area. For a safe initialization of the matrix, we recommend a cold start (power cycle).



CHAPTER 4: CONFIGURATION



4.16.2 EXTENDER UPDATE

The firmware of the extenders connected to the matrix can be updated in this menu.

You have the following option to access the menu:



PREPARATION

Take the following steps in order to be prepared for the extender update:

1. Save the matrix configuration externally (see Section 2.9). Open Extras > Options in the menu bar and insert the name of the directory from which the update files should be sourced in Firmware Directory.

2. Connect all hot spare extenders to the matrix.

CAUTION: For network stability, an update via WLAN is not recommended.

PERFORMING THE UPDATE IN STANDARD MODE (PARALLEL UPDATE)

1. Select Administration > Update EXT Firmware in the task area. The standard mode for the parallel update will be selected by default and the Upload Firmware tab will be opened.

pen. gave Reload	gonnect	Disconn		Configuration Sav	e Online Changes Do	anioad. Upload. Mo	nitoring Report. I	evice Finder	System Check.	Save Status	
20150305083205_R	legie11.zip			1912-1919-1922-194				2022-00			
latus	а	Admi	inistration - Up	date EXT Firmwar	•						
Control	¥	100	Parallel Mode (re Sequential Mode			executed separately on e order to update specific er					
dministration	. A.	Step	1: Upload Firmwa	Step 2: Update F	mware						
Ipdate Matrix Ferriware Ipdate EXT Ferriware clivate Configuration					10128_V300Getaul6201	53128_9300 etw	Brow	15e			
Ascellaneous			ible Firmware Files				- Paladar				
	¥		Name	EXT	Version F02.41	Date 2014-10-24	Selected				
asignment			EXTCON	EUT	F63.03	2014-10-14	×.	D			
ystem	4	03	EXTRCPU	EXR	F01.33	2014-12-22	8				
efinition		-04	EXTRCON	EXR	F02.06	2014-11-21	8				
	117-11	05	EMOPU	D8	F01.18	2014-10-16	8				
		06	HIDOPU	HD	F04.00	2016-03-03	2	1			
		07	HIDCON	HQ	F04.00	2015-03-03	8				
			-		0%		10.00				
			d Progress		0.0		_ 00	bed			
		Uploa	d Messages								
							Save Pro	locol			

FIGURE 4-67. ADMINISTRATION-UPDATE EXT FIRMWARE

CHAPTER 4: CONFIGURATION



2. Before the actual update process, all firmware files have to be uploaded to the respective I/O boards on that extenders will have to be updated. If a newer firmware is available, appropriate I/O boards will be automatically selected for the upload in the Selected column and highlighted in green.

3. Start the upload and distribution of the update files by pressing the Upload button.

NOTE: By performing the upload process, no update files will be installed. The update process can be performed at a later time.

If all I/O cards are not selected, the upload of the update files will be performed in sequence.

4. After finishing the upload process, successful completion will be confirmed by a popup message. If you want to directly start the actual update process, you will have to confirm this by pressing the Yes button. You will be immediately forwarded to the Update Firmware tab.

NOTE: When updating an identical or an older firmware version than the version currently installed, the Force Update option in the lower part of the working area must be enabled.

	Connect Con	Administr Paral Sequ Step 1: Upl Enable Down	etion - U lei Mode (ential Mod oad Firmw	Ipdate EXT Fin (recommended) de ware Step 2: Up	Parallel update of exe Sequential update mo date Firmware	nders, executi	ed separate	ly on each I/O t	board	R. Device Finde	r System Check.	Save Status	
Status Control Administration Update Matrix Firm Update EXT Firmw Activate Configurat	¥ A nware don	Administr Paral Sequ Step 1: Up Enable Down	lei Mode (ential Mod oad Firmv Igrade ((recommended) de ware Step 2: Up	Parallel update of exe Sequential update mo date Firmware								
Control Administration Update Matrix Firm Update EXT Firmw Activate Configurat	V R mware Mon	Paral Sequ Step 1: Upl Enable Down	lei Mode (ential Mod oad Firmv Igrade ((recommended) de ware Step 2: Up	Parallel update of exe Sequential update mo date Firmware								
Administration Update Matrix Firm Update EXT Firms Activate Configurat	A nware don	Step 1: Up Enable Down	ential Mod oad Firmw ograde (de ware Step 2: Up	Sequential update mo								
Update Matrix Firm Update EXT Firmw Activate Configurat	nware ware dion	Enable Down	ngrade (
Update EXT Firmw Activate Configurat	ware dion												
						ovare or update	ng the current	By installed firms					
Assignment	×	Update Prog				076				Update			
System	¥	Update Mes	sages										
Definition	¥												
									Gauti	Protocol			
									save	100000			

FIGURE 4-68. ADMINISTRATION-UPDATE EXT FIRMWARE

5. Start the actual update process by pressing the Update button.

NOTE: Just before the update process, all affected I/O boards will be set into Service Mode and retrieved gradually after finishing the respective updates.

PERFORMING THE UPDATE IN EXPERT MODE (SEQUENTIAL UPDATE)

Take the following steps in order to be prepared for the extender update:

1. Select Administration > Update EXT Firmware and select Expert Mode in the upper part of the working area. All extenders that can be updated will be automatically selected and highlighted in green.



20150305083205_Re	jettzip (0	-										-
Status	а	Ad	mini	stration - Updat	e EXT Firmware								
Control	¥			arailel Mode (recon equential Mode				l separately on eac pdate specific exte					
Administration		(M	paste	Firmware Protoc	of]								
Update Matrix Fernware			1D	Noncologia	Name	Port	Type	Cur. Version	Upd. Version	Cur. Date	Upd. Date	Update	
Update EXT Firmware Activate Configuration		01	0	10229602	75-101 Fr.291	1	CPU UNIT					8	
Miscellaneous					EXTROPU		EXA	601.27	101.33	2014-03-19	2914-12-23	3	
					HIDOPU		HID	802.93	F64.00	2013-11-15	2015-03-03	2	
Assignment					EXTRISO		MSD	602.31		2014-06-02		10	
2000	-				ANADER		194X	604.10		2010-10-25		10	
System	¥				UDDEFD		U58	003.60		2014-03-25		100	
Definition		02	Π.	10229680	75-1021Fr.201	1	CPU UNIT					2	
	_				EXTROPU		EXR	801.27	F01.35	2014-03-19	2014-12-23	2	
					HOCPU		HID	802.03	F04.00	2013-11-15	2015-03-03	2	
					EXTMOD		MID	802.31		2014-05-02		10	
					NUNSER		04X	804.10		2010-10-26		10	
					UBBEFIL		1155	800.60		2014-03-25		10	
		03	B	10229670	75-103 (Fr.201	3	OPU UNIT					2	
					ENTOPU		£31T	802.39	102.41	2014-02-05	2211-15-24	2	
					HIDCPU		HO	802.03	F04 20	2013-11-15	2015-03-03	3	
					EXTRED		MSD	802.31		2014-05-02		- 10	
					AVASER .		SAX.	804.10		2010-10-25		10	
					USBEFI		USB	800.60		2014-03-25		10	
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			Mars	al update of EXTMS	D / EXTIMSD recommend	ded						Update	and the second second

