

# MA NETWORK SWITCH QuickManual

POWER  
STATUS

MENU

MA Switc		IP: 192.168.100.24
Back Ports		SFP A
1	8 Manage	9 8 Manage
2	8 Manage	10 8 Manage
3	8 Manage	SFP B
4	8 Manage	11 8 Manage
5	8 Manage	12 8 Manage
6	8 Manage	Front Port
7	8 Manage	13 8 Manage
8	8 Manage	
V 3.0.187.5		

NETWORK  
SWITCH

Version XV.01 deutsch / english  
Art. Nr. 1381M 00151

The MA Switch is a universal interface for networking and a special interface for MA Lighting Sessions - the best for both worlds. Especially when used in a pure MA - Network offers the MA Switch through several filters a much higher data rate and interference-free data transfer. The MA Switch is designed for the touring routine, but also for installations and therefore equipped with a rugged steel housing.



The complete manual and software updates, forums and FAQs you will find on our website [www.malighting.com](http://www.malighting.com)

## MA SWITCH

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## Intended Use

The MA SWITCH may be only used for coupling and distributing data lines of compatible products exclusively indoors.

Transport, operation and maintenance must be performed only by persons who are qualified for the respective activity. The safety and operating limitations must always be respected.

The device may not be used for other purposes without the written consent of MA Lighting Technology GmbH.



MA NETWORK SWITCH

Manufacturer: MA Lighting Technology GmbH  
Dachdeckerstraße 16  
Germany D – 97297 Waldbüttelbrunn

For more information and detailed manuals see: [www.malighting.com](http://www.malighting.com). Please check our Frequently Asked Questions (FAQ) that you can also find online at [www.malighting.com](http://www.malighting.com). If there are any questions left, just send us an e-mail with your contact details and subject information. This E-Mail Service is monitored during MA Lightings regular business hours in Germany. For emergency services please contact your local distributor.

**Data**

<b>Power:</b>	100-240 V ~, 50/60Hz Automatic operation, no switching necessary!
<b>Required plug connector: On the back side</b>	PowerCon blue Power cable: Only adequately protected cables may be used (min. $\varnothing = 3 \times 1,0\text{mm}^2$ ). Plug connector and cable are not included in delivery.
<b>Required plug connector: Power source</b>	Must meet the standard in the respective country.  <b>The socket should be serviced by qualified personnel only!</b>
<b>Power consumption:</b>	max. 1A
<b>Required connector type: Ethernet</b>	Suitable for RJ45 connector
<b>Required cable: Ethernet</b>	Ethernet cable CAT-5e or higher Recommended length of the cable: a maximum of 75m
<b>Dimensions: W x H x D</b>	483 mm x 43mm (1 Height unit) x 233 mm (Basic) or 264 mm (with options) 19 inch x 1.9 inch (1 Height unit) x 9,2 inch (Basic) or 10.4 inch (with options)  The device is designed to be mounted in a standard rack. The mounting material is not included.
<b>Weight (basic):</b>	approx. 3.5 kg / 7.7 pounds (without fasteners)
<b>Weight (with options):</b>	approx. 3.7 kg / 8.2 pounds (without fasteners)

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## Transport

Please be aware of the weight of the product. Be careful when moving it; otherwise you may injure your back or other parts of your body.

Weight without cover, packaging, case

**MA SWITCH** approx. 3,5 / 3,7 kg 7.7 / 8.2 pounds (depends on configuration)

Remove all cables or USB -devices prior to transport.

Use a securing and protecting transport device.

Do not place the console on surfaces, vehicles, cabinets or tables that are for reasons of strength or stability unsuitable for this purpose. Do not twist the body.

**Please be aware of temperature and humidity during transport. Limits see chapter “Safety and Environment”.**





**The user is responsible for securely fastening the products for the means of transport and for observing the safety regulations of the manufacturer when using means of transport. Non-compliance can result in personal injury or material damage.**

**Check the apparatus after transport before installation! If body of the apparatus is damaged (bent or broken), or the screen is broken or keys are damaged do not connect the apparatus to power!  
Call our hotline for technical support.**



**Caution**

## Symbols and warning labels

 <p><b>Caution</b> Danger Area</p>	 <p><b>Warning</b> Danger of electric shock</p>	<p>I 0</p> <p>Supply Voltage</p>	<p>~</p> <p>Alternating current (AC)</p>	 <p>Reference to orderly disposal</p>	 <p>Warning Warning of radiation invisible laser</p>
<p>Follow any instructions that are marked with the danger signs to avoid injury.</p>	<p>Do not open the device!</p>	<p>ON/OFF</p>		<p>Dispose of as hazardous waste. Follow the local applicable regulations!</p>	<p><b>Only when this option is installed!</b></p> <p>Invisible laser radiation might be emitted from connectors. Do not stare into ports.</p>

## Electric shock warning

The unit should be serviced by qualified personnel only, as live parts may be exposed when opening and /or removing coverings; besides harm to others, you run the risk of suffering an electric shock.