FIGURE 4-69. ADMINISTRATION-UPDATE EXT FIRMWARE

2. Set the matrix into Service Mode upon request in the popup window or via Matrix > Activate Service Mode in the menu bar.

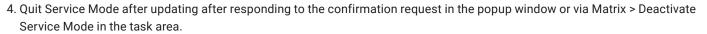
During activation, all matrix functions are disabled on the I/O boards on which an update is currently performed. An OSD picture indicates the activation of the Service Mode and is displayed on all monitors that are connected to the matrix via a CON device. In addition, the Service Mode is indicated by a red tool icon in the lower part of the working area.



FIGURE 4-70. OSD VIEW-SERVICE MODE

3. Start the update by pressing the Update button in the lower part of the working area.

CHAPTER 4: CONFIGURATION



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TECHNICAL SUPPORT 1.877.877.2269

5. Verify after the update in the Java tool via Administration > Update EXT Firmware in the Protocol tab of the Expert Mode that the updates for all extenders have been installed correctly.

4.17 LICENSE MANAGEMENT

In this menu, the matrix can be upgraded with new function bundles by installation of license keys.

To obtain license keys to upgrade matrix functions, contact Black Box Technical Support at 877-877-2269 or info@blackbox.com. You have the following option to access the menu.



JAVA TOOL

To activate a function bundle, proceed as follows:

1. Select Administration > Miscellaneous > License Management in the task area.

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pen Save Reload			Activate Online Confi	guration S	Save Online Changes	Download.	Upload	Monitoring	Report.	Device Finder.	System Check.	Save Status	
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		License K	7										
					Activate								

FIGURE 4-71. ADMINISTRATION-MISCELLANEOUS-LICENSE MANAGEMENT

2. Enter your license key in the working area under Activate Bundles in the License Key field.

3. To activate the license key, press the Activate button. The new functions will be immediately enabled; a restart of the matrix will not be necessary.





The Compact KVM Matrix Switches can be operated in three different ways.

- 1. Direct Switching
- via a keyboard connected to a CON port and the favorites
- by a macro keyboard connected to a console port

2. OSD

- via keyboard/mouse directly connected to the CPU board of the matrix
- via keyboard/mouse connected to a CON Unit and the OSD

3. External Switching Commands

- via an external computer via Java tool (network connection required)
- via a media control (network or serial connection required)

5.1 OPERATION VIA HOTKEYS

5.1.1 DIRECT SWITCHING

Direct switching by favorites on a keyboard is the fastest way for a user to switch at his console between different CPUs. This offers the option to switch video, keyboard and mouse or video only.

DIRECT SWITCHING OF VIDEO, KEYBOARD AND MOUSE

1. Start Command Mode with the hotkey. Shift and Scroll LEDs on the keyboard will flash if Command Mode is activated.

2. Enter the index number of the new CPU from the list of favorites and confirm with <Enter>.

At the same time, the Command Mode is closed and the console is connected to the new CPU, which takes over complete control.

Example: Switching to favorite CPU 7 with video, keyboard and mouse <left Shift>, <left Shift>, <7>, <Enter>

NOTE: Fastest switching time can be achieved by using identical mice, keyboards and monitors. This contributes to a smooth and seamless direct switching of the matrix.

SWITCHING IN PRIVATE MODE

1. Start Command Mode with the hotkey. Shift and Scroll LEDs on the keyboard will flash if command mode is activated.

2. Enter the index number of the new CPU from the list of favorites and confirm with <left Shift>, <Enter> pressed at the same time.

At the same time, the Command Mode is closed and the console is connected to the new CPU with complete control in Private Mode.





Example: Switching to favorite CPU 3 in Private Mode <left Shift>, <left Shift>, <3>, <left Shift>, <Enter>

DIRECT SWITCHING OF VIDEO

1. Start Command Mode with the hotkey.

Shift and Scroll LEDs on the keyboard will flash if command mode is activated.

2. Enter the index number of the new CPU from the list of favorites and confirm with <Space>.

At the same time, Command Mode is closed and the console is connected to the new CPU with video only.

Example: Switching to favorite CPU 1 with video only <left Shift>, <left Shift>, <1>, <Space>

SWITCH TO PREVIOUS CPU

1. Start Command Mode with the hotkey. Shift and Scroll LEDs on the keyboard will flash if Command Mode is activated.

2. Press the key of your keyboard.

At the same time, Command Mode is closed and the console is connected to the previous CPU with complete control.

NOTE: If you switch to a CPU that was previously connected with Video Access only, you will be connected to this CPU with full KVM access.

NOTE: You can only switch to valid, unused CPUs using hotkeys. The options Force Connect and Force Disconnect as well as the restrictions of the User ACL and CON ACL are taken into account.

Hotkeys are only supported if neither Enable User Login nor the Enable User ACL is selected and the user is logged in the OSD.

DISCONNECT CURRENT CONNECTION

1. Start Command Mode with the hotkey. Shift and Scroll LEDs on the keyboard will flash if Command Mode is activated.

2. Press the <Backspace> key on your keyboard.

The Command Mode is closed and the console is disconnected from the previous connected CPU.

5.1.2 SCAN MODE

Scan Mode enables fast switching between video signals from different CPUs registered as favorites without continuously using the hotkey.

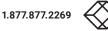
Switching between two video signals can even take place within one frame.

1. Start command mode with the hotkey. Shift and Scroll LEDs on the keyboard will flash if command mode is activated.

2. Press the key <Left Shift> and hold it down. You can now enter the index numbers of the various CPUs from the list of favorites with the keyboard and immediately switch to the video signal of the respective CPU after entering the index number.

3. Leave Scan Mode by pressing <Left Shift> + <Esc>.

NOTE: Optimal results can be achieved by the use of as identical resolutions as possible. This contributes to a smooth and seamless function of the scan mode.





5.1.3 FUNCTION KEYS <F1>-<F6>

In Command Mode, you can retrieve the macros 1-16 with the function keys F1>-F16> on the connected standard keyboard instead of the special macro keyboard.

The stored command sequence for the appropriate function key is executed and Command Mode is left immediately.

NOTE: It is not necessary to use <Enter> to confirm selection of macros.

5.1.4 ADDRESSING OF MAIN AND SUB MATRICES

The Compact KVM Matrix Switch can be cascaded over two levels. You can send the commands (including opening the OSD) to either the main or the sub matrix.

When in command mode, you can select whether commands should be handled in the main or the sub matrix.

OSD Access

- OSD access to the main matrix: <Left Shift>, <Left Shift>, <m> (optional), <o>
- OSD access to the sub matrix: <Left Shift>, <Left Shift>, <s>, <o>

To do a cross-matrix switching, proceed as follows:

1. Open the OSD of the master matrix with the following keyboard sequence:

<hotkey>, <o>

- 2. Select the CPU device configured as Tie Line in the CPU selection list and press <Enter> to switch.
- 3. Open the OSD of the sub matrix with the following keyboard command:

<hotkey>, <s>, <o>

4. Select your target CPU in the CPU selection list of the sub matrix.

NOTE: The selected master matrix / sub matrix mode is permanently activated until the other mode will be manually activated. This means that if you select <s>, all prospective commands will be sent to the sub matrix, but not if the Command Mode is left in the meantime.





5.2 KVM SWITCHING

You have the following option to perform switching operations with the Compact KVM Matrix Switch.



OSD

• Select Switch in the main menu.

Press <F8> to show inactive CPU devices to expand the current view.

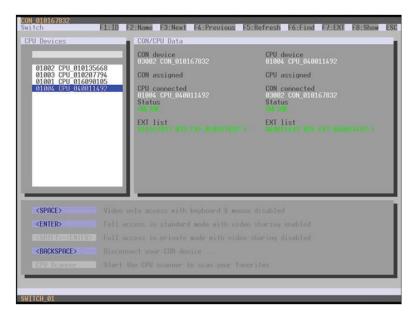


FIGURE 5-1. SWITCH MENU

To switch the console to any available CPU, proceed as follows:

1. Select in the CPU Devices list on the left hand side that one that should be connected to the CON Device.

2. Confirm desired connection type with the appropriate keyboard command.

Switching operations from the own CON Device can only be performed on CPU Devices that are available in the CPU Devices list.

NOTE: Listed CPU Devices highlighted in red color are currently connected in Private Mode and are blocked by the connected CON Device.







SWITCHING VIA SELECTION LIST FOR CPU DEVICES

The matrix offers the ability to execute KVM switching operations via a selection list for CPU Devices next to the OSD in full screen.

To use the selection list for CPU Devices, proceed as follows:

1. Activate the Enable CPU Selection List option in the Configuration menu for those consoles where the selection list for CPU Devices should be available.

2. Execute the key sequence for opening the OSD. The selection list immediately appears in the preset position of the extender OSD.

NOTE: Pressing <F8> hides inactive CPU Devices to provide a clearer overview.

3. Execute the desired switching operation by pressing the respective key (see Section 5.3). To prevent a switching operation and access OSD, press <F7>. To close the selection list, press <Esc>.

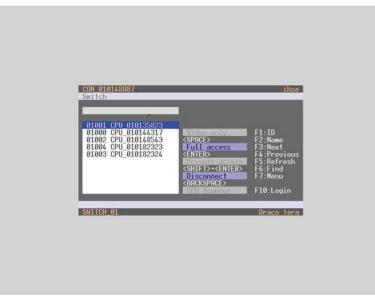


FIGURE 5-2. SELECTION LIST CPU DEVICES

ACTIVATING THE AUTOMATIC SCAN MODE FOR CPU DEVICES

The matrix offers the ability to use a scan mode based on the favorite list of each console or user. Scan mode allows the matrix to switch in sequence between the CPU Devices in the favorite list within a predefined time. All scans are performed in video only mode.

To configure scan mode, refer to Section 4.11.1.

You have the following option to activate the scan mode:





To activate scan mode, proceed as follows:

- 1. Define a favorite list for the respective CON Device or user (see Section 4.11.4 for CON Devices or see Section 4.5.2 for users).
- 2. Start Command Mode with the hotkey and press <o> to open OSD.
- 3. Select one of the CPU Devices in the CPU selection list that are defined in your favorite list.
- 4. Confirm your selection by pressing the CPU Scanner button. The scan will automatically start.

5. If you have enabled the Force CPU Scan option, the scan will automatically start after switching the respective CON Device to any CPU Device from the favorite list without the need to press the CPU Scanner button.

5.3 EXTENDED SWITCHING

You have the following option to perform switching operations with the Compact KVM Matrix Switch.



OSD

To switch any console to any available CPU, proceed as follows:

• Select Extended Switch in the main menu.

NOTE: Pressing <F8> hides inactive CPU Devices to provide a clearer overview.

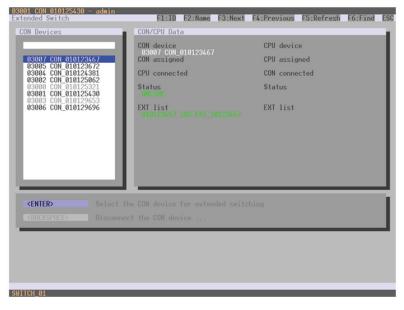


FIGURE 5-3. EXTENDED SWITCH MENU



1. Select in the CON Devices list on the left hand side the one that should be switched to a CPU Device and open it by pressing <Enter>.

2. Select in the CPU Devices list on the left hand side that one that should be connected to the open CON Device.

3. Confirm the desired connection type with the respective keyboard command.

Switching operations from the user's CON Device can only be performed on CPU Devices that are available in the CPU Devices list. The following information is shown in this menu.

TABLE 5-1. EXTENDED SWITCH MENU OPTIONS

FIELD	DESCRIPTION
CON device	Assigned physical extender unit (CON Unit)
CON assigned	Virtual CON Device that is assigned to the real CON Device
CPU connected	Currently connected CPU Device
CON status	Current connection status (CON Device)
EXT list	List of all available physical extender units (CON Units)
CPU device	Assigned physical extender unit (CPU Unit)
CPU assigned	Real CPU Device that is assigned to a virtual CPU Device
CON connected	Currently connected CON Device
CPU status	Current connection status (CPU Device)
EXT list	List of all available physical extender units (CPU Units)

You can select the following switching functions.