Laser class 1 (only when option is installed)

Because invisible laser radiation may be emitted from the aperture of the port when no cable is connected, avoid exposure to laser radiation and do not stare into open port.

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## General Safety Instructions

Read all the instructions in the user's manual, especially the safety requirements, see Safety requirements

Follow all instructions. Keep the user's manual for future use. Follow all cautions and warnings indicated on the unit.

Disconnect the mains plug before cleaning the unit; do not use any liquid or spray cleanser. Clean with a dry cloth.

Do not use the unit near water. Do not expose it to a humid environment. Do not spill any liquid over the unit.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Do not block or cover any ventilation slots in the housing - they are necessary for the essential airflow within the unit and protect it against overheating. Do not install the unit into a frame unless sufficient ventilation is guaranteed. Install in accordance with the manufacturer's instructions.

Do not insert any objects through the slots of the unit, as these could get in contact with live parts or could cause short circuits. This could cause a fire and/or an electric shock.

Do not place the unit on unstable surfaces. It may fall and become damaged.

Do not place any objects on the power cord. Protect it from being walked on or pinched particularly at the plugs and the point where they exit from the apparatus.

If the power cord or the mains plug is damaged, let a qualified technician replace it immediately.

Only use power cords which are safety-marked for purpose. All service work should be exclusively performed by qualified service technicians.

The unit is provided with a safety plug. This plug can only be used with safety sockets. These precautions should by all means be followed. If the plug should not fit into a given socket (e.g. the case with old sockets), the socket should be replaced by an electrician.

Do not ignore the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding connection. The third connection is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement with an appropriate outlet.

As with all industrially manufactured goods, the use of substances that induce an allergic reaction such as aluminium cannot be generally excluded. If you develop an allergic reaction (such as a skin rash, frequent sneezing, red eyes or respiratory difficulties), consult a physician immediately to determine the cause.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped. Besides potential harm to others, you run the risk of suffering an electric shock. If one of the following conditions occurs, please disconnect the mains plug and call your dealer or technical support!

- Power cord or mains plug is damaged or worn.
- Liquid penetrated the unit.
- The unit was exposed to rain or high ambient humidity.
- The unit does not function properly, even when following all the instructions in the manual. Only manipulate the controls as stated in the manual, wrong settings on the controls may damage the unit.
- The unit has fallen and the housing damaged.

**WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE**

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## Operating limits

### Temperature

Operation:

0°C up to + 45°C / 32°F up to 113°F

Higher temperature can over-stress the cooling system of the apparatus and destroy hardware components.

Storage / Transport:

-10°C up to + 60°C / 14°F up to + 140°F

### Humidity

Operation: 20% up to 80% relative humidity (no condensation)

Storage / Transport: 10% up to 80% relative humidity (no condensation)

### Environment

Follow all the IMPORTANT SAFETY INSTRUCTIONS.

Only use the apparatus within the environment operating limits.

Only use the apparatus indoors.

Do not use the apparatus in rain or moisture.

Air must be free of dust and any hazardous or explosive substances.

This apparatus is not protected against splash water. Do not use it near water.

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# Connect



- MENU** –button To change the menu (see also Quickstart ON/OFF)
- Display** Displays the main settings, change the settings is only possible via a connected grandMA2 console or PC.
- LED POWER** Continuous light green = Status: normal function  
No display = Switch is off  
Flashing red = Status: Malfunction
- LED STATUS** Continuous light green = Status: normal function  
Flashing green = Status: Update  
Continuous light red = Status: Malfunction
- LED für Ports 1 – 13** Statusanzeigen für die Ports 1 – 13  
**LINK:** No display = no connection  
Flashing green = Gigabit –connection  
Flashing orange = 10/100 Mbps -connection  
**GROUP:** Continuous light red = Group1  
Continuous light yellow = Group2  
Continuous light green = Group3  
Continuous light cyan = Group4  
Continuous light blue = Group5  
Continuous light magenta = Group 6  
Continuous light white = ISL (Inter Switch Links)  
No display = Manage
- 1x RJ 45 Port 13 10/100/1000 Mbps

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## Connect



2 x LWL (Option)

These optical connections FIBERFOX EBC 1500 Series are available as an option and should only be installed by qualified persons. The option is available from MA LIGHTING Distributors.