TABLE 5-2. SWITCHING FUNCTIONS

FUNCTION	KEYBOARD COMMAND
Set a video only connection	<space></space>
Set a KVM connection	<enter></enter>
Set a KVM connection in private mode (video sharing disabled).	<shift> + <enter></enter></shift>
Disconnect a CON Device from a CPU Device.	<backspace></backspace>



JAVA TOOL

You have two options to perform switching operations for the Compact KVM Matrix Switch via Java tool. Possibility 1:

• Select Switch in the main menu.

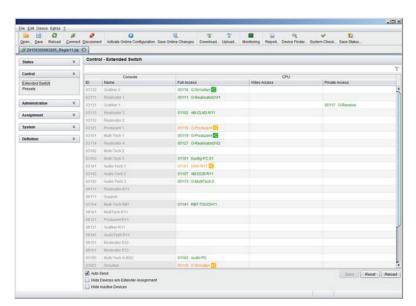


FIGURE 5-4. CONTROL-EXTENDED SWITCH

All connected consoles and the associated CPU connections are shown in columns in the working area in this menu.

NOTE: Switching operations can only be performed in online mode. That means an active network connection is required between the matrix and the Java Tool.

- To set a KVM connection between a console and a CPU, double-click on the corresponding selection box within the Full Access column and select the requested CPU.
- To set a video connection between a console and a CPU, double-click on the corresponding selection box within the Video Only column and select the requested CPU.
- To set a Private Mode connection between a console and a CPU, double-click on the corresponding selection box within the Private Mode column and select the requested CPU.

NOTE: If a CPU console does not have access rights, it will not appear in the list.



The following symbols are shown in the connection overview.

TABLE 5-3. SYMBOLS

SYMBOL	DESCRIPTION
~	CON Device is connected via Shared Access with at least one further console to the same CPU. The CON Device has Full Access at the moment.
	CON Device is connected via Shared Access with at least one further console to the same CPU. The CON Device has a Video Access connection at the moment.

You can use the following buttons to perform a switching operation.

TABLE 5-4. SWITCHING BUTTONS

BUTTON	FUNCTION
Send	Send switching operations to the matrix
Reset	Disconnect all existing connections within the matrix
Reload	Reload switching status

NOTE: When the Auto Send function in the left lower corner of the work area is ticked, switching operations will be completed immediately without user confirmation via the Send button.

When the Hide Devices w/o Extender Assignment function in the left lower corner of the work area is ticked, only CON and CPU Devices that are assigned to extenders are shown.



Possbility 2:

• Select Status > Matrix View in the task area or select Status > Grid Port View when using a Matrix Grid.

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FIGURE 5-5. STATUS-MATRIX VIEW

To perform switching operations between CON and CPU Devices, proceed as follows:

1. Move the mouse cursor to the port that has to be switched.

2. Hold down the left mouse button and move the cursor to the port that has to be connected to the initial port. The current cursor movement will be displayed by a black auxiliary line.

3. Release the left mouse button. A popup to select the available switching type (Full Access, Video Access or Private Mode) will be opened.

4. Select the desired switching type. The switching operation will be immediately executed. At the same time all extender units that are assigned to the involved devices will be switched.

NOTE: If a port is shown with a red cross on Matrix View, the console does not have access rights to the CPU connected to that port.

To disconnect an existing connection between CON and CPU Devices, proceed as follows:

1. Click on the port that is to be disconnected by using the right mouse button.

2. Select the Disconnect function in the popup that appears. The connected ports will be immediately disconnected. At the same time, all further connections of the extenders assigned to the involved devices will be disconnected.







5.4 SWITCHING OF SINGLE EXTENDERS WITHIN DEVICES

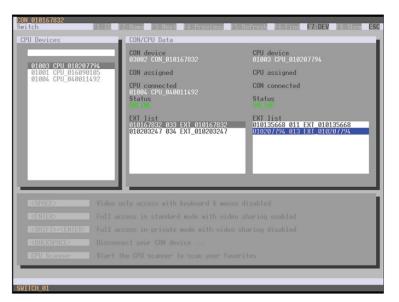
You can independently switch single extenders within configurations consisting of CON and CPU devices with multiple extenders. You have the following option to switch single extenders.



OSD

To switch a single extender a device with multiple extender, proceed as follows:

• Select Switch in the main menu.





- 1. Select the respective CPU Device in the CPU selection list containing the extender you want to have access to.
- 2. Press the function key <F7> on the keyboard. The standard will change into the switching mode for single extenders.
- 3. Select the extender you want to switch within your CON Device.
- 4. Access the extender list of the selected CPU Device by pressng the key <Tab>.
- 5. Select the CPU extender you want to switch to and press the key <Space> to execute the switching operation.

NOTE: Switching of single extenders from a Device is only possible in video only mode. Single exenders of a Device that are already switched will be highlighted with "!".





5.5 CON SWITCH

KVM extender CON Units connected to a local source (computer, CPU) can be locally switched via the matrix. Switching is performed between the local source and the KVM connection and can be executed via hotkeys or via OSD.

If you switch to the local source, the KVM connection will be automatically disconnected.

NOTE: When using CON Units with the possibility to connect a local source (computer, CPU) in a Multi-Screen Control environment, the local switching will be disabled.

You have the following option to switch to the local source.



OSD

• Select Switch in the main menu.

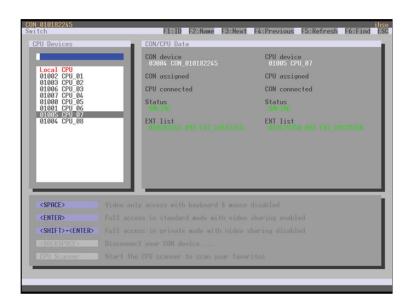


FIGURE 5-7. CON SWITCH

To switch to a local source, proceed as follows:

- 1. If you are not in the Switch menu of the OSD, start Command Mode with the hotkey (see Section 4.1).
- 2. Press <o> to open OSD. You will see a list of all available CPUs as a start menu.
- 3. Switch to the CPU in the Local CPU list. The switching operation to the local source will be performed immediately.





NOTE: The local source (computer, CPU) will be only shown in the OSD if the connected CON Unit includes the option for a local connection.

As an alternative, the following keyboard commands are available to switch to the local source.

TABLE 5-5. KEYBOARD COMMANDS TO SWITCH TO A LOCAL SOURCE

FUNCTION	KEYBOARD COMMAND
Switching to extender connection	<hotkey>, <k>, <1>, <enter></enter></k></hotkey>
Switching to extender connection 2 (only with redundant CON Units)	<hotkey>, <k>, <2>, <enter></enter></k></hotkey>
Switching to the local source (computer, CPU)	<hotkey>, < >, <enter></enter></hotkey>

5.6 MULTI-SCREEN CONTROL

The Multi-Screen function contains a switching of the USB-HID signal between different statically connected sources (computer, CPU) within a CON Device and can be performed in two different ways:

SWITCHING VIA MOUSE

The switching of the USB-HID signal can be made by a movement of the mouse pointer beyond the edge of the current display to a neighboring display (see Section 4.11.7).

To perform a switching operation by movement of the mouse pointer, proceed as follows:

1. Move the mouse pointer to the edge of the display that borders the neighboring display vertically or horizontally.

2. Move the mouse pointer beyond the edge of the display. The mouse pointer will appear on the adjacent display. The switching operation has been performed and the USB-HID signal will now be available at the target display.

SWITCHING VIA KEYBOARD

Switching of the USB-HID signal can also be achieved using the keyboard (for configuration, see Section 4.11.7).

To perform a switching operation via keyboard command, proceed as follows:

1. Start Command Mode with the hotkey (see Section 4.1).

2. Select the target display by pressing the respective key on the numeric pad of the keyboard. The switching operation will be performed and the USB-HID signal will be available at the target display.

You can select the following switching operations.

TABLE 5-6. SWITCHING OPERATIONS

KEYBOARD COMMAND	FUNCTION
<current hotkey="">, <num 0=""></num></current>	Switching of the USB-HID signal to the display (CON Unit with keyboard and mouse)
<current hotkey="">, <num 1=""></num></current>	Switching of the USB-HID signals to display #1
<current hotkey="">, <num 2=""></num></current>	Switching of the USB-HID signals to display #2
<current hotkey="">, <num 3=""></num></current>	Switching of the USB-HID signals to display #3
<current hotkey="">, <num 4=""></num></current>	Switching of the USB-HID signals to display #4

5.7 USB 2.0 SWITCHING

Switching USB 2.0 extenders basically works like switching KVM extenders. The following scenarios to switch USB 2.0 extenders are possible.

1. An extender unit with USB 2.0 will be created and assigned to an already existing device with existing KVM extender units (see Section 4.10 or Section 4.11.1).

2. A separate device for the extender unit with USB 2.0 will be created without assigning a KVM extender unit to that device. This possibility offers separate switching of the USB 2.0 signal (see Section 4.10 or Section 4.11.1).

NOTE: Switching USB 2.0 signals uses Extended Switching functionality (see Section 5.3).

When using parallel operation within the matrix, set the Release Time in the Configuration > Switch menu to 10 seconds or more (see Section 4.11.6). Otherwise, the connection of the USB 2.0 extender will not be established for security and stability reasons.

5.8 PRESETS

Predefined macros to switch the matrix without loading a new configuration can be created and activated in this menu.

You have the following option to access the menu.





• Select Control > Presets in the task area.

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Extended Switch		10	Name	Full Access	Video A		Private Access	Presets
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		03111	Realizator 1	05111 O-RealisatorOvi1				New Preset
Administration		03131	Grafiter 1				5117 C-Reserve	
	100	03113	Realizator 3	01102 AM-CLM2-R11				
Assignment	4	02112	Realizator 2					
System	a a	03121	Producent 1	05119 O-Produzent				
	2000	03101	Multi-Tech 1	05119 O-Produzent				
Definition		03114	Replaced 4	05127 O-RealisatorDV2				
		03102	Multi-Tech 2					
		03103	Multi-Tech 3	01161 Konfig PC 01				
		03141	Audio-Tech 1	01181 DAW-R11				
		03342	Audio-Tech 2	01107 AM-DC8-R11				
		02143	Audio-Tech 1	05113 O-MultiTech 2				
		09111	Realizator R11					
		09171	Support					
		03104	Multi-Tech WEIT	01141 RBT-TOUCH11				
		00101	MultiTech R11					
		09125	Producert R11					
		00131	Grafiler R11					
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FIGURE 5-8. CONTROL-PRESETS

To create a new switch macro, proceed as follows:

1. Open a new switch macro by clicking the New symbol in the right column of the working area.

You are asked if the existing connections should be taken over for the new switch macro.

2. Set the desired switching operations in the corresponding columns (Full Access, Video Only or Private Mode) by using a double click on the appropriate selection box or use the function for a disconnect (Disconnect CPU).

3. Save the created switch macro by clicking the Save symbol in the right column of the working area. A save dialog will be opened.

4. Enter a name or the new switch macro and confirm by pressing the Ok button in the save dialog.

5. By clicking on a selected switch macro with the right mouse button, you can create a copy of the current switch macro when using the Save as... option.

6. Previously saved macros can be deleted by pressing the Delete symbol.

To load a predefined switching, proceed as follows:

1. Select the switch macro in the right column of the working area that has to be loaded.

2. Activate the selected switch macro by pressing the Send button on the bottom right of the working area.

NOTE: A predefined switch macro can only be activated in online mode. When loading presets, only those switching operations that are compliant with the hardware and the configuration of the currently used matrix are taken into account.





5.9 SERIAL INTERFACE

Predefined macros to switch the matrix without loading a new configuration can be created and activated in this menu. You have the following option to access the menu.



The Compact KVM Matrix Switch offers the option to switch via a serial interface (RS-232).

Detailed information for the serial interface and the corresponding switching commands are available in form of an API (application programming interface) at blackbox.com or ftp://ftp.blackbox.com/manuals/A/acx048_API_rev2.pdf.

5.10 POWER ON AND POWER DOWN FUNCTIONS

5.10.1 RESTART

You have the following options to perform a restart.



OSD

1. Select Configuration > Restart Matrix or Restart IO Board in the main menu to restart either the matrix or the I/O boards.

2. Confirm the selection with Okay button.

The matrix and the I/O boards will be restarted with the current settings.

JAVA TOOL

• Select Matrix > Restart Matrix in the menu bar.