Always put the dust caps if the port is not busy!

The associated LED status indicators LINK and GROUP have the same function as the LED on the front page

1x USB

USB connection Type "B"

2 x SFP -slot

For SFP -Mini-Gbic module

8 x RJ45 Ethernet

10/100/1000 Mbps - connection  
The associated LED status indicators LINK and GROUP have the same function as the LED on the front page

Power

Mains connection: 100 -240V ~, 50 / 60Hz  
The power supply automatically adjusts to the line voltage.  
Connector Type: PowerCon blue

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## Switch ON / Quick Start

Here are the key steps to take the MA SWITCH in operation:

- Connect the MA SWITCH to the power supply (100-240 V ~, 50/60Hz). The MA SWITCH starts automatically. The green "Power" LED must be lit constantly.  
The display of the MA SWITCH shows only the essential information. To configure the MA SWITCH a grandMA2 console, a PC with the grandMA2 onPC or a PC is required. These devices must be connected via a network to the MA SWITCH.
- Open menu SETUP in the console or onPC. In the PC enter the IP of the MA SWITCH. The default IP address and also the current IP address of the MA SWITCH is always shown on the display of the device.
- To open the setup menu enter the default user / password:
 

<b>User:</b>	<b>administrator</b>
<b>Password:</b>	<b>admin</b>

This identification can be changed in the menu "Edit General Settings".

## Hard-Reset

HARD-RESET to factory default, e.g. if the password is forgotten or not known. In this case, all the settings are cleared and reset to factory settings:

- A long press (5 sec) gives access to the reset menu. Only from here the reset is possible.
- In order to do so you first have to release the button again for a second and then hold it again for another 5seconds.

## Switch OFF

- Cut off power supply.

### Note:

For longer non-use disconnect all cables.

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## Factory Default Settings

The MA SWITCH is delivered with the following settings (factory default). After a reset, the MA SWITCH is reset to these settings.

Default IP Address: appears in the display

Subnet mask 255.255.255.0

Default gateway 0.0.0.0

Password "admin"

Name of the device "MA Switch"

ID "1"

IGMP Snooping "No"

IGMP Querier "No"

Unknown Flooding "Yes"

Disable filters

Disable speed

RSTP enabled

All ports on „manage port“

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## Saving and Loading the configuration

If all parameters of SWITCH have been adjusted, then this configuration should be saved. This configuration can be reloaded and are exported to other SWITCH. To save and load the configuration the switch must be connected via an Internet interface with a PC, only via this interface, the menus are accessible.

### Web Interface

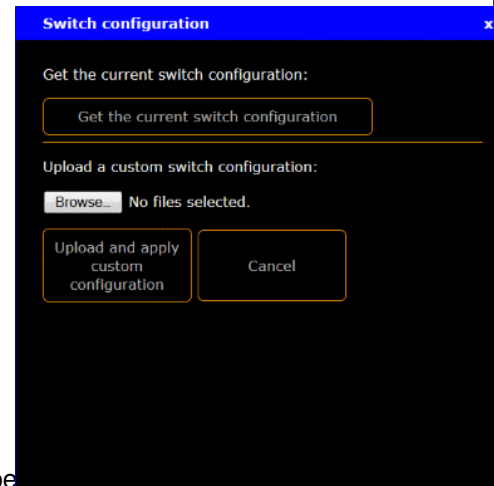
- Open a web browser.
- Enter the IP address - the address is always shown on the display above the right - and log in with your username and password.

### Save configuration

- Open the menu Edit General Settings.
- Pres the button Switch configuration.
- Press the button Get the current switch configuration.  
A Browser Window appears.
- Press Save File and confirm with OK.  
The configuration is always stored as config.json.  
The file name can be changed only in Explorer.

### Load configuration

- Open the menu Edit General Settings.
- Press the button Switch configuration.
- Press the button Browse.  
The Explorer appears.
- Select the desired configuration.
- Press the button Upload and apply custom configuration.  
A note of precaution asks whether the configuration to be
- Confirm with OK or cancel with CANCEL (- what else..).  
The configuration is loaded and the switch boots automatically - please note: if the configuration is changed and saved again, it will be overwritten and saved again as config.json.