The matrix will be restarted with the current settings.

NOTE: The boot process of the matrix might take longer if there is no physical network connection available.

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5.10.2 FACTORY RESET

You have the following option to perform a restart.



CAUTION: If you perform a (factory) reset, all current settings and all configurations stored in the matrix will be lost. This also applies to the network parameters (reset to DHCP) and the admin password.

NOTE: If a firmware update has been installed since the delivery, the matrix will be set to the state defined there.

OSD

1. Select Configuration > Factory Reset in the main menu.

2. Confirm the selection with the Okay button.

The matrix will be reset to factory settings.

5.10.3 POWER DOWN

You have the following option to shut down the system or single components.



OSD

To shut down the system, proceed as follows:

- 1. Select Configuration > Shut down Matrix in the main menu.
- 2. Confirm the selection with the Okay button.

The matrix will be shut down.

To shut down an I/O board, proceed as follows:

- 1. Select Configuration > Shut Down IO Board in the main menu.
- 2. Confirm the selection with the Okay button.
- The I/O board will be shut down.



5.11 SUMMARY OF KEYBOARD COMMANDS

The following table contains a summary of keyboard commands that can activate extender and matrix functions after executing the hotkey.

KEYBOARD COMMAND	DESCRIPTION
<hotkey>, <a></hotkey>	Download of DDC information for the monitor connected to the CON Unit into the CPU Unit
<hotkey>, <k>, <1>, <enter></enter></k></hotkey>	Switch to the KVM connection 1 (only with HDMI CON Units with available connection for a local source)
<hotkey>, <k>, <2>, <enter></enter></k></hotkey>	Switch to the KVM connection 2 (only with HDMI CON Units with available connection for a local source and a redundant interconnection)
<hotkey>, < >, <enter></enter></hotkey>	Switch to local source (computer, CPU) (only with HDMI CON Units with available connection for a local source)
<hotkey>, <h>, <w>, <enter></enter></w></h></hotkey>	USB-HID Ghosting: Write device descriptions of the input devices connected to the CON Unit into the CPU Unit. Activate the emulation in the CPU Unit.
<hotkey>, <h>, <e>, <enter></enter></e></h></hotkey>	Activate the emulation of already stored device descriptions in the CPU Unit
<hotkey>, <h>, <d>, <enter></enter></d></h></hotkey>	Deactivate the emulation of active device descriptions in the CPU Unit. The input devices connected to the CON Unit will be passed transparently to the source (computer, CPU)
<hotkey>, <h>, <r>, <enter></enter></r></h></hotkey>	Deactivate the emulation of active device descriptions in the CPU Unit. Delete the descriptions out of the CPU Unit. The input devices connected to the CON Unit will be passed transparently to the source (computer, CPU)
<hotkey>, <d>, <1>, <enter></enter></d></hotkey>	Switch to video channel 1 of the Dual-Head CPU Unit (dual-head series only)
<hotkey>, <d>, <2>, <enter></enter></d></hotkey>	Switch to video channel 2 of the Dual-Head CPU Unit (dual-head series only)

TABLE 5-7. EXTENDER KEYBOARD COMMANDS

TABLE 5-8. MATRIX KEYBOARD COMMANDS

<hotkey>, <o>Open OSD<hotkey>, <m>, <o>Open OSD of the master matrix in a cascaded environment<hotkey>, <s>, <o>Open OSD of the sub matrix in a cascaded environment<hotkey>, <enter>Set a KVM connection (keyboard, mouse and video) to the selected source (comput<hotkey>, <space>Set a video only connection to the selected source (comput<hotkey>, <left-shift> + <enter>Set a Private Mode connection to the selected source (comput<hotkey>, <backspace>Close the current connection of the console</backspace></hotkey></enter></left-shift></hotkey></space></hotkey></enter></hotkey></o></s></hotkey></o></m></hotkey></o></hotkey>	
<hotkey>, <s>, <o> Open OSD of the sub matrix in a cascaded environment <hotkey>, <enter> Set a KVM connection (keyboard, mouse and video) to the second video) to the second video, set a video only connection to the selected source (comput <hotkey>, <left-shift> + <enter> Set a Private Mode connection to the selected source (comput</enter></left-shift></hotkey></enter></hotkey></o></s></hotkey>	
<hotkey>, <enter> Set a KVM connection (keyboard, mouse and video) to the set a kvm connection (keyboard, mouse and video) to the set a video only connection to the selected source (compute set a vide</enter></hotkey>	
<hotkey>, <space> Set a video only connection to the selected source (comput <hotkey>, <left-shift> + <enter> Set a Private Mode connection to the selected source (compute</enter></left-shift></hotkey></space></hotkey>	
<hotkey>, <left-shift> + <enter> Set a Private Mode connection to the selected source (com</enter></left-shift></hotkey>	selected source (computer, CPU)
	er, CPU)
<hotkey>, <backspace> Close the current connection of the console</backspace></hotkey>	puter, CPU)
<hotkey>, Switch back to the previous connected source (computer, C</hotkey>	PU) with a KVM connection
<pre><hotkey>, <1><16>, <enter> Switch to a source (computer, CPU) stored in the Favorite L (<space> or <left-shift> + <enter>) or Private-Mode connection)</enter></left-shift></space></enter></hotkey></pre>	st with a KVM connection (video only
<hotkey>, <f1><f16> Execute a predefined macro</f16></f1></hotkey>	
<hotkey>, <c>, <new code="" hotkey=""> <enter> Change the hotkey according to the predefined hotkey table</enter></new></c></hotkey>	
<hotkey>, <c>, <0>, <new hotkey="" key=""> <enter> Define freely selectable hotkey</enter></new></c></hotkey>	
<hotkey>, <f>, <new code="" hotkey="" key=""> <enter> Change the hotkey for direct OSD access according to the p</enter></new></f></hotkey>	redefined hotkey table
<hotkey>, <f>, <0>, <new hotkey="" key=""> <enter> Define freely selectable hotkey for direct OSD access</enter></new></f></hotkey>	
<hotkey>, <num 0=""> Switch the USB-HID signal to the user's display (CON Unit w</num></hotkey>	rith keyboard and mouse)
<hotkey>, <num 1=""> Switching of the USB-HID signals to display #1</num></hotkey>	
<hotkey>, <num 2=""> Switching of the USB-HID signals to display #2</num></hotkey>	







TABLE 5-8 (CONTINUED). MATRIX KEYBOARD COMMANDS

KEYBOARD COMMAND	DESCRIPTION
<hotkey>, <num 3=""></num></hotkey>	Switching of the USB-HID signals to display #3
<hotkey>, <num 4=""></num></hotkey>	Switching of the USB-HID signals to display #4



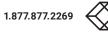


CHAPTER 6: MAINTENANCE



The Compact KVM Matrix Switch contains no user serviceable parts inside. If there is a fault or a problem, see Chapter 7 and/or contact Black Box Technical Support at 877-877-2269.

For the use in a 24/7 operation, we recommend that you keep a hot spare matrix available.





In Chapters 7 and 8, support for problems with the Compact KVM Matrix Switch is provided. It is assumed that fully operational CPU and CON Devices are available, which can be tested over a peer-to-peer connection using CATx or fiber cables. Refer to the relevant manuals for assistance with this if necessary.

7.1 EXTERNAL FAILURE

TABLE 7-1. EXTERNAL FAILURE TROUBLESHOOTING TIPS

PROBLEM	POSSIBLE REASON	POSSIBLE SOLUTION
Matrix cannot be started anymore	Fuse at the standard appliance outlet	Check fuse

7.2 VIDEO INTERFERENCE

TABLE 7-2. VIDEO INTERFERENCE TROUBLESHOOTING TIPS

PROBLEM	POSSIBLE REASON	POSSIBLE SOLUTION
Cannot open the OSD	No OSD jumper set	Set jumper 11 on the CON unit
Incorrect video display	Cable connection disabled	Check the connection, length and quality of the interconnect cable to the units

7.3 FAN MALFUNCTION

TABLE 7-3. FAN MALFUNCTION TROUBLESHOOTING TIPS

PROBLEM	POSSIBLE REASON	POSSIBLE SOLUTION
Fans do not run, LED OK on	Fans defective	Contact Black Box Technical Support at 877-877-2269 or info@blackbox.com
Fans do not run, LED OK off	Power supply	Check power supply and power connection

7.4 FAN MALFUNCTION

TABLE 7-4. POWER SUPPLY UNITS MALFUNCTION TROUBLESHOOTING TIPS

PROBLEM	POSSIBLE REASON	POSSIBLE SOLUTION	
Matrix does not start	No power supply available	Check if power supply cables are connected correctly	
Matrix does not start	Power supply units are not switched on	Check switch on the power supply units	

7.5 NETWORK ERROR

TABLE 7-5. NETWORK ERROR TROUBLESHOOTING TIPS

PROBLEM	POSSIBLE REASON	POSSIBLE SOLUTION
Network settings are not assumed after editing	Restart of the matrix is not yet completed	Restart the matrix

7.6 FAILURE AT THE MATRIX

TABLE 7-6. FAILURE AT THE MATRIX TROUBLESHOOTING TIPS

PROBLEM	POSSIBLE REASON	POSSIBLE SOLUTION
Serial control impossible or only restrictedly possible	CPU and matrix operating at different baud rates	Change baud rate in the matrix and CPU (see Section 4.3.2)
Serial control via RS-232 port not possible	Wrong network cable	Use a crossed network cable
Port definitions as USB 2.0 invalid	Restart of the matrix not yet completed	Restart the matrix

7.7 BLANK SCREEN

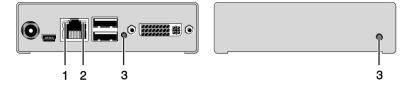


FIGURE 7-1. LEDS ON THE BACK AND FRONT.OF THE UNIT

TABLE 7-7. BLANK SCREEN TROUBLESHOOTING TIPS

PROBLEM	POSSIBLE REASON	POSSIBLE SOLUTION
Monitors remain dark after switching operation	Switching to a CPU port without an active source (computer, CPU)	Switching to a CPU port with an active source (computer, CPU)
LED 1 ON or LED 2 OFF	Connections CON unit, matrix and CPU unit	Check connected cables and connectors. (No cable, cable break, CPU/CON unit offline, CPU/CON unit connected to the wrong port)
LED 3 OFF	Power supply	Check power supply units and the connection to the power network



Before contactng technical support, make sure you have read this manual and then installed and set up your Compact KVM Matrix Switch as recommended.

8.1 SUPPORT CHECKLIST

To efficiently handle your request, make sure that you have the following information available before you call:

- Company, name, phone number and email
- Type and serial number of the device (see bottom of device)
- Nature, circumstances and duration of the problem
- Components included in the system (such as graphic source/CPU, OS, graphic card, monitor, USB-HID/USB 2.0 devices, interconnect cable) including manufacturer and model number
- Results from any testing you have done

Contact Black Box Technical Support at 877-877-2269 or info@blackbox

8.2 SHIPPING CHECKLIST

1. To return your device, contact your Black Box Technical Support at 877-877-2269 or info@blackbox.com to obtain an RMA (Return Material Authorization) number.

2. Package your devices carefully, preferably using the original box. Add all pieces that you received originally.

3. Note your RMA number visibly on your shipment.

NOTE: Devices that are sent in without a RMA number cannot be accepted. The shipment will be sent back without being opened, postage unpaid.



CHAPTER 9: REGULATORY INFORMATION



9.1 FCC STATEMENT

This equipment has been found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Shielded cables must be used with this equipment to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances.

All power supplies are certified to the relevant major international safety standards.

9.2 CE DECLARATION OF CONFORMITY

The Compact KVM Matrix Switch as delivered complies with the provisions of the following European Directives:

- 2014/30/EU Council Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility
- 2014/35/EU Council Directive on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

9.3 PRODUCT SAFETY

The product safety of the devices is proven by the compliance to the following standards:

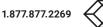
- IEC 60950-1A1:2010
- EN 60950-1/A12:2011/A1:2010/A11:2009
- UL 60950-1-2007
- CAN/CSA-C22.2 60950-1-07

9.4 WEEE

The manufacturer complies with the EU Directive 2012/19/EU on the prevention of waste electrical and electronic equipment (WEEE).

9.5 ROHS/ROHS2

This device complies with the Directive 2011/65/EU of the European Parliament and of the council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2, RoHS II).





CHAPTER 10: GLOSSARY



10.1 VIDEO AND KVM TECHNOLOGY TERMS

AES/EBU: Digital audio standard that is officially known as AES3 and that is used for carrying digital audio signals between devices.

CATx: Any CAT5e, CAT6, CAT7 cable.