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## Display

After switching on this menu appears in the display after booting.

The menu shows all the ports and the protocol and status. In addition, the name of the MA SWITCH - can be changed in the SETUP – the IP address as well as the software version are displayed.

The screenshot shows the main menu of the MA SWITCH. At the top, it displays the name "The name of the beast" and the IP address "IP:192.168.000.001". Below this, there are two columns of port information. The left column is labeled "Back Ports" and lists ports 1 through 8, each with a status of "1 MAnet" and a small heart icon. The right column is labeled "SFP A" and "SFP B", listing ports 9 through 13. Port 9 is "2 Artnet", port 10 is "4 Video", port 11 is "2 Artnet", and port 12 is "2 Artnet". Below the SFP ports, it says "Front Port" and "13 7 ISL". At the bottom right, the software version "V 3.0.4.1" is displayed.

"The name of the beast" IP:192.168.000.001	
Back Ports	
1	1 MAnet
2	1 MAnet
3	1 MAnet
4	1 MAnet
5	1 MAnet
6	1 MAnet
7	1 MAnet
8	1 MAnet
SFP A	
9	2 Artnet
10	4 Video
SFP B	
11	2 Artnet
12	2 Artnet
Front Port	
13	7 ISL
V 3.0.4.1	

Press the MENU button again briefly, then opens the next menu. After re-pressing the button, the display returns to the first menu.

The screenshot shows the same menu as above, but with network load percentages displayed for each port. The "Switch Load XXX%" bar at the top left is green. The "Network Load XXX%" bar at the top right is red. The port status is now "XX%" for all ports. The software version "V 3.0.4.1" is still at the bottom right.

Switch Load XXX%		Network Load XXX%	
Back Ports		SFP A	
1	XX%	9	XX%
2	XX%	10	XX%
3	XX%	SFP B	
4	XX%	11	XX%
5	XX%	12	XX%
6	XX%	Front Port	
7	XX%	13	XX%
8	XX%	V 3.0.4.1	

Reset Mode: MENU button hold for 5 seconds. Then release the button and press and hold 5 seconds. The MA SWITCH is reset to the factory settings. The default IP will be displayed in the monitor top right.

When the RESET - function should not be started, then press the button briefly, it appears the last menu.

The screenshot shows the "RESET SWITCH" menu. At the top, it displays the name "The name of the beast" and the IP address "IP:192.168.000.001". Below this, it says "RESET SWITCH" and "Press button for 5 seconds to reset the switch to factory defaults." There is a "WARNING!" section that says "This will reset IP address, password and every port to its defaults. Default IP can be read on the back of the switch." At the bottom right, the software version "V 3.0.4.1" is displayed.

"The name of the beast" IP:192.168.000.001	
RESET SWITCH	
Press button for 5 seconds to reset the switch to factory defaults.	
<b>WARNING!</b>	
This will reset IP address, password and every port to its defaults.	
Default IP can be read on the back of the switch.	
V 3.0.4.1	

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## Cleaning

The MA SWITCH only requires minor attention. Disconnect electric power supply prior to cleaning. Clean the surface only with dry soft cloth. Do not use any liquid cleaner or compressed air. Do not use any solvent. Check ventilation holes are clear.

Depending on the environment we recommend to clean the device professionally every 2 – 5 years.

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## Maintenance

Electric shock warning: The unit should be serviced by qualified personnel only, as live parts may be exposed when opening and/or removing coverings; besides others, you run the risk of suffering an electric shock.

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## Only when optional optical connectors are installed:

For maintenance and cleaning always observe the instructions and safety regulations of the manufacturer.

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**Warning:** Invisible laser radiation might be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments

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## Declaration of Conformity

**Manufacturer's name:** MA Lighting Technology GmbH

**Manufacturer's address:** Dachdeckerstraße 16  
D-97297 Waldbüttelbrunn  
Germany

declares that the product

**Product category:** IT Control unit

**Name of product:** MA NETWORK SWITCH

complies with the following product specifications and harmonized standards:

**Safety:** EN60065, EN60950-1:2014-08

**EMC:** 2014/30/EG

EN 55103-1:2009 as well as EN 55103-2:2009

**ROHS (II):** 2011/65/EU

**Additional information:** Ethernet and USB must be shielded and the shielding must be connected to the earthing resp. to the housing of the corresponding plug.



Waldbüttelbrunn, March, 30. 2015

Dipl. Ing. Michael Adenau

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