CGA: Color Graphics Adapter (CGA) is an old analog graphic standard with up to 16 displayable colors and a maximum resolution of 640 x 400 pixels.

Component Video: Component Video (YPbPr) is a high-quality video standard that consists of three independently and separately transmittable video signals, the luminance signal and two color difference signals.

Composite Video: Composite Video is also called CVBS and it is part of the PAL TV standard.

CON Unit: Component of a KVM Extender or Media Extender to connect to the console (monitor[s], keyboard and mouse; optionally also with USB 2.0 devices).

Console: Keyboard, mouse and monitor.

CPU Unit: Component of a KVM Extender or Media Extender to connect to a source (computer, CPU).

CVBS: The analog color video baseband signal (CVBS) is also called Composite Video and it is part of the PAL TV standard.

DDC: Display Data Channel (DDC) is a serial communication interface between monitor and source (computer, CPU). It allows a data exchange via a monitor cable and an automatic installation and configuration of a monitor driver by the operating system.

DisplayPort: A VESA standardized interface for an all-digital transmission of audio and video data. It is differentiated between the DisplayPort standards 1.1 and 1.2. The signals have LVDS level.

Dual Access: A system to operate a source (computer, CPU) from two consoles.

Dual Link: A DVI-D interface for resolutions up to 2560 x 2048 by signal transmission of up to 330 MPixel/s (24-bit).

Dual-Head: A system with two video connections.

DVI: Digital video standard, introduced by the Digital Display Working Group (http://www.ddwg.org). Single Link and Dual Link standards are distinguished. The signals have TMDS level.

DVI-I: A combined signal (digital and analog) that allows running a VGA monitor at a DVI-I port-in contrast to DVI-D (see DVI).

EGA: The Enhanced Graphics Adapter (EGA) is an old analog graphic standard, introduced by IBM in 1984. A DB9 connector is used for connection.

Fiber: Single-mode or multimode fiber cables.

HDMI: An interface for an all-digital transmission of audio and video data. It is differentiated between the HDMI standards 1.0 to 1.4a. The signals have TMDS level.

KVM: Keyboard, video and mouse.

Mini-XLR: Industrial standard for electrical plug connections (3-pole) for the transmission of digital audio and control signals.

Multimode: 62.5μ multimode fiber cable or 50μ multimode fiber cable.

OSD: The On-Screen Display is used to display information or to operate a device.

Quad-Head: A system with four video connections.

RCA (Cinch): A non-standard plug connection for transmission of electrical audio and video signals, especially with coaxial cables.

S/PDIF: A digital audio interconnect that is used in consumer audio equipment over relatively short distances.

SFP: SFPs (Small Form Factor Pluggable) are pluggable interface modules for Gigabit connections. SFP modules are available for CATx and fiber interconnect cables.

Single Link: A DVI-D interface for resolutions up to 1920 x 1200 by signal transmission of up to 165 MPixel/s (24-bit). Alternative frequencies are Full HD (1080p), 2K HD (2048 x 1080) and 2048 x 1152.



CHAPTER 10: GLOSSARY



Single-Head: A system with one video connection.

Single-mode: 9μ single-mode fiber cable.

S-Video (Y/C): S-Video (Y/C) is a video format transmitting luminance and chrominance signals separately. It has a higher quality standard than CVBS.

TOSLINK: Standardized fiber connection system for digital transmission of audio signals (F05 plug connection).

Triple-Head: A system with three video connections.

USB-HID: USB-HID devices (Human Interface Device) allow for data input. There is no need for a special driver during installation; "New USB-HID device found" is reported. Typical HID devices include keyboards, mice, graphics tablets and touch screens. Storage, video and audio devices are not HID.

VGA: Video Graphics Array (VGA) is a computer graphics standard with a typical resolution of 640 x 480 pixels and up to 262,144 colors. It can be seen as a follower of the graphics standards MDA, CGA and EGA.

10.2 MATRIX-SPECIFIC TERMS

Auto Disconnect: Matrix function that allows an automatic disconnect between a console and a CPU if OSD is opened via this console.

Auto Logout: Matrix function that describes the duration of inactivity after the user has been logged out from the OSD at this console.

CON Device: Logical term that summarizes several physical extenders to switch more complex console systems via matrix.

CON Timeout: Matrix function that allows an automatic disconnect of a console from the connected CPU after a predefined time.

Console ACL: Console Access Control List is a list that shows the respective switching rights for the various consoles.

CPU Auto Connect: Matrix function that allows an automatic connection establishment between a console and a random CPU that is available.

CPU Device: Logical term that summarizes several physical extenders to switch more complex CPU systems via matrix.

CPU Timeout: Matrix function that allows the user to disconnect after a predefined period of time of inactivity from the respective CPU.

EXT Unit: Part or extender board of a CON or CPU unit with a connection to the matrix. A CON or CPU unit can consist of several EXT devices.

Force Connect: Matrix function that allows you to switch a console to a CPU that is already used to take keyboard and mouse control. The console that is connected before switching loses K/M control, but keeps video.

Force Disconnect: Matrix function that allows you to switch a console to a CPU that is already used to take KVM control. The console that is connected before switching loses complete KVM control.

Java Tool: Java based control and configuration tool for the Compact KVM Matrix Switch.

Keyboard Connect: Matrix function that allows taking over the keyboard control of an inactive console.

Macro Keys: Programmable keys that can execute a stringing together of commands to the matrix.

Mouse Connect: Matrix function that allows taking the mouse control of an inactive console.

Non-Blocking Access: Matrix configuration where no user can be disturbed by an activity of another user.

OSD Timeout: Matrix function that closes the OSD automatically after a predefined period of time of inactivity.

Release Time: Matrix function that allows a console that is connected with the same CPU to release the K/M control after a predefined time.



CHAPTER 10: GLOSSARY



Service Mode: Defined maintenance condition that allows updating of extenders that are connected to the matrix.

Tie Line: Communication connection to and between extension modules in a network environment.

User ACL: User Access Control List is a list that shows the respective switching rights for the various users.

Video Sharing: Matrix function that allows switching from the user's console to any CPU with video.



11.1 DISCLAIMER

Black Box Corporation shall not be liable for damages of any kind, including, but not limited to, punitive, consequential or cost of cover damages, resulting from any errors in the product information or specifications set forth in this document and Black Box Corporation may revise this document at any time without notice.

11.2 TRADEMARKS USED IN THIS MANUAL

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NEED HELP? LEAVE THE TECH TO US



1.877.877.2269

